

A comparison of three different quality assurance systems for higher medical training

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ABSTRACT – Quality assurance (QA) of medical training is a growing concern. There have been few studies comparing different methods. A window of opportunity occurred when a Royal College of Physicians (RCP) visit was followed soon after by a pilot of a web-based questionnaire in a deanery which already had a well-developed QA system in geriatric medicine. The different methods of RCP visit, deanery visit and web-based survey were compared. Surveys are easily administered and repeated but may be hindered by poor response rates and lack of corroborating information. Negative aspects can be exaggerated and positive ones overlooked. Trainers' views tend to be underused. Visits consume more time and resources but give a better overview. Each method format was found to have advantages and disadvantages and no one method alone would have picked up all the information. This paper recommends a robust deanery mechanism as a continuous QA mechanism backed up by periodic focused external visits.

KEY WORDS: general medicine, geriatric medicine, monitoring visits, postgraduate medical training, quality assurance, trainee surveys, triangulation

Introduction

Any trainee will tell you that they learn more from some jobs than others. Unless poor training is identified and remedies put in place, matters are unlikely to improve. Even placement at university teaching institutions does not assure better training than at district hospitals.¹ It is not surprising, therefore, that medical education commissioners wish to be assured of the quality of the training they are purchasing. Rigorous and validated accreditation systems are critical in demonstrating professional competence and accountability.

The certificate of completion of training (CCT) is awarded by the Postgraduate Medical Education and Training Board (PMETB) upon completion of specialist training, allowing access to the specialist register of the General Medical Council and therefore

the ability to practice as a specialist in the UK. PMETB has a regulatory role in approving medical training, but also aspires to promote higher standards of education and training for the profession.² PMETB proposes to assure the quality of postgraduate medical training by moving to a system that places great weight on deanery-based quality control processes.³

Quality control must be effective, but there is currently little evidence to show how this can best be achieved or even whether attempts to assure the quality of education and training produces better doctors, though this has to be assumed.

Though much work has been done to evaluate different systems of undergraduate medical training, there have been few published reports of differing systems of quality assurance (QA) of postgraduate medical training.^{1,4–10} This paper compares different systems of QA of specialist training programmes in geriatric medicine in the UK. Training is currently acquired during the specialist registrar (SpR) grade (specialty training years 3–7 after the implementation of Modernising Medical Careers), usually in the form of a five-year programme.

The national specialist advisory committee (SAC) in geriatric medicine under the direction of the Federation of the Royal Colleges of Physicians had an established system of five yearly visits by trained peer reviewers backed up and informed by a written questionnaire sent to trainees before the visit. This was normally followed by reports on improvements to training where deficiencies had been identified. This system has been abandoned at the request of PMETB.

More recently the SAC developed a web-based questionnaire to be completed by trainees to evaluate their education and training. Computer questionnaires have been used previously both in the UK and elsewhere to evaluate training.^{7,8} Some deaneries, which are effectively the local commissioners of postgraduate medical education, organise their own visiting system to hospitals in order to evaluate their training posts. This paper reports on a triangulated comparison of three methods of assessment of the quality of training carried out in a contemporaneous time frame in a deanery in the UK.

Background and methods

A large deanery, with about 50 geriatric medicine trainees, received its five yearly visit by two trained peer reviewers in November 2004. This visit was preceded by completion of questionnaires by trainees in order to evaluate their training. The deanery also submitted up-to-date reports of the training opportunities in each of the training hospitals. The geriatric medicine training programme in that deanery also had its own system of comprehensive and structured visiting of the training hospitals by the regional specialty adviser (RSA) in geriatric medicine and the members of the regional specialty training committee (STC) – at least two independent STC members visited each training hospital. Independent to each visit, detailed information on the training in each hospital was collected by a questionnaire, which particularly sought information about the quality and quantity of training in different parts of the geriatric medicine curriculum.

By June 2006, 18 of the 20 training hospitals had received a deanery STC visit over the preceding 21 months. This deanery also volunteered to take part in the second phase of the web-based questionnaire pilot, which took place at the end of 2005. Expert advice was taken on the questionnaire design. This allowed a cross validation (triangulation) of these different assessment methods of QA of training.

