
How best to evaluate and monitor learning in specialist training in psychiatry?

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Abstract

The evaluation and monitoring of learning outcomes plays an important role in specialist training. The learning outcomes of specialist training are best measured against established competency frameworks, such as the European Framework for Competencies in Psychiatry by the European Union of Medical Specialists (UEMS) and the CanMEDS framework by the Royal College of Physicians and Surgeons in Canada. The different physician competencies described by the UEMS and the CanMEDS can be evaluated using questionnaire-based approaches, direct trainee observation and written examinations. Questionnaire-based approaches comprise the use of self-reports and reports by clinical supervisors, patients, peers and other co-workers of interdisciplinary teams. The trainee observation can focus on clinical and communication skills and, more seldom, on academic skills. Methods such as the long case, the Mini-Clinical Evaluation Exercise, the Objective Structured Clinical Examination, direct observation of procedural skills and observation of scholarly activities can be used. Written examinations are perhaps most helpful in evaluating trainee competence regarding medical or psychiatric expertise, but can also be used to assess professionalism and skills in health advocacy and management. The simultaneous use of different types of evaluation methods is necessary to optimize clinical specialist training. However, factors such as supervisor training, sufficient numbers of evaluations and evaluations based on diverse clinical contexts are important in providing appropriate and fair evaluations. It is also important to recognize the limitations of formal evaluation methods. Rather than formal competence, success in actual clinical performance is the main goal of specialist training.

Introduction

The evaluation and monitoring of learning outcomes in specialist training play an important role in providing high-quality medical education. Excellent frameworks, such as the European Framework for Competencies in Psychiatry by the European Union of Medical Specialists (UEMS), and the CanMEDS framework by the Royal College of Physicians and Surgeons in Canada, are available to guide the evaluation and monitoring of learning during specialist training in psychiatry.

The UEMS and CanMEDS frameworks describe the knowledge, skills and abilities required by specialist physicians to optimally treat their patients. As defined by both of these frameworks, a specialist physician has seven roles or competencies: Medical/Psychiatric Expert, Communicator, Collaborator, Manager, Health Advocate, Scholar and Professional. The role of Medical/Psychiatric Expert refers to a combination of all the presented physician roles, and is manifested by the use of medical knowledge and clinical skills together with professional attitudes to provide the best possible care (1). Ideally, all of the described physician roles should be addressed in the evaluation and monitoring of learning during specialist training.

In this review, we present and discuss options for the evaluation and monitoring of learning in specialist training in psychiatry. For this purpose, the evaluation approaches are divided into: 1) questionnaire-based approaches, 2) direct trainee observation and 3) written examinations. In the discussion section, we focus on the potential of these approaches in evaluating trainee progress. Finally, we discuss possible future directions in the evaluation of specialist training in psychiatry.

Questionnaire-based approaches

Questionnaire-based approaches to evaluation offer a wide variety of means to monitor the progress of trainees in relation to the different physician competencies described by the UEMS and the CanMEDS. These approaches comprise the use of self-reports, clinical supervisor reports, peer reports, patient reports and reports provided by co-workers in clinical interdisciplinary teams, such as nurses and social workers.

Self-reports

Self-reports of training progress can be divided into professional skills evaluation and other self-assessments, which may focus on knowledge concerning legal and ethical issues, as well as managerial and communication skills. Furthermore, self-assessments can also target attitudes towards patients and co-workers in interdisciplinary teams and accessibility to patients and caregivers. In addition, self-reports may include teaching or supervisor experiences and listings of personal and educational goals. Time frame-specific case logs may also be used. These involve listing of the numbers of cases treated, for example within six months, with connection with factors such as patient age groups, gender, diagnosis, the form of treatment and type of treatment setting. Trainee portfolios, which consist of logs and other self-reports, provide a multifaceted and self-reflective means to collect evidence of the competence built over time.

Self-reports are easy to administer and lack the conflict potential that, for example, peer reports or reports by co-workers in interdisciplinary teams may in some cases introduce. Self-reports, in an ideal case, also help trainees to develop and internalize a habit of self-assessment that will support them in the process of lifelong learning throughout their career.

