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Managing trainee doctors experiencing difficulty
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Clinical education on the move
Examination of the patient with a brainstem lesion
## Executive Board

**Dr Humayun Ayub**  
Editor-in-Chief  
editor@ijocs.org

**Dr Alison Anderson**  
Executive Editor  
a.anderson@ijocs.org

**Mrs Sally Richardson**  
Senior Associate Editor  
s.richardson@ijocs.org

**Mr Keser Ayub**  
Managing Director  
k.ayub@ijocs.org

**Dr Waseem Ahmed**  
Clinical Skills Lab Editor  
w.ahmed@ijocs.org

**Dr Raina Nazar**  
Clinical Skills Editor  n.nazar@ijocs.org

**Dr Wing Yan Mok**  
Business Development Manager & Associate Editor  
wing.mok@ijocs.org

**Dr Hind Al Daher**  
Associate Editor  
h.al daheri@ijocs.org

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The International Journal of Clinical Skills looks forward to contributing positively towards the training of all members of the healthcare profession.
Dr Ali H M Abdallah MB BS
Family Medicine
Dubai Health Authority (DHA)
United Arab Emirates (UAE)

Mr Henry O Andrews FRCS(Eng) FRCS(Ire) FRCS(Urol) FEBU MBA
Consultant Urological & Laparoscopic Surgeon
Department of Urology
Milton Keynes General Hospital, UK

Dr Peter J M Barton MBChB FRCPG MBA
DCCH FHEA
Director of Clinical and Communication Skills
Chair of Assessment Working Group
Medical School
University of Glasgow, UK

Dr Jonathan Bath MB BS BSc (Hons)
Department of Surgery
Ronald Reagan UCLA Medical Center
Los Angeles
United States America (USA)

Dr Khaled Al Beraiki MB BS
Forensic Medicine
Klinikum Der Universität zu Köln
Institut für Rechtsmedizin
University of Köln
Germany

Professor Chris Butler BA MBChB DCH
FRCPG MD
Professor of Primary Care Medicine
Head of Department of Primary Care and Public
Health
Cardiff University, UK

Dr Aidan Byrne MSc MD MRCP FRCA
ILTM FAcadM
Graduate Entry Medicine Programme Director &
Senior Lecturer in Medical Education
School of Medicine
Swansea University, UK

Dr Dason E Evans MBBS MHPE FHEA
Senior Lecturer in Medical Education
Head of Clinical Skills
Joint Chief Examiner for OSCEs
St George’s, University of London, UK

Mrs Carol Fordham-Clarke BSc (Hons)
RGN Dip Nurse Ed
Lecturer and OSCCE Co-ordinator
Florence Nightingale School of Nursing &
Midwifery
King’s College London, UK

Dr Elaine Gill PhD BA (Hons) RHV RGN
Cert Couns
Head of Clinical Communication
The Charter Clinical Skills Centre
Guy’s, King’s and St Thomas’ Medical School
King’s College London, UK

Dr Glenn H Griffin MSc MEd MD FCFPC
FAAFP
Family Physician Active Staff
Trenton Memorial Hospital
Trenton, Ontario
Canada

Dr Adrian M Hastings MBChB MRCGP
FHEA
Senior Clinical Educator
Department of Medical Education
Leicester Medical School
University of Leicester, UK

Dr Faith Hill BA PGCE MA(Ed) PhD
Director of Medical Education Division
School of Medicine
University of Southampton, UK

Dr Jean S Ker BSc (Med Sci) MB ChB
DRCOG MRCPG MD Dundee FRCPG
FRCPE (Hons)
Director of Clinical Skills Centre
University of Dundee Clinical Skills Centre
Nineells Hospital & Medical School
Dundee, UK

Dr Lisetta Lovett BSc DHMSA MBBS
FRCPsych
Senior Lecturer and Consultant Psychiatrist
Clinical Education Centre
Keele Undergraduate Medical School
Keele University, UK

Miss Martina Mehring, Physician
Assistentärztin Anästhesie
Marienkrankenhaus
Frankfurt
Germany

Professor Maggie Nicoll BSc (Hons) MSc
PGDipEd RGN
Professor of Clinical Skills & CETL Reader
School of Community & Health Sciences
City University London, UK

Dr Vinod Patel BSc (Hons) MD FRCP
MRCPG DRCOG
Associate Professor (Reader) in Clinical Skills
Institute of Clinical Education
Warwick Medical School
University of Warwick, UK

