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A multisource feedback tool to assess ward round leadership skills of senior paediatric trainees: (1) Development of tool

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ABSTRACT

Background Leading a ward round is an essential skill for hospital consultants and senior trainees but is rarely assessed during training.

Objectives To investigate the key attributes for ward round leadership and to use these results to develop a multisource feedback (MSF) tool to assess the ward round leadership skills of senior specialist trainees.

Methods A panel of experts comprising four senior paediatric consultants and two nurse managers were interviewed from May to August 2009. From analysis of the interview transcripts, 10 key themes emerged. A structured questionnaire based on the key themes was designed and sent electronically to paediatric consultants, nurses and trainees at a large university hospital (June–October 2010).

Results 81 consultants, nurses and trainees responded to the survey. The internal consistency of this tool was high (Cronbach's α 0.95). Factor analysis showed that five factors accounted for 72% of variance. The five key areas for ward round leadership were communication skills, preparation and organisation, teaching and enthusiasm, team working and punctuality; communication was the most important key theme. A MSF tool for ward round leadership skills was developed with these areas as five domains.

Conclusions We believe that this tool will add to the current assessment tools available by providing feedback about ward round leadership skills.

INTRODUCTION

Working in partnership with patients and communicating effectively with them as well as being competent in all aspects of work is essential for good patient care.¹ Patients may anticipate and, at the same time, fear arrival of the ward round. They will be waiting to hear about their medical condition, what treatment or investigations are planned and when they can go home. Often there will be disappointment due to the encounter with medical and nursing staff being brief, without privacy, not answering the patient's fears and with no opportunity for discussion of complex issues relating to care.² The ward round can become a ritual rushed activity when workload is heavy, especially with pressure to discharge patients to make beds available. Little or no teaching may take place, with students and trainees suffering late starts, cancellations and inappropriate comments, humiliation and negative reinforcement of their efforts by stressed consultants.^{2–3} Decisions about patient care are often made 'on the hoof' with missing information, in less than perfect conditions and with frequent

distractions.^{3–4} There is a risk to patients on every single ward round.

The skills needed to conduct a ward round are encompassed by the four domains in the General Medical Council's (GMC's) booklet 'Good Medical Practice' published in 2013 (box 1).¹ As well as the vital issue of patient safety,^{3–4} the consultant leading a ward round is a powerful role model for junior trainees and medical students.⁵ It is therefore essential that the consultant behaves appropriately, demonstrates exemplary knowledge, skills and attitudes and provides a role model of good medical practice.^{4–6} Career choice in British medical students is influenced by undergraduate experience.⁷ The way a consultant behaves forms part of the hidden curriculum—that is, that which is unintentionally taught and includes behaviours, ways to act and what is expected within a role.⁸

The ward round is crucial in patient care and clinical decision-making. It is an opportunity to review every patient with information contributed by the multidisciplinary team so that decisions can be made together with the patient and carer. The ward round is an opportunity to learn and to teach, and to sustain and reinforce the team working of doctors, nurses and other healthcare professionals. Until relatively recently there has been little attention to running the ward round efficiently, effectively and ethically, and to training and assessing doctors who will soon become consultants to undertake this role. Welcome developments have included a joint report from the Royal College of Physicians and Royal College of Nursing on best practice on ward rounds,⁹ and the development and use of clinical checklists.¹⁰

Noble *et al*¹¹ suggested that leading a ward round with consultant supervision would help remedy deficiencies, both in terms of patient care and training. Learning during ward rounds is listed in the Royal College of Paediatrics and Child Health (RCPCH) UK curriculum¹² as one of the ways of achieving curriculum competencies such as communication skills. The Royal College of Physicians Training Board has stated that, for successful completion of intermediate training, the trainee doctor should be able to lead a ward round and plan care for the next 24 h period.¹³ However, in obstetrics and gynaecology, 70% of senior trainees (specialist registrars) learnt nothing new on ward rounds and did not have the chance to lead a ward round in the presence of a consultant.¹⁴

