



RESEARCH ARTICLE

# Improving the transition from medical student to junior doctor: a one-month course in the final year of medical school

## [version 1]

Eve Boakes, Nikita Shah

London North West Healthcare Trust

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### Abstract

This article was migrated. The article was marked as recommended.

Concern exists that the transition from student to doctor is abrupt and stressful, with new graduates lacking both clinical skills and confidence. This study explores the effect a preparation programme can have on the confidence and skills of final year medical students (FYMSs), prior to commencing their first clinical post. Foundation year one (FY1) doctors were surveyed on challenges they faced when commencing clinical work. Findings were used to design a practical, four-week, eight lecture course, aimed at preparing final year medical students for work. Questionnaires and focus groups were used to establish pre- and post-course concerns.

Amongst FY1 doctors (n=105) the predominant concern was the diagnosis and management of unwell patients (66.7%). Medical students expressed similar fears (80.85%). On average each session significantly improved confidence levels by 25.3% (95% CI: 23.27-27.12%, p<0.01). Sessions on prescribing and palliative care showed greatest confidence improvement (31.1% and 29.4% respectively).

This programme supports the transition from medical student to practising doctor, and was found to be useful and effective at building student confidence through practical advice from current FY1 doctors to the next generation of junior doctors. It remains unclear as to when (within the year) this course would be most beneficially placed.

### Keywords

Transition, Preparation course, Junior doctor, Improving confidence

### Open Peer Review

#### Migrated Content

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	1	2	3	4
<b>version 1</b>	<a href="#">view</a>	<a href="#">view</a>	<a href="#">view</a>	<a href="#">view</a>
08 Feb 2017				

1. **Trevor Gibbs**, AMEE
2. **Richard Hays**, James Cook University
3. **Subha Ramani**, Harvard Medical School, Brigham and Women's Hospital
4. **Suzanne Lady**, University of Western States

Any reports and responses or comments on the article can be found at the end of the article.

**Corresponding author:** Eve Boakes ([eve.boakes@gmail.com](mailto:eve.boakes@gmail.com))

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## Introduction

Concern exists that the transition from student to doctor is abrupt and stressful, with new graduates lacking both clinical skills and confidence (Morrow *et al.* 2012; Berridge *et al.* 2007). It has also been shown that incoming doctors often lack particular skills in the diagnosis and management of unwell patients in the acute care (Tallentire *et al.* 2012; Tallentire *et al.* 2011). Dealing with unwell patients is something junior doctors will face immediately upon commencing clinical work. One systematic review suggested that recent changes in UK undergraduate training, while improving preparedness in some areas, may have neglected acute care (Tallentire *et al.* 2012). While not a good surrogate for actual preparedness, perceived preparedness is important in influencing the behaviour of new graduates and therefore warrants further consideration (Tallentire *et al.* 2012). Previous work has shown that induction courses immediately prior to FY1 help to prepare students for clinical work (Berridge *et al.* 2007). However this is variable and it draws the question that if students were better prepared during medical school, would they need this last minute induction course?

Evaluation is an integral part of medical education. Despite a wide use of various evaluation tools, little is known about student perceptions regarding the purpose and desired consequences of evaluation. One study found that questionnaires and focus groups have been shown to be effective ways of assessing student confidence and feedback (Schiekirka *et al.* 2012). This study uses questionnaires and study groups to assess the impact of a FY1 preparation course on the confidence and skills of final year medical students, prior to commencing their first clinical post.

## Materials and Methods

FY1 doctors were surveyed on challenges they faced when commencing clinical work, their initial confidence in managing unwell patients and what they thought would have been useful to know prior to starting FY1. The questionnaire used can be seen in Figure 1. Findings were used to design a practical, four-week, eight-session course, aimed at preparing FYMS for clinical work. Each session included a 20-minute didactic lecture and then students working through clinical cases/scenarios as a group. All sessions were taught by current FY1 doctors and incorporated; how to approach on-call shifts, answering the bleep, prioritising tasks, presenting patients and communicating with patients and colleagues. These skills were developed session-by-session using topics that highlighted the practicalities of diagnosing and managing unwell patients.