Miss Anne Pegram MPhil PGCE(A) BSc RN
Lecturer
Department of Adult Health Nursing
Florence Nightingale School of Nursing
King’s College London, UK

Dr Abdul Rashid Abdul Kader MD (UKM)
Emergency Medicine
Universiti Kebangsaan Malaysia (UKM) Medical
Center
Kuala Lumpur
Malaysia

Professor Trudie E Roberts BSc (Hons) MB
ChB PhD FRCP
Director – Leeds Institute of Medical Education
University of Leeds, UK

Dr Robyn Saw FRACS MS
Surgeon
Sydney Melanoma Unit
Royal Prince Alfred Hospital
Australia

Dr Mohamed Omar Sheriff MBBS Dip
Derm MD (Derm)
Specialist in Dermatology
Al Ain Hospital
Health Authority - Abu Dhabi
United Arab Emirates (UAE)

Professor John Spencer MB ChB FRCPG
School of Medical Sciences Education
Development
Newcastle University, UK

Professor Patzy A Stark PhD BA (Hons) RN
RM FHEA
Professor of Medical Education
University of Sheffield, UK

Professor Val Wass BSc MRCP FRCGP
MHPE PhD
Professor of Community Based Medical Education
The University of Manchester, UK

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A Message from the Chief Medical Officer for England, United Kingdom

The systematic and safe acquisition of high quality clinical skills is an essential part of modern medical training as highlighted in my Annual Report published in March 2009. I wish the International Journal of Clinical Skills every success in highlighting research and knowledge in this important area.

Sir Liam Donaldson
The Chief Medical Officer for England
Multisource feedback assessment of medical students’ professionalism: who should be involved, when and how?

Abstract

Multi-source feedback (MSF) is increasingly used as a method of formative and summative assessment of medical students and practising doctors. It is supported by the UK General Medical Council (GMC) as an effective form of assessment of behaviours associated with professional practice. Traditionally, MSF of practising doctors involves feedback from peers, other colleagues and patients. MSF is only just being introduced into medical school curricula as a form of assessment and a number of challenges and constraints need to be considered in view of the potential burden on professionals and the specific behaviours that are being assessed.

This paper reviews the findings from selected literature on MSF in the light of recent developments in assessing professional practice. It also reports on a pilot study carried out involving non-academic staff at one UK medical school that is in the process of developing a new graduate entry curriculum. This pilot describes a wider study which is exploring the feasibility of using multiple methods to assess medical students’ professional behaviours.

In the pilot study non-academic staff were invited to provide feedback on the professional behaviours of graduate entry medical students using a novel method. They were asked to identify students from standard composite photographs of each year group whom they perceived had acted unprofessionally. The process was generally well accepted by both staff and students and proved simple to administer. Of 141 students, 11% were identified by at least one member of staff, but only 3% were identified by four or more. Using four identifications as the definition of ‘unprofessional’ resulted in this method having a positive predictive value of a single identification of 50% and a negative predictive value of 92%. This method appears to be efficient at identifying students whose general behaviour may be cause for concern, although further techniques are required to reliably assess student performance and provide them with adequate feedback.

Introduction

Multi-source feedback (MSF) or ‘360 degree appraisal’ is increasingly used as a method of formative and summative assessment of medical students, trainees and practising doctors. It is widely believed that this method provides an effective form of assessment of behaviours associated with professional practice [1]. This view is supported by the UK General Medical Council (GMC) in their recommendations for revalidation [2]. The GMC recently indicated that revalidation is likely to be introduced for medical practitioners in the near future and that this process will require “participation in an independent process for obtaining feedback from patients (where applicable) and colleagues” [2]. This process is partly a response to a number of high profile cases where both patients and peers have noted the unprofessional behaviour of colleagues, but no action was taken to modify their behaviour [3, 4, 5].
Traditionally, MSF assessment of trainees and practising doctors involves feedback from peers, other colleagues and patients against an assessment tool [1, 6]. MSF is a more recent addition to medical school assessment schemes, reflecting a need to ensure that medical students have experienced the full range of assessment methods that will be applied following graduation. MSF also supports students’ professional development and forms part of a range of measures (often clustered under ‘fitness to practice’ processes) which aim to identify students whose behaviours are a cause for concern [7, 8].