The literature on ward round performance by trainee doctors is sparse, but indicates a need for better preparation of trainees for this



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Box 1 General Medical Council four domains of Good Medical Practice (2013)

Knowledge, skills and performance

- ▶ Make the care of your patient your first concern
- ▶ Provide a good standard of practice and care

Safety and quality

- ▶ Take prompt action if you think that patient safety, dignity or comfort is being compromised
- ▶ Protect and promote the health of patients and the public
- ▶ Communication, partnership and teamwork
- ▶ Treat patients as individuals and respect their dignity
- ▶ Work in partnership with patients
- ▶ Work with colleagues in the ways that best serve patients' interests

Maintaining trust

- ▶ Be honest and open and act with integrity
- ▶ Never discriminate unfairly against patients or colleagues
- ▶ Never abuse your patients' trust in you or the public's trust in the profession

responsibility.^{15 16} Supervision of trainees leading ward rounds is needed. Workplace-based assessments have become an integral part of specialty training both in the UK and internationally, and these assessments lie at the top of Millar's pyramid (what the doctor does in the workplace).¹⁷ They cover clinical skills as well as professionalism, decision-making and time keeping. The literature on multisource feedback (MSF) from healthcare and education shows that it is a valid and reliable way of assessing professional attitudes and behaviours.^{18 19} Developing a ward round MSF tool would enable senior trainees to be assessed and receive structured feedback about their performance and ability to lead ward rounds from a range of healthcare professionals as well as the consultant supervising the round. This feedback will be useful to develop key attributes and skills and therefore enable better preparation for a consultant role, including the care of patients, team working and teaching.

The aim of this study was to investigate the key attributes for leading a ward round and to use these to develop a MSF tool.

METHODS

Context

It was important in this study to consider use of the MSF tool in all departments in which ward rounds are undertaken. The West Midlands is a large postgraduate training area (box 2) with around 10% of UK trainees. A large university hospital in the West Midlands with a 40-bed general paediatric ward, a tertiary neonatal unit and a paediatric intensive care unit was therefore chosen for initial work on the MSF tool.

Box 2 Postgraduate medical education in the West Midlands region

- ▶ 10% of UK trainees
- ▶ 17 hospital trusts with paediatric departments
- ▶ One tertiary children's hospital
- ▶ Around 330 paediatric trainees at any one time
- ▶ Between 110 and 150 trainees in higher specialty training (year 4 of training and above)

Study design

This was a mixed methods research study with an interpretivist paradigm. The research was carried out in stages:

1. Inquiry by interviewing senior consultants and nurses to derive key themes about leading a ward round.
2. Designing and using a questionnaire about these derived themes which was completed by consultants, nurses and trainees to obtain their views on the ward round leadership themes.
3. Distillation of these findings into a small number of key domains in order to construct a MSF tool to use in assessing the performance of senior trainees in leading a ward round.

Interviews

Process

Semi-structured interviews were carried out between May and August 2009 with four senior consultant paediatricians (two women and two men) with considerable experience in medical education and two senior nurse managers (both women). The purpose and scope of the interviews were explained and written consent was obtained prior to each interview. Each interviewee was asked about the key features and attributes of ward round leadership. Interviews lasted approximately 45 min and were digitally recorded.

Analysis

The interviews were transcribed verbatim into Word documents. Thematic analysis identified key themes and patterns emerging from the text and used the text to think about and generate ideas.²⁰ Pieces of text were tagged using coloured strips based on concepts emerging from the data. This method is about organisation, retrieval and interpretation of data (not just simplification of data) to open up what the interviewees have said and identify and conceptualise further theories and frameworks. Pieces of text from the six interviews were then organised and listed under 13 key themes and these were further reorganised into 10 positive themes and three negative themes about the features and attributes of ward round leadership. The three negative themes were in fact the reverse of some of the 10 positive themes, so were already covered in these.

