PEER REVIEW HISTORY

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ARTICLE DETAILS

Title (Provisional)

Clinical placements of medical students during a rapid scale-up of health professional education: a qualitative study

Authors

Dejene, Daniel; Ayalew, Firew; Yigzaw, Tegbar; Mengistu, Samuel; Aderaw, Zewdie; Moges, Nurilign Abebe; Stekelenburg, Jelle; Versluis, Marco

VERSION 1 - REVIEW

Reviewer	**1**
Name	**Lee, Ching-Yi**
Affiliation	**Chang Gung Memorial Hospital Linkou Main Branch, Neurosurgery**
Date	**10-Aug-2024**
COI	**None**

Comments to the Author:

The manuscript addresses a critical issue in healthcare education, specifically the impact of scaling up health professional education (HPE) on clinical placements in Ethiopia. The authors employed a qualitative approach, utilizing focus group discussions and constructivist grounded theory to explore the consequences of this rapid expansion on various aspects of clinical training. The study's focus on the adequacy of skilled clinicians, student preparedness, learning environment, and the overall clinical competence of students is both timely and relevant, given the global emphasis on improving healthcare workforce capacity. The manuscript is generally well written. However, significant revisions are necessary to strengthen the clarity, depth, and coherence of the arguments presented. The following comments are provided to assist the authors in enhancing the quality of their manuscript.

The manuscript mentions that many teaching practices bypass clinical teachers, with residents taking on these roles instead. As a result, the evaluation of the clinical setting lacks an additional perspective. The evaluation outputs focus on a single aspect of competence, which diverges from the intended purpose of clinical student assessment. The manuscript states that there is a lack of training in surgical and hands-on techniques, yet the majority of the teachers

are from surgical backgrounds. Could this lead to a potential bias in the focus group discussions? Could the lack of widespread use and infrequent application of evaluation tools also be a factor affecting the results?

1. The term "consequences" was used in title and research question, but the design of the study was not adequate for elaborating overall consequences of this national policy. Rephrasing the title and research question should be considered.

2. For data collection, I am convinced that the author used some tools for audio-recording. However, audiotape seemed to be out of date. Did the authors use audiotapes for recording?

3. Mean age of students and clinician teachers were provided in table 1. The range of ages of participants should also be provided for presenting their characteristics. In addition, the participant profile after the quotation should be coherent. Please elaborate the reason for the absence of age detail of clinician-teacher while remaining the presence of age details of students in quotations. I consider the age factor being more important in clinician-teacher aspect because it may somehow reflect seniority and teaching experiences.

4. In theme 3, the term "significant intern jobs" seems to be obscured. Meanwhile, the following descriptions were less related to learning environment comparing with the theme of extent of practice exposure.

5. In the section of conclusion, the author made some suggestions for improving the overall HPE. However, those suggestions were not resulted from their study. Those definite statements were inappropriate to be placed in this section.

Reviewer **2**

Name **Ng, Ka Ying Bonnie**

Affiliation **University of Southampton Faculty of Medicine, School of Human Development and Health**

Date **03-Feb-2025**

COI **Nil**

Abstract

- Health professional education- need to define the acronym (HPE)
- 'frugal responses taken' It is unclear what these are and how they would potentially impact the experience of students/teachers.
- Within the objectives, a definition of the 'scale up' would need to be detailed as it is unclear to the reader what this means

Strengths and limitations of the study

- The authors state that there would be transferability of the study findings. However, within this qualitative study, the sample may have selection bias and the findings may not be application in a different setting.
- Would need to state that selection bias may be present and that needs to be caution in extrapolating the findings to other healthcare settings or teaching schools.

Introduction

- The authors have described drivers for the 'scale up' and also the changes that have happened giving some examples of how they relate to to healthcare in other countries such as physician density.
- It would be beneficial to clarify whether this 'scale up' is an ongoing thing or whether there are different phases of the 'scale up' and where does this stay fit within the whole 'scale up' timeline?
- A summary of the Ethiopian medical student training pathway would be useful to be general reader who will not have knowledge of how training works there. When is there clinical exposure and how are students taught?
- Need to define what 'frugal responses' are and also give examples. Are these driven by the changes that occur on national level and who decides these?

