**Reviewer’s report**

**Title:** An audit of clinical training exposure amongst junior doctors working in Trauma & Orthopaedic Surgery in 101 hospitals in the United Kingdom.

**Version:** 0  **Date:** 29 May 2017  

**Reviewer:** Bente Vigh Malling

**Reviewer’s report:**

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In this paper the authors make an audit on clinical training in Trauma & Orthopedic Surgery (T&O) in the UK. The results are measured against standards as described by the Joint Committee in Surgical Training (JCST). However, only some of the standards from the JCST's "Quality Indicators for Surgical Training - Core Surgical Training" are chosen in this paper whereas the standards described in Quality Indicators for Surgical Training - Trauma & Orthopaedic Surgery http://www.jcst.org/quality-assurance/documents/qis/trauma-and-orthopaedic-surgery-qis are not mentioned. The standards chosen all concerns allocation to certain areas of T&O - time spend in various functions in the clinical work. The study shows that measured against the chosen standards the clinical training in the UK (or at least in the participating hospitals) seemingly do not live up to the quality indicators. However, time spend is not the only measure for good clinical training. The content and quality of the training is actually more important and more interesting. Therefore it is a shame that the authors did not choose to measure or at least relate their findings to how and if the trainees' clinical training results in approval of training. F ex by describing the number of trainees who obtain the competencies through work based assessment - and how many who are in troubles getting the competencies. Therefore the study might not be relevant for a broader (international) audience - but certainly might be a contribution to the discussion in the T&O society in the UK on how to train future specialists.

The study does neither relate to existing literature on the subject: "How exposure to clinical issues" impact the outcome of training, nor what other factors influence the quality of training. This is a major flaw in the paper.

The title is reflects the content of the paper.

The abstract is clearly written and gives a good overview. However, it might have been appropriate to mention that the study was an audit - and thus a more like a quality improvement study than a research project.
The background gives no references to existing literature on medical education. This is a major flaw in the study that it does not relate to existing literature. Thus it makes it difficult for the reader to see how and if this study contributes to our knowledge.

In the methodology the recruitment and the spread sheet is described. However, the development of the spread sheet is not described. You might question why some of the clinical functions are more valued than others in the spread sheet. It leaves the reader with a question on why Ward Cover and On Call do not count in the investigation. Finally, as the authors describe in the limitations section, the time slots are rather rough, making it difficult to see if the results are really showing how things are. Here it is difficult for a reader outside UK to quite understand why the time slots are so rough because we do not know how trainees work, and how their working schedule is presented - are they allocated to only one function during the day - or? In the same way it is a bit difficult for a foreigner to understand who the various groups are - f ex the "permanent staff" mentioned on page 10 line 22 and "locum doctors" mentioned in line 28.

It is also difficult to see who actually filled in the spread sheets - was it the trainee or? It is mentioned that the collaborators filled in the sheets - were they trainees or were they heads of the clinics or how was it used in the many hospitals?

The statistical analysis is described. However, in the results section information that should have been explained in the analysis section is provided. F ex on page 11 line 22: "After pooling clinical activity codes" - it should be described in the analysis section how data were pooled.

The results section is well described and results presented clearly in tables and figures. It would have been nice if the total number of hospitals in the UK had been mentioned - for the reader to judge how representative the results are. It might also be appropriate to describe the distribution of hospitals in university / non-university and other relevant discrepancies between hospitals in the UK. It would have been nice to have a picture of the clinical work done by a fully educated T&O surgeon. Without this presentation it is difficult for the reader to judge if the functions the trainees are allocated to reflect the work of a consultant in the specialty.

Limitations are acknowledged and discussed.

The discussion provides suggestions on introducing other staff to take care of some of the work trainees perform now. It also suggests that trainees are allocated to the functions perceived as having higher educational value. And it suggests that trainees get protected work schedules and are less on call. This might be the solution, however, it stands very much alone without connection to the literature on allocation of working functions. As such it represents a sort of private point of view, and thus is not that interesting. Again the missing link to existing literature makes it less interesting for a broader audience.

The conclusion that training does not meet the national standards is what the data show. However, it would have been interesting to know if that means that the surgeons are not educated or approved - or if it is a matter of standards that does not fit reality.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

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