



# RESPIRATORY PATHOGEN STATISTICS

national · pathology · group

SPECIAL INTEREST GROUP OF THE SOUTH AFRICAN MEDICAL ASSOCIATION

4<sup>th</sup> Quarter 2022

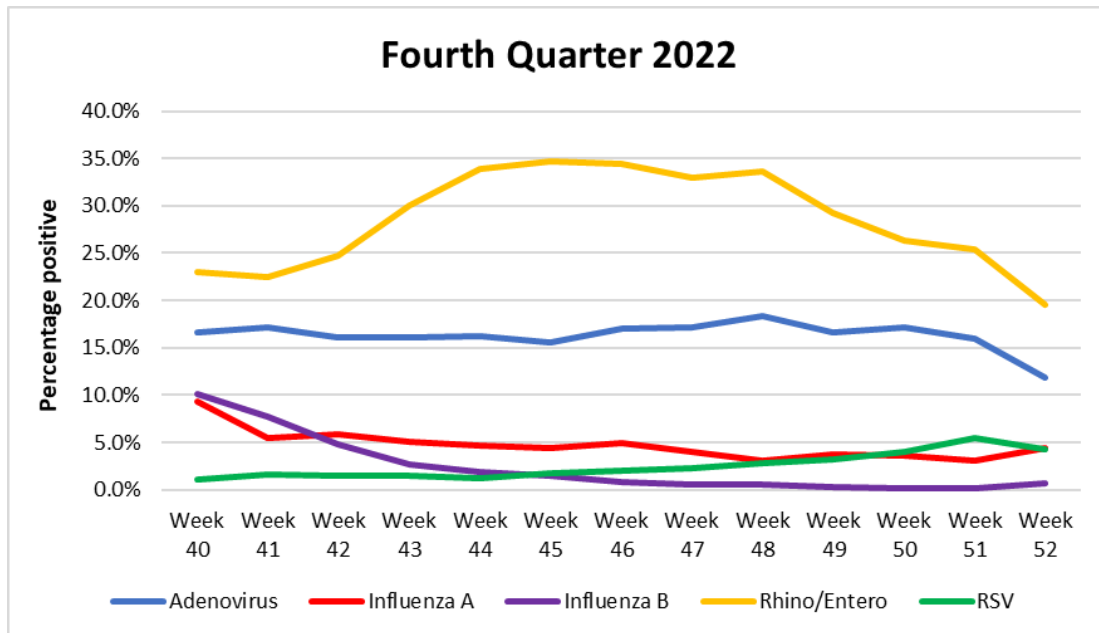
This report summarises respiratory pathogen PCR panel results for specimens submitted for testing to the private pathology practices that are members of the NPG from October to December 2022.

