Clinical auditing as a quality improvement process - **a paradigm shift from audit and feedback**

Clinical audit is generally understood as a process involving collecting data about the clinical care provided to patients in a healthcare setting and providing feedback on the findings of data collection to the clinicians involved in delivering the care. Nearly ten years ago, clinical audit in the UK was redefined as a quality improvement process that includes implementing changes in practice to achieve needed improvements in the quality of patient care. This shift in understanding of clinical audit recognizes that feedback alone is unlikely to produce improvements in care when the causes of shortcomings in current practice are beyond the direct and exclusive control of clinicians who are delivering the care. The UK model of clinical audit places more emphasis on action interventions intended to achieve improvement and rapid repeat data collection to demonstrate the effectiveness of the actions. Case studies are provided that illustrate that actions are likely to involve the support of all professional staff involved in the care of patients as well as managers of healthcare services.

Door: N. Dixon

Nancy Dixon

Clinical audit has been defined in various ways in different countries over the last several decades. Generally, the process has been described as involving collecting data about the quality of care provided to patients being treated for a particular condition or undergoing a particular intervention and providing the findings to clinicians responsible for the patients' care.

In the US in 1956, Lembcke was the first to publish a 'scientific method' for audit.[1] In Lembcke's approach to audit, individual cases were compared with criteria established as being necessary or important for the care of patients who had the disease or the operation that was the subject of the audit. An audit involved comparing the degree of compliance with criteria with a standard degree of compliance found to be characteristic of hospitals 'of acknowledged merit.'[1] The findings of the audit were then fed back to the clinical staff. Later, the Joint Commission in the US added to this understanding of clinical audit by calling for an analysis of the problems represented by cases that do not meet criteria and the planning and implementation of action to remedy the causes of the problems.[2]

When clinical audit was first introduced formally in the National Health Service (NHS) in the UK in 1989, it was in the context that a number of large-scale studies had collected data about aspects of patient care and published national reports of the findings.[3-6] The data collected were not necessarily based on explicit evidence-based standards or criteria of good practice; the studies were more frequently aimed at exploring

and describing normative clinical practice. The definition of clinical audit that was provided by the Department of Health in England in 1989 reflected this approach: the systematic critical analysis of the quality of medical care including the procedures used for diagnosis and treatment, the use of resources and the resulting outcome and quality of life for the patient.[7]

The traditional understanding reflected in the evidence base

This historic approach to describing the clinical audit process is reflected in the evidence base on clinical audit. The Cochrane systematic review on audit uses the operational definition of clinical audit as 'any summary of clinical performance over a specified period of time.'[8] To some extent, this definition can explain the findings of the review that when audit and feedback are effective, the effects are generally small to moderate and that audit and feedback are likely to be more effective when baseline adherence to recommended practice is low and when feedback is delivered more intensively.[8] Further work has been published on models for feedback as an intervention, concluding that the effectiveness of audit and feedback is improved when feedback is delivered with specific suggestions for improvement, in writing and frequently.[9]

Foy et al[10] described what happened when a clinical team attempted to apply the evidence from the systematic review on clinical audit. They concluded that the review evidence was of limited use in informing how to operationalize the evidence base on audit and feedback and that, in their view, audit and feedback would continue to be an unreliable approach to quality improvement until what works best is learned.

In summary, the traditional approach to describing audit and feedback makes two assumptions: The first is that the data that are being collected in a clinical audit concern only the decisions and actions that clinicians carry out in delivering care to patients. The second is that telling clinicians about their performance, that is, providing feedback, will produce improvement in the quality of care. Both assumptions are faulty. Important measures of the quality of care, such as the delivery of a multiprofessional package of care on a timely basis, are often beyond the control of individual clinicians to provide. Similarly, the intervention of feedback assumes that individual clinicians have direct and exclusive control over all the relevant structural, process or outcome aspects of care.

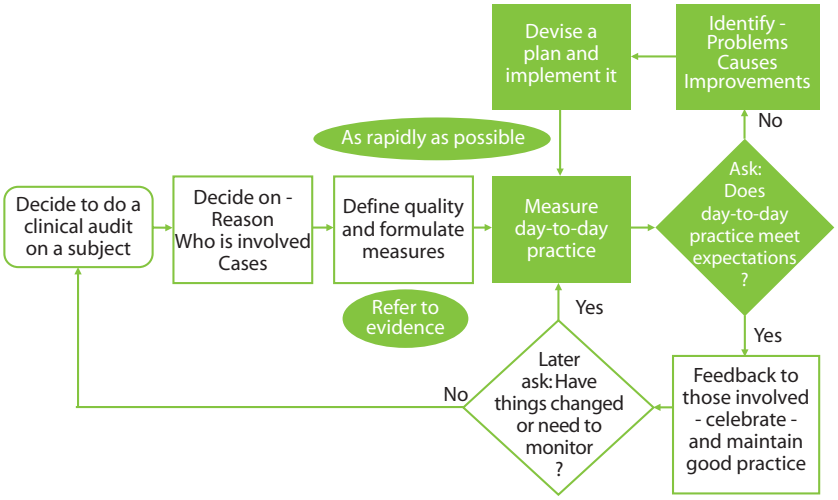

Figure 1. Clinical audit as a quality improvement process

The paradigm shift of clinical audit to quality improvement

In 2002, the National Institute for Health and Clinical Excellence (NICE) in England published a review of the evidence on the clinical audit process. In the review, NICE positioned clinical audit with quality improvement, defining clinical audit as 'a quality improvement process that seeks to improve patient care and outcomes through systematic review of care against explicit criteria and the implementation of change.'[11] This definition has become generally accepted in the UK. This view of clinical audit as a quality improvement process moved audit alongside other quality improvement tools and methods, and shifted the understanding of clinical audit to be more consistent with quality improvement defined as: 'systematic data-guided activities designed to bring about immediate, positive changes in the delivery of healthcare in particular settings.'[12] This approach to clinical audit represents a paradigm shift from emphasis on the collection and feedback of data

When clinical audit is a QI tool
The purpose is to bring about immediate, positive changes in delivering quality.
The audit focuses on changing practice using standards of practice as a basis for defining quality.
Data are collected in order to drive improvements in practice to achieve best practice.
Actions are likely to involve changing processes or systems to enable improved practice.
Rapid repeat data collection is essential to demonstrate the effectiveness of changes in practice intended to produce improvements.

