

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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