Research, Audit and Clinical Practice

An Evaluation of a Formative Assessment Process used on Post Take Ward Rounds

G Caldwell

Abstract

The purpose of clinical training is to develop doctors capable of delivering professional, personal, effective, high quality, safe clinical care with Intelligent Kindness. The processes supporting training must promote development towards excellence. In 2004 a formative assessment process for use on medical post take ward rounds was introduced based on a model of a Driving Instructor and Learner Driver. This process has been evaluated in comparison with the Case based Discussion (CbD) and mini-Cex by 140 of 369 trainees, using online surveys. Ten trainees were interviewed in depth. The majority of trainees reported that this process had helped them more in their development as doctors than the CbD or mini-CEX. Trainees were able to describe positive effects in areas such as diagnosis, prescribing and confidence in their work. In the NHS the assessments are meant to be "trainee driven", however all but one of the trainees stated that they preferred the routine provision of an assessment to having to ask for an assessment. This evaluation of a truly formative assessment process shows that the trainees benefit in their progression towards clinical excellence. Effective formative feedback can be provided on an Acute Medical Unit even within the constraints of busy post take ward rounds. Within a team of Consultants one should be allowed time to develop an extended Clinical Supervisor role.

Keywords

Medical Education, Workplace Assessment, Acute Medicine, Ward Rounds, Situated Learning, Formative Feedback, Case based Discussion, Mini-CEX, Assessment for Learning.

Introduction

The purpose of undergraduate and post graduate clinical training is to develop doctors capable of delivering professional, personal, effective, high quality, safe clinical care with "Intelligent Kindness."[1] In the United Kingdom, until the advent of Modernising Medical Careers (MMC), and the introduction of the Case based Discussion (CbD), mini Clinical Evaluation eXercise (mini-CEX) and Directly Obesrved Clinical Skills (DOPS) there were no formal processes for formative feedback during training. Although these were introduced as formative assessments, the scoring on the forms implied that they were summative. This had the potential to make the junior doctor delay assessment until he/she felt competent, and reduce the potential for earlier development. The scoring systems were poorly described and there was little evidence of reliability between observers. In addition these assessments were often undertaken in semi simulated situations, rather than during real working. In late 2004 I introduced a Real-time assessment process,[2] with a deliberate aim of making this a formative "Assessment for Learning."[3] Although I felt this was a successful process, an evaluation was required.

Methods

I have used this process since November 2004, and kept records of the students and doctors who have experienced formative feedback. The current feedback form is shown in the Appendix. The feedback process has been repeatedly refined on the basis of personal reflection and comments received from the trainees. A locum Senior House Officer (SHO) commented on how much he valued the process and we set up a questionnaire in summer 2010 on www.SurveyMonkey.com using social networking to encourage voluntary participation. Anonymity was guaranteed to those who completed the survey. A second survey was conducted in summer 2012, and 69 doctors or students who had experienced the process were contacted and invited to participate. 40 took part in that survey and I interviewed 10 in more depth using a semi-structured format to gain a greater understanding of the value of the formative feedback process.

Workload

Between November 2004 and July 2012, I led 393 post take ward rounds, including 65 at weekends, involving 4722 case reviews. During that time I provided formative feedback on the management of 1273 cases to 393 different Junior Doctors or Students. Of the 1273 assessment cases, 89 were presented by Medical Students, 500 by Year One Doctors, and 664 by SHOs or Specialist Registrars (SPR).

Online Surveys and In Depth Interviews

300 students and doctors had experienced the process by 2010. We used social networking to make contact, and 100 (33%) answered the online survey. Those who responded were self selected and possibly likely to give more positive responses. Therefore in summer 2012 all 69 Junior Doctors or Students who had been provided with formative feedback in the previous 12 months were invited to complete a modified online survey. The modifications were made on the basis of responses in the first survey. 40 (58%) completed the survey. Ten of these took part in a more detailed recorded interview with me; 6 were Foundation Year One Doctors (F1S), 2 were F2s, and two were SHOs.

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The study has ethical approval from the Kent Surrey Sussex Deanery.

Results

First Online Survey

Of the 100 respondents 52 had been F1s, 31 F2s or SHOs and 17 SPRs when they had experienced the process, and they represented all years from 2005 to 2011.