The topics covered in each session were:

1. Sepsis (approach to mild and severe cases (septic shock))
2. Acute abdomen (cases including appendicitis, pancreatitis, peptic ulcers and diverticulitis)
3. Shortness of breath (SOB) (cases including asthma, pulmonary oedema and pulmonary embolism)
4. Chest pain and arrhythmias (cases including Acute Coronary Syndrome (ACS) and atrial fibrillation)
5. Acute Kidney Injury (AKI) and haematuria (including approach to medications in AKI)
6. Hyperkalaemia and upper GI bleed (UGIB)
7. Low Glasgow Coma Scale (GCS) and the dying patient (including prescribing in palliative care)
8. Practical prescribing; including analgesia, antibiotics, fluids, insulin and warfarin.

Questionnaires and focus groups were used to establish concerns pre-course (the questionnaire used was similar to the one shown in Figure 1), and how confidence improved afterwards (scale 0 (least confident)-10 (most confident)). The post course questionnaire used can be seen in Figure 2. Ten focus groups were carried out; one at the beginning and one at the end of each course. Students had the opportunity to discuss their concerns about clinical work and how they thought the course had improved their confidence. We also discussed their specific likes and dislikes about the course. Statistical analyses were performed in Excel (Microsoft Office, Washington, USA) and R-Studio (Boston, USA) and 95% confidence intervals were calculated. A paired t-test was performed using the null hypothesis there is no difference in mean pre and post course marks. Significance was set at p-values less than 0.01.

## Results

### Concerns prior to starting clinical work

The opinions from 105 FY1 doctors from 25 different medical schools (m=56, f=49) and 47 Imperial College FYMSs (m=20, f=27) were analysed. Predominant concerns were; the diagnosis and management of unwell patients (FY1: 66.7%, FYMS: 80.9%), taking responsibility for a number of patients (FY1: 46.3%, FYMS: 57.4%) and not meeting expectations of colleagues (FY1: 45.1%, FYMS: 48.9%) (Figure 3).

**Preparation for FY1: Doctor Feedback**

**Demographics:**

Gender: Male  Female

Age: 20 - 29  30 - 39  40 - 49  ≥50

*Please tick the following descriptors that highlight your three main concerns (in no particular order) prior to starting working as an FY1 doctor:*

	Please tick 3 main concerns
Anxiety about clinical work	<input type="checkbox"/>
Anxiety about practical skills	<input type="checkbox"/>
Being able to prioritise multiple tasks	<input type="checkbox"/>
Taking responsibility, under supervision, for a number of patients	<input type="checkbox"/>
Diagnosing and treating a sick patient	<input type="checkbox"/>
Not meeting the expectations of patients	<input type="checkbox"/>
Not meeting expectations of colleagues	<input type="checkbox"/>
Other (please state)	<input type="checkbox"/>

**What do you think would have been useful to know prior to starting FY1?**

Please tick if you believe information on the following would have been useful prior to starting the foundation programme:

	Please tick
How to look after an un-well patient	<input type="checkbox"/>
Tips for coping with on calls and night shifts	<input type="checkbox"/>
Practical advice on prescribing	<input type="checkbox"/>
Advice on making referrals	<input type="checkbox"/>
How to handle the most common bleeps	<input type="checkbox"/>
How to communicate with colleagues	<input type="checkbox"/>
Practicalities of the hospital	<input type="checkbox"/>
Other (please state)	<input type="checkbox"/>

**Please rate your level of confidence in diagnosing and treating the following conditions PRIOR TO STARTING FY1 (1 least confident, 10 most confidence):**

**Sepsis:**

1 2 3 4 5 6 7 8 9 10

**Acute abdominal conditions:**

1 2 3 4 5 6 7 8 9 10

**Chest pain and arrhythmias:**

1 2 3 4 5 6 7 8 9 10

**Acute SOB:**

1 2 3 4 5 6 7 8 9 10

**Upper GI bleed and hyperkalaemia:**

1 2 3 4 5 6 7 8 9 10

**AKI and haematuria:**

1 2 3 4 5 6 7 8 9 10

**Decreased GCS and the dying patient:**

1 2 3 4 5 6 7 8 9 10

**Everyday practical prescribing:**

1 2 3 4 5 6 7 8 9 10

**Figure 1. Questionnaire used to analyse concerns of FY1 doctors prior to starting clinical work (a similar questionnaire was used to analyse concerns of FYMSs).**

Current FY1s were also asked what they thought would be helpful to know prior to starting clinical work and what they thought their own medical student education lacked (Figure 4).

