AMEE Guide No. 27: Effective educational and clinical supervision

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SUE KILMINSTER[1], DAVID COTTRELL[1], JANET GRANT[2] & BRIAN JOLLY[3]

[1]University of Leeds, UK, [2]Open University Centre for Education in Medicine, UK, [3]University of Monash, Australia

Abstract

Background: This guide reviews what is known about educational and clinical supervision practice through a literature review and a questionnaire survey. It identifies the need for a definition and for explicit guidelines on supervision. There is strong evidence that, whilst supervision is considered to be both important and effective, practice is highly variable. In some cases, there is inadequate coverage and frequency of supervision activities. There is particular concern about lack of supervision for emergency and 'out of hours work', failure to formally address under-performance, lack of commitment to supervision and finding sufficient time for supervision. There is a need for an effective system to address both poor performance and inadequate supervision.

Supervision is defined, in this guide as: 'The provision of guidance and feedback on matters of personal, professional and educational development in the context of a trainee's experience of providing safe and appropriate patient care.' A framework for effective supervision is provided:

(1) Effective supervision should be offered in context; supervisors must be aware of local postgraduate training bodies' and institutions' requirements; (2) Direct supervision with trainee and supervisor working together and observing each other positively affects patient outcome and trainee development; (3) Constructive feedback is essential and should be frequent; (4) Supervision should be structured and there should be regular timetabled meetings. The content of supervision meetings should be agreed and learning objectives determined at the beginning of the supervisory relationship. Supervision contracts can be useful tools and should include detail regarding frequency, duration and content of supervision; appraisal and assessment; learning objectives and any specific requirements; (5) Supervision should include clinical management; teaching and research; management and administration; pastoral care; interpersonal skills; personal development; reflection; (6) The quality of the supervisory relationship strongly affects the effectiveness of supervision. Specific aspects include continuity over time in the supervisory relationship, that the supervisees control the product of supervision (there is some suggestion that supervision is only effective when this is the case) and that there is some reflection by both participants. The relationship is partly influenced by the supervisor's commitment to teaching as well as both the attitudes and commitment of supervisor and trainee; (7) Training for supervisors needs to include some of the following: understanding teaching; assessment; counselling skills; appraisal; feedback; careers advice; interpersonal skills. Supervisors (and trainees) need to understand that: (1) *helpful supervisory behaviours* include giving direct guidance on clinical work, linking theory and practice, engaging in joint problem-solving and offering feedback, reassurance and providing role models; (2) *ineffective supervisory behaviours* include rigidity; low empathy; failure to offer support; failure to follow supervisees' concerns; not teaching; being indirect and intolerant and emphasizing evaluation and negative aspects; (3) in addition to supervisory skills, effective supervisors need to have good interpersonal skills, good teaching skills and be clinically competent and knowledgeable.

Introduction

Why the Guide?

What is good educational supervision and who are the good supervisors? Documentation from the UK Department of Health (DoH 1996) and General Medical Council (GMC 2005 (New Doctor), 2006 (Good Medical Practice), 1999) has highlighted the need for good educational supervision, appraisal and assessment in postgraduate education. However, it is not always clear what supervision entails, who should or could supervise, what the effects of supervision are and moreover, what its benefits to patients and the service in general are. It is clear that some doctors receive excellent supervision. It is also clear that others receive inadequate supervision (Grant et al. 2003).

Effective supervision of trainees involves skills that are different from other more general competences expected of a teacher or trainer (Harden & Crosby 2000; Hesketh et al. 2001). Supervision includes ensuring the safety of the trainee and patient in the course of clinical care; giving feedback on performance, both informally and through appraisal; initial training and continuing education planning; monitoring progress; ensuring provision of careers advice; ensuring an

Correspondence: David Cottrell, Department of Child and Adolescent Psychiatry, University of Leeds, UK; email: d.j.cottrell@leeds.ac.uk

Practice points

- Although supervision is recognized as important and effective, actual practice is very variable and there is a need for a definition and explicit guidelines.
- This guide provides a framework for effective supervision—direct supervision, constructive feedback, structure and the quality of the supervisory relationship are particularly important.
- Helpful supervisory behaviours include giving direct guidance on clinical work, linking theory and practice, engaging in joint problem-solving, offering feedback and reassurance and providing role models.
- There is a need for an effective system to address both poor performance and inadequate supervision.

appropriate level and amount of clinical duties. Supervision features more observation, continual feedback and sharing of clinical judgement. Supervision has been the least researched and supported aspect of medical education and yet is central to the effective training of physicians. This guide is the culmination of a research project designed to investigate the role of educational and clinical supervision and the skills required. It draws on relevant empirical and theoretical work to offer a practical, informative guide to good supervision.

Who is it for?

The Guide is for anyone who supervises others in medical clinical practice settings. It is based on work conducted in the UK but can be applied elsewhere. Although it has been targeted at education in the postgraduate setting it may also have some relevance in undergraduate medical education. It will also be useful for trainees. We have attempted to describe the roles and terms of reference of all the key players, with descriptions of the supervisory tasks necessary at each level of training from newly qualified doctor to Consultant and including the roles of the regulatory and statutory bodies. The Guide should also be of help to those managing, monitoring or delivering training.

What is supervision?

There are various understandings and definitions of supervision; based on the findings of our research project *Good supervision: Guiding the clinical educator of the 21st century* (Kilminster et al. 2000) we define supervision as:

> The provision of guidance and feedback on matters of personal, professional and educational development in the context of a trainee's experience of providing safe and appropriate patient care.

We would hope that the trainee's care would be safe and appropriate at all times. However, the definition recognizes that some benefit can be derived from analysis of errors, their management and resultant lessons. The anticipatory element of supervision is necessary to isolate and deal with threats to patients' safety. The 'personal' issue in the definition is an attempt to acknowledge that many problems with competence can arise from personality-related variables and that these are often the most difficult aspect to deal with for the supervisor and trainee.

Educational and clinical supervision in context

Ensuring patient and trainee safety

Postgraduate medical training is the process whereby newly qualified doctors—in the UK these are pre-registration House Officers (PRHOs)—progress through a series of training stages until they become trained and certified specialists or general practitioners. From an educational point of view, different processes are involved in this progression. Some of the body of knowledge and many of the skills and attitudes that the trainee doctor acquires whilst progressing along this road will come from his/her own self-directed private study; some will also come from the formal educational activities of the training programme on which he/she is enrolled. However the most important element of training for nearly all doctors is the opportunity to undertake medical practice in their chosen speciality under appropriate supervision.

Clinical supervision must have patient safety and the quality of patient care as its primary purposes but must also fit in with the trainee's educational objectives. Clinical responsibility for patient well-being lies with the supervising consultant who is in turn responsible to the chief executive of the clinical service, hospital or Trust.

The nature of clinical supervision will vary from speciality to speciality and from unit to unit. The nature of the speciality (surgical or non-surgical for example), location (primary care or hospital) and the structure of the clinical team providing the service will be the primary determinants of the sort of supervision required, but in all cases the object of supervision will be the same: to provide the patient with the best possible quality service under the prevailing circumstances and to provide the community from which that patient comes with the quality of service which meets its needs. The processes that ensure patient safety are essentially educational and form the backbone of the trainee's clinical learning.

Patient safety. It may be perfectly safe for a highly competent practitioner to see and examine a patient in the home, where conditions are often less than ideal. Put an inexperienced trainee in that same position and it becomes less safe. The role of the supervisor may also be considered at different levels. A senior manager or consultant supervisor may well have responsibility for the working environment, whereas a Specialist Registrar (SpR or senior resident) supervising a Senior House Officer (SHO or junior resident) carrying out an emergency appendectomy will have limited responsibility for the work environment, but does have a great responsibility for ensuring that the procedure itself is carried out safely. It is important therefore that supervisors understand their responsibilities with regard to patient safety.

The practice of medicine has evolved in a way that has left many trainees working with minimal supervision. Whilst this

may be perfectly reasonable, it does place great responsibility on the supervisor to ensure that the trainee is competent and performing only at an appropriate level. Accomplishing this without compromising patient safety may be very difficult. In the absence of a clear, explicit indication of the level of competence of a trainee it will be necessary for the supervisor to ascertain this either by direct observation or enquiry from other staff. Only then can the correct levels for practice and supervision be determined and applied without compromising patient safety. It is important to ensure that appropriately qualified supervisors are available, for example, when trainees are providing out-of-hours care.

Trainee safety. Ensuring the safety of trainees in the course of their clinical duties is an essential element of supervision. Trainees are less likely to acquire new competences in environments where they are in fear of being exposed to risk—the major factor in determining levels of psychological distress in trainees is their confidence in carrying out the clinical tasks expected of them (Williams et al. 1997).

