

Engaging clinicians in improving data quality in the NHS

Key findings and recommendations from research conducted by the Royal College of Physicians' iLab



September 2006

Summary

This document summarises the findings of research commissioned by the Department of Health and Welsh Assembly Government, and conducted by the Royal College of Physicians.

The research explored the potential use of Hospital Episode Statistics (HES) and the Patient Episode Database Wales (PEDW) to support the appraisal and revalidation of consultant physicians. In doing so, the quality of consultant-level data was investigated, along with how it might be improved.

HES and PEDW capture a range of administrative and clinical information about the experiences of every patient who is admitted to hospital either as a day case or an inpatient. Collected since the early 1980s, they were originally designed to monitor activity and health trends across the service, and to allocate resources. For this reason they are most effective when examined at an aggregate, national level.

Since the late 1990s, a consultant-identifier has been attached to each episode of care, raising the possibility of examining the practice of individual consultant clinicians using these data. The validity of HES/PEDW at this level is less certain, and was the focus of this research.

While some consultants found aspects of the data to be useful for their local appraisal, the study concluded that in their current form, HES & PEDW are not suitable for routinely monitoring the performance of individual consultant physicians. The existing dataset, originally designed for largely administrative purposes, does not reliably reflect current working practices.

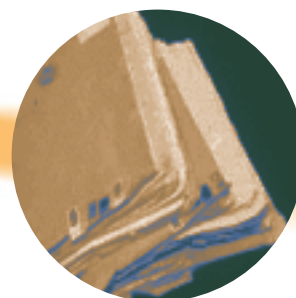
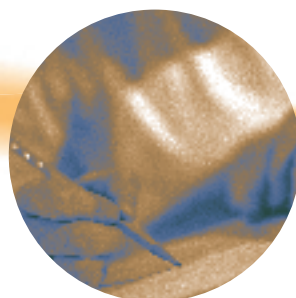
The research also found problems with data quality at the consultant level. It supported the existing view that long standing clinical disengagement from the validation and use of these datasets is one of the reasons for poor data quality.

The Information laboratory (iLab) provided a means for involving physicians in the validation and use of data held in their name. In doing so, significant improvements were seen in attitudes towards its use and subsequent intention to monitor the quality of data locally.

The local sharing of clinically useful analyses with doctors will deliver benefits and improve the quality of data, but it must be prioritised by trusts. At present, corporate information is used to support a corporate agenda, and there is little incentive for producing clinical analyses. This situation needs to be addressed at the highest level if the benefits are to be realised.

This research suggests that three key areas need to be addressed in order to move forwards:

- **Hospitals should routinely share clinically relevant analyses of local activity data with consultants in order to increase their involvement in the collection, validation and use of these data.**
- **If centrally submitted data are to be used to monitor the performance of individuals, substantial work is required to develop clinical information systems which can better reflect current working practices.**
- **The education and training of undergraduate and junior medical staff needs to provide a better understanding of how health information is managed. Without an appreciation of the role it plays in providing safe and effective patient care, both at the point of care and beyond, the clinician-information divide will be perpetuated and data quality will remain poor.**



Background

Information about patient care plays a vital role in the management of health services. It is used to plan and commission services, monitor trends and measure performance. For this reason, such information must be accurate and credible and enjoy the trust of those who use it.

LONG STANDING CLINICAL DISENGAGEMENT FROM THE VALIDATION AND USE OF THESE DATASETS IS ONE OF THE REASONS FOR POOR DATA QUALITY

Hospital Episode Statistics and the Patient Episode Database Wales

Within the NHS, the largest and widest used sets of data are Hospital Episode Statistics (HES) and, in Wales, the Patient Episode Database Wales (PEDW). HES/PEDW capture a range of administrative and clinical information about the experiences of every patient who is admitted to hospital, either as a day case or an inpatient.

When a patient is admitted to hospital, their relevant administrative and demographic details are entered into the hospital's patient administration system. Once discharged, their notes go to the hospital's coding department where staff extract relevant clinical information, assign appropriate codes and enter them onto a database.

HES/PEDW are held nationally and are compiled from figures submitted by local hospitals from their own information systems regularly through the year. Collected since the early 1980s, their original purpose was to show how much activity was taking place in the service and as a tool for allocating resources.

However, over time, the range of uses has widened; for example the data which populate HES will underpin Payment by Results, currently being implemented in England. Also, because the datasets provide consultant-level information they could, theoretically, be used in consultants' annual appraisal and in revalidation.

Data Quality

Concerted efforts to improve the quality of HES/PEDW over recent years have further increased their validity in monitoring national activity across the health service. However, concerns remain about their fitness for purposes which lie outside this original managerial remit, especially those with a clinical focus.

The Audit Commission report *Information and data quality in the NHS: key messages from the three years of independent review (2004)* said that one of the reasons for poor quality data was that few clinicians understood their use or involved themselves in the collation process. Its report *Early lessons from Payment by Results (2005)* said poor data quality was one of the key risks for the successful implementation of Payment by Results in England.

Research has shown that coding staff are very effective at accurately coding and entering information. However, the information clinicians provide – in patient notes and discharge summaries – can often be incomplete or unclear for the purposes of coding. This has been cited as a possible 'weak link' in the data quality chain.



The Royal College of Physicians' iLab

The Department of Health in England and the Welsh Assembly Government commissioned the Royal College of Physicians to set up an Information Laboratory (iLab) to investigate data quality from a clinical perspective, and to identify potential solutions. The iLab guided individual consultant physicians through analyses of data held in their name on HES/PEDW, with assistance from a clinical research fellow and an information analyst.

During these sessions the consultants provided their views on the quality of the data, specifically focusing on whether it could safely be used to support consultant appraisal and the General Medical Council's revalidation process.

80% OF PHYSICIANS REPORTED LITTLE OR NO COMMUNICATION BETWEEN THEMSELVES AND THEIR HOSPITAL INFORMATION AND CODING DEPARTMENTS

Information about attitudes towards HES/PEDW was sought before and after these sessions and compared. The same questions were also asked of a separate group of physicians who had been tasked with finding data about their activity, without the assistance of the RCP iLab.

Full details of the research conducted by the Royal College of Physicians are available at <http://hiu.rcplondon.ac.uk/iLab>

Key findings

More than 1300 consultant physicians, working in a range of specialties, gave their views on HES/PEDW data prior to involvement in the research.

They reported a striking lack of confidence in the data's ability to reflect their practice. The great majority did not see the locally coded results of their own inpatient and day case activity. 80% of physicians also reported little or no communication between themselves and their hospital information and coding departments.

The 50 consultants who were supported in finding and interpreting their data by the iLab, identified many

discrepancies between the data and what actually happened in practice. In some cases, anomalies could be traced back to local causes and subsequently resolved. In other cases, it was felt that the current dataset - originally designed for largely administrative purposes - simply could not reflect clinical working practices and the complexities of multi-professional patient care. The box below illustrates some of the errors found in each of these categories.

Examples of errors that were resolved locally:

One consultant found his GMC code to be recorded incorrectly by his trust. Since this is the unique identifier of an individual's activity, his data could therefore not easily be found on HES/PEDW

Another consultant found that over 100 of her short-stay patients had lengths of stay recorded in HES/PEDW as exceeding one year - this was found later to be a local computing error

In many hospitals, large numbers of procedures were recorded against the wrong consultant physician

Examples of dataset limitations:

For one consultant, a large proportion of his time was spent providing a specialist opinion for patients nominally under the care of another doctor - "ward referrals". Such activity is not captured on HES/PEDW

For 20% of the physicians wishing to participate in the study, there was little or no activity at all on HES/PEDW, in most cases because outpatient data do not currently form part of these datasets. However, for some medical specialties, all activity data is held separately from HES/PEDW

Overall, participants felt HES/PEDW data at the consultant-level to be inaccurate, incomplete and an unsuitable measure of their clinical practice, especially when comparing it with the practice of others, in particular consultants from outside their own hospital.

