ORIGINAL ARTICLE

The East Anglian specialist registrar assessment tool

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Background: In our region, it was acknowledged that the process of assessment needed to be improved, but before developing a system for this, there was a need to define the “competent or satisfactory trainee”.

Objective: To outline the process by which a consensus was achieved on this standard, and how a system for formally assessing competency across a wide range of knowledge skills and attitudes was subsequently agreed on, thus enabling increased opportunities for training and feedback and improving the accuracy of assessment in the region.

Methods: The opinions of trainees and trainers from across the region were collated, and a consensus was achieved with regard to the minimum acceptable standard for a trainee in emergency medicine, thus defining a competent trainee. The group that set the standard then focused on identifying the assessment methods most appropriate for the evaluation of the knowledge, skills and attitudes required of an emergency medicine trainee. The tool was subsequently trialled for a period of 6 months, and opinion evaluated by use of a questionnaire.

Results: The use of the tool was reviewed from both the trainers’ and trainees’ perspectives. 42% (n = 11) of trainers and 31% (n = 8) trainees responded to the questionnaire. In the region, there were 26 trainers and 26 trainees. Five trainees and nine trainers had used the tool. 93% (14/15) of respondents thought that the descriptors used to describe the satisfactory trainee were acceptable; 89% (8/9) of trainers thought that it helped them assess trainees more accurately. 60% (3/5) of trainees thought that, as a result, they had a better understanding of their weak areas.

Conclusion: We believe that we achieved a consensus across our region as to what defined a satisfactory trainee and set the standard against which all our trainees would subsequently be evaluated. The use of this tool to assess trainees during the pilot period was disappointing; however, we were encouraged that most of those using the tool thought that it allowed an objective assessment of trainees and feedback on areas requiring further work. Those who used the tool identified important reasons that may have hindered widespread use of the assessment tool.

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In the past, the assessment of trainees in emergency medicine in the emergency department was based on an overall view or opinion rather than on any formal assessment of competency in the skills that are now required of a consultant emergency physician. A number of developments have meant there can no longer be a reliance on the old adage that lots of experience—that is, hours—equates to competence.

Now, there is pressure for greater accountability from the medical profession. Over recent years, considerable changes have occurred in the approach to medical education and in the assessment of competence. Doctors must now be formally assessed during the foundation years, and there will soon be an expectation that they will continue to be assessed during the whole of their careers. The growth of emergency medicine as a specialty has resulted in an expectation that doctors are able to competently manage a wide range of patients and safely perform a large number of procedures. The European Working Time Directive has led to a reduction in the number of hours worked by trainees, and training programmes will soon become shorter. The challenge is not only to improve training in emergency medicine but also to show competence.

In the East Anglian region, it was widely acknowledged that the process of assessment needed to be improved, but before developing a system for this, there was a need to define the “competent or satisfactory trainee”. A literature search showed that some work had been done on defining and assessing competency in emergency medicine in the US. The Accreditation Council for Graduate Medical Education and the organisation of certifying boards, The American Board of Medical Specialties, specified six core competencies in 1999

(patient care, medical knowledge, practice based learning, interpersonal and communication skills, professionalism and systems-based practice). These were to become the framework for teaching and assessment in every medical specialty.^{1–3} The Council of Emergency Medicine Residency Directors used consensus committees to define each of these competencies in emergency medicine and identify the most suitable methods for assessment.^{4–5} These assessment methods included 15 min of direct observation, 4 h of shadowing, use of standardised patients, simulated patients, objective structured clinical examination, 360° evaluation, structured case discussions and portfolios. It was left up to each individual residency programme to decide how to implement the teaching and these assessments.

The American Board of Internal Medicine has extensively piloted a method of direct observation known as the Mini-clinical evaluation exercise (Mini-CEX) where the trainer evaluates different aspects of the clinical encounter on a nine-point scale. The pilot evaluated 1228 clinical encounters by 421 residents, taking on average 15 min. A strong correlation of marks was found between encounters, showing this to be a reasonably accurate and reproducible assessment tool.⁶

In this paper, we describe our experience of defining such a trainee and developing an assessment tool that could be used both by trainees and trainers to assess a wide range of knowledge, skills and attitudes, and provide more formal opportunities for training and feedback.

