



**NATIONAL INSTITUTE FOR
COMMUNICABLE DISEASES**

Division of the National Health Laboratory Service



Weekly Influenza and Respiratory Syncytial Surveillance Report

Week 20, 2018

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Weekly Influenza and Respiratory Syncytial Surveillance Report

Programme Descriptions

Programme	ILI	Viral Watch	National syndromic surveillance for pneumonia	Private hospital consultations
Start year	2012	1984	2009	2002
Provinces*	KZ NW MP	EC FS GP LP MP NC NW WC	GP KZ MP NW WC	EC FS GP LP MP NW WC
Type of site	Primary health care clinics	General practitioners	Public hospitals	Private hospitals
Case definition	An acute respiratory illness with a temperature ($\geq 38^{\circ}\text{C}$) and cough, & onset ≤ 10 days	An acute respiratory illness with a temperature ($\geq 38^{\circ}\text{C}$) and cough, & onset ≤ 10 days	Acute or chronic lower respiratory tract infection	ICD codes J10-J18
Specimens collected	≥ 5 years of age: oropharyngeal/nasopharyngeal swabs <5 years of age: nasopharyngeal aspirates	Throat and/or nasal swabs or Nasopharyngeal swabs	≥ 5 years of age: oropharyngeal/nasopharyngeal swabs <5 years of age: nasopharyngeal aspirates Induced/expectorated sputum	Not applicable
Main pathogens tested**	INF RSV BP	INF RSV BP	INF RSV SP BP	Not applicable

Epidemic Threshold

Thresholds are calculated using the Moving Epidemic Method (MEM), a sequential analysis using the R Language, available from: <http://CRAN.R-project.org/web/package=mem>) designed to calculate the duration, start and end of the annual influenza epidemic. MEM uses the 40th, 90th and 97.5th percentiles established from available years of historical data to calculate thresholds of activity. Thresholds of activity for influenza and RSV are defined as follows: Below seasonal threshold, Low activity, Moderate activity, High activity, Very high activity. For influenza, thresholds from outpatient influenza like illness (Viral Watch Programme) are used as an indicator of disease transmission in the community and thresholds from pneumonia surveillance are used as an indicator of impact of disease.

* EC: Eastern Cape; FS: Free State; GP: Gauteng; KZ: KwaZulu-Natal; LP: Limpopo; MP: Mpumalanga; NC: Northern Cape; NW: North West; WC: Western Cape

**INF: Influenza; RSV: respiratory syncytial virus; BP: Bordetella pertussis; SP: Streptococcus pneumoniae

Weekly Influenza and Respiratory Syncytial Surveillance Report

Reporting period 01/01/2018 to 20/05/2018

Results until end of epidemiologic week 20(2018)

Comments:

Influenza

The 2018 influenza season started in week 18 (first week of May), when influenza detections in the Viral Watch programme rose above the seasonal threshold, as determined by the Moving Epidemic Method.

ILI programme: In 2018 to date, specimens from 449 patients were received from 3 ILI sites. Influenza was detected in 34 specimens, all identified as influenza A(H1N1)pdm09.

Viral Watch programme: During the same period, specimens from 218 patients were received from Viral Watch sites. Since April, when the number of specimens received started to increase, influenza has been detected in 45 specimens, 41 of which were identified as influenza A(H1N1)pdm09, two influenza A(H3N2) and two as influenza B. In addition, influenza A(H3N2) was detected in three patients, A(H1N1)pdm09 in four, and influenza B in 14, in the inter-seasonal period, most of whom had a history of travel or contact with tourists.

Pneumonia surveillance: In this time period, specimens from 1879 patients with severe respiratory illness (SRI) were received from the 6 sentinel sites. Influenza was detected in 26 specimens, all identified as A(H1N1)pdm09.

Respiratory syncytial virus

The 2018 RSV season started in week 9 (week starting 26 February) when RSV detections in pneumonia surveillance rose above the seasonal threshold, as determined by the Moving Epidemic Method, and is ongoing. The highest detection rate to date, was in week 13 (week starting 26 March) i.e. 41/82 (50%).

In 2018 to date, RSV has been detected in the specimens of 80 patients in the ILI programme, and 602 from patients in the pneumonia surveillance programme.

During the same period, 19 specimens from viral watch surveillance programme sites tested positive for RSV.