The context for the study is Swansea Medical School where a new graduate entry medical programme will be implemented from October 2009. In the course of developing a new curriculum, we wanted to develop robust and meaningful formative and summative assessments which would support students in becoming effective medical practitioners and would also reflect recent research into the developing professional. We felt that MSF would be an effective way of addressing these issues whilst acknowledging that implementing MSF introduces a number of challenges and constraints that need to be considered. These include the potential burden on professionals, identifying the specific behaviours that may need to be assessed and accommodating the views and perceptions of different participants in the feedback process.

We are at a relatively early stage of research and implementation into MSF assessments, however we are keen to share ideas and practice with other medical educators through this paper. The paper summarises key findings from literature on MSF in the light of recent developments in assessing professional practice, reports on a pilot study carried out involving non-academic staff at one UK medical school and describes a wider study currently being carried out which considers the efficacy and correlation between results of multiple methods used to assess medical students’ behaviours.

What is Multi-Source Feedback?

MSF or ‘360 degree appraisal’ is a widely used instrument which supports professional development in many settings (including business, management, the civil service, the UK National Health Service (NHS) and the armed forces), particularly where learners or workers are expected to demonstrate high-level, complex skills in working with others and where adherence to a professional code of conduct or set of behaviours is deemed essential. In the US, Canada and the UK, MSF has been used successfully for a number of years as part of workplace based assessment for medical trainees (i.e. to support Records of In-Training Assessment – RITAs) and for qualified independent practitioners (through appraisal and revalidation) [1, 9, 10].

A key principle underpinning MSF is that it generates ‘structured feedback which informs educational planning by building on strengths and identifying areas for development’ [1]. Feedback can be gathered through validated assessment questionnaires [such as SPRAT (Sheffield Peer Review Assessment Tool), mini-PAT (mini Peer Assessment Tool) and mini-CEX (mini Clinical Evaluation Exercise)] which are designed to obtain standardised information regarding performance from colleagues (peers), patients and others who come into contact with the doctor or trainee, as well as a self-rating from the practitioner themselves. In some schemes, doctors can select their raters which has been demonstrated to have no significant difference on results from those where raters are nominated by supervisors [11]. Once information has been collated, feedback should ideally be given face-to-face. A particular benefit has been shown to be the feedback discussion which enables the doctor or trainee to compare feedback from others with their own self-rating. The feedback session should clearly identify an action plan. MSF is not to be utilised as an isolated tool, but as part of a structured professional development and assessment programme.

Although the main focus of MSF is to identify areas for professional development, in some cases these processes might identify individuals engaging in unprofessional behaviour. Here, MSF can be useful to identify specific behaviours or patterns of behaviour for remediation. The action plan would specify further training which may help to modify behaviour. In some extreme cases MSF may provide additional information that may lead to medical practice being curtailed.

Research has described the implementation of such schemes in a variety of medical specialities [9, 11, 12, 13] emphasising the need for organisational support, commitment, training, monitoring and psychometric design and testing [9]. If MSF is introduced sympathetically in relation to the context and good support is provided, particularly around providing timely and sensitive feedback, then MSF is seen as both a useful and credible form of assessment [14]. However, introducing MSF without due attention to providing specific and accurate feedback and ensuring that raters are seen as credible by those being assessed, can lead to negative perceptions of MSF [14]. Although longitudinal validity and stability have been demonstrated in many cases [15], there is still debate as to the most effective methods of gathering multi-source feedback and as to whether is the best time to gather such information; i.e. from medical students, trainees and practising doctors [16, 17]. There is an increasing consensus however that “it is both desirable and possible to begin assessing student professionalism during the first year of medical school” [18], even if this is formative rather than summative [19].

Any system of appraisal using MSF clearly requires an adequate number of assessments to provide a valid and reliable result, and although this requires administrative resources and support, it also potentially places a huge burden on busy practicing professionals. Depending on the instrument, authors have suggested a variety and number of assessments required for reliability, ranging from an 11 item instrument used by 10 to 11 independent raters [11], Violato et al [20] who suggest 8 raters, to Davies and Archer’s finding (writing about the SPRAT) that many trainees may need as few as four raters to produce a reasonably confident decision about whether they are in difficulty or not [21]. Archer et al note that in the early stages of introduction of an MSF tool, there may be a requirement for more assessors to overcome error variance [1]. Once assessors are familiar with the tool (through experience and training) then the number of raters needed may well be fewer. Although a standardised instrument across specialities and grades does not yet exist [6], a debate has been initiated to consider “whether a single national tool would be appropriate or whether elements
will need to be tailored to the specific needs of different medical specialties or spheres of practice" [8].

