

Outpatient data quality report
2003-04 and 2004-05

*Further data quality assessment of experimental data from
patient-level record systems*

Summary

This report contains vital messages both for those using the Outpatient Commissioning Data Set (CDS) data for operational purposes and for those who wish to use the IC (HES) Outpatient data for wider analytical purposes. It sets out data quality findings and their implications for how the data should be used, and makes recommendations for improving the quality so that the data set will meet its intended purpose to deliver meaningful information to meet a wide range of needs. The report and further use of the Outpatient CDS will also inform development of a more generic “ambulatory” CDS which is likely to replace it.

The findings are accumulated from the ongoing analysis on the quality of outpatient data since their release with the report “*Reporting outpatient journeys: Hospital outpatient activity in 2003-04 and 2004-05*”, together with feedback from users who have been assessing the data under controlled conditions. These findings do not detract from the significant added value of making IC (HES) Outpatient data information available, bringing greatly enhanced understanding of profiles of attendances, why patients are referred and the outpatient processes. There is a consensus among those who have accessed the data in the initial release that these data need to be used widely, not least because this will be the main means of bringing forth improvements.

Some of the data quality issues arise from ambiguities in national guidance or historical anomalies on what the service is mandated to report, such as non-attendance records and ethnic origin. They also show how the data’s significant potential for supporting key business and clinical processes will only be realised fully when the quality of those data are improved. Clinical details - currently not mandated - are needed to better inform payments under Payment by Results, and likewise the opportunities for better record linkage presenting the full patient journey from referral to treatment will add immeasurably to the information to support the 18 Week Wait. All these improvements will add value to the wider public health and research purposes wherever the data are used.

As the findings show, gaps in provision of data from a number of providers, data missing, poorly completed, and duplicated, and other deficiencies described in the findings, mean that it is vital to use the data set with care. However, the key conclusion is that, subject to users taking into account the findings of this study and associated website tables, the data set is fit for general access and analysis. Consequently, although the 2003-04 and 2004-05 IC (HES) Outpatient data will continue to be regarded as experimental, the conditions of access imposed in July will be lifted but customers will be strongly advised to use the support material. For more recent data we are expecting improved quality and coverage to enable the experimental tag to be lifted given that these data are already being used at operational level to deliver Payment by Results and to monitor 18-week waits.

The recommendations in the report are concerned with the performance of the service in meeting the national requirements to provide the data consistently and comprehensively. It identifies the need for revising the guidance to eliminate ambiguities in existing provision, and to support proposed changes to the content of the data sets to ensure that national standards are updated to support the service.

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1 Background / context

The Information Centre (The IC) first released the IC (HES) Outpatient data at the end of July 2006 when a report: *Reporting outpatient journeys: Hospital outpatient activity in 2003-04 and 2004-05* was published. At this time a commitment was made to produce a data quality report by the end of 2006.

In view of some of the data quality considerations discussed in the report, potential users were invited to apply for access to 2004-05 data on an experimental basis. Access was conditional on their reporting back on the data and their quality.

Subsequently a workshop of such users took place, and the results of their discussions and findings on the experimental 2004-05 data have been incorporated into this report.

In preparing this report, two years of outpatient data (2003-04 and 2004-05) have been examined, with more detailed analysis of 2004-05 data. Coverage increased between the two years, but most other data quality findings were similar.

This study was carried out on HES data but the findings will be relevant to users of the source Commissioning Data Set (CDS) data too. HES data differs from the CDS data because the HES extracts are fixed, time-bound views of the CDS with some enhancements. The HES team have applied cleaning algorithms to the outpatient data set, similar to those applied to the HES Admitted Patient Care (APC) data. These algorithms tidy rather than correct, overwriting invalid codes with consistent valid codes for unknown or missing items. Also, new fields are derived by the HES

team from the submitted data and these are summarised in [Appendix C](#).

The report begins by describing the analysis undertaken to assess the data set. This leads in to the main part of the report containing the main findings with supporting evidence. The conclusions are set out in the next chapter, followed by a summary of resulting recommendations relating to these.

Supporting evidence on data quality findings forms the main body of the report.

It is acknowledged that some of the findings in this report may already have been overtaken by events. The 2005-06 and more especially the current data year, 2006-07, are expected to show improvements driven by real business use eg Payment by Results (PbR) and 18 Week Waits. We expect to see evidence of increased submission of some non-mandated fields and greater care with validity and accuracy of content. These more recent years fell outside the scope of this report but the detailed analysis of 2004-05 data, along with associated website tables, will provide a useful baseline for measurement of improvement as well as making users of earlier and more recent data aware of the issues which must be taken into account in any reliable analysis of outpatient CDS or HES data. Data set development work is already underway between The IC, NHS Connecting for Health (CfH) and the Information Standards Board (ISB) to update the relevant standards to support the new business needs. As this is "work in progress" this data quality report references the work on occasions but makes no assumptions about the approval outcomes.

2 How to use this report

The Outpatient CDS data examined in this report is deemed usable for a wide range of purposes but not without due care and attention to potential weaknesses highlighted in this report.

Operational users

NHS users of current Outpatient CDS data to support operational purposes, such as PbR and 18 Week Waits, should use this report (available from The IC website [www.ic.nhs.uk/]) to become familiar with the types of data quality issues that may still exist in current data and consequently be affecting their business, possibly adversely. They should check their own data or data shared with them by providers for such problems and address them accordingly. This may require adjustments or use of alternative sources initially but should lead to timely correction of the problems via system improvements or data capture and flow processes.

Analysts

Users wishing to analyse the outpatient data (sourced from the CDS or HES) for whatever purpose also need to become very familiar with the content of this report and the supporting material (available on the HESonline website [www.hesonline.nhs.uk/]). Failure to do so is likely to lead to invalid or misleading conclusions.

In particular, this report should be used in conjunction with the HES Outpatient Data Dictionary [www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=289],

which describes fields that are contained within HES.

Appendix E has been prepared as Guidance to Users and indicates how limitations in the data set discussed in this report might be compensated for in analysis.

Users are encouraged to share any new data quality findings via the Contact us area of the HESonline website [www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=377].

Analysts may find that they have to provide customers with caveats regarding data interpretation, perhaps in suitable footnotes or adjust outputs for known shortfalls.

Customers for analyses

Customers of the data who are not themselves analysts need only to become familiar with the fact that there are issues of several types and to ensure that those carrying out analyses on their behalf have taken them into consideration and applied adjustment factors or provided caveats of use if necessary.

All users

Users are encouraged to read “*Reporting outpatient journeys: Hospital outpatient activity in 2003-04 and 2004-05*” published in July and available at [www.ic.nhs.uk/pubs/hesoutpatients2003to2005] which contains useful national analyses which may also have local relevance.

3 Basis for the findings

There were two bases for this evaluation of the IC (HES) Outpatient data; completion and validity of fields, and coverage.

Completion and validity of fields within the data set were assessed against relevant reference data either directly or, where possible, using eDQRS (the electronic data quality reporting service developed by Ardentia with the Department of Health (DH), as a function within the NHS-Wide Clearing Service (NWCS) supported by McKesson). This enabled assessment of whether fields were completed and whether agreed codes were being used.

Coverage was assessed by comparison with existing aggregate returns, and was examined as far as common definitions would allow. Care had to be taken to achieve like-for-like comparison especially as some NHS organisations were sharing data over and above the national standard requirements for the years in question. These additions were of local use but not always possible to separately identify for national analysis.

In the period considered in this report there were two routine aggregated national sources of data about outpatient clinics (KH09 and QM08), which enable us to assess the coverage and some aspects of the quality of the data. Both sources existed only as aggregate, ie summary returns.

The KH09 return summarised, for each trust on a quarterly basis, the numbers of new and follow-up consultant clinic attendances by specialty. Records for patients who did not attend (DNA) were also included. These returns can be downloaded from the DH website [\[www.performance.doh.gov.uk/waitingtimes/\]](http://www.performance.doh.gov.uk/waitingtimes/).

The return recorded information on all consultant outpatient attendances taking place within the quarter/year, whether held within a consultant clinic session or outside a session. The only proviso was that the patient must have seen a consultant (or a doctor acting for the consultant) for examination or treatment. Additionally, there were counts of attendances missed by patients who did not attend their appointments scheduled within the quarter/year.

The QM08 central return used the same definition for consultant outpatient attendances, but also covered all referral requests. It provided data on referrals, regardless of whether they resulted in a consultant outpatient attendance at all, and if so, whether they occurred in the quarter covered.

For patients referred in writing by a GP or dentist attending for the first time, and seen by a consultant in a quarter, there was an analysis into waiting time periods, together with an analysis of those still waiting at the quarter end. These returns can also be downloaded from the DH website [\[www.performance.doh.gov.uk/waitingtimes/\]](http://www.performance.doh.gov.uk/waitingtimes/).

The QM08 return also existed as a 'resident'-based return at primary care trust (PCT) level.

The KH09 and QM08 aggregate returns have been superseded since April 2005 by a generic return collected via UNIFY called QM08ns (part of the old QM08) and QM08s (the old KH09 and another part of the old QM08). There are both provider and commissioner versions.

During the two years covered by this report the mandated outpatient CDS was restricted to consultant outpatient attendances (although providers were at liberty to provide non-consultant activity). The two aggregate returns should therefore be a reasonable basis for comparison with the HES data for the period covered.

Nurse and midwife attendances were only mandated to be included in the outpatient CDS from 1 April 2005 (DSCN 32/2004), but some providers included data before this. Such attendances are not required in KH09 or QM08 returns, but there have been anecdotal reports that some have been included, although this cannot be verified. However, they can be separately identified in HES when an appropriate specialty code has been used (see 'A surplus of HES data' on page 9), but there is evidence that this is not happening consistently.

