THE PATHCARE NEWS

RESPIRATORY PATHOGEN STATISTICS: 2023 SUMMARY

This report is a summary of the results obtained from various molecular respiratory panels performed across PathCare laboratories during 2023, with additional data from December 2023. As with the monthly respiratory pathogen reports, the data is dependent on submission of samples by clinicians and therefore may not be representative of the general population but is intended to identify trends in the circulation of these viruses which may be of clinical relevance.

INFLUENZA, RESPIRATORY SYNCYTIAL VIRUS AND SARS-COV-2

- Respiratory syncytial virus (RSV) and influenza A virus showed typical seasonal circulation, with an early RSV peak followed by an increase in influenza A during the winter months (Figure 1). This correlated with the RSV and influenza seasons as defined by the National Institute for Communicable Diseases (NICD) with RSV season running from week 6 (week starting 6 February) to week 21 (week starting 22 May) and influenza from week 17 (week starting 24 April) until week 27 (week starting 10 July).
- The influenza A season was predominantly due to influenza A H3N2 infections (95% of influenza A isolates for which typing was available), with sporadic cases of influenza A H1N1 (<5% of influenza A isolates for which typing was available).
- Although some cases of influenza B were detected from approximately week 35 onwards, the positivity rates did not reach the epidemic threshold and remained below 10% throughout 2023.
- The highest SARS-CoV-2 detection rates were noted in weeks 6 – 9 (22 – 25%) and remained below 20% for the rest of the year.

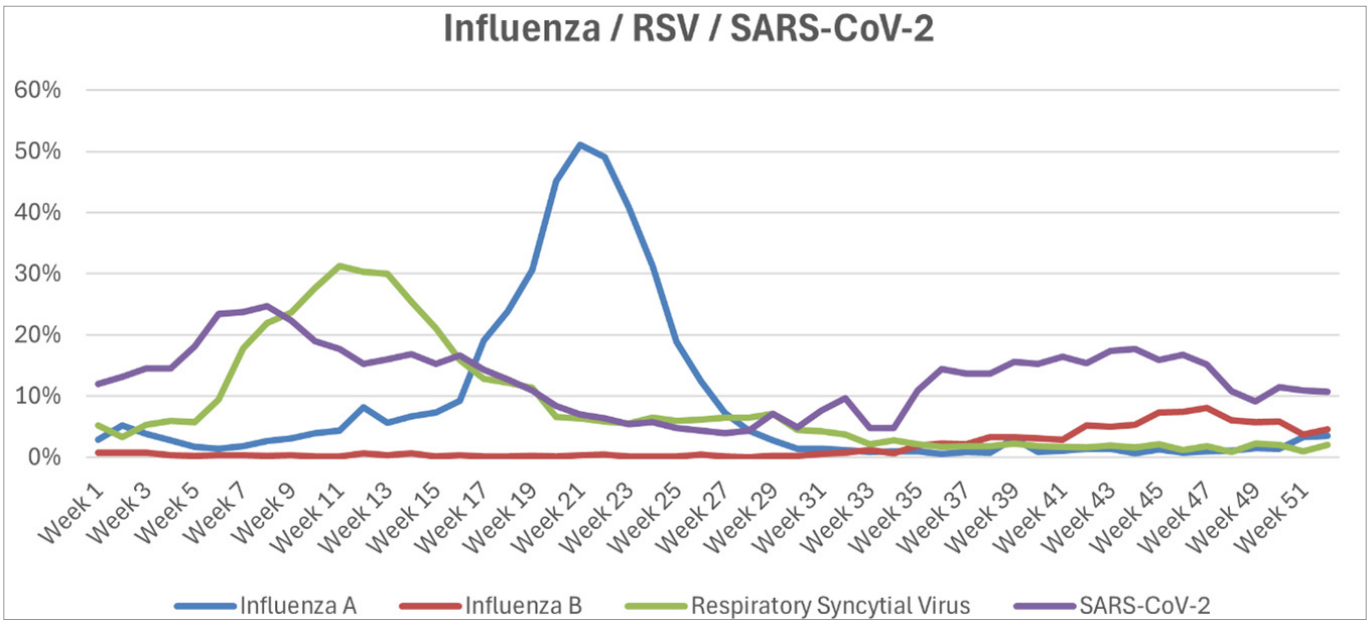

Figure 1: Percentage positivity of influenza A, influenza B, respiratory syncytial virus and SARS-CoV-2 by epi-week for 2023.

- The age distribution of positive samples (Figure 2) was similar to that observed in 2022. SARS-CoV-2 positive samples were mostly from adult patients, while RSV was detected predominantly in children under 5 years of age. Influenza A and the sporadic cases of influenza B were detected more broadly across all age ranges.