Questionnaire

A two-page questionnaire was constructed to include three questions for each of the 10 key themes (to ensure good coverage) derived from the text of the verbatim quotes under each of the headings. There were tick box questions about grade, participation in ward rounds, gender, experience, full-time or part-time working and the place of basic medical training. Questions on skills for a good ward round and skills for a poor ward round were free text and there was a final free comments box at the end. The questionnaire was created using the large University Hospital heading where one of the authors (IL) was working at the time. The questionnaire was sent out electronically using *Survey Monkey* to 19 consultants, 30 senior nurses and all 331 specialty trainees in the West Midlands Deanery area (in 17 different hospitals). This work was undertaken between June and October 2010.

Data analysis

Statistical analysis

Tests included basic frequencies, mean and SD, mean and maximum and minimum scores for the 30 Likert-type questions, and reliability using Cronbach's α (and α if item deleted).

Differences in scores by gender, full/part-time working, place of basic medical qualification and by job were tested using the Mann–Whitney and Kruskal–Wallis tests (as data from the Likert questions were ordinal). The Bonferroni correction was calculated to reduce the chances of obtaining false positive results due to the large number of statistical comparisons being undertaken. A principal component factor analysis was carried out on the 30 Likert-type question data to look for groupings of themes within the data. This was done with varimax rotation, Kaiser–Mayer–Olkin (KMO) and Bartlett’s tests for adequacy of sampling of data, accepting loadings of 0.5 or above. The number of factors extracted was chosen using the inflexion point on the scree plot curve (the Cattell criterion²¹) as described by Field.²² SPSS V.19 was used for statistical analysis.

Thematic analysis

Free comments from the questionnaire were transcribed verbatim and a further thematic analysis was carried out. Key domains from the factor analysis were derived.

RESULTS

Themes derived from the interview study

Ten positive themes and three negative themes derived from the interview study are listed in [table 1](#), together with frequencies of themes in the interview analyses. The top three themes, all with scores over 30, were communication, team working and patient management.

Questionnaire to consultants, nurses and trainees

Reliability

There was very good internal consistency of the 30 Likert-type questions (Cronbach’s α 0.95 with no rogue questions using α if item deleted). This high value may indicate that there is some measure of item redundancy.

Demographic details of questionnaire respondents

The questionnaire was completed by a total of 81 respondents out of 380 (21%). This was made up of 13 of 19 paediatric consultants (68% response), 11 of 30 paediatric nurses (36%) and 57 of 331 West Midlands paediatric trainees (17% response). Of these, 24 of 79 (30%) were in training years 1–3 (ST1–3) and 33 of 252 (13%) were middle grade trainees in training years 4–8 (ST4–8 and specialist registrars). There were

30 men (37%) and 51 women (63%). One-third of the respondents had qualified overseas. These demographic details are representative of our regional paediatric workforce.

Overall scores for the Likert-type questions

The overall scores for each of the 30 questions are shown in [table 2](#). From the 10 key themes, communication was felt to be the most important theme with the highest mean Likert score (5.77).

Free comment results from questions 4 and 5

Seventy-six of the 81 respondents (94%) provided comments about what makes a good and a poor ward round. The themes generated from analysis of the free text comments and some examples of verbatim quotes are shown in [table 3](#). These were the same as the 10 key themes shown in [tables 1](#) and [2](#).