From 1 April 2006 patient therapy attendances are also included in the CDS (DSCN 17/2005) and the report provides evidence that some providers have been including data for Allied Health Professionals (AHPs) in their CDS even during the period covered by this report. This activity is also not required in KH09 or QM08 returns although, again, conclusive evidence does not exist to prove that such activity may or may not have been included.

Data for the two years only cover face-to-face consultations. From 2005-06 HES records have extended to telephone or telemedicine consultation, and these are included in aggregate returns.

Therefore, for 2003-04 and 2004-05 the data needs to be used with care when making comparisons between HES and aggregate returns. Nevertheless where the analyst has local knowledge it should be

possible to separately identify and exclude data from the HES statistics with some degree of confidence to achieve like-for-like comparisons.

4 Main data quality findings

Coverage

Overall, coverage was close to 100% when compared with existing aggregate returns.

However, there were variable levels of HES coverage at organisational and other sub-national levels. Coverage analysis is somewhat confounded, not only because of inaccurate data capture and submission but also because service patterns have changed significantly over the lifetime of the Outpatient CDS. Care which used to be delivered in outpatients is now being delivered in other settings and is often led by care professionals other than consultants. Some outpatient dataflows already reflect these operational changes ahead of current national standards.

Despite the confounders, useful coverage comparisons can be made and are explored in the next sections.

A coverage data quality table is available on the HESonline website [\[www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=793\]](http://www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=793). This tabulates organisations supplying and not supplying the various types of attendance records as well as associated volumes.

Missing providers

Some providers did not submit any IC (HES) Outpatient data. Out of 376 organisations, 86 failed to supply outpatient data in 2003-04; the fact that they produced KH09 data is evidence that they were undertaking outpatient activity and reporting it in other routine returns. By 2004-05 the number had reduced to 66 (out of 372). (Table 4.1 gives a breakdown of trusts not supplying outpatient data to HES but supplying KH09.)

The missing organisations were mainly PCTs and mental health providers.

As more care activity is provided by PCTs as a substitute for care in acute settings it becomes more critical that PCTs submit CDS data. Some organisations may not have had suitable technology during the period covered by this report but investment in new systems through the National Programme for IT (NPfIT) should enable this omission to be addressed.

See the coverage data quality table on the HESonline website

[\[www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=793\]](http://www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=793).

It is recommended that PCTs and mental health trusts not already submitting CDS data address the issues that are preventing them from doing so as a matter of urgency. It is absolutely critical for their business understanding and planning, as well as for inclusion in national comparisons, that they do this. In particular, this data is needed in order to understand the full implications of waiting times along the whole patient pathway.

Additional providers

Some providers were submitting HES data despite not providing aggregate data.

In 2003-04, 12 PCTs supplied HES data but no KH09. By 2004-05 the number had increased to 19.

See the coverage data quality table on the HESonline website

[\[www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=793\]](http://www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=793).

Genito-urinary medicine - A missing specialty

Only a small number of providers of Genito-Urinary Medicine (GUM) clinics submitted outpatient CDS data in 2003-04 and 2004-05 (see [Table 4.2](#)). This arises out of local concerns, sometimes historic, about the handling of sensitive data. In fact, there is no legal basis or official protocol for withholding GUM clinic records. Providers may find it useful to read DSCN 41/1998, published in March 1999, to reassure themselves about their responsibilities in handling such data.

It is recommended that a reminder be sent to the service that data from GUM clinics are intended to be collected via the CDS dataflows. Clarification of the DSCN contents and implications of non-submission should be included.

Variations in coverage

Throughout, coverage comparisons have been made by comparing HES attendance volumes (excluding GUM, nurse and midwifery attendances) with the expected numbers based on KH09 volumes minus GUM attendances.

For all subsequent (non-coverage) analysis the full HES attendance data set was used.

At the national level coverage is close to 100%, and appears serviceable for high level counts.

Variations in coverage were evident however across various lower dimensions.

Geographically, by strategic health authority (SHA) of treatment, coverage in 2004-05 ranged from 51% of expected KH09 attendance volumes for Kent and Medway SHA, to 128% for South West Peninsula SHA ([Table 4.3](#)).

By trust type, coverage ranged from 65% of expectation for mental health trusts to 122% of expectation for large acute London trusts ([Table 4.4](#)).

By MAIN SPECIALTY CODE there was a wide range from a more than 10-fold excess for Occupational Medicine to a 99.8% deficit for Clinical Physiology. However, the majority of specialties differed by no more than 10% from expectation ([Table 4.5](#)).

A surplus of HES data

Despite the missing organisations there was evidence of an excess in the volume of HES data to that expected.

[Table 4.6](#) gives a breakdown of organisations according to their type and whether they were supplying more or less data than expected in 2004-05 (172 organisations were supplying more and 133 less). The excess was mainly in acute trusts and PCTs, with the deficit in mental health, community and learning disabilities trusts.

Also available on the HESonline website is a comparison of HES and KH09 volumes for each provider, which includes DNA comparisons and cancellation volumes [www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=793].

The main reasons for the apparent surplus of HES data are the inclusion of activity outside the scope of the formal CDS requirement for the period under review and duplicate records. As stated earlier (see reference to nurse and midwife, and allied health professionals (AHPs) in [Section 3](#)), there is evidence that some trusts were supplying records for non-consultant clinics, not all of which was separately identifiable at the time of submission. Outpatient activity could only be recorded as being undertaken by consultants until the definitions were extended to include midwifery and nurse

clinics from April 2005, as mandated in DSCN 32/2004.

Provision of non-consultant activity is most easily demonstrated in the number of trusts supplying records for midwifery and nurse clinic attendances earlier than was mandated by DSCN 32/2004. These have been identified by means of their main specialty code (see [Table 4.7](#)).

Also evident is the inclusion of activity for other non-consultant staff. These are less easy to demonstrate since at the time there were no defined specialty codes for AHPs, for example. The section below on use of the MEDICAL STAFF TYPE SEEING PATIENT field provides evidence that many other staff groups have been included in the HES file.

Examples of other activity outside formal definitions include a mental health trust where patient records were supplied for patients attending twice a day, three or four times a week. This suggests that the provider has submitted day hospital care rather than outpatient records.

Also indicative of variations in recording practice and possible duplications, are records for patients with several successive 'slots' in an outpatient clinic. This probably stems from the need to record a longer than average consultation and a 'legacy' Patient Administration System (PAS) which does not support differential clinic slots. Other possible examples are records for patients attending a range of clinics run by different professionals in the same morning or afternoon eg for diabetic clinics.

Technical protocols in submission of CDS data via the NWCS, and via the Secondary Uses Service (SUS), do result in some instances in trusts sending data intended to update previous data submissions, which instead duplicate, rather than replace, previously submitted CDSs. This occurs

when any of the activity dates fall outside the start and end dates for the 'bulk' submission timeframes.

The inclusion of future outpatient appointments in the outpatient CDS type will explain some excess data volumes. Once again, this demonstrates the desire and ability in some organisations to provide data supporting real business need, albeit out of step with national data standards of the period.

Independent sector

Data from only a small number of independent sector providers of NHS care were being submitted.

In 2003-04, 19 independent providers/sites were identified in the data who supplied 4,833 outpatient attendances. By 2004-05, 8 providers/sites were identified supplying 19,468 attendances (0.04%) of the national total (see [Table 4.8](#)). This is likely to be a considerable underestimate of the volume of work commissioned and possibly reflects the failure to contract first wave Independent treatment centres (ITCs) to provide comparable data to NHS organisations. More recent data should reflect the contractual requirement on second wave ITCs to submit CDS data and the fact that NWCS protocols were amended to allow direct flow of independent sector data rather than having to be supplied via their NHS commissioner. NPfIT SUS will also allow independent sector flows.

NHS-commissioned independent sector data is essential to the national data set as without comprehensive coverage it will not be possible to monitor waiting times from referral to treatment.

The data is also vital for assessing the contribution of the independent sector.

It is recommended that commissioners of care in the independent sector monitor submission of CDS data from their independent providers. It is vital for their own business and national monitoring that relevant information clauses exist in contracts and are adhered to fully.

Completion of non-mandated records and fields

The position on HES coverage for non-mandated records and fields was variable.

Non-attendance records

Despite not being mandated, DNA records were being returned by the majority of trusts. Furthermore, between 49% and 59% of trusts were returning hospital and patient cancellation records, which are also not mandated.

DSCN 05/2001, which first mandated the flow of outpatient CDS records through NWCS, indicated that records for non-attendance were not required:

“Currently, the inclusion of ‘Did Not Attends and Cancellations’ are not a mandatory element of the outpatient data flow.”

Subsequent guidance from the NPfIT in October 2005 (ISQ1303) [www.connectingforhealth.nhs.uk/datastandards/support/pages/2005/jul05/isq1303.pdf] also reinforced this message.

However, some of the documentation relating to the CDS can appear confusing eg the inclusion in the NHS Data Dictionary of non-attendance and cancellation categories in the ATTEND OR DID NOT ATTEND item definition. This and the operational driver to share this information between providers and commissioners explains data submission in excess of mandated requirements. Indeed, 87% of providers did

supply records for DNAs in 2004-05, achieving 80% coverage against expectation had DNAs been mandated.

Table 4.9 gives a comparison of 2004-05 HES and KH09 outpatient DNA numbers.

Reporting patient journeys has demonstrated that potentially valuable information can be derived from the very large sample of DNA records that have been supplied. There would be demonstrable advantage, therefore, if such routine performance data were available for all providers (and commissioners), particularly as such data are universally available at an aggregate level.

The coverage data quality table on the HESonline website

[www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=793]

provides details of the organisations providing DNA records.

At the time of writing this report, NHS Data Standards within CfH are in the process of taking a proposal through the ISB to mandate submission of DNAs and cancellations. This proposal also covers other new information requirements to support data collection for the 18 Week Wait programme. The timescale for these changes being implemented (subject to ISB approval) is not yet known but is not imminent.