Supervisors should ensure that trainees work within their competences and that they are adequately supervised when acquiring new skills. In addition:

- Trainees should receive adequate induction to training placements.
- Opportunities must be made available to reduce stress by ensuring availability of stress counselling and training in communication skills. Trainees must be made aware of these resources.
- Trainees who are required to undertake procedures that may expose them to risk (e.g. handling of surgical equipment or making up toxic drugs) should receive adequate instruction and protection.
- Trainee safety should not be compromised by onerous duty rotas or excessive service commitments.
- Adequate procedures must be in place for prevention and control of transmissible infectious diseases.
- Personal safety from attack must be ensured.
- Procedures in the event of fire and other emergencies must be in place and trainees must be made aware of them.

Overseas trainees have special needs; it cannot be assumed they have the same level of understanding of local healthcare systems as doctors who have trained in the country concerned and therefore they may need more carefully planned induction.

Supervisors themselves need to be competent in the skills to be acquired and in dealing with the complications that may arise from using these skills. Trainees need to have confidence in their supervisors: this is particularly important when responsibility for teaching has been delegated to staff other than the supervisor. Supervisors need to monitor the quality and effectiveness of education and supervision carried out in their name.

Ensuring trainee competence and level of supervision

The content of what needs to be supervised at different levels will change but the level of supervision will vary according to the grade and relevant experience of the trainee. Supervisors need to make judgements as to whether they should be:

- present in the same room as the person being supervised, providing direct supervision (direct supervision);
- nearby and immediately available to come to the aid of the person being supervised (immediately available supervision);
- in the hospital or primary care premises and available at short notice, able to offer immediate help by telephone and able to come to the aid of the person within a short time (local supervision);
- on call and available for advice, able to come to the trainee's assistance in an appropriate time (distant supervision).

Training log books can be useful tools in helping to determine the level of supervision required.

Supervision in clinical teams

Clinical teams are hierarchically structured and the responsibility for clinical supervision does not lie solely with the consultant or general practitioner principal who is at the head of the team. For example the main responsibility for the clinical supervision of a medical team on emergency take usually lies with a specialist registrar or senior resident who will directly supervise the activities of the more junior staff who are delivering the care. This produces a system of great complexity for all the team members. Responsibility is distributed in an uneven fashion throughout the team. The consultant has responsibility for the overall functioning of the medical team and for the individual clinical performance of all the team members. The consultant has clinical responsibility for the decisions that lead to individual team members working without direct supervision. It is clearly not possible, nor would it be appropriate, for the consultant to allocate work on a case-by-case basis. However, it is essential for the consultant to understand and orchestrate the process by which individual team members are working with more or less direct supervision in different clinical areas. The processes whereby this may happen and how they need to be negotiated also needs to be understood within the team. It is important for the development of even the most junior team member that he/she has areas of clinical activity for which he/she takes direct responsibility and only reports back to a more senior member when he/she judges the need to do so. It is self-evident that the extent of the less directly supervised domain will be large for experienced senior trainees and much smaller for junior trainees. Senior trainees require instruction in, and experience of, supervising more junior staff. Although a junior trainee may refer to them as their first line of advice and assistance, both the junior and senior trainee will be subject to supervision from a designated consultant. There will be some occasions during highly specialized training when it will be inappropriate

for senior trainees to act as supervisors—they may themselves require direct supervision.

The situation becomes further complicated in teams with more than one consultant supervisor, now the norm rather than the exception. A single named consultant may take on the role of 'educational supervisor' for the team. This role concerns arranging appropriate educational support for trainees and ensuring that they are exposed to appropriate clinical experience and responsibility. The task of clinical supervision and the process of taking vicarious responsibility for patient care delivered by trainees will fall to each of the consultants whose patients are looked after by the clinical team in question.

Employers' responsibility for supervision

Employers need to ensure that the arrangements for the delivery and monitoring of supervision are practical, robust and transparent although, ultimately, designated supervisors are responsible for ensuring that clinical supervision takes place in accordance with local clinical guidelines and external advice (in the UK from regional training committees, Royal Colleges and the General Medical Council).

Individual trainers have to manage the conflict between the need to provide a clinical service and the need to provide adequate supervision for the trainees for whom they are responsible. Within healthcare organizations, the lines of responsibility are through clinical directors and medical directors to the chief executive. In all cases, the trainee–trainer interface is the local level of accountability. Trainer and trainee have at their disposal advice and support from the local course organizers, speciality training bodies and external regulatory bodies. (In the UK this includes, Directors of Postgraduate Medical Education, College tutors and programme directors, Royal Colleges and the Specialist Training Agency.)

In addition to ensuring that all doctors in training receive adequate supervision in an appropriate environment, employers (Trusts in the UK) will need to ensure that they have in place systems that can deal with:

New doctors who have not worked in the hospital or practice before:

- How is an assessment of competence made?
- How much direct supervision is needed before allowing the person 'clinical freedom'?
- How much trust can be placed on the appointment process to select doctors who can be relied upon to perform at an appropriate level of competence?

Locum doctors:

- Who has responsibility for the clinical performance of locums?
- How much direct supervision should occur before allowing the locum 'clinical freedom'?
- How much reliance can be placed upon the agencies that provide the locums?

Non-consultant career-grade doctors:

- Who is responsible for supervising the clinical performance of staff-grade doctors?
- Who is responsible for ensuring that staff-grade doctors avail themselves of educational opportunities and keep up to date with developments and current practice in their speciality?

Some lines of accountability within individual organizations are relatively straightforward as clinical activity is delivered either by clinical teams or by individual departments or practices. The main line of accountability will involve doctors within the same speciality or practice, some of whom will have a designated supervisory role. However, there will also be circumstances in which accountability involves doctors from another speciality. An example would be a consultant anaesthetist supervising aspects of a trainee surgeon's work. The consultant anaesthetist might be expected to carry some responsibility for ensuring that the trainee surgeon performs at an appropriate level. There are also inter-professional lines of accountability involving other healthcare personnel, for example, nurses, technicians, operating department assistants.

The quality of clinical supervision of trainees is therefore a central problem for clinical governance organizations within the medical management structure, and these organizations need to assure themselves that appropriate supervision is being undertaken. The complexity of lines of responsibility for trusts and individual consultants is shown by the example in Box 1.

> **Box 1: The outpatient treatment of varicose veins by injection**
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> What if the patient has a cardiac arrest during the injection of varicose veins? Resuscitation equipment must be readily to hand, in good working order and the staff trained to use it. There is a management role here in 'supervising' facilities and in ensuring the training of nursing staff. The consultant or competent specialist registrar supervising a junior doctor in training has a duty to ensure that the training of the junior doctor encompasses the possibility of a cardiac arrest. Does the junior doctor know where the equipment is kept? Is she/he competent in resuscitation techniques? If the answer is 'no' to either of these questions, it is surely the duty of the trainer as a supervisor to see that these deficits are rectified. It should be appreciated that the supervisor does not necessarily need to train the junior doctor in resuscitation, but *does* need to ensure that proper induction has been organized and that the necessary training takes place.

Within the UK, the responsibility for good clinical governance in Trusts lies with chief executives and through them medical directors, clinical directors and individual consultants. The General Medical Council has emphasized that Trusts must ensure that the time and resources necessary for encouraging and sustaining a culture of education are available, and that the environment is adequate.

Poor performance

Every employer will have to create a system for identifying and dealing with doctors who exhibit a persistent pattern of poor performance. The concept of Clinical Governance has encouraged the creation of clinical standards committees and/or clinical governance committees, which carry out their functions with clearly defined lines of accountability to the Trust Board and Chief Executive. The educational system has a role when poor performance relates to educational issues and a failure to progress, with increasing competence, in a placement. The Education Supervisor would then discuss this with either the Clinical Tutor or College Tutor, and might then refer on to the Deanery, particularly if the trainee is in a managed scheme. The Trust would be involved when issues of personal conduct such as lateness, rudeness or neglect of clinical responsibilities were the reason for poor performance.

What is known about current supervisory practice?

The literature

This section summarizes the literature on supervision in practice settings in order to identify what is known about effective supervision. Relatively, there is a limited amount of published medical literature addressing supervision; particularly, there are few empirical studies (Kilminster & Jolly 2000). Supervision is a complex activity, occurring in a variety of settings, and has various definitions, functions and modes of delivery. It usually includes an interpersonal exchange. This complexity means that research into supervisory practice presents methodological problems and adequate research methodologies have yet to be established.

What are the understandings and definitions of supervision and its purposes?

