Article details: 2013-0049	
Title	**Resident duty hour reform: understanding impact and preparing for change**
Authors	Peter Wu, Lynfa Stroud, Heather McDonald-Blumer, Brian Wong
Reviewer 1	**Andrew Clarke**
Institution	University of British Columbia, Psychiatry
General comments	A well conducted study with interesting findings. It adds to the what is known about an important topic.
Reviewer 2	**Justina Sam**
Institution	Toronto Western Hospital, Division of Gastroenterology
General comments	Please provide a description/development of the interview guide and the type of questions posed to various participants. Can you elaborate on how the coding structure was developed based on the emerging themes? Do you have any information on the demographics of the respondents and their scope of practice (e.g. clinician teacher vs. scientist, etc)? Perhaps their age or year/country of training may play a significant influence on their opinions about work hours or increasing the workload of attending staff. Were there any participants who declined to participate in this study? Overall, you have touched base on a good number of points with 3 potential solutions, along with the pros/cons (e.g. discontinuity of care, possible reduced clinical exposure, preparation for independent practice). Your paper flows quite well and highlights key themes.
Reviewer 3	**April Manuel**
Institution	Memorial University of Newfoundland, School of Nursing
General comments	**Abstract** State using a constructivist grounded theory but no reference to specific approach (e.g. Charmaz) (the authors do this throughout paper) Purpose is to identify how training programs are preparing for the impact of such changes in education, patient care, and provider-well States they have an empirical derived conceptual framework; this language is not consistent with qualitative research... **Introduction** The introduction does have a thesis statement but late on page 5. The background does not specific provide evidence as to identified pros and cons of duty hour changes on resident quality of life, education and patient outcomes. They do statethat on pg 4 that; some studies suggesting improvement in these areas" however there isno correlation between hours of duty residency and outcomes (positive or negative). This needs to be strengthened. I am left wondering what is the impact of greater than (or less than) 24 duty care on resident quality of life, education and patient outcomes. Are there any comparative studies? Significance of the issue evident in the introduction. **Methods** See previous comment under Abstract re: use of qualitative language. Method is appropriate for study however I question the rationale for use of constructivist approach. Grounded theory references do not address constructivist approach but rather an overview of Glaser & Strauss which is another approach to grounded theory. Suggest include more literature n method in line with specific method used (e.g. Charmaz). Also, refer to seminal works of grounded theory rather than other authors descriptions of the method. Finally, rationale for constructivist approach versus other approaches not clear. Ethics approval addressed. The setting is appropriate. Participant selection reflective of purpose sample recruitment in not clear (e.g. who

	recruited and how). Remove PI initials. Rationale for individual interviews versus focus groups not needed. No clear if interview scripts were open ended or not. In qualitative research probes are used as guides in the interview; it sounds like this study had a questionnaire. If so, this is not in line with grounded theory. Need to clarify. Confidentiality addressed. Concurrent data analysis and gathering correct but need a statement regarding the role ofconstant comparison in data collection. This is a significant point in Grounded Theory. On pg. 8 state they were "cognizant of the forces … that affect data analysis but methods to ensure this not addressed (e.g. theoretical memoing) I question how the researchers were certain that they had captured the true experiences of the participants? **Results** Table 1 is confusing. I am not sure it is needed and there are no defining characteristics of the terms (shift based, large, small etc). The significance of a checkmark is not clear. A footnote with this may help. The perspectives of program directors, division director etc may be different so beneficial to address this point in discussion. There are grammatical mistakes and formatting issues (not in line with APA). Some of the quotes selected do not reflect the point being made (for example p.10 last quote). A quote that addresses impact would be more appropriate. Last paragraph p. 10 needs revision to be clear. This paper only discusses one theme was there others? Need to state this approach in introduction or methods. How was this one theme selected? Top pg 11 defines trainees (and shift based model) and what do you mean by unpacking? There are issues throughout the paper with logical flow of ideas. The results do not reflect the purpose of the paper, there is little discussion about the impact of residence well-being (some mention of staff persons fatigue) and little focus on educational strategies. There seems to be more focus on human resource management. The authors do however reference this in paragraph one under discussion. Table 2 At bottom of page 15 referred to nurse practitioner (NP) etc to fill the service gap I am sure a NP would not appreciate this terminology. **Discussion** Fits line refer to academic leaders. Need to define and these were not in the participants recruited?? I challenge the reference of the Figure 1 as being a theoretical framework or as noted in another place a conceptual framework consistent with grounded theory. The authors discussed only one theme and I am wondering as to how the other themes would shape this conceptual framework. Grounded theory generates a substantive theory that a conceptual framework or model emerges. I do not see any reference to this substantive theory.
