Data Quality Arrangements in the Screening Division

Public Health Wales NHS Trust

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While Public Health Wales NHS Trust has adequate arrangements in place to ensure Screening Division data are robust, governance needs to be strengthened to provide assurance that data quality is consistent across the organisation.

Summary report

Summary

1. The NHS in Wales uses information as an integral part of its approach to delivering health services. Operationally, NHS bodies are now fully reliant on electronic information systems to support a range of key activities including:

   • patient administration, scheduling and booking;

   • diagnostic processes, ordering tests, requesting and viewing results;

   • joining primary and secondary care pathways, sharing potentially lifesaving critical patient information;

   • effective financial and performance management;

   • identification of patient and demographic needs, so that services can be tailored and focused in areas that will achieve the most benefit;

   • call and recall systems for population screening programmes and vaccination programmes; and

   • identification and achievement of clinical, business and public health outcomes.

2. Good-quality information is essential for planning and managing services, making judgments about performance and governance, and informing decisions about priorities and the use of resources. The operational use of robust information to support good-quality, efficient and safe healthcare services is also vitally important. Ensuring good data quality should therefore be an integral part of an organisation's operational, performance management, and governance arrangements.

3. A data quality review by the Corporate Health Information Programme (CHIP), now part of the NHS Wales Informatics Service, found varying approaches to the way organisations managed, monitored and addressed data quality in 2008. While some good practice was reported in a number of organisations, there was also evidence of poor practice across all organisations in terms of operational practices and governance arrangements for data quality. The recommendations that NHS organisations should take following the CHIP review were set out in a Ministerial Letter in September 2008 (Appendix 1).

4. As part of our work to review NHS bodies' arrangements for ensuring efficient, effective and economical use of resources, we have examined data quality arrangements at Public Health Wales NHS Trust (the Trust). While this audit is not a direct follow-up of the recommendations from the 2008 CHIP review, we have considered the progress made against the issues identified in the CHIP report.

5. Through discussion with the Trust, we focused our review on the Screening Division within the Public Health Services directorate. We have therefore examined the:

   • governance and accountability arrangements relating to data quality; and

   • data quality operational arrangements in relation to the Screening Division, including roles and responsibilities, policies and procedures and approaches for monitoring and reporting the effectiveness of data quality processes.

6. In undertaking this review, we reviewed relevant documentation and interviewed key staff. This review has focussed on data quality arrangements in relation to the data compiled by the Trust as part of its day-to-day activities.

7. This review set out to identify whether the Screening Division at the Trust has effective data quality arrangements in place.

8. Our conclusion is that: While the Trust has adequate arrangements in place to ensure Screening Division data are robust, governance needs to be strengthened to provide assurance that data quality is consistent across the organisation. We reached this conclusion because:

- while senior managers recognise the importance of data quality, reporting mechanisms in relation to data quality have not been formally defined and arrangements for Board assurance could be strengthened:
  - senior managers recognise the importance of data quality and are investing in improvements;
  - corporate responsibility for data quality has not been made explicit and mechanisms for escalating data quality issues to the Information Governance Committee are absent; and
  - individual responsibility for data quality within the Screening Division is clearly set out but the link between operational arrangements and Board assurance is unclear.

- there are well-established procedures and processes in place to improve data quality within the Screening Division but there is no Trust-wide data quality policy to ensure consistency and ongoing monitoring:
  - there is no Trust-wide policy for improving data quality but the Screening Division has effective data quality processes and procedures in place;
  - screening service staff receive adequate training on operational systems but data quality is not an integral part of the training; and
  - there is effective day-to-day validation of Screening Division data but there is no ongoing programme of audit to assess data quality.

