Below please find our responses in comment boxes to each of the reviewer’s excellent comments and suggestions

Reviewer A:

Comments to the author: Positive comments (strengths):: As mentioned this was the first formal analysis of the VMP which I believe was interesting to read. There was a clear thesis and identified need for quality improvement in many gaps of the mentorship program. This topic is relevant to a large population (as all medical student and many physicians are required to be apart of the program) and are the target audience of the UOJM. The structure of he manuscript was easy to read and follow and there was references used. The article was of appropriate length and addressed a range of issues neatly organized into three broader subcategories.

Major comments:

There is an emphasis of the "simple innovations" this term should be further defined and supported by other/previous studies on mentorship programs, there should then be a mention of need to actually see how these innovation would improve the program and benefit the mentors and mentees individually.

Further detail should be provided on the methods used for data collection. It should be presented as though if someone were to treat the study they could easily do so. There was lack of information on what was specifically asked in the surveys, how's these gaps were determined and how collection and analysis of the results was performed.

There should be a formal assessment using qualitative day analysis using previously established methods, this would provide actual significance to the results, instead of extrapolation their value and stating personal opinion. (One cannot mention that there was a great increase or decrease without and statistics performed).

There should be particular attention to sentence structure, grammar use and overall flow as some ideas see to jump between sentences.

Although visual diagram and charts can be useful and serve as an aid to understand the presented results, I believe the sophistication of the charts should be evaluated. The charts and diagrams did not add much more value as the information was easy to understand when written in the results and discussion section.

Minor comments:: Define what makes an innovation simple vs complex? Where did this term come from

define VMP in the abstract

Line 11: mid survey response rate was excellent - mention was percentage of students complete the survey not just the number

Line 29: "as far back as most faculty members can remember " rephrase to "the program has been a longstanding foundation in medical education"

Line 32: delete "the development of medical students " replace with for student during medical training"

Line 32: redefine emotional benefit

Like 32: "improved relationship" ahah type of relationship networking? The sentence starting in line 34 repeats the same ideas as the previous sentence

Line 41: "all student with student " replace with between students Line 43: delete through their own medical school roller coaster

Line 46: sleet major and wide Line 47: remove overall functioning of each group

Line 53: the mentorship program is successful overall : how is this success evaluated , is this assumed through word of mouth or previous evaluation

Line 54; mention who is responsible for distributing the survey Line 59: other programs " other medical schools ?"

Line 62/63: it is vary vague , what is the challenge of the evaluation process in the past

Line 75: rephrase

Line 79: more support ( go into more detail on what this support would entail)

Line 81: be more specific in the number of resources

Line 87: delete themselves Line 86: suspected level of understanding , where does this suspicion arise from? The result or personal inference

Line 87-91: separate into two sentences

Line 99: rephrase to " the objective of the session was for the second year group coordinator to optimize their organization and conflict resolution skills"

Line 101: what does formally and informally mean , is this relevant to say?

Line 106: contradicts the past statement that VMP has been very successful in the past Line 109: remove last sentence

Line 111: rephrase to "to address this specific problem , the VMP ..."

Line 113: specify what regular email communication means ? Monthly/ weekly etc

What is that meaning and emphasis to italicize some words such as "mid year survey"

Line 128: how did you look at mentor knowledge ? details on collection of data is vague here, no serial and what qualitative analysis was used

Line 140: no mention of statistical relevance Line 141: n= 133 (out of how many students, do you think this is a representative population)

Line 159: change their groups had held zero to "not yet met "

Line 174 : listing of advantages of the program should be properly introduced

Line 183: what statistical calculation allowed you to conclude that there was a "slight decrease"

Line 186: the greatest amount( compare to other years?)