Author response	Response to editor and reviewers: Thank you very much for reviewing our manuscript and providing us with detailed feedback and suggestions to strengthen the quality of our paper. To the best extent possible, we have tried to address all of the concerns that you and the reviewers have raised, and made modifications to the manuscript that reflect these efforts.

	Listed below are the original editor and reviewer comments and our responses to each of the comments. Wherever possible, we have taken the liberty of cutting and pasting the specific changes made in the manuscript directly into our response letter to make the revisions more apparent. ---------- Start Editor & Reviewer Comments and Author Response ---------- We will now address each of the comments in turn. EDITORS' comments to Author: EDITOR COMMENT: 1. Your study sample was limited to 18 faculty members from a variety of training programs within one institution. Please clarify in the introduction that your findings reflect the views of program directors, department chiefs and division directors (not residents themselves or any other health care professionals) at a single centre. This is an important limitation that needs to be addressed in the limitations section of your discussion as well, particularly since a small number of themes emerged in your study. AUTHOR RESPONSE: We agree that this limitation requires further clarification. In the Introduction section, we have modified the last paragraph to highlight this by adding the phrase "…from the perspective of program directors, division directors and department chiefs, and to explore how they planned to address changes in Resident Duty Hours". We have also added a statement in the Limitations subsection of the Interpretation section to highlight this specific limitation: "Additionally, this study examines the perceived impacts of resident duty hour changes from the perspectives of program directors, division directors, and department chiefs, as opposed to residents or other health care professionals,…". EDITOR COMMENT: 2. Please include the interview guide as an Appendix. AUTHOR RESPONSE: It would not be possible to include the text of all of the questions for our semi-structured interviews that we conducted in an appendix because they were (in keeping with the markers of rigor for good constructivist qualitative research) adjusted iteratively after each interview. However, we have provided several examples of questions and prompts that we used in our semi-structured interviews as an Appendix. EDITOR COMMENT: 3. You have classified Family Medicine as an 'ambulatory based program'. Please rephrase this category, as several of the hospital programs at University of Toronto provide family medicine inpatient care, including general, obstetrical, palliative and/or newborn care. AUTHOR RESPONSE: Thank you for pointing out the fact that we were too absolute in our categorization of training programs. We have modified the label for this category to indicate that these programs are 'primarily ambulatory based' to provide a more accurate representation of the clinical responsibilities of providers in these programs. EDITOR COMMENT: 4. Please address the comments of the reviewers, particularly those raised by Dr. Manuel regarding the clarification of methodology and limited number of themes discussed. Were divergent views noted? AUTHOR RESPONSE: We provide detailed responses to all 3 reviewers' comments below. We have specifically focused on addressing concerns raised regarding our methodology. Also, as will be explained in more detail below, our description of the results was unclear in stating that we identified one main theme. In fact, we had identified 5 themes relating to areas impacted by resident duty hour changes (clinical care provision, educational impact, preparedness for practice, continuity of care, and provider well-being). However, our respondents focused primarily on discussing how resident duty hour changes might impact the first theme and create gaps in clinical care provision, and in discussing potential solutions to address these gaps, highlighted how these solutions affect the remaining 4 themes to varying degrees. Also, since the choice of solution depended on

	the degree to which resident duty hour changes affected clinical care provision, there was no 'one-size-fits-all' solution that could be derived from our data. In fact, we did note divergent views, particularly across specialties with differing clinical care demands, with respondents from acute, inpatient based specialties citing a greater concern about the potential impact of resident duty hour restrictions than primarily ambulatory or shift-based specialties. This re-stating of the themes has resulted in a major revision of the 'Results' section of the manuscript. EDITOR COMMENT: 5. As noted briefly in your discussion, duty hour restrictions have been imposed in the US for several years. Please make use of data collected in healthcare systems which have implemented duty hour restrictions, such as the US and in Europe, in your discussion. The comparison between your findings (which reflect perceived problems by the respondents) and those from studies in other centres before and after duty hour restrictions should form a large part of your discussion, rather than proposing solutions. AUTHOR RESPONSE: We agree that our manuscript would benefit from a more explicit comparison between our findings and what is known in the literature. Given that much of the literature surrounding the impact of reducing resident duty hours arises from the U.S. (and in particular studies that focus on maximum shift length of 16 hours), we have focused primarily on comparing our results to U.S.