

## Clinical audit in general practice



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The subject of Audit has been increasingly recognized as an important topic in the medical profession. Audit had been officially introduced in the United Kingdom in the late 1985. It is recognized as a tool for measuring quality and improvements.

This is a review article summarizing the definition, aims, and steps of audit, how to choose a topic, the audit cycle and how to implement change, with final

recommendations for trainees and physicians to facilitate the process of auditing in their medical career.

*Key words:* Audit, criteria, standards, data collection

G/P: General Practitioner, P: Patient

*Bulletin of KIMS 2002;1:63-68*

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### Introduction

Audit is such an unsatisfactory term that it is hard to understand how it ever became adopted by the medical profession. Its derivation from the Latin *audio* which implies listening rather than doing, passivity rather than an active role to change. In Primary Health Care, Medical Audit developed a momentum only during the 1970's. Prior to 1966, facilities for general practitioners in the UK were sparse that most doctors had little time for anything other than reactive care on a day to day basis. Until introduced by the Royal College of General Practitioners in 1985, Medical Audit had not been formally recognized in the UK.<sup>1,2</sup>

### Definition of Audit

A range of definitions exists. Audit is about taking note of what we do, learning from it and changing, if necessary, the improvement in the quality of care through standard-setting, peer review, implementation of change and revaluation. It is concerned with assessing and improving the delivery of health care, the resources used, the care given, and the outcome. It is quite simply a tool that enables you to monitor and then improve the quality of care you provide to your patients.<sup>1,2</sup> Marinker defined Medical Audit as the attempt to improve quality of medical care by measuring the performance in relation to desired standards and by improving on this performance.<sup>2,3</sup> Crombie et al. defined Audit as the process of reviewing the delivery of health care to identify deficiencies so that they may be remedied.<sup>2</sup>

### Why do Audit

Table 1 shows a summary of the main reasons for performing an audit.

**Table 1. Summary of "Why do we audit?"**

- Development of professional education and self regulation
- Improvement of quality of patient care
- Increasing accountability
- Improvement of motivation and teamwork
- Aiding in the assessment of needs
- As a stimulus to research

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## What clinical Audit is NOT

Clinical audit is not a resource management tool, although audit findings often inform resource decisions. It is never used to threaten an individual clinician suspected of poor practice, but is a neutral measurement process. Clinical audit is not a batch of computers or a set of statistics. Clinical audit is not about competition between clinical professionals.<sup>4</sup> There is temptation to compare audit findings but never to judge good and bad professionals based on audit. It is improving patient care through ensuring consistent application of standards of care.<sup>1,2,4</sup>

## Audit versus research

Both contribute to clinical practice effectiveness but they are not the same.

Research is used to define good practice while audit measures the extent to which good practice (as defined through research and expert opinion) is implemented on a daily basis. Audit does not aim for a universal truth about a practice, but focuses on the performance of individual practitioners (or the workplace) and the service to its patients. Audit is about what you do not find. Audit also is ongoing, whereas research is a one-off activity.<sup>5</sup> It is possible to generalize from research but not from audit findings. Audit can contribute to research by creating questions for research to address.<sup>4</sup> Observation or data collection to determine current practice is another form of information gathering which is sometimes used alongside research and audit. It is appropriate to be used when practice patterns are unknown or when the intent is to catalogue prevailing practice patterns without making judgments about appropriateness and effectiveness.<sup>4</sup>

## Which one to use - Audit, research or data collection and observation

Table 2 shows when to use audit, research or data collection and observation.

## Preparing the ground

The introduction of audit to the practice can be fraught with difficulties. To maximize the chances of success an essential step is for the practice team to take an inward look to see if

it is capable of and ready for the challenge. Successful Audit needs the members of the team to be in the right mood, and to have confidence in each other with ability to work together in enthusiasm, accepting criticism and wishing to improve.

**Table 2. Scheme to choose the appropriate method for practice evaluation**

Method	When to use it	Why
Research	Good practice is not defined and comparisons are needed	To define good practice
Data collection or structured observation	Practice patterns are unknown	The intent is to catalogue prevailing practice without making judgments
Audit	Good practice is defined but we want to check how much we are sticking to it	To improve the current performance

## Blocks to getting started

### 1. TIME

Every general practitioner is busy and so is the staff. To overcome the time problem:

Keep it small and simple, use a small sample of a large topic. or tackle a small topic. Work together in a team.

### 2. RECORDS AND COMPUTERS

It is good to have good records and to have a computer. The topics that are suitable for data collection may be important for the practice.

A great deal of information needed for audit is not adequately recorded by computers, so a note search may still be required.

### 3. LACK OF SKILLS AND PROTOCOLS

This can be overcome by searching, preparing and setting protocols by the staff before starting.