## Highlights

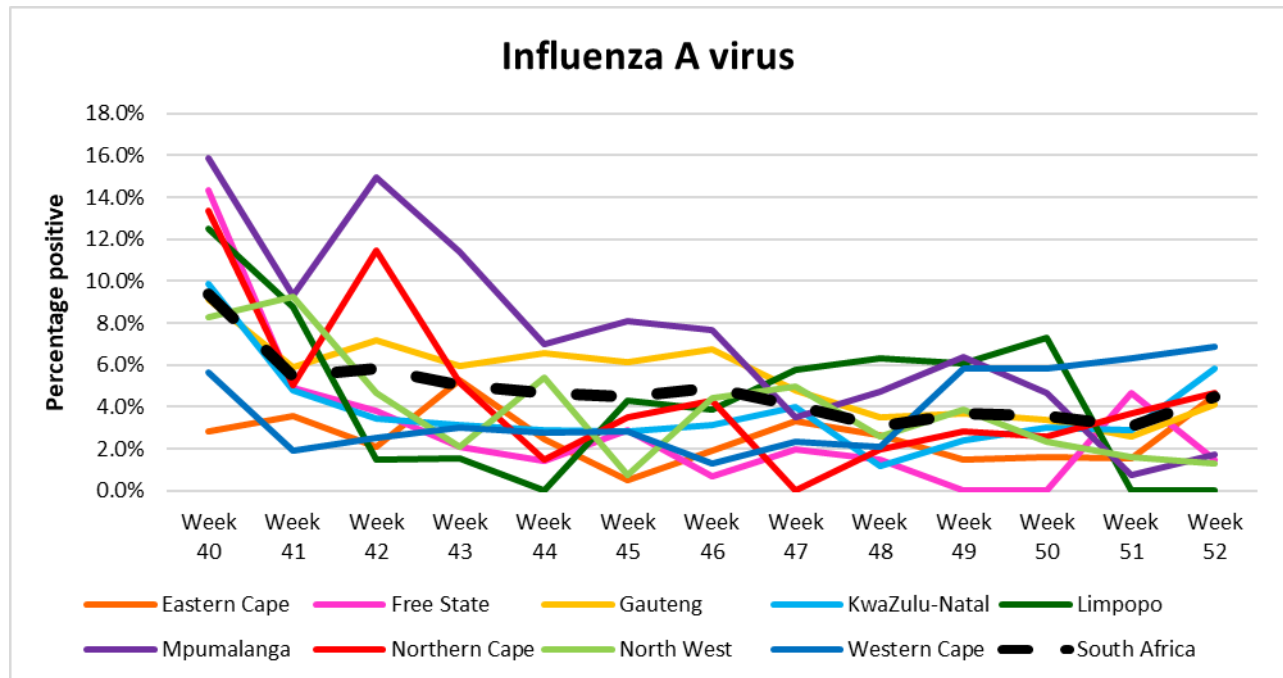
- Rhino/Enterovirus was the most prevalent virus during the fourth quarter of 2022.
- The prevalence of SARS-CoV-2 started to increase again during the last two weeks of 2022.
- An almost equal number of samples tested positive for *Bordetella pertussis* and *Bordetella parapertussis* until epidemiological week 49, whereafter more cases of *Bordetella pertussis* were observed.

## Respiratory virus PCR panel

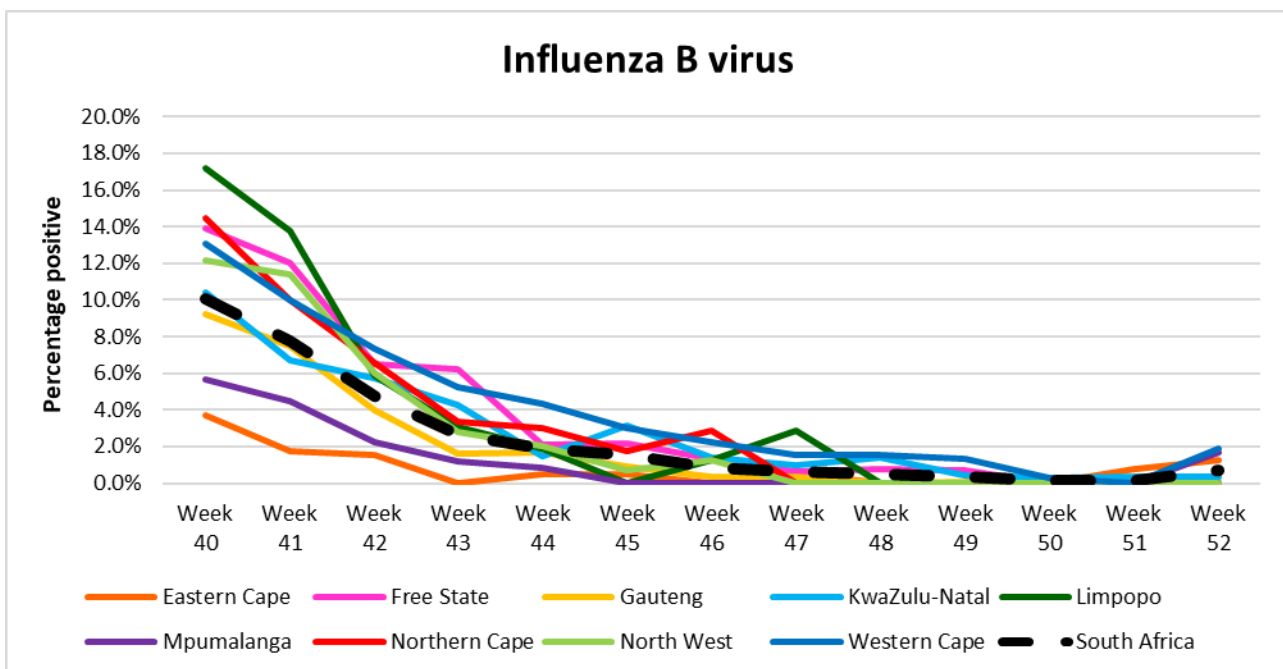
A variety of multiplex PCR panels are used across NPG-associated practices. For data analysis, all parainfluenza virus types (PIV 1 – 4), all seasonal human coronaviruses (hCoV-OC43, hCoV-HKU1, hCoV-229E, and hCoV-NL63), and rhinovirus, parechovirus and enterovirus were combined. The graphs below represent the viruses detected as the percentage positive per epidemiological week.



