National Council for
NCOR
Osteopathic Research

An Introduction to Clinical Audit for Practising Osteopaths

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Contents

This first edition of *An Introduction to Clinical Audit for Practising Osteopaths* is a work in progress. Over the next 12 months we're inviting osteopaths' feedback and suggestions to shape a revised edition for publication in summer 2012.

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Introduction to this handbook

Who is it for?

This handbook is designed to support osteopaths wishing to undertake clinical audit, but who may be unfamiliar with this aspect of practice. It has been designed as a basic introduction to clinical audit for osteopaths in private practice.

Why undertake clinical audit?

Clinical audit has many benefits, including:

> Improving patient care.

> Helping you to demonstrate the benefits of your practice to others.

> Making more effective use of clinical time.

> Increasing the number of satisfied patients.

> Helping to advance your practice.

> Identifying areas for making your practice more efficient.

> Providing useful evidence of continuing professional development (CPD) activity.

How can I audit my practice?

Follow the steps in Chapter 2 with a topic of your choice or follow the worked example in Chapter 5 to get you started.

What should I audit?

Consider what aspects of your practice you would like to know more about and/or wish to improve. Ideas in the form of an audit tool can be found in Chapter 6.

How will the handbook help me?

The handbook includes a range of different information:

> An explanation of the different stages of the audit cycle.

> The difference between research and audit.

> The different types of audit you can undertake.

> A worked example of an audit taken from osteopathic practice.

> Examples of different audit tools available for you to use.

> Examples of audits from:
  - an osteopath working in the NHS.
  - an osteopath working in a single-handed practice.
  - an osteopath wanting to secure work from external organisations; for example, the NHS and/or private companies.

> Further sources of information if you want to learn more about audit.

> A glossary to explain any terms with which you may be unfamiliar.

Where can I get help?

For help or advice at any point in your audit, email NCOR (c.a.fawkes@brighton.ac.uk) or telephone 01273 643 457.

Good luck with your first audit!

Chapter 1 An introduction to clinical audit

What is clinical audit?

Clinical audit can be used by individuals or groups of practitioners to measure and improve the quality of patient care. Topics from practice are chosen by individual practitioners. It has been described as a technique to "assess, evaluate and improve the care of patients in a systematic way to enhance their health and quality of life"[1].

Audit is said to have begun with Florence Nightingale in 1854 – it has undergone considerable development since then to become clinical audit as it is known today. More information about the historical development of audit can be found in Annex 2.

Mawson and McCreadie[2] (1993) described audit as a cyclical process consisting of the following key stages:

> Selection of a topic.

> Observation of practice.

> Comparison of current practice with agreed standards.

> Implementation of change(s).

> Re-audit.

What are the benefits of audit?

Clinicians must feel there will be tangible benefits for it to be worthwhile to make the time to undertake audit. Some of the many benefits include:

> Improved patient care.

> More effective use of clinical time.

> More satisfied patients.

> Efficient use of treatment facilities.

> Increased clinical acumen/improved clinical judgement.

> Identification of training/CPD needs.

> Requests for more appropriate patient investigations.

> Identification of staff training needs.

What is the difference between audit and research?

Research, audit and service evaluation are often confused; they share some similarities and have some distinct differences. These are summarised in figure 1.

Figure 1 **The differences between research, audit and service evaluation**[3]

Research	Audit	Service evaluation
May involve experiments based on a hypothesis.	Never involves experiments and involves measuring against pre-existing standards.	Designed and conducted to define or judge current care.
A systematic investigation.	A systematic review of practice.	An investigation of current service without reference to a standard.
May involve random allocation.	Never involves random allocation.	Never involves random allocation.
There may be extra disturbance to patients.	There is little disturbance to patients.	There is little disturbance to patients.
Could investigate a new treatment.	Never involves a completely new treatment.	Never involves a completely new treatment.
Creates new knowledge about effectiveness of treatment approaches.	Answers the question"Are we following best practice?"	Answers the question "What standard does the service achieve?"
May involve experiments on patients.	Patients continue to experience their normal treatment management.	Patients continue to experience their normal treatment management.
Often a lengthy process and involves large numbers of patients.	Usually carried out involving a small number of patients and within a short time span. It may include the administration of a questionnaire or simple interview.	Usually carried out involving a small number of patients and within a short time span. It may include the administration of a questionnaire or simple interview.
It is based on a scientifically valid sample size (except in the case of some pilot studies).	It is more likely to be conducted on a pragmatically based sample size.	It is more likely to be conducted on a pragmatically based sample size.
Extensive statistical analysis of data is routine. Data analysis can take a number of forms depending on whether qualitative or quantitative research has been carried out.	Some statistics may be useful.	Some simple statistics may be useful.
Results can be generalisable and hence publishable. Quantitative research tends to be more easily generalisable than qualitative work. Qualitative work, however, can be transferrable.	Results are only relevant within local practice settings (although the audit process may be of interest to a wider audience and hence audits are publishable).	Results are only relevant within local practice settings.
Responsibility to act on findings is unclear.	Responsibility to act on findings rests with individual practitioners.	Responsibility to act on findings rests with individual practitioners.
Findings influence the activities of clinical practice as a whole.	Findings influence activities of practitioners within a practice.	Findings influence activities of practitioners within a practice.
Always requires ethical approval.	Does not require ethical approval.	Does not require ethical approval.
Research can identify areas for audit.	Audit can be a precursor to clinical research by pinpointing where research evidence is lacking.	Service evaluation can identify areas of practice for audit.

Source: National Research Ethics Service[3]

The role of standardised data collection in setting standards for clinical audit

Audit is also frequently confused with data collection. Collecting general information concerning what happens in practice without reference to clear standards and criteria is not audit; it is data collection. Audit looks at a specific area of practice and focuses on the adequacy of a particular aspect of patient care when reviewed against a standard.

Standardised data collection, by contrast, collects general information about practice, providing a picture of day-to-day practice without reference to standards. It describes current norms of practice amongst a large number of practitioners, thereby indicating current standards of care amongst a large professional population. It can entail sign-posting areas for future audit and can generate potential meaningful research questions to be pursued.

Ethics and clinical audit

According to guidance from the National Research Ethics Service, audit does not require the approval of a research ethics committee[3]. However, osteopaths working in the NHS, in either primary or secondary care, should be aware that the audit must be lodged with the Research and Development (R&D) department of the Trust in which it is to take place. Each Trust may show a slight variation in the type of information it requires but the R&D department will advise on this matter.

Osteopaths in private practice do not require ethical review or approval to undertake clinical audit.

Where does audit fit with osteopathy?

The osteopathic profession has undergone considerable change since its initial evolution by Dr Andrew Taylor Still and encompassing its change to a profession regulated by statute[4]. Increasingly, osteopaths are seen as part of the wider primary healthcare team, working in partnership with other healthcare professionals in the private and public (NHS) sector. With this comes the need to be able to reflect objectively on practice, measure outcome and implement change to maintain good quality care and raise standards where necessary.

Clinical audit represents an opportunity for osteopaths to examine an aspect of their practice that is of interest to them and is important to managing their patients. The following chapters will explain each stage of the audit cycle (Chapters 2 and 4) and will show a worked example of an audit to demonstrate what it entails (Chapter 5).

Chapter 2 The audit cycle (in brief)

Mawson and McCreadie (1993) describe clinical audit as a cyclical process[2].
It consists of the following stages:

1. Selection of a meaningful topic of your choice.

2. Review the literature and identify current best practice.

3. Agree and set standards and criteria.

4. Plan the audit:

   - Identify the people to be involved, their roles and responsibilities (if appropriate).

   - Create a project plan with a timeline.

   - Agree who will collect data.

   - Agree who will analyse the data.

   - Identify any published tools that exist.

   - Devise a data collection tool (if necessary).

   - Pilot (i.e., test) the data collection tool (if it has been newly created).

5. Collect data:

   - Identify your sample.

   - Identify your sample size.

   - Identify your sample selection method.

6. Analyse data:

   - Give feedback to the audit group.

   - Identify any changes to be made.

   - Agree how and when changes should be implemented.

7. Implement changes.

8. Re-audit (the forgotten vital stage):

   - Identify if the changes implemented have been helpful.

   - Identify whether standards and criteria have been reached.

   - Identify if standards and criteria require review if the audit is repeated in the future.

9. Write an audit report.

Figure 2 **The audit cycle**

- Select a meaningful topic
- Review the literature and identify best practice
- Agree criteria and standards
- Plan the audit
- Devise a data collection tool
- Collect data
- Analyse data
- Identify changes
- Implement necessary changes
- Re-audit
- Prepare audit report
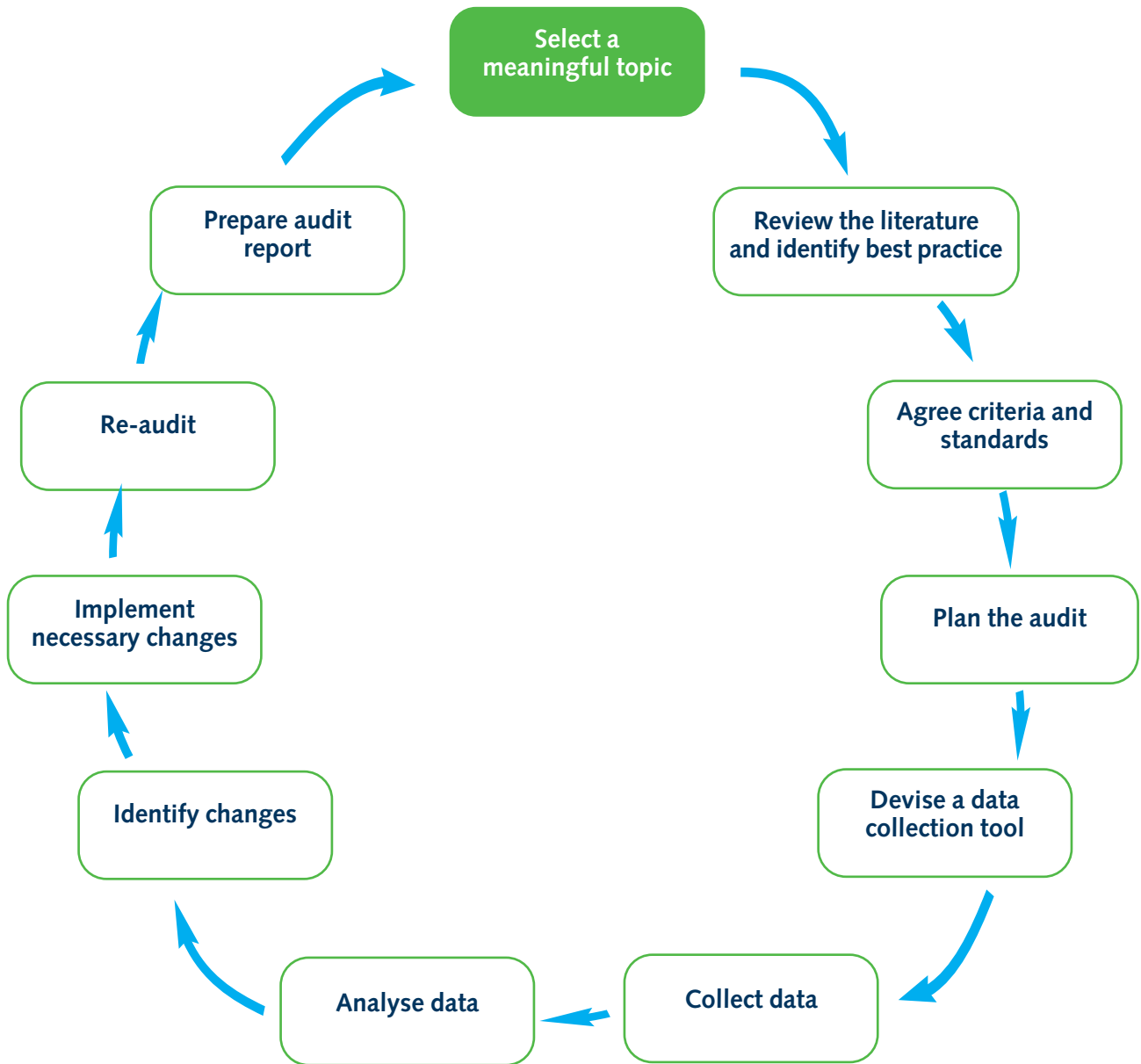
Chapter 3 What can be audited?

The quality of healthcare provided can be audited by examining any one of four interrelated component parts:

> Structure.

> Process.

> Outcome.

> Patient satisfaction.

Audits of structure

The environment in which a patient is treated is an important aspect of their care. An audit relating to the structure of the practice could examine aspects such as:

> The practice building – state of repair, facilities offered, confidentiality offered during consultations, privacy, cleanliness, and health and safety.

