Research, Audit and CPD

Are they compatible? Part II

Following on from last month's article outlining the issues around research and audit, Suzanne Henwood and Karen Knapp look in more detail at how such activities can contribute to your CPD.

Introduction

This second article will take a closer look at undertaking research and audit as part of your CPD. In addition, it will offer some suggestions about what you can do within your own departments to promote research and CPD activity. We will cover, in brief, what to think about when you get started on research, from background and critical reading through to some thoughts on leading research and the effective dissemination of the results. We will also touch on the role of clinical audit, in particular the applicability and importance of audit for the development of practice.

Background reading

The first step in any research process is the background reading of current (and seminal, ie, key texts within the topic being explored) literature. This sets the scene, allowing the researcher to investigate what work has already been undertaken and the outcomes already established. It can also provide important information on the methodologies utilised to conduct the research (so that you can assess the validity and reliability of the research) and the standard analysis methods used.

Current literature can be found using a range of search engines, including 'medline', 'ScienceDirect' and 'pubmed' (www.pubmed.com), which is particularly useful, because it has free access to the general public. However, to access the full articles for many journals, a payment is required, either via membership of the journal or access through your employer's subscription. It is worth enquiring at your medical library as they may also provide help with searches and accessing articles.

If you are new to the literature searching process, there are some articles on the SoR website which can help. For example: Brettle and Gambling (2003) (http://www.sor.org/members/research/pdf/research_started/literature_searching_research.pdf) and Kermis (2003) (http://www.sor.org/members/research/pdf/research_started/elements_scientific_manuscript.pdf). The CSP (Chartered Society of Physiotherapy) also provides a users guide which is useful (http://admin.csp.org.uk/admin2/uploads/18bf072-f1f3bfb74e--7f1f/csp_litsearch_userguide.pdf).

Once a comprehensive search for the current literature has been completed, the articles must be critically read. This means looking for the strengths and limitations in each article to determine its validity and clinical importance. Just because an article has been published does not mean that it is good research. Peer reviewed journals, where the article has been reviewed by one or more experts in the field, offers the best probability that the research is robust. However, this is not a guarantee and you should still make your own critical judgment of the material you read.

As well as published paper based texts, there are many websites which provide useful information. However, particular care should be taken with using such information because many websites are not peer reviewed and there is no safeguard against publishing inaccuracies or merely people's opinions and biases.

Again, some guidance around critical reading of articles can be found through the SoR website, including Marshall (2005) (http://www.sor.org/members/research/pdf/research_started/literature_searching_research.pdf). Also Lunsford and Lunsford (1996) offer some advice (http://www.oandp.org/jpo/library/1996_01_024.asp) and there is a sound set of ten questions available to assess qualitative literature (http://www.phru.nhs.uk/learning/casp_qualitative_tool.pdf).

There will be an article in the June issue of *Synergy* about how to critique an article.

Journal clubs

Journal clubs are a useful forum to discuss current literature and research, and the discussions can be recorded as effective CPD. You can reflect on the discussions after the event and record your own thoughts, or you could, as a group, produce a set of notes, which each of you can attach to a CPD record.

Journal clubs are formed of a group of individuals who meet regularly to review and critically appraise current literature relevant to their practice. Articles can be reviewed in terms of their clinical application, as a basis for further research, or for their own knowledge enhancement and professional development. Criteria such as that outlined by Milbrandt and Vincent[1] may be utilised as a guide for those organising the group and material to be reviewed:

- The article must have been published in the last two years.
- The article must not have previously been discussed at journal club.
- The study must contain no major flaws of methodology.
- The results of the study, if valid, must impact on clinical practice in some way.

A journal club can work well for both small groups of radiographers with similar interests or professional responsibilities, for example accident and emergency radiographers, and also for multi-disciplinary groups. Group members should take turns in selecting the article, which should be distributed well enough in advance to allow adequate time to read it before the next meeting. Those with more experience of reading research literature may need to assist the less experienced until they feel comfortable with the material. But, as time goes on, those members will find that their ability and confidence in this area grows.

If you need some help setting up a journal club you might find your local HEI (Higher Education Institute) would be happy to offer advice, or approach the SCoR Research Group which can help to find someone who would be happy to mentor you.

Journal clubs offer an ideal environment not only to discuss current literature, they are also a great arena in which to foster new research ideas. However, to realise these ideas it may be necessary to move into a wider forum. This may mean collaborating with other staff to enable research to be conducted or getting advice from other researchers. Research networks form a useful resource for getting to know other researchers within the same field, for gaining advice, and for forming collaborations. Again the SCoR Research Group has many research-active radiographers who may be able advise on potential research projects and also offers some research funding. You will find more details at http://www.sor.org/members/research/index.htm.