### 4. THE PRACTICE TEAM

Negative attitudes to audit and general lack of support from the practice team is one of the blocks to starting an audit. To overcome this problem, ensure team members understand audit and the purpose of it and consider training in team building. You may even involve the practice manager.<sup>1,2</sup>

## Setting the aims

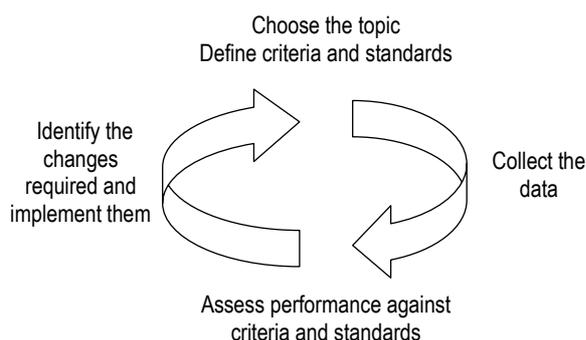
Clear aims must be identified at the outset of any audit project in order to define its purpose explicitly. Self selected aims can be the most rewarding from the point of view of pro-

ducing behavior changes than empirical aims (derived from many other studies) or normative aims (derived from standard text-books and the writing of the experts).<sup>7</sup> Self-selected aims should be chosen against the background of other studies where statistically significant results were obtained, i.e. evidence-based. The team should justify its choice of the aims and be prepared to examine those areas where the aims are included in the audit project.

## The Audit cycle

The process of identifying areas of care to be audited, implementing any necessary changes, and then periodically reviewing the same issues is known as the Audit Cycle (Figure 1).<sup>4,7</sup> After identifying the topic to be audited, criteria will need to be agreed to decide what constitutes an acceptable standard of care. Current practice is then observed to compare the care that is being delivered against the standards that have been set. Once changes have been made, their effects can be measured to see if they have the desired outcome. For audit to be effective the cycle needs to be repeated to see whether the changes implemented have improved the care. So perhaps an image of a gradually ascending spiral is more appropriate than a circle.

Figure 1. Audit cycle



## Clinical Audit process

By National Center for Clinical Audit<sup>4</sup>

### 1. DESIGN THE AUDIT

- Who is involved? A team leader is better. The presence of a team leader is of great importance, with liaison with an audit committee and team members and other useful team supporters.

- Topic: What to Audit (high risk practices, high volume practices, high cost care, topics of local concern).
- Objectives: Measures of quality of care consistent with evidence of good practice
- Cases to be included.

### 2. MEASURE DAY-TO-DAY PRACTICE

Collect and analyze valid and reliable data, following ethics and confidentiality principles.

### 3. EVALUATE EVIDENCE OF DAY-TO-DAY PRACTICE

Identify areas of good and not so good practice.

### 4. ANALYZE THE EVIDENCE

Does your practice equal good practice? If yes, feedback to your group; if not, devise an action strategy and implement the action plan.

## Getting started

A practice meeting is needed to encourage participation and distribute tasks.

When reviewing the topics for Audit, we can ask three questions:

- What facilities are there? (Structure)
- What was done to the patient? (Process)
- What was the result for the patient? (Outcome)

Structure of the Audit refers to the physical features of the practice, the premises, the availability of staff and their training, clinic building, practice equipment, and records.

Process refers to what the GP actually does, i.e. practice activity, e.g. prescribing habits, referrals, laboratory investigations, etc.

Outcome refers to the results of health care, changes in patient's future health status that can be attributed to health care, e.g. prevention of disease, prevention of premature death and patient satisfaction with the care provided. The outcome is the ideal indicator for care but the most difficult to measure.

## Choosing the topic

Three fundamental questions to be answered:<sup>1</sup>

1. What kind of practice are we?
2. What kind of practice do we want to be?
3. How capable of change are we?

The range of care given by primary health care teams is so broad that it is not possible to audit everything.

Table 3 demonstrates factors to consider when selecting a topic for audit and the consequences of these factors.<sup>2</sup>

**Table 3. Factors influencing choice of topic for auditing and the consequences of these factors**

Factor	Consequence
Condition should have important impact on health	Likely increase in morbidity and mortality if care is poor
Condition should affect a large number of people	Improving quality of care in common conditions usually has more impact than in rare conditions
Good reasons for believing that current performance could be improved	Concentrates effort on optimum elements of care
Convincing evidence is available about appropriate care	Otherwise efforts to change current performance are difficult to justify

Topics of major importance include chronic disease management, preventive care, prescribing, Audits on childhood immunization, cervical cytology, referrals to hospital and use of laboratory services.<sup>1,2</sup>

### Examples of topics for Audit

- Structure Audit: Patient's record cards should contain a summary card.
- Process Audit: The BP of patients aged 20-65 years should be taken and recorded at least every 5 years.
- Outcome Audit: Patients with established hypertension aged 20-35 years will have a diastolic level below 90 mm Hg within the first year of treatment.