-based studies. We have removed the 2 paragraphs in the Interpretation section relating to the proposed solutions, and written a new section under the heading 'Comparison with other studies'. EDITOR COMMENT: 6. We suggest that use of the term "novel" to describe your framework be removed, as the themes you found in your study have been described in other centres. This similarity should be clearly described in the discussion, as mentioned in point #5 above. AUTHOR RESPONSE: We agree and have removed the term 'novel' as a description of our framework. EDITOR COMMENT: 7. There appeared to be little attention in the results on the impact of these changes on resident education, wellbeing and safety (see also reviewer comments). Consequently, we wondered how many program directors were interviewed (who might presumably be interested in these areas) versus department chiefs and division heads? This should be included in your results, and discussed as a potential limitation. AUTHOR RESPONSE: As stated in our response to Editor's comment #4, and in particular in our responses to Reviewer #3's concerns regarding the limited number of themes, we have made much more explicit the fact that there were in fact 5 themes, 2 of which relate to the educational impact and provider well-being. These themes are much more strongly reflected in the revised version of the manuscript (with major revisions to the entire 'Results' section). The majority of the participants were program directors (13/18 participants), with 2 division directors and 3 department chiefs. We have modified the opening of the 'Results' section to better describe the participant characteristics: "The study included 18 participants comprised of 13 program directors, 2 division directors, and 3 department chiefs associated with a variety of training programs:…". EDITOR COMMENT: 8. Given the above comments and those of the reviewers, you will see that your paper will need to be substantially reframed to more clearly define your question, clarify your methodology (particularly the potential impact of your interview guide), put your results into the context of the extensive work done in this area elsewhere (rather than on solutions to an ill-defined problem) and expand your limitation section (especially given the limited number of themes found.) AUTHOR RESPONSE: As you anticipated, our paper did undergo substantial revision with clarification of our methodology, reframing of our main themes, and situating our findings in the context of prior work done in this field. We believe that these revisions have strengthened the paper. EDITOR COMMENT: 9. "Royal College of Canada" should be Royal College of Physicians and Surgeons of

	Canada. The National Steering Committee is not a product of the RCPSC, but a group comprised of 9 major stakeholders (http://www.residentdutyhours.ca/). AUTHOR RESPONSE Thank you very much for pointing out this error. We have removed the "Royal College of Canada" and now simply refer to the National Steering Committee on Resident Duty Hours. EDITOR COMMENT: 10. Abbreviations: As per CMAJ Open style, please avoid using abbreviations and acronyms and instead spell them out in full at each occurrence in the main text and the abstract. CMAJ Open makes exceptions for only the most familiar and broadly recognized abbreviations (e.g., 95% CI, SD, OR, RR, HR), and even for these, please spell them out at first mention and include the abbreviation in parentheses. AUTHOR RESPONSE: We have removed all abbreviations except for those that are broadly recognized. EDITOR COMMENT: 11. Please structure the Interpretation section (discussion) into the following 4 main headings (i.e. insert the headings themselves): "Main findings" (discussing implications, not a repetition of results),"Comparison with other studies", "Limitations", and "Conclusions" (including implications for practice and future research). AUTHOR RESPONSE: We have changed the 'Discussion' heading to 'Interpretation' and added the 4 subheadings as suggested. EDITOR COMMENT: 12. Please ensure your final word count is below 2500 words (excluding abstract, figures, tables and references) and the abstract is below 250 words. Please supply exact word counts with the revision. AUTHOR RESPONSE: 13. Due to the narrative nature of qualitative studies, it is very difficult to prepare a manuscript that fully captures the richness of the data and meet a 2500 word limit (especially given that we have also tried to address concerns about expanding our paper to include comparisons to prior research and inclusion of additional themes). In manuscripts of qualitative studies, our understanding is that the quotations that we use as examples to better illustrate our findings are often not counted in the final word count (some journals that we are aware of put the quotations in Boxes as opposed to embedding in the actual text of the manuscript which we would be happy to do if this is in line with CMAJ Open formatting). We also tried wherever possible to remove sections that did not highlight the key messages of our paper (changes throughout the manuscript). We have also only included one short table and one figure. If we only consider the main text of the manuscript (excluding quotations) after making substantial edits to our manuscript as concisely as possible, our final word count is now 3030 words. We hope that this is still acceptable, and would work with the editorial staff to find additional ways to reduce the word length without compromising the main messages of our paper while still addressing all of the revisions requested by the reviewers. EDITOR COMMENT: 14. Your title should include the type of study. AUTHOR RESPONSE: We have added the type of study to the title. It now reads: "Resident duty hour reform: understanding impact and preparing for change – a qualitative study" REVIEWER #1 (Andrew Clarke) COMMENT: 1. A well conducted study with interesting findings. It adds to what is known about an important topic. AUTHOR RESPONSE: Thank you very much for your positive review and interest in our findings. REVIEWER #2 (Justina Sam) COMMENT:

	1. Please provide a description/development of the interview guide and the type of questions posed to various participants. AUTHOR RESPONSE: As described in the manuscript in the 'Data Collection and Analysis' section of the "Methods" section, we indicated that: "We formulated the interview script based on key topics surrounding resident duty hours that were prevalent in the literature at the time. We piloted the initial script with 2 participants and revised it based on their feedback; thereafter the research team iteratively adjusted it based on concurrent data analysis for subsequent interviews." To provide further clarity, as mentioned in our response to the Editor's Comment #2, we have provided several examples of questions and prompts that we used in our semi-structured interviews as an Appendix. REVIEWER #2 (Justina Sam) COMMENT: 2. Can you elaborate on how the coding structure was developed based on the emerging themes? AUTHOR RESPONSE: We have elaborated on this process, and highlighted the iterative adjustments made to develop the coding structure based on emergent themes. The modified statement in the 'Data Collection and Analysis' section of the "Methods" now reads: "Three members of the research team (P.W., L.S., and B.W.) conducted data analysis concurrently with data gathering using the constant comparative method to identify emerging themes and to make iterative adjustments to the coding structure." REVIEWER #2 (Justina Sam) COMMENT: 3. Do you have any information on the demographics of the respondents and their scope of practice (e.g. clinician teacher vs. scientist, etc)? Perhaps their age or year/country of training may play a significant influence on their opinions about work hours or increasing the workload of attending staff. AUTHOR RESPONSE: Unfortunately we do not have information regarding the specific demographics of the respondents. In part, we were concerned about the potential for unblinding readers to the identity of our participants if we provided too much in the way of demographic details. However, we did analyze our data and theoretically sample with the participants' academic role (i.e., program director versus division director versus department chief) and clinical specialty in mind, and feel that these participant characteristics do result in divergent views on our topic. REVIEWER #2 (Justina Sam) COMMENT: 4. Were there any participants who declined to participate in this study? AUTHOR RESPONSE: All potential study subjects identified through our sampling strategy agreed to be interviewed. None declined to participate. We have added a sentence to the first paragraph of the 'Results' to indicate this: "All eligible study subjects that we invited agreed to participate." REVIEWER #2 (Justina Sam) COMMENT: 5. Overall, you have touched base on a good number of points with 3 potential solutions, along with the pros/cons (e.g. discontinuity of care, possible reduced clinical exposure, preparation for independent practice). Your paper flows quite well and highlights key themes. AUTHOR RESPONSE: Thank you very much. We appreciate your positive comments. REVIEWER #3 (April Manuel) COMMENT: 1. Abstract: State using a constructivist grounded theory but no reference to specific approach (e.g. Charmaz) (the authors do this throughout paper) AUTHOR RESPONSE: Thank you for highlighting this omission. We now reference two key articles by Charmaz where appropriate (Charmaz K. Constructing Grounded Theory: A Practical Guide Through Qualitative Analysis. London, UK: Sage; 2006, and Charmaz K. The legacy