Recommendations

9. To help the Trust improve data quality arrangements we make the following recommendations:

Data quality assurance
R1   Introduce an annual report on data quality to the Trust Board, as recommended by the Welsh Government's CHIP in 2008, which covers data quality measures, the arrangements in place to improve data quality and the effectiveness of these arrangements.

| R2 | Establish a series of performance indicators so that the Information Governance Committee can measure improvements to the quality of data held by the Trust. |

Data quality assurance

| R3 | Formalise and clarify the Information Governance Committee's responsibilities in relation to data quality and ensure data quality features as a standing item on meeting agendas. |

| R4 | Review the arrangements across all the Trust's directorates to ensure that effective policies and procedures are in place to review and improve data quality. |

Data quality processes

| R5 | Establish a Trust-wide framework, as recommended by the Welsh Government's CHIP in 2008, that sets out: |

- the governance structures;
- individual roles and responsibilities in relation to data quality;
- policy requirements and data standards;
- the use of patient records;
- how data security and confidentiality will be maintained;
- an indication of the quality of data underpinning performance reports to the Board, including secondary data sources; and
- training and communications in relation to improving data quality.

| R6 | Incorporate data quality policies and procedures into the induction process or training for all new starters who have responsibility for inputting, analysing or amending clinical and business data; and provide refresher training as required for these and other staff. |

| R7 | Ensure that one individual in the Screening Division has responsibility for collating and managing the data quality issues arising in operational groups and report these as appropriate to the Information Governance Committee. |

Data quality monitoring

| R8 | Introduce a programme of data quality audits for key information areas to provide ongoing monitoring. |

Detailed report

While senior managers recognise the importance of data quality, reporting mechanisms in relation to data quality have not been formally defined, and arrangements for Board assurance could be strengthened

Senior managers recognise the importance of data quality and are investing in improvements

10. The Trust and its management staff acknowledge that data quality is important for the planning and delivery of its services, as well as performance management. The Director of Planning and Performance is the lead executive for information governance and thus data quality, which is well-recognised, by those interviewed, across the Trust.

11. Senior management staff have shown their commitment to data quality by investing in information technology, a team of staff to support data quality and a centralised programme of training for staff who 'handle' data.

Corporate responsibility for data quality has not been made explicit and mechanisms for escalating data quality issues to the Information Governance Committee are absent

12. Information governance and quality issues are complex and involve many different departments and professions. The Trust has a well-established Information Governance Committee that meets quarterly and reports directly to the Board. This committee is chaired by a non-executive board member and it provides assurance to the Board in relation to the Trust's arrangements for data management, including producing, collecting, storing, disseminating, sharing, using and disposing of data. There is no reference to data quality in the committee's terms of reference and data quality is not a regular agenda item. The Information Governance Committee presents an update report to the Board, which usually includes the numbers of freedom of information requests received and information governance incidents. The update report does not include information on data quality.

13. The CHIP report 2008 recommended trusts produce an annual data quality report. This recommendation has yet to be implemented at the Trust. We would expect the Information Governance Committee to prepare this report to provide the Board with assurance on data quality.

14. The Trust's Information Governance Strategy was approved in 2011 and makes reference to 'ensuring data quality is robust and timely' as set out in Healthcare Standard 19 on Information Management and Communications Technology. In addition, one of the key strategic aims outlined in the strategy is that 'the integrity of data and information is protected, ensuring valid, accurate, complete and timely data and information is available to support decision making across the organisation'.

The draft Information Governance Policy also highlights data quality as a key component of information governance. It does not set out how data quality will be continuously assessed or who is responsible for ensuring continual assessment. In the absence of defined data quality standards or related performance indicators, the Trust will be unable to measure the quality of data it holds or the extent to which data quality is improving.

15. There are a number of operational groups that meet within the Screening Division, where data quality is discussed and addressed. For example, each of the four established screening programmes (Breast, Bowel, Cervical and Newborn Hearing) have an:

- All-Wales management group;
- senior management group;
- local management group; and
- systems user group, such as the Cancer Network Information Service Cymru (CANISC) and the Bowel Screening Information Management System (BSIMS) groups.

16. However, the terms of reference for each of these groups do not include information governance and therefore data quality. There is no one person responsible for collating and managing the issues arising from these meetings. Furthermore, the route for reporting and escalating data quality issues from these groups to the Information Governance Committee is not formally defined.

Individual responsibility for data quality within the Screening Division is clearly set out but the link between operational arrangements and Board assurance is unclear

17. Although the Director of Planning and Performance is the lead executive for information governance, there is no one individual who acts as the co-ordinator or champion for data quality across the organisation. The Trust should consider whether the role of data quality co-ordinator or champion could be included in the responsibilities of the local information governance contacts as described in the draft Information Governance Policy. This would help provide a link between operational arrangements for data quality and assurance to the Board.

