



RESPIRATORY PATHOGEN STATISTICS

n a t i o n a l · p a t h o l o g y · g r o u p

SPECIAL INTEREST GROUP OF THE SOUTH AFRICAN MEDICAL ASSOCIATION

3rd Quarter 2022

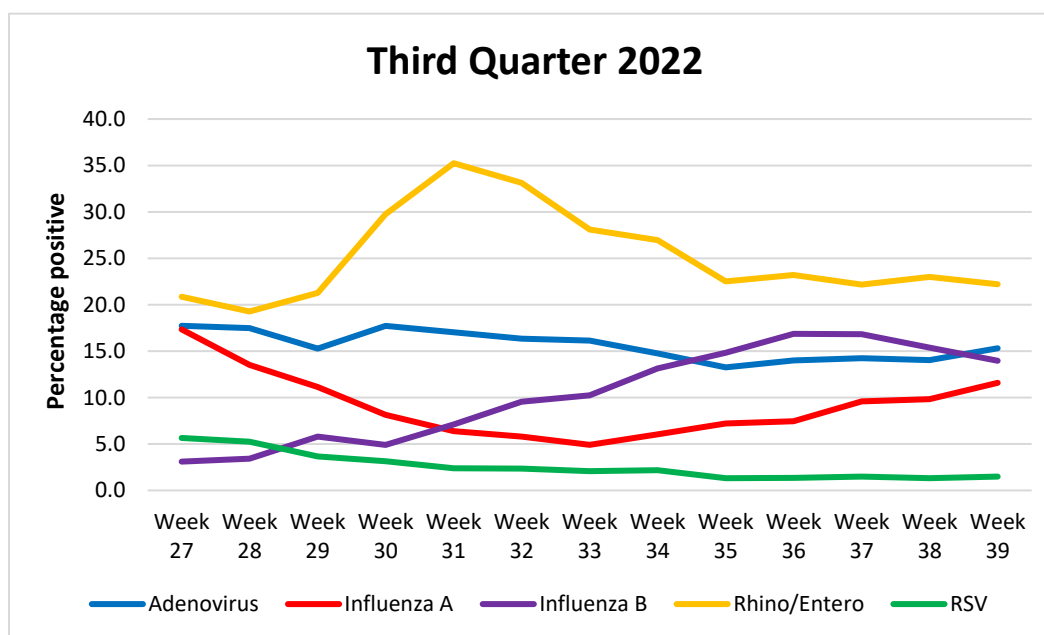
This report summarises respiratory pathogen PCR panel results for specimens submitted for testing to the private pathology practices that form part of the NPG from July to September 2022.

Highlights

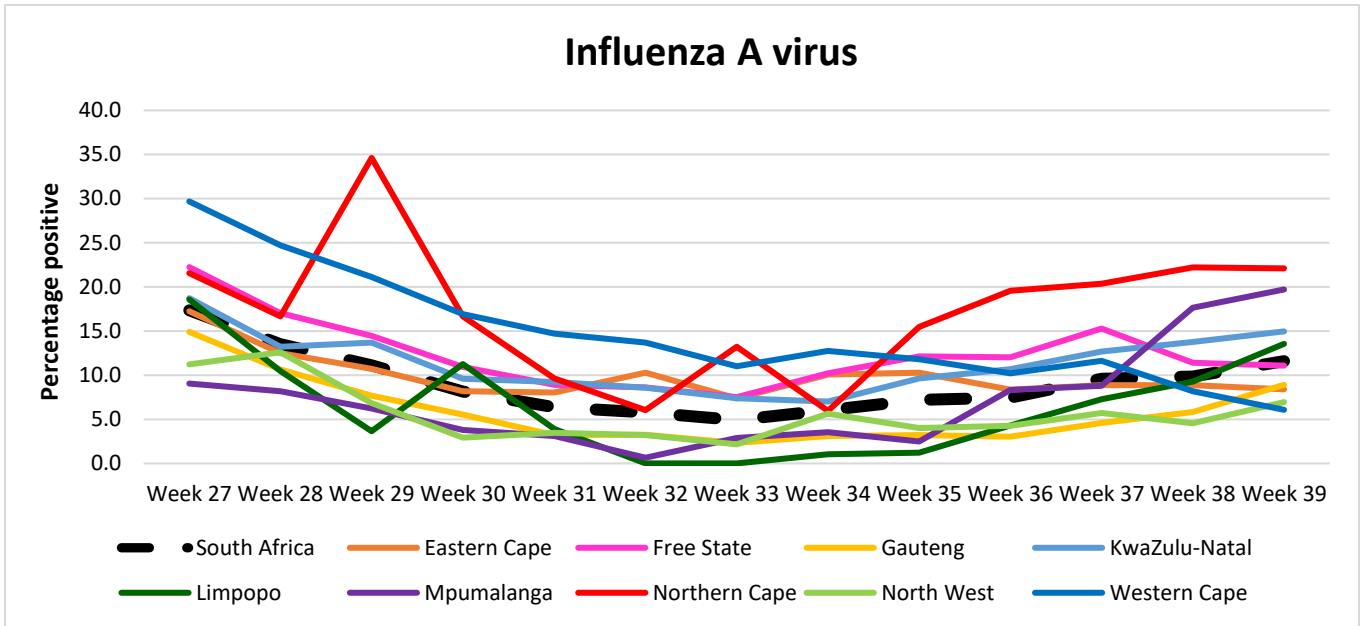
- The prevalence of influenza A virus started to increase for a second time in epidemiological week 33. The first peak was dominated by influenza A/H1, while the second peak is driven by influenza A/H3.
- The prevalence of influenza B virus peaked in epidemiological week 36.
- During the same week, the percentage of samples that tested positive for SARS-CoV-2 started to increase.