	of Anselm Strauss in constructivist grounded theory. Stud Sym In. 2008;32:127-141). REVIEWER #3 (April Manuel) COMMENT: 2. Abstract: States they have an empirical derived conceptual framework; this language is not consistent with qualitative research... AUTHOR RESPONSE: Our use of the term 'empirical' was to indicate that we derived our conceptual framework from themes that emerged from our data. Rather than use the term 'empirical', we now use the term 'data-driven' to align our language better with qualitative research. REVIEWER #3 (April Manuel) COMMENT: 3. Introduction: The introduction does have a thesis statement but late on page 5. AUTHOR RESPONSE: We chose to provide a background of the relevant issues to provide the readers with an overview of the context prior to stating a thesis statement, which we include in the final paragraph of the Introduction section. REVIEWER #3 (April Manuel) COMMENT: 4. Introduction: The background does not specific provide evidence as to identified pros and cons of duty hour changes on resident quality of life, education and patient outcomes. They do state that on pg 4 that; some studies suggesting improvement in these areas" however there is no correlation between hours of duty residency and outcomes (positive or negative). This needs to be strengthened. I am left wondering what is the impact of greater than (or less than) 24 duty care on resident quality of life, education and patient outcomes. Are there any comparative studies? Significance of the issue evident in the introduction. AUTHOR RESPONSE: We agree that we have not sufficiently summarized the prior literature in the Introduction. Given the large amount of literature and limited space available, we have tried to do this as succinctly as possible (we have substantially revised the entire second paragraph of the Introduction section). As such, we start by providing an overview of the findings of studies examining the 2003 ACGME Resident Duty Hour reductions, and provide greater detail with respect to the general types of impact that Resident Duty Hour reductions had on several key areas, such as resident well-being, education, continuity of care, sleep and patient safety. We then provide further results from one comparative study and one post-implementation national survey specifically examining the further reductions in resident duty hours to a maximum shift length of 16-hours, which we hope provides greater specificity related to the current state of the literature relating to Resident Duty Hour changes. REVIEWER #3 (April Manuel) COMMENT: 5. Methods: See previous comment under Abstract re: use of qualitative language. AUTHOR RESPONSE: Again, we have replaced the term 'empirical' with 'data-driven' to align our language better with qualitative research. REVIEWER #3 (April Manuel) COMMENT: 6. Methods: Method is appropriate for study however I question the rationale for use of constructivist approach. Rationale for constructivist approach versus other approaches not clear. AUTHOR RESPONSE: We have added an additional rationale for why we used a constructivist approach as described in the first part of the revised Methods section: "We specifically chose a constructivist grounded theory approach because it allowed us to incorporate what is generally known about the impact of Resident Duty Hour restrictions taken from prior research and sensitize our inductive analysis of the data." REVIEWER #3 (April Manuel) COMMENT: 7. Methods: Grounded theory references do not address constructivist approach but rather an overview of Glaser & Strauss which is another approach to grounded theory. Suggest include more literature on method in line with specific method used (e.g. Charmaz). Also, refer to seminal works of grounded theory rather than other authors

	descriptions of the method. Ethics approval addressed. The setting is appropriate. AUTHOR RESPONSE: As mentioned earlier, we now reference two key articles by Charmaz in the Methods section (Charmaz K. Constructing Grounded Theory: A Practical Guide Through Qualitative Analysis. London, UK: Sage; 2006, and Charmaz K. The legacy of Anselm Strauss in constructivist grounded theory. Stud Sym In. 2008;32:127-141). We also refer to the seminal works of grounded theory (Strauss A, Corbin J. Basics of Qualitative Research: Grounded Theory Procedures and Techniques. 2nd ed. Thousand Oaks, Calf: Sage; 1998). REVIEWER #3 (April Manuel) COMMENT: 8. Methods: Participant selection reflective of purpose sample recruitment is not clear (e.g. who recruited and how). AUTHOR RESPONSE: We provide greater clarity in our description of sampling strategy and have added the following description: "We performed confirming-disconfirming snowball sampling to identify additional key informants. Specifically we sampled theoretically looking for informants with different academic roles working within specialties with different practice patterns." REVIEWER #3 (April Manuel) COMMENT: 9. Methods: Remove PI initials. AUTHOR RESPONSE: We have opted to leave these in place in case the editorial group feels that this added detail is helpful. However, if this is not consistent with the editorial style, we would agree with removing the PI initials. REVIEWER #3 (April Manuel) COMMENT: 10. Methods: Rationale for individual interviews versus focus groups not needed. AUTHOR RESPONSE: We removed this rationale from the paper. REVIEWER #3 (April Manuel) COMMENT: 11. Methods: No clear if interview scripts were open ended or not. In qualitative research probes are used as guides in the interview; it sounds like this study had a questionnaire. If so, this is not in line with grounded theory. Need to clarify. Confidentiality addressed. AUTHOR RESPONSE: We had indicated that we used a semi-structured interview guide that was iteratively adjusted based on concurrent data analysis for subsequent interviews. We did not use a questionnaire. To make this more clear, we have modified the first sentence of the 