> Personnel – osteopaths other healthcare practitioners, the receptionist and additional ancillary staff.

> Equipment in the practice – is it always functioning, is it regularly assessed for safety?

> Patient notes – are they kept securely to maintain confidentiality, are they legible and complete, are they of a suitably high standard?

Audits of process and content of care

This can include factors related to patient management. The audit could focus on the technical skills of the practitioner(s) and an evaluation of decisions made concerning the management of a patient. Examples of this type of audit could include:

> Examining an aspect of care delivered.

> Reviewing case notes to look at the recording of negative findings.

> Reviewing case notes to look at the recording of the presence or absence of red flags.

> Comparing care delivered against guidelines.

> Reviewing how consent is recorded.

Audits of outcome

Outcomes are considered the most relevant assessment of a patient's care. They examine the change in the health status of a patient following a particular treatment. An extensive number of outcome measurements have been developed to assess general health status, physical health and psychological wellbeing. Outcome audits can be concerned with:

> The response to treatment in terms of pain relief or change in levels of disability.

> The response to treatment in terms of reaction to treatment, for example, soreness, increased pain or disability within a specified time frame.

> The degree by which patients can manage their symptoms following any advice given.

Donabedian presented this approach to measuring the quality of care in a slightly different way[5].

Audits of patient satisfaction

Patient satisfaction is becoming an increasingly important measure of outcome. It is an essential component of practice in the NHS, particularly within multidisciplinary practice. Growing numbers of health insurers also require information concerning patient satisfaction. Measuring patient satisfaction featured strongly in the 1989 White Paper *Working for Patients*[6]. However, it is a complex area and may not necessarily be representative of the outcome of treatment. Patients can show high levels of satisfaction despite experiencing small changes in pain relief.

Patient experience forms can provide slightly better feedback. Some examples of patient experience templates can be found in the GOsC Revalidation Pilot Prticipation Manual. An audit tool for measuring patient satisfaction can be found in Chapter 6, under *An audit of patient satisfaction*.

The recommendations of the Darzi Report in 2008 promoted the ideal of patient-focussed care and the delivery of more effective care[7].

This was followed by the recommendations in the 2010 White Paper that increased focus be given to the delivery of the quality of services and this will need to be demonstrated[8]. Clinical audit is potentially one aspect of achieving this. The NHS has also introduced the QIPP programme (Quality, Innovation, Productivity and Prevention) to address the productivity challenge facing the NHS to improve the quality of care it delivers and increase levels of patient satisfaction[9].

Chapter 4 The audit cycle in detail

1. Select a meaningful topic

A meaningful topic is an aspect of practice that is important to the individual clinician, a practice or within a Trust. This could be concerned with clinical practice or business management. It may help to consider the acronym "SMART" when selecting a topic for audit. It should be:

> **S**pecific

> **M**easurable

> **A**chievable

> **R**esearch based

> **T**imely

It can also help to refer to the decision-making table in figure 3 and consider the factors related to an audit and their potential consequences.

Figure 3 **Decision-making table for audit topics**[10]

Factor	Consequence
Affects a large number of people	Improving the quality of care in common conditions usually has more impact for rare conditions
Convincing evidence is available about appropriate care	Otherwise efforts to change current performance are difficult to justify
Good reasons for believing that current performance could be improved	Concentrates effort on optimum elements of care

When planning an audit, it is important to bear in mind two key questions:

> Why am I conducting this audit?

> What am I hoping to achieve?

Topics should be considered on the basis of what could be specifically relevant for your practice in terms of practice profile, professional indemnity insurance perspective, Revalidation (i.e., generating evidence to show that you meet the GOsC's *Osteopathic Practice Standards*), marketing or practice management, or contractual obligations to employers/contract providers.

2. Review the literature and identify best practice

There are an increasing number of research literature databases that offer free access, even to full text papers. Three of the best known are PubMed, Stanford HighWire and Google Scholar [11,12,13]. Basic literature searching is not difficult and becomes easier with practice.

An example of a literature search can be found in the worked example of an audit in Chapter 5. Further information on literature searching can be found in the evidence-based tutorials on the NCOR website[14,15,16].

One of the more daunting aspects of literature searching is the sheer volume of information that can be provided. The quality of literature can vary enormously: a range of critical appraisal tools exist, too, to assist in the evaluation of papers[17].

In addition to looking at published research, it is important to look at clinical guidelines in your chosen area of interest or guidance produced by the professional regulator or the professional association[18,19]. These can provide additional information concerning accepted standards of practice. Other useful sources of information for high-quality evidence and guidelines are the National Institute for Health and Clinical Excellence (NICE), local guidelines for Primary Care Trusts (PCTs) and the Cochrane Collaboration[20,21].

In some instances, information may not be available that relates specifically to osteopathy. In this case, it can be helpful to look at work from other healthcare disciplines, and this can provide information about procedures, criteria and standard setting.

3. Agree standards and criteria

Criteria and standards are frequently known by other names; for example, targets, benchmarks and markers. They should be based on best practice but can be set by consensus. They form simple statements about the delivery of service or patient care. They focus on key points that are clinically relevant, clearly defined and measurable. It is important to highlight what is going to be measured and agree this with colleagues.

Standard setting

When starting out on an audit, a useful question to ask is "What ought to be improved within my/our practice?" This can relate to areas of clinical practice or the day-to-day management of the practice. This consideration can be broken down further into various tasks within the consultation process. This could include assessing changes in patients' progress, how this is recorded, their levels of satisfaction, the manner of recording different findings, etc.

A standard is defined by Samuel et al (1993) as "A criterion with its expected level of performance"[22]. This can encompass a range of performance, spanning from a minimum expected level of care to the best care that can be delivered.

How to set standards

It is important to stress that, where possible, standards and criteria should be evidence based. When considering service delivery, however, these should be agreed by the staff in the practice, being mindful of what is workable for the individuals taking part. Agreeing standards with all members of a team is essential; it provides ownership and is more likely to produce a useful audit exercise.

A helpful way of trying to set local standards is to look at current levels of performance. If, for example, your practice decides it wants to look at the recording of outcomes, it can be helpful to select at random 10 sets of case notes and look at how often outcome is recorded. If this has happened in only a few cases, it will be unrealistic to set a standard of 100%. However, setting a standard too low is unlikely to improve performance in this area. A more realistic standard in this case may be 50%. As change is progressively implemented in practice, standards can be reviewed at a future time if the audit cycle is repeated. Hibble (1992) described the use of "hard standards", which are based on good research data, and "soft standards", where such data may not be available[23].

Criteria

Criteria are elements of care that can be defined and measured by clinicians. They are based on agreement that they are relevant to a definition of good quality care.

Criteria provide clear examples of what aspects of practice are important. Consultation with patients will often provide examples of what are important criteria when assessing good service delivery.

When considering appointments, some criteria that may be considered are:

> Patients should be able to speak to someone or leave a message. The telephone should not be left to ring unanswered.

> Patients should be seen within five minutes of their appointment time.

> Acute patients should be seen within 48 hours of contacting the practice.

4. Plan the audit

Planning an audit carefully can make the process simpler, less time-consuming and more worthwhile. There are many issues to consider when planning an audit:

The people

This information is intended for larger practices where groups of clinicians and support staff are involved. If you are a single-handed practice, move on to the next section.

> Define the project: gain a consensus on this factor with all of those concerned as the more people feel engaged in the decision-making and the process, the more likely they will feel that they have ownership of the audit.

> Identify a project coordinator: appoint one person to oversee all aspects of the audit.

> Identify a project team: make sure the whole team agrees that the audit idea is sound and knows their roles and responsibilities.

> Identify a data collector.

> Brief project participants.

The project plan

> Define the timescale (start and finish times will depend on the topic being audited). If you decide to use an audit as part of the GOsC Revalidation Pilot, this may be undertaken over a six-month period.

> Agree key tasks and when they will be accomplished.

> Agree inclusion and exclusion criteria.

> Agree the method of sampling and the sample size.

> Agree what the data analysis will include.

> Identify help required to accomplish this.

> Agree how the audit information will be presented and to whom (where necessary).

Data collection

> Collect the records and relevant documents.

> Analyse the data.

Review practice

> Present and discuss the results.

> Formulate and agree recommendations for change.

> Report these changes to everyone taking part and agree how they can be implemented.

> Implement the recommendations.

> Re-audit.

> Feed back to everyone taking part in the audit.

> Produce an audit report.

5. Devise a data collection tool

To keep the audit as simple as possible, it is important to collect only appropriate data. A number of key considerations should be observed if the audit involves patient data:

> The patient's name should not be used.

> The age of the patient, rather than their date of birth, should be used to preserve anonymity.

> The patient's address should not be recorded. It is acceptable to record only the first three (or occasionally four) letters of the patient's postcode.

> Patients agree to having their data collected, preferably recorded with a signature at the time of their appointment. It can be helpful to display a sign in the practice waiting room and treatment room to this effect (see Annex 3).

> Clinicians should be identified with their agreement.

Pilot the data collection tool and then amend it as required

Many data collection tools exist that can be used in practice, avoiding the need to pilot the tool. However, if you are creating a new data collection tool, it is helpful to pilot it to ensure that it allows collection of appropriate data. It can be useful to ask a colleague to look at it to ensure it is clear and unambiguous.

Data collection tools can be used as a series of single A4 sheets or can be summarised in a grid for ease of data collection. The worked example in Chapter 5 will show this distinction.

6. Collect data

Do not collect more data than you need. This can apply equally to the number of questions in the data collection tool and the number of patients in the sample.

Sample size

When auditing patient care, it should be stressed that it isn't necessary to audit all patients. Sample sizing allows a suitable number of patients to be identified to ensure that an acceptable level of confidence is reached in the findings and that the results obtained are representative of patients attending your practice. There are several ways to decide how many patients should be involved in the audit. A sample size data table or sample size calculator can be used[24,25,26]. A more common approach is to select a sample of 50–100 whether the audit involves patients or case notes.

Sample selection

There are several ways to select patients. First, it is important to decide if any patients need to meet specific inclusion or exclusion criteria. For example, if a hypertension audit is being conducted in the practice, it may be necessary to select only those patients diagnosed with hypertension. In other types of audit, for example chronic low back pain, it is important to exclude patients who have experienced back pain for less than 13 weeks.

There are different sampling method. Two of the commonest are:

Random sampling

A random sample is one where everyone in the chosen population is equally likely to be chosen. This can be achieved by either assigning all patients a number then drawing a number out of a box, or it can be achieved by using a random number generator[27].

Systematic sampling

This can be achieved, for example, by selecting every tenth patient attending for treatment or every tenth set of case notes.

7. Analysis of data

The method of data analysis will depend on the nature of the data collected. In some cases simple percentages of findings will be sufficient. When describing the selected population, it may be desirable to give a mean value for the age of the population.

Several resources exist to assist with data analysis. There are numerous functions available within Excel that can be used to analyse data and produce summaries. Online resources, in the form of a guide to statistics for clinical audit, have been prepared by the Healthcare Quality Improvement Partnership (HQIP)[28].

Data can be presented in a variety of ways:

> Categorical data – for example, the number of individuals in the sample could be presented in a bar chart or column chart.

> Histograms could be used for summarising continuous data such as blood pressure or weight.

> If a larger group is being subdivided, for example, the specialties referred to within a population, a pie chart could be used.

The definition of terms used in this section can be found in the glossary. Examples of data presentation can be found in the worked example in Chapter 5.

Other forms of practice review

Patient satisfaction questionnaires, for example, can contain numerical (quantitative) data concerning scores of certain key factors in patient satisfaction. Patients will often provide qualitative data in the form of personal comments on this type of questionnaire. Patients will express their views more strongly if their anonymity is guaranteed. Qualitative comments can be summarised in different ways, including:

> The frequency of certain key words.

> Themes emerging from the comments provided.

Feed back the findings

As a result of conducting an audit, two types of change may result. This can be:

> Changes to current working practices relating to patient care.

> Changes to current working practices relating to the practice and its administration.

Any changes must be agreed by the healthcare professionals and support staff engaged in the audit, and it is prudent to allow an adequate period for changes to take effect.

Create an action plan for introducing suitable changes

> Identify what changes the audit has identified as being necessary.

> Discuss how the changes can be implemented.

> Propose an action plan involving all staff to promote ownership.

> Allow adequate time for the changes to become established.

Re-audit

This is a frequently forgotten stage in the audit cycle. The focus is often on the initial stages of the process; for example, identifying standards, examining whether care provided has reached those standards and identifying the necessary changes. Once changes have been implemented, it can feel as if that is the end of the journey, but without re-audit the staff involved are unable to discover if the changes have been worthwhile and effective or if further changes are required.