There appears to be general agreement that the essential aspects of supervision are that it should ensure patient/client safety and promote professional development. Clearly, there may be some occasions when these two aspects are in opposition.

There is also agreement in the general literature that supervision has three functions—educative, supportive and managerial or administrative. In medicine, this would include guiding patient management.

What are the theoretical models of supervision?

Various models are presented in the psychotherapy, social work and nursing literature. Common features of these models include the idea that supervisory behaviours can be categorized and that supervision needs vary according to the recipient's level of experience. Most models stress the need to use supervision approaches that are appropriate to the trainee's level of experience and training.

There is some limited empirical support for the proposition that supervision needs vary according to the trainee's experience and level of training.

There are no adequate theoretical accounts of supervision in medicine; such an account of supervision in medicine might draw on ideas developed in adult learning theories, experiential and work-based learning as well as understandings about apprenticeship and development of expertise (for example, Kolb 1984; Patel & Groen 1990; Lave & Wenger 1991; Boud et al. 1993; Eraut 1994; Tenant 1999) but would also need to connect with educational strategies used throughout medical education, including the problem-based learning approach, skill development and apprenticeship.

How is supervision delivered—what is its structure and content?

The evidence indicates that there are wide variations in the frequency and amount of supervision that trainees in the UK receive (Kilminster et al. 2000). In particular, there are marked variations across and between specialities. Where guidelines exist they are not always met. The variation is so great that it cannot simply be explained by variations in individual learning. Problems with the extent and availability of supervision have been identified across the professions. The quality of supervisory interactions remains to be investigated in depth. Supervision can occur 'on the job', usually whilst a practical task is being carried out; informally; in a one-to-one meeting; in peer supervision; in group supervision; and in networking. There is empirical evidence (including some of our own work) indicating that finding sufficient time for supervision can be a problem; some strategies have been suggested to address this but more are needed.

Is supervision effective and how can this be determined?

There is some convincing quantitative evidence, across health and social care professions, that supervision has a positive effect on patient outcome and that lack of supervision is harmful to patients. In particular, empirical evidence shows that direct supervision is very important and can positively affect patient outcome and trainee development, especially when combined with focused feedback.

Review evidence suggests that increased deaths are associated with less supervision of junior doctors in surgery, anaesthesia, trauma and emergencies, obstetrics and paediatrics (McKee & Black 1992). These authors argue that the balance of evidence shows that patient care suffers when trainees are unsupervised even though some trainees claim to benefit from the experience that lack of supervision gives them. However, they also argue that unsupervised experience can lead to the acceptance of lower standards of care because the trainee may not learn correct practice without appropriate supervision.

In the USA, strong evidence for the importance of direct supervision was obtained by comparing attendings' (senior doctors equivalent to UK consultants) own findings regarding patients with their ratings of residents' (equivalent to specialist

registrars) reports and history taking, assessment of severity of the patients' illness, diagnoses, treatment and follow-up plan (Genniss & Genniss 1993). The researchers found that the attendings' assessments of the residents were more critical after seeing the patients and that they considered seeing the patients themselves to be important for both teaching and management. The patients were seen as more seriously ill, and there were frequent changes in diagnosis and management. The authors indicate that there were some weaknesses in the study design (it was not a randomized trial so the results could be due to the order of evaluation and changes in treatment were often minor and therefore could be due to differences in opinion). They do conclude, however, that, when supervisors see the patient themselves rather than relying on trainees' reports there is a significant difference in their assessments of residents' skills and patient management.

The effects of supervision on quality of care were examined in five Harvard teaching hospitals (Sox et al. 1998). A range of measures was used—residents' compliance with process-of-care guidelines (assessed by record review), patients' satisfaction and patients' reported problems with care. Over a seven-month period all 3667 patients presenting with abdominal pain, asthma/COPD, chest pain, hand laceration, head trauma and vaginal bleeding were included; residents were unaware of the purpose of the study. All patients were given a questionnaire to complete on site and some were randomly selected for a 10-day follow up interview. Analyses were adjusted for case mix, degree of urgency and chief complaints. Using these measures the researchers found that the quality of care was higher when the resident was directly supervised, i.e. when the attending also saw the patient. The benefits of direct supervision of residents applied regardless of the level of training and urgency of the cases. The authors point out that there are limits to the generalizability of the study because the five hospitals did not have emergency medicine training programmes, there may be between-hospital variations in quality and frequency of supervision, patients were not randomized to different groups and there was no control for the speciality of the attending physician.

Faculty involvement was investigated, over a 12-month period, for each surgical procedure and all resuscitation and operations in the trauma service in one hospital (Fallon et al. 1993). Faculty involvement was ranked on a five-point scale and these data were matched to outcomes of death or complications that were reported in the weekly departmental complications conference. The results suggested that supervision had a greater impact where the trainee was less experienced. The authors acknowledge a number of limitations to their study but conclude that close supervision of general surgical residents during their rotations to subspecialties is important and that the effect of supervision can be evaluated by using probability of survival data in trauma. They also argue that there is a need to establish measurable standards of supervision.

Griffiths et al. (1996) compared tests (X-rays, arterial blood gases (ABG) and electrolytes) ordered in the neonatal intensive care unit by staff with different levels of experience. They found that as workload increases newly qualified doctors order more ABG, especially when they are less supervised.

To summarize, empirical evidence from the literature review shows that:

- Direct supervision seems to help trainees gain skills more rapidly.
- The quality of the supervisory relationship strongly affects the effectiveness of supervision. Particularly important aspects are continuity over time in the supervisory relationship, the trainees having some control over the supervision (there is some suggestion that supervision is only effective when this is the case) and that there is some reflection by both participants.
- Behavioural changes can occur relatively quickly as a result of supervision whilst changes in thinking and attitude take longer. This is particularly important because there may be relatively frequent changes of supervisor due to rotations.
- Self-supervision is not effective; input from a supervisor is required.

The supervision environment is extremely important because medical students have strategies to appear as competent as possible, which can conflict with opportunities to learn (Jolly & MacDonald 1986). In addition, trainees can perceive 'one to one consultations as problematic and risky situations in which they struggle[d] for a balance between the opportunity to learn and the need to perform in and manage the consultation process' (Somers et al. 1994, p. 587). There is compelling evidence that postgraduate trainees engage in similar behaviours (Arluke 1980). Clearly, such defensive behaviours are likely to have an effect on the supervision process and, ultimately, that may not be beneficial to patients.

What skills and qualities do effective supervisors need?

Empirical and review evidence indicates that, to be effective, in addition to supervisory skills supervisors need to have good interpersonal skills, good teaching skills and be clinically competent and knowledgeable. The distinction between supervision and teaching is not easily made. However, empirical and review evidence indicates that:

(1) *Helpful supervisory behaviours* include giving direct guidance on clinical work; linking theory and practice; engaging in joint problem-solving and offering feedback, reassurance and providing role models.
(2) *Ineffective supervisory behaviours* include rigidity; low empathy; failure to offer support; failure to follow supervisees' concerns; not teaching; being indirect and intolerant and emphasizing evaluation and negative aspects.
(3) *Good interpersonal skills* include involving trainees in patient care; negotiation and assertiveness skills; counselling skills; appraisal skills; self-awareness; warmth; empathy; respect for others; listening skills; expressing one's own emotions appropriately; offering support; being positive; having enthusiasm.
(4) *Clinical competence* includes being seen as a good clinician and having up-to-date theoretical and clinical knowledge.

(5)   *Teaching skills* include offering opportunities to carry out procedures; giving direction; giving feedback; having knowledge of teaching resources; knowledge of certification requirements; individualizing the teaching approach; being available and having evaluation skills.

Studies reporting on characteristics of effective clinical teachers have some relevance for supervisors. The characteristics include having clinical credibility; having knowledge of context, learners and general principles of teaching including the importance of feedback and evaluation; being a positive role model and appearing to enjoy teaching.

In addition trainees need clear feedback on their errors; corrections must be conveyed unambiguously so that trainees are aware of mistakes and any weaknesses they may have.

How these skills should be assessed and how supervisors should be selected is not discussed in the literature. Some empirical and review evidence suggests that race and gender dynamics are areas of potential difficulty in supervisory relationships.

What training do supervisors need and how can its effectiveness be determined?

The need for training is widely accepted and there is some evidence that it can be effective. There is agreement that training probably needs to include at least some of the following: understanding teaching; assessment; counselling skills; appraisal; feedback; careers advice; interpersonal skills. Course content should emphasize the importance of understanding the concept and purposes of supervision; understanding the content and type of training undertaken by the supervisee; understanding the structure and types of supervision including the importance of a supervision contract, giving and receiving criticism, counselling skills and interpersonal dynamics.