Line 186: how gradually when this was a comparison from one year to next

Line 192: how can this actually be assessed

Line 196: there is a new introduction to event advertisement that was not mentioned as a parameter of analysis

Line 200: 4th year students \*

Line 202: "this is not surprising situation" should be deleted this is an opinion/ personal perspective

Line 24: the reference to other academic commitments is vague and does not add significant support to your argument

Line 207: how many is so many , Facebook communication was discuss as a means of communication between coordinators but not students and mentees Line 215: can't say clearly increased (no statistical analysis)

Line 219: felt like it accomplished it's purpose , how? Once again this sounds a personal opinion

Line 226; who are the resource people

Line 243: delete "as we hoped"

Line 251: delete first sentence of limitation this is basic knowledge

Line 255: challenging is very vague in the description: what made he resolution challenging

What should be done to follow up , measures to make in the future should be discussed at this point

Conclusion: no summary of information about the "simple innovation" that would benefit the program was discussed

Figure 1: this chart is quite complex ( almost all arrows connect to each other and there is no flow or organization ) is it relevant to present this data )

Figure 3: wh options were available for reason to not attend the event either than the three listed

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Reviewer B:

Comments to the author: Positive comments (strengths):: This is a very well written article detailing the challenges and implementations that can aid in the functioning of the vertical mentorship program (VMP). The topic is highly relevant to the interest of students and provides great insight on a program that students at uOttawa are engaged in.

The author(s) provides a comprehensive overview of the history and establishment of VMP and introduces the purpose of the study in a clear and concise manner. The language and style of the writing is appropriate and at an academic level appropriate for its target audience with all terms properly defined. The ideas are coherent and easy to follow and backed up by sufficient evidence. The graphs and figures are well described and clearly supports the arguments proposed. The author(s) provides a balanced argument providing both the results and limitations of the study method and conclusions.

Major comments:: While the introduction is descriptive and thorough it can be shortened especially paragraph 3, which documents specific roles of the various coordinators. Simply defining their roles and responsibilities should be sufficient. This paragraph may even be combined when outlining the roles of the mentors and students in the preceding paragraph.

Is there a subgroup analysis for the attendance of various years at the dessert night and end of year event? Is the response rate from various years reflected in the survey. For instance, may the results from the surveys be skewed towards the responses of students from certain years of study?

As the author(s) mentioned the 2014-2015 survey was only distributed to those attending a mentorship event in the format of paper survey. Whereas the surveys distributed between 2015-2016 was done through paper and online.

Could this potentially confound the increased survey response rate seen during the 2015-2016 cycle?

The paper discusses the topic of knowledge of mentors and second year coordinators of available program resources and used this as a metric to measure the understanding of the VMP. Please specify how knowledge of available resources was measured (as addressed in line 162). Was a rating scale used?

While stating the limitations is valuable it is also worthwhile to identify how these issues may be addressed it can also helpful to indicate how these issues may be addressed. Given the decline in numbers since mid-year survey 2015-2016 to end of year response rates are there other ways to promote increased participation in the online surveys or reduce the biases in sampling?

Figure 4 provides a more specific look at the reasons students are not attending the events. It is encouraging to see that only 5.9% of students did not attend due to lack of interest. Still, majority of students who commented were classified under other commitments. I wonder if this could be further subdivided.

Minor comments:: Replace had for have on line 106

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Reviewer C:

Comments to the author: Positive comments (strengths):: - This article is very relevant to any physician affiliated with the University of Ottawa who may now want to join the VMP if they have not already due to the benefit they have read that this program imparts to students just commencing their medical journeys. -Medical students would also find this article very interesting because of their membership in this program and its close relevance to their lives. - The article was very organized and had good flow.

Major comments: - There were minor grammatical errors throughout the manuscript such as inappropriate usage of certain words and run-on sentences that I have suggested brief edits for (please see attached Word doc).

- It may be useful to briefly explain what was removed from the 2014-2015 survey compared to the "abbreviated" 2015-2016 survey. Was the survey shortened to hopefully get a higher number of participants? Did you feel any information that may have been relevant was not obtained in the "abbreviated" newer survey?

- In line 64 you mention that it is often challenging to evaluate mentorship groups. It would perhaps be beneficial to the reader to briefly explain why that is.

Minor comments:: The y-axis label in figure 5 perhaps could be changed to "Reported Awareness (%)" or "Awareness (%)". Usually the word "Percentage" (the unit in question) is not typed out in axes headings.