

Manuscript NO: 58509

Title: A National Preparedness Survey of Pediatric Intensive Care Units with Simulation Centers During the Coronavirus Pandemic

Dear World Journal of Critical Care Medicine Editorial Team,

Thank you for the thoughtful review and helpful feedback related to our manuscript. We have responded in detail to all of the comments with a line-by-line response to each comment. An attached marked copy of the manuscript with the highlighted changes accepted is also provided. The tables are included as separate electronic files.

Sincerely,

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EDITOR/REVIEWER COMMENTS	AUTHOR'S RESPONSE	REFERENCE PAGE
Editor's Comments		Page #
<p>1. Reviewer #1:</p> <p>Scientific Quality: Grade C (Good) Language Quality: Grade B (Minor language polishing) Conclusion: Minor revision</p> <p>Specific Comments to Authors: The authors surveyed the allocation of medical resources to top-priority patients, including the pediatric population due to the 2019 coronavirus disease epidemic in US. Although this survey well suggested a flexible plan for healthcare services, the description of the clinical benefits and optimal service directions that can be obtained from this survey is missing. This part must be supplemented.</p>	<p>Thank you for the valuable feedback. We have refined the language in the manuscript based on your suggestion.</p> <p>We have added the following paragraph to the Discussion section to address your comment regarding the unique clinical benefits and the optimal service improvement directions that can be obtained from our preparedness survey.</p> <p>“The findings of the survey are a reflection of the overall preparedness efforts among the participating PICU’s and the changes completed in operational policies by the surveyed PICUs. These changes translate into clinical and occupational benefits and can help in optimizing the clinical services of PICUs nationwide under resource constraints. These benefits include protecting healthcare providers and patients from the virus exposure to reduce the infection risks, establishing a community of practice among PICU clinical services and medical directors to avoid “reinventing the wheel” during the current pandemic, and more importantly how best to prepare and implement more effective operational plans for predictable future pandemics. Furthermore, this survey serves as a guide to highlight and address present PICU system vulnerabilities. It supports PICU leadership and bedside providers in providing the highest quality of care and a laser-like focus on the safety of healthcare providers.”</p>	<p>Page 10 Paragraph 3</p>
<p>2. Reviewer #2:</p> <p>Scientific Quality: Grade D (Fair) Language Quality: Grade B (Minor language polishing) Conclusion: Major revision</p> <p>Specific Comments to Authors: The authors are appreciated for submitting their manuscript to the Journal for review. Some comments and suggestions regarding the manuscript are provided to the authors in the below section, and these items will enhance the quality of manuscript.</p>	<p>Thank you for your feedback. We have accepted your suggested edits and revised the manuscript language as suggested.</p>	

<p>2.1. Please review the manuscript for typographical (e.g., interprofessional in paragraph one of the discussion) and grammatical errors,</p> <p>2.2. such as run on sentences (e.g., see paragraph two in the introduction),</p> <p>2.3. and style (e.g., see “the United States” in paragraph three in the introduction).</p> <p>2.4. In addition, replace the word “study” with “survey,”</p> <p>2.5. and delete the word “diverse” throughout the manuscript.</p> <p>2.6. Authors should revise the title to “ A national survey of pediatric intensive care units with simulation centers on preparedness during the coronavirus pandemic” because participants in</p>	<p>2.1. We have corrected the typo and proof read for grammatical errors.</p> <p>2.2. The revised paragraph now reads:</p> <p>“Diagnostic and therapeutic guidelines used for children are commonly extrapolated from studies conducted in adults. The Society of Critical Care Medicine published a national survey of more than 4500 intensive care specialists to assess adult ICU preparedness. This survey demonstrated that adult ICU settings are preparing for COVID-19 patient care by enacting a myriad of measures including: preparing in-hospital non-ICU space, canceling elective surgeries, and preparing temporary spaces and external facilities (4). Reviews of adult ICU preparedness for pandemics have focused on concepts of infection control and optimal ways to increase staffing and surge capacity(5). Pediatric preparedness for COVID-19 is distinct from adult preparedness due to important physiological and equipment differences, distinct differences in pediatric COVID-19 presentations, the child’s stage of development, and the intimate need for parent involvement as part of the care delivery model.”</p> <p>2.3. Thank you. We have revised this.</p> <p>2.4. We have replaced the word “study” with “survey” as suggested.</p> <p>2.5. We have deleted the word “diverse” as suggested.</p> <p>2.6. Thanks for the valuable feedback. We have revised the title as suggested.</p>	<p>Page 5 Paragraph 2</p>
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<p>ImPACTS were included in the survey. There were about +400 PICUs in the United States reported in 2001 (PMID 15805338), and the participants in the survey reported in this manuscript accounted for a small proportion of all PICUs in the country.</p>		
<p>2.7. On the same topic, authors should clarify all references in the manuscript regarding national PICU to PICU with simulation education in the United States (e.g., paragraphs two and four in the discussion).</p>	<p>2.7. Thank you for your feedback.</p>	
<p>2.8. In the abstract, authors should clarify in the aim that PICUs were participants in a simulation-based network 3.</p>	<p>2.8. We have added “within a simulation-based network” to the aim as suggested.</p>	
<p>2.9. in the manuscript, authors should spell out numbers that start a sentence.</p>	<p>2.9. Thanks. We have revised this throughout the manuscript.</p>	
<p>2.10. In the abstract, authors should delete “significant” and report the percent decrease in non-Covid patients who were admitted to the PICUs.</p>	<p>2.10 .We have deleted the word “significant”. Unfortunately, we did not collect the percent decrease of non-COVID patients in this survey. We have added this to our limitations section on page 11.</p>	
<p>2.11. In the abstract, authors should clarify in the results whether the staff patient ratio increased or decreased by 50%</p>	<p>2.11. We apologize for the typo. We meant to say that “... the most common changes were changes in Covid-19 patient room assignment in 50% of surveyed PICUs.”</p>	<p>Abstract</p>
<p>2.12. In the abstract, authors should</p>		