Table 2 Mean (SD) Likert scores for the 10 key themes

Key attributes (in descending order of importance)	Mean (SD)	Min–max
1. Communication (n=80)	5.77	
A. Keeping team informed	5.78 (0.50)	4–6
B. Keeping the parents and relatives up to date	5.76 (0.53)	3–6
C. Giving effective handover	5.76 (0.56)	3–6
2. Team working (n=80)	5.64	
A. Good working relationship with team	5.69 (0.54)	4–6
B. Respectful of others’ opinion	5.6 (0.61)	4–6
C. Being easily approachable	5.63 (0.63)	4–6
3. Leadership skills (n=79)	5.63	
A. Leading by example	5.66 (0.48)	5–6
B. Good and appropriate delegation	5.65 (0.48)	5–6
C. Calm under stress	5.61 (0.56)	4–6
4. Patient management (n=79)	5.54	
A. Knowing patients well	5.18 (0.81)	2–6
B. Being thorough with patient care	5.71 (0.56)	3–6
C. Decision-making skills	5.75 (0.44)	5–6
5. Prioritisation and time management (n=80)	5.43	
A. Managing priorities appropriately	5.61 (0.58)	3–6
B. Keeping to time	5.11 (0.78)	3–6
C. Using time effectively	5.56 (0.59)	4–6
6. Punctuality (n=79)	5.35	
A. Arriving on time	5.41 (0.76)	3–6
B. Starting on time	5.32 (0.89)	2–6
C. Minimising delays	5.33 (0.80)	2–6
7. Organisation skills (n=79)	5.27	
A. Being well prepared in advance	5.09 (0.92)	2–6
B. Completing tasks in timely manner	5.39 (0.72)	3–6
C. Working effectively with available resources	5.36 (0.74)	4–6
8. Teaching (n=76)	5.18	
A. Willing to teach at all levels	5.12 (0.92)	3–6
B. Using teaching opportunities	5.23 (0.88)	3–6
C. Facilitating others to learn	5.18 (0.96)	3–6
9. Enthusiasm (n=76)	5.13	
A. Being enthusiastic on ward rounds	5.18 (0.78)	3–6
B. Encouraging active participation	5.24 (0.76)	3–6
C. Making things interesting	4.99 (0.88)	2–6
10. Preparation (n=80)	4.91	
A. Spending time preparing	4.84 (1.06)	1–6
B. Checking results of investigations	5.35 (0.73)	3–6
C. Setting everything in advance	4.53 (1.22)	1–6

n is the number of respondents who answered the question about the attribute.

Table 1 Interview themes and numbers of occurrences in the text

Positive	
Communication	37
Leadership skills	35
Patient management	32
Team working	25
Organisational skills	23
Time management and prioritisation	22
Punctuality	18
Teaching	11
Preparation	10
Enthusiasm	4
Negative	
Difficulties	23
Knowing the patients	21
Bedside manners and respect	17

All of the negative ideas in the text could be refitted into the 10 positive domains. For example, negative aspects were about what made a poor ward round and were the converse of what makes a good one.

Table 3 Analysis of questionnaire comments

Themes	Number of comments	Verbatim quotes for what makes a good and bad ward round from multiple respondents
Communication	90	I feel that good communication is the most important part of the ward round, in particular, making sure that parents and children understand what is going on by using language and terms that they can understand If the nurse looking after a certain patient is unavailable for the ward round, certain medical staff fail to inform nurses of any changes or important decisions made, causing confusion and delays in tasks being carried out. Dismissive attitude towards nurses or parents opinions
Team working	70	Able to include and seek opinions of all team members, parent and child. Not involving all team members so that vital bits of information are missed or team members feel that they are not involved
Decision making	61	The most important is taking some actions and not just 'continue the same treatment'. Not thorough enough so other issues need to be addressed later in the day
Time management	52	Poor time management: either skip through patients without really addressing the key issues or take so long and go into so much detail that the participants start to lose the will to live
Teaching	32	To be able to teach and get on with the business of the ward round, teaching those alongside as well as learning yourself
Leadership	25	Seniors who are intimidating to junior staff and who do not explain why they are changing plans result in juniors who don't really know what they are doing for the rest of the day and don't understand why they are doing it
Preparation	20	Timely preparation and good handover make ward rounds much more efficient and productive
Knowledge	19	Knowing your patients and what has been happening with them before you go and see them. Poor medical knowledge of the trainee leading the ward round
Organisation	17	Being organised but not rushed. Personal organization
Being thorough	17	Being too fast and incomplete assessment as a result. Poor attention to detail. Making the decision based on other people's examination and history findings
Miscellaneous (noisy environment)	12	Not private enough, overcrowded ward round. Emphasis on areas of personal interest
Enthusiasm	7	Enthusiasm to inform and educate children, families and staff