'Data Collection and Analysis' subsection of the Methods to read: "The principal investigator (P.W.) conducted one-on-one interviews using a semi-structured, open ended interview guide using probes to guide the interviews." As mentioned before, we also now provide examples of our interview guide questions and prompts as an Appendix. REVIEWER #3 (April Manuel) COMMENT: 12. Methods: Concurrent data analysis and gathering correct but need a statement regarding the role of constant comparison in data collection. This is a significant point in Grounded Theory. AUTHOR RESPONSE: Thank you for recommending the addition of a statement regarding the role of constant comparison. We have now modified the start of the second paragraph of the 'Data Collection and Analysis' subsection of the Methods to read: "Three members of the research team (P.W., L.S., and B.W.) conducted data analysis concurrently with data gathering using the constant comparative method to identify emerging themes and to make iterative adjustments to the coding structure." REVIEWER #3 (April Manuel) COMMENT: 13. Methods: On pg. 8 state they ere "cognizant of the forces … that affect data analysis but methods to ensure this not addressed (e.g. theoretical memoing)

	AUTHOR RESPONSE: We did not formally engage in theoretical memoing. However, we did foster reflexivity to address the potential influence of our own subject-positions on our data analysis in several ways. These include involving multiple team members with different perspectives (the PI is a resident, one co-author is a program director, and another has written extensively about patient safety and medical education in general), as well as using confirming/disconfirming sampling to purposively challenge our interpretations of the data as they were emerging. To make this more clear, we have added the following sentence after the last sentence of the Methods section: "We also fostered reflexivity by including multiple team members with different subject-positions, and used confirming-disconfirming sampling to purposively challenge our interpretations of the data as they emerged." REVIEWER #3 (April Manuel) COMMENT: 14. Methods: I question how the researchers were certain that they had captured the true experiences of the participants? AUTHOR RESPONSE: To the best of our ability, we sought to explore the true experiences of the participants by allowing them to speak freely about their experiences. To ensure that they could speak freely, we made clear the fact that their responses would be analyzed and reported anonymously. We also interviewed them individually, so that they could speak freely without fear of negative repercussion or potential of offending other study participants or colleagues. Also, for most specialties, we interviewed at least 2 or more individuals from that specialty, and were able to corroborate their viewpoints and found them to be consistent. REVIEWER #3 (April Manuel) COMMENT: 15. Results: Table 1 is confusing. I am not sure it is needed and there are no defining characteristics of the terms (shift based, large, small etc). The significance of a checkmark is not clear. A footnote with this may help. AUTHOR RESPONSE: We agree that Table 1 is confusing and does not add much in the way of clarity. We have therefore removed it from the manuscript as per Reviewer #3's suggestion. REVIEWER #3 (April Manuel) COMMENT: 16. Results: The perspectives of program directors, division director etc may be different so beneficial to address this point in discussion. AUTHOR RESPONSE: We agree that the division directors have a different perspective than the program directors. In fact, we theoretically sampled among this group of clinical leaders when it became apparent that many of our respondents spoke about the clinical care delivery impact of resident duty hour changes. We have highlighted that our inclusion of this perspective (i.e., the divisional director and departmental chief perspective) in the discussion as follows in two places in the Interpretation section: "This may reflect in part the fact that we interviewed department chairs and divisional directors as well as program directors" and "This study examines the perceived impacts of Resident Duty Hour changes from the perspectives of program directors, division directors, and department chiefs, as opposed to residents or other health care professionals,…" REVIEWER #3 (April Manuel) COMMENT: 17. Results: There are grammatical mistakes and formatting issues (not in line with APA). AUTHOR RESPONSE: We have reviewed our manuscript carefully to correct any grammatical mistakes, and ensure that our manuscript is formatted in-line with the requirements set out by CMAJ Open. REVIEWER #3 (April Manuel) COMMENT: 18. Results: Some of the quotes selected do not reflect the point being made (for example p.10 last quote). A quote that addresses impact would be more appropriate. AUTHOR RESPONSE: We agree that our choice of quotations, in some cases, did not reflect the results being

