

Information Governance

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Abstract

Data quality and proactive Information Governance is a critical factor in maximising DHB funding, reducing adverse events and improving confidence for planning and decision-making. A report published by the Audit Commission in the UK has concluded that data quality is still “often not what it needs to be to meet the demands now being placed upon it”. A standard toolset used by providers in the UK, developed as a result of the Kennedy Report into child deaths at Bristol Royal Infirmary, was applied to a large London hospital and to a New Zealand DHB with similar outcomes and identified some common themes. The application of this toolset does not solve the problems but identifies them and makes recommendations to remedy them including their proactive audit and ongoing management. This paper concludes that there is sufficient evidence to suggest that a similar toolkit, developed for New Zealand with a formal accreditation process could deliver significant benefits for both users of the data for planning and decision-making purposes and for outcomes for patients.

1. Introduction and Background

Information is a critical business asset that fuels decision-making, collaboration, innovation and ultimately success. Organisations succeed or falter based on the reliability, availability and security of their information. An organisation that cannot demonstrate that its information is fit for purpose will likely suffer from the following issues:

- Undermined confidence of those relying on it
- Impaired decision-making
- Increase in the risk of adverse events
- Additional cost to resolve
- Lost funds

In the literature a number of writers Strong, Lee and Wang [1] and Redman [2] confirm the definition of ‘fit for purpose’ with that of Juran and Godfrey [3]:

Data are of high quality if they are fit for their intended uses in operations, decision-making and planning. Data are fit for purpose if they are free from defects and possess desired features.

It is not just missing, inaccurate or untimely information that reduces the ability of healthcare providers to maximise their funding through reporting activity against contracts. It is that poor data quality affects the planning and provision of services that allow healthcare providers to improve the efficiency of their services to drive down length of stay and improve throughput.

A key impact of poor data quality is the potential for adverse effect on patients. The Kennedy Report [4] of the public inquiry into child deaths at the Bristol Royal Infirmary (1984 -1995) captured everyone’s attention and raised its concerns over the role data quality played in the tragedy.

“Clearly there is a consistent and on-going pattern of poor outcomes (from the CSR¹ data) but it is difficult to know what weight should have been put on these data at the time.....with their being questions over the data quality....” - [4, chapter 20, section 23]

One of the key recommendations of the report was “Steps should be taken nationally and locally to build the confidence of the clinicians in the data recorded in the Patient Administration Systems” [4, recommendation 149].

As well as being the start of the an agenda for improving data quality across the NHS, this also was the start of focussing on improving clinical governance.

Following the Kennedy report the Audit Commission in the UK has undertaken regular reviews of data quality and progress made in the NHS. Since the first report in the 1990’s there has been more co-ordinated effort but recent reviews identify that the progress is limited and that across health providers the accuracy of a minimum data set varies from 0.3% to 53%. The report urges providers to take greater responsibility for the quality of the data they produce and says that “although there is some good practice, the approach of many organisations is weak.” The report concludes that there is a need for a “more co-ordinated and joined up approach to reviewing and supporting the development of data quality by key stakeholders and regulators.” These findings are still largely relevant today.

2. Toolkit

The standards and good practice guidelines [5-7] developed as a result of the Kennedy report that were made available for every healthcare provider to adopt and aspire to and formed part of the assessment for ‘Data Accreditation’ a national certification process for organisations to demonstrate that their information was ‘fit for purpose’.

The guidelines cover ten criteria across people, systems, management and processes:

1. Security and Confidentiality
2. Coverage
3. Validation and Quality Assurance
4. Training
5. Accountability
6. Health Records Management
7. Communications
8. Completeness and Validity
9. Timeliness
10. Accuracy

The ‘**People**’ section of the review covers whether staff are suitably inducted into the culture of Information Governance, exploring whether staff receive ongoing training according to their role to understand the importance of the data they are handling and their responsibilities. Whether there are policies and procedures around confidentiality and disclosure of personal information

The ‘**Systems**’ section of the review is targeted specifically at systems that hold and manage patient data. Ensuring that access is controlled, that it complies with national standards for the collection and retention of data and that there are policies in place for the creation, filing, retrieving and deletion of electronic records.

The ‘**Management**’ Section of the review looks at the operational governance of the organisation to deliver data quality. Whether the organisation has senior executive sponsorship and the attention of the Board. That the policies and procedures are in place and compliance with these is monitored.

Finally the ‘**Processes**’ section of the review covers all aspects of the creation, filing, retrieving, transmitting, security, deletion and validation of records.

The toolkit involves a two part review. The first part is a high level checklist review in a questionnaire format to assess current data management performance and the second part is a review of the accuracy of a sample of data. This toolkit helps healthcare providers gain clarity over what they are doing well and what could be further improved. They can then gain a grip on their data quality issues, the size of the funding gap and understand what tactical actions they can undertake to proactively repair the problem once and for all. The questionnaire is used in structured interviews with key personnel. If a particular question cannot be answered during the initial “interview”, then a suitable alternative

¹ CSR: Cardiac Surgical Register

stakeholder is sought to answer the question at a later date. Each question has four levels of compliance, ranging from “No Compliance” to ‘Fully Compliant’.