Methods:

- 'constructivist grounded theory' please explain more about this method. Why was it chosen over other methods?
- Similar to point raised in intro- can you specify where this study fits within the 'scale up' timeline. Is it an ongoing process or was the study performed after a major scale up had happened?
- Why only 6 schools sampled- was it for practicality or was there a reason why these particular schools were sampled?
- The authors mention their sampling allows 'generalizability of the study findings to various types of medical schools'. However, this would need to be revised since 6/43 is 14% of schools and within that there will be even smaller proportion of students/educators sampled. So there needs to be caution in generalisation of findings.
- The authors should also clarify whether there was a difference in the teaching styles or curriculum that was followed. Do they follow national guidance or are the medical schools quite different?
- Study participants- how were the 53 PGD participants chosen?
- HPE experts reviewed the guide- how many and how were they chosen?
- Clarify whether the 6 participants in each FGD group were from the same medical school or were they mixed.
- Were there any exclusion criteria for the participants?
- Clarify how the transcripts were translated and whether there is any chance that some of the experiences or feelings/views of the participants will be lost when translation took place?
- Within the data collection section of methods, please clarify how the FGD groups were run. Was there a facilitator and were there any other people there to help? What was the facilitator's relationship with the participants? Was it done in person? Could there have

been any limitations in what the student/educator expressed within the session due to concerns that it would impact their training for example?
- Please calarify how the datasets were stored in a secure place- locked/password protected for eg.

Results

- 29% female students and 12% female teachers. Is this representative and if not then what was the cause of this bias- discussion point.
- Many of the themes were explored superficially. There are several themes which overlap, for example theme 1 and theme 3 overlap and I wonder whether the authors would consider amalgamating some themes to create themes discussed in greater depth.
- Some of the themes had quotes from the students only or teachers only but it may be useful to have more balanced quotes from both parties within each theme.
- Within theme 5 the second quote 'students should have been told what they should achieve…' is this related to the clinical supervision that students get or the overall structure of the teaching within their medical school and the curriculum or learning objectives being made transparent to them? It would be good to get clarification on this as it falls within supervision section but it unclear other influencers.
- Theme 6 – any expansion on what the 'unrelated orders' might be?
- The quotes seem to be quite brief and superficial. If there are any quotes that give more depth and detail to the theme then please consider including.

Discussion

- Similar point of the transferability as detailed above. Transferability to other medical schools/sites would need to be done with caution.
- Discussion point- does the medical school age affect the student experiences? As it was mentioned before that there have been many new schools set up. Are they all similar in structure and is there a difference between rural and urban schools?
- Would need to clarify why authors think that these findings can be expanded to primary care setting. Another study the identify the experiences of students/educators in the primary care setting would be useful rather than extrapolation from this dataset.
- Interesting point would be the economic impact of the scale up and the implications of these findings for future directions.

VERSION 1 - AUTHOR RESPONSE

Comments from the Reviewer 1	Our Responses
The manuscript addresses a critical issue in healthcare education, specifically the impact of scaling up health professional education (HPE) on clinical placements in Ethiopia. The authors employed a qualitative approach, utilizing focus	Thank you for your encouragement and for acknowledging the values of our research studies. Based on the reviewers/ comments, we did revisions across the sections of the

group discussions and constructivist grounded theory to explore the consequences of this rapid expansion on various aspects of clinical training. The study's focus on the adequacy of skilled clinicians, student preparedness, learning environment, and the overall clinical competence of students is both timely and relevant, given the global emphasis on improving healthcare workforce capacity. The manuscript is generally well-written. However, significant revisions are necessary to strengthen the clarity, depth, and coherence of the arguments presented. The following comments are provided to assist the authors in enhancing the quality of their manuscript.	manuscript to improve clarity, depth, and coherence of our arguments.
The manuscript mentions that many teaching practices bypass clinical teachers, with residents taking on these roles instead. As a result, the evaluation of the clinical setting lacks an additional perspective.	We agree with this comment because having the perspectives of residents, hospital staff, patients, and other stakeholders was important to strengthen the study's findings. Please note that we acknowledged the lack of additional perspectives from residents and others as part of the limitations of this study Please see this on page 3.
The evaluation outputs focus on a single aspect of competence, which diverges from the intended purpose of clinical student assessment.	In this study, we focused on the essential clinical competencies of graduates to measure HPE outcomes. While diverse skills are required for medical doctors, we assessed history taking, physical examination, diagnosis, management of common diseases, basic medical procedures, and surgical skills of medical graduates. We also assessed their communication and collaboration skills. We believe these skills are very much related to the outcomes of clinical placements. For practicality issues, we could not assess other skill sets. We recommend that future studies are