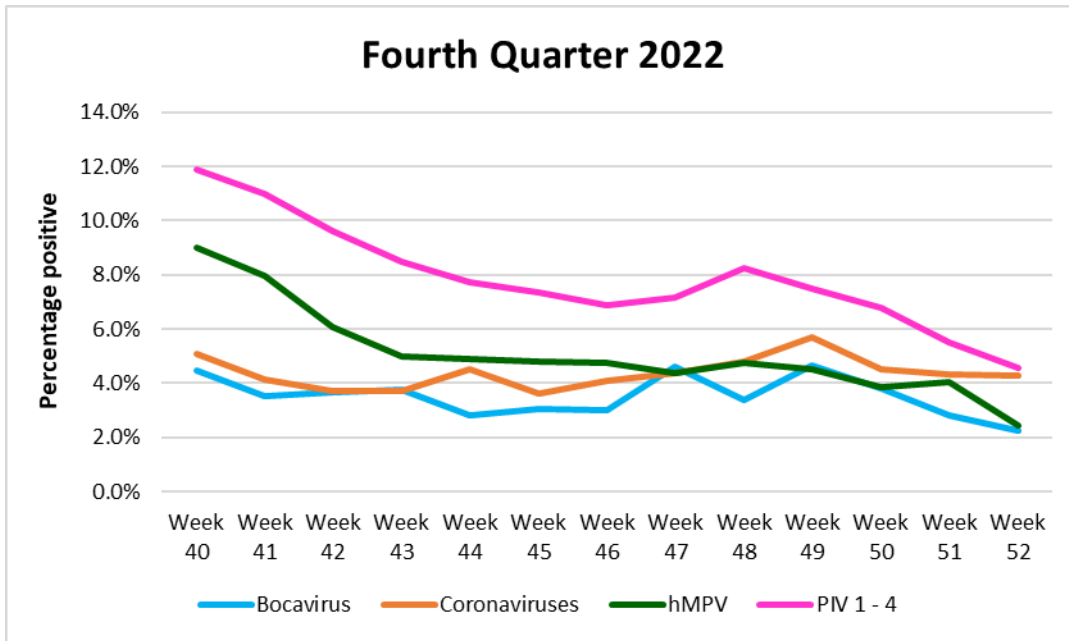
- Rhino/enterovirus was the most prevalent virus detected during each week in the 4<sup>th</sup> quarter of 2022 (28.8%).
- Neither RSV nor adenovirus had a specific observable seasonality.
- Influenza A virus was detected in 5.0% of samples. The majority (93.4%) of influenza A virus that were typed were influenza A/H3. This correlates with what was observed by the NICD.<sup>1</sup>
- The prevalence of influenza B virus decreased each week of the fourth quarter.