Respiratory virus PCR panel

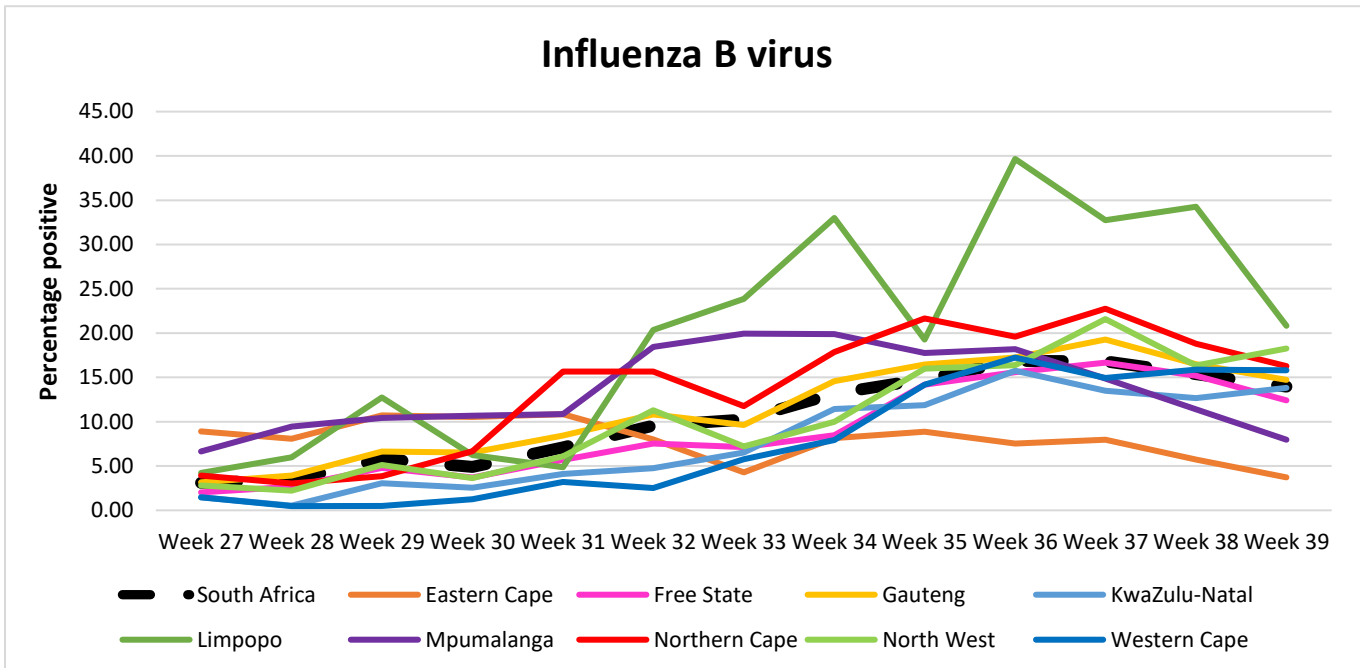
A variety of multiplex PCR panels are used across NPG-associated practices. For data analysis, all parainfluenza virus types (PIV 1 – 4), all seasonal human coronaviruses (hCoV-OC43, hCoV-HKU1, hCoV-229E, and hCoV-NL63), and rhinovirus, parechovirus and enterovirus were combined. The graphs below represent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