Findings from reports from the three different quality assurance systems

Specialist advisory committee visit report, November 2004

Prior to the visit, questionnaires were sent out to the 37 SpRs then registered for training in the deanery. Twenty-eight replies were received, a 76% response rate. Replies gave information from SpRs working at that time in 17 of the 20 training hospitals. The questionnaires revealed that the respondents were mostly concerned with lack of office accommodation and occasionally with information technology (IT) facilities at several of the training hospitals. Seventeen (61%) of the SpRs suggested there was no deanery induction to the training programme. Only three of the respondents praised the research opportunities and seven commented that research opportunities were poor. Armed with this information two senior SAC representatives visited the regional training programme in November 2004 and interviewed 38 of the 47 current trainees and 18 of the training consultants plus the STC chair who was also the RCP's RSA. At least one trainee from each training hospital was interviewed. Interviewing the trainees and trainers enabled the SAC visitors to explore certain issues in more depth, and to clarify the details in worrying areas, in a way that was more versatile and interactive than would be achieved with a questionnaire. It was also possible to check whether a trainee's perception of what is meant by and expected of, for example, 'appraisal' or 'induction' was reasonable and consistent with received definitions. Following the visit the SAC felt able to approve the training programme for five years subject to

implementation of various recommendations confirmed by a progress report from the STC chair at 12 months. There were five major recommendations for improvements:

- 1 Job plans of individual trainees should be altered to correct the imbalance of training between general internal medicine and geriatric medicine.
- 2 General internal medicine training usually should be provided by a geriatrician rather than a consultant from another specialty.
- 3 There should be a review and correction of deficiencies in office accommodation, induction and IT access in identified hospitals.
- 4 A research infrastructure should be developed to increase publications by all SpR trainees and reviewed at annual record of in-training assessment panels.
- 5 Review of the job plan and training opportunities in a new training post.

As can be seen, two of the items (2 and 4) were specifically deanery issues rather than individual training hospital issues. Of eight other notable findings in the report two were deanery-wide issues.

Web-based questionnaire completed at the end of 2005

Nineteen trainees (51%) at 15 of the training hospitals completed a web-based questionnaire. There were 59 questions in the questionnaire but 10 of these were to evaluate the questionnaire rather than the training. Questions required mostly either a 'yes' or 'no' answer or selection of a choice from a list. Eight questions allowed free-text answers.

These questionnaires yielded a large amount of numerical data. The report from the web-based questionnaire proposed recommendations solely on this information, with no attempt at corroboration. There were seven specific recommendations namely:

- 1 Induction at deanery and training hospital level needed improvement.
- 2 More research advisers and mentors should be appointed.
- 3 The deanery should make more efforts to provide structured training in continence and continuing care.
- 4 Appraisals should take place in a bleep-free environment.
- 5 Further site visits to four of the training hospitals should take place in view of concerns expressed by trainees.
- 6 On-call intensity should be reviewed in four training hospitals.
- 7 In six hospitals it appeared office accommodation needed improving.

It is notable that at least two of these seven identified issues (items 2 and 7 in the above list) had been included in the recommendations from the SAC visit. In the SAC visit report the problems of induction at certain hospitals, appraisal being too informal in one hospital and problems of the intensity of on call had also been identified. Items 1, 2 and 5 of the SAC

recommendations were not specifically mentioned in the web questionnaire report. Of the positive items in the SAC visit report, the web questionnaire did not specifically mention the good website, the good track system, the good support for flexible trainees and the emphasis on systematic clinical audit. Some of the items at specific hospitals alluded to in the SAC visit report were not found in the web questionnaire; the latter suggested many more deficiencies in training at individual hospitals, though many of these may only have been mentioned by individual trainees.

It is important to acknowledge that the RSA felt some of the problems identified had already been addressed or were misreported completely, while a serious issue at another site went undetected by the web-based questionnaire. Voluntary participation in the web-based method was relatively low.