Supervisor reports: in-training evaluation report (ITER)

The ITER is an assessment tool that can be used to evaluate trainee performance in relation to the seven UEMS/CanMEDS physician roles. Regarding the Medical Expert role, the ITER targets, e.g. the knowledge of pharmacotherapy, psychotherapy and mental health legislation. The supervisor fills in the ITER, which represents the supervisor's overall impressions of the trainee's performance. The rating of trainee performance can be based on several types of assessment situations, such as team meetings, supervisor consultations, or observation of the trainee's patient encounters at different times during the rotation. In Canada, ITERs are generally completed at both the midpoint and the end of each rotation.

Due to their heavy reliance on supervisor judgments, ITERs have been criticized for having low content validity and a high degree of inaccuracy (1). However, the validity of ITERs can be improved by focusing the evaluation on objectives specific to the rotation under evaluation. In addition, brief narratives that are used to justify the given ratings improve the performance of this method.

Peer evaluation

In the peer evaluation system, fellow trainees, in some cases anonymously, report skills and attitudes of another trainee. The skills evaluated may comprise clinical and communication skills, professional attitude and willingness to learn. Peer evaluation forms, such as the Sheffield Peer Review Assessment Tool (2) used in the UK, have been found acceptable to specializing doctors (3). Some issues, however, may warrant caution when using peer reports. Firstly, at the clinic, trainees may have limited possibilities to actually observe the professional competence of other trainees. Secondly, there may also be a risk of overly positive or negative evaluations depending on the personal relationships between the trainees. In order to avoid the potential difficulties related to the use of anonymous evaluations, guided peer group discussions focusing on the skills gained as perceived by others might offer a feasible alternative for anonymous peer evaluation. Another attractive method for avoiding erroneous evaluations due to potentially biased peer reports is the combination of questionnaire-based evaluations from different sources. This approach is further discussed at the end of this section.

Patient reports

Patient reports may be particularly useful in evaluating trainee attitudes such as empathy and engagement, as well as listening skills, the ability to explain issues in a clear manner and the capacity to accept patient feedback. However, similarly to non-medical co-workers, patients have a limited ability to appropriately assess medical competency of physician trainees. In addition, the patients' state may essentially affect their evaluations, particularly in psychiatry. It has also been suggested that as many as 50 patient reports may be necessary to gain sufficient reliability (4). Nevertheless, regardless of their limitations, patient reports can be considered highly relevant in assessing physician roles such as the Communicator role.

Co-worker evaluation

Like peer trainees, the other members of interdisciplinary teams, such as nurses, social workers and psychologists, may participate in rating a trainee's skills in relation to factors such as perceived clinical competence, professionalism, willingness to learn, communication skills and knowledge of treatment systems. This approach may help physicians to become more aware of the views and needs of other professionals in their teams. Nevertheless, such an approach requires caution in the

way it is introduced to and practiced in the teams, as it may also create controversy. However, the likelihood of potential controversies may be lower in training units where the trainees similarly rate their training environment, including the performance of academic staff and the support received from co-workers.

Multisource or 360-degree feedback approach

In practice, several methods are needed to provide a comprehensive picture of a trainee's state of learning. A multisource (MSF) or 360-degree feedback approach, a model originally derived from the business environment, has been developed for this purpose (5). This approach consists of the use of measurement tools completed by multiple observers, such as peers, other co-workers and patients, who have had the opportunity to interact with trainees. The evaluator groups included in different types of MSF approaches can vary. The evaluator groups may be chosen according to the specific needs of a particular medical field, such as emphasis on communication skills in psychiatry.

The MSF approach may offer a fairer method for evaluating trainee performance than evaluations received from a single target group. Moreover, as evaluations are collected from several individuals belonging to different evaluator groups, the MSF system provides a more comprehensive overview of the trainees' state of progress. Recently, Lockyer (6) investigated the quality of the three most frequently used MSF systems (two in the UK and one in Canada). She observed that the investigated MSF systems appeared to have good validity, reliability and educational effect when contrasted with the criteria for a robust assessment tool (7).

Nevertheless, the MSF approach also has limitations. As mentioned earlier, patients and non-medical co-workers are not able to competently evaluate some of the physician roles, such as the Medical Expert role. In addition, from the perspective of a trainee, the acceptability of the feedback appears to be dependent on the evaluator's background. Feedback from non-medical co-workers is not perceived to be as acceptable as trainer or peer feedback (8), although findings regarding this issue are not systematic (9).

