

RESPIRATORY DISEASES

Respiratory Syncytial Virus (RSV) season update, January 2023

Between 03 January 2022 (first week of 2022) and 14 Jan 2023 (second week of 2023), 816 RSV cases were detected amongst individuals of all ages admitted to a pneumonia surveillance sentinel site with lower respiratory tract illness. Of these, 32% (264/816) were RSV-A, 64% (522/816) RSV-B, <1% (4/816) RSV-A/RSV-B (mixed infection of RSV-A and RSV-B subgroups), 2% (15/816) RSV subgroup inconclusive and RSV subgroup results were pending for 1% (11/816) (Figure 3).

RSV was detected throughout 2022, with the season starting in week 7 when the RSV detection rate amongst children under five years of age rose above the seasonal threshold (Figure 4). The 2022 season peaked in week 17 and ended in week 26. The number of RSV cases detected started to increase towards

the end of 2022 (from week 51). This increase was possibly interrupted by the festive season (lower number of samples collected), with cases starting to increase again in week 2 of 2023. The majority of RSV cases were reported from the Western Cape surveillance site (366/816, 45%) and were in children less than 5 years of age (753/816, 92%). RSV activity amongst children aged <5 years is currently below the seasonal threshold (Figure 4).

The start of the RSV season in South Africa is usually early- to mid-February. The 2023 RSV season has not yet started. Clinicians are encouraged to consider RSV in patients (especially infants and children) presenting with respiratory illness throughout the year and particularly during the RSV season.