<p>combine into one sentence the two sentences about teaching modalities (hands-on, video-based, simulation-based) that appear in the results (also see Table 2d, item 6)</p> <p>2.13. In the core tips, authors should delete “snapshot” and replace “first months” with “early months.”</p> <p>2.14. In addition, replace “and limiting personnel” with “and procedures to limit personnel’s exposure to the contagion.”</p> <p>2.15. In the introduction paragraph one, authors can include therapeutic modalities that require PICU care, such as respiratory and hemodynamic support, and ECMO for refractory hypoxemia or hypotension (PMID 32634818).</p> <p>2.16. In the methods, authors should clarify which IRB among the participating centers reviewed the ethical handling of the data presented in the manuscript.</p> <p>2.17. In the methods, authors should clarify “face and content” in paragraph three.</p>	<p>2.12.Thank you for your suggestion. We thought it would better highlight the PPE changes that have challenged many hospitals and PICU’s. We thought to keep these sentences separated since the first sentence is dedicated toward training formats for PPE in particular, while the second sentence is about the most common training modalities in general, which includes many areas (i.e., procedural skills, team dynamics, diagnostic testing, etc.).</p> <p>2.13. We revised as requested.</p> <p>2.14 Thank you. We revised as suggested.</p> <p>2.15 Thank you for your suggestion, we have added the following statement to the first paragraph in the introduction:</p> <p>“Some children particularly those with co-morbidities are more likely to develop critical illnesses such as respiratory and cardiac failure or shock that may require invasive respiratory support or extracorporeal hemodynamic support.”</p> <p>2.16. The Indiana University Health IRB reviewed and approved the study. This was added to the Methods section as suggested.</p> <p>2.17. We have clarified the face and content types of validity.</p> <p>“The survey was pre-tested for length and comprehensibility at 5 different PICUs not included in the survey to improve the independent face validity (defined as whether or not the survey measures what it is supposed to measure), and the content validity (defined as the degree to which the survey</p>	<p>Page 5, paragraph 1</p> <p>Page 6-7 Survey development section</p>
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<p>2.18. In the methods, authors should delete the section on statistical analysis because the data was not presented in the manuscript.</p> <p>2.19. In the results, authors should present the geographic distribution of the centers by region that participated in the survey.</p> <p>2.20. In the discussion, authors should review the reasons that members of the training staff, such as medical students, were not permitted to participate in the care of COVID patients.</p> <p>2.21. In the discussion, authors should review if visitors were restricted from the PICU and how it was managed during the early months of the pandemic.</p>	<p>is representative of the topic.”</p> <p>2.18. Deleted as suggested.</p> <p>2.19. Thank you for your valuable feedback. We have added the following statement o the results.</p> <p style="padding-left: 40px;">“The geographic distribution of these hospitals within the US was: 5 (23%) in the West region, 8(36%) in the Northeast region, 5(23%) in the Midwest region and 4(18%) in the southeast region.”</p> <p>2.20. Thank you for your feedback. We have added the following statement to the discussion:</p> <p style="padding-left: 40px;">“In March 2020, during the peak of the pandemic in New York City, the Association of American Medical Colleges (AAMC) and the Liaison Committee on Medical Education (LCME) issued guidance that medical students should not be involved in the care of COVID-19 patients or persons under investigation, and many medical schools near the early epicenter of the pandemic discontinued clinical rotations.”</p> <p>2.21.This is a very valuable point, however we have not implemented this in our survey unfortunately. We have added this to our Limitations section.</p>	<p>Page 7 Results section</p> <p>Page 9 Paragraph 2</p>
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<p>2.22. In addition, how were social services and chaplain services managed at the PICU?</p> <p>2.23. In the discussion, authors should replace “between PICUs” with “among PICUs” in paragraph five.</p> <p>2.24. In the tables, authors should define the significant digits when reporting the percent.</p> <p>2.25. In table one, revise the heading for the line item number of pediatric beds per institution because it is not consistent with the data. For example, the value 4 is not the number of pediatric beds per institution. Four is the number of institutions by bed capacity or resource.</p> <p>2.26. In table 2d, authors should define “in situ.”</p>	<p>2.22. We have not looked at these aspects in our survey. We hope to collect more data in the future regarding these key aspects of care in the PICU during the pandemic.</p> <p>2.23. We revised accordingly.</p> <p>2.24. We have added this to tables.</p> <p>2.25. We revised it accordingly to read “<i>Number of children’s hospitals by bed capacity</i>”</p> <p>2.26. We have defined in situ and added “<i>in its original place or location</i>”</p>	
<p>Reviewer #3: Scientific Quality: Grade C (Good) Language Quality: Grade A (Priority publishing) Conclusion: Accept (General priority)</p>		