Deanery specialty training committee visit reports

All but two of the training sites had received an STC visit over the period of this study and the visit information was backed up by questionnaires completed by trainees at each of the hospitals. These reports were very detailed in the information gathered about the curriculum, teaching and training at each of the sites and also on specific problems of infrastructure at each of the hospitals. Trainers had been interviewed and specific facilities, for example offices, were inspected, which was not part of the SAC visit or the web questionnaire. Previous research had shown that as compared with STC findings the trainers appeared more accurate in defining training deficiencies than the trainees.¹¹ On the other hand, the STC site visit reports did not address deanery-wide issues.

In order to make a detailed comparison of the three systems of inspection a large table was constructed comparing the findings. A comparison of the findings on deanery-wide issues (Table 1) and on curriculum topic training (Table 2) illustrate some of the issues. Notably, the web questionnaire and the STC visit discovered more individual hospital issues but there were often

differences as to which hospitals were identified as having problems, though some matched.

Discussion

It is clear from this comparison that each of these three systems of QA has advantages and disadvantages. No one system can be guaranteed to identify all significant issues, or to guarantee not to report a problem that has already been addressed, or to exaggerate a minor problem. Although some common themes were identified there was not sufficient concurrence to conclude that triangulation had identified any of the methods as clearly more complete or reliable. A blend of questionnaires, local visiting and external inspection is needed.

The SAC visit system appears to be good at integrating large amounts of information in order to make an overall assessment at the deanery or training programme level. It is independent and unlikely to show any particular bias. It is versatile and can home in on important issues to draw out a fair and realistic picture. It cannot routinely inspect individual facilities at the training sites (though this opportunity exists for specific problems if identified). Detailed evaluation of every site is not possible and attempts to address this with the pre-visit questionnaire survey of trainees are often hampered by a poor response rate. Previous computer questionnaire evaluation systems relied on repeated reminders to complete questionnaires resulting in a higher response rate.⁸ The SAC visit is resource-heavy in terms of professional time. Two senior visitors require two to three days away from their base and all trainees (and a trainer from each site) are required to leave their hospitals to attend the regional centre. Again, representation is not always complete. The web-based questionnaire identifies many issues but these cannot be verified easily unless identified in several of the questionnaires. It gives numerical answers to particular questionnaires, for example, *x* trainees identified *y* as a training issue. This can be misleading, however, because not every trainee will complete the optional questionnaire making the figures harder to interpret. Also web questionnaires can lead to misunderstandings due to a lack of agreement over the definition of terms or words used.¹² They are easy to repeat but repetition is likely to lead to trainee exhaustion and a diminishing return rate. The anonymity may lead to less bias than the other systems but could lead to over-reporting of trivial problems.

It would be wise to include a question about the strengths of training hospitals and deanery systems, which our web questionnaire had omitted. The problems inherent in surveys regarding medical training have been recently summarised.¹²

Table 1. Deanery issues as assessed by the three different systems of evaluation of training.

Deanery issues	SAC visit	Web questionnaire	STC visit
Organisation	Good track system	No training agreement (16%)	No comments
Induction	–	No programme induction (42%)	No comments
Teaching	Good web site	3 no continence training in programme Not good access to careers (52%) and clinical governance (47%) courses Poor opportunities to teach non-medical staff (37%)	No comments
Research	Poor academic support – research support depends on two people	No publications (47%) No research mentor (32%)	No comments

SAC = specialty advisory committee; STC = specialty training committee.

Table 2. Geriatric medicine core curriculum topic training as assessed by the three different evaluation systems. Web questionnaire lists the number of replies indicating a shortage of training and a deficiency of training in the current hospital for certain curriculum areas.