Direct trainee observation

Trainee observation can focus on clinical and communication skills or, more seldom, on academic skills such as lecturing or acting as a supervisor for more junior colleagues or medical students. The clinical observation situations may vary from rather informal, where the trainer is present when the trainee interviews the patient and the situation is discussed afterwards, to highly structured evaluations conducted using specific evaluation instruments. The trainees may be observed on-site and in real time, or using video or audio recordings.

The long case

Traditionally, trainee observation has been based on the long case approach (10). With this approach, a trainee is given a maximum of one hour to take a history and examine a patient, and this is followed by another hour during which the trainee presents the case to the examiners. While the real-life setting is a strength of this approach, it has also been criticized for its over-reliance on the trainee report of the patient encounter. Similarly to other observation methods, where the examiners' evaluation procedures and feedback are not highly standardized, the long case approach is also vulnerable to variance introduced by evaluator behaviour (11).

Attempts to improve the long case approach have led to methods such as the Standardized Assessment of a Clinical Encounter Report (STACER) used in Canada (1). The STACER consists of a 50-minute diagnostic interview with a patient, generally observed by two examiners. One examiner is present in the room during the interview, while the other observes the patient encounter through a one-way mirror. After the interview, the trainee takes a 10-minute break to develop a diagnostic formulation and management plan. This break is followed by 45 minutes of evaluator questions about the diagnosis, treatment and additional information pertaining to the case. Regarding all modifications of the long case approach, evaluator training is essential to provide fair assessments of the evaluatees.

Mini-Clinical Evaluation Exercise (mini-CEX)

Highly structured clinical evaluations, such as the mini-CEX, are used in several countries to assess physicians undergoing clinical specialist training. In the mini-CEX, an evaluator observes a trainee's patient encounter for 15-20 minutes, and

then provides brief feedback (ca. 5-10 minutes) to the trainee. Unlike the long case, where the observer is expected to evaluate all aspects of the clinical encounter, the focus of the mini-CEX is on a specific aspect of the encounter, such as taking the history.

The scores obtained from tools such as mini-CEX appear to reflect success in final examinations for the specialist degree (12). Nevertheless, although research evidence for internal consistency and reproducibility of the mini-CEX has been observed to be good, inter-rater reliability for these assessments may be low in the absence of specific rater training, consisting of several meetings (12, 13). These instruments may also lose some of their efficacy if the teaching points arising are not systematically discussed with the trainee (14).

Objective structured clinical examination (OSCE)

OSCEs (15) utilize standardized patients or scripted role play and test the performance of learners as they rotate through a series of stations. The OSCEs are used to assess skills and theoretical competence in different clinical scenarios. Specialist trainees appear to perceive the OSCEs as fair and preferable to the traditional long case examination approach (16).

In Canada, the oral component of the specialist examination of the Royal College of Physicians and Surgeons is entirely composed of OSCE stations. Moreover, in the United Kingdom, a modified form of the OSCE, called the Clinical Assessment of Skills and Competencies (CASC), is used as a method of assessment in the membership examination of the Royal College of Psychiatrists, an examination comparable to specialist final examinations in other countries.

Although OSCEs represent well-standardized means to evaluate a trainee's clinical skills, they have been criticized due to their limitations in representing real-life clinical encounters, which are generally longer (e.g. 45 minutes vs. 10 minutes), and require multiple complex issues to be addressed at the same time (17). Nevertheless, a study on geriatricians has indicated that OSCEs appear to provide a valid tool to evaluate interpersonal and communication skills (18). Such observations suggest that OSCEs may be a feasible method of evaluation in psychiatric specialist training.

Direct observation of procedural skills (DOPS)

DOPS refers to a structured evaluation where the trainer observes the trainee performing a practical procedure and grades the performance (19). The method was originally developed for trainees in highly procedure-oriented fields such as surgery. In psychiatry, the method has been suggested to be applicable for evaluating competency in procedures such as administering electroconvulsive therapy (20).