On completing an audit, reflecting on what has been achieved (actual outcome) compared with what was hoped for (intended outcome) provides the most useful information. It entails looking at any surprising differences, the reasons for those differences, and deciding on the priorities for change if more have been identified than had been anticipated.

Review standards

In some instances, the initial standards set for the audit may have been fairly low. It is helpful to look at these standards in the light of changes introduced into a practice and assess whether future standards should be set higher.

Write an audit report and share findings

This may seem an unnecessary step in the audit process, but it is a good practice to undertake. There are several reasons for this:

> If you are trying to enter new areas of practice; for example, to work in industry or the NHS, evidence of the ability to conduct good quality audits is likely to be helpful.

> If you are looking to invest in staff training or in changes in marketing practices, it can be helpful to have a structured document to refer to, rather than looking at jumbled statements and figures on different pieces of paper.

> If the practice audit has been undertaken as part of CPD activity, this activity will need to be documented.

Items to include in an audit report

1. Introduction

Briefly summarise the aims of the audit, the area investigated and what it intended to look at specifically. Describe what evidence was identified and what were the intended benefits to current patients, potential new patients and the staff working in the practice, etc.

2. Criteria/objectives

Describe specifically the criteria you identified, why and how they were identified. Describe what benefits the selected criteria represent for patients, the practice and the clinicians in the practice.

3. Standards set

Describe specifically the standards set for the audit and how they were identified and agreed on.

4. Method

Use the headings listed below to describe what the audit entailed:

> Where it took place.

> When it began.

> How long it lasted.

> Who was involved.

> What population/item was being audited.

> How the population was selected.

> The size of the population.

> What data was collected, including the data collection tool and any additional outcome measures used.

5. Summary of results

Describe the main findings of the first part of the audit, including the population, each standard and the degree to which it was met.

6. Evaluation of the findings and future action

> Describe what problems were identified.

> Identify what changes will be introduced.

> State how long you will allow the changes to take effect.

7. Findings of the re-audit

Describe briefly when the re-audit took place and what the principal findings were.

8. Conclusions

Describe when another audit is likely to take place and what plans are in place to monitor standards.

Describe what has been learned from the audit process. This is an important step and will help consolidate the learning process.

Chapter 5 A worked example of an audit

Topic area: audit of case notes in the practice

Aims

The aims of the audit are to ensure that:

> Information is recorded about every patient.

> Notes will act as a high-quality record concerning:

- why the patient is attending for treatment.
- the questions the patient has been asked.
- examinations conducted.
- other clinical information collected both within and external to the practice.
- the treatment plan and the treatment delivered.
- the patient's progress and how this compares with the treatment plan.
- the need for referral.

> Notes will be more accessible and a more useful asset for audit and research purposes.

Literature search

A brief literature search was conducted to identify examples of good practice in the recording of case notes. The search entailed using PubMed for published literature, the *Code of Practice* published specifically for osteopathy by the GOsC and examples of NHS standards identified using Google[29,30,31,32].

The search terms for PubMed were:
> Patient AND record keeping.

The search terms were entered, and clicking on the search box found examples of relevant papers as in figure 4.

Two sets of search terms were used in separate searches in Google:

> Patient record keeping + guidelines

> Patient record keeping + guidelines + NHS.

The other source of information was the GOsC *Code of Practice*. Examining a series of guidelines, sites from PCTs and the GOsC document gave clear information about criteria and standards for case notes.

Figure 4   **The PubMed screen at the start of a literature search**

Criteria for case note audit

The chosen criteria were:

> All case notes should include the information listed in the GOsC *Code of Practice*.

> All case notes should include standards of good practice from identified NHS guidelines.

Reasons these criteria were selected:

> Deficiencies and inconsistencies with case notes are one of the most commonly cited problems identified in GOsC fitness to practise hearings.

> Lack of completeness of case notes makes ongoing care of patients more difficult, especially if more than one osteopath in a practice shares patient care.

> Good quality case notes ensure that they are a helpful resource for practice audit and give indications for areas of CPD as well as research questions.

> In the event of requests for information concerning patients, good case notes allow any enquiries to be easily answered.

Standards

An initial sample of 10 case notes identified that existing notes were of good quality and a high standard threshold should be set.

The standards selected were:

> 100% of all case notes should include the information listed in the GOsC *Code of Practice*.

> 100% of all case notes should include standards of good practice from NHS guidelines.

Reasons the standards were chosen:

> The aim is to make case notes reach as high a standard as possible.

> Clear notes with key criteria to be met avoid recording unnecessary information.

Method

The audit took place within my practice (a single-handed practice) in 2010.

The audit began in January 2010. A data collection tool (figure 5) was created using the information identified in the literature search. The data collection tool identified 43 questions from the documentation surveyed. It was piloted by colleagues and amended following feedback. Data were collected on 50 randomly selected case notes dated from 2006 onwards.

Examining the case notes and collecting the data took approximately two hours. Instead of photocopying multiple copies of the data collection tool shown in figure 5, I created and filled in a data collection grid as shown in figure 6. The data collection grid used exactly the same headings as the data collection tool; it is simply a different layout.

The data collection grid was printed several times to allow easy collection of data on 50 sets of case notes. Case notes were individually examined and each question on the data collection grid was marked with "yes", "no" or "not applicable".

Figure 5 **Data collection tool for the case note audit**

1. Are the records written in black ink?	☐ Y	☐ N	
2. Is the patient's name written on every page?	☐ Y	☐ N	
3. Has the patient's address been recorded?	☐ Y	☐ N	
4. Has the postcode been recorded?	☐ Y	☐ N	
5. Has a contact telephone number been recorded?	☐ Y	☐ N	
6. Has the patient's date of birth been recorded?	☐ Y	☐ N	
7. Has the name of the patient's GP been recorded?	☐ Y	☐ N	☐ NA
8. Have the GP's contact details been recorded?	☐ Y	☐ N	☐ NA
9. Has the date of the visit been recorded?	☐ Y	☐ N	
10. Has information concerning the presenting complaint been recorded?	☐ Y	☐ N	
11. Has the history of the patient's current complaint been recorded?	☐ Y	☐ N	
12. Has current medical history been recorded?	☐ Y	☐ N	
13. Has past medical history been recorded?	☐ Y	☐ N	☐ NA
14. Has the patient's family history been recorded?	☐ Y	☐ N	☐ NA
15. Has the patient's prescribed medication been recorded?	☐ Y	☐ N	☐ NA
16. Has any non-prescribed medication used been recorded?	☐ Y	☐ N	☐ NA
17. Has the patient's social history (smoking) been recorded?	☐ Y	☐ N	
18. Has the patient's social history (alcohol) been recorded?	☐ Y	☐ N	
19. Has information concerning systemic enquiry (CVS, GI, GU, Neuro, Obs, Gynae) been recorded?	☐ Y	☐ N	
20. Has the patient's general health and appearance been recorded?	☐ Y	☐ N	
21. Have all clinical examinations been recorded?	☐ Y	☐ N	
22. Has pre-examination consent been recorded?	☐ Y	☐ N	
23. Have all clinical findings been recorded?	☐ Y	☐ N	
24. Has consent to treatment been recorded?	☐ Y	☐ N	☐ NA
25. Has information been provided concerning risk(s) of treatment?	☐ Y	☐ N	☐ NA
26. Has the treatment given been recorded?	☐ Y	☐ N	☐ NA
27. Has a treatment plan been written?	☐ Y	☐ N	☐ NA
28. Has any advice and information given been recorded?	☐ Y	☐ N	☐ NA
29. Has any reaction to treatment been recorded?	☐ Y	☐ N	☐ NA
30. Have treatment outcomes been recorded?	☐ Y	☐ N	☐ NA
31. Has communication with the patient (outside of consultation time) been recorded?	☐ Y	☐ N	☐ NA
32. Has communication with a third party been recorded?	☐ Y	☐ N	☐ NA
33. Was a chaperone present?	☐ Y	☐ N	
34. Was a student/other observer present?	☐ Y	☐ N	
35. Have home/domiciliary visits been recorded?	☐ Y	☐ N	☐ NA
36. Is every entry to the record signed and dated?	☐ Y	☐ N	
37. Are entries consecutive?	☐ Y	☐ N	☐ NA
38. Are any alterations to the records signed and dated?	☐ Y	☐ N	☐ NA
39. Have abbreviations been used?	☐ Y	☐ N	
40. Have any offensive or subjective statements been written?	☐ Y	☐ N	☐ NA
41. Has referral for investigation/treatment been recorded?	☐ Y	☐ N	☐ NA
42. Patient's age			
43. Patient's sex	☐ M	☐ F	

Figure 6 **Data collection grid for the case note audit**

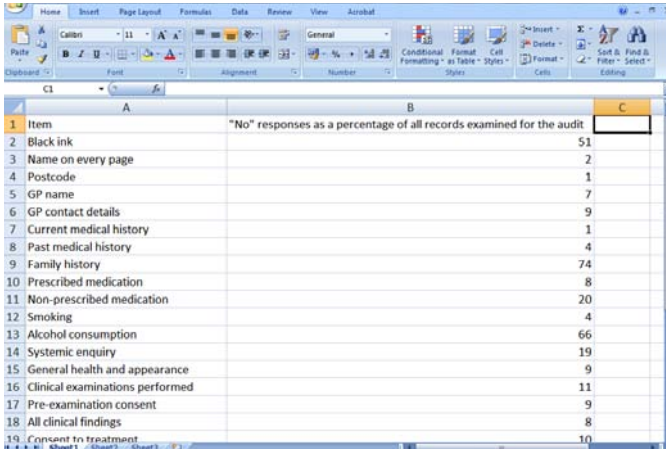| Item Patient	1	2	3	4	5
1. Are the records written in black ink?					
2. Is the patient's name written on every page?					
3. Has the patient's address been recorded?					
4. Has the postcode been recorded?					
5. Has a contact telephone number been recorded?					
6. Has the patient's date of birth been recorded?					
7. Has the name of the patient's GP been recorded?					
8. Have GP's contact details been recorded?					
9. Has date of visit been recorded?					
10. Has information concerning the presenting complaint been recorded?					
11. Has the history of the patient's current complaint been recorded?					
12. Has current medical history been recorded?					
13. Has past medical history been recorded?					
14. Has the patient's family history been recorded?					
15. Has the patient's prescribed medication been recorded?					
16. Has any non-prescribed medication used been recorded?					
17. Has the patient's social history (smoking) been recorded?					
18. Has the patient's social history (alcohol) been recorded?					
19. Has information concerning systemic enquiry (CVS, GI, GU, Neuro, Obs, Gynae) been recorded?					
20. Has the patient's general health and appearance been recorded?					
21. Have all clinical examinations been recorded?					
22. Has pre-examination consent been recorded?					
23. Have all clinical findings been recorded?					
24. Has consent to treatment been recorded?					
25. Has information been provided concerning risk of treatment?					
26. Has the treatment given been recorded?					
27. Has a treatment plan been written?					
28. Has any advice and information given been recorded?					
29. Has any reaction to treatment been recorded?					
30. Have treatment outcomes been recorded?					
31. Has communication with the patient (outside of consultation time) been recorded?					
32. Has communication with a third party been recorded?					
33. Was a chaperone present?					
34. Was a student/other observer present?					
35. Have home/domiciliary visits been recorded?					
36. Is every entry to the record signed and dated?					
37. Are entries consecutive?					
38. Are any alterations to the records signed and dated?					
39. Have abbreviations been used?					
40. Have any offensive or subjective statements been written?					
41. Has referral for investigation/treatment been recorded?					
42. Patient's age					
43. Patient's sex					

Abbreviations used: Yes = Y, No = N, Not applicable = NA, Male = M, Female = F

Analysis of data

Once the data collection grid had been completed, the data was entered onto an Excel spreadsheet. The totals of "no" responses for each question were identified and entered onto the spreadsheet as shown in figure 7.

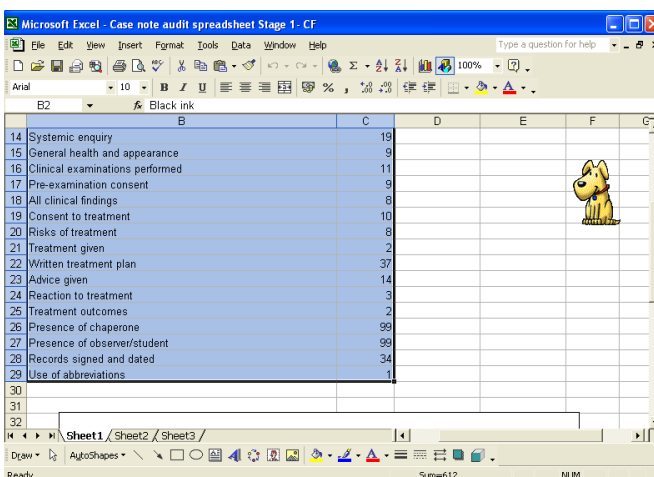Figure 7 **Representing audit findings using an Excel spreadsheet**

The advantage of using the Excel spreadsheet is that the calculations can be undertaken automatically, saving time. However, the same process can be carried out using manual tables if preferred.