Of these 56% described the process as very helpful to their personal development as a doctor, 42% moderately helpful, 1% as no effect, and 1% as not helpful. In comparison with the CbD or miniCex 62% found this process more useful, 35% about the same value and 3% less value.

Sixty doctors wrote free text comments, all of which were positive, and some quotes are shown in Box 1.

Second Online Survey

Of the 40 (58%) of the year cohort completed the online survey, 19 were F1s, 15 were F2s or SHOs, 2 SPRs and 4 were medical students.

Comparison with experience of CbD

Comparing this process with their experience of CbD, 11 (28%) found the process much better value, and 17 (43%) better value, 12 (30%) both the same, and none thought it less valuable.

Assessment driven by Clinical Supervisor

This process is driven by the Clinical Supervisor and 36 (90%) preferred this to having to ask for an assessment. Only one person preferred to ask for an assessment.

Effect of Clinical Work Performance

When asked how this process had improved their work performance, 4 (10%) answered that it had a major effect, 24 (60%) a definite effect, and 12 (30%) a small effect in improving their work performance.

Notes Keeping

Thirty one (31, 78%) said the process had improved their notes keeping, and 9 (22%) that it had no effect.

Safe Prescribing

Fourteen (14, 35%) said it had substantially improved their safe prescribing, 23 (58%) that it had caused improvement and 3 (7%) that it had no effect.

Differential Diagnosis and Problems Lists

Ten (10, 26%) said the process had resulted in a major improvement, 21 (54%) a small improvement and 8 (20%) that it had no effect on their ability to write a differential diagnosis and clinical problems list.

Some comments from the second survey are shown in Box 2.

In depth interviews

Ten doctors were interviewed in depth. They were provided with the questions in advance and some wrote answers as well.

Examples of their comments are given in Box 3.

All ten preferred the automatic provision of formative feedback to having to ask for an assessment. This was not just because of convenience, but was felt to be more real. All found the process supportive. They felt that comments in this process were of more value for feedback than the scoring system in CbDs

Box 1. Comments from First Online Survey of 100 Doctors. 60 Doctors wrote additional free text comments, all of which were positive. Some examples are given.

- *The feedback I received was extremely valuable for me to development as a junior doctor. It was a constructive feedback on various aspects of my clinical practice including prescription, appropriate of investigation etc. It improved my prescription practice by saying which areas I could improve on. It was also nice to get feedback on areas that I was doing well in for example notes keeping which is a very important skill to have. Overall it was good for my own personal development but also helps to improve patient safety.*
- *This process gave productive feedback and recognition when the team worked well together. The assessment was relevant as it was often about clinical work that was recently undertaken. I felt it motivated the team members as you would consider a more comprehensive list of duties that should be undertaken.*
- *Made me more aware of my strengths and weaknesses - and made me positively change my practice e.g. improved communication with nursing staff of management plan, labelling patient information (Name, MRN, DoB) on all patient's notes.*
- *Helped me to generate differential diagnoses and consider differentials I would necessarily have (thought of).*
- *Thoroughly checking drug charts made me think more carefully about ensuring my drug prescriptions were clearly legible and accurate.*
- *Instant feedback was good, mainly because it felt it was being done for my benefit and learning, rather than to complete a remote tick box exercise.*
- *Even though Dr Caldwell was always complimentary and rarely critical, knowing that there would be an assessment on the round made me instantly more competitive (mostly with myself) and alerted me to ways of improving my method of patient care/monitoring/management. It made me aware that sometimes, going back to basics e.g. communicating effectively with nursing team, writing neatly, filing my papers, ensuring results are clearly documented in notes is probably the best way of handling an acute take. There's no need for strokes of genius or rocket science. Being simple and safe was usually taken for granted but working in big hospitals with big teams on complicated handover times highlights the importance of basics.*
- *Highlighted areas for improvement, e.g.- advice on case presentation. Positive feedback also useful to build confidence and nurture independent working.*

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Box 2. Comments from Second Online Survey of 40 Doctors in 2012. 35 wrote free text comments, all of which were positive. Some examples are given.