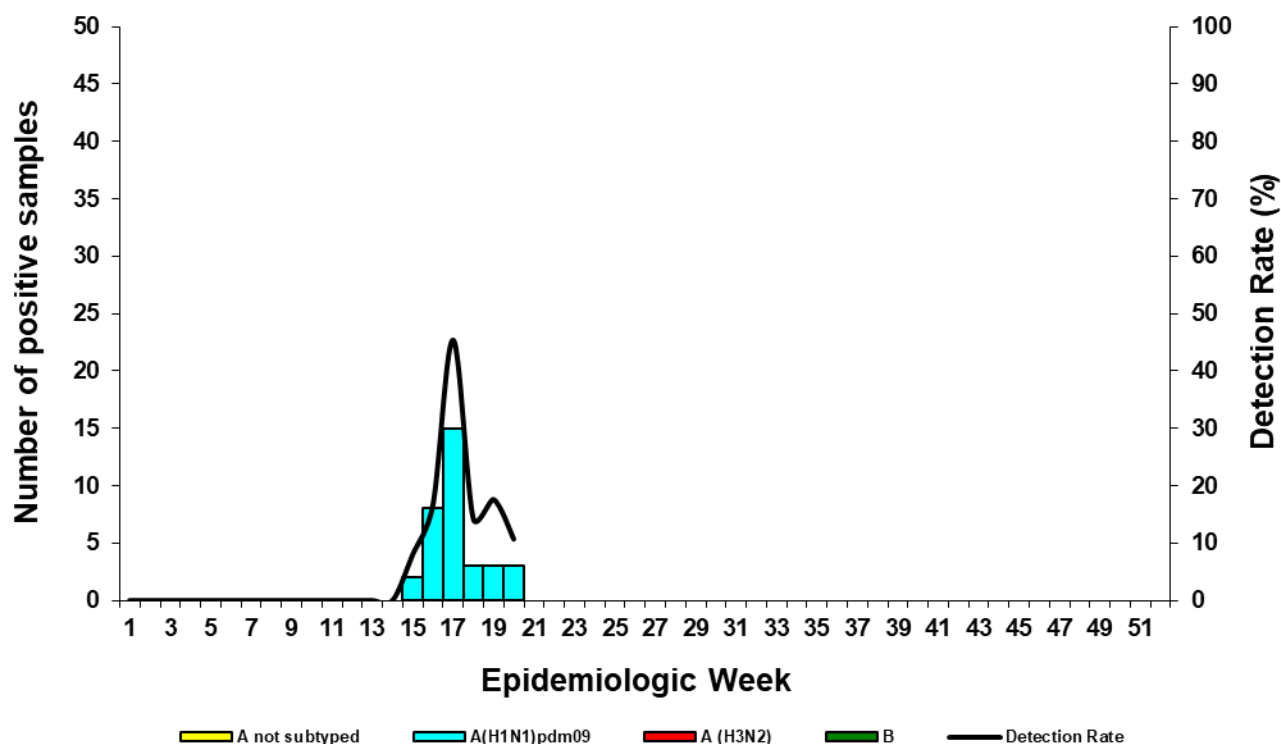
Weekly Influenza and Respiratory Syncytial Surveillance Report

Reporting period 01/01/2018 to 20/05/2018

Results until end of epidemiologic week 20(2018)

Influenza-like illness (ILI) surveillance primary health care clinics

Figure 1. Number of positive samples* by influenza types and subtypes and detection rate** by week



*Specimens from patients with influenza-like illnesses at 3 sentinel sites in 3 provinces

**Only reported for weeks with >10 specimens submitted

Table 1. Cumulative number of influenza type and subtype and total number of samples tested by clinic and province

Clinic (Province)	A not typed as yet	A(H1N1)pdm09	A(H3N2)	B	Total samples
Agincourt Clinic (MP)		1			133
Edendale Gateway Clinic (KZ)		32			209
Jouberton Clinic (NW)		1			106
Total:		34			449

KZ: KwaZulu-Natal; NW: North West, MP: Mpumalanga

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Results until end of epidemiologic week 20(2018)

Influenza-like illness (ILI) surveillance primary health care clinics

Figure 2. Number of samples testing positive for respiratory syncytial virus and detection rate by week