### Criteria and standards

Criteria are what you want to measure (yardstick). It addresses a definable and measurable item of health care which describes quality, and which can be used to assess it, e.g. patients with chronic asthma should have their inhaler technique assessed at least once in 12 months.

Standards are how well you should be doing. It describes the measurable level of care to be achieved for any single criterion. Table 4 shows examples of some criteria and standards.<sup>2</sup>

### Arriving at Standards

- Don't get overly concerned - standard setting is flexible, can be revised upwards or downwards

- Those involved decide on the level of care they find desirable
- Guidance can be derived from the literature/textbooks but ultimately you decide.
- Can be based on your own work and observations
- Best solution - Perhaps combine all three.

**Table 4. Examples of some criteria with standards**

Criteria	Standard
Children under 2 years should be immunized against tetanus and polio	90% of the registered 2 years olds are immunized against tetanus and polio
The notes of those patients sensitive to penicillin should be clearly marked	The notes of 100% of patients sensitive to penicillin are clearly marked
Patients should wait no longer than 30 minutes in the surgery before consultation	75% of patients should wait no longer than 30 minutes in the surgery before consultation

### Data collection

Data collection should be restricted to a minimum, sufficient to fulfill the aims of the audit. This will ensure that data collection does not become so intensive that exhaustion overcomes enthusiasm. Data collection is usually simplified by crafting a data recording form. The form should be self-explanatory and easy to complete. It should have a profound title, include dates and be piloted. The task of data collection should be delegated to the most suitable staff members. The duration of data collection should be decided. It should be the minimum required to collect the essential information to keep the eagerness. It can be done manually or using computer, depending on the available facilities.

### Sampling

The number of the patients to be included in any audit can involve all potential patients in the target population. This may be possible if the total numbers are small or the data required is easy to gather. In other situations using a sample of the patients representing the target population can minimize the total number of the patients. Optimal sample size can be calculated by using random or systemic sampling.<sup>2</sup> Random sampling can be done by using a computer or by using a random number table. Systemic sampling requires arranging the items

to be audited in sequence and sampling every  $n^{\text{th}}$  item in a predetermined pattern.

### Presenting results

Once the data collection stage is complete, preserved time should be set aside for data analysis, summarizing and presenting the results to the team. The aim of this process is to produce evidence, which will certainly influence the next stage of the audit cycle – implementing change.<sup>2</sup>

It is enough to use simple arithmetical calculation for summarizing the results. The results may be represented in the form of percentage of patients whose care complies with the criterion so as to ease the comparison with the agreed standards.

The results of the second data collection must be presented in the same way as the first to monitor the progress and to ease comparison.

#### Key messages

- Audit is a process of critically and systematically assessing our own professional activities with intention to improving personal performance and finally the quality.
- Audit is a cycle which consists of a series of particular steps which should be completed to achieve the desirable changes.
- Selected topics should be relevant and should address areas where improvements are needed.
- The identification of explicit audit criteria is the core feature of any systemic approach to audit.
- Standards set should be realistic and attainable.
- Data collection should be kept to the minimum necessary to fulfill the aims of the particular audit.
- All participants should be prepared to implement appropriate changes.

### Implementing changes

Implementing changes is the most challenging stage in the audit cycle. Once the results

are presented to the team, it has to decide whether it is satisfied with that performance, especially regarding those results that are close to the standards set, or to continue with any necessary steps to achieve higher standards. This is particularly suitable if the initial standards had been set at lower than 100%. For low results sometimes it is reasonable to reset the agreed standards at realistic percentages.

The team has to discuss the ways through which they have to work, make a change and achieve the agreed standards. It has to discuss the advantages and disadvantages of each one and choose the most appropriate ones. It has to consider the most practical methods, and all involved in that stage must be familiar with the aims of doing that and their roles. The team has to decide about the date of the second data collection and when audit should be repeated in the future. The audit leader has to monitor the process and get others to share the ideas, which is so important in effecting change<sup>8</sup> and keeping the enthusiasm.

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## CME Questions

After you have completed reading the above article, take the test given below. Circle T (True) or F (False) in the answer sheet (page 80) to show the correct answer to each question. Questions 1 to 10 are related to the content in this article.

1. The term audit adequately reflects the concept of Audit as used in general practice.
2. An example of the Audit of process is audit of referrals to hospitals.
3. Audit usually consumes an extensive amount of resources (of time, money etc.).
4. Rare conditions should be audited.
5. The higher the standard the practitioner starts with, the stronger is the resulting audit.
6. Maintaining clearly written notes of at least 20% of patients who are sensitive to penicillin is an acceptable standard in general practice.
7. The higher the amount of data the practitioner collects, the easier is the decision making process in audit.
8. The most challenging stage in Audit is implementing change.
9. In data collection all in the target population must be included.
10. The agreed standards can be reset at realistic percentages after the first round of data collection.

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