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AUSTRALIAN COVID RESEARCH NEEDS NATIONAL COORDINATION

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THE research response to COVID-19 in Australia has been rapid, but trials have often been underpowered and lacking in analysis of core outcomes, with little data sharing, according to the authors of a Perspective published by the *Medical Journal of Australia*.

Led by Dr Anna Lene Seidler, a Research Fellow at the National Health and Medical Research Council's Clinical Trials Centre at the University of Sydney, and Professor Angela Webster, Director of Evidence Integration at the NHMRC Clinical Trials Centre, the authors analysed data from the Australian New Zealand Clinical Trials Registry and ClinicalTrials.gov from 1 January to 16 November 2020.

They found 56 COVID-19 trials, only four of which were completed (7%), with the remainder recruiting (n = 26, 46%), not yet recruiting (n = 24, 43%), or withdrawn (n = 2, 4%). Forty trials (71%) had no commercial sponsor, and were funded by government or not-for-profit sources. Only seven trials (12%) included populations at high risk of poor outcomes from COVID-19 such as people with comorbidities.

"The median target sample size was small (150), meaning that, individually, trials were likely underpowered to detect differences in clinically important outcomes," wrote Seidler and colleagues. "None of the identified treatment trials are sufficiently powered to detect such a difference in mortality; and with low case numbers in Australia, it seems unlikely that a single trial could obtain such large sample sizes.

"We assessed availability of the identified core outcomes of mortality, respiratory failure, multi-organ failure, shortness of breath, and recovery.

"Of the 34 COVID-19 treatment trials in Australia, the proportion assessing each core outcome was low. For instance, only 53% (18 trials) assessed mortality, and 18% (six trials) assessed shortness of breath, whereas 63% (21 trials) assessed respiratory failure. Only one trial included all core outcomes, and ten trials (29%) included none.

"Thus, it will be impossible to synthesise results or make important comparisons for many of the trials," Seidler and colleagues wrote.

Trial organisers seem reluctant to share data, in accordance with several high-profile calls for collaboration and data sharing across studies, a development they described as "concerning".

"These calls seem to pass largely unheard among triallists in Australia, with 80% (41 trials) indicating they are not planning to share data.

"Frequently mentioned barriers to data sharing include a lack of understanding of the relevance, lack of resources to prepare data, insufficient academic recognition, and concerns about participant privacy, ethics approval and data misuse."

Seidler and colleagues concluded that "coordinating research efforts is a cost-effective, more reliable and timely way of achieving larger sample sizes and, thus, more impactful research evidence".

"In Australia, the COVID-19 pandemic has led to rapid changes in some processes including fast-tracked funding, ethics approvals, trial registration, and publication.

"Yet, too little has happened in creating infrastructure and funding for rapid collaboration, advanced adaptive methodologies and data sharing. In future, with adequate funding for technological innovation, clinical trial registries may play a key role in automatically connecting similar trials and facilitating collaboration.

"The COVID-19 pandemic presents a unique opportunity to improve collaborative infrastructure and methodologies, and advance future research across all health areas."

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