It is recommended that providers currently not sharing DNAs and cancellations via the CDS flows should begin to do so for beneficial business reasons without waiting for national standards to mandate them.

Diagnosis and procedure coding

There were very low levels of diagnosis and procedure recording, with many providers not coding at all.

Neither diagnosis nor procedure coding are mandated, although a limited set of procedure codes have been introduced for PbR with effect from 1 April 2006.

In 2004-05, only 1.6% of attendance records contained a PRIMARY DIAGNOSIS code, while 2.6% included a PRIMARY PROCEDURE code.

While one or more diagnoses could potentially be expected for all attendances, it is less clear how many attendances might include a procedure.

The completion of some other fields in the data set provides clues.

The SERVICE TYPE REQUESTED field indicates that 4.1% of first attendances are referred for a specific procedure and 4.4% of subsequent attendances, but it is not stated whether the referral is for an outpatient or inpatient/day case procedure (demonstrating a limitation in the usefulness of this field).

The CDS contains a field OPERATION STATUS, which is intended to indicate whether none, one or more operation were carried out, or whether this is not known.

Additionally, two PRIMARY PROCEDURE default codes can be used indicating:

- Outpatient procedure carried out but no appropriate OPCS-4 code available: X998 (but used by 13 organisations)
- No outpatient procedure carried out: X999 (only used for 23 organisations)

Table 4.10 shows the extent of use of these fields, suggesting that at least a further 5% of attendances could have included an

operation procedure, which was not coded. It also indicates inconsistencies in the use of these fields.

There were 145 organisations (44%) providing procedure coding to some extent, and providers with a significant volume of outpatient activity were achieving coding levels in the range of 20–30% (without the use of the two X codes) and a handful of providers achieved 100%, or very close to this, with the use of X codes.

A procedures data quality table on the HESonline website

www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=793

shows levels of procedure coding and use of the two X codes by organisation.

Despite the close to 100% national coverage of attendances, national summaries of diagnosis codes are unstable, as is demonstrated by Table 4.11, which shows the top 10 diagnoses in 2003-04 with their respective volumes, and their ranking and volumes in 2004-05. The variation results from a change in recording practice in a single provider.

It is recommended that consideration be given to mandating PRIMARY DIAGNOSIS or signs and symptoms using the ICD-10 chapter XVIII (Symptoms, signs and abnormal clinical laboratory findings, not elsewhere classified, R00-R99) if a sufficiently strong business case can be made against resource implications.

It is recommended that consideration be given to PRIMARY PROCEDURE, if a sufficiently strong business case can be made against resource implications.

Ethnic Origin

The CDS definition indicates that this item is not to be provided in national outpatient dataflows to the centre even if it is collected at local level so the low level of completion in the outpatient data set reflects adherence to current guidance.

This guidance would appear to be an anomaly as ETHNIC CATEGORY is mandated for Admitted Patient Care (APC) data. The item is of key public and political importance and the failure to supply it on all dataflows not only creates inconsistency but fails to support the Race Relations Amendment Act, and therefore it needs to be urgently remedied.

Work to mandate inclusion of ETHNIC CATEGORY on all dataflows is being taken forward by The IC sponsored by the Healthcare Commission.

In 2004-05, 83% of attendances records had an invalid value or the field was not supplied, but levels of coding for some providers were as high as 95% demonstrating that the data can be provided from current systems.

An ethnic coding data quality table on the HESonline website [\[www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=793\]](http://www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=793) shows levels of ethnic coding.

It is recommended that collection and submission of ethnic origin be mandated in all CDS types.

Validity/completeness of mandated fields

There were high levels of validity and completeness for some important fields, but lower levels of validity and completeness for some potentially useful fields/values.

Table 4.12 shows mandated fields where levels of validity in excess of 90% were being achieved.

Table 4.13 shows some fields/values which need to be used with particular care in some circumstances because of lower levels of validity or non-use by some providers.

Limitations in key CDS items

The range of the mandated data set and the categories available are limited for certain fields in the CDS which are either important in themselves or in making the data useful for a number of different applications. Individual items are discussed in the following sections.

MEDICAL STAFF TYPE SEEING PATIENT

In the period covered by this report only two staff type categories were officially required according to the national standards:

- Consultant
- Member of consultant firm

Since 1 April 2005, the above categories have been shown in the NHS Data Dictionary as no longer to be used. The standard categories instead are:

- Lead care professional
- Member of care professional team

Clearly, from the evidence provided below, the NHS did not consider that these adequately reflected the full range of clinical staff involved in outpatient care during the period covered, and even more so in the light of the extension of the data set to AHPs from 1 April 2006.

A Discharge and staff type data quality table on the HESonline website [\[www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=793\]](http://www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=793) shows levels of coding of this field.

It is recommended that this field be extended to record more adequately the activities of other non-medical staff groups and is renamed as STAFF TYPE SEEING PATIENT. This should be included in The IC Datasets Programme in development work for CDS version 7.

CONSULTANT CODE

For both consultants and GPs working as consultants this is the General Medical Council (GMC) code.

Additional codes exist for unknown consultant (C9999998), unknown dentist (D9999998), unknown midwife (M9999998), unknown nurse (N9999998) and unknown other health care professional (H9999998).

Examples of invalid codes used in 2004-05 are shown in [Table 4.14](#). While some of the codes in the table may not be appropriate for consultant outpatient clinic attendances, and may indicate treatment functions rather than staff codes, it is evident that a wider coding classification should be available.

A consultant coding data quality table on the HESonline website

www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=793

shows levels of use of various codes for this field.

It is recommended that the current CONSULTANT CODE classification be extended to allow the coding of a broader range of staff. This development should link to the NPfIT Spine Directory Service.

OUTCOME OF ATTENDANCE

This field currently allows for three categories:

- Discharged from consultant's care (last attendance)
- Another appointment given

- Appointment to be made at a later date

Analysis for this report and discussions with data providers indicate that OUTCOME OF ATTENDANCE is considered a very important variable but that the current values are too limited to be of real use. For example, the field could provide a key to better understanding of 18 Week Wait and referral to treatment time (RTT) status if it allowed more comprehensive description of the next step after the attendance.

The six 'clock stop' scenarios suggested in the 18 week tactical solution (DSCN 17/2006) might form a suitable basis for a coding system.

A discharge and staff type data quality table on the HESonline website

www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=793

shows whether organisations are identifying discharged patients. The data indicates that some providers were not using the discharge code at all in 2004-05.

It is recommended that the OUTCOME OF ATTENDANCE field be extended in the light of current provider practice. This should be included in The IC Datasets Programme in development work for CDS version 7.

SERVICE TYPE REQUESTED

This field currently allows for three categories:

- Advice/Consultation
- Specific Procedure
- Other

Again extensions might allow separate identification of inpatient/day case and outpatient procedure (where known).

It is recommended that SERVICE TYPE REQUESTED be extended in the light of current provider practice. This should be included in The IC Datasets programme in development work for CDS version 7.

Amendment to and omissions from the data set

Registered GMP

Discussion with pilot users of the experimental data set and other staff involved in data quality work identified that the data set needs amendment to include both registered and referring GP separately identified. Indeed, the ongoing need for GMP code of registered GP should be reviewed given the move to patients being registered with a practice rather than with an individual GP.

The data set currently includes both:

- GMP CODE OF REGISTERED OR REFERRING GMP and
- REFERRER CODE which includes GMP code,

thus allowing for confusion.

It is recommended that GMP CODE OF REGISTERED OR REFERRING GMP and REFERRER CODE are reviewed with a view to reflecting current registration arrangements and removing any confusion in the definitions.

Omissions from the data set

Discussions identified the absence of certain items which users expected to feature in outpatient data collection, for which there are specific needs in different areas of analysis:

- Additional diagnoses: currently the data set only allows two diagnoses, and this is considered to be a limitation

- Time of appointment: this is considered to be particularly relevant in identifying duplicates
- Referral dates: currently only the REFERRAL REQUEST RECEIVED DATE is recorded, but the decision to refer date is also required (and is already a requirement for cancer waiting times). This has a particular relevance in the context of Choose and Book

Some providers and commissioners are already sharing more than two diagnoses in the Outpatient CDS demonstrating both capability and need. Work is already in hand in the CDS6 proposals to update national standards to meet the business need.

It is recommended that time of appointment and referral date are addressed by The IC Datasets Programme in development work for CDS7.

Further observations

PRIORITY TYPE

This takes two values:

- Routine
- Urgent

and is completed for 99.8% of first and 99.0% of subsequent attendance records.

From 1 April 2007, a third category for cancer two-week waits is to be added (although this is already listed in the latest release of the NHS Data Dictionary). While use of the categorisation is likely to be subjective between different providers and consultants, there is an appreciable difference in average waiting time between the two categories at the level of national specialties, indicating a consistency in use, and fitness for purpose in analysis.

LOCATION CLASS

The field takes the following values:

- Health Site (General Occurrence)
- Home
- Delivery Place
- Health site at the start of Health Care Activity
- Health site at the end of Health Care Activity

and is only recorded for 12.4% of attendance records with the last code not used at all. Given its limited use and restricted values it is unclear what purpose this field would serve for operational, managerial or public health requirements for this information. However, the 'Data Element' LOCATION TYPE provides a much more comprehensive classification, and if reviewed to ensure that its data values cover the above adequately, could be better suited to the requirements of a changing NHS.

It is recommended that the LOCATION CLASS field be replaced by LOCATION TYPE (possibly enhanced) in the CDS. This is to be included in The IC Datasets programme in development work for CDS version 7.

Changes being prepared for the CDS version 6 refer to the intention to include LOCATION TYPE in the outpatient attendance CDS. LOCATION CLASS is to be retained in the short term and its inclusion to be subject to review.