- *I find feedback very useful as it is tailored to individual's performance and is directed at key areas where trainee needs to focus to improve his skills. It is finalised after careful and detailed assessment of doctor's performance which I found very relevant and personalised. It has certainly helped me improve my performance in clinical work.*
- *Being on call for medicine is a hectic experience, knowing that minute details will be checked on the post take has meant that I have become more vigilant when thinking about DNACPR decisions and prescribing. I'm sure this will improve clinical practice and more importantly the holistic care I give to my patients.*
- *I have adopted the method of dividing management plan into 'problems' and 'plan' which has helped me think much more carefully about problem lists and I think I am as a result making more comprehensive plans. This process built my confidence in these areas as it was largely a positive one; this was a nice change as up until now I have found feedback processes have made me feel less confident in my ability!*
- *The way the process assesses differential diagnosis an area that is often not assessed as a junior doctor. The process gave me confidence as my feedback was mainly good. It also gave me points to address that I don't think would have been picked up on a standard assessment. I think the process helps as a junior doctor, as it picks up both good and bad points rather than just picking up on errors as is often the way as an F1*
- *As a medical student, I very rarely get formative feedback from Consultants. The weekly feedback sessions were extremely useful, and highlighted specific areas which needed improvement. My confidence definitely improved greatly over all areas.*
- *I feel that this process has been invaluable in my continuing professional development. Rather than generic CBD assessment were you are only able to be ranked 'meeting fy2 standards, above fy2 standards', this process actually gives me feedback on key areas such as notes keeping, my clinical judgement and prescribing practices. These are the areas that I feel impact patient safety and areas which is sometimes overlooked on post take ward round when you are junior doctor. For example notes keeping and writing out differential diagnosis in a way that Dr Caldwell suggested has not only improved my clinical decision and management plan for patient but also allows other team members to understand my management plans better thereby improving communication between various multidisciplinary team members. After each feedback, I am able to see which areas I excel in but more importantly which areas I need to improve on. This way I am able to constantly further my knowledge and improve my clinical acumen thereby building up confidence to make sound clinical judgements. I would prefer this way of routine feedback on my day to day management of patients rather than requesting feedback as often you only ask feedback on cases where you managed a patient well but I think it is important to get feedback on cases that didn't go so well.*
- *The feedback helped me to organise how I present cases to senior colleagues. As my organisation of case discussions improved so did my confidence in performing the presentations. I personally found continual assessment beneficial as it meant that my performance monitored on numerous occasions, not just when I felt that I wanted to complete a CBD.*
- *This particular assessment method gave me an opportunity to stop and review the way I work and analyse my clinical thinking processes. CbDs also enable this but often at the students preferred time and patient choice. We often prefer being assessed when we feel prepared for it, however, when your assessed on the 'fly' you are more likely to see a true reflection of your personal development needs even if that means it may be a little uncomfortable because one is out of one's comfort zone. Assessing the complete episode of patient care is also of great value and not often covered by a normal CBD. One may give the perfect responses to clinical questions relating to a CBD but if the clerking is illegible or thinking process documented is disjointed and the medication badly prescribed then little system developmental learning has taken place.*

or miniCEX, and they did not have confidence that the scores were meaningful or consistent. Each of the ten could give examples of specific effects that the process has had on their working.

Discussion

In simple terms assessments are either summative, like a qualifying exam e.g. Finals in Medicine, or formative, with the objective of helping the trainee to develop. Formative feedback is conceptually simpler to implement, because the supervisor and learner only need to agree what the learner has to do to improve, rather than attempt to measure exactly where the learner is along the route to excellence. When the CbD and miniCEX were introduced I saw that Supervisors spent a lot of time trying to understand summative parameters e.g. "rate this doctor on a scale of 1 to 7 in relation to expectations for completion of Foundation Year One". Those implementing the processes hoped that all observers would give consistent valid scores. I believed it would be more effective to ask the Supervisor "On the basis your expertise and of what you have seen of this trainee at their everyday work, make some recommendations for the trainee to improve their performance".

I wanted to try to develop a process that would allow evaluation of junior doctors' workplace performance, provide feedback for improvement, and be feasible within the time constraints of a busy post take ward round. I was sure that the CbD and miniCEX would not meet these requirements.