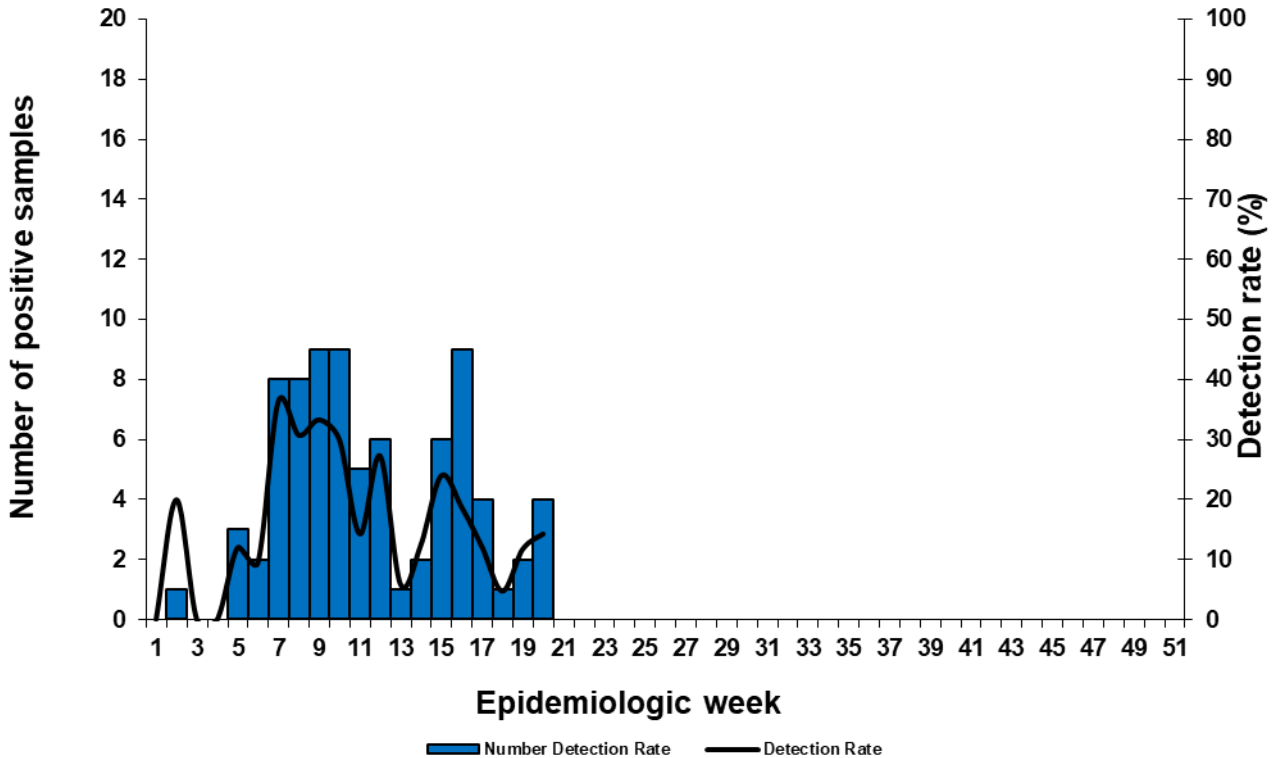


Table 2. Cumulative number of respiratory syncytial virus identified and total number of samples tested by clinic and province

Clinic (Province)	RSV Positive	Total samples
Agincourt Clinic (MP)	38	133
Edendale Gateway Clinic (KZ)	26	209
Jouberton Clinic (NWP)	16	107
Total:	80	449