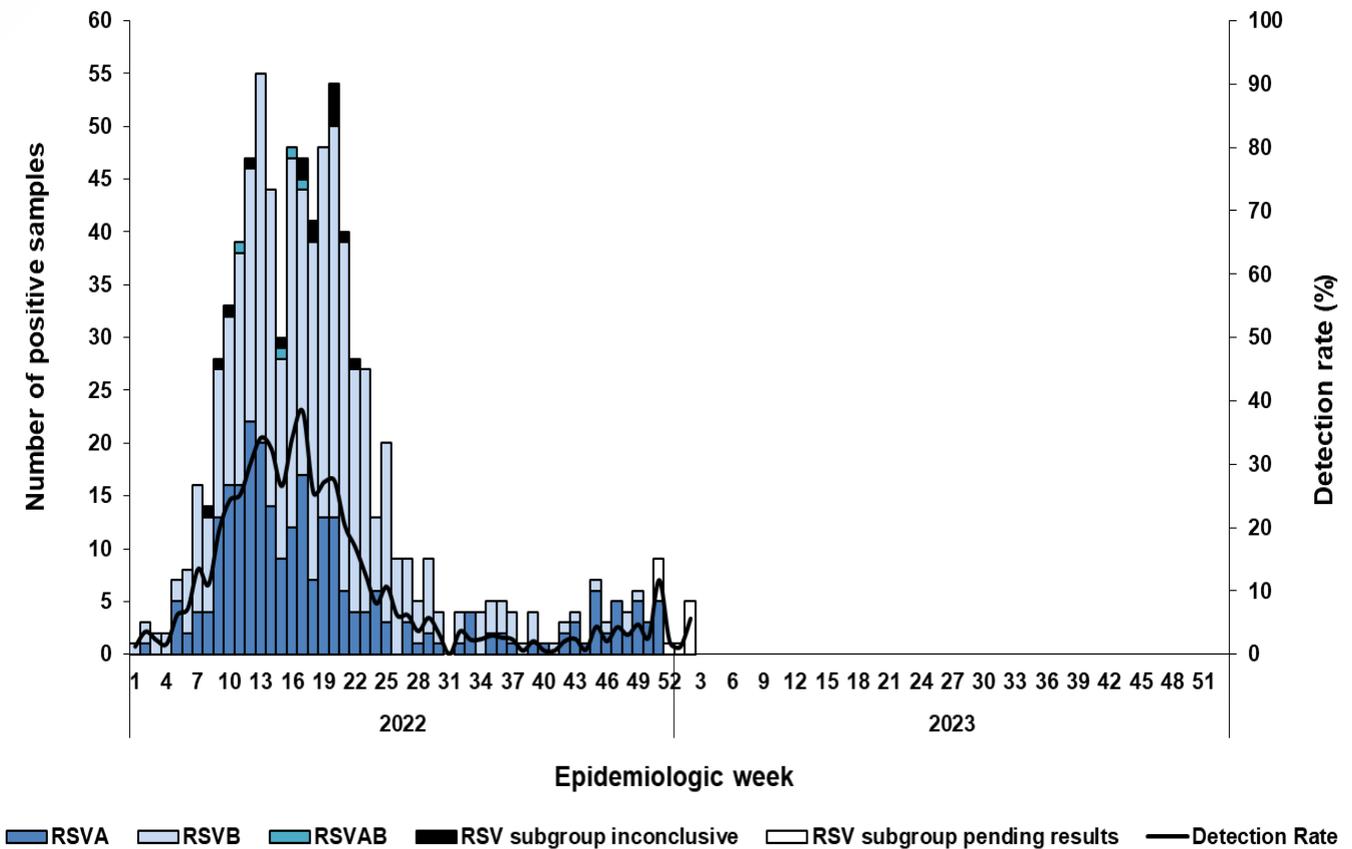


Figure 3. Number of patients (all ages) testing positive for respiratory syncytial virus by subgroup and detection rate by week, pneumonia surveillance public hospitals, 03/01/2022 – 14/01/2023 *RSV-AB: Mixed infection of RSV A and B subgroups identified

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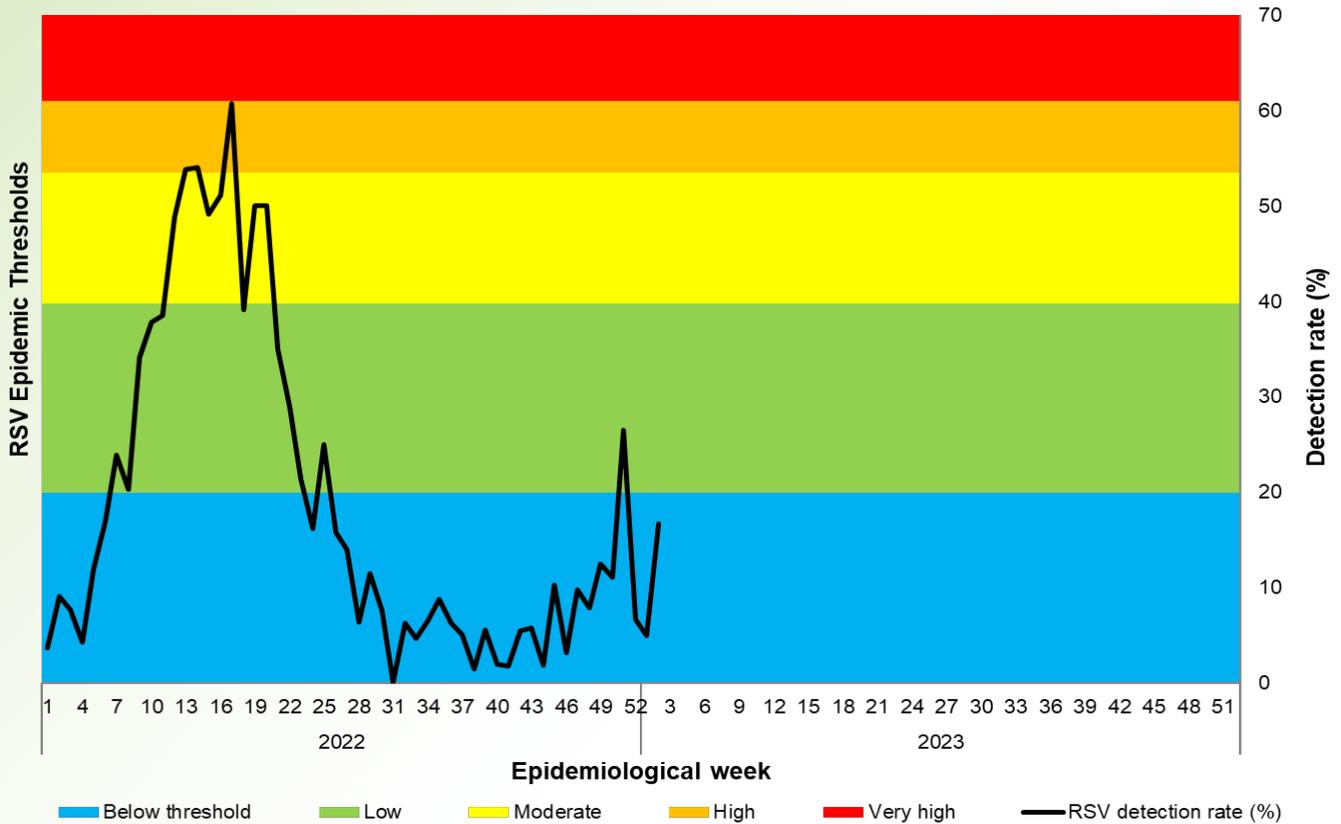