Non-comparability of HES and KH09/QM08 specialty lists

Use of KH09/QM08 returns for comparison with HES is limited to some extent by incompatibility between the specialties used.

Table 4.15 shows the incompatible specialties and the number of attendances involved.

It is recommended that the DH, IC and CfH work to standardise the use of specialty codes in both CDS and aggregate returns.

Inconsistent use of referral source

There appears to be inconsistent interpretation of SOURCE OF REFERRAL FOR OUT-PATIENTS for subsequent attendances (which implies that this field is only useable in analysis for first attendances).

Table 4.16 shows the distribution of referral source for first and subsequent attendances. There is a notable difference between the two groups, with subsequent attendances being more likely to be referred by a consultant, but an unexpectedly high proportion of GP referrals for subsequent attendances.

It would appear that some organisations record in the source of referral field the detail that was relevant to the first attendance, and that this is retained for all subsequent attendances. Other organisations appear to record referral source that is relevant for the visit.

Analysis of referral source is therefore probably best restricted to first attendances until the data item is reviewed and updated. This work is underway as part of the current CDS6 development. Updated guidance will be required.

It is recommended that the updated SOURCE OF REFERRAL FOR OUT-PATIENTS field which results from the CDS6 development should be supported by clear guidance to ensure that providers pick up on any need to change their data recording practices.

Waiting times

Waiting time comparison issues

Waiting time information obtained from HES is currently inadequate for monitoring purposes, in part due to variable coverage and non-recording of last DNA or patient cancelled date.

It has previously been noted that the QM08 return provides an analysis of waiting times for GP and GDP, first referred patients seen during a quarter.

This therefore offers a basis for comparison with analysis derived from The IC (HES) Outpatient database. Comparison should be aided by the inclusion in the data set of the field LAST DNA OR PATIENT CANCELLED DATE which enables waiting time clocks to be reset for patients who DNA or cancel.

The CDS definition specifically states that the field is included for this purpose:

“For Outpatient Attendance CDS, the four dates, REFERRAL REQUEST RECEIVED DATE, APPOINTMENT DATE, ATTENDANCE DATE and LAST DNA OR PATIENT CANCELLED DATE, together provide all the information needed to derive the outpatient waiting time for the QM08 return. Both APPOINTMENT DATE and ATTENDANCE DATE may be required to calculate waiting times if the PATIENT cancels an appointment or did not attend and then subsequently attended at a future date.”

However, coverage issues and the fact that some providers are not using the LAST DNA OR PATIENT CANCELLED DATE renders comparison difficult.

A waiting times data quality table on the HESonline website

www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=793

shows whether providers are using this field.

Table 4.17 shows an unadjusted national comparison between HES and QM08 data demonstrating close agreement in waiting time categories up to 16 weeks, but a divergence thereafter, with an excess of longer waiters in HES data.

In part this difference results from DNAs and cancellations not being accounted for in HES waiting times calculations.

Inclusion of non-consultant activity in HES data may also offer a partial explanation since such patients have not necessarily benefited from waiting time targets. This demonstrates the importance of being able to identify such activity.

Two separate coverage questions need to be considered in comparative analysis of waiting times between the two data sources:

1. Is overall coverage of the HES data (in comparison to KH09) satisfactory?
2. Are the numbers of GP/GDP first referrals seen comparable between HES and QM08?

A waiting times data quality table on the HESonline website

www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=793

makes the latter comparison by provider.

The differences reported suggest that this area of data quality would benefit from some form of performance management, as improvements would allow more sophisticated analysis of waiting time factors to be undertaken than is possible with aggregate returns. These data quality issues also need to be resolved if the benefit of the data set's use is to be maximised for 18 Week Wait analysis.

In addition, if timeliness and accuracy issues can be resolved, this would present an opportunity to reduce duplication and burden on the NHS by generating QM08 and KH09 directly from the CDS data.

It is recommended that the QM08 return should remain the preferred source for waiting time data until timeliness and accuracy issues are resolved.

HES/QM08 comparisons should regularly be fed back to providers via the HESonline website, and SHAs should be involved in a process of reconciliation.

It is recommended that use of the LAST DNA OR PATIENT CANCELLED DATE should be part of routine data quality monitoring, possibly as an outpatient Data Quality Indicator (DQI) qualifier.

Waiting time distribution

There is a large number of zero day waits, suggesting that PASs may use date of attendance as default REFERRAL REQUEST RECEIVED DATE, where this is unknown.

Observation of the distribution of waiting times indicates a peak at zero days (Figure 4.1, overleaf). A similar observation applies to APC data. The introduction of improved booking processes, and 'one-stop' facilities would contribute to these, but so too could poor or non-recording of referral request received date.

A waiting times data quality table on the HESonline website

www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=793

shows levels of zero waits by provider.

It is recommended that the relative volume of zero waits should be part of routine data quality routine monitoring, possibly as an outpatient DQI qualifier.

Seven-day peaks in waiting times can be seen, suggesting that 'clock starts' occur when booking in a clinic, rather than on REFERRAL REQUEST RECEIVED DATE.

A waiting times data quality table on the HESonline website

www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=793

shows levels of 7 day multiple waits by provider.

It is recommended that the relative volume of 7 day multiple waits should be part of routine data quality routine monitoring, possibly as an outpatient DQI qualifier.

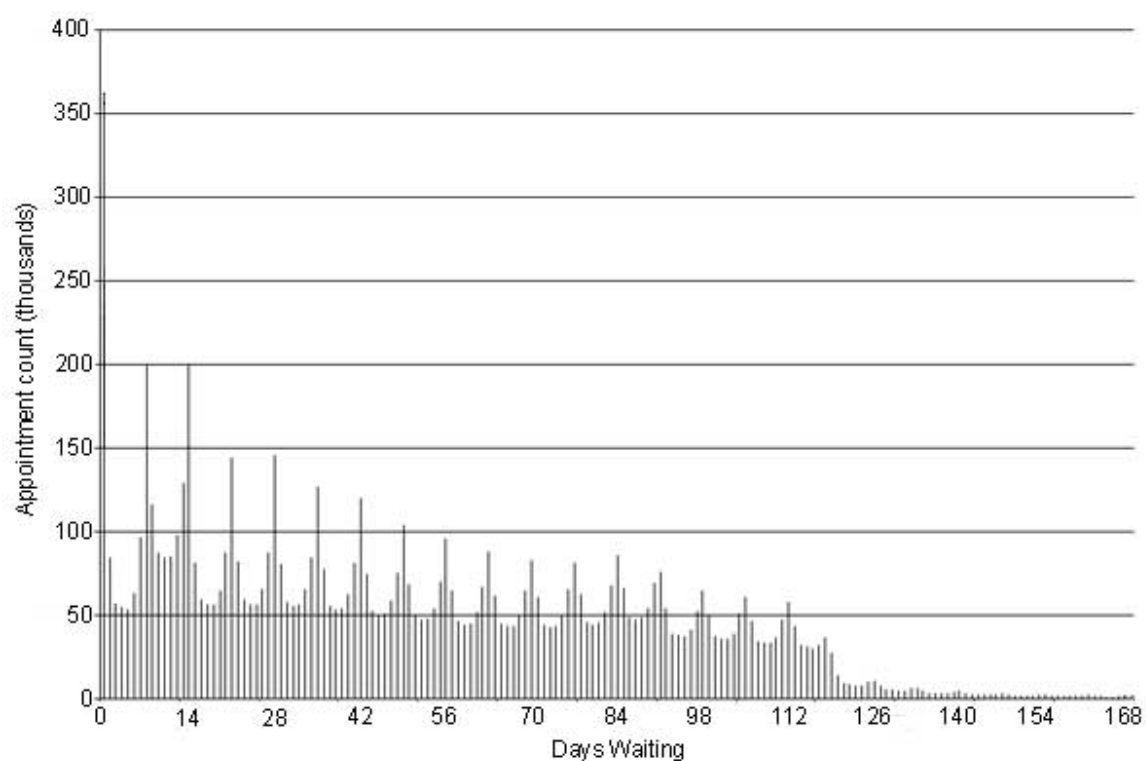


Figure 1. 2004-05 waiting times (up to 6 months) for first attendances referred by GMPs and GDPs

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Table 4.1: Numbers of trusts not supplying IC (HES) Outpatient data in 2003-04 and 2004-05 by broad type

Year	Trusts that failed to supply HES outpatient data					Total
	PCT	Mental health, community and learning difficulty	Acute	Multi-service	Care trusts	
2003-04	60	18	4	2	2	86
2004-05	55	9	0	0	2	66

Table 4.2: Summary of trusts supplying Genito-urinary medicine clinic data in 2003-04 and 2004-05. Comparisons with aggregate KH09 returns

Year	Organisations			Attendances		
	HES data	KH09 return	%	HES data	KH09 return	%
2003-04	11	110	10.0	36,754	1,207,546	3.0
2004-05	13	111	11.7	43,596	1,294,707	3.4

Table 4.3: Comparison of 2004-05 HES and KH09 Outpatient Attendance Numbers at SHA level (excluding genito-urinary medicine, nurse and midwife clinics)