### MSF as an assessment tool in undergraduate medical education

Professionalism is a complex quality or construct, which has been debated by many writers [22, 23] but which has also been identified as an important learning outcome in medical education [24, 25]. 'Becoming professional' does not happen by magic and medical students need to engage in appropriate situated teaching and learning experiences that reflect the real world as well as ideals and values [24, 26, 27]. Teaching includes setting expectations, providing experiences and evaluating outcomes [28]. Studies confirm that two components of professionalism – communication skills and moral reasoning – can be taught and learned and that structured feedback from assessments may improve professional behaviours [29, 30, 31]. Papadakis et al [19] suggest that medical students’ professionalism should be assessed formatively in the first year of medical school and feedback given to support remediation. “This performance-based, longitudinal approach helps to set professionalism expectations early, both for learners and for faculty who must commit to addressing and attempting to improve students' professional behaviour” [18].

There is widespread agreement on a list of professional characteristics [32] but relatively little research has been carried out into predicting professional behaviours in medical students [33]. We highlight findings from some relevant studies here. Stern et al [32] investigated whether admissions data, patient evaluations, student participation in evaluation and immunisation compliance were predictors of subsequent professional behaviour. Behaviour was measured through continuous assessment of clinical behaviours in clerkships (clinical attachments) and whether students came before the academic review board for professional behaviour. They found that admissions data was not predictive of unprofessional behaviour, but that immunisation non-compliance and failure to complete evaluations were predictive of unprofessional behaviour. This suggests that 'conscientiousness' is a key element of professionalism. Stern et al [32] also found that students who over-estimated their performance in clerkships received lower ratings and vice versa, thus suggesting that 'humility' is another key component of being professional. Hodgson et al [33] identified a correlation between low scores on the CPI (California Psychological Inventory) and subsequent unprofessional behaviour of medical students, suggesting that there may be a role for psychological testing of potential medical students along with the more traditional measures of interview and academic performance on admission.

Another study by Wright and Tanner [34] found that students’ non-compliance with having to produce a photograph for registration for a paediatric module was a predictor of subsequent examination failure. They suggest that this relates to ‘organisation’ and ‘attitude’ as elements of a professional approach to learning and study. They link this with educational research that suggests that disorganised learning is one of the most important predictors of examination failure and that learning style and attitude are both key to clinical performance [35].

Assessing professionalism summatively is difficult even in respect of practicing doctors [14, 18] although we have seen above how MSF can help to address some of the difficulties in obtaining reliable, longitudinal feedback on doctors’ behaviours and approaches to practice. Medical students’ professional identity (particularly relating to students in the early years of the undergraduate programme) is in the process of being formed. Such differences pose potential difficulties in assessing professional behaviours at various points in professional development. Ginsberg et al [36] highlight the tension that students experience as they move from the ideals of the ‘avowed’ curriculum to the real life educational and clinical experience of the ‘disavowed’ curriculum. Students have to navigate through what is stated as professional behaviour to meeting other (often conflicting) principles of education, allegiance, deference and obedience found in the ‘hidden’ curriculum [36]. These tensions can lead students to engage in unprofessional behaviours such as inappropriate humour, dress or comments about patients [37, 38]. However, such behaviours may not be indicative of underlying attitudes or values.

Many studies have focussed on professionalism as a set of underlying values or overarching principles; however, more recently the focus has shifted to a consideration of observable behaviours [31, 39]. This is in line with the introduction and widespread implementation of MSF as a core component of medical assessments. Rees and Knight [40] note that caution must be taken if using MSF based purely around observable behaviours, noting that behaviours are not always an indication of underlying attitudes, professional behaviours can be faked and that students who have professional attitudes can at times behave in a way that may be considered unprofessional. Drawing on socio-cognitive psychology, they suggest that objective measures of behaviours should be coupled with “conversation guided by socio-cognitive models” [40], using probing questioning techniques that enable the context and reasons behind behaviours to be explored. This approach links closely with other assessment methods that require critical self reflection such as reflective portfolios, narrative enquiry and significant incident analysis.