This information (Figure 3 and 4) was collated and used to design a teaching course for FYMSs to try and help ease some of these fears and provide useful advice which may not be readily accessible from their traditional medical school course.

**Impact of teaching programme**

The course was delivered over the final year of study. It consisted of 8 sessions over a one-month period on a rolling programme that corresponded with clinical rotations at Ealing Hospital, London, UK. Forty sessions were delivered in total. Ten focus groups were carried out (one before and one at the end of each course). A pre-course questionnaire was completed and a separate questionnaire was used to gain feedback for each individual session (total questionnaires collected = 154). The level of confidence before and after each session can be found in Figure 5. The average confidence level prior to teaching was 5.7 (range 4.5-6.6/10). Students felt least confident in prescribing (4/10). Students felt most confident in diagnosing and managing chest pain and arrhythmias (6.5/10). On average each session improved the level of confidence by 25.3% (CI=23.3-27.1%) (p<0.01). Sessions on low GCS and the dying patient and prescribing showed greatest improvement in confidence (31.1% (p<0.01)) and 29.4% (p<0.01) respectively. Using paired-tests each individual session showed a significant increase in confidence (p<0.01). Students felt that the clarity of speaker and slides were excellent (clarity of speaker: 8.2-9.6/10, clarity of slides: 8.3-9.6/10) (Figure 5).

Focus groups allowed us to discuss the pros and cons of the course; the most common themes were:

- Students liked clinical scenarios and interactive nature
- Students liked that it was taught by current FY1 doctors making the content more tailored and teachers more approachable
- Students like the didactic section to be short and have clear management plans that they could follow in practice
- The majority of students would have liked a hand-out to accompany the session.

**Discussion**

There are clear shortcomings in medical student education as the current system fails to empower future doctors to diagnose and manage the un-well patient (Morrow et al. 2012). By encouraging feedback from current FY1 doctors and FYMSs it was possible to develop a course which was directed towards the students particular concerns. Focusing on the

**Preparation for FY1 Course**

**Session:**  
**Date:**  
**Speaker:**

Please rate your level of confidence in diagnosing and treating this condition (1 least confident, 10 most confidence):

Before this session:

1   2   3   4   5   6   7   8   9   10

After this session:

1   2   3   4   5   6   7   8   9   10

Please rate the clarity of the speaker:  
 (1 not clear at all, 10 very clear):

1   2   3   4   5   6   7   8   9   10

Please rate the clarity of the slides:  
 (1 not clear at all, 10 very clear):

1   2   3   4   5   6   7   8   9   10

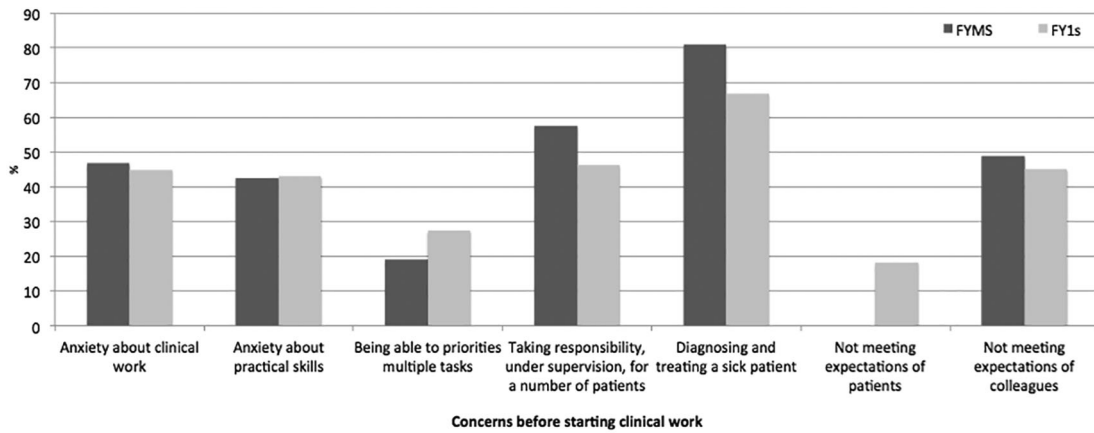
What did you like about the session?

What do you think can be improved in this session?