SAC visit	Web questionnaire	STC visit
The teaching of core curriculum topics in each hospital	13 no continence training 7 no stroke training 11 no old age psychiatry training 14 no palliative care training 11 no day hospital training 10 no intermediate care training 9 no orthogeriatric training	<p>Hosp 4 not yet visited</p> <p>Hosp 7 no medical intermediate care, no stroke unit, no falls service</p> <p>Hosp 10 poor continuing care teaching</p> <p>Hosp 11 falls/orthogeriatrics teaching in state of flux</p> <p>Hosp 13 poor clinical governance teaching, poor continuing care teaching, poor undergraduate teaching</p> <p>Hosp 14 needs more old age psychiatry and orthogeriatrics teaching</p> <p>Hosp 14 poor continuing care teaching, poor clinical governance teaching</p> <p>Hosp 15 poor continuing care teaching, no medical input intermediate care, poor tissue viability teaching</p> <p>Hosp 15 poor continuing care and teaching</p> <p>Hosp 16 could develop movement disorder, old age psychiatry and rehabilitation teaching, poor orthogeriatrics and falls, continuing care and intermediate care teaching</p> <p>Hosp 16 general dissatisfaction</p> <p>Hosp 17 poor palliative care, orthogeriatrics and intermediate care teaching</p> <p>Hosp 17 poor continuing care teaching, poor undergraduate teaching opportunities</p> <p>Hosp 18 poor intermediate care poor palliative care and continuing care, movement disorder and continence teaching</p> <p>Hosp 18 poor continuing care teaching</p> <p>Hosp 20 poor old age psychiatry, tissue viability, orthogeriatrics, palliative care, continence, continuing care, intermediate care teaching</p>
Hosp 20 too much rehabilitation		

Hosp = hospital; SAC = specialty advisory committee; STC = specialty training committee.

Trainers were not asked to complete a questionnaire in our current web-based system though this would be achievable and could provide valuable confirmatory information regarding answers provided by the trainees. The RSA could also usefully complete a report to increase the information available. There can be no verification of findings at sites by visual inspection with web-based systems. Also, though immediate feedback is possible in both visiting systems the web questionnaires are completed over a period of time and the large amount of data is analysed after an interval so reporting is slow. The IT systems can breakdown leading to loss of data.

The STC visits are less independent but, like the SAC visits, are good at identifying positive issues. When backed up by pre-visit questionnaires much information on training opportunities and deficiencies can be identified. Though the visits are spread over many months it is, overall, time-consuming as each one requires at least two senior members of the STC to take half a day out from their base. It is less consuming of trainer and trainee time, as they are available on site at the time of the visit. A wider number of people can be interviewed at each of the training

hospitals including clinical tutors, clinical and medical directors, human resources officers and the chief executive if needed. This immediate feedback to local medical staff, managers and deanery representatives may be valuable and is absent in SAC visits, which also have a much longer QA cycle of five years. Advantages and disadvantages are shown in Table 3.

QA systems such as those compared in this study should be backed up by other methods of routine data collection such as attendance rates at regional teaching, evaluation of teaching sessions, annual trainee-completed deanery questionnaires evaluating training at the end of a placement including the adequacy of induction and appraisals, and examination success rates. Methods such as these need to be embedded in the deanery-based system of QA and are likely to be required by PMETB.

Conclusions

Each of these QA systems has advantages and disadvantages, and none can be regarded as a gold standard. Though the web questionnaire appears a valuable system, as it is relatively easy to

Table 3. Comparison of advantages and disadvantages of the three different evaluation systems.

	SAC visit	Web questionnaire	STC visit
Advantages	<ul style="list-style-type: none"> • Independent • External • All training hospitals represented • Trainers interviewed • Can give clear answers to organisational issues • Can cover ad hoc issues discovered on the day • Can deal with individual problems, complaints • Can verify answers • Can give immediate feedback • Regular repeat visits more difficult to arrange • More notice may be taken of an external opinion with authority 	<ul style="list-style-type: none"> • No costs of visit therefore less costly overall • Specific numerical answers to specific questions • Specific answers to questions asked • Easy to repeat • Anonymous so maybe more honest answer to questions 	<ul style="list-style-type: none"> • Semi-independent • Good at revealing positive issues • Can verify answers given • Immediate feedback can be given • Can directly inspect the facilities • Can ask questions of individuals not seen on SAC visits or questioned via web questionnaire
Disadvantages	<ul style="list-style-type: none"> • Large gaps in areas not asked about • Expensive to organise and time consuming for the deanery • Difficult to repeat frequently but backed up by RSA reports on progress 	<ul style="list-style-type: none"> • Misses some training hospitals • Can't cover <i>ad hoc</i> issues • Difficulty in answering individual problems or complaints • No answers to questions not asked • Unable to verify answers • Can't directly inspect facilities • Can't ask questions of trainers and others providing teaching • Can't give immediate feedback • Impossible for person completing questionnaire to ask questions on check on the meaning of terms used • Information technology can breakdown • May overestimate training deficiencies as encourages unrealistic expectations 	<ul style="list-style-type: none"> • Does not independently assess deanery issues • Moderately costly of visitors time