A number of studies have been undertaken considering the implementation of peer assessment of professionalism, some of which have demonstrated students’ reluctance (and in some cases refusal) to participate [10, 41]. Other studies indicate that medical students’ peer assessments are comprehensive, reliable, insightful, consistent with assessments by instructors and useful for providing additional information on aspects of professionalism that are distinct from course grades and staff assessments [23, 33, 39, 42]. As Arnold et al [42] point out, to be successful, peer assessment of professionalism must be set within an environment conducive to peer assessment which is supported by faculty, includes training on providing feedback and includes clear processes through which unprofessional behaviours can be addressed and professional behaviour is rewarded. The peer assessment scheme should be inclusive and longitudinal to support professional development and the peer assessment scheme should meet students’ needs; it should be 100% anonymous; provide immediate feedback; assess in all clinical rotations; allow for reporting of both professional and unprofessional behaviour; provide an annual summary report for
each student and link peer assessment in medical school with the
types of peer assessment that students will meet later in their
careers as physicians in training and practice’ [42].

Fitness to practice
In the UK, the GMC sets out its expectations of the professional
behaviour of medical students in a range of documents which
cater to both students and practicing clinicians. The GMC
acknowledges the importance of identifying students who
might be unfit to practice prior to graduation and makes
recommendations to medical schools as to the mechanisms
that should be set in place in order to identify students who are
not deemed fit to practice [43]. The GMC requires that medical
schools measure the professional behaviour of medical students
as set out in both ‘Good Medical Practice’ [44] and ‘Tomorrow’s
Doctors’ [45], again on the assumption that students who exhibit
unprofessional behaviours will go on to be practitioners who
perform poorly [32].

In ‘Medical students’ professional values and fitness to practice’,
the GMC defines the meaning of ‘fitness to practice’ as not
only being about competent and safe clinical practice and
maintaining effective relationships with patients and colleagues,
but also about conduct that demonstrates the justification of
trust [43]. In terms of students’ behaviour outside the clinical
environment, students are “expected to behave in a professional
and responsible manner …. When considering the fitness to
practice of a student, it may be appropriate to reflect on the
severity of the behaviour, the maturity of the student and the
year of study, as well as the likelihood of repeat behaviour and
how well the student will respond to support and remediation”
[43]. The GMC goes on to define what it terms a ‘threshold’
of fitness to practice, with an assumption that students are
deemed fit to practice unless “their behaviour or health raises
a serious and persistent cause for concern about their ability
to continue on a medical course, or to practice as a doctor after
graduation” [43]. It is acknowledged that some behaviours might
be dealt with by university disciplinary procedures (which should
be used in the first instance) but, in cases where it is deemed
that a student’s behaviours are a cause for concern and the facts
have been confirmed through the disciplinary processes, then
fitness to practice hearings should take place. These hearings
are considered in relation to how the behaviours might have
an impact on patient and public safety as well as on the public’s
trust in the medical profession.

The GMC suggests that students should be considered on
a case-by-case basis as to whether they have ‘engaged the
threshold’. Five questions are posed [43]:

- Has a student’s behaviour harmed patients or put patients
  at harm?
- Has a student shown a deliberate or reckless disregard of
  professional or clinical responsibilities towards patients or
  colleagues?
- Is a student’s health or impairment compromising patient
  safety?
- Has a student abused a patient’s trust or violated a patient’s
  autonomy or other fundamental rights?
- Has a student behaved dishonestly, fraudulently or in a way
  designed to mislead or harm others?

These questions are to be considered in the light of persistent
misconduct, a lack of integrity, an unwillingness to behave
responsibly or ethically or a lack of insight into professional
concerns. It also includes plagiarism, cheating, dishonest
reporting, forging signatures or failing to comply with
regulations. The GMC has identified the most frequent areas of
concern relating to student fitness to practice [43]:

- Criminal conviction or caution
- Drug or alcohol misuse
- Aggressive, violent or threatening behaviour
- Persistent inappropriate attitude or behaviour
- Cheating or plagiarising
- Dishonesty or fraud, including dishonesty outside the
  professional role
- Unprofessional attitude or behaviour
- Health concerns and insight or management if these exist

The areas of concern highlighted by the GMC reflect other
research studies, such as those which found a strong association
between disciplinary action of practicing doctors by a medical
board and prior unprofessional behaviour at medical school [46].
Although there is some link between student undergraduate and
postgraduate academic performance, the correlation is not as
strong as that associated with unprofessional behaviour [46, 47].
Types of unprofessional behaviour included irresponsibility (e.g.,
unreliable attendance), diminished capacity for self-improvement
or failure to improve behaviour; poor attitude and poor initiative,
lack of motivation or enthusiasm [46]. These and other studies
highlight the importance of identifying and addressing issues
around professional behaviours early so that these students
can either be offered remedial help, additional training or
development or, if unprofessional behaviours continue to be
demonstrated, that they are not permitted to graduate as a
potential medical practitioner [21].