<p>3.1. Specific Comments to Authors: This is an interesting survey of PICUs in the US and their responses to the COVID-19 pandemic. The limitations of this study have been appropriately highlighted by the authors in the discussion section.</p> <p>3.2. The main limitation would be the way the survey sites were chosen which is linked to a research group started in 2013 studying acute care in paediatrics with special interest in simulation which is primarily an ED type grouping, hence an indirect email forwarding to PICU directors which could explain the response rate of only 63% and also selects a specific segment of hospitals. Otherwise it is an interesting survey that provides a snapshot view of how PICU directors are handling the situation in the US.</p> <p>Reviewer #4: Scientific Quality: Grade D (Fair) Language Quality: Grade C (A great deal of language polishing) Conclusion: Major revision</p> <p>4.1. Specific Comments to Authors: The paper titled "A National US Survey Of Pediatric Intensive Care Units Coronavirus Pandemic Preparedness" conducted a cross-sectional multicenter national survey of PICU medical director's across Children's hospitals in the United States. An</p>	<p>3.1. Thank you for your valuable feedback and comments. We agree that this survey is limited by the nature of surveyed institutions with active simulation programs. We have revised the language in the manuscript to reflect this concern, which was also suggested by reviewer # 2.</p> <p>3.2. Thanks for your valuable comment; we have made this clear in the Limitations section.</p> <p>4.1. Thank you for your feedback. We have revised the manuscript accordingly and addressed all the grammatical and spelling issues identified.</p>	
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<p>established team of researchers designed and analyzed the survey. The survey was conducted between May and June 2020 via E-mail. The survey included 49 questions in multiple parts focusing on six themes. The works show its originality, however: • Spelling mistakes and grammatical error throughout the paper, it needs comprehensive revision. Overall, the work need proof reading.</p> <p>4.2. Tables and references need major re-structure/revision.</p> <p>4.3. Technical support to the studies was not strong enough.</p> <p>4.4. 22 individual survey responses were not enough to make conclusion addressing such Six important theme.</p> <p>4.5. Abstract need major modification, considerable information should be given.</p> <p>Reviewer #5: Scientific Quality: Grade A (Excellent) Language Quality: Grade A (Priority</p>	<p>4.2. We have revised the tables and references to meet the journal requirements including both PMID and DOI.</p> <p>4.3. We understand the concern about the technical support. In this survey, we used the technical and statistical resources available in the ImPACTS network since all the surveyed sites were members of this simulation-based network.</p> <p>4.4 We appreciate your feedback. We agree that 22 specific site PICU responses are not optimal to draw strong inferences. We believe the survey provides key insights into the initial efforts made by 22 major PICUs and they highlight the importance of collaboration and sharing experiences between institutions to face the current pandemic. We have made this clear in the Limitation section.</p> <p>4.5. We have revised the Abstract to include key information. Please see the revised abstract with highlighted changes.</p>	
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<p>publishing) Conclusion: Accept (High priority)</p> <p>5. Specific Comments to Authors: The data of this manuscript are very interesting and can help the scientific groups in covid-19 related issues.</p>	<p>5. Thanks you for your feedback.</p>	
<p>6. Science editor: 1 Scientific quality: The manuscript describes a retrospective study of the PICU preparedness for COVID-19. The topic is within the scope of the WJCCM.</p> <p>6.1. (1) Classification: Grade A, Grade C and Grade D; (2) Summary of the Peer-Review Report: This is an interesting survey of PICUs in the US and their responses to the COVID-19 pandemic. The data of this manuscript are very interesting and can help the scientific groups in COVID-19 related issues.</p> <p>6.2. Spelling mistakes and grammatical error throughout the paper, it needs comprehensive revision.</p> <p>6.3. Technical support to the studies was not strong enough. The questions raised by the reviewers should be answered;</p> <p>(3) Format: There are 2 tables. A total of 20 references are cited, including 13 references published in the 2020.</p>	<p>6.1. Thank you.</p> <p>6.2. We have comprehensively revised the manuscript accordingly.</p> <p>6.3. We have addressed all reviewer comments and questions.</p>	

