

# **Improving Data Quality and Clinical Records: Lessons from the UK National Programme about Structure, Process and Utility**

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## **Background:**

Sharing of health data should improve patient safety and improve health services efficiency. These data can also be used for research. The shared data are usually “coded” using a coding system classification or nomenclature. However, “coding” is not a neutral action and is part of the complex social interaction between doctor and patient. To derive meaning from data it is essential to understand the context in which it is recorded and to infer whether data recorded for one purpose is usable in another. Most of the existing models to raise data quality (DQ) are descriptive and don't necessarily inform why lessons from one health system might be applied in another.

## **Objective:**

A model to appraise why lessons from the computerisation of UK primary care to raise DQ and the quality of clinical records to provide a framework to assess their likelihood of effectiveness in other health systems.

## **Method:**

Initiatives to improve DQ and clinical records are examined at the National, vendor (individual supplier), and locality level.

The critique combines the Donabedian approach to evaluation and “Realistic Review” methods. Donabedian's classic approach to evaluation explores the relevant structures, processes and outcomes. Pawson's “Realistic Review” method uses a “CMO” model. A mechanism (M) applied in a particular context (C) have a causal interaction which results in a particular outcome (O). This approach is used to suggest causal links between the initiatives within the National Programme for IT the clinical contexts (settings, workflows) that they that they have had to operate in and their

suggested causal effect on DQ and clinical records.

## **Results:**

Structural change implemented at the national/health service level which can be capable integrated into the clinical process improves DQ and clinical records. National unique IDs (NHS number), electronic transfer of records, quality audits in chronic disease management, and links to pathology labs are good examples of successful national programmes. The final technical solution for authentication of individuals and booking clinics on-line (Choose and Book) leave scope for improvement. The latter may not have been adopted without financial incentives. Publically available information about the quality of management of long term conditions by practice has generally had a positive effect on quality.

Vendors produce very different electronic patient record (EPR) systems. These influence aspects of the clinical process and what is recorded. Many research networks work with a single brand of computer system.

At the locality and practice level audit and cross-sectional study is facilitated by readily available computer records; though difficulties in linking primary, secondary and social care data limits its value.

Computerised records take more time to complete at the point of care than their paper predecessors. There is a trade off between investing in IT and improving the quality of the clinical record. IT systems require more time in the consultation, spending more money on computer systems, and acquiring new skills if benefits are to be realised.

**Conclusion:**

This model may allow other health systems to assess which UK data quality initiatives they should adopt and might work within the context of their health system. The model may also provide a framework for developing a computerised research network. The easy wins for health IT are: Providing an accurate denominator; linking systems to make data more readily accessible focussed clinically relevant management audits. Fixed user requirements are

an illusory concept and development of systems needs to be agile or they risk being hard to incorporate into clinical workflow. There is no single formula for improving data quality and the quality of clinical records – focus instead on raising standards in areas where there are health priorities and use routinely collected data to implement and monitor quality improvement. Ultimately, structures and processes put in place are only of value if they have utility in clinical care.