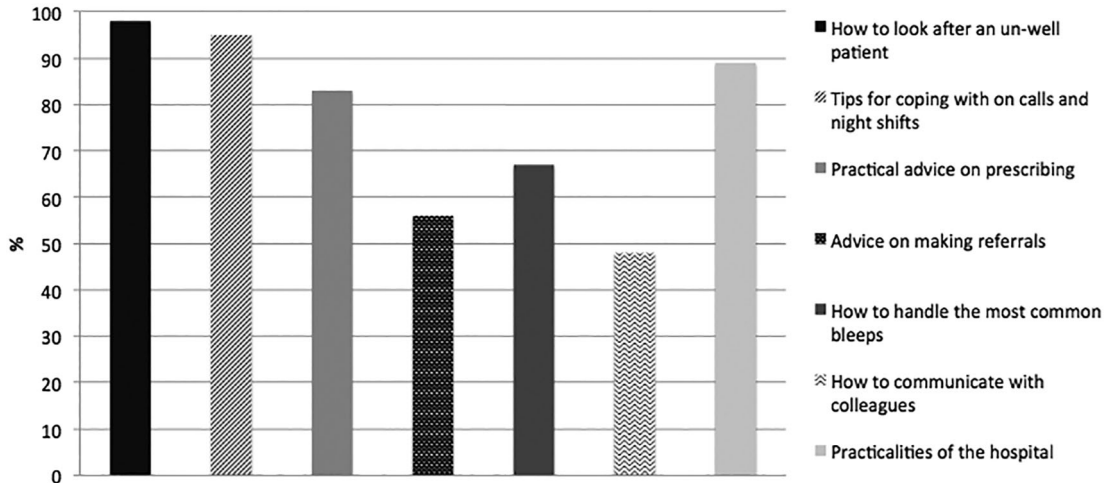
**Figure 2.** Questionnaire used to analyse FYMSs feedback from each session.

management of acutely unwell patients boosted student confidence in this area (a known weakness of newly qualified doctors (Tallentire *et al.* 2011; Tallentire *et al.* 2012)). Providing a preparation course in the final year of study increased confidence and the programme’s content directly mitigated some fears. Being an FY1 led course made students feel that the content was more tailored and teachers more approachable, an important factor when delivering content which aims to improve student confidence. A course like this provides a valuable adjunct to traditional medical school curriculum, which is important to deliver prior to starting FY1. Incorporating it into the timetable for all students in the final year of study may help to better prepare students for their first clinical jobs. It remains unclear whether it may be more beneficial to incorporate these sessions into the FY1 shadowing period so that information is more fresh in their minds and specific to each individual’s own hospital upon commencement of clinical work. However, as this study has established FYMSs have real concerns and worries about starting clinical work it may be prudent to mitigate these fears earlier. A combination of this course during the final year of study with a refresher during the induction period may provide the most beneficial student experience.

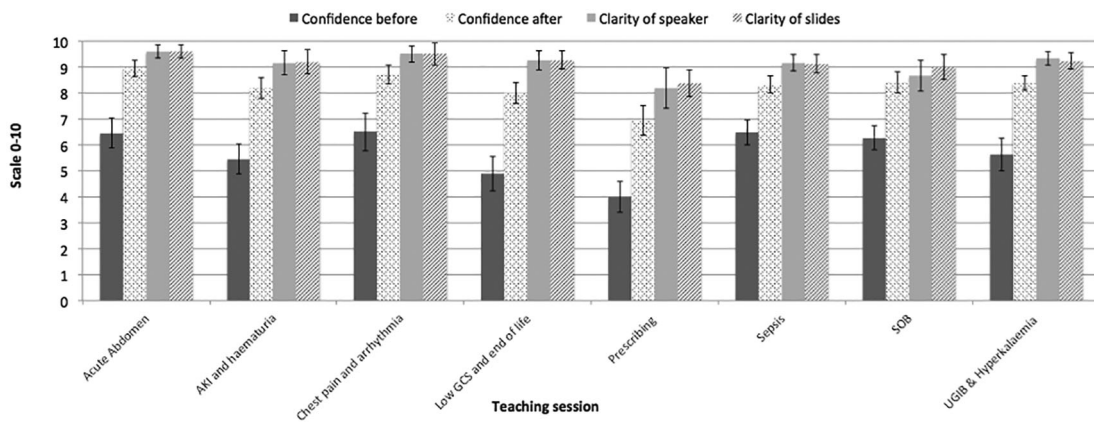
By directly establishing the concerns of FY1 doctors and FYMS about starting clinical work, it was possible to tailor this FY1 led course accordingly. This programme supports the transition from medical student to practising doctor, and was