You could consider extending this idea to include attendance at conferences and discussion of presented papers as this is a great way to gain access to the most up to date work being undertaken. Another consideration is establishing an electronic forum for discussing and reviewing literature with groups of like-minded people. This would give even greater flexibility for including different people with similar interests.

Getting involved in research

While we are unable to go through each aspect of being active in research, it is worth reminding you that any aspect of research involvement lends itself to being recorded as CPD if it offers maintenance or extension of your knowledge and skills, particularly where it impacts on your ability to provide a high quality service. Even if you are already research-active, undertaking a new style of research could again extend your learning – for example, getting involved in clinical trials or using a different method to analyse your data. Take some time to think through what it is you have learnt, maybe relate that to a reflective model, for example

Table 1: Recording your learning

Description
Write a brief description of the event/ experience/research question
What are the key issues within this description to which I need to pay attention?

Aesthetics
What was I/am I trying to achieve?
Why did I choose to respond as I did?
What are the consequences and potential consequences of my actions?
• For the patient and family
• For myself
• For people I work with
With regard to the issue under research:
• How did I feel about this experience when it was happening?
• How did the patient feel about it?
• How do I know how the patient felt about it?

Personal
How did I feel in this situation?
What internal factors influenced my decision-making and actions?
What external factors influenced my decision-making and actions?
What sources of knowledge did, or should, have influenced my decision making and actions?

Ethics
How did my actions match with my beliefs and fit with my values?
What factors made me act in incongruent ways?

Reflexivity
How does this connect with previous experience?
Could I have dealt better with the situation?
What other choices did I have?
What would be the consequences of these other choices? For the patient, others or myself?
How do I feel about the experience/ research?
Can I support others and myself better as a consequence?
Has this changed my ways of knowing?

Learning
How can I make sense of this experience in light of past experience and future practice?
How do I NOW feel about this experience/research?
Have I taken effective action to support myself and others as a result of this experience?
How has this experience changed my way of knowing in practice?

Johns' Model of Reflection[2]. This offers a variety of prompt questions to help you record your learning. While not all may be relevant to a research context, some certainly are (see Table 1 on page 23, which has been adapted for research activity). Initially, it is likely that you will be working with others on research projects in department. We would suggest that you use that opportunity to obtain not only research skills, but also to gain effective mentoring in research. And, of course, the mentoring process can also be recorded as effective CPD, as you learn and develop new skills and learn more about yourself within the research context.

Leading on research

Once you have gained some research experience working with others, you may wish to move on to leading your own research. This may be research that is primarily undertaken by you, or research where you are leading a group of individuals to complete your research idea.

Funding is a necessity for the majority of research in the current climate, and will depend on the type of research you are wishing to undertake and the amount of money you require. The College of Radiographers offers research grants up to £5000 annually, and the Royal College of Radiologists offers a Pump Priming Award each year (For 2006 details, see http://www.sor.org/members/research/pdf/applicationform.pdf).

Some of the SCoR Special Interest Groups also support research, as do some companies which advertise in *Synergy* – watch out for adverts throughout the year. These smaller grants can be useful for small scale or pilot studies to gain enough data to be able to approach a large funding body.

The larger funding bodies like the Medical Research Council (MRC – http://www.mrc.ac.uk), The Wellcome Trust (http://www.wellcome.ac.uk/), The Arthritis Research Campaign (ARC – http://www.mrc.ac.uk) and Cancer Research UK (http://www.cancerresearchuk.org) are useful for larger grant applications, but are very competitive. Alternatively, for specific disease processes, there may be a funding body providing funding for that disease, Research into Aging (http://www.ageing.org), Diabetes UK (http://www.diabetes.org.uk/) and the National Osteoporosis Society (http://www.nos.org.uk/), to name but a few. Research funding is highly competitive so if you do not succeed with your first application, you should try again. All funding bodies will supply the referees comments with failed applications and these can be used to refine the grant proposal. Working with an established researcher can greatly increase your chances of obtaining funding initially.

Research in radiography may range from a single investigator to multiple investigators from many different professions. The more investigators involved, the more complex conducting the research becomes. However, the expertise offered by multiple investigators, including different professionals, may be essential to undertake the research. In this case, regular contact between the investigators is essential to keep the research on track and if you are leading the research, it is your responsibility to ensure it is conducted as per protocol.

