



How to Conduct a Clinical Audit: a guide for medical students

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Involvement in clinical audit is becoming increasingly important for health professionals, both to ensure a high quality of healthcare and to demonstrate interest in both quality improvement and specific clinical specialities. Nevertheless, the auditing process is often a source of confusion for today's medical students and junior doctors. This article aims to demystify the auditing process by correcting common misconceptions and providing advice on how to carry out a successful audit.

This article will cover:

- the importance of the clinical audit process and its role within clinical governance
- the difference between clinical audit and research
- the steps involved in an audit process and the importance of completing the audit cycle
- how to get involved and the benefits of involvement in audits
- factors that makes a good audit topic
- the potential pitfalls that one should consider before beginning an audit
- how to disseminate your audit findings, such as presenting and publishing
- a case study: my medical school experience of audits



What part does clinical audit play in clinical governance?

Clinical governance (1) is defined as "A framework through which NHS organisations are accountable for continually improving the quality of their services and safeguarding high standards of care by creating an environment in which excellence in clinical care will flourish." Hence the common misconception that audit and clinical governance are synonymous is **not** true. Clinical governance is an umbrella term that covers activities that help sustain and improve high standards of patient care, of which clinical audit forms just one component of a wider quality improvement process.

Figure 1 (right). A diagram showing the different components of clinical governance. Traditionally, clinical governance has been described using 7 key pillars of which clinical audit is just one part.

NICE defines clinical audit (2) 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. Aspects of the structure, processes, and outcomes of care are selected and systematically evaluated against explicit criteria. Where indicated, changes are implemented at an individual, team, or service level and further monitoring is used to confirm improvement in healthcare delivery." The role of clinical audit within clinical



governance is to provide a mechanism for explicitly and systematically reviewing the quality of everyday care. The benefit is highlighting areas where improvement is needed in healthcare provision, which in turn safeguards high quality of clinical care for patients. For audits to be worthwhile, a supportive environment committed to continuous quality improvement must be in place - this is achieved through the culture of clinical governance.

What is the difference between clinical audit and research?

This is a common question asked at job interviews, and the distinction is an important one. Although the two processes are synergistic with each other, there are fundamental differences between the two (3). Put simply:

- a research project focuses on discovering *new* information and exploring the best ways to do things; research asks “what is the right thing to do and what is the best way to do it?”
- a clinical audit evaluates how well *current* best practice is being carried out; audits ask “are we doing the right thing and are we doing it the best way?”

Clinical audit	Research
<i>Aim:</i> how close is current practice to best practice?	<i>Aim:</i> what is best practice?
Improves healthcare service	Improves knowledge
Carried out by members of the multidisciplinary team	Usually carried out by specific researchers
Practice-based	Theory-driven
An on-going process	A one-off project
Never involves an experimental treatment or placebo	May involve an experimental treatment or placebo

Table 1 (above). Key differences between audit and research.

Why is clinical audit important for me as a medical student?

Audit is expected to be a continuous process for contributing to quality improvement. It should be carried out all the time as a multidisciplinary team activity and not just when failings are exposed. As a result, medical student and junior doctor involvement in clinical audit is taken very seriously and it is now compulsory for junior doctors.

The General Medical Council (GMC) state in the publication *Good Medical Practice* (4) that all doctors are required to:

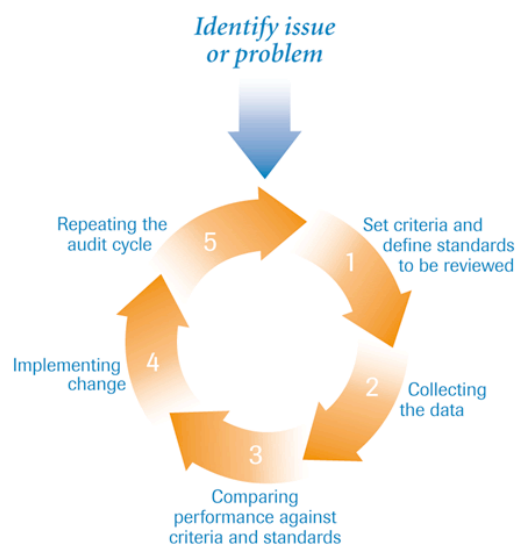
- Take part in regular and systematic audit.
- Take part in systems of quality assurance and quality improvement.
- Respond constructively to the outcome of audit, appraisals and performance reviews, undertaking further training where necessary