Abbreviations: Mini-CEX, mini-clinical evaluation exercise; SpR, specialist registrar

METHODS

The participants in the standard setting group were selected to represent the range of people involved in the postgraduate training of emergency medicine specialists in the region. Each of the eight hospitals responsible for training specialist registrars (SpRs) was invited to propose a trainer to attend the group. The local trainees group (East Anglian Trainees in Emergency Medicine) were asked to nominate two representatives. Professor J Hoffmann, a visiting professor of emergency medicine from UCLA, California, USA, and two trainers from outside the region were also invited. A total of 12 (5 women and 7 men) doctors were involved in this process. The group was facilitated by Dr K Boursicot, Education and Assessment Specialist, Clinical School, University of Cambridge, Cambridge, UK.

We asked the group to formally record the factors that they used to make a decision regarding competency. In the first meeting, the attributes of the worst, inadequate, adequate and best trainees were established. In this "brainstorming" exercise, participants were first asked to describe the worst and best trainees, before moving on to the describing the difference between a trainee who is just inadequate and the trainee who is adequate. These attributes are known as the descriptors (table 1).

At the end of this process, the group used the descriptors to illustrate three different groups of trainees; unsatisfactory, cause for concern and satisfactory. The descriptors were then sorted into a number of domains taken from the Faculty of Accident and Emergency Medicine logbook and the General Medical Council principles of good medical practice.⁷ In the final meeting, the group agreed on the methods to be used to assess and judge the competence of trainees in each domain (table 2), and suggested the frequency with which they should be completed.

A number of index conditions and skills are given in each domain to help the trainees and trainers focus on what areas should be assessed. These reflected very common complaints or essential skills. The final assessment tool tabulates the specific skills and attitudes to be tested, the agreed levels of competence (descriptors) and the proposed frequency of assessments (Please go to <http://emj.bmjournals.com> to view the assessment tool).

The proposed assessment tool was circulated to all trainers and trainees in the region for comment. Every trainer was sent

an electronic and hard copy of the tool, trainees were asked to comment via the website (www.ATEM.org.uk) and on the regional training days where the tool was formally presented. The group that set the standard particularly wanted to achieve a consensus across the region as to the descriptors and the terms "unsatisfactory", "cause for concern" and "satisfactory".

After completion of the consultation period, the tool was trialled across the region for a period of 6 months, starting from January 2005, when SpRs in the region rotated. The aims of the pilot were to provide both trainers and trainees with another opportunity to review the descriptors and trial the practical use of the tool. Electronic and hard copies of the tool and supporting documents were sent to each trainer and trainee in the region and placed on the website www.ATEM.org.uk. The supporting documents included general guidance on Mini-CEX and direct observation of procedural skills assessments and examples of how to break down a skill, such as examination of the cardiovascular system or insertion of a femoral line, to assess it.

At the end of the trial period, a questionnaire evaluating the tool was sent to each of the trainers and trainees. Non-respondents were sent a second mail by post and email. If there was no response to this, they were contacted directly by one of the authors (SR), asking them to complete the forms and if necessary, a new form was sent by post and email. If this third request failed, no further attempts at contact were made. The SpRs were contacted during their monthly training meeting by their representatives.

RESULTS

Eight hospitals participated in the training of SpRs in the East Anglian region at the time of the pilot. There were 26 trainers and 26 trainees holding a National Training Number.

No negative comments were received during the initial consultation regarding the descriptors used to define an adequate trainee. The descriptors were discussed at the regional training committee, and at the trainees meeting, there was a general agreement that the descriptors were acceptable.

The use of the tool was reviewed from both the trainers' and trainees' perspectives. A total of 42% (n = 11) trainers and 31% (n = 8) trainees responded to the questionnaire. Tables 3 and 4 outline the results of the questionnaire.