The learning model that I had in mind was that of a Driving Instructor with a Learner Driver. The

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Box 3. Comments from 10 Doctors Interviewed in Depth.

On the assessment being led by the Clinical Supervisor

- *"You can't pick and choose, when someone leads it you are going to get a general good and bad out of it, rather than the Junior picking and choosing the case he has done well on, so he won't fail his ePortfolio. You sort of create a more level playing field."*
- *"I think it is fantastic, because when a trainee has to lead it does not get done, we are busy, it is down our list of priorities. So to have someone offer to give feedback on how you worked on a night shift on a post take round is brilliant."*

How supportive was the formative feedback process?

- *"No humiliations, no embarrassment, no stress, it is a real learning experience, it is not false, it is a real live learning experience, you are learning whilst the patient is being cared for, you are killing two birds with one stone".*
- *"I think it is a brilliant idea, it should be done on all rounds, or if more people could do it that would be good".*

A specific example of how it affected you

- *"You made a comment to individualise the patient, and I found my Consultants like that. You know, no one can remember a community acquired pneumonia, whereas they can remember, you know, "A French teacher with a dog called Bob, with pneumonia". It has had a really good effect on daily life with Consultants and on my knowing my patients."*
- *"I didn't organise investigations that I knew would have to be done, so there would be a significant delay in the morning, it was a good point, and I didn't forward plan enough, and that has carried over into orthopaedics, so when I know someone will need a CT scan in the morning, I get everything ready, I fill in the form and first thing the Consultant can sign the form, and that makes patient care more fluid, it is better for everyone."*

instructor observes the learner on the road with all the variability and uncertainty of daily driving, and offers advice on improvements, whilst ensuring safety for both the learner and other road users. The process also fits the model of Situated Learning[4]

In this report I have evaluated the effect of this process on the Doctors' and Medical Students' learning of how to improve their performance in doing the work of a doctor whilst "on take".

In the first survey 100 of 300 participants completed the online survey. The responses were uniformly positive (Box 1), along with a high rate of positive free text comments. Of course the other 200 participants may have had negative experiences, so in the second survey all 69 participants in a 12 month period were contacted and 40 completed the survey. The responses were uniformly positive and confirmed in interviews of 10 Juniors.

The participants generally valued this formative feedback process over the CbD or miniCEX, with a small proportion giving it the same value. They were able to describe how the process had improved their performance in the workplace in areas such as differential diagnosis, investigations, treatment plans, prescribing, and communications with nurses and senior doctors. Many said that this had improved their confidence.

Only one doctor had an issue with the assessment being driven by the Clinical Supervisor, and all the other doctors preferred this automatic process. The CbD and miniCEX are meant to be trainee driven. The trainees expressed that this was often difficult to arrange, led to delays, was a "tick box" exercise, and that they might choose cases where they had done well. As Clinical Supervisor, I have found it valuable to be able to swiftly assess the performance of my team members. On several occasions I have recruited locums into more permanent posts on the basis of recognising excellent performance on just one ward round.

The evaluations show that this process meets my objectives of being able to evaluate a team of junior doctors' workplace performance, provide effective formative feedback for improvement, and be feasible within the time constraints of a busy post take ward round. I believe this process supports the development of excellence.

Effective formative feedback can be provided even in the context of a busy ward round, by a pragmatic approach, with avoidance of scores, and emphasis on what the Juniors can do to improve their clinical workplace performance.

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Conflict of interest

This study was funded entirely by the authors and they have no conflict of interest with any third party.

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Dr Caldwell's Post Take Ward Round Instant Team Feedback

Date	28/03/2013	Day of Week	Thursday	Most senior Dr on round	Consultant

Our Work on this Post Take Ward Round is to provide for our cohort of patients the

Right Diagnoses and the
Right Treatments at the
Right Time in the
Right Place
Right Pace and with the
Right to no Harm, and
Better next Time

and to document all of this clearly and carefully

Your Commitment to Team Working on this Post Take Round

By signing this you agree to participate actively in the team's work throughout the round, supporting each other in every case review e.g. looking up bloods, X rays, completing documentation.

You will speak up if you see omissions in care, errors, substandard work, or if you feel uncomfortable about any aspect of care or any decision. We must strive to get the care for the patient right first time.