Strategic health authority	HES	KH09	HES/ KH09 %
Norfolk, Suffolk and Cambridgeshire SHA	1,901,701	1,778,459	107%
Bedfordshire and Hertfordshire SHA	1,052,357	1,071,773	98%
Essex SHA	1,170,397	1,188,387	98%
North West London SHA	1,733,436	1,744,202	99%
North Central London SHA	1,886,401	1,912,485	99%
North East London SHA	1,353,133	1,444,156	94%
South East London SHA	1,577,545	1,433,324	110%
South West London SHA	1,543,576	1,322,056	117%
Northumberland, Tyne and Wear SHA	1,531,507	1,555,419	98%
County Durham and Tees Valley SHA	823,687	1,023,174	81%
North and East Yorkshire and Northern Lincolnshire SHA	1,337,715	1,163,834	115%
West Yorkshire SHA	1,942,861	1,805,525	108%
Cumbria and Lancashire SHA	1,309,051	1,449,963	90%
Greater Manchester SHA	2,850,930	2,889,409	99%
Cheshire and Merseyside SHA	2,656,581	2,608,043	102%
Thames Valley SHA	1,806,148	1,514,192	119%
Hampshire and Isle of Wight SHA	1,279,191	1,241,516	103%
Kent and Medway SHA	572,008	1,130,712	51%
Surrey and Sussex SHA	2,112,400	1,995,921	106%
Avon, Gloucestershire and Wiltshire SHA	2,036,827	1,721,188	118%
South West Peninsula SHA	1,522,413	1,191,939	128%
Dorset and Somerset SHA	958,678	863,324	111%
South Yorkshire SHA	1,600,250	1,562,101	102%
Trent SHA	2,102,969	1,939,078	108%
Leicestershire, Northamptonshire and Rutland SHA	1,118,590	1,150,029	97%
Shropshire and Staffordshire SHA	937,274	1,063,244	88%
Birmingham and The Black Country SHA	2,640,180	2,560,728	103%
West Midlands South SHA	1,116,889	1,129,256	99%
Unidentified	14,687		
Grand Total	44,489,382	43,453,437	102%

Table 4.4: Comparison of 2004-05 HES and KH09 Outpatient Attendance Numbers by Trust Type (excluding genito-urinary medicine, nurse and midwife clinics)

Trust Type	HES	KH09	HES/KH09%
Acute Specialist	1,152,153	1,162,703	99%
Acute Teaching London	3,226,217	3,095,624	104%
Acute Teaching Outside London	6,904,118	6,636,089	104%
Care Trusts	76,572	86,021	89%
Children's Services	380,989	367,105	104%
Community with Mental Health	227,508	252,979	90%
Independent Sector	17,552		
Large Acute London	1,555,926	1,273,265	122%
Large Acute Outside London	13,093,612	12,996,047	101%
Learning Disability	9,520	12,367	77%
Medium Acute London	1,696,683	1,637,345	104%
Medium Acute Outside London	8,437,709	7,996,196	106%
Mental Health	867,632	1,327,162	65%
Multi-Service	1,244,527	1,256,729	99%
Orthopaedic	225,431	225,623	100%
PCT	1,081,710	1,016,813	106%
Small Acute London	533,309	588,509	91%
Small Acute Outside London	3,756,298	3,522,860	107%
Voluntary and Charitable Sector	1,897		
Non-NHS UK Provider	19		
Grand Total	44,489,382	43,453,437	102%

Foundation	HES	KH09	
Foundation	8,135,180	7,686,419	106%
Non-Foundation	35,272,492	34,750,205	102%
PCT	1,081,710	1,016,813	106%
Grand Total	44,489,382	43,453,437	102%

Table 4.5: Comparison of 2004-05 HES and KH09 Outpatient Attendance Numbers by Main Specialty (excluding genito-urinary medicine, nurse and midwife clinics)

Main Specialty	HES	KH09	HES/KH09%
100 General Surgery	3,358,621	3,380,275	99%
101 Urology	1,477,065	1,466,061	101%
110 Trauma & Orthopaedics	5,531,519	5,541,925	100%
120 Ear, Nose & Throat (ENT)	2,290,996	2,267,004	101%
130 Ophthalmology	4,638,816	4,451,388	104%
140 Oral Surgery	1,027,836	1,126,365	91%
141 Restorative Dentistry	295,265	351,567	84%
142 Paediatric Dentistry	85,009	96,665	88%
143 Orthodontics	669,868	697,119	96%
145 Oral & Maxillo Facial Surgery	75,239		
147 Periodontics	6,555		
148 Prosthodontics	5,685		
150 Neurosurgery	141,652	144,922	98%
160 Plastic Surgery	724,681	693,756	104%
170 Cardiothoracic Surgery	119,177	126,572	94%
171 Paediatric Surgery	104,361	101,706	103%
180 Accident & Emergency (A&E)	130,964	191,934	68%
190 Anaesthetics	252,800	151,859	166%
191 Pain relief		278,419	0%
192 Critical Care Medicine	449		
199 Non-UK Provider; specialty function not known, treatment mainly surgical	3,125		
300 General Medicine	3,356,690	2,961,632	113%
301 Gastroenterology	563,391	638,820	88%
302 Endocrinology	283,592	348,686	81%
303 Clinical Haematology	1,750,200	1,685,074	104%
304 Clinical Physiology	1	601	0%
305 Clinical Pharmacology	25,687	24,025	107%
310 Audiological Medicine	161,516	119,128	136%
311 Clinical Genetics	17,802	35,286	50%
312 Clinical cyto/molecular genetics	470	676	70%
313 Clinical Immunology & Allergy	30,660	27,157	113%
314 Rehabilitation	146,468	70,849	207%
315 Palliative Medicine	21,408	21,023	102%
320 Cardiology	1,234,528	1,248,757	99%

Main Specialty	HES	KH09	HES/KH09%
321 Paediatric Cardiology	13,441		
330 Dermatology	2,156,669	2,122,594	102%
340 Thoracic Medicine	424,869	550,248	77%
350 Infectious Diseases	56,067	60,247	93%
361 Nephrology	436,080	449,941	97%
370 Medical Oncology	520,330	491,769	106%
371 Nuclear Medicine	7,311	9,171	80%
400 Neurology	676,344	695,437	97%
401 Clinical Neuro-physiology	35,287	16,990	208%
410 Rheumatology	1,245,317	1,263,672	99%
420 Paediatrics	1,417,059	1,465,161	97%
421 Paediatric Neurology	37,257	40,412	92%
430 Geriatric Medicine	493,178	456,895	108%
450 Dental Medicine Specialties	31,362	37,191	84%
460 Medical Ophthalmology	4,219	5,020	84%
501 Obstetrics	1,443,200		
502 Gynaecology	2,550,252	2,282,419	112%
510 Obs & gyn (obstetrics A/N)		1,582,774	0%
520 Obs & gyn (obstetrics P/N)		29,485	0%
600 General Practice Medicine	6,895		
601 General Dental Practice	4,149		
700 Learning Disability (previously MH)	55,959	87,918	64%
710 Adult Mental Illness	975,744	1,250,951	78%
711 Child & Adolescent Psychiatry	148,904	196,174	76%
712 Forensic Psychiatry	3,939	16,467	24%
713 Psychotherapy	26,395	78,042	34%
715 Old Age Psychiatry	255,181	301,503	85%
800 Clinical Oncology (previously Radiotherapy)	1,078,875	1,047,227	103%
810 Radiology	74,726	39,459	189%
820 General Pathology	14,797	13,055	113%
822 Chemical Pathology	68,353	61,541	111%
823 Haematology	228,006	399,020	57%
824 Histopathology	4,540	852	533%
830 Immunopathology	12,540	11,757	107%
831 Medical Microbiology	635	336	189%
900 Community Medicine	45,592	58,285	78%
901 Occupational Medicine	56,191	5,000	1124%

Main Specialty	HES	KH09	HES/KH09%
902 Community Health Services Dental	142		
904 Public Health Dental	24		
990 Joint consultative clinic & Not Known	1,347,457	77,173	0%
All Specialties	44,489,382	43,453,437	102%

Table 4.6: Comparison of Consultant Outpatient Attendances reported via KH09 and HES by broad trust type (excluding genito-urinary medicine, nurse and midwife clinics)

Organisation Type	Attendances		HES/ KH09 (%)	No of Trusts with				
	HES	KH09		HES lower than KH09	HES equal to KH09	HES higher than KH09	No KH09 return	No HES data
Acute	40,356,025	38,908,638	103.7%	56		102		
Care	76,572	86,021	89.0%	4		1		2
MH/ Community/LD	1,104,660	1,592,508	69.4%	36		15		9
PCT	1,081,710	1,016,813	106.4%	31	1	45	19	55
Multi-Service	1,244,527	1,256,729	99.0%	3		4		
Other	606,420	592,728	102.3%	3		5		
All NHS	44,469,914	43,453,437	102.3%					
Non-NHS	19,468						8	
Total	44,489,382	43,453,437		133	1	172	27	66

Table 4.7: Nurse and Midwife Clinic attendances identified in HES using main speciality code, 2003-04 and 2004-05

Year	Midwifery		Nurse clinic	
	Providers	Attendances	Providers	Attendances
2003-04	34	67,056	27	61,562
2004-05	47	138,344	36	166,898

Table 4.8: Identified Private and Voluntary Sector Provider Outpatient Activity in 2004-05

Provider code	Provider name	First attendances	Subsequent attendances	Total attendances
NT7XX	Netcare Healthcare	14,668		14,668
8C437	Tetbury Hospital	738	1,159	1,897
NT505	CUAH Bassetlaw Treatment Centre	1,537	1	1,538
NT233	The Plymouth Nuffield Hospital	1,183	3	1,186
NTY52	Rowley Hall Hospital	110		110
NT215	The Exeter Nuffield Hospital	49		49
899	Non-NHS UK Provider where no organisation code has been used	19		19
NTY46	Mount Stewart Hospital	1		1
All		18,305	1,163	19,468

Table 4.9: Comparison of 2004-05 HES and KH09 outpatient DNA numbers

Attendance type	HES	KH09	HES/KH09 %
DNA First Attendance	1,042,630	1,290,303	80.8%
DNA Subsequent Attendance	3,470,639	4,157,969	83.5%
DNA First/Subs not known	15,370		
All DNAs	4,528,639	5,448,272	83.1%

Table 4.10: Use of Operation Status and Operation Codes in 2004-05 Attendance data

Operation code	Operation Status				Total
	One or more operations	No operation	Not known	Other	
Not Known	2,213,861	21,013,387	14,405,667	4,743,315	42,376,230
X998 – Op uncodeable	44,579				44,579
X999 – No op	48,856	1,205,255		22,768	1,276,879
Coded Procedures	1,041,833	18,402	15,646	64,651	1,140,532
Total	3,349,129	22,237,044	14,421,313	4,830,734	44,838,220

Table 4.11: Top 10 Diagnoses for 2003-04 Outpatient Attendances showing comparative 2004-05 numbers and rankings.