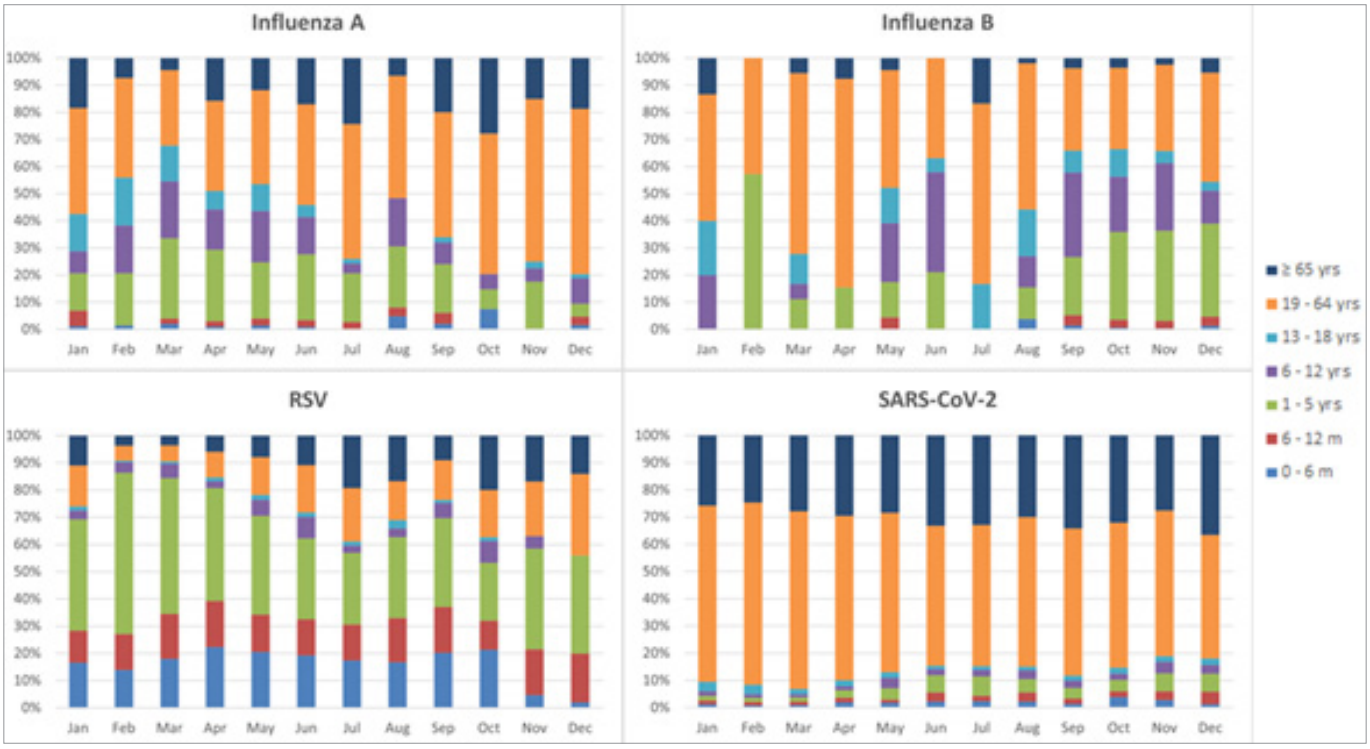

Figure 2: Age distribution of positive samples by month for influenza A, influenza B, respiratory syncytial virus and SARS-CoV-2 in 2023.

CORONAVIRUSES (EXCLUDING SARS-COV-2)

- The detection rate for the endemic coronaviruses (229E, HKU1, NL63 and OC43) was highest during January and February due to an increase in the NL63 detection rate and increased again from approximately June until mid-November due to increased detection of OC43.

