

The Seasonality of Respiratory Syncytial Virus in Western Australia Prior to Implementation of SARS-CoV-2 Non-Pharmaceutical Interventions

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Abstract

Background Respiratory syncytial virus (RSV) seasonality is dependent on the local climate. We assessed the stability of RSV seasonality prior to the SARS-CoV-2 pandemic in Western Australia (WA), a state spanning temperate and tropical regions. **Method** RSV laboratory testing data were collected from January 2012 to December 2019. WA was divided into three regions determined by population density and climate; Metropolitan, Northern and Southern. Season threshold was calculated per region at 1.2% annual cases, with onset the first of [?]2 weeks above this threshold and offset as the last week before [?]2 weeks below. **Results** The incidence of RSV in WA was 6.3/10,000. The Northern region had the highest incidence (15/10,000), more than 2.5 times the Metropolitan region (IRR 2.7; 95% CI, 2.6-2.9). Test percentage positive was similar in the Metropolitan (8.6%) and Southern (8.7%) regions, with the lowest in the Northern region (8.1%). RSV seasons in the Metropolitan and Southern regions occurred annually, with a single peak and had consistent timing and intensity. The Northern tropical region did not experience a distinct season. Proportion of RSV A to RSV B in the Northern region differed from the Metropolitan region in 5 of the 8 years studied. **Conclusions** Incidence of RSV in WA is high, especially in the Northern region, where climate, an expanded at-risk population, and increased testing may have contributed to greater numbers. Before the SARS-CoV-2 pandemic, RSV seasonality WA was consistent in timing and intensity for the Metropolitan and Southern regions.

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