	required to assess other aspects of the graduates' competence. Please see the change in the conclusion section on page 17
The manuscript states that there is a lack of training in surgical and hands-on techniques, yet the majority of the teachers are from surgical backgrounds. Could this lead to a potential bias in the focus group discussions? Could the lack of widespread use and infrequent application of evaluation tools also be a factor affecting the results?	One of the major findings of our study was that medical graduates were challenged to conduct procedural and surgical skills due to student overcrowding, limited patients, the shortage of hands-on practice, supervision, medical supplies, and competitions for practice. Student assessment could be one contributing factor that was found to have flaws in our study. However, the FGD participants did not link the skills gaps with student assessment. When we asked about medical procedures and minor surgeries, procedural skills needed for medical, obstetrics, gynecology, surgical, and pediatrics cases were considered. We used a balanced number of internists, surgeons, pediatricians, and obstetricians & gynecologists as FGD participants. We believe that we have minimized the risk of bias in this regard.
The term "consequences" was used in title and research question, but the design of the study was not adequate for elaborating overall consequences of this national policy. Rephrasing the title and research question should be considered.	We have revised the title and research question. Please see the changes on pages 1, 2 and 5
For data collection, I am convinced that the author used some tools for audiorecording. However, audiotape seemed to be out of date. Did the authors use audiotapes for recording?	Yes, audio tape is an outdated apparatus. It is a typo, and we used a digital apparatus named – "**Sony digital voice recorder"** Please see the corrections made on page 7
Mean ages of students and clinician teachers were provided in Table 1. The range of ages of participants should also be provided for presenting their characteristics.	Based on your comments, we added the age ranges for FGD-participating students and clinician-teachers. Please see the changes in Table 1 on page 8

The participant profile after the quotation should be coherent. Please elaborate the reason for the absence of age detail of clinician-teacher while remaining the presence of age details of students in quotations. I consider the age factor to be more important in the clinician-teacher aspect because it may somehow reflect seniority and teaching experiences.	It was just our preference to use sex, department, and university of clinician-teachers in the quotes. Now, we decided to include two indirect identifiers (sex and age range) and use them consistently.
In theme 3, the term "significant intern jobs" seems to be obscured. Meanwhile, the following descriptions were less related to learning environment comparing with the theme of extent of practice exposure.	Our definition of a clinical learning environment captures work management as a part. Since assigning tasks to medical interns is part of clinical work management, we consider this finding about internship jobs to be relevant to the theme of the clinical learning environment. Therefore, we kept it in the theme 3. Please note that we have revised the theme and the languages of this finding to make it more explicit. Please see the changes on page 11
In the section of the conclusion, the author made some suggestions for improving the overall HPE. However, those suggestions were not resulted from their study. Those definite statements were inappropriate to be placed in this section.	Based on this comment, we revised the conclusion in the main text and abstract. In the revisions, we made the recommendations highly supported by the findings. Please see the changes on pages 2 and 17

Comments from Reviewer 2	**Our Responses**
Abstract	
• Health professional education- needs to define the acronym (HPE) • 'frugal responses taken' It is unclear what these are and how they would potentially impact the experience of students/teachers. • Within the objectives, a definition of the 'scale up' would need to be detailed as it is unclear to the reader what this means	Thank you for the valuable comments. • We have added the acronym HPE in the abstract section for "health professional education". • Frugal responses meant to be adjustments made by the schools to address the challenges in clinical placement posed by the HPE scale-up efforts. We revised the phrase 'frugal responses taken' across all sections

	• We revised the objective in the abstract indicating the definition of HPE scale up. Please see the changes on page 2
Strengths and Limitations of the Study	
- The authors state that there would be transferability of the study findings. However, within this qualitative study, the sample may have selection bias and the findings may not be application in a different setting. Would need to state that selection bias may be present and that needs to be caution in extrapolating the findings to other healthcare settings or teaching schools.	Based on this comment, we strengthened the limitations by making the possibility of selection bias in our study more explicit. We also stated that caution should be taken while extrapolating the findings to other settings. Please see the change on page 3
Introduction	
The authors have described drivers for the 'scale up' and also the changes that have happened giving some examples of how they relate to healthcare in other countries such as physician density. - It would be beneficial to clarify whether this 'scale up' is an ongoing thing or whether there are different phases of the 'scale up' and where does this stay fit within the whole 'scale up' timeline?	It is known that countries regularly and gradually open HPE schools and academic programs. However, these measures have not helped to address the workforce demands. Therefore, there is a need for rapid HPE scale-up to increase the national workforce stock. In Ethiopia, the rapid scale-up of HPE has been happening since 2005. Based on this comment, we made changes in the introduction. Please see the change on page 4
A summary of the Ethiopian medical student training pathway would be useful to be general reader who will not have knowledge of how training works there. When is there clinical exposure and how are students taught?	We added a brief description of the medical education training pathway in the introduction section. Please see the change on page 4
- Need to define what 'frugal responses' are and also give examples. Are these driven by the changes that occur on national level and who decides these?	Frugal responses are meant to be interventions and solutions taken by medical schools to mitigate the impact of HPE scale-up. Based on this comment, we have revised the language as adjustments made. We also included key adjustments: clinical rotations, hiring of clinicians, engaging methods, and assessment tools.