Hence audit is important for both junior doctors and medical students. As a medical student or doctor working for the NHS, if you notice a problem and believe that current clinical practice is not the best practice it is your duty to initiate the audit process. *But how do you do that?*

What is the audit cycle?

The audit process is divided into 5 official steps and the cycle is only considered complete if all steps are performed. The five steps are as follows:

Figure 2. A diagram summarising the different stages to the audit cycle.



Step in the Audit Cycle	Description
Step 1: Define the standard	Determine the criteria for the current best practice. Common standards include: NICE guidance, Royal College Guidance, national service frameworks, local policies etc.
Step 2: Collect the data	Identify what data needs to be collected, how, and who is going to collect it. Decide whether the data will be collected prospectively or retrospectively and what sample size is needed.
Step 3: Compare current practice with standard	Analyse the data collected (actual performance within the department) with the set standard. Evaluate how well the standards were met and if not, identify reasons for this.
Step 4: Implement a change to improve service	Present the results to the relevant multidisciplinary teams in your organisation. Develop, agree and implement an action plan to bring actual practice closer to the standard.
Step 5: Close the audit cycle loop <i>(repeat steps 1-4)</i>	After time for the intervention to take effect, collect new data and determine the impact. Then comparing again with the standard and establish if there was an improvement in practice.

What are the different types of audit?

Firstly, audit can be categorised into different aspects of patient care (2). This is outlined below using smoking behaviours of patients as an example:

a) **Structure of care:** *refer to the resources required*

e.g. the availability of a smoking cessation clinic in a locality.

b) **Process of care:** *refers to the actions and decisions taken by practitioners together with users*

e.g. waiting times for an appointment at the smoking cessation clinic.

c) **The outcome of care:** *measure the physical or behaviour response to an intervention*

e.g. the number of smokers who quit smoking for 1 year.

Also, audits can be described as retrospective and prospective. A retrospective audit is one where the data is already available before the audit process has begun. For instance, data could be stored on an electronic database, such as EMIS. Electronic records are searchable for specific criteria and can yield large sample sizes for retrospective analysis. Differently, a prospective audit is one where the data is actively collected and otherwise would not be available. For instance, by looking through patient notes and developing your own database - this method of data collection can be more time consuming but is effective if done well.



What makes a good audit topic?

Developing an audit cycle and deciding an audit topic can be an exciting time but it does require some thought. It is advisable to consider the following features when selecting your audit topic:

- Priorities for your trust/hospital/department e.g. areas with high volume of work etc.
- Issues that are topical in your department. Senior clinicians are more likely to help if this is the case and will be keen to strive for change.
- A topic in an area of medicine that interests you and might be your future career choice
- Re-audits of previous projects: if there is a previous audit that was never re-audited and the loop was not closed, then this is a good audit to get involved with. The method and guideline has already been determined and you are building on the previous work of someone else, who will be very grateful for you closing the loop.

What is the importance of closing the loop?

The buzz-words “closing the loop” are used a lot when discussing audits. Essentially it means that the audit was followed through to the end, with an action plan implemented and the impact of the action plan determined. This is the most important step of an audit as it shows whether the intervention led to quality improvement, which is the purpose of the whole process in the first place.

If the loop is not closed then there is no evidence that quality improvement was achieved, Indeed failing to complete the audit cycle undermines the whole audit process and consequently it is not looked upon favourably by interviewers and in job applications. It is arguably better to do one audit through to the end than just do the first few steps of several different separate audits. Failing to close the loop can be avoided with careful planning (see top tips section).