KZ: KwaZulu-Natal; NW: North West, MP: Mpumalanga

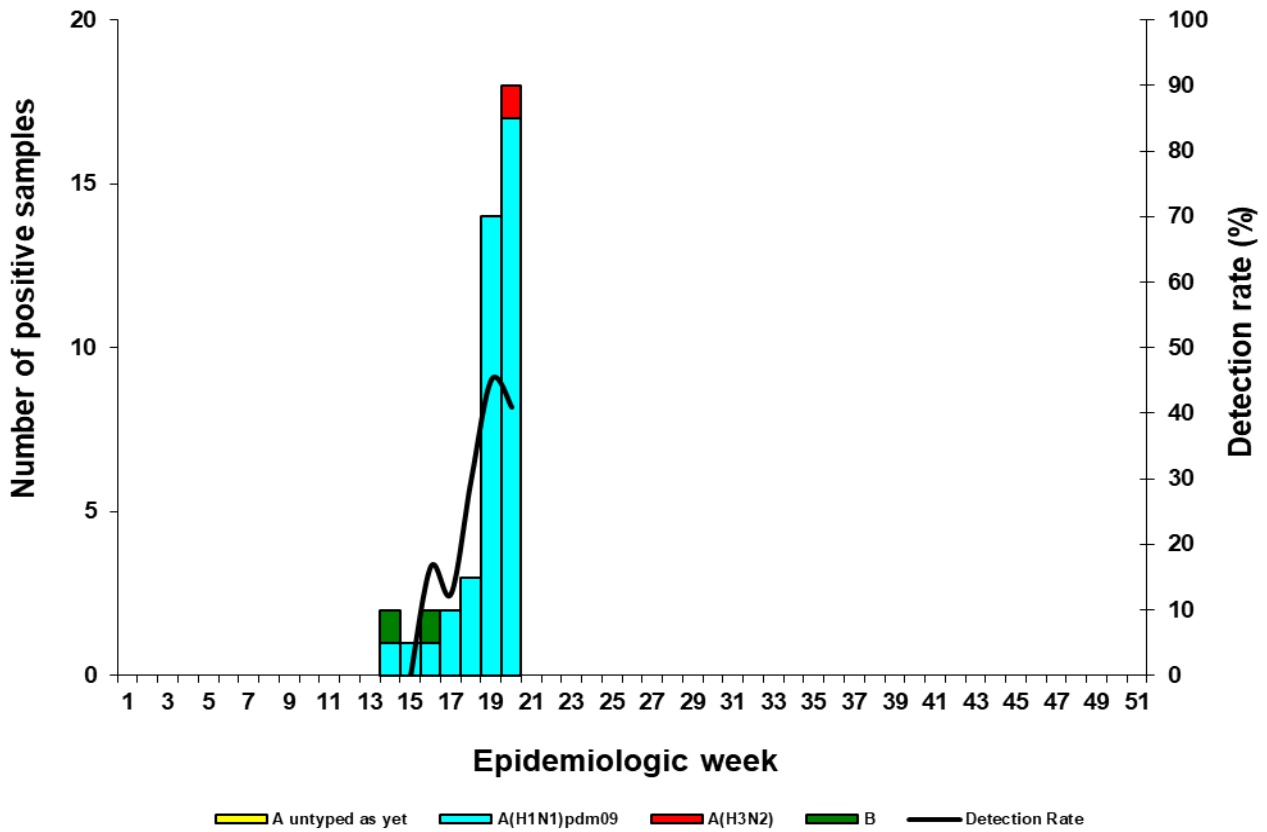
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Influenza-like illness (ILI) surveillance Viral Watch

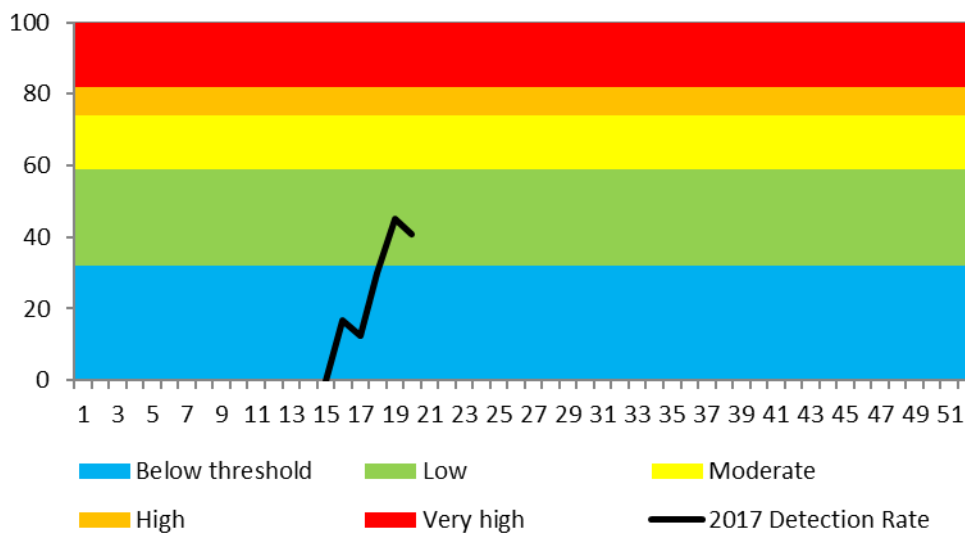
Figure 4. Number of positive samples* by influenza types and A not typed as yet and detection rate by week**



