

This accepted version of the article may differ from the final published version.

This is an Accepted Manuscript for *Disaster Medicine and Public Health Preparedness* as part of the Cambridge Coronavirus Collection

DOI: 10.1017/dmp.2022.10

**Letter to editor**

**Comments to “Non-intensivist training to increase the staff capacity of intensive care units during COVID-19 pandemic surge in Argentina”**

Suhail Siddiqui, Syed Muzaffar, Avinash Agrawal, Sai Saran

King George’s Medical University Faculty of Medical Sciences - Critical Care Medicine,  
Lucknow, Uttar Pradesh, India

Dear Sir,

We read with immense interest the scientific report entitled “*Non-intensivist training to increase the staff capacity of intensive care units during COVID-19 pandemic surge in Argentina*”.<sup>1</sup> First of all, we would like to congratulate the authors on accomplishment of this mammoth task of training various strata of manpower to handle COVID-19 surge in their country, with the utility of recent technical advancements along with follow-up process of participants based on usage metrics. It has rightly been pointed out by the authors that the shortage of staff, structure and system may be addressed in relatively short span of time as compared to combating shortage of trained manpower, which needs to be worked out in a well planned manner.<sup>2</sup>

We have made certain observations and would like to raise a few queries and suggestions regarding the study as under:

1. The question arises whether these modules were similarly designed for different strata of healthcare manpower like nurses, physiotherapists, technicians and physicians who have participated in the study. This is important as the use of terminologies, paraphrasing and the level of lucidness, with which the lectures were prepared would vary as per the participants prior baseline knowledge. Were the questions posed were evaluated for their structural validity like utility of discrimination indices? Was there any pre-test to assess the baseline knowledge of the participants so that the knowledge gained and the usefulness of the training can be appropriately gauged. The baseline characteristics of the participants like type of medical university in which they were trained would definitely impact the effect of teaching programme.
2. It was reported that around 48.3% of participants had no experience in critical care. It would be of great value to know whether there was any performance variation between the groups based on prior ICU experience and no experience, as similar research in training non-intensivists mention that one day training can add value irrespective of previous ICU experience.<sup>3</sup> Similar training in pediatric residents even for less than 1 hour, with more than 90% without previous disaster management experience revealed good results.<sup>4</sup>
3. Apart from high dropout rates in online education as highlighted in the article, other important and practical aspect is that in this pandemic many unrelated industries like automobile or generator making companies, joined the force to develop gadgets like

ventilators which were having different and complex operations. These would need more “hands on” training to generate more confidence among trainees. Similar feedback was obtained from the survey on pediatric residents on knowledge, confidence and attitude towards disaster medicine education in COVID-19 era, as majority of participants conveyed preference for in-person training rather than online.<sup>4</sup>

This research should be applauded, as it can serve as a benchmark for other nations not only for its innovativeness, but also for its wide coverage, great insight that trained manpower can be created effectively in quick time through short term training.

## REFERENCES:

1. Monteverde E, Bosque L, Klappenbach R, et al. Non-intensivist training to increase the staff capacity of intensive care units during COVID-19 pandemic surge in Argentina. *Disaster Med Public Health Prep* 2021;1–20. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/34462041>
2. Brotherton BJ, Mbugua E, Halestrap P, Lee BW. COVID-19 and the Need for Global Critical Care Training. Why Ventilators Alone Are Not the Answer. *ATS Sch* 2021;2(1):13–8.
3. Engberg M, Bonde J, Sigurdsson ST, et al. Training non-intensivist doctors to work with COVID-19 patients in intensive care units. *Acta Anaesthesiol Scand* [Internet] 2021;65(5). Available from: <https://pubmed.ncbi.nlm.nih.gov/33529356/>
4. Boggs K, Goodwin T, Simpson J. Disaster Training Following COVID-19 for Pediatric Medical Residents: Demand and Format. *Disaster Med Public Health Prep* 2021;1–4. Available from: <https://www.cambridge.org/core/product/identifier/S1935789321002093/type/journal-article>

## The Authors Reply:

We thank Dr. Siddiqui and his colleagues for their interest in our article about non-intensivist training during COVID-19 pandemic. The letter lets us provide further details on the development and implementation of the reported strategy. First, we recognize that a previous-level-of-skills-based course would have been the best approach for the purposes we have commented on the article, but it would have required more resources than which we had at that particular moment (the beginning of pandemics in our country). Instead of that—with the aim of reaching a broader audience—we designed an audiovisual course, composed of videos, written material, synchronous virtual meetings, and discussion forum to surpass the presumed misunderstandings linked to only-written communication. The conceptual contents and the final teaching materials were evaluated by a team composed of intensive care practitioners—mainly course instructors of critical care basics for general practitioners, like FCCS®—from the Argentinian Society of Intensive Care (SATI). We believe that the appropriateness of the course contents for the whole sample can be approximated by the fact that physicians did not have a higher approval rate than the other professionals.

Regarding the possibility of practitioner performance variation according to their previous critical care experience, we are not able to respond to that question, since the posttest survey was unlinked to user identification. However, we can alternatively provide some related information about the hospital area in which they were currently working at that time. After gathering all the areas that could suit for intensive or intermediate care, they reached 21.2% (n=2142) of the whole sample, and the percentage of approval in this group was 67.5%, as compared to 67.9% of the professionals working in other areas.

Finally, we agree that one of the most important drawbacks of online courses is the impossibility to teach practical skills, as many of those required for intensive care (e.g., endotracheal intubation). As the commenters recognize, there are many approaches to achieve these skills, as pointed out by recent advances in online simulation training. However, the achievement of these goals are practically impossible at a national level in a short period of time unless counting on previously installed capacity and already developed theoretical contents, which we lacked. The aforementioned synchronous web-based tutorials conducted by intensivists had the objective of shortening the gap between the audiovisual material and everyday practice, although not fulfilling the many limitations the online training has.

We hope that these answers could clarify the points raised in the letter by Dr. Siddiqui et al. *E. Monteverde, R. Klappenbach, L. Bosque, R. Reina, V. Gutiérrez, J. Neira*