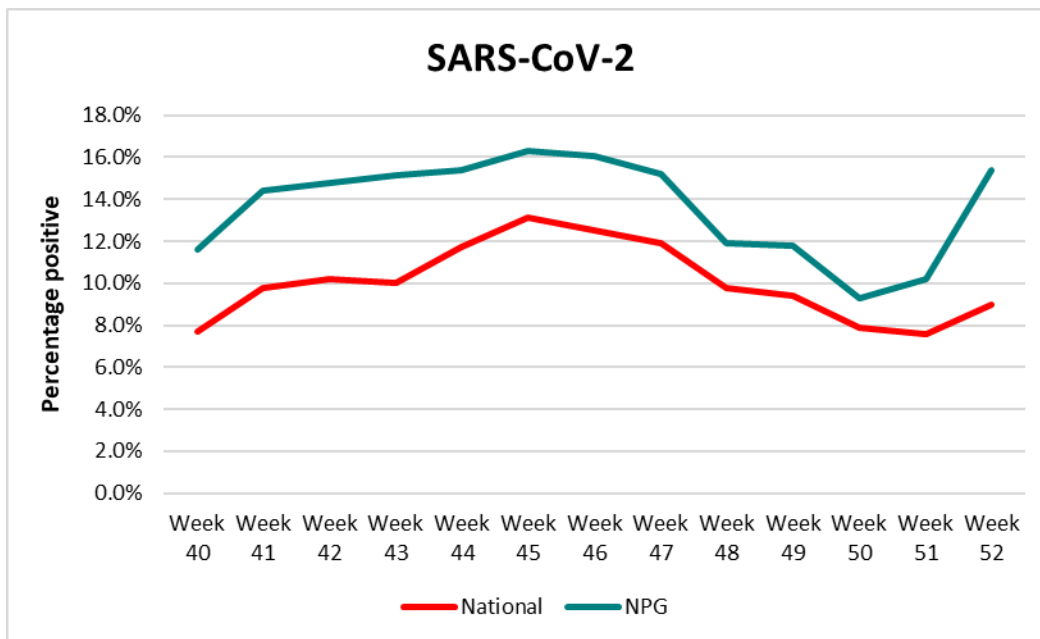
- The prevalence of influenza A virus was above 10% in epidemiological week 40 in Limpopo, Mpumalanga, Free State and Northern Cape. There was a temporary increase in influenza A virus prevalence in Mpumalanga in weeks 42 and 43, and in the Northern Cape in week 42. In the last week of 2022, influenza A virus prevalence started to increase again in the Eastern Cape, Gauteng, Kwa-Zulu Natal, Mpumalanga, Northern Cape and Western Cape.



- The prevalence of influenza B virus fell below 1% in epidemiological week 36 and remained at this level for the remainder of 2022. All of the influenza B virus isolates sequenced by the NICD belonged to the Victoria lineage.<sup>1</sup> Influenza B/Yamagata has not been isolated or sequenced worldwide since March 2020.<sup>2</sup>
- The prevalence of influenza B virus rose above 1% in the last week of 2022 in the Western Cape, Eastern Cape and Mpumalanga.

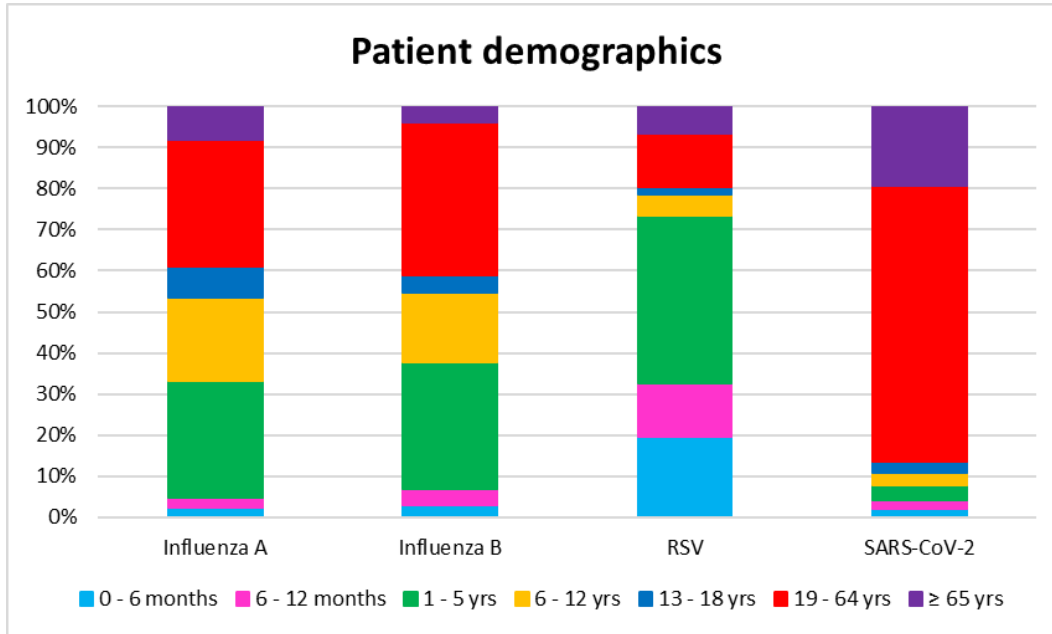


- The decrease in the prevalence of PIV 1 – 4 that started in the third quarter continued in the fourth.
- The prevalence of the seasonal coronaviruses, bocavirus and human metapneumovirus never rose above 10% during the final quarter of 2022.