Some commentators consider there should be some criteria regulating entry into supervisor training courses or for acceptance as a supervisor.

Supervision research project: empirical findings

Supervision, both educational and clinical, is an essential part of Specialist Registrar (SpR) training (DoH 1996) although there is relatively little guidance as to how and where this should take place. There are no large-scale studies describing supervision practices in medical education (Kilminster & Jolly 2000) and so relatively little is known about how supervision takes place in different specialities. Therefore, as part of a Department of Health funded project investigating supervision (Kilminster et al. 2000), we undertook a national questionnaire survey to identify the range and effectiveness of supervisory methods for SpRs in current usage. The purpose of the survey was to establish what supervisory methods were being used and to determine how effective, particularly in relation to effects on patient care, education supervisors (ESs), specialist registrars (SpRs) and medical directors (MDs) perceived these

methods to be. We were interested in the general situation rather than a detailed examination of one particular area (geographic and/or speciality) and intended to evaluate the findings in the context of clinical governance. We also undertook an exploratory critical incident study to identify key features of effective supervision from the perspectives of SpRs and ESs (Cottrell et al. 2002).

Our findings suggest that whilst supervision is considered to be both important and effective, practice is highly variable (Grant et al. 2003). This would not necessarily give cause for concern except that there are clear indications that there is inadequate coverage and frequency of supervision activities (although supervision is considered to be effective), together with significant differences in the perceptions of SpRs and ESs particularly in relation to monitoring performance, feedback, planning learning and support of the trainee. At the least this indicates there is a need for more explicit guidance for ESs and SpRs.

Purposes of supervision

Respondents were asked about educative, managerial and supportive functions of supervision because these three functions are frequently identified as the purpose of supervision in much health, social care and education literature. Activities reflecting each of these functions were considered to be of significant importance to the purpose of supervision in medical education (see Box 2).

Box 2: Supervision activities rated as of significant importance

(1)   Ensuring patient safety/care.
(2)   Educating the trainee.
(3)   Promoting high standards.
(4)   Identifying trainee problems.
(5)   Supporting the trainee.
(6)   Monitoring trainee progress.

Respondents were asked to rate each suggested purpose on a five-point scale (where 1 was not important); each purpose was rated as at least important (3 or more on the scale) by all respondents but where there were significant differences in the ratings SpRs placed more emphasis on educative functions of supervision whilst the educational supervisors prioritized managerial and supportive functions. This difference probably reflects different priorities and concerns of trainers and trainees in an environment where there can be a tension between service and education.

Organization of supervision

In the UK, approximately 90% of SpRs reported having a named supervisor, a similar number to those reported in other studies (for example, Bools and Cottrell 1994; Davies et al. 2000).

Traditionally, there has been an expectation that all consultants should be supervisors. However, in our study,

the majority of ESs and MDs considered that there was a difference between an educational supervisor and a consultant to whom the trainee is answerable although only slightly less than half (47%) of SpRs recognized this difference. However, apart from general practice and psychiatry, it is clear that this practice is not systematic. It varies between departments, hospitals and specialities. Furthermore, almost all the respondents indicated that only those consultants with an interest and commitment to supervision should be supervisors, rather than all consultants. Most SpRs would like to be able to choose supervisors, although they only rated this issue as of 'some importance' in factors that support good supervision. These views probably reflect a change in perceptions regarding roles of supervising consultants, which may be a result of the relatively recent changes in UK specialist training.

Although four out of five SpRs report that they have regular supervision meetings there is a wide range in the length (10–240 minutes) and the frequency (daily–six monthly) of these meetings. GP trainees and psychiatry SpRs have a mandatory requirement for weekly meetings/ supervision meetings. In those specialities (anaesthesia, laboratory science, medicine, paediatrics and surgery) where there is no such requirement meetings are shorter and less frequent. Again, practice is highly variable, as has been reported elsewhere (Davies & Campbell 1995; Panayiatou & Fotherby 1996).

There were also consistent differences between ESs and SpRs in ratings in relation to the frequency of supervision, those activities that are supervised and the effectiveness of this supervision. SpRs reported lower frequency and effectiveness of supervision. It is not simply that SpRs consistently under-report all meetings—they reported receiving more frequent tutorials than the ESs reported giving. Also both groups rated supervisor and trainee availability as good (although there was a significant difference on ES and SpR ratings of ES availability). Both considered ESs to have good approachability. Therefore, the difference in SpR and ES perceptions are probably not due to availability or approachability of supervisors although availability was reported as a problem in the critical incident study. The reasons for this disparity are not clear; it may be that activities ESs recognize as supervision are not recognized as such by SpRs. Other studies have reported trainee dissatisfaction with supervision but most concentrate on trainee perceptions and/or experiences rather than comparing trainee and supervisor perceptions.

Supervision practices

The questionnaire data relating to supervision activities (see Box 3) give some cause for concern. None of the activities, including ensuring patient safety, was rated as receiving significant or full coverage either by SpRs or ESs. In other words, none of the activities was rated as occurring to a sufficient extent or with sufficient frequency. Almost all the activities showed a significant difference between SpRs' and ESs' ratings. ESs thought there was more coverage than did SpRs. Some of the largest differences occurred on items dealing with monitoring performance, feedback, planning

learning and support of the trainee. These activities might be seen as particularly important with regard to trainee development. Although this difference between ES and SpR perceptions is not explained in our findings, the most important aspect is that neither group rated any supervision activity as receiving significant or full coverage.

Box 3: Supervision activities (shown in decreasing order of extent and frequency of occurrence)

(1) Discuss individual patients.
(2) Ensure patient safety.
(3) Provide informal feedback.
(4) Monitor the trainee's performance.
(5) Discuss (away from the bedside) the management of specific disorders.
(6) Ensure that the trainee has an appropriate level and amount of clinical duties.
(7) Provide feedback through appraisal.
(8) Give advice relevant to personal and professional development.
(9) Give support relevant to personal and professional development.
(10) Address successes/problems in trainee performance.
(11) Give career development advice.
(12) Develop teamwork skills.
(13) Ensure the safety of the trainee.
(14) Discuss/review the process of supervision.
(15) Teach specific techniques and procedures.
(16) Plan the trainee's learning.
(17) Develop interpersonal skills.
(18) Develop communication skills.
(19) Develop presentation skills.
(20) Bedside teaching.
(21) Use videotaped consultations.

SpRs, ESs and MDs all considered that supervision activities were at least moderately effective. Again, where there was a significant difference in perceptions of effectiveness, then SpRs rated the activity as less effective. ES reported giving significantly more feedback than SpRs reported receiving. ESs also considered this feedback to be more effective than did SpRs. There is considerable scope here for training courses aimed at creating more congruence concerning feedback.

Although both SpRs and ESs considered supervision during specific procedures/tasks (for example, outpatient clinics, ward rounds, tutorials and informal supervision) to be important, it occurred infrequently. Evidence from our literature review demonstrated the importance of supervision in relation to patient care and that direct supervision is effective but is often insufficient. The critical incident study had similar findings. Whilst quantity does not necessarily equate directly with quality, these data do suggest that existing supervision is insufficient. It is clear that SpRs think they need more feedback and direct supervision than they report receiving.

Good supervision

Generally, we found consensus regarding good supervision between SpRs, ESs and MDs. The attitudes and commitment of supervisor and trainee, the relationship between them, protected time, importance of positive feedback and regular meetings were rated as of significant importance in supporting good supervision and this is supported by the literature. Although there appears to be general agreement on what good supervision is, other findings indicate that it is not always practised. Finding time for supervision is clearly important but there would appear to be other factors involved.

SpRs rated the relationship between supervisor and trainee as of significant importance. SpRs also rated the need for guidelines, a definition of supervision and choice of supervisor higher than did ESs. These items all relate to control of the supervisory process and relationship and suggest that SpRs want more control over this. In the remainder of the survey SpRs consistently made lower ratings than ESs. There were only three speciality-specific significant differences in views concerning factors supporting good supervision. General practice gave highest ratings to the importance of the supervisor's teaching skills and the need for training, assessment and monitoring whilst psychiatry gave highest rating to 'trainee having regular meetings with the supervisor'. These ratings are noteworthy because training is mandatory for GP supervisors and supervision meetings for psychiatry trainees. The lowest rankings for all aspects of supervision were in medicine, where there was also least supervision.