**Figure 3.** Retrospective concerns of FY1 doctors and prospective concerns of FYMSs prior to starting clinical work.



**Figure 4.** Information current FY1's thought would be useful for those starting clinical work (n=105).



**Figure 5.** How FYMSs rated their confidence before and after sessions and the quality of the teaching (Scale 0-10).

found to be useful and effective at building student confidence through practical advice from current FY1 doctors to the next generation of junior doctors.

### Take Home Messages

- The transition from medical student to junior doctor is a difficult one.
- By analysing worries of students and junior doctors prior to starting clinical work a course was designed to target and plicate these fears.
- This course was delivered by FY1 doctors to students in their final year of study and questionnaires and focus groups were used to assess feedback.
- The course improved the confidence of students by an average of 25.3% (p<0.01).
- This study shows that a valuable, targeted and interactive course can greatly improve the confidence and transition of medical students to junior doctors.

### Notes On Contributors

Dr Eve Boakes and Dr Nikita Shah are currently working in hospitals in North West Thames (UK) completing their second year of the Foundation Programme. They both enjoy teaching and research in addition to clinical practice. They are particularly interested in improving the transition from medical student to junior doctor.

### Declarations

The author has declared that there are no conflicts of interest.

### Acknowledgments

We would like to thank Dr Rebecca Arkwright for assisting with teaching sessions and Narinder Virdee for organisation of room bookings and communications with students.

### Bibliography/References

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- |   |  |
|---|--|
| <p>1. Morrow, G., et al. <b>Preparedness for practice: the perceptions of medical graduates and clinical teams.</b> <i>Med. Teach.</i> <b>34</b>, 123-35 (2012).<br/><a href="#">Reference Source</a></p> <p>2. Berridge, E.-J., Freeth, D., Sharpe, J., &amp; Roberts, C. M. <b>Bridging the gap: supporting the transition from medical student to practising doctor - a two-week preparation programme after graduation.</b> <i>Med. Teach.</i> <b>29</b>, 119-127 (2007).<br/><a href="#">Reference Source</a></p> <p>3. Tallentire, V. R., Smith, S. E., Wylde, K., &amp; Cameron, H. S. <b>Are medical graduates ready to face the challenges of Foundation</b></p> | <p><b>training?</b> <i>Postgrad. Med. J.</i> <b>87</b>, 590-5 (2011).<br/><a href="#">Reference Source</a></p> <p>4. Tallentire, V. R., Smith, S. E., Skinner, J., &amp; Cameron, H. S. <b>The preparedness of UK graduates in acute care: a systematic literature review.</b> <i>Postgrad. Med. J.</i> <b>88</b>, 365-71 (2012).<br/><a href="#">Reference Source</a></p> <p>5. Schiekirka, S., et al. <b>Student perceptions of evaluation in undergraduate medical education: A qualitative study from one medical school.</b> <i>BMC Med. Educ.</i> <b>12</b>, 45 (2012).<br/><a href="#">Reference Source</a></p> |
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# Open Peer Review

## Migrated Content

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### Version 1

Reviewer Report 17 February 2017

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### Suzanne Lady

University of Western States

This review has been migrated. The reviewer awarded 4 stars out of 5

Student to doctor transitions are always difficult and any laudable solution to help this transition is ultimately helpful. I think the authors did a great job of recognizing the value of metacognition in the student and surveying them directly about what they felt they needed the most to make this transition. The thing that surprises me the most is that an 8 session lecture series could improve the confidence in these students significantly. These same students have likely had many lecture style courses in their medical academic careers, why was this one more impactful? Maybe because the course was designed with direct student input or maybe because their transition was on the near horizon which created a more hyper focused learning environment. Knowing the circumstances around events can be helpful for the future success of medical course design and function. It almost seems reasonable instead of waiting until students make this transition to start earlier in programs giving students opportunities to practice acute care skills so when the time comes the confidence can be built upon, not created in a month. Because the cognitive lecture reviews were so helpful, I can't help but wonder if combining this with practical scenarios would have improved their confidence levels even further. The use of standardized patient encounters into each of the acute care topics in that month period leading up to their transition may have moved that 25% even higher. Good paper for those interested in helping ease the transition of student to doctor.