Assessing professional behaviours
There is an international trend to move away from written,
paper-based assessments of doctors’ competence towards
performance-based assessment, concentrating primarily on
multi-source feedback and direct observation of performance
in clinical or simulated situations [47]. This approach to
assessment and feedback takes as a fundamental principle that
individuals demonstrating unprofessional behaviours can and
should be identified as early as possible so that they can either
receive further training or remediation to address unacceptable
behaviours or, if this is not possible, that their medical practice is
curtailed [6, 8].

While MSF is used for qualified doctors to measure a variety of
attributes (such as practical competence and knowledge)
medical students (particularly in the early years of a course)
are already summatively assessed in many of these areas,
especially knowledge and skills. At Swansea, in common with
many medical schools, students are assessed using validated,
reliable paper tests (including essays, Multiple Choice Questions
and portfolios) to measure their knowledge and practical
tests of competence, including Objective Structured Clinical
Examinations. We currently require students to participate in
student-led professionalism sessions, during which they give peer
feedback on behaviours. Also, student behaviour during clinical
attachments is monitored and assessed both formatively and summatively by their supervising clinicians.

Building on the range of assessments already in place, we have focussed our attention on exploring the value of MSF to assess and provide feedback to both the students themselves and the medical school on behaviours linked to effective professional practice. Although assessing professionalism is very difficult, assessing medical students’ professionalism through MSF poses practical difficulties not noted when assessing practicing doctors. For example, students do not perform many of the actions of practitioners and sources of information such as patients are not easily available. Students do, however, have to engage with a wide variety of staff while at university, such as academic (non-clinical), administrative staff, librarians, technicians and support staff such as cleaners. We wanted to explore whether it is possible that the behaviour of students while dealing with non-academic staff might act as a proxy for their future dealings with patients. Anecdotal evidence from within the medical school suggested that students were most likely to behave unprofessionally with such staff, possibly because they felt that such staff were less important or unable to affect their progression.

However, as described above, the GMC identifies a number of behaviours linked to administrative tasks and attitudes on which many non-academic and support staff are in an excellent position to provide feedback. A second aim therefore was to identify and test mechanisms through which we could incorporate feedback from non-academic and academic staff (as well as other students, clinicians and other health professionals) into formal assessments of professional behaviour. This will enable the application of MSF to be extended in the undergraduate setting which maps onto how trainees and practicing doctors will be assessed throughout their working lives [2]. Research into MSF indicates that obtaining feedback from a wide range of assessors (which in the clinical context would include co-workers, peers and patients) provides a more robust assessment of health professionals’ performance than uni-dimensional assessments [15, 21]. Also there is consistency between the perceptions of both clinical and non-clinical assessors, particularly in cases where a doctor is highly or poorly performing, although correlations are not strong [6, 47]. Identifying students who are perceived as behaving ‘unprofessionally’ early on in their education by those who come into frequent contact with students, may offer opportunities for remediation, or prevention of later failure or poor practice.

Methods

In 2008, we planned a two-stage study which aimed to compare multiple methods of assessing medical student professional behaviours (multi-source feedback). Throughout the research, students were allocated a unique identifier and no student was identified by name to avoid discussion of any potential ‘fitness to practice’ issues. Ethics approval was obtained from Swansea University’s Ethics Committee.

Stage One: The pilot study - developing and testing a method for obtaining feedback from non-clinical staff

A range of methods are already used to obtain information from clinical staff about student behaviours, therefore in the first stage we aimed to explore whether and how non-academic staff might formally participate in providing feedback on their perceptions of observed ‘unprofessional’ behaviours of the students through piloting a simple method of collecting data. The first stage of the study piloted a new method of data collection about students and evaluated the feasibility of non-academic staff being asked to provide feedback on the professional behaviour of medical students.

The pilot study was carried out in 2008 and involved 141 medical students on the first two years of the Graduate Entry Programme (GEP) based at Swansea University and 24 members of administrative, library and support staff who had regular contact with students. Prior to commencing this research, details of the study were emailed to all students outlining the methods used and informing them that the results would not affect their progress. Students were invited to respond if they had any comments or concerns.

The pilot study required non-academic staff to identify students who in their view had exhibited ‘unprofessional behaviour’ by marking their image on a set of photographs. All students are routinely photographed as part of their induction program to produce composite photographs of each year group. A copy of the photographs relating to the 1st and 2nd year student year groups (comprising 71 students in 1st year and 70 students in 2nd year) was distributed in an envelope to 24 members of staff who had regular contact with the students. Staff members included 13 administrative staff, 2 library staff and 1 support worker. Included in the envelope was the instruction to consider any student that had exhibited ‘unprofessional’ behaviour during the academic years.