Figure 4. RSV detection rate and epidemic thresholds* among children aged <5 years, pneumonia surveillance public hospitals, 03/01/2022 – 14/01/2023 *Thresholds based on 2010-2019 data

Source: Centre for Respiratory Diseases and Meningitis, NICD-NHLS; thulisam@nicd.ac.za

Increase in Pertussis cases, January 2023

From 2022 till the present, there has been an increase in pertussis cases detected in the pneumonia surveillance programme compared to the first two years of the COVID-19 pandemic. Overall, 0.1% (2/3 633) of patients enrolled in pneumonia surveillance tested positive for pertussis from 01 January 2022 to 30 June 2022. The increase in detection of pertussis cases started in July 2022. Of the 118 (118/3 379, 3.5%) pertussis positive cases detected from 01 July 2022 to 19 January 2023 in pneumonia surveillance, 4.2% (5/118) were detected in July, 18.6% (22/118) in August, 22.9% (27/118) in September, 15.3% (18/118) in October, 20.3% (24/118) in November, 14.4% (17/118) in December and 4.2% (5/118) in January 2023 (Figure 5). During this period, the increase in laboratory-confirmed pertussis cases was predominantly from sentinel surveillance

sites in Western Cape Province (77.5%, 91/118) (Figure 6). From 01 July 2022 to 19 January 2023, the *B. pertussis* detection rate was 7.9% (91/1 158) in Western Cape Province, 2.2% (11/490) in Mpumalanga Province, 0.7% (7/1 006) in Gauteng Province, 0.7% (2/307) in North West Province and 0.2% (2/418) in KwaZulu-Natal Province. Of the 118 pertussis cases, 81.4% (96/118) were in children <5 years of age and of those, 69.8% (67/96) were in children <3 months. From 01 July 2022 to 19 January 2023, there were two deaths reported, a child <3 months of age from Mpumalanga Province and a 49-year-old male on treatment for chronic medical conditions from Gauteng Province. Among 42 pertussis positive cases aged < 5 years and with data on vaccination, 28/42 (66.7%) were up-to-date with their vaccinations.

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In addition to the increase in pertussis cases identified at surveillance sites, there has been an increase in cases identified from the Notifiable Medical Conditions (NMC) surveillance system. These cases include some of the cases enrolled into the pneumonia surveillance programme (notification of pneumonia surveillance cases is ongoing). From 01 January 2022 to 19 January 2023, 818 cases of pertussis were reported to the NMC, of which 95.8% (784/818) were reported between July 2022 and 19 January 2023. Of the 784 cases, more than half (60.2%, 472/784) were cases reported from Western Cape Province. The majority (58.0%, 455/784) of cases reported were in children aged <5 years of age, of which 78.0% (355/455) were <3 months old. Among the 646 pertussis-positive cases with data available for outcome, 14 deaths were reported (excluding the two deaths reported above under pneumonia surveillance). Of the 14 deaths, 12 were children aged <5 years and 2 were adults aged >65 years.