Primary Diagnosis 4 Char Code		03-04 No	03-04	04-05 No	04-05
Code	Description	All Attendances	Rank	All Attendances	Rank
R69X	Unknown and unspecified causes of morbidity	41,849,579	1	44,099,929	1
Z510	Radiotherapy session	44,066	2	2	3,100
C509	Malignant neoplasm of breast unspecified	28,605	3	45,084	3
Z511	Chemotherapy session for neoplasm	16,687	4	2	3,101
C61X	Malignant neoplasm of prostate	11,861	5	23,827	4
F99X	Mental disorder not otherwise specified	8,932	6	64,870	2
L989	Disorder of skin and subcutaneous tissue unspecified	7,508	7	4,078	24
H269	Cataract unspecified	7,056	8	4,312	18
Z010	Examination of eyes and vision	7,002	9	11,453	5
Z090	Follow-up examination after surgery for other conditions	6,638	10	4,871	14

Table 4.12: Validity of some well-recorded CDS field in 2004-05

Field	% valid
FIRST ATTENDANCE	99.7%
POSTCODE OF USUAL ADDRESS	99.6%
ORGANISATION CODE (CODE OF COMMISSIONER)	98.9%
CODE OF GP PRACTICE	98.4%
GMP (CODE OF REGISTERED OR REFERRING GP)	98.2%
SOURCE OF REFERRAL FOR OUT-PATIENTS	93.8%
NHS NUMBER	93.5%

Table 4.13: Validity and extent of use of some less well recorded CDS fields/values in 2004-05

Field/value	Measure
MEDICAL STAFF TYPE SEEING PATIENT	54.6% Valid
REFERRAL REQUEST RECEIVED DATE	88.5% Valid
LAST DNA OR PATIENT CANCELLED DATE	Used by 79.3% of organisations
Use of X998 as PRIMARY PROCEDURE	Used by 3.9% of organisations
Use of X999 as PRIMARY PROCEDURE	Used by 6.9 % of organisations
GDP as SOURCE OF REFERRAL FOR OUTPATIENTS	Used by 78% of 162 organisations with inpatient dental specialties
Discharge as OUTCOME OF ATTENDANCE	Used by 93.1% of organisations

Table 4.14: Examples of values returned for Consultant Code in 2004-05 Outpatient Attendances

COUNSELL	GASTROEN	PREL
DERMNURS	HYG	PRE
DP	LAV	RADIOG
DR-DUMMY	OPHTH	REGENC
DSTU	OPTOM	RETPHOTO
ECG STAFF	ORTHOPT	SLEEP
EAT	OT	TECHNICI
ENDO	PH	UROL
FS	PHYSIO	VASCTECH

Table 4.15: Incompatible HES and KH09/QM08 main specialties showing 2004-05 attendance volumes

Specialty	HES	KH09
Code Name		
191 Pain relief		278,419
510 Obs & gyn (obstetrics A/N)		1,582,774
520 Obs & gyn (obstetrics P/N)		29,485
990 Joint consultative clinic		77,173
145 Oral & Maxillo Facial Surgery	75,239	
147 Periodontics	6,555	
148 Prosthodontics	5,685	
192 Critical Care Medicine	449	
199 Non-UK Provider; speciality function not known, treatment mainly surgical	3,125	
321 Paediatric Cardiology	13,441	
501 Obstetrics	1,443,200	
600 General Practice Medicine	6,895	
601 General Dental Practice	4,149	
902 Community Health Services Dental	142	
904 Public Health Dental	24	
& Not Known	1,347,457	

Note: The 'Not Known' specialty is generated in the HES cleaning process

Table 4.16: Recorded sources of referral for first and subsequent outpatient attendances in 2004-05

	First		Subsequent		All	
	No	%	No	%	No	%
Referral by Responsible Consultant						
following an emergency admission	161,495	1.2%	849,094	2.7%	1,011,578	2.3%
following a domiciliary visit	15,998	0.1%	180,294	0.6%	196,308	0.4%
following an A&E attendance	57,121	0.4%	80,196	0.3%	137,650	0.3%
other	419,257	3.2%	5,994,551	19.0%	6,437,904	14.4%
All Referrals by Responsible Consultant	653,871	4.9%	7,104,135	22.6%	7,783,440	17.4%
Referral from GMP	7,557,526	57.6%	10,416,376	33.1%	18,014,338	40.2%
Referral from an A&E department	935,929	7.1%	939,384	3.0%	1,879,809	4.2%
Referral from a consultant other than in an A&E department	1,956,742	14.9%	5,744,246	18.2%	7,708,393	17.2%
Self-Referral	249,880	1.9%	294,218	0.9%	544,548	1.2%
Referral from Prosthetist	8,888	0.1%	34,570	0.1%	43,462	0.1%
Other source of referral	649,251	4.9%	2,575,906	8.2%	3,251,151	7.3%
General Dental Practitioner	292,032	2.2%	403,247	1.3%	695,291	1.6%
Community Dental Service	5,692	0.0%	6,670	0.0%	12,363	0.0%
Not Known	817,531	6.2%	3,988,685	12.7%	4,836,829	10.8%
All	13,127,342	100.0%	31,507,437	100.0%	44,769,624	100.0%

Table 4.17: HES/QM08 Waiting Time comparisons for all GMP/GDP referred first attendances in 2004-05

Source	0 to 3 weeks	4 to 12 weeks	13 to 16 weeks	17 to 20 weeks	21+ weeks	All Waits
HES	2,721,222	3,983,201	1,200,468	173,500	147,188	8,225,579
QM08	2,691,191	3,986,940	1,196,798	99,681	10,572	7,985,182

5 Conclusions

Use of the experimental data

The data set has been demonstrated to be incomplete and limited in some key areas. It cannot be used with the same ease and confidence as APC data, which has developed over more than a decade but can be used effectively for many purposes as long as the known deficiencies are taken into account when drawing conclusions.

Coverage issues

Close proximity of 2003-04 and 2004-05 IC (HES) Outpatient data with the KH09 and QM08 aggregate returns seems to imply a high level of confidence in the HES statistics outpatient attendances.

However, the data quality findings indicate that the current underlying data will not be fully representative of the organisations providing outpatient services or the areas of service provided. Gaps in organisations, missing specialties and other data on treatment provision and relevant details, taken with evidence of duplications and excesses of data, would suggest that the IC (HES) statistics should be used with care and with close reference to this data quality report and supporting tables. These have been designed to give the best possible steer to distortions in coverage and completeness.

Variable provision of data items

Provision is variable for a range of records and items, of which some are mandated and others not; prime non-mandated examples are non attendances, clinical coding and ETHNIC CATEGORY.

Feedback to the service

National feedback on mandated items

Data quality of IC (HES) Outpatient attendances needs to be higher profile in the performance management agenda for the service to provide meaningful data to the required standard to support business and clinical purposes.

The new strategic health authorities have a performance management role in their health economy, which would suggest that feeding back to organisations on their individual performance would lie appropriately within their remit in the changing NHS. Monitor could also undertake this role in feeding back performance to foundation trusts (FTs). Benchmarking on comparative waiting times reporting in HES/QM08 could contribute significantly to improved waiting times data collection.

Data quality feedback processes for providers

New mechanisms for data quality feedback to enable providers to check their data for coverage and some data quality issues on the HES database would support improved data quality. The change in the submission processes to sending data via SUS in place of NWCS from December 2006 provides a further opportunity to consider enhancement of validation and feedback at different stages of CDS submission.

Outpatient CDS

This data quality analysis and “*Reporting outpatient journeys*” have revealed where

improvements are needed to the outpatient data set itself. In addition to the anomaly of the service not being permitted to transmit ethnic origin, the classifications need to be expanded for items such as:

- MEDICAL STAFF TYPE SEEING PATIENT – to identify the staff groups and hence type of activity undertaken
- CONSULTANT CODE – to allow the inclusion of non-consultant groups
- OUTCOME OF ATTENDANCE – to better reflect provider practice and improve linkages in other parts of the patient journey, supporting business areas such as reporting on the 18 Week Wait
- SERVICE TYPE REQUESTED – also to represent services provided more fully

Other changes to the CDS have been identified which would improve the dataflows, such as:

- clearly identifying one field for the 'referring' and another for the 'registered' GMP, to eliminate the potential for one of the fields concerned being used inappropriately for both items
- replacing the LOCATION CLASS field with LOCATION TYPE

There is also no provision for the following items in the CDS:

- Time of appointment
- More than two diagnoses
- Decision to refer date

These items are collected and used locally, and are needed to make the data set more useable at national level, for purposes such as the 18 Week Wait.

Communications to the service

The findings in this report indicate an urgent need for the service to receive national guidance giving clear messages on data

quality and information requirements as described above.

Agreed changes to the CDS also need to be supported with appropriate and high profile communications.

Clear messages are specifically needed over submission of data from GUM clinics, including reminders to the service of the rules for the submission of sensitive data.

Clarification of current areas of ambiguity, such as use of SOURCE OF REFERRAL FOR OUT-PATIENTS, is also needed to achieve required consistency of provision.

Need for further work

Potential for increased use of the data

The potential for this data set to significantly improve information support in key business areas provides a strong case for undertaking further work to understand better how to use the information and the impact of certain issues identified.

Improvements in systems and data collection would indicate that the time is now right to undertake work to improve the processes supporting the collection and quality of The IC (HES) Outpatient data.