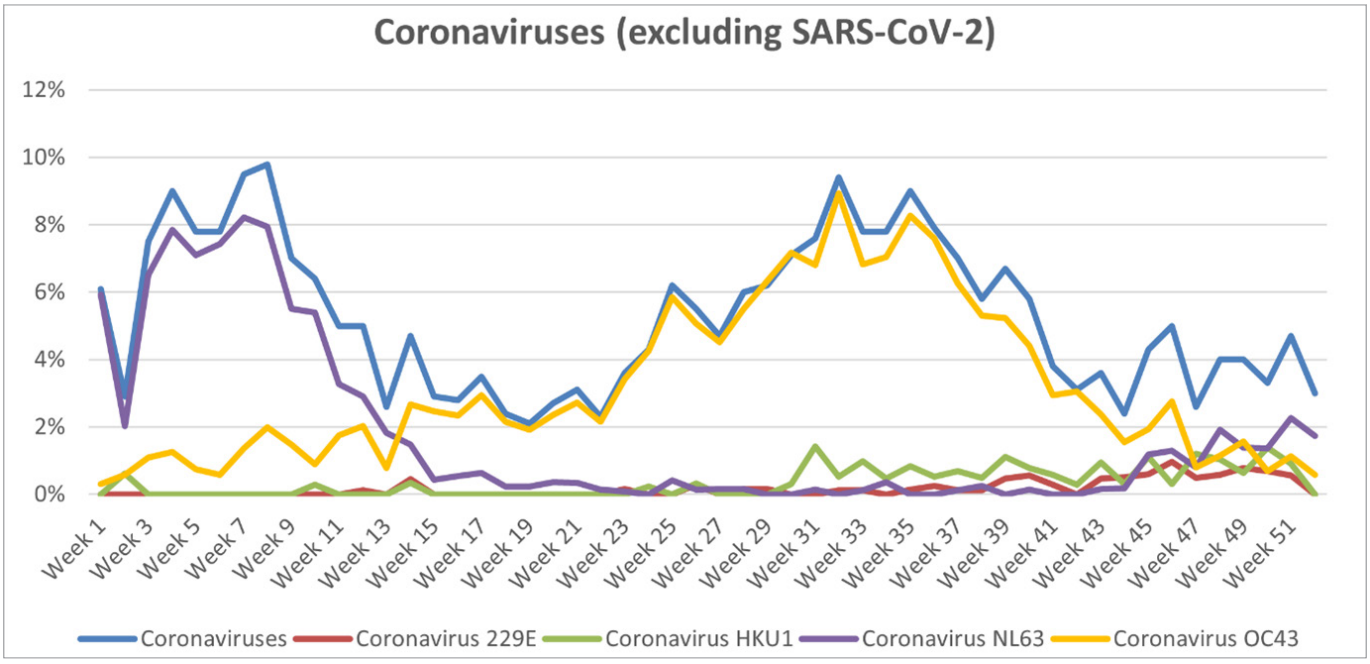

Figure 3: Percentage positivity of endemic coronaviruses by epi-week for 2023.

PARAINFLUENZA VIRUSES

- During the first half of 2023, parainfluenza detection rates remained below 10% with sporadic detections of all four parainfluenza types. In the second half of the year, increased parainfluenza virus detection rates corresponded to an increase in parainfluenza type 3 positivity (percentage positive range 3-14%) and to a lesser extent due to parainfluenza type 1 (percentage positive range 2-5%).