Pertussis, commonly known as 'whooping cough' is a vaccine-preventable disease caused by *Bordetella pertussis* and is a category 1 NMC. Clinicians are advised to have a high index of suspicion for cases, especially in very young children who may not present with typical symptoms of pertussis (cough and whoop). Immunity following vaccination lasts for approximately five to six years. Episodic increases in pertussis

cases occur in vaccinated populations every three to five years. Completion of childhood primary series Diphtheria Tetanus and acellular-Pertussis (DTaP) vaccinations and boosters is important for prevention. Healthcare workers should confirm the vaccination status of children and encourage vaccination. Clinicians are advised to be on the alert for cases, to conduct diagnostic testing where appropriate, to notify cases on the NMC app, prescribe post-exposure prophylaxis to close and high-risk contacts of suspected or confirmed cases, to vaccinate healthcare workers, and encourage pregnant women to vaccinate where possible. Vaccination of healthcare workers against pertussis reduces transmission to vulnerable patients (e.g. neonates) and is recommended where resources are available. Maternal immunisation with acellular pertussis-containing vaccines (DTaP) is effective in preventing severe disease and mortality among young infants, before they receive their infant vaccines. NICD recommendations for pertussis diagnosis, management and public health response may be found on the NICD web page (<http://www.nicd.ac.za/index.php/pertussis/>). Notification forms can be accessed at <http://www.nicd.ac.za/index.php/nmc/>. An alert for increased pertussis cases was released on 21 September 2022 (<https://www.nicd.ac.za/increase-in-pertussis-cases-in-south-africa-21-sept-2022/>).

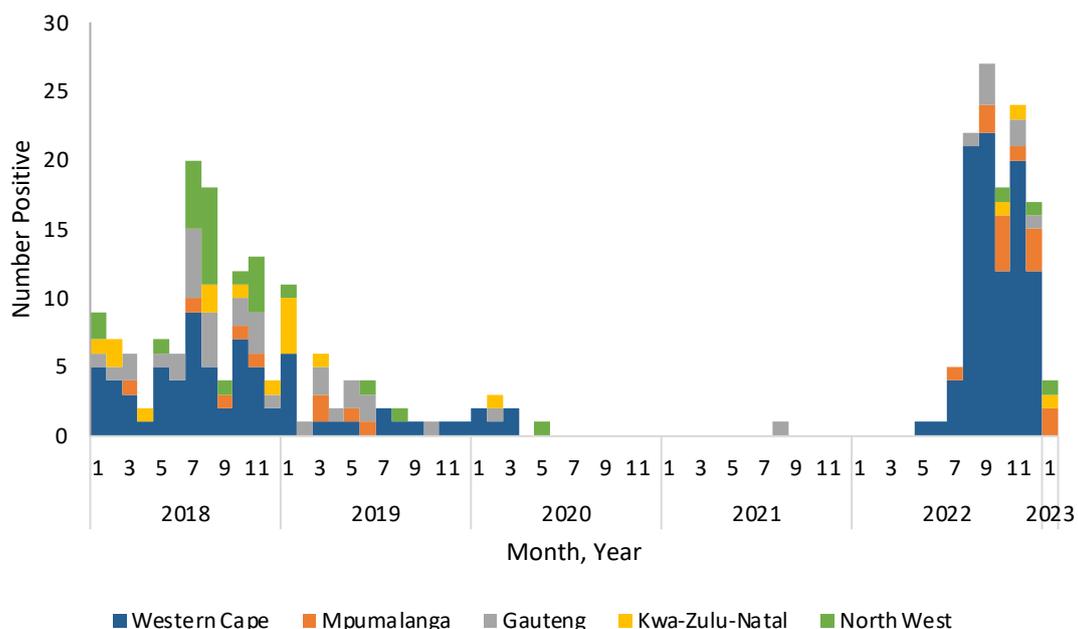


Figure 5. Number of laboratory-confirmed pertussis cases from pneumonia surveillance programme by year, month and province, South Africa 2018-2023