	presented (including the example provided by Reviewer #3). We have removed several such quotations and replaced them with what we feel are quotations that better illustrate the points that we were trying to make. For example, to illustrate the fact that faculty may have less time to teach if they assume more clinical care responsibilities, we now use the quotation: ""People go into academics primarily for two reasons. One is that they like to teach…and the other is that they like to…research…if you find that you're teaching less and have less time for academic work, then...the reason for going into academics will become less compelling, less attractive." Med-Peds faculty – Respondent 3 REVIEWER #3 (April Manuel) COMMENT: 19. Results: Last paragraph p. 10 needs revision to be clear. AUTHOR RESPONSE: The entire Results section has been substantially re-written, such that this (and many other sections of the Results) have hopefully been made more clear to the readers. REVIEWER #3 (April Manuel) COMMENT: 20. Results: This paper only discusses one theme. Were there others? Need to state this approach in introduction or methods. How was this one theme selected? AUTHOR RESPONSE: Thank you for highlighting this lack of clarity. We had intended to make clear that our respondents focused a lot of their discussion on clinical care delivery as a theme, which we felt was a different perspective than had previously been discussed in the Resident Duty Hours literature. We were also particularly interested in this because it was primarily program directors that spoke about these clinical care delivery concerns. However, our interview data also revealed 4 other themes: educational impact, preparedness for practice, continuity of care, and provider well-being. We have made much more explicit the fact that there were in fact 5 themes, and that anticipated solutions to address the clinical care delivery theme affect the other four in different ways depending on the specialty. The entire Results section has been substantially revised to highlight the 4 other themes more clearly. REVIEWER #3 (April Manuel) COMMENT: 21. Results: Top pg 11 defines trainees (and shift based model) and what do you mean by unpacking? AUTHOR RESPONSE: Our use of the term 'unpacking' was intended to mean that we would expand on our description of these results. We no longer use this term in the Results section. REVIEWER #3 (April Manuel) COMMENT: 22. Results: There are issues throughout the paper with logical flow of ideas. AUTHOR RESPONSE: We believe that our substantial edits throughout the Results and Discussion sections, that address important suggestions made by the Editor and all 3 reviewers, provide a more cohesive flow of ideas. REVIEWER #3 (April Manuel) COMMENT: 23. Results: The results do not reflect the purpose of the paper, there is little discussion about the impact of residence well-being (some mention of staff persons fatigue) and little focus on educational strategies. There seems to be more focus on human resource management. The authors do however reference this in paragraph one under discussion. AUTHOR RESPONSE: As mentioned earlier, we have expanded discussion of additional themes in the Results, two of which include specific discussions of the educational impact as well as provider well-being impact. One of the interesting findings is that the impact of Resident Duty Hours on provider well-being extends beyond residents, another topic that has until now received little attention. We feel that highlighting the impact of these changes on the well-being of attending physicians and other health providers (e.g., internationally-trained fellows) is an important finding, and discuss this in more detail in the subsection 'Comparison with other studies' within the Interpretation section.

	REVIEWER #3 (April Manuel) COMMENT: 24. Table 2 At bottom of page 15 referred to nurse practitioner (NP) etc to fill the service gap. I am sure a NP would not appreciate this terminology. AUTHOR RESPONSE: We agree that terminology such as 'filling a service gap' could be viewed negatively by readers. That was not our intent. We have now changed this to read: "The third set of solutions includes hiring international fellows, non-academic physicians, or physician extenders (e.g. nurse practitioners, physician assistants) to help to deliver clinical care." REVIEWER #3 (April Manuel) COMMENT: 25. Interpretation: First line refers to academic leaders. Need to define and these were not in the participants recruited?? AUTHOR RESPONSE: We used the term academic leaders to represent the department chairs and divisional directors that we interviewed. To make this clearer, we now say: "Our study findings suggest that a central factor that program directors, division directors, and department chiefs consider…" REVIEWER #3 (April Manuel) COMMENT: 26. Interpretation: I challenge the reference of the Figure 1 as being a theoretical framework or as noted in another place a conceptual framework consistent with grounded theory. The authors discussed only one theme and I am wondering as to how the other themes would shape this conceptual framework. Grounded theory generates a substantive theory that a conceptual framework or model emerges. I do not see any reference to this substantive theory. AUTHOR RESPONSE: We hope now that our revised manuscript with inclusion of additional themes provides greater clarity, and that the conceptual framework generated from our data provides what prior studies have not, which is a description of the linkages between the various ways in which Resident Duty Hour changes make their impact. We have modified Figure 1 to better depict these linkages.