Observation methods for evaluating the development of scholarly skills

Somewhat few trainee observation methods are directed to formally evaluating academic or scholarly skills. Such skills can easily be evaluated through trainee presentations in departmental seminar series or other series of talks regularly arranged at the training unit. The presentations can be formally evaluated by the attending departmental staff in terms of knowledge of the topic, presentation skills and the ability to adequately answer questions presented by the audience. In Canada, trainees are required to give formal presentations approximately three times during their 5-year specialist training. Two designated faculty members evaluate the performance (pass/fail), and each attendant also completes a feedback form.

Critical appraisal or journal club sessions can also be used to evaluate performance in the Scholar role of the physician. These sessions ensure opportunities for the trainees to learn research methodology, biostatistics and critical appraisal of the medical literature. Relevant and recently published journal articles are assigned to the trainees in advance, and the trainees are required to critically review and present the papers to their peers under the supervision of the trainer. This learning activity enables residents to demonstrate commitment to reflective learning, critical appraisal of medical information, as well as the creation, dissemination, application, and translation of knowledge. Although these sessions are often conducted in an informal setting where the main focus is on learning about new clinical topics and evaluating the quality of the literature used, they can also be used as an opportunity to reflect on the level of learning as well as the issues that still require addressing.

Written examinations

Written examinations can be helpful in evaluating trainees' competence concerning the Medical/Psychiatric Expert role. In addition, depending on the choice of questions, they can also target the Health Advocate role (e.g. questions on population health issues), the Professional role (e.g. questions focusing on ethical issues in psychiatry) and the Manager role (e.g. questions targeting treatment systems).

Multiple-choice question-based examinations are preferred to essay-based examinations in several countries. The American College of Psychiatrists has used the Psychiatry Resident In-Training Examination (PRITE; 21) for almost 40 years. It consists of 300 multiple-choice questions designed to cover a full range of topics relevant to psychiatry. The PRITE is generally taken in two parts, and altogether three times during the specialist training. The PRITE approach allows gaps in theoretical training to be detected at the individual level, as well as at the level of a training site. However, the use of multiple-choice questions in examination may encourage detail-oriented learning instead of a more in-depth understanding of psychiatric topics.

Written exams are commonly used for summative assessment, i.e. at the end of a training program or at the end of one of its educational sections. Ideally, the emphasis in written examinations should be more on formative assessment, i.e. assessment that is conducted relatively early in the process of learning, and that aims to enhance learning rather than monitor it. Formative evaluation using written examinations could be conducted, for example, in conjunction with the seminar type of teaching modalities, to help the participants to better orientate themselves to the learning goals of the seminar in question.

Discussion

The simultaneous use of different types of evaluation methods is clearly necessary to optimize clinical specialist training. Furthermore, recognizing the core skills needed as a specialist physician in psychiatry is essential for appropriately directing the available, often limited resources.

Searching for optimal training outcomes with limited resources

Some low-stake evaluation approaches can easily be integrated with regular meetings with a mentor or a clinical supervisor. Approaches such as case-based discussion (CbD) may offer time-effective, low-stake means to acquire information comparable to that obtainable with, for example, OSCEs (22). In the 15-minute CbD, the trainee selects real patient cases, based on the records of some of the trainee's recent patients. The clinical supervisor then selects one of these cases to be presented. The selected case is evaluated and discussed regarding a limited number of issues, such as diagnostic evaluation or treatment choices. In addition, contextual issues that may have affected clinical decisions regarding the patient can be discussed. Regardless of the practical convenience of this method, some issues need to be taken into consideration when using CbD as an evaluation method. Firstly, several CbDs are needed to provide sufficient information on a trainee's competence, increasing the need for sufficient supervisor resources. Secondly, research data on the validity of CbDs as a method of evaluation in specialist training in psychiatry is currently scarce, indicating that it is important to avoid over-reliance on CbDs as a method of evaluation.

Training portfolios or logbooks are other low-stake methods that can be used to monitor ongoing progress in various physician roles. Assessment measures incorporated into portfolios can include self-reflective material, procedural and case logs, ethical dilemmas and patient or supervisor feedback. In theory, portfolios and logbooks form an ideal format for evaluation; however, due to time pressures in everyday clinical practice, the trainees may feel discouraged to work on portfolios or logbooks. This underlines the importance of a training-oriented atmosphere, where the trainees appreciate the value of ongoing self-evaluation.