18. Divisional roles and responsibilities are in place for data quality with operational accountability for data quality resting with the Head of Informatics for the Screening Division. The Senior Information Manager reports to the Head of Informatics for Screening. The senior manager leads a small central team, which is responsible for supporting, developing and managing the screening databases and contributing to the improvement of data quality. Information officers specialise in selected screening programmes, ensuring a familiarity and level of understanding that supports improved data quality.

19. The current job descriptions for staff in the Information Department and for staff responsible for data input include responsibilities for data quality. This is supported by a culture within the Screening Division of improving data quality, which is espoused by the staff that we interviewed.

There are well-established procedures and processes in place to improve data quality within the Screening Division but there is no Trust-wide data quality policy to ensure consistency and ensure ongoing monitoring

There is no Trust-wide policy for improving data quality but the Screening Division has effective data quality processes and procedures in place

20. The Trust does not have a data quality policy as recommended in the CHIP report 2008. The absence of such a policy and consequent lack of data quality standards increase the risk of inconsistent approaches to monitoring and improving data quality. Common elements covered in data quality policies at health boards across Wales, which the Trust may want to consider, include:

- the governance structures;
- individual roles and responsibilities in relation to data quality;
- policy requirements and data standards;
- the use of patient records;
- how data security and confidentiality will be maintained;
- data quality of information used for performance reporting to the Board;
- data sourced from other providers; and
- training and communications in relation to improving data quality.

21. Data quality processes and procedures are documented in the standard operating procedures and the quality manuals for each of the screening programmes. These documents govern the approach across the Screening Division, including the Information Team, to ensure consistency. The Director of Screening has approved these manuals, which are subject to regular formal review.

22. A range of electronic systems support data quality, for example, the Welsh Demographic System, Exeter, CANISC and the BSIMS. These systems enable Trust staff to cross-verify and validate patient information.

Screening service staff receive adequate training on operational systems but data quality is not an integral part of the training

23. Data quality training does not currently form part of staff induction. However, each user of screening applications must undertake formal systems training, co-ordinated centrally by the Information Team, before access to the system is approved. Staff receive additional training tailored for the specific screening programmes.

24. The Information Team has confirmed that the importance of data quality is reinforced during training for applications. However, there is no separate module on the importance of data quality or the negative consequences of poor-quality data in relation to patient care or its impact on the organisation.

25. When systems are upgraded, the need for supplementary training is considered and co-ordinated centrally. There is currently no programme of refresher training for staff. Any system changes are disseminated to staff through the operational groups referred to in paragraph 15.

26. The draft Information Governance Policy makes clear that training on information governance will form part of staff induction with mandatory refresher training every three years. The Trust needs to ensure that training on information governance includes data quality.

There is effective day-to-day validation of Screening Division data but there is no ongoing programme of audit to assess data quality

27. The quality of the Trust's information is dependent upon effective feedback approaches to check the validity, accuracy, completeness and timeliness of data. The Screening Division Business Manager is responsible for producing quarterly reports on each of the screening programmes for the Trust's Executive Team and the Welsh Government. These reports show performance against national targets.

28. The Information Team undertakes a number of processes and procedures to ensure the integrity of data supporting these submissions, including:

- routines for importing demographic data from external sources;
- checks to ensure that the correct patients are being invited for screening based on their demographic details;
- failsafe checks to ensure that results are received in a timely manner; and
- procedures to ensure results are allocated to the correct patient records.

29. Where anomalies are identified, the Information Team liaises with the co-ordinators for the screening programmes to ensure that the records are corrected and fixes are put in place to prevent issues from reoccurring. Where the reports identify unexplained or unexpected variances in performance, consideration is given to the quality of data supporting the reports. Regular meetings take place between the Senior Information Manager and the Business Manager to discuss data quality issues.

30. The 2008 CHIP report recommended that regular local data quality audits should be carried out to ensure a process of ongoing monitoring of data accuracy be maintained. We did not see any evidence that the Trust has conducted any reviews of data quality since it was established in October 2009, nor have there been any external reviews of data quality, apart from this review.