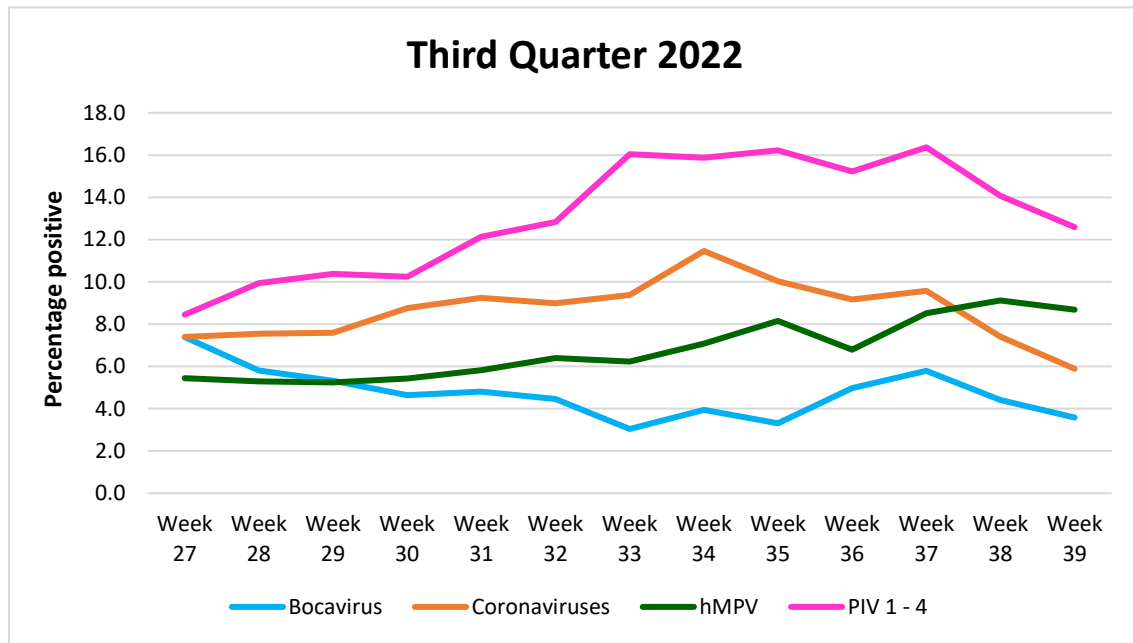
- Rhino/enterovirus was the most prevalent virus detected during each week in the 3rd quarter of 2022 (25.2%).
- Neither RSV nor adenovirus had a specific observable seasonality.
- Influenza A virus was detected in 9.0% of samples. The prevalence decreased each week until epidemiological week 33, when it started to increase again. Until week 30, the majority (66.6%) of influenza A virus that were typed were influenza A/H1, thereafter influenza A/H3 was the most prevalent (87.8%) subtype detected. This change was also documented by the NICD.¹



