The Interseasonal Resurgence of Respiratory Syncytial Virus in Australian Children Following the Reduction of Coronavirus Disease 2019–Related Public Health Measures

To the Editor—Yeoh et al reported the dramatic impact of public health measures introduced during the coronavirus disease 2019 (COVID-19) pandemic on influenza and respiratory syncytial virus (RSV) detections in Western Australian (WA) children [1]. Here, we present data from ongoing local prospective surveillance. Following the end of winter, there has been a persistent absence of severe acute respiratory syndrome coronavirus 2 community transmission and no increase in influenza detections. Limited physical distancing measures have remained in place, with largely no restrictions on gathering sizes and no mandate for wearing masks [2]. Schools have remained open. Strict quarantine for overseas arrivals has been maintained, with a persistent marked decrease in visitor numbers compared with previous numbers [3]. Border restrictions for travelers from other states within Australia have been reduced as of 14 November 2020, with quarantine not required for travelers from states with no community severe acute respiratory syndrome coronavirus 2 transmission [4].

Similar to the previous report laboratory data prospectively collected as part of routine regional public health surveillance were collated per week from January 2012 to 13 December 2020. Cases were defined as detections of RSV by validated nucleic acid amplification test or antigen detection kits in children (<16 years of age) in the metropolitan area. Laboratory results were provided by PathWest Laboratory Medicine, the only public pathology provider to the state. Samples were drawn from all public hospitals and emergency departments. Average epidemic curves for the period 2012 to 2019 were calculated using a World Health Organization–described method [5]. Median age was compared using 2-sample Wilcoxon test.

As demonstrated in Figure 1, RSV activity increased from late September, in the setting of relaxed physical distancing recommendations, ahead of the opening of interstate borders. Case numbers have further increased, exceeding the median seasonal peak from 2012 to 2019. This has been observed without any significant change in testing practices. The median patient age this year was 18.4 months, significantly higher than the upper range between 2012 and 2019 (7.3–12.5 months) ($P < .001$).

These data demonstrate the fragility of RSV control and the critical impact of physical distancing and respiratory hygiene practices. The rise in numbers and change in median age suggest that the expanded cohort of RSV-naïve patients, including an increased number