Variations in Likert-type scores by other variables

Gender

There were four questions out of 30 where female respondents scored significantly higher than males. These were respect for others ($p=0.006$), approachable ($p=0.042$), communication—team involved ($p=0.033$) and communication—parents involved ($p=0.049$). In the other 26 questions there were no significant differences between male and female respondents.

Full-time and part-time trainees

In none of the 30 questions were there any significant differences between full-time and part-time trainees.

Place of basic qualification

There were four questions where the overseas qualified doctors scored significantly higher than others. These were patients—knowing patients well ($p=0.039$), punctuality—minimises delays ($p=0.038$), preparation—spends time preparing ($p=0.015$) and preparation—setting everything in advance ($p=0.005$). In the other 26 questions there were no significant differences between respondents based on place of basic medical qualification.

Job title

There were five questions where nurses scored significantly higher than other groups. These were being approachable ($p=0.04$), communication—handover ($p=0.035$), patients—knowing patients well ($p=0.027$), preparation—spends time preparing ($p=0.009$) and preparation—setting everything in advance ($p=0.036$). In the other 25 questions there were no significant differences between respondents based on job title.

Years of experience in paediatrics

In only one question was there a significant difference by years of experience in paediatrics. This was patients—knowing

patients well, where those with 0–5 years' experience scored higher than other groups ($p=0.015$). In the other 29 questions there were no significant differences by years of experience in paediatrics.

The Bonferroni correction ($0.05/150$) suggests a p value of <0.0003 , and none of the above variables achieved this level of significance.

Drawing up the MSF domains

With principal component factor analysis on the scree plot, the inflexion point was at factor 5. These five factors accounted for 72% of the total variance and, as stated by Field,²² are worthy of inclusion. They were (1) preparation and organisation; (2) communication skills; (3) teaching and enthusiasm; (4) team working; and (5) punctuality. Labels for the five factors were developed using a summary judgement of the themes from the questions with the highest loadings on each factor—for example, 'starts and finishes on time', 'minimises delays' and 'completes tasks in a timely manner' were summarised as punctuality. Using these five factors, the MSF ward round tool was developed using each of the key factors identified, hence it has five domains (figure 1). The one-page MSF tool has a four-point scale with anchors labelled as: (1) needs improvement; (2) borderline (nearly there); (3) good; and (4) excellent.

A four-point scale was chosen to avoid the use of a middle option in a five-point scale²³ and to ensure that poor and good performance were identified. There was room for free text comments and an 'unable to comment' box for each domain where this aspect of the particular activity was not observed.

DISCUSSION

The key attributes for leading a ward round were communication skills, preparation and organisation, teaching and enthusiasm, team working and punctuality. These form the five domains of our MSF tool.

The purpose of this assessment form is to assess abilities in leading a ward round. Please observe the doctor leading the ward round and then tick one of the boxes and comment as well, as this is essential to encourage good performance and identify any training needs.

Name of trainee:.....Trainee's grade (eg ST4) Assessment date

Assessor's position--- Consultant/SAS /ST1-ST3/ST4-ST5/ST6-ST8/FY1/FY2/Nurse/Nursing sister/other

Trainee's educational supervisor.....

Domains	Performance					Comment
	Needs improvement	Borderline	Good	Excellent	Unable to comment	
Preparation and Organisation (Knows patients well, checks results of investigations, prioritises, uses time effectively)						
Communication Skills (informs parents of plans, keeps team informed)						
Teaching and Enthusiasm (Uses teaching opportunities effectively, encourages active participation of team, makes things interesting)						
Team working (Good team worker, easily approachable, respectful of others, remains calm under pressure, leads by example)						
Punctuality (Starts and finishes on time, minimises delays, completes tasks in timely manner)						

Figure 1 Multisource feedback form for ward round leadership skills.