	Please see the changes on page 2 and 5
Methods	
In the methods section: 'constructivist grounded theory' please explain more about this method. Why was it chosen over other methods?	Generally, grounded theory helped us to generate rich and new data in a flexible manner consistent with the local reality because it is based on theories from the previous steps. We added some descriptions about the method and reasons why we opted to use this study. Please see the change on page 5
- Similar to point raised in intro- can you specify where this study fits within the 'scale up' timeline. Is it an ongoing process or was the study performed after a major scale up had happened?	Yes, we include a timeframe for the rapid expansion of HPE. Please see the change on page 5
- Why were only 6 schools sampled- was it for practicality or was there a reason why these particular schools were sampled?	Yes, feasibility is the consideration we took while including only six med schools. We believe that a limited number of FGD samples from the six schools helped us to generate data in depth. To clarify this point, we made a change in the text on page 5
- The authors mention their sampling allows 'generalizability of the study findings to various types of medical schools' However, this would need to be revised since 6/43 is 14% of schools and within that there will be even smaller proportion of students/educators sampled. So there needs to be caution in the generalization of findings.	Thank you for this valid comment. We wanted to emphasize that we selected representative medical schools. Through this selection process. our findings could give a comprehensive picture of the status of clinical placements in other similar schools. Yes, we should be cautious in generalizing the findings to other schools or hospitals Based on this comment, we have revised the text on pages 5 & 6.
The authors should also clarify whether there was a difference in the teaching styles or curriculum that was followed. Do they follow national guidance or are the medical schools quite different?	This is a good point. Medical schools in Ethiopia implement a nationally harmonized competence-based curriculum. We clarified this in the text on page 6.

- Study participants- how were the 53 PGD participants chosen?	We selected a recommended method of participant selection in grounded theory studies. We used a theoretical sampling approach to select appropriate participants guided by theories that emerged from the earlier data. We reached at theoretical saturation while selecting 53 FGD participants. We have revised the section on page 6
- HPE experts reviewed the guide- how many and how were they chosen?	Two HPE experts were selected for their expertise and reviewed the guide. They were members of the National Medical Education Committee. We corrected the text. Please see the change on page 6
-Clarify whether the 6 participants in each FGD group were from the same medical school or were they mixed.	We used face-to-face FGD sessions to increase the participation levels of the selected clinicians and students. The data collectors traveled to each school. Therefore, the participants in each FGD were from the same school. We clarified this point in the text on page 6
- Were there any exclusion criteria for the participants?	Clinician-teachers with less than 2 years of work experience, and those who are not full-time and had no interest were excluded. Medical students who did not complete their internship and had no interest were also excluded. Based on this comment, we included exclusion criteria in the text on page 6
-Clarify how the transcripts were translated and whether there is any chance that some of the experiences or feelings/views of the participants will be lost when translation took place?	We applied interpretive translation to translate the transcripts. Maximum care was taken to ensure the meaning of words, sentences, meanings, and cultural contexts were preserved. Based on this comment, we included a description of how the translation was conducted on page 7