Any research conducted needs to be kept focused and meaningful. It is easy to get sidetracked by other questions that pose themselves. However, it is important to maintain the focus of the original study and use the results from this to underpin further research.

Note on ethics

If you are going to involve patients in your research, you will need to obtain ethical approval. This process ensures that the research is justifiable and that the route taken to conduct the research is acceptable. All Health Service ethical approval in the UK must be submitted via the Central Office for Research Ethics Committees (COREC - http://www.corec.org.uk).

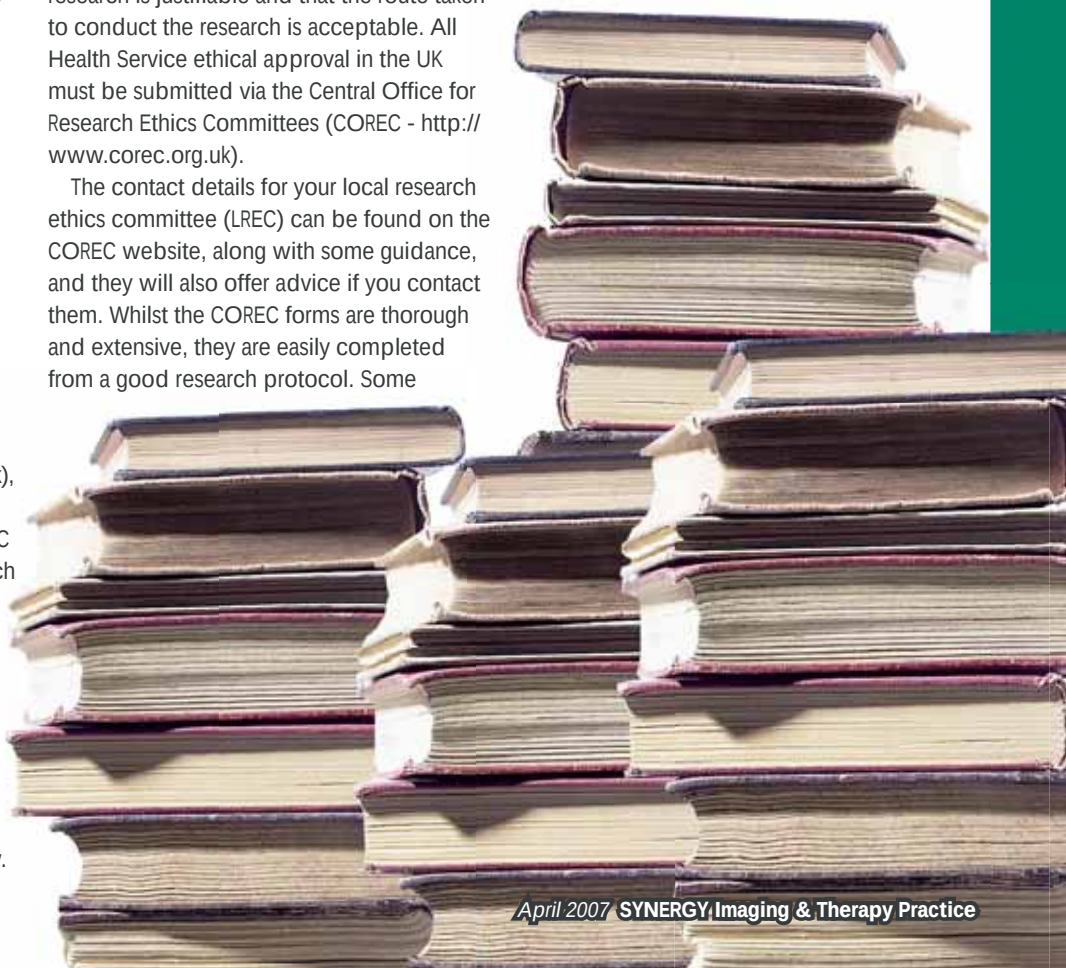
The contact details for your local research ethics committee (LREC) can be found on the COREC website, along with some guidance, and they will also offer advice if you contact them. Whilst the COREC forms are thorough and extensive, they are easily completed from a good research protocol. Some research may not require ethical approval through the COREC system, but it is important to notify the NHS trust and register the project with its research and development office.

Clinical audit

Clinical audit is an essential element of professional practice within the Health Service, focusing on the improvement of patient care. Whilst clinical audit differs from research (as outlined in the previous article), it can lead to areas for new research and changing practice. Within medical imaging, the vast expansion of technology and new techniques means that an increasing amount of audit is required to investigate the sensitivity and specificity of different techniques, and combined techniques, for the diagnosis of various pathologies.