To present the data visually, a bar chart was inserted by highlighting the data using a left click on the mouse, moving the mouse over the area of data shown, then pressing the insert button on the toolbar at the top of the page. This is shown in figure 8.
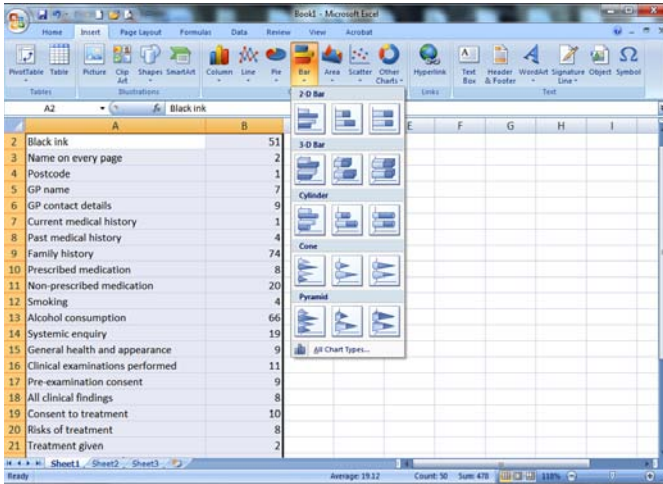
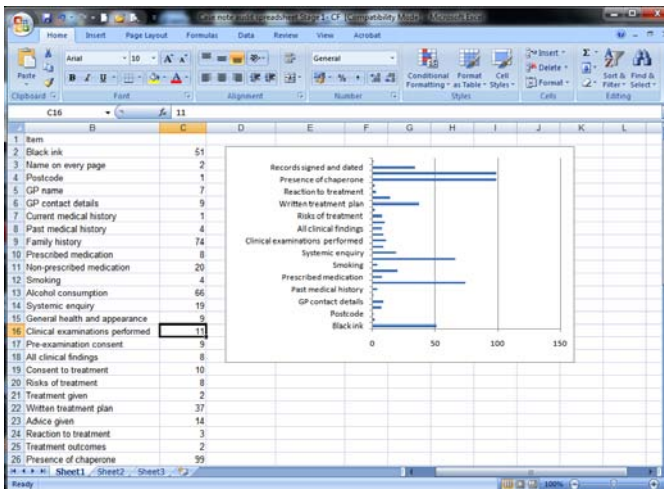Figure 8 **Inserting a chart option for visual representation of the audit data**

This brought up various chart options and "Bar chart" was chosen, as shown in figure 9.

Figure 9   **Selecting a bar chart for data representation**

The graph produced will appear on the spreadsheet page as shown in figure 10

Figure 10   **Audit findings presented as a bar chart**

Evaluation of the findings

Evaluation of the audit findings identified that the 100% standard was reached for 15 of the 43 (35%) items on the data collection sheet relating to standards set for osteopathic case notes. This is shown more clearly in figure 11.

Figure 11 **Percentage of items not recorded on case notes**
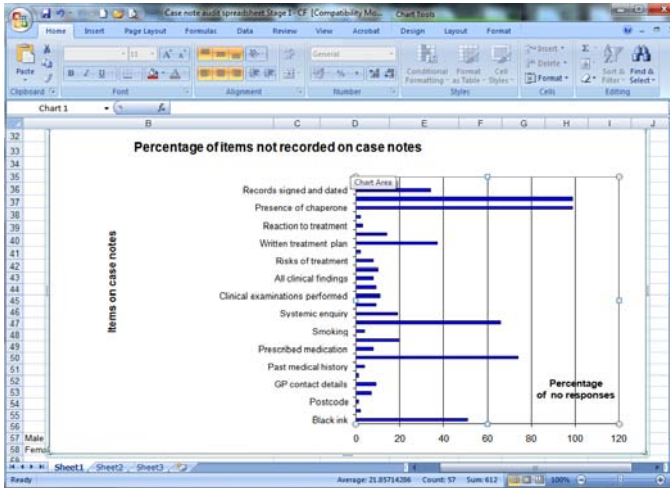
These finding were based on examination of the notes of patients whose sex is shown in figure 12. The mean age of patients in the case note audit was 66 years.

Figure 12 **Pie chart showing the sex of patients whose notes were examined in the first audit stage**
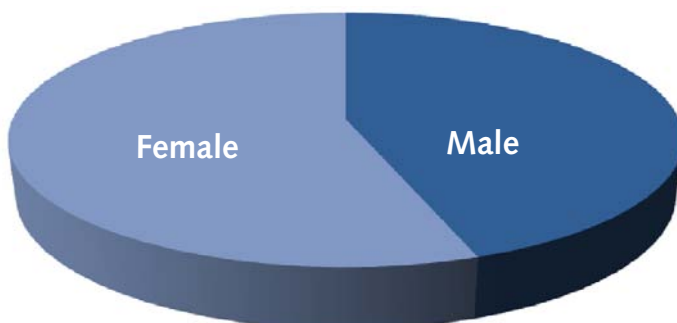
The specific areas where notes were incomplete, along with their values, are shown in figure 13.

Figure 13 **Specific areas where notes were incomplete**

Item	Percentage incomplete record; i.e.,100% standard not met
Black ink	51
Name on every page	2
Postcode	1
GP name	7
GP contact details	9
Current medical history	1
Past medical history	4
Family history	74
Prescribed medication	8
Non-prescribed medication	20
Smoking	4
Alcohol consumption	66
Systemic enquiry	19
General health and appearance	9
Clinical examinations performed	11
Pre-examination consent	9
All clinical findings	8
Consent to treatment	10
Risks of treatment	8
Treatment given	2
Written treatment plan	37
Advice given	14
Reaction to treatment	3
Treatment outcomes	2
Presence of chaperone	99
Presence of observer/student	99
Records signed and dated	34
Use of abbreviations	1

Identifying and implementing change

Steps were taken to address these deficiencies in case notes:

> A new case note sheet was devised specifically listing the headings given above.

> All pens other than black ones were removed from the practice.

The new case note sheet took one week to develop and was introduced at the beginning of February 2010. A span of three months was allowed for the new case note sheet to become fully embedded in the practice before a planned re-audit in May.

Re-auditing

A re-audit was undertaken in May 2010. Fifty case notes for patients with the new-style notes were audited. The audit data was collected on the data collection grid (figure 6) as described in the first stage and data were entered onto an Excel spreadsheet.

Figure 14 **Percentage of items not recorded on case notes at re-audit**
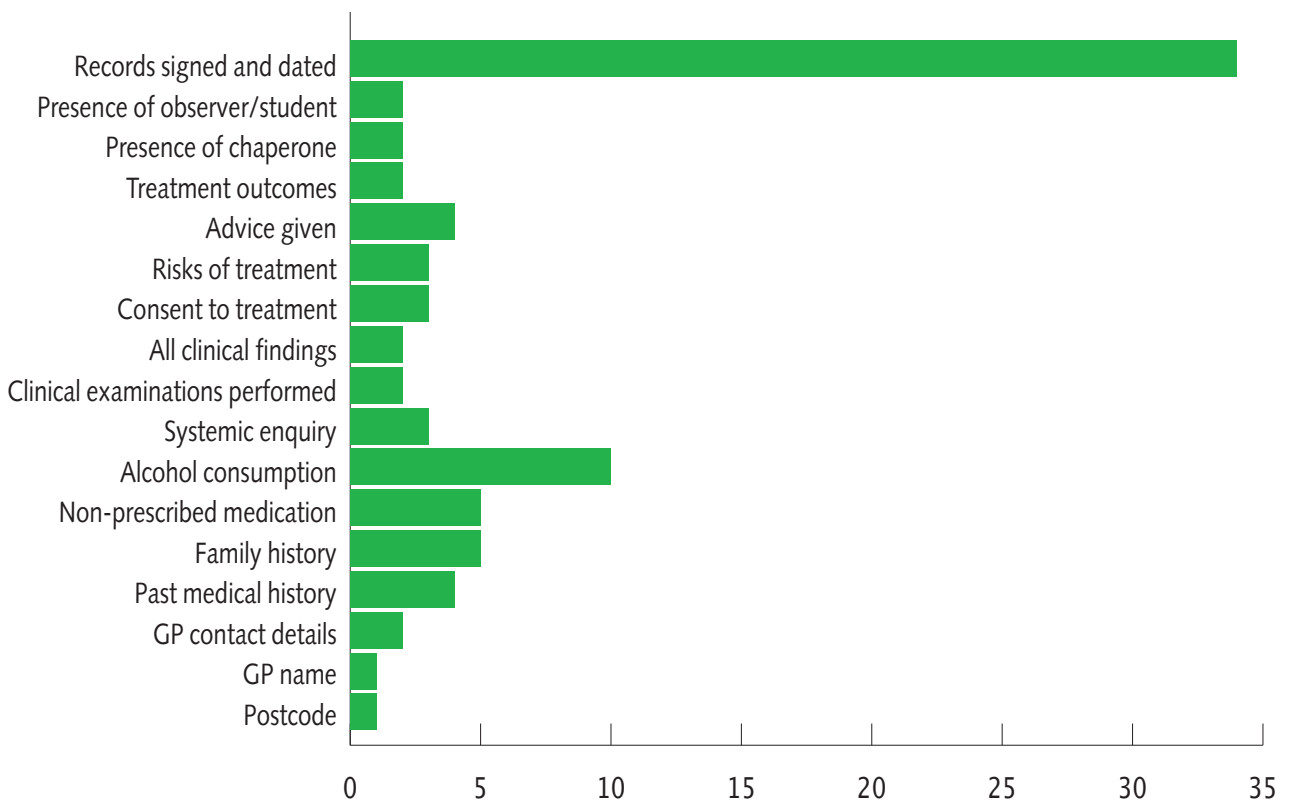
A visual representation of the findings was produced and is shown in figure 14.

There is considerable difference in the percentage of items not recorded compared with the first stage. Fifty-eight per cent of items reached the 100% standard; although 42% did not fully reach the 100% standard, they reached 90% or above.

Figure 15 **Specific areas where notes were incomplete at re-audit**

Item	Percentage incomplete record; i.e.,100% standard not met
Postcode	1
GP name	1
GP contact details	2
Past medical history	4
Family history	5
Non-prescribed medication	5
Alcohol consumption	10
Systemic enquiry	3
Clinical examinations performed	2
All clinical findings	2
Consent to treatment	3
Risks of treatment	3
Advice given	4
Treatment outcomes	2
Presence of chaperone	2
Presence of observer/student	2
Records signed and dated	34
Use of abbreviations	1

The notable question that caused problems in my audit was signing and dating case notes. While all case notes are consecutively dated, signing them when I am the only person in the practice is something that is frequently forgotten! In the re-audit, the mean age of the patients whose notes were audited was 61 years. The sex of patients whose notes were audited: male 43% and female 57%.

Conclusions

The audit highlighted the clear need to redesign my case notes to meet the current standards of osteopathic practice set by the GOsC *Code of Practice*.

This was not a difficult audit to undertake, but it highlighted the need for some basic planning, reflection on the number of case notes needed, the best time of year to undertake the audit and the time taken to complete all stages thoroughly. The period after Christmas is often quieter in practice, so it represented a good opportunity to undertake the first stage of the audit and implement any changes.

Three months was adequate time for a sufficient number of new patients to be seen to be able to have at least 50 new sets of case notes for audit. It clearly showed that despite considerable change in the number of case notes improving in standard, there was still room for further improvement at the end of the process. The case note will be repeated annually to ensure standards do not slide.

Chapter 6 Examples of audit tools

This section contains examples of audit tools suitable for use in osteopathic practice. Tools have, where possible, been derived from published literature.

Standards and criteria have not been included for every tool, as they will change as new research is published and guidelines respond accordingly.

The audit tools in this Chapter include:

> Auditing pain and disability in clinical practice.

> An audit of outcome for patients presenting with musculoskeletal symptoms.

> An audit of the management of acute low back pain.

> An audit of the effectiveness of treatment.

> A audit of patient satisfaction.

> An audit of patients who fail to complete their treatment.

> A general practice audit.

> An advertising audit – sources of patients.