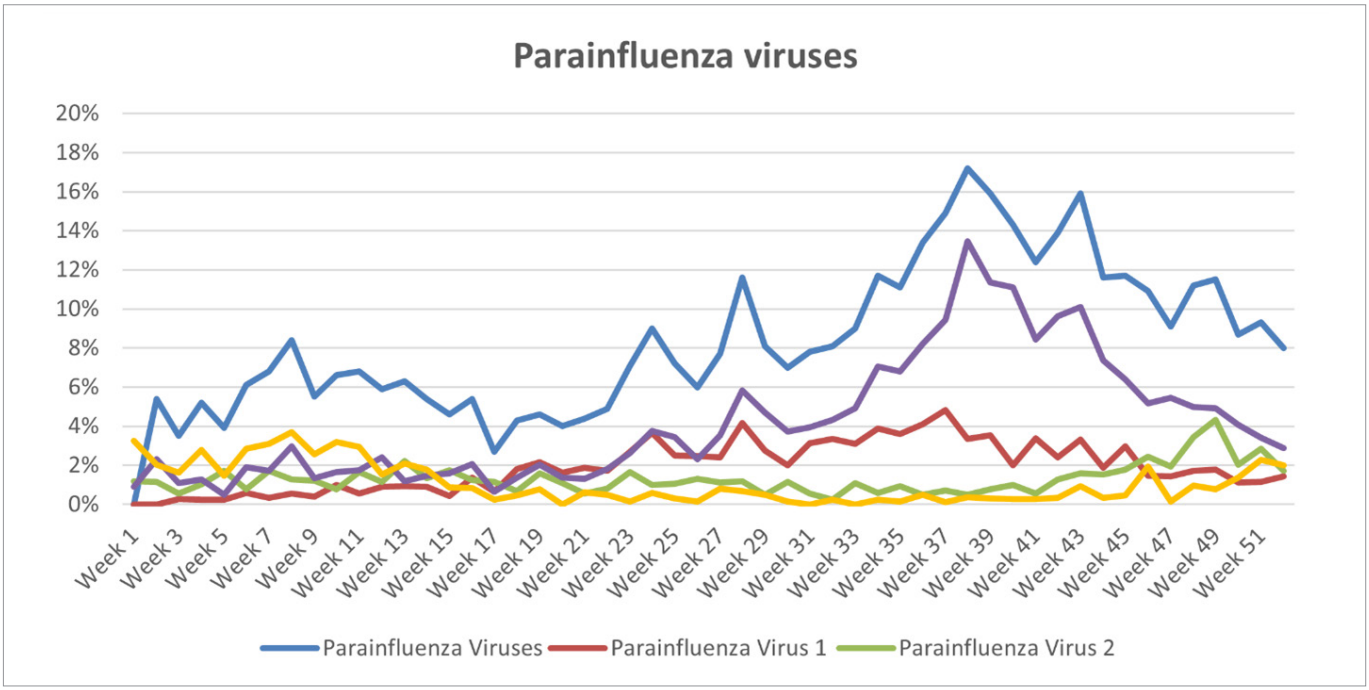

Figure 4: Percentage positivity of parainfluenza viruses by epi-week for 2023.

ADENOVIRUS, BOCAVIRUS, HUMAN METAPNEUMOVIRUS AND HUMAN RHINO/ENTEROVIRUS

- Adenovirus and human rhino/enterovirus showed year-round circulation as is typically described globally.

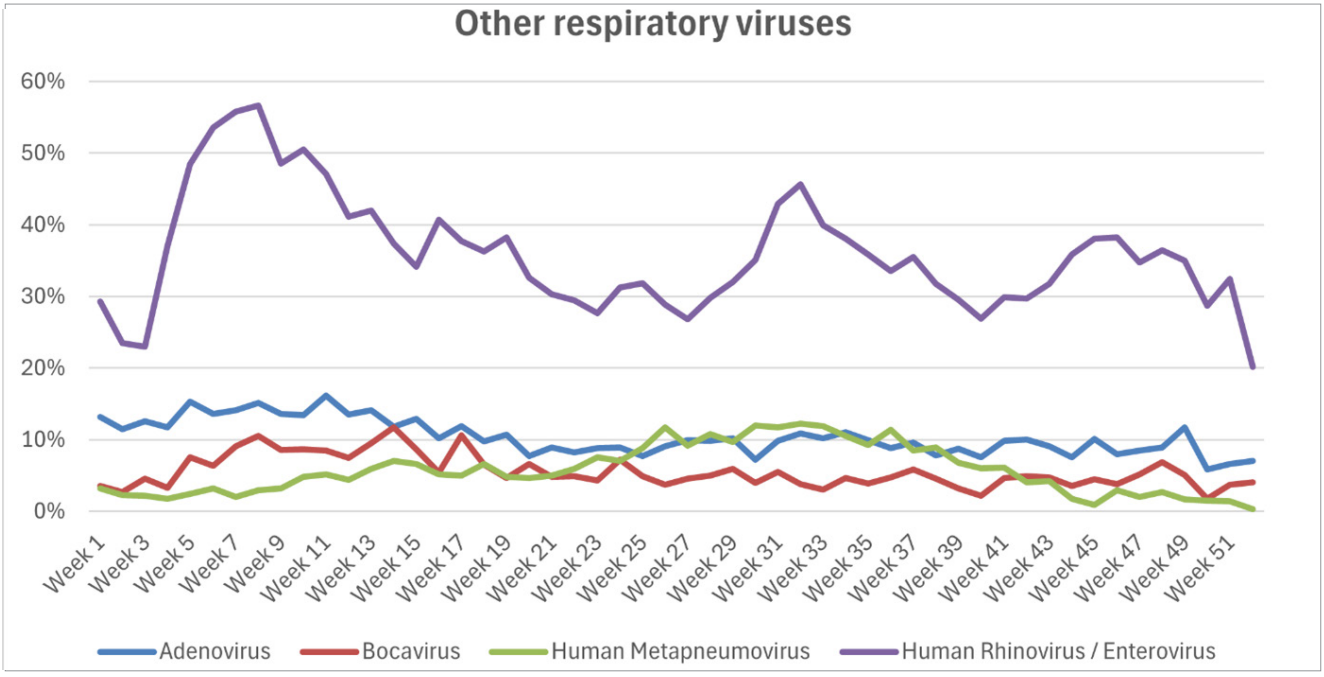

Figure 5: Percentage positivity of adenovirus, bocavirus, human metapneumovirus and human rhinovirus/enterovirus by epi-week for 2023.