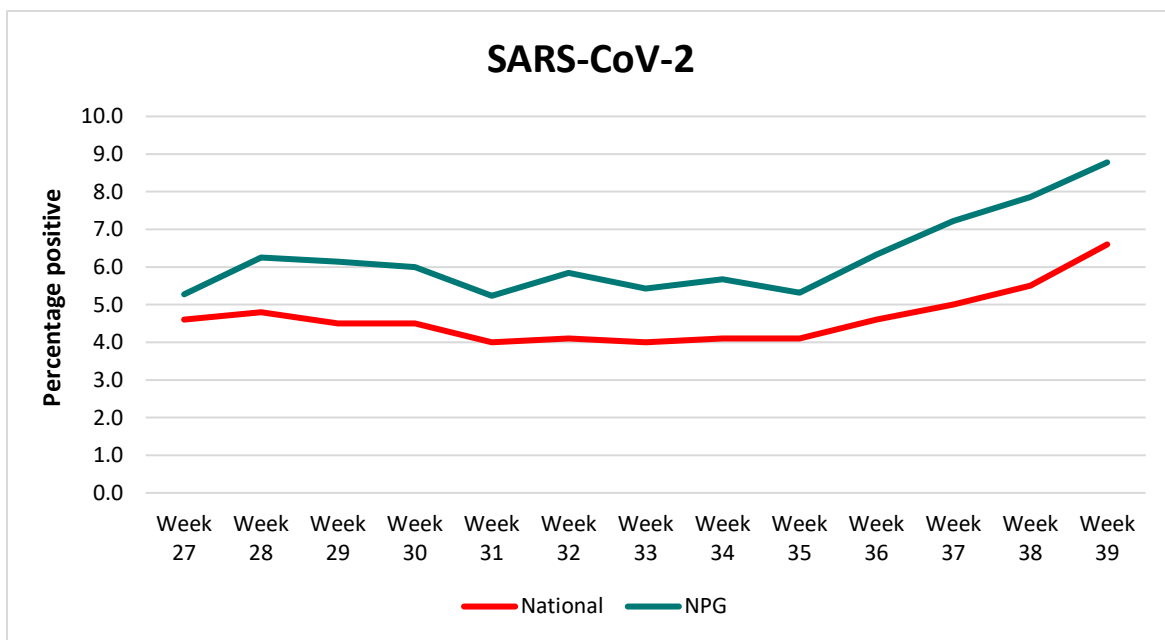
- The increase in the prevalence of influenza A virus in the second half of the quarter was first noticed in the Northern Cape, Free State and Eastern Cape. The prevalence of influenza A virus increased above 10% in KwaZulu-Natal in epidemiological week 36, 2 weeks later in Mpumalanga and only in the last week of the quarter in Limpopo. A second increase in influenza A virus prevalence has not yet been noticed in the Western Cape.
- The prevalence of influenza B virus increased each week until peaking at 16.9% in epidemiological week 36. All of the influenza B virus isolates sequenced by the NICD belonged to the Victoria lineage.¹ Influenza B/Yamagata has not been isolated or sequenced worldwide since March 2020.²



- The prevalence of influenza B virus first increased in epidemiological week 29 in the Eastern Cape, Limpopo and Mpumalanga. Two weeks later a significant increase was detected in the Northern Cape, and a week later in Gauteng and the North West. An increase in influenza B prevalence only started in week 35 in the Western Cape.