‘Unprofessional behaviour’ was defined as: “any behaviour that would make you reluctant to become a patient of that student after qualification”. This terminology was based on the General Medical Council document, ‘Good Medical Practice’ which states that good doctors maintain good relationships with patients and colleagues [44]. As we were using a single assessment tool to measure global ‘professionalism’ we used a single generic question. The question used the statement “after qualification” to ensure students were viewed as potential doctors and not just as students.

Staff were given the above documentation in an envelope along with a brief verbal explanation, but formal training was not included. They were asked to indicate any ‘unprofessional’ student by marking the student’s image with a cross and then returning the marked up sets of photographs to the researchers. The second stage of the study asked staff to complete a short questionnaire (Figure 1) to indicate both their evaluation of the method and their willingness to participate again on a five point Likert type scale with a central neutral value.
We also explored the findings from the pilot study through face-to-face and/or telephone semi-structured interviews to identify behaviours that led the non-academic staff to identify these individual students as ‘unprofessional’ i.e. to consider that they would not wish to consult with them as a doctor. Specifically, we ascertained non-academic staff perspectives on:

- What were the specific behaviours that led staff to see these students as unprofessional?
- Why these behaviours are perceived as unprofessional (and the significance to the context of future medical practice)?
- When and how often these behaviours occurred?
- Where the behaviours occurred?
- Whether (and if so how) these behaviours were challenged (informally or formally)?
- Whether some students had changed (to behave more or less professionally) in the course of the programme?

Stage Two: a comparison of multiple methods of assessing medical student professional behaviours

The second stage of the study (initiated in 2009) aims to identify any correlation between the findings from the stage one method (described above) and the results of formal ‘360 degree feedback’ and other assessments relating to professional behaviour.

Drawing from the literature, we utilise a range of different methods of obtaining feedback on medical student behaviours to identify whether there is any correlation between the results from non-academic staff feedback (using the method piloted in the first stage of the study), from peer feedback and the results of formal 360-degree feedback and other summative and formative assessments already being used in the medical programme relating to professional behaviour.

The specific methods are:

1. All administrative staff with frequent contact with the students are issued with composite photographs of all the students and then asked to identify those who have behaved unprofessionally over the last year and requested to return the completed documents to the researchers.
2. All students are issued with 6 mini-PAT scoring sheets (a commonly used, validated peer assessment tool in medicine) relating to a random selection of their peers and an envelope to return the sheets to the researchers.
3. All the students’ personal tutors are provided with a sheet with each of their personal tutees and asked to identify whether they consider each student has demonstrated “cause for concern”, “has received advice about their behaviour” or “always behaved entirely professionally” and an envelope to return the sheet to the researchers.
4. The administrator of the computer system confirms whether or not the student has completed their on-line record of clinical placements and the printout returned in a sealed envelope to the researchers.
5. A summary of the academic grades of each of the students is retrieved from the on-line system and provided to the researchers.

The major end point of this study will be a comparison between the rating of the students by the administrative staff, personal tutors and their peers in order to identify correlation. Secondary measures will be the correlation between these three measures and the students’ academic scores and whether they complete the peer assessment tool and their on-line portfolio.

Results of the stage one pilot study

Of the 24 sets of papers sent out to non-academic staff, 18 were returned completed; a response rate of 75%. Of the 16 staff that filled in the section concerning their views: 3 thought this process was “a good idea”, 10 thought it had “some value” and 3 had “some concerns”. None were “strongly opposed”. Of the same staff, 2 were “keen” to participate again, 12 would be “happy” and 2 had “some concerns”. There were no staff who would not participate again. There were no requests for further information or training prior to using these forms.
Only two responses were elicited from students. One indicated full support for the process and one indicated that they were entirely opposed to the process, on the basis that medical students should not be assessed by untrained, non-clinical staff.

Five members of staff did not identify any students as exhibiting ‘unprofessional behaviour’. The other staff identified between one and ten students, with an overall median identification of 2 students. 11% (n=16) students were identified by at least one member of staff and 3% (n=5) identified by four or more staff (see Figure 1). For the purposes of this study, an ‘unprofessional’ student was defined as one who attracted four or more identifications, an arbitrary number as reported by Rees and Shepherd [12]. Using this definition, five students could be classified as ‘unprofessional’. Therefore, the positive predictive value of a single identification was only 50%, with a negative predictive value of 92%. Inspection of the Corrected Item-Total correlation indicated that those raters with the lowest correlation had indicated three or fewer students.

