


LETTER TO THE EDITORS

The coronavirus pandemic did not impact Chilean organ donation system

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To the Editors,

The SARS-CoV-2 pandemic has hugely impacted solid organ donation and transplant activities in several countries (like Spain [1]), which likely means that it has also affected all steps in the organ donation process by (a) reducing overall cases and admission rates of patients affected by trauma or stroke [2], (b) reducing the identification rate of potential donors (PD) [2], and (c) prioritizing COVID-19 cases over non-COVID-19 cases when allocating available ICU beds [2,3]. Despite those factors, Chang *et al* report that COVID-19 had just a transitory effect on US national procurement figures [4].

Similarly, the pandemic hardly struck Chile's health system: 196 daily cases per million population (pmp) during the first peak (May-July 2020), global ICU bed occupancy of more than 80% during those months (despite doubling them, from 73 to 146 beds pmp). When the focus was to prioritize COVID-19 cases, global organ donation rates (ODR) did not significantly change compared to 2018, even though a negative SARS-CoV-2 test was required to continue with every PD process. We compared the monthly effective ODR for both 2018 (6.6 donors pmp) and 2020 (7.2 pmp) and found no significant changes during the whole year ($P = 0.88$), nor during the first peak ($P = 0.13$), which seems to be counterintuitive (Fig. 1).

This begs the question: why did Chile behave more similarly to the USA and not to Spain?

Traditionally, Chile has focused on lowering family refusal toward donation rather than on improving its processes and control methods. In fact, between 2013 and 2017 only 13% of PDs were identified and notified

| ODR | April | May | June | July | August | September | October |
|------|-------|-----|------|------|--------|-----------|---------|
| 2018 | 5 | 19 | 6 | 8 | 8 | 15 | 13 |
| 2020 | 11 | 5 | 4 | 7 | 7 | 16 | 16 |

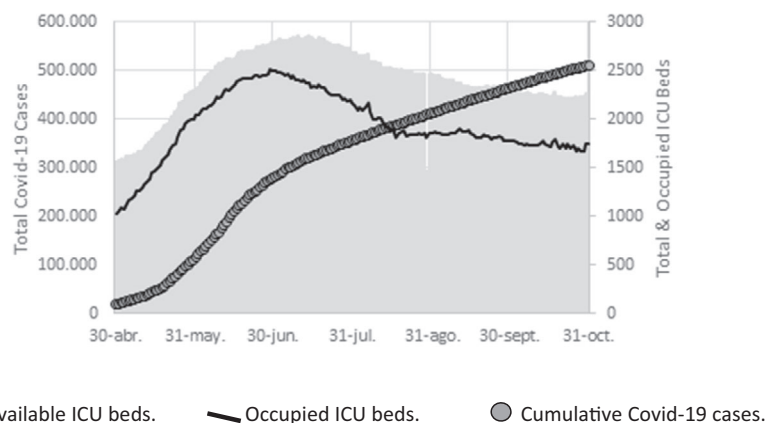


Figure 1 Total COVID-19 cases, Available and occupied critical care beds, and 2018 & 2020 national monthly organ donation rates (Adapted from <https://www.worldometers.info/coronavirus/country/chile/>, <https://www.medicina-intensiva.cl/site/post.php?id=1000328&sec=9> and <https://yodonovida.minsal.cl/statistics/public/show/40>).

to the organ donation units [5]. It is possible that this lack of process control, even before the pandemic, may have caused the event of identifying a PD to become very sporadic or random. This leads us to believe that there is no real competition between PDs and ill COVID-19 patients for ICU beds because the actual number of identified PDs is so small that even with a really high ICU bed occupancy because of COVID-19 prioritization, a bed could be available for PDs. Another hypothesis would be that the National Donation and Transplantation Coordination efforts on augmenting organ donation are, finally, giving results. It could also be because of a combination of both factors: an increase in the personal motivation and confidence of the local organ donation teams that, combined with the increase in the number of critical beds, caused the observed effect; the former of which would be similar to the personal protective equipment described by Chang.

The transplantation systems in Chile and the USA are very different, so having similar phenomena occur in both countries appears to be counterintuitive. Nevertheless, both experiences highlight that “simple solutions” can, sometimes, overcome “big problems” and benchmarking can improve processes everywhere.

While we are aware that there should be other variables to consider and further research should be done, we believe that this is a good approach to begin with. A practical way to further this line of inquiry could be by combining medicine, health care, and process engineering into a multidisciplinary approach, in order to help determine what other variables could be producing this effect. Furthermore, we believe that extending this multidisciplinary approach to other issues in this field would surely add significant value for future research.

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Conflict of interest

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