When is best to carry out an audit and how can you get involved?



As clinical governance is a continuous process, audits are something you should always have in the back of your mind. Therefore it is best to get involved whenever possible and this includes your time at medical school. You have more free time as a student and therefore are very useful to teams during the data collection stage. The easiest way to get involved is to ask the members of the multidisciplinary team on your placements if any audits are taking place and if any help is required. It is easier to discuss with the junior doctors first as they are usually the drivers of the audit and know what jobs need to be done.

However if you are the first to identify an opportunity for an audit on the ward then it is possible to be the "audit lead" i.e. the person overseeing and organising the audit. However it is recommended that one's first involvement with an audit is as simple as possible so that familiarity can be gained with the audit process before taking on more responsibility. For a student it is more feasible to help with data collection in a local audit, such as one analysing DVT prophylaxis, rather than an ambitious one aiming to cause high level of change within your organisation or on the national level. Furthermore, as a student you are changing placements on a regular basis and therefore it might not be feasible to be around for the length of time required to drive the whole audit. Your seniors are aware of these factors and will be impressed with your enthusiasm to get involved, even if it is only at one step.

Nevertheless when you become an FY1 at the start of a four-month block, then it is certainly possible to lead an audit. The first step in this case is to find a supervisor who can guide you through the process, providing advice throughout the process. The choice of supervisor is very important and their seniority and experience should be considered: senior, experienced supervisors such as consultants tend to be rather busy, which makes it difficult for them to offer time to your audit although their input is likely to be valuable. Whereas inexperienced supervisors such as junior doctors are usually enthusiastic and can offer more time, but can lead to audits that occupy a lot of your time without taking the audit cycle to completion. Generally it is recommended that spending less time with an expert who provides more chance of yielding an outcome is preferable to having an inexperienced supervisor.

What are the benefits of getting involved in audits as a medical student?

There are numerous individual advantages from getting involved in the clinical audit process at medical school. These include:

- You develop experience with the audit cycle and learn the most efficient ways to do things. This will make doing audits as a junior doctor much easier.
- You increase your own understanding of clinical care, which can help with medical exams and career selection

- FPAS points are available if you present the findings at a national conference or publish them in a peer-reviewed journal
- You can demonstrate an early commitment to clinical governance or a particular specialty, which is useful addition to your CV especially if applying for the academic foundation programme
- Demonstrating such enthusiasm will impress members of staff
- They offer opportunities to network with members of the multidisciplinary team and senior clinicians
- Involvement in an audit might generate research ideas and lead to subsequent research projects

How can you disseminate the results of an audit?

The standard method of disseminating your results is to present your audit findings at the local clinical governance meeting. This applies both for the first stage of the audit, where you present your findings and an action plan to improve practice, and most importantly the re-audit, where you present the impact of the action plan on practice. It can take some time to secure a slot at one of the clinical governance meetings so make sure you contact the clinical governance office well in advance. In addition to departmental presentations, simple interventions such as posters on wards can help reinforce the recommendations of an audit.

Additional methods for disseminating your work are via poster or oral presentation at a conference, which can be specific to the specialty or pan-specialty. This offers great opportunities to network and discuss your work with people from different backgrounds and identify possible follow-up work. If the conference is a recognised national or international meeting then this offers additional benefits such as FPAS points, presentation prizes and points on subsequent job applications.

A worthwhile goal when disseminating audit results is to publish your audit in a peer-reviewed journal. Although most journals favour original research, it is not uncommon for an audit to get published in a journal and now some journals exist that publish only audits. Publication requires additional time and workload, such as carrying out a literature search to see what else is in the literature and then writing up your audit as a manuscript; all of this tends to require a well-planned, focused audit with the help of a motivated, experienced supervisor. Also the sample size required for publication is usually large, generally at least 50 patients, to ensure any observations are not due to chance and the results are valid.