Clinical audit has the ability to change practice, enhance patient care, and is an important factor in today's climate of evidence-based medicine. It offers an ideal opportunity for radiographers to be involved in improving patient care whilst fulfilling their own CPD needs at the same time.

Many of the techniques used for clinical audit and research are similar and, as such, involvement in clinical audit will provide valuable experience for those looking to undertake research at a later date. As for research, the first step of clinical audit is



to perform a literature search for current publications. Using knowledge gained from the current literature, a protocol can be drawn up, including the proposed methods of data analysis.

Sharing and disseminating your research

While some of you will be confident and familiar with sharing your research in both journals and through conference presentations, others might be less adept at this level of professional sharing. Learning how to write up results and how to present effectively can be valuable CPD activity to be recorded within your portfolio. You could consider attending a presentation skills workshop, or seeking coaching or mentoring advice on how to be more confident in yourself. You might like to seek constructive feedback on a presentation to help you be even better next time round.

In summary

We have shared some thoughts on how to use research within your CPD activity over two articles. Research and audit are essential components of professional practice at all levels and, through **CPD Now**, the SoR offers a mechanism to record that CPD and to use it to contribute towards your self accreditation of CPD, as well as your contribution towards KSF and HPC where appropriate (due Spring 2007).

As with all aspects of the research process, the activity itself is important, but the additional learning and development available is also extremely valuable as CPD and we would urge you to record all of that to build your own portfolio of activity.

We hope we have demonstrated how you can use and record your research activity as CPD, regardless of your current activity levels. Whether you are just starting to learn about the research process, or whether you are already leading on research, we hope we have inspired you to record your activity to gain maximum advantage from it – in a way which you might not have considered in the past.

About the Authors

Dr Suzanne Henwood MSc HDCR PGCE MNLP is Director of Henwood Associates.

Dr Karen Knapp BSc (Hons), PgCAP is a Senior Lecturer at the University of Exeter.

References for this article are at: www.sor.org/members/pubarchive/pub_search.htm

Test Yourself

Below are 10 questions for you to answer which you can then count towards your CPD. Please photocopy this page, fill in your answers and note down any other observations and put it in your CPD folder. The answers will be available online from April 1 at: www.sor.org/members/pubarchive/pub_search.htm

1. The first step in research following your idea is:
a. Developing your protocol
b. Background reading
c. Applying for ethics approval
d. Registering your research with the R&D department

2. Read the article found at http://www.sor.org/members/research/pdf/research_started/literature_searching_research.pdf. Undertaking a literature search should:
a. Be systematic and iterative
b. Focus primarily on specificity
c. Be time consuming
d. Be very focused in the initial stages

3. Peer reviewed literature:
a. Has been reviewed by one or more experts in the field
b. Is guaranteed to be robust
c. Is guaranteed to be correct
d. Is guaranteed to be good quality

4. Journal clubs (two correct answers):
a. Offer a forum where radiographers/multi-disciplinary teams can meet to discuss research articles
b. Must be profession specific
c. Can be used to develop critical reading skills and for CPD
d. Must involve formal presentations

5. Ethical approval:
a. Puts barriers in the way of research
b. Ensures research is justifiable and acceptable
c. Is difficult to obtain
d. Is essential for all research and audit

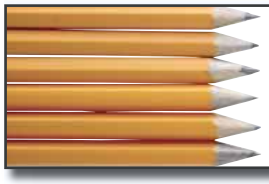
6. Ethical approval within the NHS must be:
a. Applied for when patients are involved
b. Applied for through the COREC website
c. Submitted to your local research ethics committee (LREC)
d. All of the above

7. Which statement regarding the research leader is untrue:
a. Must conduct all research themselves
b. Ensures that all investigators conduct the research as per protocol
c. Maintain regular contact with all investigators
d. Ensures that ethical approval is obtained

8. What is the maximum research award offered per application by the SCoR?
a. £2000
b. £5000
c. £10,000
d. £25,000

9. Which of the statements regarding clinical audit is untrue?
a. Can change practice
b. Enhances patient care
c. Reviews what is done, but never alters practice
d. Is an essential part of evidence-based medicine

10. Disseminating research results does not include:
a. Presenting your research at conferences as oral presentations
b. Putting your research outcomes in your CPD file
c. Submitting papers to journals
d. Presenting your research at conferences as poster presentations



Write for Synergy

Would an area of your work be interesting for other members? Would it make a good CPD in Focus article? Help is always available to get it all together and you will earn £100. Just send your idea to Rachel Deeson at racheld@synergymagazine.co.uk