However, it is also important that the data are used, as this will reveal the shortcomings in the data for business purposes and the scale of improvements needed.

The data set has been demonstrated to be incomplete and limited in some key areas. It cannot be used with the same ease and confidence as APC data, which has developed over more than a decade, but can be used effectively for many uses as long as the known deficiencies are taken into account when drawing conclusions.

The data set has the potential to support some key business functions, such as Practice Based Commissioning (PBC), needs assessment, assessment of outpatient flows, outpatient clinic performance management, answering parliamentary questions and many others, if handled with appropriate care.

Information Governance is an example of a business function with potential for extension to include outpatient activity. The Information Governance Toolkit (IGT) provides a means of self-assurance on Information Governance topics for all NHS organisations. Standard 507 specifically requires all organisations to perform a reconciliation of their CDS submissions with quarterly aggregate returns.

It is recommended that further work be commissioned and guidance issued on how best to use the 2003-04 and 2004-05 data to support various business purposes.

This also needs to inform use of the more recent and particularly current data which are already in operational use in the service.

It is recommended that the IGT should be explored to assess its applicability to outpatient data.

Record linkage

The ability for linkage in the SUS and HES national data warehouses (between other parts of the outpatient attendances data set and inpatient activity) will potentially provide an overview of the complete outpatient process and through the patient journey to inpatient/day case treatment. This will identify best practice and support planning, management and reporting.

Record linkage of outpatient attendances

The data set (hopefully augmented by all non-attendance records) will enable a better understanding of the complete outpatient process, irrespective of any onward referral for inpatient/day case treatment. This will enable best practices to be established and monitored.

It is noted that some linkage work has already been done using the CDS for example to support 18 Week Waits. All linkage methods need to take into account handling of missing and invalid data. Indeed, further need for data cleaning may come to light as linkage throws up inconsistencies in date alignments.

It is recommended that The IC support work to link outpatient records into complete outpatient spells, devising and refining appropriate methodologies to enable linked data from the national data sets to be shared in appropriate outputs.

Record linkage of outpatient attendances to inpatient episodes

The data set will enable a better understanding of the outpatient to inpatient/day case conversion process and contribute to 18 Week Wait understanding.

It is therefore recommended that the IC support work to link outpatient records with appropriate inpatient/day case spells, devising and refining appropriate methodologies and sharing and publishing the results.

Identification and classification of 'duplicate' records

It has been demonstrated that the data set contains more potential for possible 'duplication' or attendance records than occurs with inpatient/day case care.

It is recommended that research be undertaken to identify and classify potential 'duplicate' records so that good practice in recording and analysis can be established.

Use and interpretation of unique fields/record types

The data set contains data items unique to this CDS, eg cancellations, whose recording and analysis are as yet insufficiently understood, and which have not previously been available for analysis at a national level.

It is recommended that research be carried out into the use and interpretation of fields/record types unique to the outpatient data set and not yet well understood by the potential user community.

Reporting mechanisms for improving performance

Tools which have been successfully applied to report on quality of HES APC activity and resulted in improvements will likewise have value for IC (HES) Outpatient data. This is dependent on an outpatient equivalent of the product being developed to support the current standards.

An Outpatient Data Quality Indicator

A Data Quality Indicator for APC records was initiated in 2000 and has been developed continuously since that time. It is seen to have contributed to a considerable improvement in APC data quality, with its use in star rating indicators providing leverage for improving performance.

The outpatient data set would obviously also benefit from the development of such an indicator and that indicator likewise being used in performance assessment.

It is recommended that an Outpatient Data Quality Indicator, with components and qualifiers, should be developed as for APC records in the light of this report.

- **The Outpatient eDQRS**

The Outpatient eDQRS has been developed by Ardentia, as a function within NWCS supported by McKesson, in partnership with DH, and will shortly be made available to all providers. Currently the product does not examine all of the key fields identified above.

It is recommended that the Outpatient eDQRS product should be further developed in the light of this report.

6 Recommendations

Improving the process

Incoming data

QM08 returns should be used as a basis to validate incoming data with respect to both presence/absence of provider data, and also for global volumes of activity. This process can only be used for identifiable consultant clinics.

For AHP activity, which was added to the CDS from 2006-07, Reference Cost collection data should be used as the basis for comparison.

For midwife activity the same source may provide a similar basis for comparison, but it is unclear whether such a comparative source exists for nurse activity.

Commissioners of care in the independent sector should monitor submission of CDS data from their independent sector providers to ensure complete coverage.

Validation and feedback of Activity volumes

'Check-in' reports are provider-specific reports intended to supply providers with feedback on the quality of data received by HES, thereby prompting changes in local practice or re-submissions of data if appropriate. These have already been developed for APC data, and are available on the HESonline website

[\[www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=309\]](http://www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=309).

A similar check-in report has been developed for outpatient data. This report should be used to check coverage, some data quality issues, and whether a provider has submitted data in line with expectation. It is important that the service use these reports as SUS processes do not currently ensure that providers are either submitting data, or submitting appropriate volumes.

SUS processes will however support increased validation at source. Version 5 of the XML schema will soon allow validation of some key fields prior to submission where inappropriate values currently need to be cleaned by HES.

In addition, SUS is increasingly used to source information for PbR and other national information flows, so this and other business drivers in the system should deliver continuous improvement in coverage and completeness.

Further feedback of data

Discussion has underlined the importance of more timely feedback of data in order that re-submitted data can hit PbR 'flex and freeze' dates.

Comparison of HES-derived waiting time distribution data with QM08 data should be fed back to trusts through SHAs. Different arrangements will be required for FTs. The comparisons should also be included on the HESonline website for trusts to quality assure their two data sources.

Changing the structure and content of the CDS

Changes to the data set identified in the analysis of DQ

Some of the following are already being addressed in dataset development work, mainly for CDS6, but approvals and implementation timetables cannot be assumed so the list needs to be kept under review:

- Collection and submission of non-attendance records and ethnic origin should be mandated
- Consideration should be given to mandating PRIMARY DIAGNOSIS (or possibly signs and symptoms) and PRIMARY OPERATION, if a sufficiently strong business case can be made
- The very limited MEDICAL STAFF TYPE SEEING PATIENT categories should be extended to allow identification of further staff groups, and the field should be renamed to STAFF TYPE SEEING PATIENT
- The CONSULTANT CODE classification needs to be expanded to allow identification of additional non-consultant groups
- OUTCOME OF ATTENDANCE categories needs to be extended based upon current provider practice
- SERVICE TYPE REQUESTED categories need to be extended in the light of current provider practice
- GMP (CODE OF REGISTERED OR REFERRING GMP) needs to be redefined in keeping with registration arrangements
- The data set should be extended to include:
 - More than two diagnoses
 - Time of appointment
 - Both decision to refer date (a new requirement except for cancer waits) as well as REFERRAL REQUEST RECEIVED DATE

The need for guidance/clarification to the service

A reminder should be sent to the service that data from GUM clinics are intended to be collected and that rules for the submission of sensitive data should apply.

Clarification should also be provided to analysts of the data that SOURCE OF REFERRAL FOR OUT-PATIENTS should only be used for first referrals until the item has been re-defined and clarified in CDS6.

The need for further development

Projects should be funded to research and advise on:

- How best to use the currently experimental data for various business purposes eg PBC, Needs Assessment, outpatient flows, outpatient clinic performance management, answering parliamentary questions (PQs), applicability of the IGT to outpatient data, etc
- Record linkage of outpatient attendances into outpatient episodes
- Record linkage of outpatient attendances to inpatient episodes

- Identification and classification of 'duplicate' records
- Use and interpretation of fields and record types (eg cancellations) previously little used in national analyses

An Outpatient Data Quality Indicator with components and qualifiers should be developed as for APC records in the light of this report.

The Outpatient eDQRS should be further developed in the light of this report.

Other recommendations

Main specialties used in KH09/QM08 should be harmonised with those used as main specialty/treatment function in the CDS.

A decision needs to be taken on whether specialties which might be lost through such a process (joint consultative, antenatal, postnatal and pain clinics) merit retention. If the two lists can be brought in line then closer agreement with analyses from the CDS and IC (HES) Outpatient data at specialty level should be anticipated.

7 The way forward

The IC will review these recommendations in the light of:

- progress of the data set development work already underway, for example to support 18 Week Waits
- the quality of the 2005-06 and 2006-07 outpatient data when analysed

The review will lead to an action plan for The IC and discussion regarding the way forward with other key players where actions are outside The ICs remit to deliver.