In all, 93% (14/15) respondents thought that the descriptors used to describe the satisfactory trainee were acceptable and

Table 1 Examples of descriptors to define adequate and inadequate trainees

Worst trainee	Inadequate trainee	Adequate trainee	Best trainee
Lack of insight	Poor insight	Able to learn from experience	Reflective
Ignorant	Inability to learn from previous experience	Caring of patients' welfare	Self-analytical
Uncaring	Not patient centred	Safe	Caring of patients and staff
Disinterested	Poor judgement	Reasonable knowledge	Empathic
Dangerous	Sloppy	Reliable	Competent
Unsafe	Poor clinical skills	Reasonably efficient	Able to think critically
Incompetent	Unreliable	Able to multitask	Calm
Careless	Inefficient	Team player	Efficient
Dishonest	Inability to multitask		Able to multitask
Inefficient	Inflexible		Inspires confidence
Slow	Dishonest		Team player
Selfish	Unethical		Assertive
Not a team player	Volatile		Enthusiastic
Isolated			Cooperative
Rude			Sense of responsibility
Stubborn			Open to feedback
Anxious/scared			Firm but fair
Poor communication skills			Listens

Table 2 How can skills in each domain be measured?

Clinical knowledge and ability	Observation Examination TONTO/mini-CEX Case/note reviews Audit
Practical skills	Observation—DOPS Simulation Audit of complications
Management	Project Organisational skills Tasks—eg, rotas, complaints Taking on responsibility
Teaching and audit	Student evaluations Observation of teaching and supervision Audit project
Academic and research	Publications Presentations Courses Conferences Internal educational meetings
Professional attributes	Observation (mini-CEX and DOPS) 360° appraisal

DOPS, direct observation of procedural skills; mini CEX, mini-clinical evaluation exercise; TONTO, teaching one-to-one.

that the tool helped trainers assess trainees more accurately; 89% (8/9) trainers thought that it helped them assess trainees more accurately; and 60% (3/5) trainees thought that they had a better understanding of their weak areas as a result, but reported (4/5) that it did not result in focused training towards these areas. Most assessments could be completed within 20 min, although the assessment of complex tasks such as

team leadership during resuscitation required a longer period of time. It was noted, however, that the opportunity to observe and make notes was effective in assessing a trainee's skill in a number of wider competencies such as decision making, critical analysis and interpersonal relationships. Table 5 outlines the comments received on what was liked and disliked about the tool. A number of reasons were also given for not using the form (table 5).

Some comments were received about the use of a cause for concern category, although no suggestions were received as to a more appropriate term. Some respondents suggested the use of two categories; satisfactory and needs work. It was also thought that space for comments would be useful as this would provide a basis for review and feedback, and enable the tool to be formative.

DISCUSSION

Any process that sets a standard for postgraduate training should use absolute, criterion-referenced standards—that is, pass/fail decisions must be based on predefined standards of performance. To set this standard, one needs to collate opinions from experts and achieve a consensus about what is an acceptable standard of competence—that is, one must define what is good enough. Finally, the standards chosen must be credible and easy to use.

When this process started, we were not aware of any statement regarding what constituted a competent trainee in emergency medicine in the UK. The curriculum had not been published, and methods of assessment such as Mini-CEX and direct observation of procedural skills, which are now part of our everyday language, had not been introduced by Modernising Medical Careers.⁸ There was no dissent regarding the definition of a competent trainee when it was presented to both the trainee group and the regional training committee. We believe that we achieved a consensus across our region as to

Table 3 Results of questionnaire regarding the use of the tool (trainees)