> An audit of non-attenders for booked appointments.

> An audit of waiting times for an appointment.

> An audit of waiting times for patient to see osteopath.

> A hypertension audit.

> A letter-writing audit.

Auditing pain and disability in clinical practice

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Audit tool: measuring pain and disability in clinical practice

Assessment of site of pain

Patient history	Yes ☐	No ☐	Not applicable ☐
Pain drawing/mannequin	Yes ☐	No ☐	Not applicable ☐
Physical examination	Yes ☐	No ☐	Not applicable ☐
Other	Yes ☐	No ☐	Not applicable ☐

Assessment of pain severity

Patient history	Yes ☐	No ☐	Not applicable ☐
Physical examination	Yes ☐	No ☐	Not applicable ☐
McGill pain questionnaire	Yes ☐	No ☐	Not applicable ☐
Visual analogue scale	Yes ☐	No ☐	Not applicable ☐
Other	Yes ☐	No ☐	Not applicable ☐

Assessment of disability

Patient history	Yes ☐	No ☐	Not applicable ☐
Physical examination	Yes ☐	No ☐	Not applicable ☐
Visual analogue scale	Yes ☐	No ☐	Not applicable ☐
McGill pain questionnaire	Yes ☐	No ☐	Not applicable ☐
Pain drawing/mannequin	Yes ☐	No ☐	Not applicable ☐
Roland Morris Back Pain Scale	Yes ☐	No ☐	Not applicable ☐
Oswestry Low Back Pain Scale	Yes ☐	No ☐	Not applicable ☐
Neck disability index	Yes ☐	No ☐	Not applicable ☐
Other	Yes ☐	No ☐	Not applicable ☐

Assessment of outcome

Visual analogue scale	Yes ☐	No ☐	Not applicable ☐
McGill pain questionnaire	Yes ☐	No ☐	Not applicable ☐
Pain drawing/mannequin	Yes ☐	No ☐	Not applicable ☐
Roland Morris Back Pain Scale	Yes ☐	No ☐	Not applicable ☐
Oswestry Low Back Pain Scale	Yes ☐	No ☐	Not applicable ☐
Neck disability index	Yes ☐	No ☐	Not applicable ☐
Measure Yourself Medical Outcome Profile (MYMOP)			
	Yes ☐	No ☐	Not applicable ☐
Other	Yes ☐	No ☐	Not applicable ☐

</div>

This audit tool is based on the work of Duff, 2003[33]. Links to all of the outcome measures mentioned can be found in Chapter 8.

An audit of outcome for patients presenting with musculoskeletal symptoms

Outcome has been defined by Ovretveit (1992) as "… the end result of its intervention on a client or a population in the short, medium and long terms"[34].

Mayo (1994) defined outcome in relation to physiotherapy as "a test or scale administered and interpreted by physical therapists that has been shown to measure accurately a particular attribute of interest to patients and therapists and that is expected to be influenced by intervention"[35].

An audit of outcome for patients presenting with musculoskeletal symptoms

Patient's age

Patient's sex   Male ☐   Female ☐

Work status   ☐   Working full-time
                         ☐   Working part-time
                         ☐   Student
                         ☐   Retired
                         ☐   Not currently working

Area of symptoms (include any areas of spinal symptoms, referred pain and neurological symptoms)

Initial score on visual analogue scale

Initial estimation of function (expressed as a percentage)

Initial score on (insert name of outcome measure)

FINAL VISIT

Area of symptoms (include any areas of spinal symptoms, referred pain and neurological symptoms)

Final score on visual analogue scale

Final estimation of function (expressed as a percentage)

Final score on (insert name of outcome measure)

This tool is based on the work of May (2003)[36].

An audit of the management of acute low back pain

Audit of management of acute low back pain

Patient's age

Patient's sex   Male ☐   Female ☐

Work status
- ☐   Working full-time
- ☐   Working part-time
- ☐   Not employed
- ☐   Carer
- ☐   Student
- ☐   Retired
- ☐   Other

Urgent cases seen with 48 hours of contact with practice	Yes ☐	No ☐
Advice given to patient to remain active	Yes ☐	No ☐
Advice given to avoid bed rest	Yes ☐	No ☐
Evidence of diagnostic triage, including the assessment of red flags	Yes ☐	No ☐
Evidence of consideration of psychological issues, including the presence of yellow flags	Yes ☐	No ☐
Evidence of mobilisation/articulation for patients	Yes ☐	No ☐
Evidence of manipulation for patients where appropriate	Yes ☐	No ☐
Evidence of request for referral with emphasis on biopsychosocial factors if patients are not beginning to return to normal activity within six weeks of initial consultation	Yes ☐	No ☐

This audit tool is based on the work of Sparkes (2005)[37].

An audit of the effectiveness of treatment

Audit of effectiveness of treatment

Patient's age

Patient's sex   Male ☐   Female ☐

Work status   ☐   Working full-time

                         ☐   Working part-time

                         ☐   Not employed

                         ☐   Carer

                         ☐   Student

                         ☐   Retired

                         ☐   Other

Area of symptoms

Area of body treated

Treatment plan

Treatment delivered (including techniques and other forms of care)

Change in Visual Analogue Scale (VAS) score

Change in score on outcome measure (insert name)

Number of treatments at completion of treatment period

This tool is based on the work by May (2003)[36].

An audit of patient satisfaction

Patient satisfaction audit – questionnaire

This practice is looking at ways in which it can improve the services offered to patients. It would be very helpful if you could complete this short questionnaire: it should only take a few minutes to fill in. All of the information you give is anonymous and will be treated in strict confidence.

PLEASE DO NOT WRITE YOUR NAME ON THIS FORM
When you have completed the form, please place it in the envelope provided and post it.

1. Where were the symptoms that caused you to consult an osteopath?

2. How long had you had those symptoms?

3. Were you able to ask the osteopath about anything connected with treatment?   Yes ☐   No ☐
4. Were you always seen promptly for your sessions?   Yes ☐   No ☐
5. Did you expect the treatment would remove your pain immediately?   Yes ☐   No ☐
6. Did the osteopath listen to what you had to say?   Yes ☐   No ☐
7. Did you have confidence that the osteopath knew what he/she was doing?   Yes ☐   No ☐
8. Did you expect to have to do exercises in addition to your treatment?   Yes ☐   No ☐
9. Was it important for you to see the same osteopath throughout your treatment   Yes ☐   No ☐
10. Were the treatment sessions always at convenient times?   Yes ☐   No ☐
11. Did you feel the treatment was fully explained to you?   Yes ☐   No ☐
12. Were you able to easily contact the osteopath outside of treatment hours?   Yes ☐   No ☐
13. Would you recommend osteopathic treatment?   Yes ☐   No ☐

Do you have any other comments? If yes, please add your comments below:

Finally, please tick to answer the questions below

Your sex	**Your age**	**Your employment status**
Male ☐	18-29 ☐	Full-time ☐
Female ☐	30-39 ☐	Part-time ☐
	40-49 ☐	Not employed ☐
	50-59 ☐	Carer ☐
	60-69 ☐	Student ☐
	70-79 ☐	Retired ☐
	80-89 ☐	Other ☐

Thank you very much. We greatly appreciate your help

This audit tool is based on the work by Hills, 2007[38]

An audit of patients who fail to complete their treatment

Questionnaire to identify why patients did not complete their course of treatment

This practice is looking at ways in which it can improve the services offered to patients. It would be very helpful if you could complete this short questionnaire: it should only take a few minutes to fill in. All the information you give is anonymous and will be treated in strict confidence.

PLEASE DO NOT WRITE YOUR NAME ON THIS FORM
When you have completed the form, please place it in the envelope provided and post it.

Where were the symptoms that caused you to consult an osteopath?

_____

How long had you had those symptoms?

Did you have previous experience of osteopathy?	Yes ☐	No ☐
Did you know what to expect from treatment?	Yes ☐	No ☐
Did you find the treatment sessions long enough?	Yes ☐	No ☐
Did you feel the osteopath listened to what you had to say?	Yes ☐	No ☐
Did you have confidence that the osteopath knew what he/she was doing?	Yes ☐	No ☐
Did you expect to have to do exercises in addition to your treatment?	Yes ☐	No ☐
Was the treatment more painful than you expected?	Yes ☐	No ☐
Were there any other reasons why you didn't return for further treatment?	Yes ☐	No ☐

If yes, please tell us why in the space below:

_____

_____

Finally, please tick to answer the questions below

Your sex		**Your age**		**Your employment status**	
Male	☐	18-29 ☐		Full-time	☐
Female	☐	30-39 ☐		Part-time	☐
		40-49 ☐		Not employed	☐
		50-59 ☐		Carer	☐
		60-69 ☐		Student	☐
		70-79 ☐		Retired	☐
		80-89 ☐		Other	☐

Thank you very much. We greatly appreciate your help

This audit tool is based on work by Hills[38] and Rees[39,40].

A general practice audit

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General practice audit

Does your practice possess the following:

Fire certificate	☐ Yes ☐ No ☐ NA
Records of inspection of electrical equipment	☐ Yes ☐ No ☐ NA
Certificate of public liability insurance	☐ Yes ☐ No
Certificate of professional indemnity insurance	☐ Yes ☐ No
Current First Aid certificate	☐ Yes ☐ No
Certificate of local authority registration (for acupuncture or dry needling practitioners)	☐ Yes ☐ No ☐ NA
Contracts for disposal of clinical waste/sharps boxes	☐ Yes ☐ No ☐ NA
First aid kit (complying with current health and safety regulations)	☐ Yes ☐ No ☐ NA

Your practice environment

Is the environment clean and in a state of good repair?

Is the treatment room used solely for treatment purposes?

Does the treatment room have hand-washing facilities within the room or nearby (this should not include the kitchen)?

Does the treatment room contain a pedal bin for sole use of clinical waste?

Does the treatment room contain a treatment couch, chairs and other furniture with smooth surfaces for easy cleaning?

Does the treatment room have smooth flooring or short-pile carpeting for easy cleaning?

Is your treatment couch covered with fresh couch cover paper for each patient?

Do you wash any towels, gowns or other items used by each patient after use?

Is your couch cover surface cleaned each day with an anti-bacterial product?

Does you practice use single-use:

couch roll?	☐ Yes ☐ No
paper hand towels?	☐ Yes ☐ No
paper tissues?	☐ Yes ☐ No
drinking cups?	☐ Yes ☐ No

Does your practice display a no-smoking sign?

Does your practice display fire exit signs?

</div>

Specific guidance for acupuncture practitioners can be found in the *Code of Safe Practice Clinical Self-Audit Tool* (CoSPCAT) devised by the British Acupuncture Council[41]. Additional information can be found in the *Scottish Hygiene Nurses guide to Hygiene Audit*[42].

An advertising audit (sources of patients)

An advertising audit

Record Yes (Y), No (N) or Not applicable (NA) to each question below concerning which sources of advertisement/recommendation made your patient aware of your practice.

Word of mouth	☐ Yes ☐ No ☐ NA
Local advert	☐ Yes ☐ No ☐ NA
Yell.com	☐ Yes ☐ No ☐ NA
Yellow pages	☐ Yes ☐ No ☐ NA
Thompson Directory	☐ Yes ☐ No ☐ NA
I live nearby	☐ Yes ☐ No ☐ NA
From a healthcare practitioner	☐ Yes ☐ No ☐ NA
Internet search	☐ Yes ☐ No ☐ NA
Multiple sources from list above	☐ Yes ☐ No ☐ NA
Other	

An audit of appointment non-attenders

Non-attenders audit

Record Yes (Y), No (N) or Not Applicable (NA) to each question below concerning missed appointments.

Patient identifier:	
Patient's age	
Patient's sex	
Morning appointment	☐ Yes ☐ No
Afternoon appointment	☐ Yes ☐ No
Evening appointment	☐ Yes ☐ No
Day of non-attendance	M ☐ Tu ☐ Wed ☐ Th ☐ F ☐ Sat ☐
Clinician with whom appointment booked	
Reason for non-attendance (if known)	
Total number of appointments missed by this patient	

An audit of waiting times for appointment

An audit of waiting times

This audit includes questions concerning waiting times to obtain an appointment.

Patient identifier:

Patient's age

Patient's sex

Date first appointment offered

Date of first appointment

Time between appointment offered and actual appointment

Duration of symptoms at time of initial contact with practice

An audit of waiting times for patient to see osteopath

An audit of waiting times for patient to see osteopath

This audit includes questions concerning waiting times for an appointment after arrival at the practice.

Patient identifier:

Patient's age

Patient's sex

Time of appointment

Actual time patient seen

Delay between booked appointment time and time patient seen

Reason for delay (if applicable)

A hypertension audit

This audit can be conducted on patients with known hypertension or from your general patient population to assess their current blood pressure and whether it falls within current limits.