The toolkit required little modification for New Zealand DHBs. References to the UK Data Protection Act were removed but questions relating to the NZ Privacy Act were included. References to the NHS Number were replaced with the NHI number. The UK version also includes references to ‘Safe Havens’ which is a term used to identify ‘safe’ areas of an organisation where personal patient information can be received into the organisation, these were left in in order to generate conversation about how the organisation receives and handles this information.

3. Results

This toolkit was applied to a large healthcare provider in London. Through the process the provider discovered a \$1.4m funding gap for the one months data reviewed which was caused by data being corrupted between its Patient Management System, the data warehouse and contract management system through which the minimum data set data flowed. A number of recommendations were made as a result of the initial study and the reports recommendations adopted and endorsed by the provider’s auditors.

The toolkit was also applied to a District Health Board in New Zealand with some minor modifications. The DHB discovered a \$1.1m funding gap for the sample reviewed the major issues being:

- Management: a lack of ownership of the extract data quality
- People: users not held accountable for poor data quality entry and these issues not linked to training
- Process: no formal process for data validation and feedback
- System: PAS lacks validation tool or audit trail.

The review found that a number of areas were handled particularly well such as the privacy agenda, handling of the physical record and system availability and support. A number of recommendations for change were made which if implemented would produce a truly robust and effective culture for proactive management of data quality. Specific outcomes of the change would be:

- Documented policies and procedures
- Differences between actual and assumed practice understood
- Involvement of staff in process redesign
- Greater emphasis given to supervision and checking of input data
- Feedback on poor quality linked to retraining
- Improved education of staff (understanding why we do things, understanding the data chains)
- Improvements in data collection
- Structure with defined responsibilities
- Leaders nominated and made accountable
- Audits encouraged and made easier
- KPI benchmarks in place as a form of measurement.

Some common themes came through from both studies that provide useful for the implementation of the resulting plans for change.

- DHBs should take greater interest in the quality of the data they produce
- The Board should take a greater lead in improving and assuring themselves about the quality of data they receive and that their organisations publish
- Corporate leadership is vital but only part of the solution
- Clearer leadership from the Department of Health, senior managers, clinicians and regulators to reinforce the need for reliable data when examining quality metrics and the quality of patient care
- Greater need for clinical engagement and improved external monitoring and reviews.

- Data Quality is the responsibility of every member of the organisation, one of the biggest factors underlying poor data quality is the lack of understanding among frontline staff of the reasons for, and benefits of, the information they are collecting
- Information collected is too often seen as irrelevant to patient care and focused on the needs of the 'centre' rather than frontline service delivery
- Employee contracts, their induction and their training should reflect the requirements for data quality
- Training programmes should be updated in light of governance issues identified through the course of continuous audit
- Implementation of good business intelligence and validation tools resulting in earlier identification of poor data quality which avoids time consuming and expensive retrospective fixes.

4. Conclusions

Improving data quality is a complex issue. Poor data quality stems from a number of factors. Too often data quality is seen as an IT issue, but provider organisations need to understand it is a corporate issue. The ability of an organisation to pay attention to the issue and become proactive about it requires board level attention, which should be supported and led by a national directive. One would think that the loss of funding in the order of \$1m per month should be enough to gain a Boards attention, and staff in provider organisations are aware of the issue, but no one person has the accountability to drive through the changes necessary and often don't know where to start addressing the problem.

New Zealand could develop an accreditation system modified from the UK version that gives everyone involved in the provision and interpretation of patient information confidence that the data they are using is reliable. That in cases where it is recognised there are issues and these have been measured against a standard that plans for improvement are identified and being managed to conclusion to ensure that:

- Future decisions and planning will be supported with robust trend data
- The cost of continual data improvement projects are reduced and the investment able to be placed in other higher priority areas
- Efficiency of the organisation will increase effecting throughput of patients, bringing down waiting lists and improving the providers performance against its contracts
- Providers will be appropriately funded for the work undertaken
- Clinical decisions are based on accurate data and that adverse clinical events occurring as a result of inaccurate data is eliminated.

5. References

- [1] Strong D, Lee Y, Wang R. Data Quality in context 1997.
- [2] Redman T. Data Quality: The field guide 2001.
- [3] Juran J, Godfrey A. Juran's Quality Handbook: 5th edition 1999.
- [4] Kennedy I. Learning from Bristol: the report of the public inquiry into children's heart surgery at the Bristol Royal Infirmary 1984 -1995 (The Kennedy Report) Command Paper: CM 5207; July 2001
- [5] Audit Commission. Information and Data Quality in the NHS: Key messages from three years of independent review; March 2004
- [6] Audit Commission. Figures you can trust: A briefing on data quality in the NHS; March 2009
- [7] NHSIA. Information Governance Toolkit