Question	Yes	No	Not answered
Did you use the tool (trainees)?	5	3	
Has the tool help increased or contributed to an increase in the amount of training you received?	2	2	1
Has it helped you have a better awareness of your skills/weaker/stronger areas?	3	1	1
Did it result in more focused training towards your weaker areas?	1	4	
Was it possible to do assessments as part of your clinical sessions?	4	1	
Did you have to prepare for the assessments eg DOPS?	1	4	
Were you able to do each of the assessments within 20 mins?	4	1	
Did you achieve the objectives;			
Case note review (1 in 6/12)		5	
Mini-CEX (2 in 6/12)	1	4	
DOPS (2 in 6/12)	2	3	
Audit (1 per year)	4	1	
Management task (1–2 year)	1	3	1
Did the tool help you complete the RITA forms and logbooks?	1	4	
Did the tool inform your appraisals?	1	4	
Did you do something in each domain eg clinical practice, management	1	4	
Bearing in mind this pilot has run for 6 months do you think the stated objectives for 1 year are achievable?	4		1
Would you change any of the terms or words used in the descriptors?		5	
Would you want to add anything?		5	
Would you want anything deleted?		5	
Prior to its evaluation there was some concern this may be used as a stick and posed a threat.	2	3	
Did you feel threatened by the use of this tool prior to it's introduction?			
Do you still have concerns about using this tool?	1	4	
Did you approach your trainers directly to request an assessment?	4	1	
Or did your trainers have to suggest use of the assessment tools?	3	2	

DOPS, direct observation of procedural skills; mini CEX, mini-clinical evaluation exercise; RITA, record of in-training assessment.

Table 4 Results of questionnaire regarding the use of the tool (trainers)

Question	Yes	No	Not answered
Did you use the tool (trainers)?	9	2	
Did the tool help you get a more accurate picture of your trainee?	8	1	
Did this tool make you allocate time to assess your trainee?	8	1	
Was it possible to do assessments as part of your clinical sessions?	5	4	
Did you have to prepare for the assessments eg DOPS?	2	7	
Were you able to do each of the assessments within 20 mins?	6†	2	1
Did you achieve the objectives:			
Case note review (1 in 6/12)	8	1	
Mini-CEX (2 in 6/12)	5	4	
DOPS (2 in 6/12)	6	3	
Audit (1 per year)	7	2	
Management task (1–2 year)	5	4	
Did the tool help you complete the RITA forms and logbooks?	4	4	
Did the tool inform your appraisal of the trainees?	6	3	
Did you do something in each domain eg clinical practice, management	4	5	
Bearing in mind this pilot has run for 6 months do you think the stated objectives for 1 year are achievable?	9		
Would you change any of the terms or words used in the descriptors?	1*	7	1
Would you want to add anything?		9	
Would you want anything deleted?		9	
Did your trainees approach you directly to request an assessment	1	8	
Or did you have to suggest use of the assessment tools to them?	8	1	

DOPS, direct observation of procedural skills; mini CEX, mini-clinical evaluation exercise; RITA, record of in-training assessment.

*Cause for concern.

†Depends on what is being assessed—assessing team leader skills during a major trauma resuscitation took 30 min, but was effective at evaluating the trainees skills as a team leader.

what was a satisfactory trainee and set the standard against which all our trainees would subsequently be evaluated.

Colleagues in the US seem to have approached defining and assessing competencies in a similar way to us, but we were disappointed to find little in the literature evaluating the assessment tools chosen by different training programmes. Most US programmes use similar tools to those we chose—for example, direct observation and 360° evaluation.^{9–11} Other methods, considered by our American colleagues—for example, simulated patients and manikin-based simulators¹²—were recognised by us to have major potential as a learning and

assessment tool, but were considered impractical at this early stage. In our region, direct observation of the trainee carrying out clinical duties was thought to be ideal for the evaluation of most skills. Using an evaluation sheet with a point rating for different parts of the observed encounter as we did has been shown to be much more reliable and consistent than the global ratings often used retrospectively.¹³ Better still is the use of a checklist for individual specific clinical skills.¹⁴

Use of the assessment part of this tool during the pilot period was disappointing. We were encouraged that most of the trainers using the tool thought it allowed an objective

Table 5 Comments received regarding the use of the assessment tool**Trainees****Liked**

Structured
Easy to use
Makes you seek assessment
Structured feedback

Reasons why the tool was not used

"Consultant never on shop floor"
"No pressure to use"
"Trainer said he was unaware of pilot and not enthusiastic"

Disliked

Difficult to get consultant time
Not applicable to key areas eg resus
Made me 1 h late leaving from work
Having to go find the forms