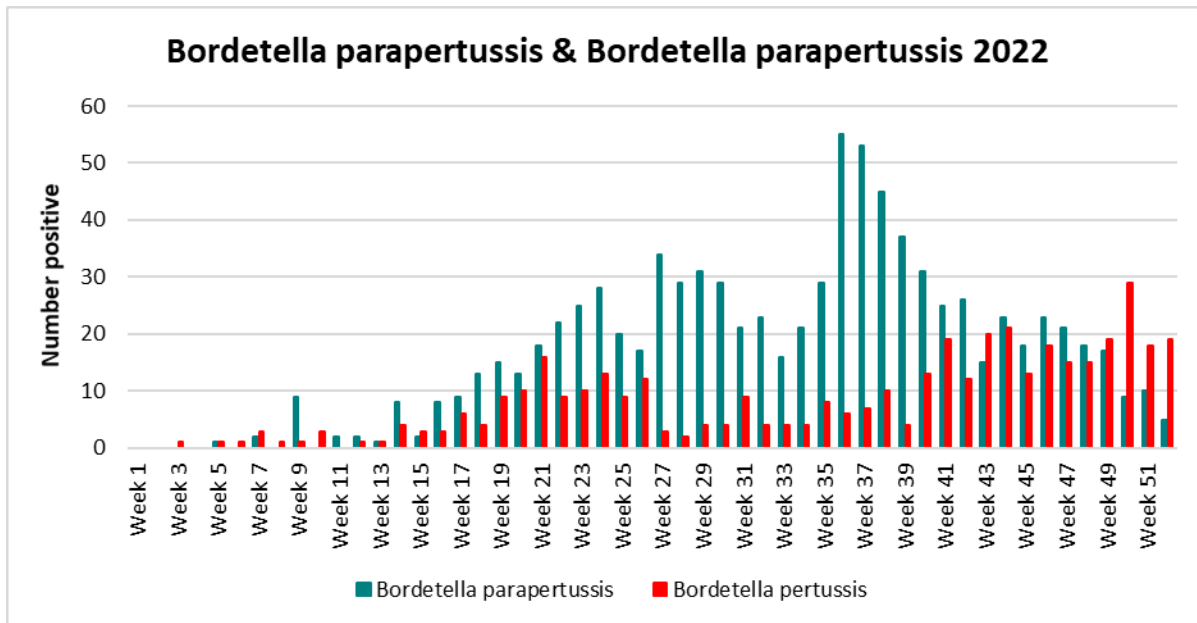
- The increase in the prevalence of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), which started in epidemiological week 36 in data from both NPG-affiliated laboratories and the NICD, peaked in epidemiological week 45. The prevalence of SARS-CoV-2 started to increase again in epidemiological week 51 for NPG-affiliated laboratories, and the following week according to the public and private sector combined data from the NICD.

## Patient demographics



- A third of patients who tested positive for influenza A virus (38.9%) were older than 19 years of age.
- Marginally more patients older than 19 years of age tested positive for influenza B virus (41.0%) than patients who were less than 6 years of age (37.6%).
- The majority of patients who tested positive for RSV were less than 6 years of age (73.5%).
- In contrast, most of the patient who tested positive for SARS-CoV-2 were adults older than 19 years of age (86.6%).

## Bacteria



- Almost equal numbers of samples tested positive for *Bordetella parapertussis* and *Bordetella pertussis* during the fourth quarter of 2022 until epidemiological week 49. Thereafter more samples tested positive for *Bordetella pertussis*.

## References

1. National Institute of Communicable Diseases. Weekly respiratory pathogen report, week 50.
2. Koutsakos M, et al. Influenza lineage extinction during the COVID-19 pandemic? *Nature Rev Microbiol* 2021; (19): 741 – 742.