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RE: Manuscript ID 2019-0218 entitled "Distinguishing Children’s Hospitals from Non-Children’s Hospitals

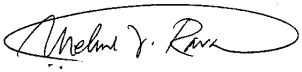
in Large Claims Data"

Dr. Ralston and Editorial Board of *Hospital Pediatrics*,

Thank you for the re-review of our manuscript and for continued refinement of this work. In this study, we address current limitations in large-scale, pediatric health services and outcomes research to distinguish between care delivered at dedicated children’s hospitals (CH) and non-children’s hospitals (NCH). This study describes a standardized, validated method for distinguishing CH from NCH in large claims data. We anticipate that the methodology used in this study will be replicated in future studies addressing comparisons between care delivery based on hospital type. This work was supported by and R01 grant from the Agency for Healthcare Research and Quality (AHRQ). This work was presented, in part, at the 2019 Academic Surgical Congress held in Houston earlier this year. The authors report no proprietary or commercial interest in any product mentioned or concept discussed in this article. This work is not under review at any other journal and will not be sent to another journal until a decision is made concerning publication. The authors have all consented to publication. Institutional board approval was obtained from Northwestern University (STU00208213) and Emory University (IRB00095043).

Each of the reviewer’s second round of comments have been addressed in **bold**. The line numbers refelecting these changes refer to the revised tracked-changes version of the manuscript. As requested, a clean version of the revised manuscript has also been uploaded. Please feel free to contact me if any additional information is needed. Thank you again for your time and consideration of this manuscript.

Yours in service,

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Mehul V. Raval, MD, MS

Reviewer: 1

Overall a well-written manuscript with the potential for future researchers to utilize the described methods to identify children's hospitals in future work

1) I appreciate the inclusion of directions on how admission volumes could be useful in identifying children's hospitals (page 10 lines 177-183). However, the reader needs a threshold (a rate that maximizes both the sensitivity and specificity of capturing children's hospitals) in order to implement this type of identification in the future. I would suggest adding confidence intervals or error bars to figure 2—these can then be used to suggest a threshold. For example the % of pediatric admissions for tier A is 89% with a CI of 75-99% and Tier B is 10.9% with a CI of 6-60%, then you might suggest a threshold of 75% (or 70%) to capture that separation between Tier A and Tier B hospitals (of course would also want to consider separation from tier C and D. Also consider if you can distinguish between tier D and B/C? You may not be able to... but if you can then you could propose a way to identify Tier A (free standing children hospitals, tier B/C (adult hospitals with pediatric services, and Tier D (adult hospitals without pediatric services)--which would be incredibly useful.

**Response 1: Figure 2 represents the percent of admissions that were pediatric...**

2) Please be careful with your language around children's hospitals and not. Page 10 line 177 you note "differentiate true CH from NCH" by which I think you mean tier A from everything else. But on page 10 lines 166 you state that Tier A and Tier B hospitals are CH. You may consider calling Tier A "freestanding" or perhaps "children's hospitals without adult hospitals". However, your labeling needs to be consistent throughout. To that end it may be useful to cut page 6 lines 78-81 beginning "Our assumption is that...". While that was likely your assumption/hypothesis from the very beginning you do a decent job describing this in the discussion and it is a little repetitive.

**Response 2: The word “true” has been eliminated from line 168. The redundant sentence regarding assumptions of freestanding CH has been deleted as suggested (lines 68-70).**

3) Is the word "tier" the best one? Is "Group" or "Classification" better? Figure 1 seems hierarchical and the point you make in the background is that we really are lacking data on differential outcomes. Figure 1 could be cut.

**Response 3: We feel that “tier” is an appropriate nomenclature. No matter what wording is used – there are levels that need to clearly be described. Thus, the intent of this work is to demonstrate tiers of pediatric care. The validation of the differential outcomes that these tiers may or may not have is our subsequent research for which this level of rigorous classification is needed and has been lacking from most previous work in this field. The negative connotation of the semantics of tiers could also be made if we had chosen “classification” as suggested which we feel is worse than using “tiers” as we would be making “classes” of hospitals.**

4) Regarding the 736 unclassified hospitals, in the discussion you state you assume these are NCH (page12 line 736). I think you should apply your rules from major point 1 above to these 736 and state what they would be classified using your rules. As such it is hard for the reader to know if these really are children's hospitals or not.

**Response 4: NEED TO ADDRESS AFTER SPEAKING TO IAN**

Minor

1) There are quite a few acronyms still. Could you write out COG and CHA in the results/discussion and remove these abbreviations altogether? I appreciate NSQIP is longer and could be retained as an abbreviation.

**Response 5: The acronyms for COG and CHA have been removed as suggested (updated lines 90-91, 123, 126, 151-152, and 162).**

2) Consider removing "from the Health Care Cost Institute" from page 5 line 49 and then define HCCI in the methods instead.

**Response 6: The suggested changes have been made (updated lines 39 and 53)**

3) Are the IRB numbers an error? page 5 lines 66-7. it is sufficient to state "the study was deemed exempted from full institutional board review due to the deidientified nature of the data" and drop all of the numbers and letters

**Response 7: We have eliminated IRB numbers as requested by the reviewer (updated lines 56-57).**

4) Page 6 line 81--The statement that 736 hospitals couldn't be classified is really results not methods.

**Response 8: This sentence has been moved to the results section as suggested (updated line 110).**