**Competing Interests:** No conflicts of interest were disclosed.

Reviewer Report 09 February 2017

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### Subha Ramani

Harvard Medical School, Brigham and Women's Hospital

This review has been migrated. The reviewer awarded 4 stars out of 5

All transitions are challenging and the reasons for the anxiety around this transition from medical student to junior doctor are appropriate. While I agree that medical students can be given increased patient care responsibilities / ownership, junior and senior doctors are still accountable for patient care in the eyes of society and the law. Thus, the transition stages can be fraught with anxiety. I enjoyed reading this paper and commend the authors for researching and reporting this topic. The abstract sets the tone for the rest of the paper. In the second paragraph of the intro, the abrupt jump to evaluation without a lead in feels a little out of place. I like the study methods section detailing the exploration of junior doctor concerns and designing the course based on these concerns. The one thing I would recommend is authors should justify data collection methods- questionnaires and focus group discussions, particularly the focus groups. Did they expect that group interactions would yield more in-depth discussions? Justification of choice of data collection methods is important especially when collecting qualitative data. The topics chosen seem very appropriate and the combination of didactics and case discussions would be very useful. The junior doctor perceptions of challenges and concerns are valuable. Program evaluation exploring self-reported confidence pre and post course implementation is a good start. I hope the authors plan to continue their explorations on this topic. Specifically, the following areas would be important: 1. the course- beyond didactics and case discussions, simulations would be valuable for students to practice caring for acutely ill patients and teamwork. 2. program evaluation beyond self reported confidence and satisfaction. Higher levels of the Kirkpatrick pyramid should be considered- improvement in knowledge, change in behavior etc. 3. use of focus groups should truly attempt to extract rich narrative data that would be difficult to obtain otherwise. Focus groups before and after each topic probably are redundant. This paper can provide many lessons for other educators working in this area. But I would like to emphasize that this is a start, good start, but the curriculum should continue to grow and evaluation of the program should target higher level outcomes.

**Competing Interests:** No conflicts of interest were disclosed.

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**Richard Hays**

James Cook University

This review has been migrated. The reviewer awarded 3 stars out of 5

Thanks from this 'view from the trenches'. The perspectives on work readiness from recent graduates are interesting and valuable, and the program described appears to be sound. However, I cannot help wondering why there needs to be so much angst at this transition point. A primary medical qualification is about preparation for a long career potentially in many diverse specialties. It used to be that the final medical school year was an immersion in clinical practice and the first postgraduate year was the 'finishing school' where graduates developed skills and confidence. It seems that now on day 1 graduates are expected, or at least feel that they are expected, to be relatively expert in managing rather complex acute or emergency hospital-based scenarios. One learns best when there is some responsibility for outcomes, and yet responsibility appears to have been largely removed from medical students and increased for PGY1 doctors. 'Bridging' courses like this then become popular and perhaps necessary, but perhaps a re-design of final year and PGY1 would achieve a smoother transition?

**Competing Interests:** No conflicts of interest were disclosed.

Reviewer Report 08 February 2017

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**Trevor Gibbs**

AMEE

This review has been migrated. The reviewer awarded 4 stars out of 5

I enjoyed reading this paper, which, when judged by the number of similar papers on the same subject, reflects its importance. It was also good to see that a poster presented at the AMEE 2016 annual conference in Barcelona as a poster had now been converted into a paper - well done. The paper, as described above, covered that important transition phase from student to doctor, from final year student to Year 1 Foundation Year Doctor (FY 1) in this case. It was very relevant that the authors structured their course around a needs assessment (actually more of a worry assessment!) developed from existing FY1 doctors. Although there are many papers now, some of which are not in the reference list, that describe similar courses, I felt that this paper was very clearly written and structured and would be of great help to those considering similar courses. I do think that it raises other issues, such as why if our curricula are that well structured, do we still have this worry from young doctors? I would like to see a follow-on from

this paper exploring the impact that the course had on the students once they had graduated- improving confidence is good, translating that improved confidence into confident action could be even better

**Competing Interests:** No conflicts of interest were disclosed.

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