Grade	Name	Present	Signed	Comments and Allocated Task
Consultant	Dr G	Y		
Night SPR	Dr H	Y		
Night SHO	Dr Ma	Y		
Night F1	Dr Mo	Y	Y	

Pre-Round Briefing – ask these 3 questions:

Any patients so ill that they need review before considering any other cases?	**N**
Any patients needing early discussion with radiology or referral to other specialities outside medicine?	**N**
Safety Question – Which patient has caused the team most concern during the take?	
Patient needing transfer to HWP who had been in 3 days already	

Total number assessed by team in 24 hours	**30**	**Number of wards to visit today**	**1**
Less number of DVT patients	4		
Less number of non DVT discharged before round	3		
Less number died	0	**High Dependency Admissions**	
Less number already taken over by another team		Admitted to CCU	0
Less number transferred out of hospital		Admitted to ITU / HDU	0
Remaining patients admitted by day team	13		
Evening		Number seen by SPR for other specialities	
Remaining patients admitted by night team	10	**Sent home overnight: 2 chemo patients**	
Total new patients now to be seen on round			
Number sent home immediately on round	**1**		
Did you find any unidentified acutely unwell patients, who should have been prioritised on the round?			**N**

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Feedback on Medical Take Team Performance

This is feedback on the whole team's working. The team should work together to ensure that all care is timely, safe and well documented. One team member's feedback may be brought down by e.g. poor prescribing by another member of the team, or brought up if we all work effectively together and check each other's work.

Complete the feedback for first patient presented by each Junior. Provide feedback considering the doctor's expected performance in relation to seniority.

Please give useful constructive feedback

Grade of Dr	**Night F1**	**Night SHO**	**SPR**
Trainee's name	Dr Mo	Dr Ma	Dr H
Type of case – diagnosis and complexity	Complex, IECOPD or PE after foot surgery	Possible SAH, on warfarin	Middle aged dental technician with ACS
Correct assess-ment: Is patient acutely ill? NEWS	Vitals entered only, please enter NEWS score	Vitals recorded – please enter NEWS	I did not check
Notes legibility, accountability, and content	Legible, extensive – you can précis your writing	Very good	Excellent
Style and pace of oral presentation	Logical clear, very good that you said "I am treating her for …."	Clear logical well headlined	Clear logical – I think you can abbreviate your presentations further
Clinical thinking, judgement, written diagnoses and problems list	Good clinical thinking = you had thought through IECOPD vs pneumonia vs PE	Very good clinical thinking and problems list	Very good clinical thinking and problems
Initial plans: treatment, investigation, need for review	You write good structured plans	Very good	All in place
Safety in prescribing of drugs, O2, fluids	You need to prescribe oxygen and write an indication for antibiotics	Safe prescribing	Safe prescribing
Too many or too few tests?	Good	Good	Very good
Case discussed with SPR	Yes	Yes	You are the SPR!
Case discussed with a nurse	I did not ask	I did not ask	I did not ask
Conduct of Bedside Review	Confident, with good framing of the discussion "We have decided to treat you for infection and COPD" You can try to build in an active safety check.	I think it would be good to say "As you know the problem is to work out whether you have had bleeding over the brain, the CT was normal and we still need to do the LP"	I did not get you to do a bedside review
Suggested learning point	Revise the diagnostic criteria for COPD and its severity. This lady has CO2 retention – Dr Congleton in Resp does not like the words "Type 2 resp failure" – why?	Find out if there are guidelines of safety of LP in patients on warfarin and heparin	Some Doctors advocate that HbA1c should be the diagnostic test for diabetes. Do you think that this is wise?
Rapport with patient	Excellent – patient confident in you	Excellent	Excellent

Consultant's Feedback on the Round

Thank you all for the work last night, which was busy. You were also held up having to arrange a transfer to Neurosurgery of a young man who had been in for 3 days.

12 cases seen overnight, 2 sent home. Hearing the 10 cases and looking up results etc took an hour and we finished 20 minutes late at 10:20. I think we could improve the pace of case presentation, by working on better précis of the cases.

The 10 cases were all very well managed.

The documentation of VTE prophylaxis decisions was poor last night.

Dr Gordon Caldwell

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