A ward round is a complex activity, or set of activities, in which several things are going on at the same time.²⁻⁴ The top four themes from our study of communication, leadership, patient management and team working have been identified in previous studies as part of the complex activities that all play a part in ward rounds.^{2 4 5 9} It is reassuring that the top four themes derived from the interviews were mirrored in the top four scoring themes from the Likert-type questions in the questionnaire, although the order was slightly different in each. This gives support to the validity of our findings in that a wider group of consultants, nurses and trainees gave very similar views to the experts. In addition, the themes derived from the free comment questions on what makes a good ward round and what makes a poor ward round also fitted very closely with the 10 themes. Once again, communication was the top theme, being mentioned 90 times, providing further support for findings due to common agreement from three sources.

Limitations of this study include a low response rate for the questionnaire. Even so, there were 81 responders, the reliability of the Likert questions was high (Cronbach's α 0.95) and responses were obtained from consultants, nurses and trainees. This low response rate to the questionnaire may be attributed to the fact that the questionnaire was sent out electronically via the postgraduate administrator's mailing list. A more personal email to each individual with individual follow-up reminders to non-responders is likely to have achieved a higher response. This was not done due to the logistics of sending personal emails to 331 trainees and individual reminders were not sent to ensure anonymity of responders. The very high Cronbach's α (0.95) for the questionnaire suggests that some

items were unnecessary.²⁴ When the Bonferroni correction was applied there was no significant difference in the way the Likert questions were answered, which shows the limitation of multiple comparisons as significance may be obtained by chance.²²

When any new tool is developed it is good practice to pilot and then field test the tool, and the results of a study testing the reliability and practicability of this MSF are published in the companion paper by Goodyear *et al.*²⁵ This MSF tool has been researched and derived from one specialty (paediatrics) and in only one region in the UK. However, the principles and skills for ward rounds are generic and there seems to be no reason why it would not be applicable in other geographical areas and specialties. Nonetheless, it is prudent to look at the use of the tool in paediatrics first before considering its use in other specialties.

Main messages

- ▶ The ability to lead a ward round is essential for hospital consultants and senior trainees.
- ▶ Key attributes for those leading a ward round are communication, preparation and organisation, teaching and enthusiasm, team working and punctuality.
- ▶ A one-page five-domain multisource feedback tool has been developed to assess the ward round leadership skills of senior trainees.

Current research questions

- ▶ How practicable will this MSF tool be in the ward round setting?
- ▶ How reliable is this MSF tool?
- ▶ How many assessors are needed to achieve acceptable levels of reliability for this assessment?
- ▶ Will this MSF tool work in other specialties where ward rounds are part of current clinical practice?

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Contributors IL, with help from co-authors, designed the study, collected data, analysed qualitative data, developed the questionnaire and drafted the paper. DW helped with the initial conceptualisation and design of the study, analysis of interview data, design of the questionnaire and did the statistical analyses of the data, contributed to the writing of the paper and reviewed the final submission of the paper. TB helped with the initial conceptualisation of the study, design of the database, data interpretation and contributed to the writing and reviewing of the paper. HMG helped with the initial conceptualisation of the study, design of the database, data interpretation and took a major role in writing and reviewing the initial paper, production of the revised drafts and completely rewrote this work as two papers.

Competing interests None declared.

Ethics approval Research Ethics Committee (REC) review was not formally obtained. NHS Research Ethics Service guidance was used (http://www.hra.nhs.uk/wp-content/uploads/2013/08/NRES_SOPs_v5.1_2012.03.14.pdf) which states that research not requiring review by a REC (paragraph 1.90 page 52) includes research involving health service staff who are recruited by virtue of their professional role.

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