ATYPICAL BACTERIA

- *Mycoplasma pneumoniae* was the most commonly detected atypical bacterial pathogen throughout 2023, persisting at rates of 4% and above since March. Interestingly increased numbers of *M. pneumoniae* cases have been noted in many countries globally during 2023, probably reflecting increased circulation of this pathogen after the relaxation of COVID non-pharmaceutical measures which had halted transmission during the pandemic.
- *Bordetella pertussis* detection rates remain between 1% - 2% throughout the year which is gratifying since the disease is largely preventable by vaccination.
- Sporadic cases of *Legionella pneumophila* were detected throughout 2023, with a single case reported in December, from Gauteng. Please note that the inconsistent increases in detection rates are related to the relatively small number of samples submitted for testing. Legionella is not included in the Biofire Respiratory Panel. For suspected cases please submit an appropriate lower respiratory tract sample and request the Respiratory Bacterial Panel or upon specialist recommendation, the Biofire Pneumonia Panel.
- *Chlamydophila pneumoniae* was rarely detected throughout the year (< 2%).

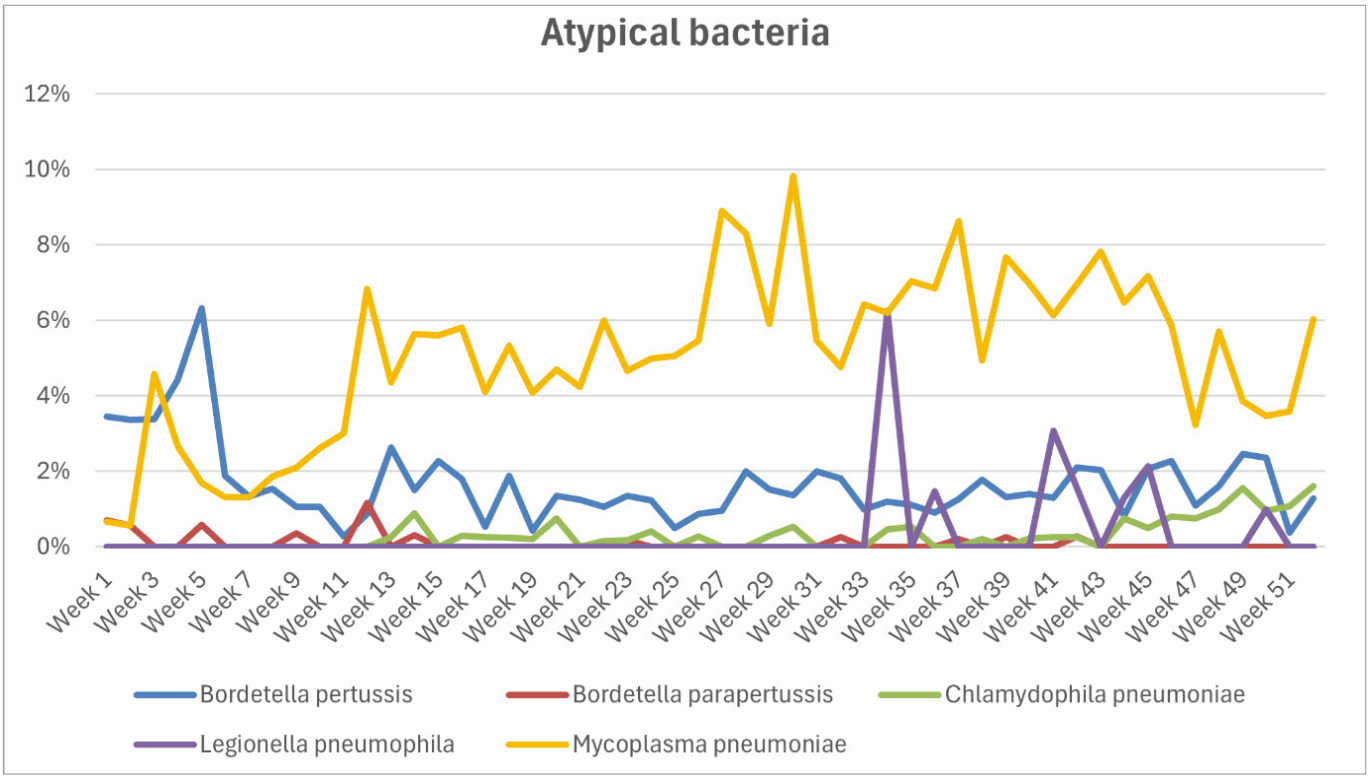

Figure 6: Percentage positivity of atypical bacteria by epi-week for 2023.