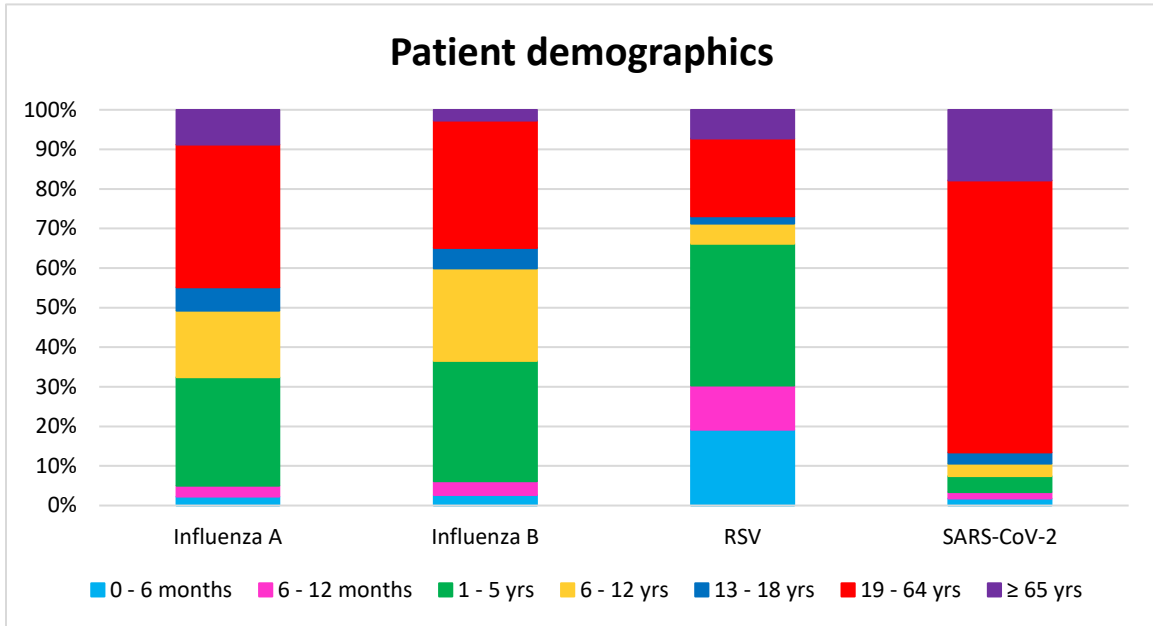


- The prevalence of PIV 1 – 4 increased each week to peak from epidemiological week 33 (16.0%) to week 37 (16.4%) and decrease thereafter.
- One or more of the seasonal coronaviruses were detected in 10% or more of samples tested in weeks 34 & 35.



- The number of samples that tested positive for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) started to increase in epidemiological week 36 in data from both NPG-affiliated laboratories and the NICD, which includes data from both the public and private healthcare sectors.

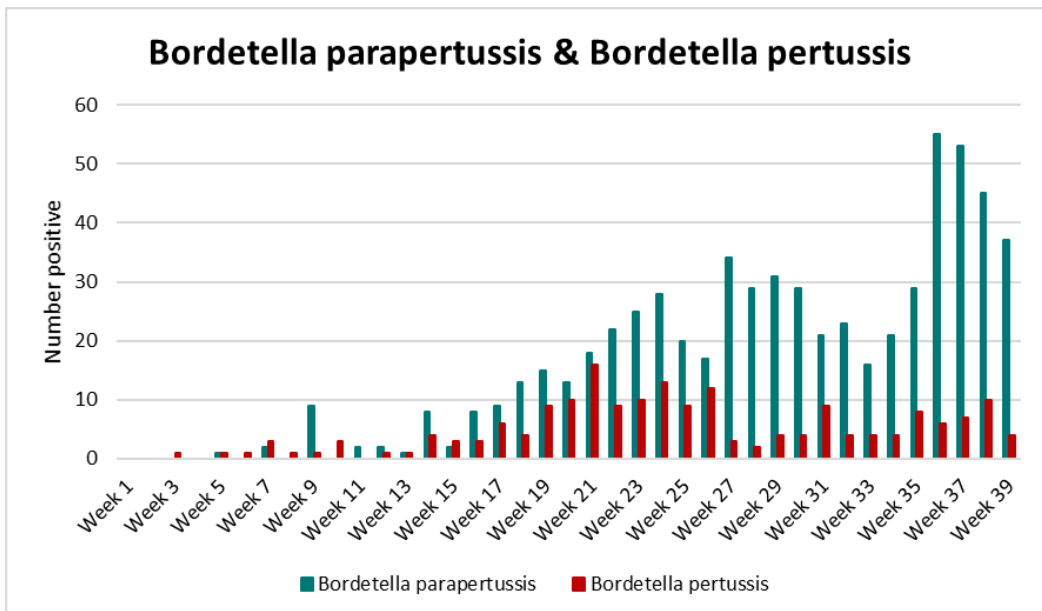
Patient demographics



- More than a third of patients who tested positive for influenza A virus (44.8%) were older than 19 years of age.
- An almost equal percentage of patients who tested positive for influenza B virus were less than 5 years of age (36.5%) or older than 19 years of age (34.9%).
- The majority of patients who tested positive for RSV were less than 5 years of age (66.2%).
- In contrast, most of the patient who tested positive for SARS-CoV-2 were adults older than 19 years of age (86.5%).

Bacteria

- The increase in the number of samples that tested positive for *Bordetella parapertussis* that was first noticed during the second quarter continued in the third quarter of 2022.
- More patients tested positive for *Bordetella pertussis* in the second quarter of 2022 than the first and third quarters combined.



References

1. National Institute of Communicable Diseases. Weekly respiratory pathogen report, week 41.
2. Koutsakos M, et al. Influenza lineage extinction during the COVID-19 pandemic? Nature Rev Microbiol 2021; (19): 741 – 742.