<p>6.4. There are no self-citations. 2 Language evaluation: Classification: Grade A, Grade A and Grade C. 3 Academic norms and rules: The authors provided the Biostatistics Review Certificate and the Institutional Review Board Approval Form.</p> <p>6.5. The authors need to provide the signed Conflict-of-Interest Disclosure Form and Copyright License Agreement, and informed consent.</p> <p>No academic misconduct was found in the CrossCheck detection and Bing search.</p> <p>7. Supplementary comments: This is an unsolicited manuscript. The topic has not previously been published in the WJCCM. The corresponding author has published 1 article in the BPG. 5 Issues raised:</p> <p>7.1. I found the authors did not write the "article highlight" section. Please write the "article highlights" section at the end of the main text;</p> <p>and</p> <p>7.2. I have changed the manuscript type "Clinical and Translational Research" to "retrospective study".</p>	<p>6.4. Thank you.</p> <p>6.5. Attached as requested both the Conflict of interest and Copyright License Agreement forms with authors' signature.</p> <p>Since our study was a survey-based and did not include any human subjects, no informed consents were needed.</p> <p>7.1. We have written a "article highlight" section.</p>	
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<p>7.3. The authors need to provide the signed Conflict-of-Interest Disclosure Form and Copyright License Agreement, and informed consent.</p> <p>7.4. Re-Review: Required.</p> <p>7.5. Recommendation: Conditionally accepted.</p> <p>8. Editorial office director: I have checked the comments written by the science editor.</p> <p>9. Company editor-in-chief: I have reviewed the Peer-Review Report, the full text of the manuscript and the relevant ethics documents, all of which have met the basic publishing requirements, and the manuscript is conditionally accepted with major revisions. I have sent the manuscript to the author(s) for its revision according to the Peer-Review Report and the Criteria for Manuscript Revision by Authors. Before final acceptance, authors need to correct the issues raised by the editor to meet the publishing requirements. Re-Review: Required by reviewer 00742209 and 05418778.</p> <p>10. Requirements for figures: Please provide the decomposable Figures, whose parts are all movable and editable, organize them into a PowerPoint file, and submit as "58509-Figures.ppt" on the system. The</p>	<p>7.2. Thank you.</p> <p>7.3. Provided.</p>	
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<p>figures should be uploaded to the file destination of "Image File".</p> <p>11. Requirements for tables: Please provide the decomposable Tables, whose parts are all movable and editable, organize them into a Word file, and submit as "58509-Tables.docx" on the system. The tables should be uploaded to the file destination of "Table File".</p> <p>12. Requirements for references: Please provide the PubMed numbers and DOI citation numbers to the reference list and list all authors of the references. Please revise throughout. NOTE: The PMID is required, and NOT the PMCID; the PMID number can be found at https://pubmed.ncbi.nlm.nih.gov. (Please begin with PMID:) The DOI number can be found at http://www.crossref.org/SimpleTextQuery/. (Please begin with DOI: 10.**).</p> <p>13. Requirements for article highlights: If your manuscript is an original study (basic study or clinical study), meta-analysis, or systemic review, the "Article Highlights" section should be provided. Detailed writing requirements for "Article Highlights" can be found in the Guidelines and Requirements for Manuscript Revision.</p> <p>14. Language quality: Please resolve all language issues in the manuscript based on the peer review report. Please be sure to have a native-English speaker edit the manuscript for grammar, sentence structure, word usage, spelling, capitalization,</p>	<p>There are no figures in our manuscript.</p> <p>Provided.</p> <p>Thank you. We have revised the references style. Please advise if this is not what you want.</p> <p>We have provided a manuscript highlights.</p>	
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punctuation, format, and general readability, so that the manuscript's language will meet our direct publishing needs.	Revised as mentioned in the reviewers comments.	
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