Appendix A Glossary of terms

AHP	Allied Health Professional
APC	Admitted Patient Care
CDS	Commissioning Data Set (numbers indicate versions)
DH	Department of Health
DNA	Did Not Attend
DQI	Data Quality Indicator
DSCN	Data Set Change Notice
eDQRS	E(lectronic) Data Quality Reporting Service
GDP	General Dental Practitioner
GMC	General Medical Council
GMP	General Medical Practitioner
GP	General Practitioner
GUM	Genito-urinary Medicine
HES	Hospital Episode Statistics
IC	Information Centre
IGT	Information Governance Toolkit
ITC	Independent Treatment Centre
KH09	Provider based returns of outpatient attendances and DNAs
Monitor	Foundation trust regulator
NPfIT	National Programme for IT
OPCS-4	4 th Revision of the Office of Population Censuses and Surveys Classification of Surgical Operations and Procedures
PAS	Patient Administration System
PBC	Practice Based Commissioning
PbR	Payment by Results
PCT	Primary Care Trust
QM08	Quarterly return of outpatient referrals and waiting times
SHA	Strategic Health Authority
SUS	Secondary User Service
UNIFY	National Aggregation System for health service statistical returns

Appendix B Field names and descriptions

Mandatory	Optional
<p>Patient identifier details</p> <ul style="list-style-type: none"> Local identifier NHS number Birth date Postcode Organisation code (PCT of residence) 	<p>Patient socio-demographic details</p> <ul style="list-style-type: none"> Carer support indicator Ethnic group Marital status Gender
<p>Consultant</p> <ul style="list-style-type: none"> Code Specialty Treatment function 	<p>ICD Diagnostic details</p> <ul style="list-style-type: none"> Diagnosis scheme Primary diagnosis (ICD) Secondary diagnosis (ICD)
<p>Attendance</p> <ul style="list-style-type: none"> Whether or not attended First Attendance Medical staff type seeing patient Operation status Outcome of attendance 	<p>Procedure details (OPCS4)</p> <ul style="list-style-type: none"> Procedure scheme Primary procedure (OPCS4) Secondary procedures (OPCS4)
<p>Location</p> <ul style="list-style-type: none"> Class Site (of treatment) Organisation type 	<p>Read Diagnostic details</p> <ul style="list-style-type: none"> Diagnosis scheme Primary diagnosis (Read) Secondary diagnosis (Read)
<p>GP</p> <ul style="list-style-type: none"> Code of referring of registered GMP 	<p>Procedure details (Read)</p> <ul style="list-style-type: none"> Procedure scheme Primary procedure (Read) Secondary procedures (Read)
<p>Referral details</p> <ul style="list-style-type: none"> Priority Service type Source of referral Date referral request received 	<p>GP Practice</p> <ul style="list-style-type: none"> Code of GP Practice (registered GMP) Organisation code
<p>Missing Appointment Details</p> <ul style="list-style-type: none"> Last DNA or patient cancellation date 	<p>HRG</p> <ul style="list-style-type: none"> Code Version number

Appendix C HES derived fields

Patient Details

- Age at appointment (includes 16 standard age groupings)
- Postcode District

Appointment Details

- Days waiting
- Waiting Time Weeks
- Attendance Type (combines Whether or Not Attended with First)
- Dates of Appointment/Last DNA or Patient Cancellation/Referral request received – all have 17 additional date functions eg day of the week, month etc

Organisation

- PCT/SHA/RO/HA of GP Practice

Geographical

- Treatment PCT/SHA/RO/HA

Residence

- Census Output Area
- County of Residence
- Current electoral ward
- Ordnance Survey grid reference

Socio-economic

- Lower Super Output Area
- Middle Super Output Area
- Rural/Urban Indicator
- Index of Multiple Deprivation (IMD) Domains (8)
- IMD Overall Rank
- IMD Decile Group

Statistics

- Total Patients
- Median waiting time (first)
- Age Sum and Age Sum denominator – used in calculating average ages
- Waiting Time (first) Sum and denominator – used in calculating average waits (days) for first attendances

Appendix D Tables on website and links

The Information Centre for health and social care [www.ic.nhs.uk]

- *Reporting outpatient journeys: Hospital outpatient activity in 2003-04 and 2004-05*
[www.ic.nhs.uk/pubs/hesoutpatients2003to2005]

HESonline [www.hesonline.nhs.uk]

- HES Outpatient Data Dictionary
[www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=289]
- Feedback and contact us
[www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=377]
- Data quality tables (coverage, procedures, discharge and staff type, ethnic coding, consultant coding, and waiting times)
[www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=793]
- Comparison of HES and KH09 volumes for individual providers
[www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=793]
- APC check-in reports
[www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=309]

Department of Health [www.dh.gov.uk]

- KH09 and QM08 Returns
[www.performance.doh.gov.uk/hospitalactivity/data_requests/outpatient_attendances.htm]

Connecting for Health [www.connectingforhealth.nhs.uk]

- ISQ1303 guidance from the National Programme for IT
[www.connectingforhealth.nhs.uk/datastandards/support/pages/2005/jul05/isq1303.pdf]

Appendix E Guidance to users

		Comment	Suggested Approach
Mandatory Fields			
Patient identifier details	NHS Number	93.5 % valid (eDQRS sourced)	Fit for use
	Birth date	99.8% valid	Fit for use but absence prevents creation of unique HESID. May need to be aware of small number of trusts with high proportion of attendances without birth dates
	Postcode	99.6 % valid (eDQRS sourced)	Fit for use (see eDQRS table on HESonline website)
	Gender	Sex was listed as optional at the time of data collection – but is now mandatory. 99.9% Male or Female	Fit for use but absence prevents creation of unique HESID. May need to be aware of small number of trusts with high proportion of attendances with unknown or unspecified gender
Consultant	Code	83.0 % valid consultant codes	Restrict consultant-specific analysis to those organisations with high levels of coding. Absence of a consultant code, or unknown code does not necessarily imply non-consultant activity (see DQ tables on HESonline website).
	Specialty	97.0 % known but considerable variation in counts from aggregate returns at provider level	Grossing is suggested but methods may vary and need to be explored (see Table 5 in DQ Report)
	Treatment Function	93.7 % known and no basis for comparison	Exploration of this field may offer additional clues to the type of activity undertaken in a clinic where procedure and diagnostic coding are low or absent

Attendance	Whether or not attended	99.5 % known, but includes DNAs for 299 Trusts, patient cancellations for 197 Trusts, and hospital cancellations for 162 Trusts	Restrict global analysis to attendances. Limit analysis of DNAs and cancellations to organisations returning these records (See Coverage table on HESonline website)
	First Attendance	99.7 % valid	Analyse attendances separately by first, subsequent, and not known (See Coverage table on HESonline website)
	Medical staff type seeing patient	54.6 % valid	Restrict analysis to organisations with high levels of validity. (See DQ tables on HESonline website)
	Operation status	The coding classification changed from 1 and 2 (consultant and member of consultant firm) to 3 and 4 Lead care professional and member of care professional team) between the two years. All four codes feature in both years. 89.2 % valid	Also restrict use to codes relevant to the year. This might prove a basis for grossing. There are approximately 3 times as many attendances with this field indicating a procedure has been carried out, to the number of recorded procedures. Some trusts are not using at all. (See DQ tables on HESonline website)
	Outcome of attendance	94.9 % known, but some 21 providers are not using Discharge as an outcome	If analysing discharge as an outcome restrict to those providers using the code. (See DQ tables on HESonline website)

Location	Class	Only 12.4 % valid Field is very limited and probably not relevant to the outpatient context	
	Site (of treatment)	Not analysed. Could potentially provide a basis for finding missing data if this were site specific. KH09 and QM08 are provider level returns and no comparison is therefore possible from these	Explore locally
GP	Code of referring or registered GMP	99.7 % valid (eDQRS sourced)	Restrict analysis to those organisations with high levels of coding. (See eDQRS tables on HESonline website)
Referral details	Priority	99.7 % valid	Use, but recognise that views of priority will vary by provider and consultant
	Service type	80.9 % known. 43 organisations (13%) were not using	Limit analysis to organisations coding.
	Source of referral	93.8 % valid, but there is evidence of variable provider practice in recording this for subsequent attendances.	Restrict analysis to first attendances, unless local provider practice for subsequent attendances is known.
	Date referral request received	36 of 162 organisations with inpatient dental specialties were not recording GDP as a referral source. 88.5 % valid, but there is evidence that, for some providers, this may default to date of attendance (resulting in 0 day waits), or that referral letters may be 'logged' in clinic, resulting in multiples of 7 day waits.	Restrict analysis of GDP referrals to relevant organisations who record. Understand local provider practice and interpret data accordingly.
Missed Appointment Details	Last DNA or patient cancellation date	267 trusts (of 333) are collecting	Exclude trusts who are not collecting this from analysis of patient waits

Optional Fields	Recognise that levels of coding are likely to be low		
Patient socio-demographic details	Carer support indicator	Not currently included in the Outpatient Universe	Restrict analysis to those organisations with high levels of coding. (See DQ tables on HESonline website)
	Ethnic group	16.8 % of attendances had a valid and useable code	
	Marital status	Not currently included in the Outpatient Universe	
ICD Diagnostic details	Diagnosis scheme	Not currently included in the Outpatient Universe	Examine diagnostic coding of providers having high levels of coding globally (eDQRS tables) or for a particular specialty (further exploration necessary). Limit analysis to attendances as non-attendances can have diagnostic details. However casemix may not be representative in high coding organisations. Ditto
	Primary Diagnosis (ICD)	1.6 % valid	
	Secondary Diagnosis (ICD)	0.2 % valid	
Read Diagnostic details	Diagnosis scheme	Not currently included in either the Outpatient or APC Universe	
	Primary Diagnosis (Read)	Not currently included in either the Outpatient or APC Universe	
	Secondary Diagnosis (Read)	Not currently included in either the Outpatient or APC Universe	

Procedure details (OPCS4)	Procedure scheme	Not currently included in the Outpatient Universe	Examine procedure coding of providers having high levels of coding globally (see DQ tables) or for a particular specialty (further exploration necessary). Limit analysis to attendances as non-attendances can have procedure details. However casemix may not be representative in high coding organisations. Consider use of grossing factor based on operation status, but coded work may not be representative of the uncoded Ditto
	Primary Procedure (OPCS4)	2.6 % valid	
	Procedure (OPCS4) 2 nd to 12 th	0.7% to 0.00002% valid	
Procedure details (Read)	Procedure scheme	Not currently included in either the Outpatient or APC Universe	
	Primary Procedure (Read)	Not currently included in either the Outpatient or APC Universe	
	Procedure (Read) 2 nd to 12 th	Not currently included in either the Outpatient or APC Universe	
GP Practice	Code of GP Practice (registered GMP)	98.4 % valid	
HRG	Code	Could be as much as 4.4% valid, with 79 (24%) providers using apparently valid (non U) codes. However it is not always clear what version number is being used resulting in some unlikely procedures being coded.	Needs further exploration with organisations using the codes
	Version number	Comprise 10 possibly valid codes, and approximately another 50 invalid	

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