Clinical governance in action: radiology

John Chandy, Thomas Goodfellow, Anil Vohrah

Articles and conferences on clinical governance abound, but much of the content is theoretical. This article describes how clinical governance may be introduced in a busy radiology department in a straightforward and practical way, with benefits to both the radiologist and patient.

The last 24 months have witnessed a dramatic change in attitudes of the medical profession, politicians and the public as a result of highly publicized, unacceptable events regarding quality of care in a few hospitals. The government and the profession have reacted and continue to react by producing documents and recommendations with the hope that such unacceptable clinical events do not recur (Department of Health, 1998, 1999).

Many of the fundamental components of clinical governance are common with those that will be required for the development and implementation of revalidation (Thomas, 1999). The radiology department in Walsgrave Hospital, Coventry has developed systems to implement clinical governance. This article will describe the development of the professional portfolio and error reporting systems that has been introduced over the last 18 months.

THE PROFESSIONAL PORTFOLIO

The clinical governance framework modernizes and strengthens professional self-regulation and builds on the principles of performance review, evidence-based practice and learning the lessons of poor performance. The radiology department of the Walsgrave Hospitals NHS Trust has taken the initiative in producing a practical strategy for clinical governance, prepared with close cooperation between managers and clinicians. This has been approved in principle by the local negotiating committee and disseminated throughout the other directorates in the trust.

The aim was to develop a straightforward practical procedure which directly involved the clinicians and which could be introduced with the minimum amount of additional work. The directorate already has policies in place to cover risk management, clinical incident reporting and complaints. Clinical audit is also well established.

In addition to these policies the aim of the strategy was to ensure that radiologists had processes in place to demonstrate their own personal achievements in terms of clinical governance. To this end the directorate introduced a system of personal portfolios for consultants. Each individual consultant is supported by the directorate in establishing and maintaining this portfolio, a copy of which is also held by the clinical director. The portfolio is continually updated throughout the consultants' career and includes:

- A current job plan
- An annual appraisal document
- A record of any agreed objectives
- A 3-year education and development plan (in line with the directorate's annual business plan)
- An education and development record and evaluation (including continuing medical education points obtained and attendance certificates)
- A record of attendance at audit meetings (against an agreed annual standard)
- A record of completed audits (including any personal audits)
- A record of any involvement in clinical incidents, complaints or independent reviews (including any resulting action plans)
- Copies of clinical guidelines relevant to the clinicians' practice.

The portfolio is a method by which the consultants can build up and demonstrate evidence of clinical governance issues, in particular continuing professional development or lifelong learn-

Dr John Chandy is Consultant Radiologist and Medical Director, **Dr Thomas Goodfellow** is Clinical Director of Radiology and **Dr Anil Vohrah** is Consultant Radiologist/Lead Radiology Audit, Walsgrave Hospitals NHS Trust, Coventry CV2 2DX

Correspondence to: Dr J Chandy

ing. It is also a vehicle for the trust to ensure that the consultants are being supported and monitored in delivering a quality service.

The professional portfolio is a confidential document. The individual consultant holds it, but the clinical director acting as a representative of the trust also holds an identical copy. The portfolio forms part of the basis of the annual appraisal of each consultant by the clinical director. If the performance of any individual consultant were causing concern the line of accountability would be through the clinical director to the medical director and chief executive of the trust.

It should also be recognized that in a large department there may need to be secretarial support to the individual consultant to ensure that the portfolios are regularly completed and maintained.

BARIUM ENEMA ERROR REPORTING SYSTEM

The barium enema is a widely used technique. Most documented studies confirm the expertise of gastrointestinal radiologists (Anderson et al, 1991), whereas the Wessex Regional Radiology Audit compared performance between the general radiologists and gastrointestinal radiologists (Thomas et al, 1995). A standard therefore exists in this area of radiology that departments can use.

The Walsgrave radiology department has been performing audits to look at rates of demonstration and diagnosis of colorectal carcinoma by barium enema. All patients who have large bowel cancer have their pathology reports sent to one consultant radiologist who then matches it against the radiology management system to determine which patients have had a barium enema. The barium enema reports and pathology reports are reviewed to determine the mismatches. All barium enema X-rays of the mismatches are subject to peer review at a regular audit meeting. This process entails the films being put up on a viewer for everyone to comment upon without any history. The pathology report is then read out and the peer group decides whether the mismatch falls into one of the following categories:

1. True negative
Unable to demonstrate the lesion.

2. False negative
Failure to perceive a demonstrated lesion or failure to analyse a perceived lesion.

3. False positive

Any comments regarding technique were also recorded as adequate or inadequate. The results compare satisfactorily with the Wessex Regional Radiology Audit (Thomas et al, 1995).

Audits on this topic were carried out in 1994 and 1997. Since 1998 continuous audit has been undertaken to determine the error rate so that everyone is reminded at regular intervals of the lessons that can be learnt from this process (Wardsworth et al, 1986; Brown et al, 1996).

GENERAL ERROR REPORTING SYSTEM

Any error recognized by other radiologists and those that come to light as a consequence of clinicoradiological meetings or complaints are reported to the lead audit radiologist by placing a form in an audit 'box'. These are subsequently reviewed by the audit radiologist with the patient's notes and images available, and are presented at one of the regular audit meetings.