Difficulties in supervision

Respondents were concerned about lack of supervision for emergency and 'out of hours work', failure to formally address underperformance, lack of commitment to supervision and finding sufficient time for supervision. These problems have serious implications in the context of clinical governance and audit. There is a need for an effective system to address both poor performance and inadequate supervision. Where there were significant differences, across specialities, in ratings of difficulties it is interesting to note that time, supervisor availability and lack of training of the supervisor caused the greatest difficulty in anaesthesia and medicine, and least difficulty in general practice where supervisors have to be trained and weekly meetings are mandatory. The large numbers of trainees in anaesthesia are perceived to be causing problems although it is not clear why this should be so. Where respondents gave figures there did not appear to be a severe imbalance between numbers of trainees and numbers of consultants. It might be expected there would be a similar problem in surgery but this was not apparent.

A framework for effective supervision

In this section we suggest a framework for effective supervision, which is based on our research findings and the literature. This framework must be understood as located in the external framework for training and the guidance provided on necessary training experiences by bodies responsible for postgraduate training. Training is a partnership between supervisor and supervisee and requires the active involvement of both—it is not something that trainers 'do' to trainees. Within this partnership trainers and trainees both have obligations and responsibilities.

Early planning meetings, agreement about learning objectives, written contracts and review of trainee placements and progress by the programme director are an essential component of well-run training programmes and will prevent many problems arising. The differences between specialities in their ratings regarding difficulties in supervision and factors supporting good supervision suggest that having minimum requirements for supervision and training of supervisors reduces problems and promotes good supervision.

Our work has demonstrated that there is a need for a clear definition of supervision (which we have provided) and guidelines concerning supervision. In the following paragraphs we identify the features and mechanics of effective supervision.

Features of effective supervision

(1) Direct supervision—trainee and supervisor working together and observing each other—positively affects patient outcome and trainee development.
(2) Constructive feedback is essential and should be frequent.
(3) Supervision should be structured and there should be regular timetabled meetings. The content of supervision meetings should be agreed and learning objectives determined at the beginning of the supervisory relationship. Supervision contracts can be useful tools and should include details of frequency, duration and content of supervision; appraisal and assessment; learning objectives; and any specific requirements.
(4) Supervision should include clinical management; teaching and research; management and administration; pastoral care; interpersonal skills; personal development; reflection.
(5) The supervision process should be informed by a '360 degree perspective'. This includes patient feedback, inter-professional supervision and training as well as reviewing written work and records. This will be supplemented by formal processes such as appraisal meetings and the results of examinations and formal assessments.

The quality of the supervisory relationship strongly affects the effectiveness of supervision. Specific aspects include continuity over time in the supervisory relationship, that the trainees control the content of supervision (there is some suggestion that supervision is only effective when this is the case) and that there is some reflection by both participants. The relationship is partly influenced by the supervisor's commitment to teaching as well as both the attitudes and the commitment of

supervisor and trainee. Supervisors (and trainees) need to understand that:

(1) *Helpful supervisory behaviours* include giving direct guidance on clinical work, linking theory and practice, engaging in joint problem-solving and offering feedback, reassurance and providing role models.

(2) *Ineffective supervisory behaviours* include rigidity; low empathy; failure to offer support; failure to follow supervisees' concerns; not teaching; being indirect and intolerant and emphasizing evaluation and negative aspects.

(3) In addition to supervisory skills, effective supervisors need to have good interpersonal skills, good teaching skills and be clinically competent and knowledgeable.

(4) *Training*: There is agreement that training for supervisors probably needs to include at least some of the following: understanding teaching; assessment; counselling skills; appraisal; feedback; careers advice; interpersonal skills.

In addition, our research evidence indicates that there are two areas of particular concern:

● It might be expected that there would be particular difficulties in supervision with regard to time, availability and approachability of supervisors. However, these issues appear to present fewer problems in specialities where there is a formal requirement for weekly supervision meetings than those where there is no such requirement. There is therefore a strong argument that all specialities should have a formal requirement specifying the frequency of supervision meetings.

● There are problems with 'out of hours' supervision and formally addressing underperformance and inadequate supervision. There is an urgent need for effective systems to resolve these issues.

Continuity of supervision

Continuity is a vital element in effective supervision of training and the delivery of a safe and effective service. It is essential for trainees who rotate through different placements. Establishing the level of competence of the trainee (for example, by direct observation or enquiry of others) is an essential first step in supervision otherwise training cannot commence and judgements cannot be made concerning the closeness of supervision needed to ensure patient safety.

Continuity of supervision needs to start early. Ideally, foundation trainees should have a portfolio documenting their strengths, weaknesses and achievements as an undergraduate. Training schemes need to organize themselves in such a way as to ensure accurate information about trainees is communicated effectively to supervisors as trainees rotate from post to post. Regardless of whether undergraduate or previous training information is available or not, an early meeting with the trainee (within the first two weeks of starting the post) needs to take place. At this meeting the structure and ground rules need to be agreed. These should indicate agreement on time and place of future meetings, issues of

confidentiality and accessibility of supervisor outside normal meetings.

A suggested format for this early meeting is shown below:

● Review progress to date (and any hand-over information).
● Review together speciality training guidelines.
● Formulate/review educational/training contract with timescales.
● Identify methods of achieving objectives or goals (the subsequent meeting should be used to review progress).

At the final meeting at the end of any training placement, an overall review should be undertaken to ensure that the trainee is able to progress to the next level and to identify in which area training should now take place. This information needs to be communicated to trainers in the next placement.

The issue of who should provide continuity of supervision is difficult and different specialities may adopt different solutions. For training to occur in a planned and coherent way, supervision of a trainee is best overseen by a single individual who will be involved with the trainee for a significant amount of time. Additionally, if problems are identified, they are more likely to be addressed by a supervisor who has responsibility for the trainee over, say, two years, than by someone who only sees the trainee for six months.

In some disciplines a programme director or the postgraduate tutor may be best placed to provide this overseeing role. In others where there are large numbers of trainees, this may be logistically impossible and here an individual consultant may take responsibility for a trainee throughout his/her time in the training programme. Irrespective of who takes on this role, it is essential that trainees and trainers are aware of the roles and responsibilities of the various people involved in providing training and who has ultimate responsibility for the trainee's progress.

Trainees

Trainees should be familiar with the overall training objectives for their chosen speciality and the agreed objectives for any particular placement. They should keep a record of their training experiences and achievements in relation to agreed objectives that can be used to inform discussions on future training. Different specialties require different recording procedures but, increasingly, trainees are being encouraged to keep detailed learning portfolios.

Trainees should attend supervision meetings punctually and should have prepared for any agreed tasks.

Supervision sessions should be trainee led, with trainees taking responsibility for their learning by suggesting topics for discussion. This does not preclude consultant supervisors from also suggesting topics.

Trainees must be prepared to develop a capacity for self-awareness and reflection on their practice that will enable them to identify, and bring forward for discussion in supervision, any areas where they feel their performance needs improving. They also need to be able to constructively criticize

local services where service organization issues interfere with delivery of training.

Trainee needs

Trainees also have certain specific needs in relation to supervision:

- graduated responsibility over time with direct supervision of assessment and management of patients, prescribing, practical procedures, administrative duties etc. shifting to less direct supervision over time;
- regular constructive feedback;
- establishment of learning objectives at the outset of each placement and identification of strategies for achieving them;
- periodic assessment and appraisal;
- time to attend specialist courses and specific instruction for examinations;
- supervision of their teaching/supervision of others;
- development of management, audit skills and involvement in the processes required by clinical governance;
- pastoral care and the provision of appropriate role models;
- provision of a safe environment for training and clinical work;
- career planning and advice based on the best workforce data available.

Box 4: How to give constructive feedback

Constructive feedback aims to improve performance. It should identify and reinforce the strengths of a person's performance and identify the weaknesses *whilst suggesting ways to improve them*. Feedback is most effective when it is *timely*—close to the event.

Giving feedback:

Ask the trainee to comment first and to identify which aspects of his/her performance went well. Then let him/her identify areas of difficulty and possibilities for change or development.

Respond to his/her comments before offering your own comments.

Again, begin with the positive. Be specific and descriptive, for example, 'The way you analysed the patient's problems and arranged appropriate investigations was excellent' rather than simply saying 'Very good'.

Prioritize and do not give a lot of negative feedback in one big bundle. Refer to behaviour that can be changed; for example, 'I know you are nervous but you will make the patient more comfortable if you make eye contact while you are talking to him'. Offer alternatives—try not simply to criticize but offer an alternative way of doing it. 'I think the patient was uncooperative partly because you did not explain what you were going to do. Try explaining the procedure now and then go back and tell her in simpler terms.'

Agree the next steps.

Feedback should be regular but can be brief and still very effective.

Feedback should be given as close to the event as possible.

Supervisors

Supervisors must contribute to the provision of a well-organized and comprehensive training programme and ensure that trainees placed with them have the necessary opportunities to achieve agreed objectives.