Patient identifier:	
Patient's age	
Patient's sex	
Has the patient been diagnosed with hypertension?	☐ Yes ☐ No ☐ NA
Has the patient's blood pressure been checked during the past year?	☐ Yes ☐ No
Has all the patient's current medication been recorded in the case notes?	☐ Yes ☐ No ☐ NA
Will the patient need to be referred based on the blood pressure reading?	☐ Yes ☐ No

A letter-writing audit

Benefits of letter-writing audit:

> Good communication between healthcare professionals is essential.

> Improves continuity of care for the patient.

> Saves the healthcare professional time when letters are succinct and to the point.

> Key factors only reduce practice time spent on letter writing.

Criteria for a letter-writing audit could include:

> Letters should be written within 48 hours of the consultation.

> No errors in spelling or grammar.

> Limited to key pieces of information, including:

- Patient's full postal address.

- Patient's date of birth.

- Summary of treatment given, including advice.

- Outcome to date.

- What specifically is being requested; for example, imaging or other investigation, specialist appointment or an appointment with another healthcare professional.

> Relatively brief; i.e., no more than one page of A4 and 250 words.

Letter writing audit – data collection form

Patient identifier:

Practice address including postcode	☐ Yes ☐ No
Contact telephone number	☐ Yes ☐ No
Email address	☐ Yes ☐ No ☐ NA
Website address	☐ Yes ☐ No ☐ NA
Patient's name	☐ Yes ☐ No
Patient's date of birth	☐ Yes ☐ No
Patient's address, including postcode	☐ Yes ☐ No
Summary of patient's presenting symptoms	☐ Yes ☐ No
Summary of all treatment given to patient, including self-management and advice	☐ Yes ☐ No ☐ NA
Summary of patient's progress to date	☐ Yes ☐ No
Clear statement of what action is requested by your letter	☐ Yes ☐ No
Presence of spelling mistakes	☐ Yes ☐ No
Number of words in the body of the letter	

This audit tool is based on the work by Rees (1999)[39,40].

Audit templates available online

Acute low back pain

An audit of the management of acute low back pain was developed by the Institute for Musculoskeletal Research and Clinical Implementation[43]. This audit is styled for both osteopaths and chiropractors. A separate version has been developed also for general practitioners.

Chronic non-specific low back pain

NICE has developed an audit tool for patients with chronic non-specific low back pain[44].

Chapter 7 Practising osteopaths' experiences of clinical audit

1. Audit as a marketing tool: avoiding getting into a mess on the NHS

Charles Peers BSc (Hons) BSc (Ost)
Plymouth

Increasingly, within the NHS, clinicians (including osteopaths) are expected to audit their work. Audit can fulfil several functions, including:

> demonstrating clinical cost effectiveness and/or excellence.

> complying with local commissioning targets.

> supporting the case for continuing utilisation of osteopathic services.

> identifying gaps in service provision.

> satisfying some osteopathic CPD requirements.

Many osteopaths do not recognise the role that audited practice can perform in helping them market osteopathy to outside agencies, such as the NHS. It could be argued that osteopathy, as a discipline, has by no means reached its full potential because, to date, it has not begun to develop a robust evidence base that would serve to endorse clinical claims and show the value of osteopathy to organisations such as NHS commissioning agencies.

Most work in the field to date has relied on limited clinical research (mostly around manipulation) usually to show efficacy and, more rarely, cost effectiveness.

Audit can provide a medium through which osteopaths can enhance their clinical practice. Its goals are more modest than those of clinical research and, therefore, potentially achievable by large numbers of practising osteopaths. Clinical audit may also provide an objective platform on which more elaborate research questions and proposals could be subsequently formulated.

One sustainable model of osteopathic care in the NHS is that of Plymouth PCT's low back pain scheme. At the time of writing, these clinics are exactly 10 years old and have thrived as multidisciplinary, osteopath-led services in which osteopaths integrate with other disciplines. They have also adopted evidence-based practice well in advance of the NICE *Low Back Pain Guidelines* published in 2009. This service has been fastidiously audited since its establishment in February 2000: every back manipulated, every onward referral and every pound spent. Information from these early audits has been published[1].

Demostrating the service's success has depended on simple clinical audit using a tailor-made audit tool designated for the local service. Its use has reflected the close association between the clinical team and the local PCT management and commissioning body.

The Plymouth care pathway involves several disciplines, including osteopaths, chiropractors, GPs, cognitive behavioural therapists and extended scope physiotherapists, along with a community-based exercise programme. One of the initial drivers for developing the scheme was the length of the physiotherapy waiting lists. The criteria used to audit the effects of the programme are many and varied, but they fall into 11 main categories:

> New referrals will be assessed within two weeks.

> The number of treatments will be recorded.

> Treatment modalities will be included.

> Changes in pain score will be recorded.

> Change in medication use will be recorded.

> Changes in measures of disability will be recorded.

> Changes in work status will be recorded.

> Patients will attend for subsequent appointments if not immediately referred.

> The duration of treatment will be recorded.

> Onward referral will be made after a designated number of treatments if improvement in symptoms is not achieved.

> Use of imaging will be recorded.

The Plymouth audit process is particularly effective at showing the successs of our care pathways in limiting onward referral to secondary care clinics. This has been achieved by yearly assessment of audit in the acute service by the clinicians and also by telephone audit of the sub-acute clinic via an independent third party.

Audit of both acute and sub-acute services have shown that only a small percentage of patients seen within these primary care clinics require referral on to secondary care. This saves significant funds for the local NHS trust. At the same time, use of audit to quantify these factors makes marketing a non-traditional NHS discipline, like osteopathy, much more attractive to NHS commissioners.

Osteopaths should be encouraged to audit their clinical practice. While this may be time-consuming and even, at times, boring, audit has paid rich dividends in terms of evidence that backs up the assertions of a team of practising osteopaths embedded within the local health service in a sizeable provincial city. The geographical isolation of the city allows a demonstration of the effect of osteopaths working as part of a multidisciplinary team, as all secondary care is provided in one large local hospital.

The audit revealed some significant findings. Change in work situation was recorded:

Has your work situation changed?

This can be seen visually in the pie chart:

Y B	Yes better	32
Y W	Yes worse	9
N B	No better	9
N W	No worse	5
RET	Retired	16
TOTAL		71

- Yes better
- Yes worse
- No better
- No worse
- Retired
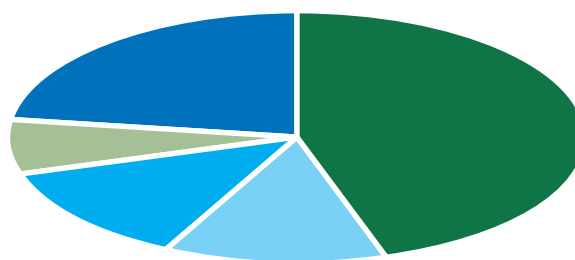
Patients were asked about change in their medication use.

Has your medication use changed?

This can be seen visually in the pie chart:

Increased	Decreased	Same
14	27	30

Increased

Decreased

Same
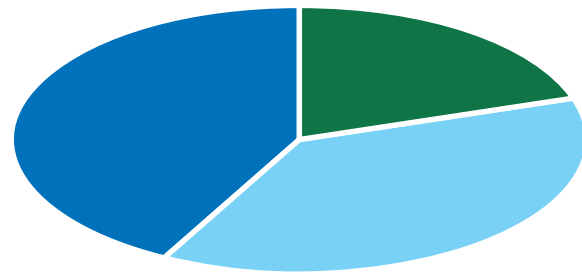
The philosophical basis of osteopathy is essential to training new osteopaths. But for promoting osteopathic services to agencies such as NHS commissioners, more objective and evidential data is required. The development of osteopathy as a discipline is at risk of being thwarted if it relies on marketing osteopathy as a discipline based on a discrete philosophy, when what is required is a quantified account of the results of its interventions.

Clinical audit has much potential to support maintaining existing osteopathic contracts within the NHS, promoting the benefits of osteopathy to win new contracts and to identify more advanced clinical research questions.

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2. Clinical audit – experiences of a single-handed practice

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Inverness

If you have read this far into this handbook, you may be wondering how you will be able to perform clinical audit single-handed.

Clinical audit at its simplest consists of looking at your practice objectively, spotting areas that could be improved, and taking action to make those improvements; thereafter, checking that matters have indeed improved. It is tempting to think immediately of things like patient outcomes, but such matters entail the unbiased collection of data, which, in itself, may be beyond the scope of a sole practitioner.

However, there are many areas that you can explore. The environment in which you see your patients and the way you run your practice are fertile ground for such projects. If you improve your practice setting, you will also improve your patients' satisfaction.

There are, however, two basic rules to which you should adhere.

> First, honesty. You must be completely honest with yourself and anyone who helps you in the endeavour. Self-delusion is your biggest enemy when performing clinical audit, and it is something that, as a sole practitioner, you must guard against.

> Second, the acronym KISS: Keep It Simple (Stupid). Grandiose schemes are likely to be complicated and difficult to perform, with a high likelihood of failure.
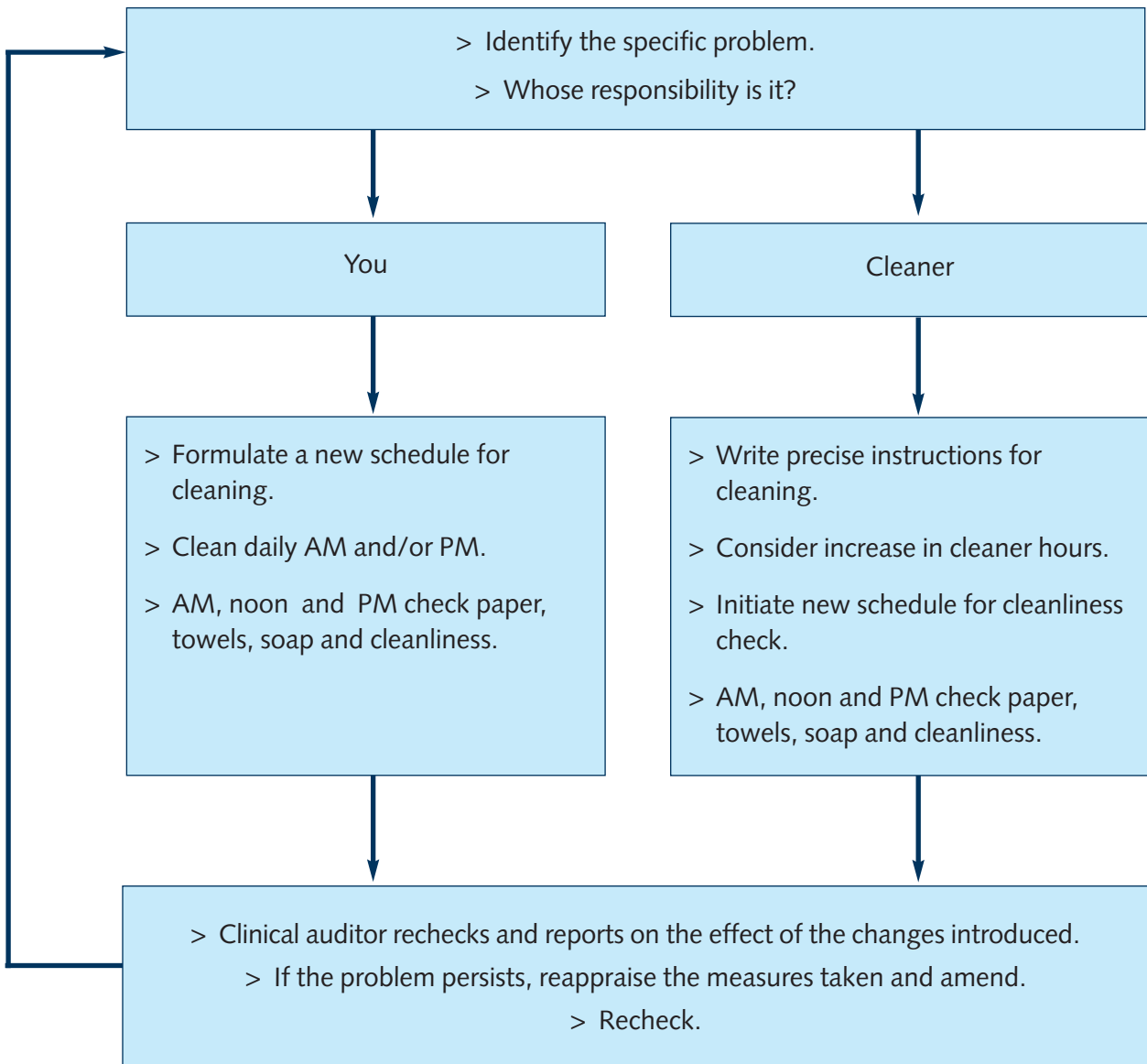
Auditing the practice building

The first and simplest practice audit that you can perform is, paradoxically, also one of the most powerful. I suggest that you enlist the help of a close friend or one of your long-term patients. Ask them to come to your practice out of hours, and ask them to note any items in your practice that can be improved. This can include cleanliness, decor, carpets – anything.