Appendix 1

Ministerial letter – Corporate Health Information Programme Data Quality Site Visits Review Recommendations

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Minister for Health and Social Services

Our ref: SF/EH/0476/08
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September 2008

Dear Chair

Corporate Health Information Programme (CHIP) Data Quality Site Visits Review Recommendations

This letter formally communicates the recommendations and actions that are to be taken by you in light of the findings following the CHIP Data Quality Site Visits Review[1] that was conducted during 2007/08.

In late-2007/08, the CHIP Data Quality Improvement Manager visited all thirteen Welsh NHS Trusts (based on 2007/08 Trust configurations) and Powys Local Health Board to gain an understanding of the local governance arrangements and operational processes in place to ensure the quality of the data submitted by each Trust to update various national databases is maintained to a high level.

Nine main subject areas were covered during meetings with appropriate staff in each organisation. A questionnaire was used and the topic areas covered were:
- The role of senior management and local accountability arrangements for data quality;
- Local data quality audit / governance arrangements;
- Staff awareness and internal reporting of data quality performance;
- Use of the Validation at Source Service (VASS)

- Trust concerns relating to the Admitted Patient Care (APC) data standardisation routines;
- Daycase cleansing;
- National reporting tools for data quality;
- Implementation of the recommendations of the PEDW Comparative Project;
- The current status and future direction of the CHIP Data Quality Improvement Project;

All organisations were given the opportunity to quality assure the documented findings of their visit. These were also circulated to the Executive leads for data quality in each organisation inviting comment. Prior to final publication of the report, it was circulated to all NHS Chief Executives for information.

The report highlighted varying approaches to the way organisations manage, monitor and address data quality. Good practice was in evidence in a number of organisations and across a range of subject areas. Evidence of poor practice was also emphasised and shared, with the view that those organisations that needed to improve could use the report as a basis for reviewing their current practices.

Based on the findings of the visits, the following best practice approaches are to be adopted in relation to the long term management of data quality:

i)   Welsh NHS Trusts should ensure an Executive-level focus on data quality, actively encouraging an organisation-wide approach to its management, to include the identification and validation of identified errors in data quality.

ii)   NHS Trusts should ensure data quality performance and any organisational progress with respect to data quality is a feature of all Trust performance reports, ensuring that the close link between reported performance and data quality is continually maintained and that a consistently high profile for data quality is established.

iii)   Each Trust Board should commission a formal annual report on data quality to ensure there is a focus on continuous improvement.

iv)   All Trusts should have a data quality policy that acknowledges the responsibilities of the organisation. The policy should define (as a minimum):
    - The local accountability framework;
    - Responsibilities for data quality at all levels and how this will be incorporated into the organisational culture;

- The operational processes employed within the organisation to identify and correct errors in data quality;
- The means by which data quality will be communicated;
- The process to review such a policy on a regular basis.

v) Trusts should ensure that there is an identified forum where data quality issues can be discussed on a regular basis with membership reflecting authority to initiate improvements.

vi) Trusts should ensure regular communications with data entry staff on data quality issues.

vii) The importance of data quality should be a feature of the staff induction process.

viii) Regular local data quality audits should be carried out to ensure a process of ongoing monitoring of data accuracy is maintained.

ix) Patient Administration System refresher training for all system users should be undertaken on a regular basis.

x) Data quality should be built into the KSF outlines and job descriptions of appropriate staff.

For further detail, readers should refer to the full Data Quality Site Visits Report available at http://howis.wales.nhs.uk/sites3/docopen.cfm?orgId=460&id=142611 or by contacting the Corporate Health Information Programme on 029 2020 7606.

Actions Required

Each Welsh NHS Trust and Powys LHB is required to review and, where applicable, update and enhance current data quality governance arrangements and operational practices in relation to each of the recommendations above based on the best practice highlighted in the Data Quality Site Visits report.

Monitoring Arrangements

Compliance with these recommendations will be monitored via the NHS Healthcare Standards for Wales (Standard 25) from 2009/10 onwards.

SF/EH/0476/08

Any queries relating to the review and its recommendations should be directed to:

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