Supervisors must be accessible and should arrange regular uninterrupted meetings with trainees for supervision as well as being clear about how and under what circumstances they can be contacted between meetings.

Supervisors must observe their trainees in practice and make arrangements to gather information from others who have observed the trainee.

Supervisors must provide a safe environment in which trainees feel able to discuss their own perceived deficiencies and empowered to make any relevant constructive criticism of their training, including the supervision process. Trainees should see that action has been taken on problems they have identified. Supervisors need to cultivate an atmosphere of openness throughout the departments for which they are responsible.

Supervisors must be able to provide honest, fair and constructive feedback on trainee performance at regular intervals (see Box 4).

Skills required of a good supervisor

Supervision for junior staff must be offered in a supportive environment whilst ensuring patient safety. The skills required to deliver this supervision are many and varied (Box 5).

All training placements should start with a detailed 'educational needs assessment' and identification of clear learning objectives for the placement. This requires *appraisal skills* and the ability to establish the level of competence of trainees through observation of performance. Of particular importance is the ability to recognize unsatisfactory performance and progress and the willingness to act appropriately in the interests of the trainee and the patient. Supervisors need the ability to *observe and reflect* on practice and to provide trainees with clear and constructive *feedback* on their performance (see Box 4).

Effective supervisors need *formal skills in teaching* and facilitating learning. They need to be able to plan and organize teaching sessions, formulate relevant and achievable learning objectives, and facilitate trainee involvement in the learning process. In supervision sessions, helping the trainee to develop his/her own solutions requires the supervisor to have skills in *identifying alternatives* and *problem-solving*. Supervisors will also, at times, need the ability to *motivate* trainees.

Managing the tension between facilitating self-directed learning and directing the learning of the trainee is not easy. It may feel safest to monitor the trainee closely and this may be very appropriate in the early stages of training but supervisors need to be able to progressively advance the ability of the trainee to work independently without compromising patient safety and thus need skills in *fostering autonomy*.

The supervisor must be a skilled *information provider* able to understand and transmit the training and legal requirements of relevant statutory bodies (for example, medical Royal Colleges and the General Medical Council). The supervisor must also communicate the policy and procedures of the local department/unit and Trust and in turn ensure that other team members are aware of the training requirements and responsibilities of the trainee.

Supervision takes place in a context and the supervisor usually has a key part to play in creating the best possible environment for training. This requires good *service management skills* to ensure that department/unit affairs are well organized and run smoothly and that all staff are clear about their roles and responsibilities. Role modelling good clinical practice, leadership, teamwork and open communication, and critical self-evaluation of performance within the clinical service are essential components of good supervision.

Creating a context for delivering effective clinical services includes ensuring an appropriate balance between service and educational activities, constructing timetables and rotas that are coherent with training requirements, and seeking funds to provide the necessary physical facilities and materials for training. It also requires the *ability to foster a supportive culture* that promotes the personal and professional development of staff.

The supervisor may have to be an *advocate* for the trainee, to ensure he/she has adequate resources for training and that his/her training needs are being met. This will on occasion require *negotiation* skills. Ensuring that there is time for supervision whilst meeting clinical service needs requires *time management and organizational skills.*

Finally, the supervisor needs *self-appraisal skills* and the willingness to reflect on his or her own personal supervisory style and initiate change if it is not shown to be supportive and enabling.

Box 5: Effective supervisors are able to

- Observe and reflect on practice
- Give constructive feedback (see Box 4)
- Teach
- Identify alternatives
- Problem-solve
- Motivate
- Foster autonomy
- Provide information
- Appraise self and others
- Manage a service
- Create a supportive climate
- Advocate
- Negotiate
- Manage time
- Organize

Dealing with problems in supervision

There are many reasons why supervision may not be effective; these include:

- poorly organized training programmes;
- trainers who have poor supervisory skills;
- tension between service delivery and supervision/training needs;
- whether the trainee is able to learn from experience and to manage errors;
- whether trainees feel confident enough to acknowledge/address difficulties.

Many problems can be resolved through effective organization of training and appropriate mechanisms for appraisal and feedback. However, at the heart of supervision is the relationship between trainer and trainee and considerable difficulties can ensue if there are problems in this relationship.

Hierarchy and power

The innate hierarchy and power in a supervisor trainee relationship may be used as a positive or destructive force on either side, although the potential for abuse is probably greater on the supervisor's side.

Working closely together over a period of time can produce a feeling of mutual trust between the supervisor and trainee and a much greater understanding of the problems encountered by both parties. Obstacles to training that are identified can form the basis of supervisory sessions where the supervisor can help the trainee to arrive at his/her own solutions. However, if it is not possible the supervisor can step in when required. This might happen if problems of service work override educational needs—a trainee may be able to address this by making minor adjustments in timetabling but, for example, a consultant intervention may be required to prevent trainees being asked to do extra clinics for other consultants. The trainee's difficulties with other health professionals can be highlighted and might be dealt with by consultant intervention.

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However, the relationship is open to abuse, particularly as the trainee may feel in a subservient position, often dependent on the supervisor to progress to the next level of training and for job references. In primary care, the trainee is an employee of the practice and of the trainer. The supervisor also has the power to manipulate the trainee's timetable to ensure that service—not training—needs are met. Consequently the trainee may not feel able to reveal clinical weakness or emotional/psychological problems. If these problems are revealed, the supervisor may constantly focus on these problems and not the solutions, gradually undermining the trainee's confidence.

Dealing with personality issues in supervision

Personality issues may arise in supervision in a number of ways. A 'personality clash' between trainer and trainee may impede effective supervision; some personality issues are almost inevitable within supervision at some stage, even in the best run training schemes. More seriously, supervisors may become concerned about trainee attitudes to patients and to the other staff in the healthcare team. In such cases there may not necessarily be any particular problems in the trainer/trainee relationship, highlighting the importance of canvassing the opinions of other members of the team.

Possible solutions

The process of supervision is a finely balanced one and abuse of the system on either side may well tip the relationship into a potentially destructive one. All training programmes should have clear guidance regarding the conduct of supervision and well-publicized systems in place to address difficulties. Guidance on appropriate conduct should exclude teaching by 'humiliation', bullying, sexual harassment, and relationships between trainers and trainees. Trainees should know whom to contact if problems arise that cannot be resolved within the placement. Trainees should be discouraged from receiving medical treatment from trainers, for example GP trainees registering with their training practice.

Ideally problems should be discussed with the supervisor, as part of the regular process of reflecting on supervision within supervision sessions. Trainees need clear feedback and constructive suggestions on action. These can be related to the speciality learning objectives and also to other relevant publications such as the GMC's *Good medical practice* (1998). If problems cannot be resolved within supervision, there should be clear mechanisms for trainer and trainee to involve a third party as a mediator to help resolve issues. Programme Directors, Postgraduate Tutors or Postgraduate Deans and their nominees are most likely to be involved in this in the UK. A well-defined process of appeal should be identified if all else fails.

When there is concern about 'personality issues' it is important to ensure that trainers and/or trainees are not suffering from treatable physical or psychiatric disorders, or experiencing adverse life events. Careful assessment of

the situation and information regarding past progress and problems will be helpful here.

Many trainers are reluctant to raise concerns about attitudinal problems with trainees, as they can be difficult to resolve. However, the advent of clinical governance and recent advice from the GMC place an obligation on trainers to report such issues if they cannot resolve them. If problems cannot be reconciled, then clearly defined sanctions need to be in place to either prevent the progress of the trainee to the next level or allow for the removal of the trainee from a particular supervisor or trainer. As a last resort, local 'three wise people' procedures can be involved or the national professional regulatory body may need to be contacted if there are serious, unresolved concerns about a trainee's attitude to patients.

Supervision at different levels and in different specialities

Supervision at different levels

It is clear from our definition that all clinical staff should receive supervision, irrespective of grade. This should apply to consultants, principals in general practice and non-training grade doctors as much as to doctors in training. It is illogical that the process of reflection on and coordination of learning, which now takes place for all junior staff, should cease on leaving the training grades. All staff should participate in a programme of continuing professional development and ensure that they are up to date with new procedures, practices and knowledge.

Staff at all levels are likely to be receiving supervision and at the same time supervising others. Even foundation trainees will be 'supervising' medical students.

Trainees need to acquire responsibility in a graded fashion as they achieve competences, with the aim of becoming independent practitioners. The amount of direct clinical supervision required will be maximal at the foundation trainee level and at the beginning of each grade as new and unfamiliar problems are encountered and will decrease with time and experience. Paradoxically, much of the 'supervised' work of more senior trainees such as SpRs will take place without direct supervision. The process of development into an independent specialist requires that as experience is gained so the trainees are able to take more and more responsibility themselves. Clinical decisions are therefore reported to supervisors after the event or may not be reported at all if they form part of the daily currency of the work of a senior trainee. Middle- and senior-grade trainees will also be supervising others as well as receiving supervision themselves although, ultimately, responsibility will lie with consultant supervisors. Thus the capacity to supervise is also an essential part of the training process.