Once you have this information (and have recovered from the shock), use the principles of clinical audit to make a plan. For example, if cleanliness in the practice bathroom has been highlighted as unacceptable, you must pose some questions:

> Whose responsibility is this?

> How did the slip in standards arise?

This flow chart looks at how you could deal with the problem.

> Identify the specific problem.

> Whose responsibility is it?

You

Cleaner

> Formulate a new schedule for cleaning.

> Clean daily AM and/or PM.

> AM, noon and PM check paper, towels, soap and cleanliness.

> Write precise instructions for cleaning.

> Consider increase in cleaner hours.

> Initiate new schedule for cleanliness check.

> AM, noon and PM check paper, towels, soap and cleanliness.

> Clinical auditor rechecks and reports on the effect of the changes introduced.
> If the problem persists, reappraise the measures taken and amend.
> Recheck.

The flow chart is an example of a feedback loop and is more than a hundred years old. It just goes to show that in reality nothing is new!

Once you have instigated your new cleaning regime, ask your auditor to inspect the results. For maximum effect, you might suggest that this time your auditor arrives unannounced.

So now you have fixed your bathroom problem – or have you? Perhaps a close examination of the facility reveals that cleaning is only a short-term goal; you actually need to install a new bathroom. Your plan will now have to incorporate a long-term goal as well. This will entail not only costing the exercise, but also planning the timing because you cannot be without a bathroom in the practice for a fortnight. You may wish to consider an upgrade of the facility suitable for someone with a disability. If you do, remember that it is tax deductible (www.hmrc.gov.uk/index.htm).

Auditing your patient referrals

Most osteopaths consider that word of mouth referrals constitute a large part of their new patient list. But just how much business does it generate and what about other methods; how effective and cost-effective are they? This is an item that I audit annually. After all, advertising in the Yellow Pages is expensive, and it makes sense to monitor it. I have the advantage of having an electronic filing system that allows me to select any part of the record sheet and group the results, allowing for a year-on-year check. However, a simple paper system would suffice. It is tempting to add a box on your case cards to record the method of referral, but that is doomed to failure. How will you retrieve that information in 12 months? You will have to devise some other system. A low-tech solution would be a sheet of paper with column headings: word of mouth, Yellow Pages, GP referral, etc., and the results filled in below each heading. A flow chart can be used, as in the previous example, to plan the audit, and questions to be considered are:

> Whose job is it to ask about referral – yours or the receptionist's?

> If yours, when do you ask – during the history or casually during treatment?

You must treat the answers given by patients with caution and will have to learn how to "probe" the question. For instance, if a patient says "Yellow Pages", my follow-up question is "And what made you choose this practice?" Frequently, the reply will be that they were only checking the number and that a friend told them about me, which, of course, is ultimately a word of mouth referral. Similarly, there is confusion about what some people mean when the say "the phone book", and you will have to devise methods of teasing out these answers.

At this stage, you are conducting baseline data collection, and in the future you can use this information to make informed decisions about how and where to advertise, then monitor the results from any change in advertising. This is becoming ever more important as there are now so many advertisers clamouring for your business. If you do this properly, year on year, you will be able to track the performance of any adverts that you use, and it will make it easier to deal with the Yellow Pages reps when they call!

Auditing contact details on your patient records

You know the situation: you suddenly have to attend an unexpected event and you need to try to change some appointments, but you find some patients' phone numbers are missing. So how up to date are your records?

To audit this topic, you will have to sample your case sheets; 100 should suffice. The rules on sampling can be quite tricky, but if you take 100 consecutive records from somewhere in the middle of your files, you will be safe enough (but remember, no changing your mind or discarding any of the records).

You will now have to devise a scoring system for your audit, for example:

> one point for a full address.

> one point for a postcode.

> one point for each home, business and mobile number.

You will also have to decide how to score retired people who do not have a work number. I would suggest that "not applicable" scores one, but a blank scores zero. Give each record a total, and after adding up and dividing by five, you will have a percentage score for how up to date your case sheets are. Or have you? The eagle-eyed reader will have spotted the deliberate error. What you are actually measuring is completeness. Patients might have moved house, changed jobs or retired in the interim. The exercise is still valid, but it is important to make sure that you are asking the right question. I know, because I have made this very mistake.

So, you have now scored your case sheets for completeness. Assuming that you have not scored 100%, you must now apply the audit principles to the topic to try to achieve this figure. First, you have to identify whose job it is to do this recording; if it is your receptionist's, then clear instructions on what information is to be recorded must be drawn up. If it is yours, a note-to-self must be written. However, you may like to consider why you have failed to gather the information. Perhaps you need to review the way you ask your patients for their details.

Having done all this, you will now need to monitor your future performance. You cannot use the previous sampling technique, so you might have to keep new case sheets on one side for a few months so that you can score them in the same way and look for an improvement.

Before filing those 100 case sheets, there are a couple of other things you might like to do with them. Although technically not clinical audit, I think you may find them interesting:

> In what percentage of case sheets have you written a diagnosis or aims of treatment?

> How many of them contain terms that are no longer considered acceptable; for example, "TAB"? In fact these things could be scored and audited just as you have done for contact details.

> Finally, you can do what I call "the reality check". Using all 100 records, ask how many patients were "cured"; i.e., completed a course of treatment and were discharged as symptom-free or 95% better. These are the only ones that count. Do not discard any case sheets. Patients who discontinued treatment or did not return after their initial consultation do not count. Ongoing treatment of chronic conditions do not count. How many patients did you "cure" eventually? I think that you will be surprised at the figure.

3. Clinical audit at Oxford Osteopaths

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Oxford

This is a personal view of setting up and completing a clinical audit establishing and examining a model for referral of NHS staff to a private osteopathic practice. The audit was run over two years with 350 new patient referrals.

Introduction and topic area

I have been completing small audits for some years now, nothing complicated or even technical. I worked with a group of local osteopaths on an audit, and we managed to use the results in discussion with local GPs and other professional groups in our area.

Currently, I can see an interest in audit growing among the profession, and I would like to share with you a recent audit I have completed.

I was interested in obtaining contract work from both the private and the NHS sector. I felt I needed some evidence that showed a rational patient pathway and ensured I was collecting the right clinical information that would be of use to those financing the referral.

Methodology

I went through the last 20 new patient case notes and reviewed my new patient clinic forms. I listed headings for collecting data that I considered would be useful. I also examined examples of other completed audits to ensure a consistency in the recorded data.

This process allowed time to clearly formulate what I wanted to get out of the effort I was going to invest.

I needed information relating to:

> The service I was providing.
> The route the patient had taken to the clinic.
> Clinical information.
> Outcome information.
> Cost of treatment.

I quickly realised that the valuable information in my patient notes was not easily accessible, and some information needed about the service I was providing was not included in the notes. Therefore, I had to find a better way of collating all this information.

If I was measuring my performance against others, what standards was I measuring myself against? This was a little more difficult as there is little published work from osteopaths on conducting clinical audit. I looked at other areas of healthcare audit, particularly podiatry and access time to physiotherapy. They had completed quite a lot of audit work, though looking at slightly different criteria. So some of my criteria, namely waiting times and outcome, should have comparable use.

I had now identified what, why and how to start my audit.

Data collection

I put together a data collection tool (DCT) using Excel as the data management system and created a series of listings within Excel that would pick up the relevant data I had identified for collection.

Service data included:

> Patient ID (numerical).

> Referral route.

> Waiting times for treatment.

> Previous GP visits or NHS treatment.

> Pain relief.

> Use of imaging.

> Red flags or yellow flags.

> Permissions.

> Discharge information.

> Number of treatments.

Clinical data included:

> Patient ID (numerical).

> Date of birth, patient's age and patient's gender.

> History of event.

> Area of complaint.

> Flags identified.

> Clinical outcome.

> Adverse reactions.

This data was collected for every new patient who attended the clinic for osteopathic treatment.

Analysis of data

After two years of consistently recording data, we had amassed enough for analysis using Excel. We were able to obtain information concerning the service provided and produce any necessary charts and diagrams for presentation to interested groups.

Results

Gender and age groups
The analysis showed which age groups and gender used our services the most and which groups used the service least.

Referral routes
This information showed us clearly how many NHS referrals were made compared with the internet, Yell.com, word of mouth, local promotion, GP, etc.

Waiting times
This showed the average waiting time for an osteopathic appointment.

Days lost from work

We compared days lost from work before treatment with days lost during treatment to get an idea of savings.

Range of musculoskeletal disorders (MSDs)

Pelvic pain   Other

Lower extremity

Cervical

Upper extremity

Low back

Thoracic/rib pain
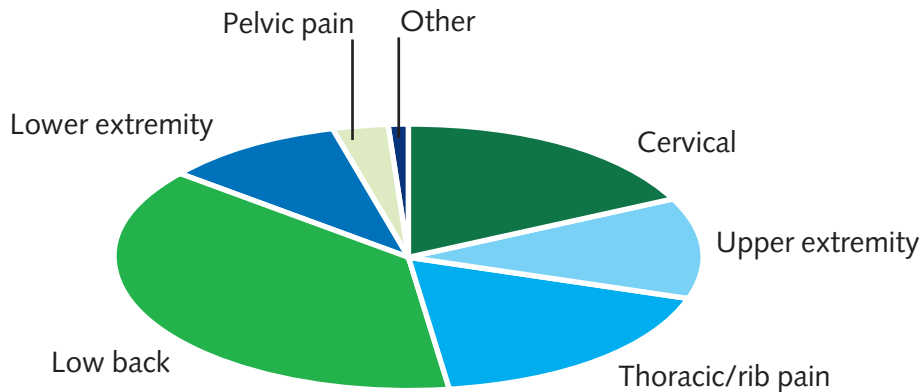
Intervention points

We identified when treatment was being administered compared with the onset of a presenting; for example, up to six weeks, six weeks to three months, three months to one year, longer than one year. This may affect outcomes.

Average number of treatments

This information was calculated allowing us to work out the cost per patient referral.

Discharge information

Information was identified concerning the numbers of patients self-discharging, failing to complete their treatment, being referred onwards or completing their treatment and being discharged by the osteopath.

Onward referrals and flags

This information allowed us to show that appropriate clinical decisions were being made when necessary.

Failure to attend appointments

We were able to compare rates of non-attendance between NHS patients and private patients.

Pain relief and imaging

This gave us information relating to GP prescribing and image referral habits for both GPs and osteopaths. This provided further data surrounding cost savings.

Stage three of the audit cycle (analysis of data) has now been completed.

How did the audit benefit my practice?

Having completed the examination of how my previous data was collected and comparing that with the information I now have, there is a startling difference:

> First, I can see a clearer picture of my practice and the population using our services.

> Second, I can see where my patients are coming from and the effectiveness of initiatives to attract patients to my practice.

> Third, armed with audit evidence, I can confidently approach companies or NHS providers with a business plan to consider our clinic and osteopathy as a safe and cost-effective clinical intervention for MSDs.

> Fourth, because we had an existing NHS contract, we were able to make comparisons between NHS and private (self) referrals. This showed surprisingly little difference in relation to outcomes, non-attendance and intervention points.

The final stage of our audit cycle (re-audit) will be to examine these results over a further two to three years and see if further improvements can be made to enhance our service.