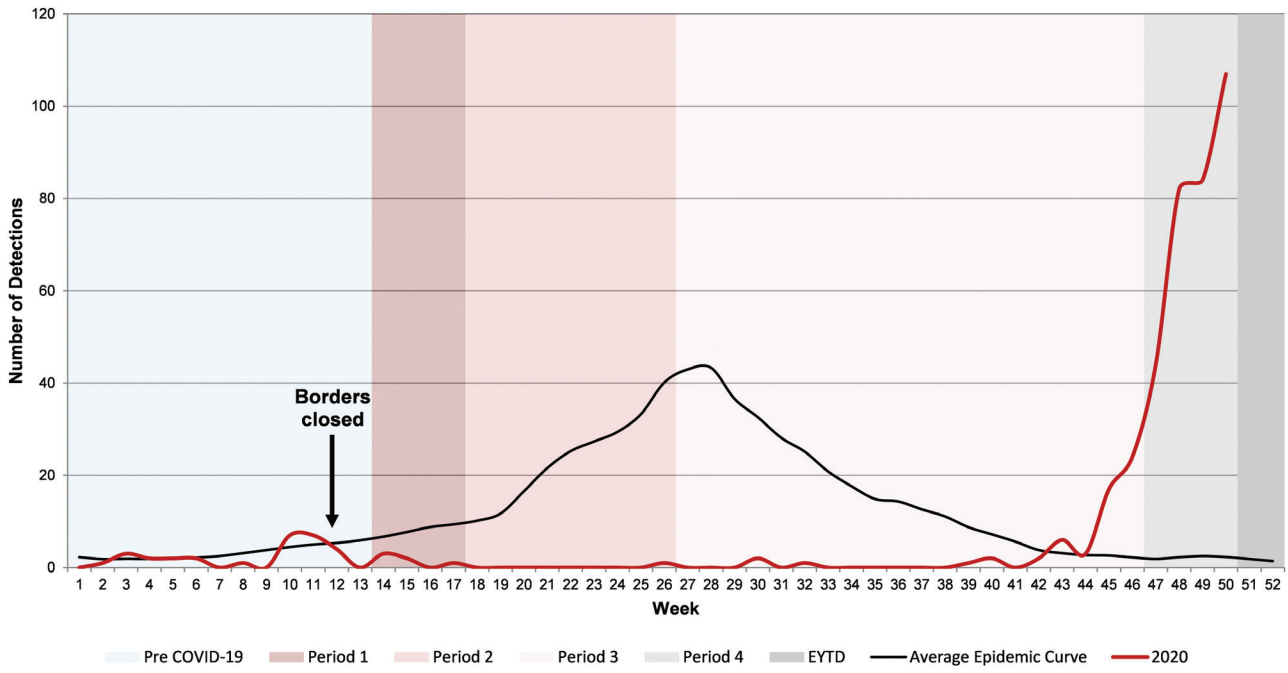

Figure 1. Respiratory syncytial virus detection in children from metropolitan Western Australian up to week 50 of 2020, in the context of COVID-19 restrictions, compared to average epidemic curve (2012–2019). Borders closed – week 12 – international borders closed to all nonresidents; 14-day quarantine required for all arrivals. Period 1 (weeks 14–17): statewide stay-at-home restrictions in place with school holidays extended; borders closed to inter-state travelers (week 14). Period 2 (weeks 18–26): restrictions sequentially lifted, allowing gatherings of 10 (week 18), 20 (week 21), and 100 (week 24) people; schools reopened with increased cleaning and some physical distancing measures. Period 3 (weeks 27–47): majority of local restrictions removed, except the limitation of major sport and entertainment venues to 50% capacity; schools returned to all normal activities. Period 4 (weeks 47–50) relaxation of state border restrictions. Average epidemic curve: 2012–2019. Abbreviation: EYTD, end of year to date.

of older children coupled with waning population immunity [6], may have contributed to this marked resurgence. Notably, RSV activity was first observed in mid-late August in regional centers before emergence in the metropolitan area, with transmission potentially facilitated by increased travel within the state [7]. Conversely, the initial rise in RSV cases in WA preceded the opening of interstate borders, suggesting this pathway was not the primary mechanism.

Our findings raise concerns for RSV control in the Northern Hemisphere, where a shortened season was experienced last winter [8]. The eventual reduction of COVID-19–related public health measures may herald a significant rise in RSV [9]. Depending on the timing, the accompanying morbidity and mortality, especially in older adults [6], may overburden already strained healthcare systems.

To delineate the relative contribution of an increasingly susceptible population and the reduction in border restrictions, further surveillance, transmission studies, and assessment of relatedness of RSV strains is progressing.

Notes

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David A. Foley,[1,*] Daniel K. Yeoh,[1,2,*] Cara A. Minney-Smith,[3] Andrew C. Martin,[4] Ariel O. Mace,[4,5,6] Chisha T. Sikazwe,[3,7] Huong Le,[6] Avram Levy,[3,7] Hannah C. Moore,[6] and Christopher C. Blyth[1,3,6,8]

[1]Infectious Diseases Department, Perth Children's Hospital, Perth, Australia, [2]Sir Peter MacCallum Department of Oncology, University of Melbourne, Parkville, Victoria, [3]Department of Microbiology, PathWest Laboratory Medicine WA, Perth, Australia, [4]Department of General Paediatrics, Perth Children's Hospital, Perth, Australia, [5]Department of General Paediatrics, Fiona Stanley Hospital, Perth, Australia, [6]Wesfarmers Centre for Vaccines and Infectious Diseases, Telethon Kids Institute, University of Western Australia, Perth, Australia, [7]Faculty of Health and Medical Sciences, University of Western Australia, Perth, Australia, and [8]School of Medicine, University of Western Australia, Perth, Australia

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*D.A.F. and D.K.Y. contributed equally to this manuscript.

Correspondence: D. A. Foley, Department of Infectious Diseases, Perth Children's Hospital, 15 Hospital Ave, Perth, Western Australia 6009, Australia (drdavidanthonyfoley@gmail.com).

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Unexpected Lessons from the Coronavirus Disease 2019 Lockdowns in France: Low Impact of School Opening on Common Communicable Pediatric Airborne Diseases

Keywords. COVID-19; emergency; school; lockdown; pediatric.

To the Editor—For governments fighting the coronavirus disease 2019 (COVID-19) pandemic, health, education, and the economy represent major priorities, and a fine-tuning has to be found [1–3]. While vaccine development has opened the door to more optimism, to date, the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection rate is at its highest [4]. This has resulted in a national curfew imposed in France on 10 October 2020, followed on 30 October 2020 by a second lockdown (Supplementary Figure 1). These national lockdowns raise a critical question: should schools remain open? France is a good example to partially answer this question. Indeed, the country's first lockdown in March 2020 included all schools. During the second lockdown, the decision was made to keep all schools open, up to high school, with reinforcement of social distancing and mandatory face masks for children aged ≥6 years [5]. A major question that followed this decision was how did the decision affect SARS-CoV-2 circulation, which is difficult to evaluate [6].