Concerning the building of an ideal format for evaluating and monitoring learning processes in specialist training in psychiatry, some issues may be worth considering. Firstly, in addition to combining different types of evaluation methods, it is essential to ensure trainer motivation and sufficient evaluator training, particularly in the utilization of direct observation. Secondly, relating to direct observation and other evaluation methods in which the patient's role is central, a diverse group of patients should be involved to allow multifaceted evaluations. Thirdly, the use of several evaluators further enables fair evaluations to be provided. Fourthly, trainee performance should be evaluated in different types of clinical environments, such as emergency psychiatry, outpatient care or geriatric psychiatry. Finally, a training program with clearly defined short-term goals, marked with time points of evaluation, may help the trainees to better focus on their learning objectives, despite possible time constraints due to family or other personal life commitments.

How well are the physician competencies currently addressed?

Among the physician roles described by the CanMEDS and the UEMS, the Medical Expert and Professional roles have long been the primary focus of medical training and evaluation. The master-apprentice model is still in several ways the cornerstone of clinical training and monitoring of specialist trainee performance. Nevertheless, the increased use of approaches such as the MSF or ITER would allow more comprehensive assessment of different physician competencies.

Evaluation of the Communicator and Collaborator competencies may play a more prominent role in the future, along with increased requirements for interdisciplinary co-work in psychiatry. Furthermore, training programs that have an integrated psychotherapy curriculum may be more likely to emphasize the communication and collaboration aspects of physician competency.

Several useful, low-stake evaluation methods are available to monitor trainee progress as a scholar. The importance of evaluating progress in this competency is highlighted by the rapidly increasing research data and requirements to make competent, up-to-date clinical decisions based on such data. Although most training institutes have limited resources for integrating evaluations of scholarly progress, implementing very low-stake methods such as evaluating trainee talks would probably increase the motivation of trainees in better learning to select, evaluate and present clinical information to others.

The physician roles that remain somewhat under-represented in trainee evaluation are the roles of Health Advocate and Manager. Skills in health advocacy could be more effectively evaluated by inquiring about advocacy aspects as part of questionnaire-based patient evaluations, or using the MSF approach to evaluation. The MSF approach, or the use of questionnaire-based evaluations by co-workers, could also provide a convenient low-stake method for evaluating managerial skills. In addition, the evaluation of performance in managerial roles can also be assessed as part of any administrative training that is incorporated in the specialist training.

Possible future directions

Specialist training programs in psychiatry are generally time-based, i.e. with a fixed duration of a certain number of years. However, an alternative model of Competence by Design (CBD) has been introduced in Canada, and is expected to be

implemented starting from 2017. CBD refers to a model where the trainee is required to reach and demonstrate a certain level of competence, a milestone, before they are allowed to proceed to further phases of their specialist training. Thus, this model greatly emphasizes the role of trainee evaluation.

In the CBD model, trainees are required to demonstrate progression through milestones in a number of competence dimensions, including medical expertise, communication, collaboration, health advocacy and management. Within the CBD system, trainees progress through the training program in slightly different periods of time, which in some cases might be faster than the estimated duration of training. However, the CBD model may also introduce problems due to the difficulty in presenting cost estimates for the government funding of training programs. Nevertheless, initiatives such as the CBD may facilitate the adoption of a lifelong portfolio containing target competencies from the beginning of medical school to retirement from practice. Such an approach has recently been presented by the Royal College of Physicians and Surgeons of Canada.

Conclusions

Several appropriate methods are available to assess progress in different physician competencies in connection with specialist training in psychiatry. The more formalized use of such methods may help to provide a more effective form of specialist training. However, as suggested by Fitch and co-workers (20), it is also important to recognize the limitations of the discussed evaluation methods. Rather than formal competence, demonstrated via standardized methods of evaluation, success in actual clinical performance is the main goal of specialist training. The level of such proficiency can be observed and evaluated, for example, by a direct clinical supervisor who interacts with the trainee daily. Nevertheless, trust in the personal, professional judgment of trainees regarding their level of practical performance should not be forgotten.

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