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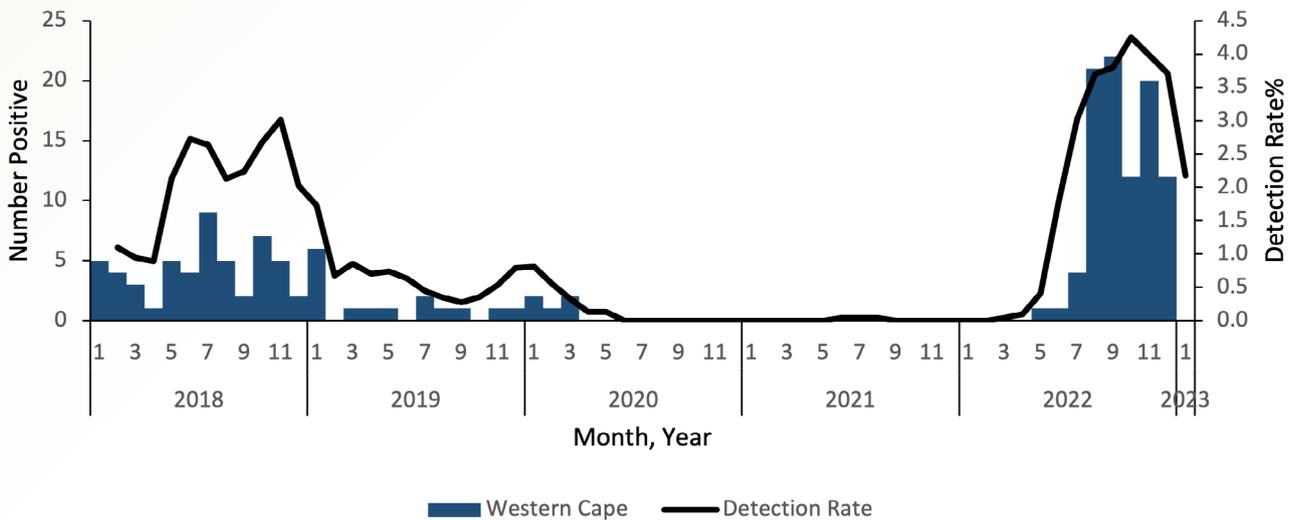


Figure 6. Number of laboratory-confirmed pertussis cases from pneumonia surveillance programme and 3-weeks rolling average detection rate by year, month in Western Cape, South Africa 2018-2023

Source: Centre for Respiratory Diseases and Meningitis, NICD-NHLS; namhlab@nicd.ac.za

Northern Hemisphere Influenza season

As of 18 January 2023, influenza activity remained elevated in the Northern Hemisphere overall. Amongst cases with available data on subtypes, influenza A(H3N2) was the predominant subtype isolated between November 2022 and January 2023 (Figure 7). Influenza A(H3N2) accounted for the majority of subtyped cases in most countries, except in central Asia where influenza A(H1N1)pdm09 predominated. In Europe, overall influenza activity remained high, while in East and West Asia, North and South America, and North Africa, activity continued to decline or remained low. Additional information on Northern

Hemisphere influenza activity can be accessed using the following link: <https://www.who.int/publications/m/item/influenza-update-n-435>.

Although the South Africa influenza season has not yet started, clinicians should have a high index of suspicion for influenza in travellers returning from the Northern Hemisphere who present with respiratory illness. The Southern Hemisphere vaccine will be available in South Africa in March 2023.

