



Letter

Organizational characteristics: Effect on outcome of ICU COVID-19 patients in Belgium – Authors' reply

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We thank Patel et al. [1], for the interest in our work describing the role of organizational issues on the outcome of critically ill COVID-19 patients admitted to Intensive Care Units (ICU) in Belgium [2]. They have correctly pointed out that there is a typo in Fig. 1 of the study [2] (2070 instead of 2080 non-survivors among hospitalized patients not transferred to the ICU), although this did not influence the final results.

Concerning the study population, we excluded patients where admission ($n = 1614$) or discharge ($n = 2564$) data forms were not entered by the hospitals. In a recent study based on the same surveillance system [3], we found no difference for most baseline characteristics between patients with complete admission and discharge information and those without, suggesting the absence of major selection bias on final reporting. In case the patient was transferred to another hospital, the final outcome (i.e. survivor vs. non-survivor) remained unknown, and could not be included into the final analysis. We did not collect the information on the reason for transfer. However, we did investigate the profile of transferred patients within the overall cohort and this will be reported soon in a separate study.

Not all cohort patients were directly admitted to the ICU upon hospital entry; median time from hospital to ICU admission was 1 [IQR 0–4] days; however, this variable was not associated with outcome. Importantly, the classification of university and non-university centers was based on the affiliation of those hospitals with one of the seven Universities of Medicine of the country, which is very specific for the Belgian setting. Hence, the extrapolation of this classification to other settings or countries is probably not possible. Moreover, after

correcting for individual hospitals as a covariate, the significant inter-class variation in hospital mortality between university, university-affiliated, or non-university affiliated hospitals disappeared.

Finally, the ICU “overflow” variable was calculated based on the data obtained from the Surge Capacity Survey (SCS). All hospitals in Belgium are obliged to provide a daily report on the number of confirmed and suspected COVID-19-patients present in their hospital and ICU. A confirmed COVID-19 patient is defined as a patient, for whom a positive polymerase-chain reaction (PCR) assay for SARS-CoV2 is available; a suspected COVID-19 patient is defined based on suspected findings on chest computed tomography (CT) in association with clinical symptoms. Indeed, it is possible that some patients initially registered as “suspected” could have become “confirmed” at a later moment of reporting, when PCR results became available. In any case, the sum of confirmed and suspected COVID-19 patients in ICU reflects the total number of ICU beds occupied by potential COVID-19 patients in a given center, thus leading to overflow.

Author Contributions

All authors have drafted and approved the final version of this letter.

Declaration of Interests

None to declare.

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