Table 1. Characteristics of clinical audit as a quality improvement process

Organization	Clinical audit subject	Actions taken	Improvements achieved
Royal Berkshire NHS Foundation Trust	Stroke	Business cases for increasing therapy services were made to enable more provision of therapy services. An early supported discharge process was developed and implemented. Nurses caring for stroke patients were trained to carry out swallowing assessments. Other protocols were developed and implemented to improve aspects of care for stroke patients.	Significant improvements have been achieved in meeting standards related to the timeliness of imaging, provision of aspirin, speech and language therapy assessment, physiotherapy assessment and nutritional assessment.
Dorset County Hospital NHS Foundation Trust	Blood tests requested in the emergency department	Junior doctors were trained on the appropriateness of requesting blood tests in the emergency department. A credit card sized guide on requesting blood tests in the emergency department was made available to junior doctors. Guidelines on requesting blood tests were made more accessible in the emergency department.	An estimated saving of up to £55,000 annually has been achieved through the reduction of unnecessary blood tests.
Papworth Hospital NHS Foundation Trust	Antimicrobial prescribing for inpatients	A specialist antimicrobial pharmacist was appointed to develop and update guidelines and disseminate good practice. An antimicrobial referral system was introduced to promptly manage inappropriate antimicrobial prescribing. Weekly microbiology ward rounds were established. Changes have been made in documentation in patients' records on reasons for starting antibiotics.	Increased compliance with the organization's policies on antimicrobial prescribing has been demonstrated.
Kingston Hospital NHS Trust	Progesterone level requests for threatened early pregnancy	Specific guidance was developed and implemented on the appropriateness of testing. A rule was programmed into the electronic laboratory request system that blocked inappropriate requests.	A 93% decrease in progesterone requests for ectopic pregnancy and pregnancy of unknown location has been demonstrated.
Hampshire Partnership NHS Foundation Trust	Mental health falls risk assessment and care pathway	Falls link nurses in all older persons mental health units have been designated. Improved falls assessment training has been provided for staff. Bed rail guidance has been developed and implemented.	Compliance with standards relating to falls assessment and management has steadily increased over two years. There has been a reduction in the total number of falls and injuries from falls.

Table 2. Case studies of clinical audit demonstrating improvement

about clinical performance to emphasis on improving patient care. The process has to include identifying and solving problems that are impeding the provision of good clinical practice, and then implementing effective interventions that bring about change in clinical practice and improvement in the quality of patient care. The quality improvement approach to clinical audit is illustrated in figure 1.[13]

In the diagram, a peer group is expected to make a decision about whether or not current practice, as determined through measurement of actual practice in comparison to good practice, is acceptable. If the comparison is favourable and day-to-day practice is consistent with good practice, feedback may be an appropriate intervention. However, if the comparison of actual and good practice is not favourable, feedback may be ineffective as the only intervention. Often, it isn't possible to identify exactly what interventions are needed to achieve improvement until a systematic analysis of the causes of the problems that are impeding the delivery of good care is carried out. This approach is consistent with evidence on what it takes to achieve significant improvements in the quality or safety of patient care.[14-15] Clinicians work in complex healthcare organizations in which there are a large number of organizational systems through which patient care is

actually delivered. Individual clinicians can change their own behaviour as it affects patient care. However, they seldom control the systems that affect the way patient care is delivered. Characteristics of clinical audit as a quality improvement process are listed in table 1.[16]

Examples of a quality improvement approach to clinical audit

The challenges of achieving significant improvements in the quality of patient care through the use of clinical audit have been recognized.[17-19] Estimates are that only between 30 to 35 percent of clinical audits with recommendations for action may be fully acted on.[17-18] Barriers to implementation of action can include process issues such as lack of clarity about the action to be taken to produce improvement or the responsibility for taking action, in addition to constraints in local healthcare settings. Nonetheless, in England, examples are available that illustrate that with the commitment of a local clinical team, and particularly when the managers of healthcare services are engaged in supporting the work, the clinical audit process can produce significant improvements in the quality or safety of patient care. In Table 2, the subject of the clinical audit, the types of actions taken and the improvements achieved are summarized for some available case studies.[20]

Summary

The traditional perception of clinical audit is that it involves the collection of data about patient care and feedback of the findings. A systematic review and practical experience report that the feedback as an intervention produces only small to moderate effects.

Nearly ten years ago, in the UK, clinical audit was re-positioned as a quality improvement process. The change in definition of clinical audit shifted the paradigm of clinical audit from data collection and feedback to include active problem solving with a variety of interventions intended to resolve the shortcomings in care that the data collection has identified. This approach to clinical audit acknowledges that changes in clinical practice often cannot be achieved simply through giving clinical staff feedback on their current performance. Some examples are available to identify that this approach to clinical audit can lead to important improvements in the quality of patient care.

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Information about the author

Nancy Dixon is Director of Strategic Services, Healthcare Quality Quest Ltd, UK.