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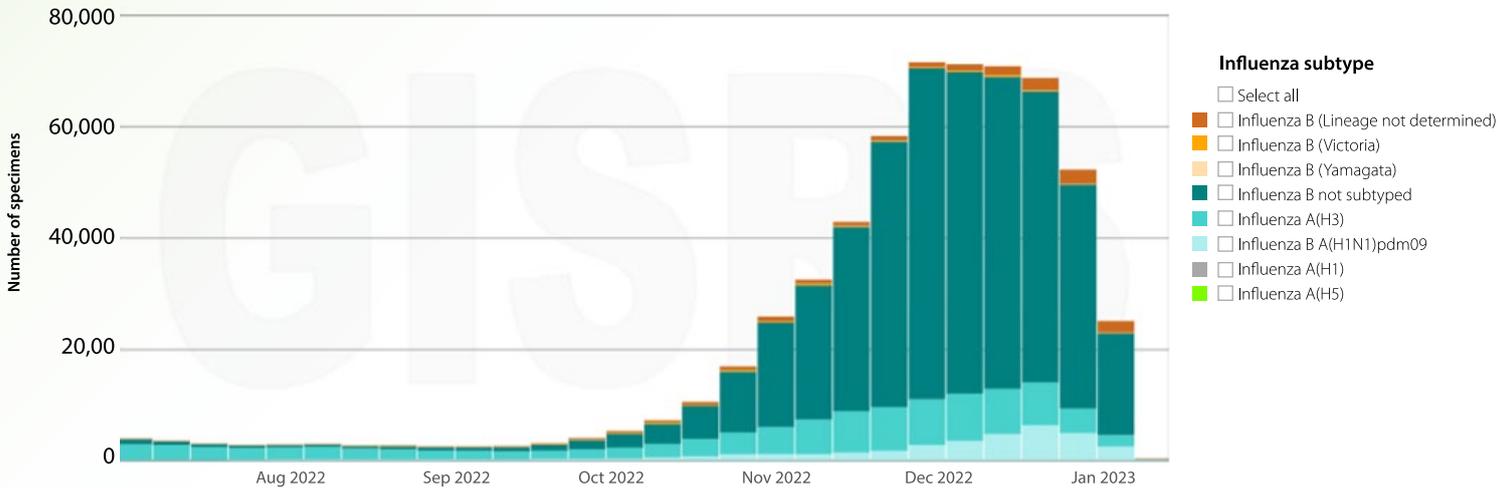


Figure 7. Number of specimens positive for influenza by subtype Northern hemisphere

Data source: FluNet (www.who.int/toolkits/flunet). Global influenza Surveillance and Response System (GISRS). Data was generated on 18/01/2023.

Source: Centre for Respiratory Diseases and Meningitis, NICD-NHLS; thendor@nicd.ac.za

VACCINES AND IMMUNOLOGY

Laboratory-based Hepatitis A IgM Surveillance in South Africa, January to December 2022

Hepatitis A viral infection is one of the notifiable medical conditions (NMCs) in South Africa. Hepatitis A virus (HAV) causes acute liver disease and is mainly transmitted via the faecal-oral route. A total of 1 538 hepatitis A infections were reported to the NMC surveillance system with positive anti-IgM hepatitis A tests.

Hepatitis A incidence rates were highest in Western Cape Province at 33%, followed by KwaZulu-Natal Province (22%), and Gauteng Province (13%). The national hepatitis A incidence was 3 per 100 000 population. Incidence was highest in Western Cape Province (7/100 000 population), with all other provinces having a prevalence equal to or below 3/100 000 population.

The mean age of hepatitis A infected cases was 21 years. Of the 1 538 hepatitis A IgM-positive cases, 35% of cases were in the under-10 age group, 49% in the under-15 age-group and 74% in the under-30 age group.

In Western Cape Province and other places reporting high numbers of hepatitis A cases, surveillance needs to be strengthened to identify risk factors. Considering the shift in transmission to older age groups, planning of hepatitis A vaccine introduction in the public sector in the medium term is recommended.