The content of what needs to be supervised at different levels will change but the 'closeness' of supervision will vary according to the grade and amount of progress within the grade. Trainers need to make judgements regarding levels of supervision (See section on 'Ensuring trainee

competence and levels of supervision') as to whether they should:

- be present in same room as the person being supervised;
- be nearby and immediately available to come to the aid of the person being supervised;
- be in the hospital or primary care premises and available at short notice, able to offer immediate help by telephone and able to come to the aid of the person within a short time;
- on call and available for advice, able to come to the trainee's assistance in an appropriate length of time.

Setting out the supervision needs of trainees at each of the different training grades is counterproductive as so much varies according to speciality. Although the content of supervision will vary according to grade, the basic structure of supervision needs is broadly similar at each level. Similarly, the generic skills required of the supervisor remain the same at each level (see section on 'Skills required of a good supervisor'). The personal contribution of the consultant will vary with the amount of supervision also available from intermediate grades; for example, the consultant will be the only person supervising an SpR, whereas a foundation trainee will receive supervision from SHOs and SpRs and other members of the healthcare team as well as the consultant. Where supervision is less direct, as in the situation where a SpR may be providing direct supervision of a SHO or foundation trainee, consultants must set up systems requiring the SpR to report to the consultant on trainee progress of an SHO, staff grade or foundation trainee. This in turn provides valuable supervision opportunities for discussion of and reflection on the SpR's role as a trainer and supervisor.

The supervision of trainees in general practice needs to acknowledge the change from hospital to primary care. The transfer from the confines of hospital work to the open-ended environment of primary care is a culture shock not to be underestimated. The new trainee will need time and space to adjust to the new environment. The registrar must be able to work within his/her competence. After the initial orientation, she/he will be learning new skills, not least in the realm of clinical assessment, consultation skills and living with uncertainty. It is the trainer's job to monitor closely and teach the new skills and attitudes required slowly over the first weeks and months as there will be a gradual increase in responsibility and clinical load. The 'sink or swim' approach is to be strongly deprecated. The paramount aim of supervision is patient safety, now and in the future. Formative assessment, regular tutorials and an educational culture that allows sharing of both knowledge and ignorance is essential.

'Supervision' for consultants, principals and staff grades

The principle of 'partnership' is of paramount importance for consultants and principals in general practice where

individuals may enter into arrangements for peer consultation/supervision of work with colleagues as part of a programme of continuing professional development.

It is important that staff grades should not be exploited in the name of supporting the training grades. The needs of these staff with regard to supervision are similar if not identical to the needs of those in the training grades, albeit that consultants and principals are likely to be receiving 'supervision' from peers. However, the lack of a formal structure to monitor training and supervision has led to many difficulties in ensuring that consultants, principals and staff grades continue to benefit from education and supervision. In the future, the advent of appraisal, revalidation, personal learning portfolios and clinical governance should ensure that this state of affairs does not continue.

Supervision across the specialities

Although the mechanics of supervision vary across the specialities there is a generic structure and skills in all supervision. Here we give examples of supervisory practice from disparate specialities and it will be evident that they have general applicability to supervision issues in other specialities. The examples are taken from case studies, written by experienced supervisors, regarding their personal experiences of supervision. The speciality from which the vignette is taken is indicated in each box (Boxes 6–13).

Box 6: Assessing trainee competence

Although surgical experience is carefully documented in log books, trainers are *not* at present required to sign off the competence of individuals in particular procedures. This gives rise to several problems:

- There is a delay when changing training paths while competence and training requirements are assessed by the new trainer.
- It makes it difficult for the new trainer to formulate and agree a training plan with the trainee.
- It makes it difficult for other supervisors such as the programme director at appraisal (RITA) to monitor progress of the trainee through the training scheme and remedy any deficits.
- It makes it difficult to defend assessment decisions, particularly if the trainee is deemed to be not competent.

Consequently the Vascular Surgical Society of Great Britain and Ireland instituted a simple chart that itemizes the key or index vascular procedures essential for subspecialty training. Included in this chart is open space to record the training received in these specialist procedures and *the level of competence* acquired. This latter is 'signed off' by the trainers and so creates a permanent progressive record of achievement. We adapted this form for the year 1–3 trainees on a local higher surgical training scheme. It now forms part of the RITA for these trainees and is used as part of the training agreement between SpRs and their individual trainers. The information is also gathered and analysed at regional level, forming a valuable source of data on the efficiency of operative training.

Surgery

Box 7: Supervision practices

I have managed to divide my outpatient work into new and review clinics. This means those review clinics can be run in a more meaningful way. As far as possible, doctors follow up their own patients. This gives continuity for patient and doctor.

In the afternoon after the morning clinic, all the doctors meet and each presents (consultant included) the patients they have seen and discusses the difficulties and their management plan. This is the time for any doctor to ask for advice about a particular patient. It works extremely well, junior doctors feel supported, patients can be confident that the consultant is still overseeing their case and patients are not subjected to endless, non-productive follow up. Areas of lack of knowledge can be highlighted and addressed. At the end of the post, both SpRs and SHOs have spontaneously expressed enthusiasm for this—regardless of their seniority.

Medicine

Box 8: Continuity of supervision

There is a five-year training programme for the sub-speciality of geriatric medicine involving a series of clinical placements and experience. In one local area supervisors decided that trainees should spend at least two years in one hospital site. We think that the advantage is that trainees have increased experience in one unit and a greater chance of longitudinal follow up of patients thereby enhancing their experience of disease progression. In addition, the trainees are more secure in their geographical placement with less disruption to their personal life. The advantage to the hospital is fewer changes of personnel. The trainee is associated with one supervisor for a longer period of time and thereby they get to know each other better and develop a deeper professional association.

Geriatric Medicine

Box 9: Useful supervision techniques

Although various relatively objective and recordable systems of supervision for procedures (e.g. observe, assist at etc.) have been developed, it is more difficult to make an objective assessment of the development of trainee doctors' diagnostic, consulting and medical management skills. A number of techniques are used in general practice to identify whether the trainee's work is developing satisfactorily and that the trainee's management of patients is of an appropriately high standard:

- random case note analysis;
- analysis of consultation on video;
- critical event analysis (events such as deaths or perceived clinical errors are analysed to see if anything might have been done better);
- analysis of prescription rates;
- analysis of investigation rates;
- analysis of hospital referral patterns, referral letters and replies;
- analysis of complaints.

General practice

Box 10: Levels of supervision

The consequences of poor supervision in anaesthesia can be very serious indeed and there is a stringent requirement for all trainees to receive appropriate clinical supervision at all stages in their training in anaesthesia. It is recommended that full-time, direct supervision should be provided at all times during the first 12 weeks of training. If the trainee does take part in the on-call rota then the supervision will probably be provided by other trainees who are further advanced in their training.

The level of clinical supervision is determined by the previous experience/training of the anaesthetist being supervised and the specific clinical situation.

Anaesthetists also have major involvement in intensive care units and pain management clinics. Clinical supervision for anaesthetists in intensive care should follow a similar pattern to that described for anaesthesia. There is normally much less urgency about clinical situations in a chronic pain clinic but high levels of supervision are usually warranted during both consultations and treatment sessions.

At varying times during their training anaesthetists require enhanced supervision. This may be whilst a single procedure is being performed or during introduction to a new sub-speciality.

Anaesthetics

Box 11: Continuity in supervision

Although each trainee had a supervisor there were some problems with continuity as well as personality clashes between trainee and supervisor so a mentor system was instituted in one region. The mentor is a consultant in A&E in another department in the region. She/he meets regularly with the trainee and reviews their progress in the light of their own assessment and feedback from the operational level. Any problems identified are then addressed appropriately. Participants have found that the process enables the strategic education plan to develop appropriately over time, even when the trainee moves hospital. In addition a more balanced assessment can be made during the bi-annual strategic meeting with the trainee.

Accident and Emergency

Box 12: Complexities of supervision in practice

The operating theatre can be a hostile environment for trainees. The trainee has to contend not only with the supervisor/teacher and the process of learning but also with the stresses of administering anaesthesia, the demands of the surgeon, time pressures, cost pressures, the presence of other staff such as nurses and, last but not least, patient expectations. Supervision of a trainee during an operating list may be subject to many interruptions and frequent inability to complete episodes of teaching.