RSA = regional specialty adviser; SAC = specialty advisory committee; STC = specialty training committee.

carry out, it is clearly inadequate on its own, mainly because information is often incomplete and difficult to verify. Modification of the questionnaire and the addition of a trainer and RSA questionnaire would improve its effectiveness but would increase the work involved.

We recommend a well organised deanery-based visiting system backed up by nationally agreed pre-visit questionnaires and followed by a five yearly independent inspection visit. The last could focus particularly on deanery-wide issues and have access to the more detailed information from the local processes. The questionnaires used prior to visits should be standardised across the UK to enhance uniformity of collected data. The visits should include a sub-specialty and 'special interest' focus because, for any core topic, there will be many complex issues relating to delivery of the curriculum that will require detailed knowledge of the specialty as well as knowledge of different systems of education. The independent inspection visit should have the opportunity to attend individual sites identified as potential problems by the local systems. This would provide a detailed and independent review at a national level to which senior managers in the training hospitals are more likely to respond.

Conflicts of interest

SC Allen and C Turnbull are Chair and Secretary of the Geriatric Medicine Specialist Advisory Committee respectively. P Baker is Specialty Training Committee Chair for Geriatric Medicine in the Northwestern Deanery

References

- 1 Bruijn M, Busari JO, Wolf BHM. Quality of clinical supervision as perceived by specialist registrars in a university and district teaching hospital. *Med Educ* 2006;40:1002–8.
- 2 Clough CG. New developments in medical specialty training. *Clin Med* 2005;5:349–53.
- 3 Postgraduate Medical Education and Training Board. www.pmetb.org.uk
- 4 Rubenstein LV, Fink A, Gelberg L *et al*. Evaluating generalist education programs: a conceptual framework. Generalist program evaluation working group. *J Gen Intern Med* 1994;9(Suppl 1):S64–72.
- 5 Roff S, McAleer S, Skinner A. Development and validation of an instrument to measure the postgraduate clinical learning and teaching educational environment for hospital-based doctors in the UK. *Med Teach* 2005;27:326–31.
- 6 Baum KD, Axtell S. Trends in North American medical education. *Keio J Med* 2005;54:22–8.
- 7 Kirton OC, Antonetti M, Morejou O *et al*. Measuring service-specific performance and educational value within a general surgery residency: The power of a prospective, anonymous, web-based rotation evaluation system in the optimization of resident satisfaction. *Surgery* 2001;130:289–95.
- 8 Wall D, Whitehouse A, Campbell I, Kelly S, Cook S. Computerized evaluations of their education and training by senior house officers in the West Midlands. *Hosp Med* 2000;61:54–6.
- 9 Paice E, West G, Cooper R, Orton V, Scotland A. Senior house officer training: is it getting better? A questionnaire survey. *BMJ* 1997;314:719–20.
- 10 Cook L, Hurlock S. Education and training in the senior house officer grade: results from a cohort study of United Kingdom medical graduates. *Med Educ* 1999;33:418–23.
- 11 Briggs S, Fielding E, McCracken S *et al*. *Comparison of trainers' and trainees' perceptions of training quality*. Dundee: AMEE, 2005. Abstracts. www.amee.org/index.asp?lm=52
- 12 Baldwin DC, Daugherty SR. Using surveys to assess professionalism in individuals and institutions. In: Stern DT (ed), *Measuring medical professionalism*. Oxford: Oxford University Press, 2006:102–13.