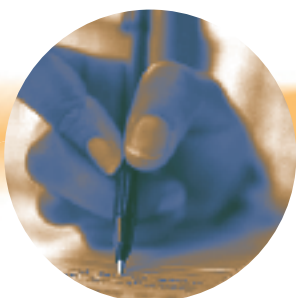
Their iLab session however, brought many benefits not seen in the group of physicians who were asked to find information without help from the iLab. When compared with this latter group, the consultants who were supported in the retrieval and interpretation of their data reported:

- A higher awareness of the data collection process.
- A greater appreciation of the usefulness of the data.
- A greater willingness to contribute to the data collection/ validation process at local level.
- A clearer intention to contact their local coding department about information held in their name.
- A greater likelihood of monitoring the quality of data held in their name in the future.
- A greater likelihood of changing their practice concerning the collection/validation of data in the future.

Despite reservations, their confidence about how accurately central returns reflected their clinical activity also improved following their visit to the iLab. This was not the case for the unsupported physicians, who struggled to find the information they needed, and even if they managed to do so, often failed to understand it in the way it was presented.

Both groups of physicians however, stated that in the future they wished to see the activity data held in their name regularly. For some, aspects of the data were of use for the local appraisal process.

CONSULTANTS WHO WERE SUPPORTED IN THE RETRIEVAL AND INTERPRETATION OF THEIR DATA REPORTED A GREATER APPRECIATION OF ITS USEFULNESS



Conclusions and the way ahead

The report of the research conducted by the Royal College of Physicians, containing the results and discussion in full is available at <http://hiu.rcplondon.ac.uk/iLab>. The conclusions and recommendations which follow arise from these results, and are highlighted as areas requiring attention.

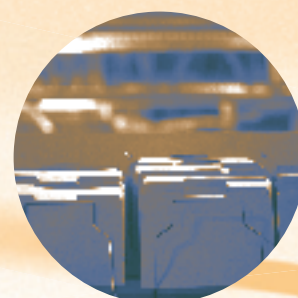
Conclusions

- The research underlines the fact that one of the reasons for poor data quality is a lack of clinical involvement in the collection, validation and use of HES/PEDW. Without improvement in this area, their value in supporting a wide variety of NHS activities (including financial planning) will remain limited.
- The research has identified limitations in the current design of hospital episode data, when they are used for purposes outside of their original scope. In attending to this problem in both the short and the longer term, concurrent actions are required to:
 - Improve the quality of data currently collected for hospital episode statistics.
 - Develop new clinical information systems and processes to provide clinically meaningful measures of activity and performance.
- As a result of these limitations and existing consultant-level data quality problems, national comparisons of individuals' practice using HES/PEDW data should not be made.

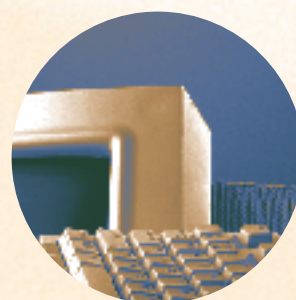
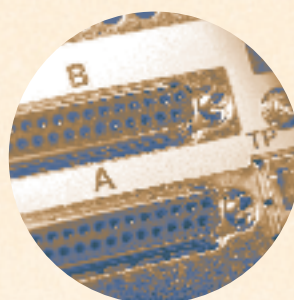
Moving forward

CLINICAL ENGAGEMENT IN DATA COLLATION CAN BE INCREASED IF CONSULTANTS ARE GIVEN THE SUPPORT THEY NEED TO USE DATA EFFECTIVELY TO MEET THEIR INDIVIDUAL, PROFESSIONAL NEEDS

- A programme of work is required to identify and provide the support necessary for trust information/coding departments to undertake comprehensive clinical engagement, using existing sources of data. At present, corporate information is used to support a corporate agenda, and there is little incentive for producing clinical analyses.
- The education and training of clinical staff with regards the management of health information and the importance of standards in record keeping require attention at undergraduate, junior and senior levels.
- In the short term, existing national hospital episode databases should be expanded to include outpatient data (administrative, demographic and clinical).
- In the longer term, substantial work is required to develop clinical information systems which can better reflect current working practices, including:
 - The capture of all aspects of clinical activity, including those outside traditional organisational boundaries.
 - The identification in the records of all individuals with responsibility for patient care, including non-consultant clinicians.
 - The reflection of team working and shared care.



THE LOCAL SHARING OF CLINICALLY
USEFUL ANALYSES WITH DOCTORS WILL
DELIVER BENEFITS AND IMPROVE THE
QUALITY OF DATA



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