Figure 2: Numbers of separate identifications (those not identified are not included, total n=141).

Discussion

In the pilot study a variety of non-academic staff members were willing to participate in this form of feedback on students’ behaviours and felt able to identify those students who they perceived as behaving ‘unprofessionally’. As a tool for collecting data, this method is simple and efficient. Participant evaluation also indicates that this method is acceptable to the majority of the staff involved and that they do not find the task onerous. It therefore has utility as a potential feedback mechanism on student behaviours. This method has strong face and content validity in that ratings were based on observed student behaviour.

We recognise that any individual student might occasionally behave in what might be seen as an ‘unprofessional’ manner. We therefore defined an ‘unprofessional’ student as one who was identified by four or more staff [12]. The small number of students identified also suggests that the construct of ‘unprofessional’ measured here is stable and evident in a variety of environments.

This method is designed to identify students who may need further assessment; for example, by a more conventional ‘360 degree assessment’ that would provide the specific feedback needed to inform the students’ development. It is also clear that although this form of feedback can inform and motivate students, there is also the possibility of inducing anxiety and detracting from the learning experience [12, 37, 39, 42].

It is difficult to assess underlying sources of bias from this data. There were too few students in these groups who could be classified as from racial or other minority groups to determine whether this may have been a factor. There is also the possibility that communication between staff on different sites about the actions of particular students might have led to a single student being identified by multiple staff as either very good or poor. Consideration of the possible impact of the ‘halo effect’ [48], the ‘recency effect’ [49] and the ‘primacy effect’ [50] need to be built into studies of this nature.

Despite the increasing involvement of patients and lay people in providing feedback on doctors’ performance and practice, in many universities, regulations specifically rule out the assessment of students by non-academic staff. Informal opinion indicates that some clinicians feel that medical students should only be assessed by qualified practitioners or by lay people who have been trained in giving feedback [16]. Implementation of this method is therefore likely to be limited by local conditions rather than cost or technological restrictions and we recognise that including a wider range of people in providing feedback on student behaviours needs to be set within an educational culture that is developmental and rewards professional behaviour [38].

MSF can be used for both formative and summative assessment and clarifying the intent of any instrument is crucial to its success [6, 13, 16, 21]. In the pilot study, the non-specific nature of this feedback meant that it was difficult, not only to establish content validity, but also to determine the behaviours that would be considered ‘unprofessional’. However, the results raise interesting questions, currently being explored in the second stage of the study in that five students were identified by four or more individual members of non-academic staff and three students identified by six staff members. In exploring the behaviours that staff deem to be ‘unprofessional’, we anticipate from informal communications and from the literature that such behaviours might include a lack of respect; rudeness; arrogance; poor time management; failure or tardiness in submitting assignments or providing documentation, and poor verbal or non-verbal communication skills [32, 34].

Such behaviours map closely onto those which are seen as underpinning poor clinical team performance and also relate closely to the behaviours listed in GMC documentation relating to fitness to practice [3, 43, 44]. It is often the non-clinical (transferable) skills that are cited as not only contributing towards poor teamwork, but also those which are frequently noted as the factors which patients report on failing doctors [51, 52].

Identifying students who are perceived as behaving ‘unprofessionally’ early on in their education by those who come into frequent contact with students, may offer opportunities for remediation, or prevention of later failure or poor practice [3, 20].
Conclusion
The literature review highlights that although assessing professional behaviours and attitudes is complex and not easy, there is an emerging consensus on how this can best be achieved. At Swansea Medical School we are at a relatively early stage in developing and implementing summative and formative assessments to measure professionalism in medical students which provides a unique opportunity to draw from current research into this area. MSF that takes a longitudinal and developmental approach is seen as being effective if it is well planned and sensitive to student and faculty needs and expectations.

The pilot study introduced a novel method of involving non-academic staff as raters through a single bivariate measure rather than multiple rating scales. Although limited in its specificity, this is potentially a highly efficient method of screening large numbers of medical students for ‘unprofessional behaviour’. The ongoing research will reveal how this method can be used as an ‘early warning’ or additional measure and how it might be integrated with other assessments to identify students who may need support, remediation or further assessment by a wider range of methods.

References
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