Chapter 8 Further sources of information

Further reading

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Useful websites

A new view of statistics: www.sportsci.org/resource/stats

CAM Outcomes database: www.outcomesdatabase.org

Care Quality Commission: www.cqc.org.uk

Clinical audit handbook: www.nice.org.uk/niceMedia/pdf/BestPracticeClinicalAudit.pdf

Clinical audit support group: www.clinicalauditsupport.com/what_is_clinical_audit.html

European back pain guidelines: www.backpaineurope.org

Guidelines and Audit Implementation Network: www.gain-ni.org

Healthcare Quality Improvement Partnership: www.hqip.org.uk

How to analyse and present data: http://www.uhbristol.nhs.uk/files/nhs-ubht/6%20How%20To%20Data%20Analysis%20and%20Presenting%20Data%20v3.pdf. This is part of the "How to" guides produced by the Bristol audit team available at: http://www.uhbristol.nhs.uk/for-clinicians/clinical-audit/how-to-guides/

Institute for Musculoskeletal Research and Clinical Implementation: www.imrci.ac.uk/Back_Pain_Audit_Toolkit/BackPain/backpain.html

International Society for Quality in Health Care: www.isqua.org

McGill short-form questionnaire: hypnosishelpcenter.net/McGillPainQuestionnaire-Short.pdf

Measure Yourself Medical Outcome Profile (MYMOP): http://sites.pcmd.ac.uk/mymop//

MYMOP questionnaire: http://sites.pcmd.ac.uk/mymop//files/MYMOP_questionnaire _initial_form.pdf

National Audit and Governance Group: http://www.hqip.org.uk/national-audit-and-governance-group-nagg-2/

National Clinical Audit Advisory Group: www.dh.gov.uk/ab/NCAAG/index.htm

National Institute for Health and Clinical Excellence: www.nice.org.uk

National Patient Safety Agency: www.npsa.nhs.uk

National Research Ethics Service: www.nres.npsa.nhs.uk

Neck Disability Index: www.tac.vic.gov.au/upload/NDI.pdf

NHS Evidence: www.evidence.nhs.uk

Online Journal of Clinical Audits: www.clinicalaudits.com

Oswestry disability questionnaire: http://physiotherapy.asn.au/images/Document_Library/ OutcomeMeasures/oswestrydisability.pdf

Patient Reported Outcome Measurement: http://phi.uhce.ox.ac.uk/home.php

Random number generator: www.random.org

Roland Morris questionnaire: www.rmdq.org/Download.htm

Sample size calculator: www.raosoft.com/samplesize.html

Statistics Glossary: www.stats.gla.ac.uk/steps/glossary/alphabet.html

University Hospitals Bristol Clinical audit: www.ubht.nhs.uk/clinicalaudit

Visual Analogue Scale: A variety of types of visual analogue scales exist. Many can be found through this web link: www.google.co.uk/search?q=visual+analogue+scale&hl=en&biw=759&bih=364&prmd =ivnsb&tbm=isch&tbo=u&source=univ&sa=X&ei=krjbTYyRMcS88gOXyOnuDw&ved=0CCMQsAQ

What is clinical audit? www.evidence-based-medicine.co.uk

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Glossary of terms

Accountability	The responsibility for action and the willingness to give a full account of those actions when required.
Algorithm	A visual display of a specific set of instructions for carrying out a procedure or solving a problem, usually with the requirement that the procedure terminate at some point. It can be used to show a care protocol.
Bar chart	This depicts data that is in separate categories and will show space between the bars.
Bias	A systematic error in measurement that can produce erroneous interpretation and conclusions.
Categorical data	A set of data where the values or observations belonging to it can be sorted according to non-overlapping categories. For example, a population has the characteristic of "gender" with categories "male" and "female".
Clinical audit	An examination of processes of care to ensure that what should be done is being carried out.
Continuous data	Data with values that do not fall into discrete categories; for example, measures of temperature, height and mass.
Criterion	This is an element of care that can be defined and measured. It is agreed to be relevant to the definition of good quality care. The plural of criterion is criteria.
Data collection	The systematic recording of information.
Discrete data	Data that falls into individual and distinct groups; for example, number of people in a household, vehicle colours, etc.
Effectiveness	The degree to which an activity; for example, an intervention, achieves its intended objective; i.e., it works to the benefit of a patient/research subject.
Efficacy	The potential of an intervention for producing a desired result, for example, on the duration or course of a disease. Efficacy is measured by evaluating the clinical and statistical results of clinical tests.
Elements of care	The basic components that together describe all significant aspects of the care process.
Exclusion criteria	The conditions or circumstances that disqualify a patient or research participant from participating in a clinical trial, audit or other evaluation of practice.
Guidelines	Recommended diagnostic and therapeutic routines for use in clinical practice.
Health outcome	A change in a patient's current or future health status that is attributable to the health care provided (Donabedian, 1980).

Histogram	This represents data that is measured on a continuous number scale. This means that histograms show bars of data touching in contrast to bar charts where the bars do not touch.
Implicit criteria	Unspoken elements of care that are used by clinicians based on their prior experience and knowledge.
Inclusion criteria	Features of a patient's health status; for example, age or sex, which advocate his/her inclusion in a research/audit process.
Mean	The mean is commonly described as the "average". It is calculated by adding all of the values present and then dividing by the number of values present.
Median	The central value when all values being examined are arranged in order of magnitude.
Mode	The value that occurs most frequently in a set of data.
Nominal data	You can count but not order or measure nominal data. The values/observations belonging to it can be assigned a code in the form of a number where the numbers are simply labels.
Outcome	The effect of a particular intervention on a patient's state of health and/or quality of life.
Outcome measures	Tools to measure the effectiveness of an intervention. They vary, for example, according to body region, symptoms or condition.
Ownership	The sense that a process is relevant to the individual and reflects the individual's contribution to the planning and execution of the process.
Peer review	A process of performance appraisal by colleagues in the same profession of a similar level of skill and experience.
Performance review	This term is now commonly believed to be synonymous with medical/clinical audit.
Pie chart	This is a circle divided by radial lines producing distinct sections. Each section is proportional to the size of the figure represented.
Pilot study	A small-scale trial to examine the effectiveness of various aspects of a proposed study, including data collection procedures. The process aids the completion of detailed project plans.
Population	A large and well-defined group of individuals or things to be measured/evaluated.
Process	Activity taking place involving the patient and the care provider in the delivery of care.
Prospective audit	An audit taking place as care proceeds into the future.

Protocols	Formal descriptions of procedures to be undertaken during the delivery of care, an audit or a research project, for example. They provide an orderly and detailed account of the process to be undertaken describing eligibility of participants, procedures, outcomes to be measured and the timeline to be employed.
Purposive sample	This involves individuals or groups selected with a specific purpose in mind; for example, they may have particular skills or attributes.
Quality assessment	The process of making a systematic evaluation of aspects of care delivery.
Quality assurance	A collection of processes involved in the assessment of care delivery, the efforts to improve the provision and delivery of care and the processes and procedures to ensure the maintenance of good care.
Quality of care	The degree to which care is provided effectively, equitably, humanely and efficiently as judged by the patient, the clinician or society (Maxwell, 1984, 1992).
Random sample	A sample where everyone in the identified population is equally likely to be chosen.
Reliability	The capacity for a measurement to be repeated or tested on different occasions or with different observers when essential conditions are the same. The degree to which a test consistently measures what it is supposed to measure.
Research	The attempt to derive new knowledge about a subject or population.
Retrospective audit	An audit undertaken by reviewing records or measures of symptoms recorded before the audit begins.
Sample	A representative subset of a population chosen as fairly as possible to represent the whole population.
Sample selection	Method of choosing a population to be included in a clinical study, audit or other process of evaluation.
Sample size	The number of patients required for a clinical trial, audit or other form of evaluation to produce findings that are representative of the population being studied and having sufficient statistical power.
Sampling frame	A subset of a population chosen to represent a population that may be too large and complicated to be measured in its entirety.
Sequential sample	A sample obtained by selecting consecutive patients or cases from a chosen population.
Service evaluation	A process to define or judge current care being delivered.
Standard	This can be defined as a criterion with its expected level of performance.
Standard setting	The process of setting a level of performance for each criterion identified in an audit.

Stratified sample   A sample created by dividing a population into different groups, for example, based on age or sex, and then taking a random sample from within these groups.

Structure   The physical features of a healthcare organisation, including the building in which care is delivered, the personnel involved in the delivery of care and the equipment.

Systematic sample   A sample selected using, for example, every fifth patient record.

Validity   The extent to which research findings can be said to be accurate and reliable, and the extent to which the conclusions drawn from those findings are warranted.

Annex 1 NCOR constitution and representatives

As at August 2011

General Osteopathic Council	Ms Brigid Tucker
	Ms Fiona Browne
British Osteopathic Association	Mr Michael Watson
British College of Osteopathic Medicine	Dr Ian Drysdale
British School of Osteopathy	Mr Steven Vogel
College of Osteopaths	Dr Julie Thompson
European School of Osteopathy	Mrs Brenda Mullinger
Leeds Metropolitan University	Mr Stephen Castleton
London College of Osteopathic Medicine	Dr Roderic MacDonald
London School of Osteopathy	Mr Mark Bujakowski
Oxford Brookes University	Dr Mandy Plumb
Surrey Institute of Osteopathic Medicine	Mrs Carolyn Felton
Private practitioners' representative	Mr Tim McClune
NHS osteopaths' representative	Mr Martin Pendry
Co-opted member for standardised data collection projects	Dr Janine Leach

Annex 2 The historical development of clinical audit

Florence Nightingale is regarded as one of the earliest pioneers of audit. She was appalled at the conditions patients experienced at the barracks hospital in Scutari in 1854 and kept meticulous records of the mortality rates among wounded patients. She applied strict standards of hygiene for the hospital and its equipment and was able to show a fall in mortality rates from 40% to 2%.

Audit was further developed by Ernest Codman (1912). He is frequently quoted for the remark "... collect information on all cases to determine whether treatment has been successful, and then to inquire 'if not, why not [sic]'". It was reported that his initiative met with "the resistance of arrogance, the molasses of complacency and the anger of the comfortable disturbed". Codman's work ultimately developed into a demand for the setting of national outcomes for medicine by Hey Groves[1].

Audit evolved into medical audit and was developed further in the USA where the twin needs of maintaining good standards of healthcare and delivering value for money were of considerable concern[2]. This created different definitions for audit. One of the earliest definitions was by Donabedian, one of the most prolific writers in this area, who defined audit as "the extent to which actual care is in conformity with pre-set criteria for good care"[3].

Creating the NHS was viewed as one of the first initiatives in improving the quality of care for patients. Audit in the UK began to be introduced into general practice in the 1980s as a form of clinical enquiry. Medical audit was defined in the 1989 White Paper, *Working for Patients*; it was the first attempt to standardise audit as part of professional healthcare and was supported by Medical Audit Advisory Groups[4].

Medical audit further evolved into clinical audit and was formally introduced into the NHS in 1993. A new definition was constructed: "Clinical audit is the systematic critical analysis of the quality of healthcare, including the procedures used for diagnosis, treatment, and care, the use of resources and the resulting outcome and quality of life for the patient"[5].

The National Clinical Audit Advisory Group (NCAAG) was created to support clinical audit[6]. NCAAG believed that there was a need for a clear definition of clinical audit and the different dimensions of quality (safety, effectiveness, humanity, equity) it contains and the different components of quality management:

> Defining what constitutes good quality care (usually described in guidelines, based on scientific evidence and clinical experience).

> Assessing the quality of care provided (clinical audit, patient experience surveys, critical incident enquiries, qualitative methods).

> Improving the quality of care provided (education, performance review, incentives, regulation, redesign, legislation).

NCAAG examined the definition of clinical audit used by the Department of Health:

"Clinical audit is 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"[6].

NCAAG felt the definition needed to be modified to reflect changes ongoing in the NHS. In particular, NCAAG had three concerns:

> The focus on only assessing the processes of care and not encompassing outcome assessment.

> The lack of recognition of the wider quality framework and the key role of clinical audit data in underpinning quality improvement carried out by other players (for example, regulation, commissioning).

> That those players undertaking clinical audit are required not only to stimulate quality improvement but also implement change.

To try to recognise these concerns, a new definition was created in 2009:

"Clinical audit is the assessment of the process (using evidence-based criteria) and/or the outcome of care (by comparison with others). Its aim is to stimulate and support national and local quality improvement interventions and, through re-auditing, to assess the impact of such interventions" (NCAAG, 2009).

It has become increasingly clear that clinical audit tries to support a more patient-centred approach that is a feature of modern healthcare provision.

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1. Groves EWH. Surgical statistics: a place for unfamiliar registration of operation results. *British Medical Journal*. 19.8;ii:1008-9

2. Samuel O, Sakin P, Sibbald B. (1993). *Counting on quality. Royal College of General Practitioners' Audit Programme*. Royal College of General Practitioners , England.

3. Donabedian A. 1980. *The definition of quality: a conceptual exploration. In Explorations in Quality Assessment and Monitoring*. Ed. Donabedian A. Ann Arbor, Michigan: Health Administration Press.

4. Department of Health, *Working for patients*. London: The Stationery Office, 1989.

5. Irvine D and Irvine S (eds). (1991). *Making Sense of Audit*. Radcliffe Medical Press, Oxford.

6. www.dh.gov.uk/ab/NCAAG/index.htm.

Annex 3   Data collection sign for your practice

Anonymised data is routinely collected in this practice for audit purposes.

If you have any concerns about data being collected about you, please inform the osteopath responsible for your care.

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