Anaesthetics

Box 13: Problems in supervision

A trainee was enthusiastic about a career in front-line acute paediatrics. Early reports from both nurses and junior members of the department caused concern about the trainee's competence because of panic decision-making, indecisive leadership, failure in delegation of tasks and signs of stress. This led the educational supervisor to sit down with the trainee to list the skills necessary for acute intensive clinical work. But there was no evidence that these skills were improving at repeated reviews. The supervisor helped identify the trainee's areas of strength and identified a career pathway in which the trainee was more likely to succeed. This approach, emphasizing strengths not weaknesses, was successful. The trainee took the career advice enthusiastically, and with relief as she/he did have insight into his/her problems.

A second trainee lacked insight into his/her own difficulties with interpersonal relationships. She/he was brilliant in some areas of basic science and clinical medicine but was not a 'team player'. The educational supervisor arranged regular meetings and offered opportunities for skills development. However, these opportunities were poorly attended and relevant questioning at the trainee's appraisal meeting indicated that she/he had a lack of awareness and understanding of the difficulties. Progress to the next part of the training programme was deferred and the trainee protested. This situation was very difficult to manage and was referred to the Postgraduate Dean who supported the decision of the appraisal panel—that it was very unlikely the trainee would achieve a successful appraisal in the future. The trainee left the training programme to work in research.

Paediatrics

These examples have been chosen to reflect some of issues that cause difficulties in supervision and to show how they have been addressed in different specialities. They illustrate the importance of structure, continuity, supervision techniques, direct supervision, complexities of supervision in practice and dealing with problems in supervision.

Conclusion

The content of this guide is informed by both empirical work and practitioners' experiences. We have identified the need for a definition of and for explicit guidelines on supervision. There is strong evidence that, whilst supervision is considered to be both important and effective, practice is highly variable. In some cases, there is inadequate coverage and frequency of supervision activities. There is particular concern about lack of supervision for emergency and 'out of hours work', failure to formally address under-performance, lack of commitment to supervision and finding sufficient time for supervision. There is a need for an effective system to address both poor performance and inadequate supervision. We have offered both a definition and a framework for effective supervision that is intended to be of practical use to practitioners.

Acknowledgements

Notes on contributors

SUE KILMINSTER is Senior Research Officer in the Medical Education Unit, University of Leeds, UK.

DAVID COTTRELL is Professor of Child & Adolescent Psychiatry at the University of Leeds, UK. He remains an active clinician and is Associate Medical Director in his local NHS Trust.

JANET GRANT is Professor of Education in Medicine at the Open University Institute of Educational Technology and Director of the Centre for Education in Medicine.

BRIAN JOLLY is Professor of Medical Education and Director, Centre for Medical and Health Sciences Research, University of Monash, Australia.

References

Arluke A. 1980. Roundsmanship: inherent control on a medical teaching ward. Soc Sci Med 14A:297–302.

Boud D, Cohen R, Walker D. 1993. *Using Experience for Learning* (Buckingham, SRHE & Open University Press).

Bools C, Cottrell D. 1994. Future child and adolescent psychiatrists: a further survey of senior registrar training. Psychiatr Bull 14:611–615.

Cottrell D, Kilminster SM, Jolly B, Grant J. 2002. What is effective supervision and how does it happen? Med Educ 36:1042–1049.

Davies BW, Campbell WB. 1995. Inguinal hernia repair: see one, do one, teach one? Ann Roy Coll Surg Engl 77:299–301.

Davies JH, Tan K, Jenkins HR. 2000. The current status of senior house officer postgraduate education in a single region. Med Educ 34:367–370.

Department of Health. 1996. *A Guide to Specialist Registrar Training* (London, Department of Health).

Ende J, Pomerantz A, Erickson F. 1995. Preceptors' strategies for correcting residents in an ambulatory care medicine setting: a qualitative analysis. Acad Med 70:224–229.

Eraut M. 1994. *Developing Professional Knowledge and Competence* (London, Falmer Press).

Fallon Jr WF, Wears RL, Tepas III JJ. 1993. Resident supervision in the operating room: does this impact on outcome? J Trauma 35:556060 (discussion 560–561).

General Medical Council. 1997. *The New Doctor* (London, GMC).

General Medical Council. 1998. *Good Medical Practice* (London, GMC).

General Medical Council. 1999. *The Early Years* (London, GMC).

Genniss VM, Genniss MA. 1993. Supervision in the outpatient clinic: effects on teaching and patient care. J Gen Intern Med 8:378–380.

Grant J, Kilminster SM, Jolly B, Cottrell D. 2003. Clinical supervision of SpRs. Where does it happen, when does it happen and is it effective? Med Educ 37:140–149.

Griffiths CH, Desai NS, Wilson EA, Powell KJ, Rich EC. 1996. Housestaff experience, workload and test ordering in a neonatal intensive care unit. Acad Med 71:106–1108.

Harden RM, Crosby JR. 2000. AMEE Education Guide no 20: the good teacher is more than a lecturer—the twelve roles of the teacher. Med Teach 22:334–347.

Hesketh EA, Bagnall G, Buckley EG, Friedman M, Goodall E, Harden RM, Laidlaw JM, Leighton-Beck L, McKinlay P, Newton R, Oughton R. 2001. A framework for developing excellence as a clinical educator. Med Educ 35:555–564.

Jolly BC, Macdonald MM. 1986. Practical experience in the pre-registration year in relation to undergraduate preparation. Proc Annu Conf Res Med Educ 25:171–176.

Kilminster SM, Jolly BC. 2000. Effective supervision in clinical practice settings: a literature review. Med Educ 34:827–840.

Kilminster SM, Jolly B, Grant J, Cottrell D. 2000. *Good Supervision: Guiding the Clinical Educator of the 21st Century* (Sheffield, University of Sheffield).

Kilminster SM, Jolly B, van der Vleuten C. 2002. A framework for training effective supervisors. Med Teach 24:385–389.

Kolb DA. 1984. *Experiential Learning Experience as the Source of Learning and Development* (Englewood Cliffs, NJ, Prentice Hall).

Lave J, Wenger E. 1991. *Situated Learning: Legitimate Peripheral Participation* (Cambridge, Cambridge University Press).

McKee M, Black N. 1992. Does the current use of junior doctors in the United Kingdom affect the quality of medical care. Soc Sci Med 34:549–558.

Panayiatou BN, Fotherby MD. 1996. Junior hospital doctors' views on their training in the UK. Postgrad Med J 72:547–550.

Patel V, Groen P. 1990. The general and specific nature of medical expertise: a critical look, in: KA. Ericsson & J. Smith (Eds), *Towards a General Theory of Expertise: Prospects and Limits* (Cambridge, Cambridge University Press).

Schon DA. 1995. *The Reflective Practitioner: How Professionals Think in Action* (Aldershot, Arena).

Somers PS, Muller JH, Saba GW, Draisin JA, Shore WA. 1994. Reflections-on-action: medical students' accounts of their implicit beliefs and strategies in the context of one-to-one clinical teaching. Acad Med 69:584–587.

Sox CM, Burstin HR, Orav EJ, Conn A, Setnick G, Rucker DW, Dasse P, Brennan TA. 1998. The effect of supervision of residents on quality of care in five university-affiliated emergency departments. Acad Med 73:776–782.

Tenant M. 1999. Is learning transferable?, in: D. Boud & J. Garrick (Eds), *Understanding Learning at Work* (London, Routledge).

Williams S, Dale J, Glucksman E, Wellesley A. 1997. Senior house officers' work related stressors, psychological distress and confidence in performing clinical tasks in accident and emergency: a questionnaire study. BMJ 314:713–718.

Appendix: the UK regulatory framework

Supervision and clinical governance

Clinical governance is defined in the 1998 White Paper, *A First Class Service*, as:

> ...a framework through which NHS organisations are accountable for continuously improving the quality of their services and safe guarding high standards of care by creating an environment in which excellence in clinical care will flourish.

The object of training is to provide the patients of the future with high-quality specialists who have had a wide range of useful and informative experience during their training years. Both the interests of the patients of today and the quality of the training experience depend on good clinical and educational supervision of trainees during their training years.

The quality of clinical supervision of trainees is therefore a central problem for the clinical governance organizations within Trusts, and these organizations will need to assure themselves that appropriate supervision is being undertaken. Although the arrangements for the management of educational supervision have improved out of recognition throughout the UK over the last decade, it is still relatively unusual for Trusts to have identifiable management systems which are capable of assuring the clinical governance organization within the Trust that the level of clinical supervision of trainees is adequate to ensure the delivery of services of appropriate quality. However, appropriate supervision is central to the process of clinical governance and such management systems will need to be developed.