Essential tips for carrying out audits: *how not to waste your time*

When audits do not get completed it can be very frustrating as commonly considerable time is invested in the project. Below are some tips to help you avoid common pitfalls that newcomers experience when getting involved in audits:

- *Make it official.* This is achieved by registering it with the hospital's clinical governance office. Not only does this ensure all the necessary paperwork is completed but additionally some departments assist with certain stages, such as the design process and analysis stages e.g. by providing a statistician. It makes booking a slot for presentation easier too and ensures that audits are not repeated unnecessarily
- Be *ethically* sound. Discuss with the audit department if ethical approval is needed (although usually it is not). Maintain patient confidentiality at all times and if issues arise then discuss with

the Caldicott Guardian. For example, ensure data is kept anonymous at all times and you that no patient identifying information is left on personal computers

- Employ a *team approach*, involving different members of staff accounting for their skills and availability
- Find topic with a clear, acknowledged *guideline* and choose your supervisor carefully
- Be *realistic* with the amount of time it will take the various steps, plan ahead and ensure there is time to close the loop and complete the audit cycle. Generally around 4-6 months is required before the reauditing stage to allow the action plan to have an effect.

A case study: my first experience of audit

As a 4th year medical student on my neurosurgery firm, I noticed that the completion of operating notes varied a lot between consultants. I discussed this with my surgical team and proposed an audit that compared operating notes with the Royal College of Surgeons standards as outlined in *Good Surgical Practice (2008)*. Therefore I went to the audit office and completed the audit paperwork, proposing a prospective study of 30 patients using a proforma developed against the RCS standards. Having analysed operation notes written in a 7-day period, I identified areas that were poorly completed and presented these at a clinical governance meeting. The action plan was a teaching session to surgeons reminding them of the RCS guidelines and putting a poster up in the operating room showing the standards. Having moved onto a different firm 6 months later, I returned in the evenings and completed the loop by once again looking at operation notes completed in a 7-day period. I presented my findings at the clinical governance meeting, which showed statistically significant improvements in various aspects of the forms e.g. documentation of surgeon name and signature, date and time of operation. I then disseminated this work by presenting my findings at local and national conferences.

Key points:



- Audits fall under a larger process called Clinical Governance, which refers to a culture of openness and willingness to self-evaluate and implement changes to improve the quality of healthcare
- Audit is different to research, analysing current practice and not exploring new practices
- It is a GMC requirement for doctors to be involved in audit, It is never too early to get involved in audits, and increasingly students are starting at medical school due to the numerous benefits this offers
- Different types of audits exist and can analyse either the structure, process or outcome of care
- Clinical audit is divided into the following *five steps*: define the standard; collect the data using an agreed method; compare current practice with the standard and present the findings; implement an action plan change to improve service; complete the audit cycle and determining the impact of the action plan
- Good preparation reduces the likelihood of pitfalls and increases your chance of completing the audit cycle and achieving dissemination, such as presentations and publication

Always remember the background of clinical audit and its crucial role in clinical governance, which is to improve the care that patients receive and increase public confidence in the NHS. As a medical student or junior doctor, getting involved in the audit process is an opportunity for you to contribute to patient care your department, and your efforts will likely be rewarded. You are entitled to a certificate of completion from the audit department, which you can use in your portfolio to demonstrate understanding of and involvement in audit.

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Figures

1. <http://www.medicine.ox.ac.uk/bandolier/painres/download/whatis/WhatisClinGov.pdf>
2. <http://www.roche.co.uk/uk/clinicalaudit.html>

Recommended resources

- Scally G and Donaldson LJ (1998) Clinical governance and the drive for quality improvement in the new NHS in England. *BMJ* 317 (7150) 4 July pp.61-65.
- NHS Clinical Governance Support Group. *A Practical Handbook for Clinical Audit* (2005). Available online at: www.hqip.org.uk/assets/Downloads/Practical-Clinical-Audit-Handbook-CGSupport.pdf