Letter

RSV bronchiolitis season 2021 has arrived, so be prepared!

Bronchiolitis is the most common cause for hospital admissions for young children. Predominantly, the causative agent is respiratory syncytial virus (RSV), which is transmitted similarly to SARS-CoV-2. The emergence of the COVID-19 pandemic led to non-pharmaceutical interventions (NPIs) to reduce the spread of the virus, including handwashing and social distancing. We took the opportunity to see how NPIs have impacted on RSV. We reviewed data retrospectively from children admitted to the Children's Hospital for Wales (CHfW) between 1 October and 31 March from 2015 to 2021. Further details can be seen in our report.[1]

Over the five preceding winters to the 2020/2021 season, a total of 2922 patients presented with bronchiolitis after exclusion criteria was applied, with 1307 infants admitted to the hospital with bronchiolitis (44.7%). A total of 1214 swabs were taken and there was an average of 115 RSV positive swabs per season. In comparison, for the 2020/2021 seasons, 39 presented with bronchiolitis, with 22 admitted (56.4%). Thirty-two of the 39 patients had swabs; 59% were positive for rhinovirus and none for RSV. Table 1 outlines the number of presentations to the CHfW.

Our findings demonstrate a significant drop in the number of patients with bronchiolitis in 2020/2021, and no RSV cases were identified. The most likely reason is that of NPIs resulting in reduced transmission of viruses. Our results probably reflect changes that have happened across Europe in response to NPIs introduced for COVID-19. Figure 1, demonstrating the RSV rates in children over the past few seasons in Wales, aligns with our data suggesting there was a dramatic drop in RSV bronchiolitis cases last season.

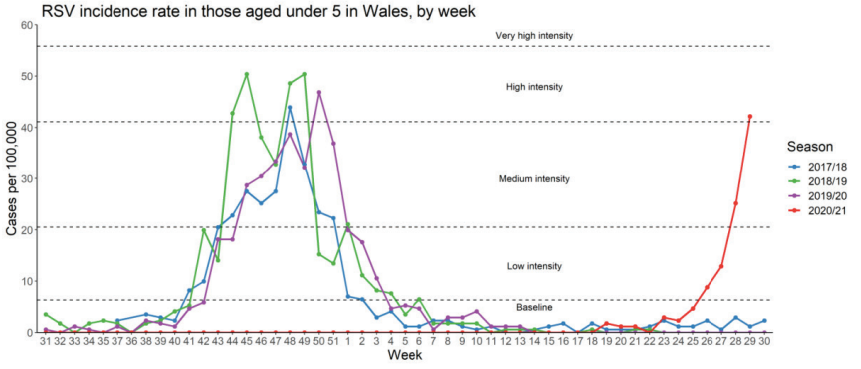

Figure 1 Graph, from Public Health Wales NHS Trust, demonstrating recorded RSV incidence rate in those aged under 5 years in Wales from 2017 to 2021. Source: Public Health Wales. Weekly Influenza Activity in Wales Report. Infectious Disease Data for Wales 2021; (http://www.wales.nhs.uk/sites3/page.cfm?orgid=457&pid=34338) (accessed 29 July 2021). RSV, respiratory syncytial virus.

There were concerns that as NPI measures are relaxed and as a return to normality begins, an epidemic in RSV bronchiolitis would emerge. In Australia, as a result of their NPIs, there were similar reductions in RSV cases initially. However, as restrictions were eased in New South Wales, there was a surge in RSV bronchiolitis lasting 3 months, during a time of the year which is atypical for them.[2] Similar patterns have been noted in New York.[3]

Public Health England predicted a surge in the UK, estimating that RSV bronchiolitis cases will cause an epidemic this year, which will see cases rise from mid-August, and that there will be a 20%–50%increase in the number of RSV cases.[4] In Wales, we have seen, as demonstrated in figure 1, a re-emergence of RSV bronchiolitis cases at a rapid rate that is out of sync to the usual seasonal pattern.[5]

Our data and data from other countries suggest, as predicted that with the easing of NPIs, an out of season epidemic of RSV bronchiolitis is beginning. Appropriate resource allocation and preparation is needed now, with changes in departments needed akin to how we prepared for the surges in COVID-19 infections. This should include redeployment of clinical staff to manage the increased numbers of patients, up-to-date training on bronchiolitis guidelines, including use of high-flow oxygen on acute paediatric wards,[6] and public health advice to reinforce the importance of NPI practices such as handwashing to reduce the spread of RSV.

Table 1 Table demonstrating number of patients presenting and admitted to a tertiary centre paediatric hospital from October 2015 to March 2021

	2015–2016	2016–2017	2017–2018	2018–2019	2019–2020	2020–2021
Total number of patients presenting	509	613	746	693	759	47
Number of patients excluded	32/509 (6,3%)	40/613 (6.5%)	135/746 (18.1%)	151/693 (21.8%)	40/759 (5.3%)	8/47 (17%)
Total number of patients included	477/509 (93.7%)	573/613 (93.5%)	611/746 (81.9%)	542/693 (78.2%)	719/759 (94.7%)	39/47 (83%)
Total number of patients admitted	216/477 (45.3%)	257/573 (44.9%)	262/611 (42.9%)	230/542 (42.4%)	342/719 (47.6%)	22/39 (56.4%)
Mean length of overall admission (days)	2.88	3.86	3.17	2.80	3.60	1.14

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Contributors MOE was involved in the planning and design, and supervised the data collection and helped to draft the first manuscript and all subsequent versions. FH wrote the draft manuscript and helped to collect and analyse the data, and agreed all subsequent versions. SK helped to conduct the study by reviewing all versions of the manuscript and checking for data accuracy.

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