Trainers**Liked**

Structured and logical
Both the trainee and trainer know what to expect
Increased objectivity

Provided some evidence of competence when it came to appraisal
Facilitated feedback in a non-judgemental fashion
Fits in with appraisal and assessment for MMC
Practical and well defined

Reasons why tool not used

"Could never get myself, the trainee and the patient together at the same time"
"No time"
"Never seems to be the right moment"

Disliked

Difficult to remember to do it
Time consuming ... but less than I thought
Difficult to apply to senior SpRs, especially those near exams
Not convinced discriminatory enough

Didn't fill the form in at the time ... lost an opportunity
Tried to do a Mini-CEX ... got called away

Mini CEX, mini-clinical evaluation exercise; MMC, modernising medical careers; resus, resuscitation; SpR, specialist registrar.

assessment of trainees. Those who used the tool identified important reasons that may have hindered widespread use of the assessment tools. These have been reported previously. A qualitative review of the foundation year 1&2 assessment pilots interviewed 74 of 732 pilot scheme trainees and 23 trainers. They showed that 34% (n=25) trainees and 39% (n=9) assessors stated that time constraints were barriers to implementation of the assessments, but 58% (n=43) trainees and 78% (n=18) assessors thought the assessment system had educational benefit, largely because it enabled feedback (http://www.mmc.nhs.uk/download_files/Evaluation-of-the-assessment-system.doc). The time taken to carry out assessments is vital and clearly an important issue for consultants who are now asked to produce accurate job plans. A recent review of Stepping Hill's experience of having three FY2 trainees stated that 0.5 programmed activities per week were required to support and assess three FY2 trainees.¹⁵ At a minimum, this suggests that for eight SpRs, the current number at Addenbrookes, 2.5 programmed activities per week would be necessary to do it properly. This figure may be higher as the skills and attitudes required of an SpR are more complex and numerous than those of a FY trainee.

Any form of assessment tool used in a training programme needs to be attractive, in that it should provide more training opportunities and useful, focused feedback for trainees in addition to assessment. Techniques such as teaching one-to-one and a similar process ROGER (Reciprocal, Observation, Guidance, Education, Reflection)¹⁶ where trainer and trainee take turns in seeing a patient while the other observes seem to provide invaluable teaching and feedback opportunity. Alternatively, trainers need to know the tool that provides them with a method that accurately and objectively assesses trainees. Regular use of the tool with a broad spectrum of trainees is the only way in which trainers will begin to value such a tool.

A number of refinements are probably necessary. Since this tool was produced, the curriculum has been published by the College, so our tool needs to be cross referenced to this. To achieve standardisation in assessment, we would like to prepare marking sheets for each index condition or skill. The more difficult task is how we can ensure consistent assessment and feedback in all hospitals in the region. Additional education and training of all trainers regarding the competencies and assessment methods may encourage trainers to use the tool. It may be that with the widespread introduction of FY assessments, the use of formal assessment tools for SpRs becomes more acceptable. The processes for assessment must be realistic, and the number and frequency of assessment must be agreed on by most trainers. In some geographical areas, pooling of resources may provide more opportunities for the assessment of trainees from smaller departments. It may also allow the use of more expensive assessment tools such as simulated patients or computerised manikins. Our local regional training committee has endorsed this tool, stating that it will form part of the record of in-training assessment assessments in future. Nationally training and assessment in the workplace is set to become an essential part of run-through training under Modernising Medical Careers. The College of Emergency Medicine has established a group to consider the design and development of training and assessment in the workplace. Three major areas to be considered are the sentinel skills that need to be assessed, the reliability of those assessments and the feasibility of delivering this in the

workplace. In addition, the Postgraduate Medical Education and Training Board now requires the colleges to blueprint assessments to the competencies outlined in the specialty curriculum.

We suspect that encouragement from the Postgraduate Medical Education and Training Board and the College, and a change in working practice in the clinical areas of emergency departments is required before there is widespread uptake of assessment tools such as ours. Such encouragement is imminent.

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Assessment tool available at <http://emj.bmj.com/supplemental>

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