All the radiologists at the audit meeting review the cases with similar clinical information that was available to the radiologist at the time that the films were reported. The consensus opinion is then recorded and if it is agreed that an error is present, it is classified and recorded. The errors are divided into errors resulting from failure of perception, errors resulting from poor technical quality, errors resulting from lack of knowledge, and errors resulting from misjudgment (Robinson et al, 1999). The radiologist originally involved may remain anonymous (unless he or she chooses otherwise) and the review is carried out in a non-blaming manner (General Medical Council, 1998). The subsequent discussion is of paramount importance as it is an occasion when differences between radiologists in decision-making based on the same evidence become clear.

The details of all cases are entered on a database including the patient ID, the radiologist involved, the type of examination and whether an error has been made. The nature of the error and the potential effect it has had on subsequent patient management is also considered. If the error is deemed to have affected the patient adversely a clinical incident form is sent to the medical director (this is a trust-wide mechanism alerting the trust to potential problems).

This form of review has many advantages and few disadvantages. It educates all attending radiologists. It means that all errors are reviewed, not just interesting cases. It makes sure that feedback occurs to the radiologist concerned and it helps to avoid the tendency of the clinicians 'just to get another opinion' with

no reference to the original radiologist. Although we have not encoutered any disadvantages there is a possibility that this type of review may result in defensive medicine being practiced and conflicts developing between clinicians.

The data collection is an ongoing process and in the long term this may be important in identifying trends or weaknesses that are not necessarily apparent at the time. This would allow each individual radiologist to tailor their continuous professional development to their needs.

This form of surveillance has other useful benefits. It often highlights problems elsewhere in the department (e.g. clerical or radiographer staffing levels) and also disregard or ignorance of departmental policies. The information gained can direct clinical audit to areas of perceived weakness.

DISCUSSION

Clinical governance and revalidation are now becoming established processes. We are beginning to see how clinical governance is going to affect the various professions working in the health service as systems and processes start to function. The revalidation process is still being worked on by most specialities but clinical governance will influence revalidation. The professional portfolio will be the basis for clinical governance and revalidation to be implemented.

Various clinical specialities need to start discussions as to how best they can have a system of discussing errors in a supportive non-threatening way so that lessons may be learnt. Disciplinary procedures and suspensions must be used sparingly following national guidelines and protocols.

Errors in radiology undoubtedly occur (Fitzgerald, 1997) and this has been illustrated by a number of examples (Thomas et al, 1995; Brown et al, 1996; Tudor et al, 1997). It is clear that most radiologists are likely to have an error rate and therefore a mechanism for detecting these errors, with the intention of keeping significant errors to a minimum, becomes imperative. This has obvious benefits to patients and clinicians. It is also good risk management, one of the cornerstones of clinical governance (Scally and Donaldson, 1998).

Radiology involves tasks that require cognition, which are subject to variability and will result in errors (Leape, 1994; Berlin, 1996). Errors in diagnostic radiology account for 30% of medical malpractice cases in the USA (Berlin, 1996). Early diagnosis of cancer is an important quality issue for the profession, public and the politicians. This also poses the greatest risk in radiology and some studies have shown high error rates for mammography (Berlin, 1996). Intra-observer disagreement in the interpretation of radiographs can occur up to 20% of the time (Berlin, 1996).

Errors should be differentiated from incompetence, hence setting of quality standards are important (Lev et al, 1999). High levels of intra-observer variability do occur between experienced radiologists and this must be borne in mind when standards of quality for the interpretation of films are set (Robinson et al, 1999). Standards should be set following consideration of studies that have taken place or by liaison with a peer group of the College of Radiologists when studies are not available for standard setting.

Errors in the interpretation of radiographical studies can be the result of perceptual misses, poor judgment, incomplete knowledge or poor technique (Berlin, 1996). Perceptual errors may account for 60% of diagnostic errors in radiology (Berlin, 1996). Radiology requires the mastery of visual factors and the facility to translate accurate observations into knowledge of disease states and their characteristics with the clinical condition (Wood, 1999). The error reporting system introduced in the radiology department of the Walsgrave Hospitals NHS Trust has resulted in the following lessons that the department is reminded of, namely:

- Good films and standard technique protocols should be insisted upon
- Images should always be compared with previous imaging techniques
- Good communication between clinicians and radiologists is vital
- A good clinical history should always be given
- Double reading of films should take place whenever possible.

The practice of medicine has changed and we in the medical profession need to change too. There has to be much more openness in our working partnerships with colleagues and patients (*Guardian*, 1998). We have taken on a task at local level to help each of us to maintain and improve our practice and to prevent cases reaching the General Medical Council, as these can result in publicity that damages the whole profession (Irvine, 1997). More importantly we are convinced that these processes will improve the quality of health care in our hospital. HM

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KEY POINTS

- The professional portfolio will form the key to clinical governance and revalidation.
- Error-reporting systems should be established in all specialties.
- Error-reporting systems will educate all professionals involved in health care.
- Quality of health care in radiology will improve through the professional portfolio and error reporting systems.