- Within the data collection section of methods, please clarify how the FGD groups were run. Was there a facilitator and were there any other people there to help? What was the facilitator's relationship with the participants? Was it done in person? Could there have been any limitations in what the student/educator expressed within the session due to concerns that it would impact their training for example?	Two trained data collectors (external to the schools) were used in each FGD as a moderator and a note-taker. We applied all key steps of FDG to collect quality and rich data. The FGDs were in-person sessions. Given we used external data collectors, we provided clear instructions and group norms at the beginning. Any concerns of FGD participants were addressed. Please see the changes made on the text to clarify these issues on page 6 – 7.
- Please clarify how the datasets were stored in a secure place- locked/password protected for eg.	We stored the datasets in a computer repository system which is password protected, Accordingly, we made a change in the text on page 8
Results section	
29% female students and 12% female teachers. Is this representative and if not then what was the cause of this bias- discussion point.	The gender distribution in medical education in Ethiopia is skewed with female under-representation. Though the proportion of female students in medical schools (about 30%) is improving currently, it is still low as compared to males. The gender findings of our study are consistent with other research studies. We believe that gender distribution did not incur any bias. Therefore, we did not consider gender in the discussion section.
-Many of the themes were explored superficially. There are several themes which overlap, for example theme 1 and theme 3 overlap and I wonder whether the authors would consider amalgamating some themes to create themes discussed in greater depth.	Thank you for the valid comments, we got back to the data to include clearer descriptions and quotes, increase depth, and consider other perspectives. We confess that the issues raised are very much related and we had difficulty in reporting on different themes. Based on the comment, we have revised the result section extensively. We improved the themes, texts, quotes, and issues raised across

	this section. We amalgamated some of the issues in few themes. Please see the changes in the result section on pages 9 - 14
- Some of the themes had quotes from the students only or teachers only but it may be useful to have more balanced quotes from both parties within each theme	We have added quotes to balance the views of students and clinician-teachers. please check across the result section
. - Within theme 5 the second quote 'students should have been told what they should achieve…' is this related to the clinical supervision that students get or the overall structure of the teaching within their medical school and the curriculum or learning objectives being made transparent to them? It would be good to get clarification on this as it falls within supervision section but it unclear other influencers	It is more related to the teaching skills and performance of clinician-teachers. We put this quote under theme 2 (availability of skilled and motivated clinician-teacher). We also revised this quote to give more clarity to the readers. please see page 10
. - Theme 6 – any expansion on what the 'unrelated orders' might be? - The quotes seem to be quite brief and superficial. If there are any quotes that give more depth and detail to the theme then please consider including.	We revised the theme and added some descriptions to give more clarity on the quote. please see the change on page 11
Discussion section	
Similar point of the transferability as detailed above. Transferability to other medical schools/sites would need to be done with caution. Discussion point	Yes, we considered this point in strengths and limitations section on page 3
-Does the medical school age affect the student experiences? As it was mentioned before that there have been many new schools set up. Are they all similar in structure and is there a difference between rural and urban schools?	The medical schools implement a national harmonized competence-based curriculum. Older schools and new schools had their own strengths and challenges. Generally, the HPE upscaling affected both types of schools. For example, old schools had more senior staff. However, more residence programs and students, affecting the practical training. New schools had new infrastructure and young and less experienced staff and management. And

	please note that medical schools and teaching hospitals in Ethiopia are located in urban settings.
-Would need to clarify why authors think that these findings can be expanded to primary care setting. .	The clinical practice of medical students in Ethiopia is conducted mainly at tertiary referral and teaching hospitals. While new graduates are mostly deployed to primary hospitals and health centers, we believe thatthis would create a misalignment of placement training of students and their future medical practice. In addition, students were challenged to see and practice common health problems and infections that are managed in primary healthcare settings. Therefore, we considered expanding clinical placement to primary healthcare settings are critical. we added a text to clarify our reasons of expanding the placement sites to the primary care settings on page 14 &15
-Another study the identify the experiences of students/educators in the primary care setting would be useful rather than extrapolation from this dataset	We strengthened the results sections, showing what the actual practice looks like and the gaps of too much practice in tertiary hospitals. We also strengthened the effects of practicing away from primary care settings for undergraduate students in the discussion section. We believe that our findings can help us to recommend the use of primary healthcare settings for student placement. Please see text on pages 14 and 15
- Interesting point would be the economic impact of the scale up and the implications of these findings for future directions.	We have added a text describing the need for research focusing on the economic implications of the HPE scale-up. Please see the change on page 17

VERSION 2 - REVIEW

Reviewer	**2**
Name	**Ng, Ka Ying Bonnie**
Affiliation	**University of Southampton Faculty of Medicine, School of Human Development and Health**

Date	**24-Mar-2025**
COI	

This revision is much clearer and easier to read. The methodological details and structure of the results is much improved from the initial draft.

- Please ensure consistency of FGD (as in some places, the authors have stated 'FDG').

- There are minor spelling and grammatical errors that need addressing, e.g. spelling of teachers on page 18.