*Specimens from patients with Influenza-like illnesses at 90 sentinel sites in 8 provinces

** Only reported for weeks with >10 specimens submitted.

Figure 5. ILI surveillance Viral Watch percentage influenza detections and epidemic thresholds*



*Thresholds based on 2007-2017 data (Excluding 2009)

Weekly Influenza and Respiratory Syncytial Surveillance Report

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Results until end of epidemiologic week 20(2018)

Table 4. Cumulative number of influenza type and subtype and total number of samples tested by province

Province	A not typed as yet	A(H1N1)pdm09	A(H3N2)	B	Total samples
Eastern Cape		2			10
Free State					3
Gauteng		29	1	1	102
Limpopo					1
Mpumalanga		2	1		22
North West					1
Northern Cape					5
Western Cape		8		1	74
Total:		41	2	2	218

To date in 2018, 56 patients have been tested for influenza at the time of entry into South Africa following travel abroad and 21 have tested influenza positive.

Patients known to have acquired influenza abroad are not included in the table or epidemiological curve.

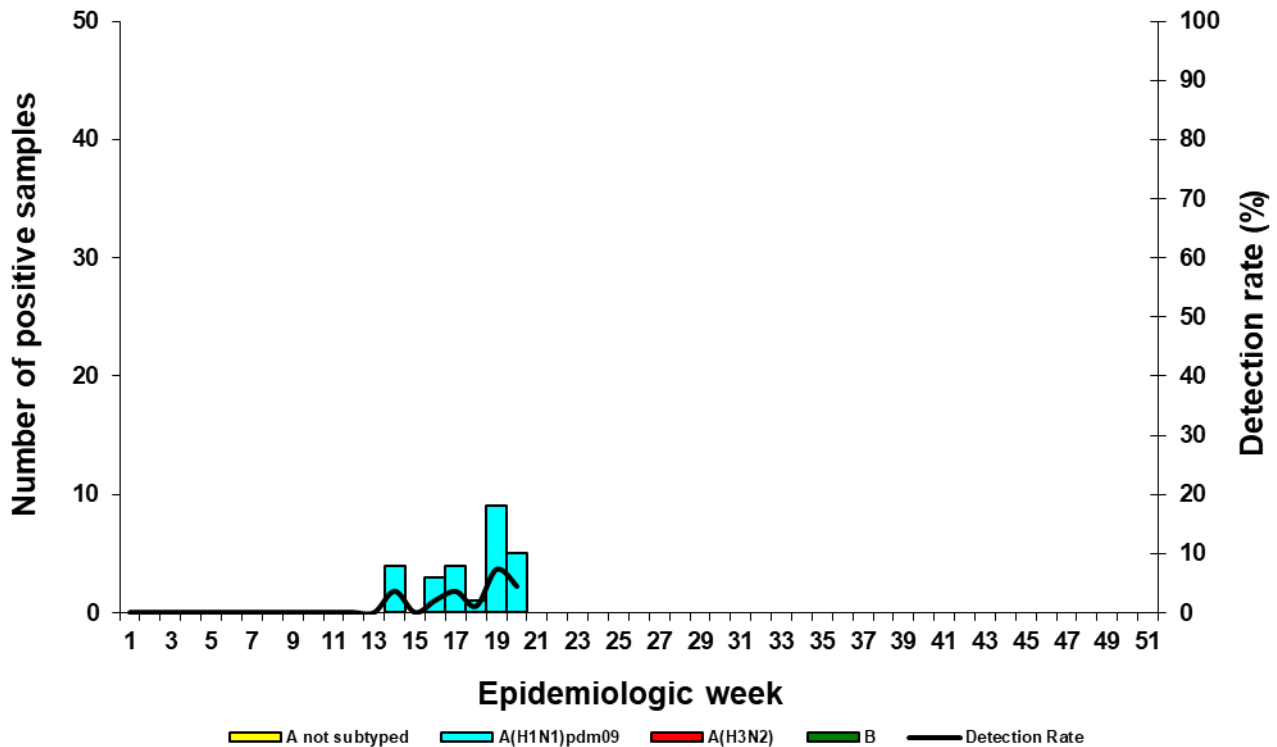
Weekly Influenza and Respiratory Syncytial Surveillance Report

Reporting period 01/01/2018 to 20/05/2018

Results until end of epidemiologic week 20(2018)

National syndromic surveillance for pneumonia

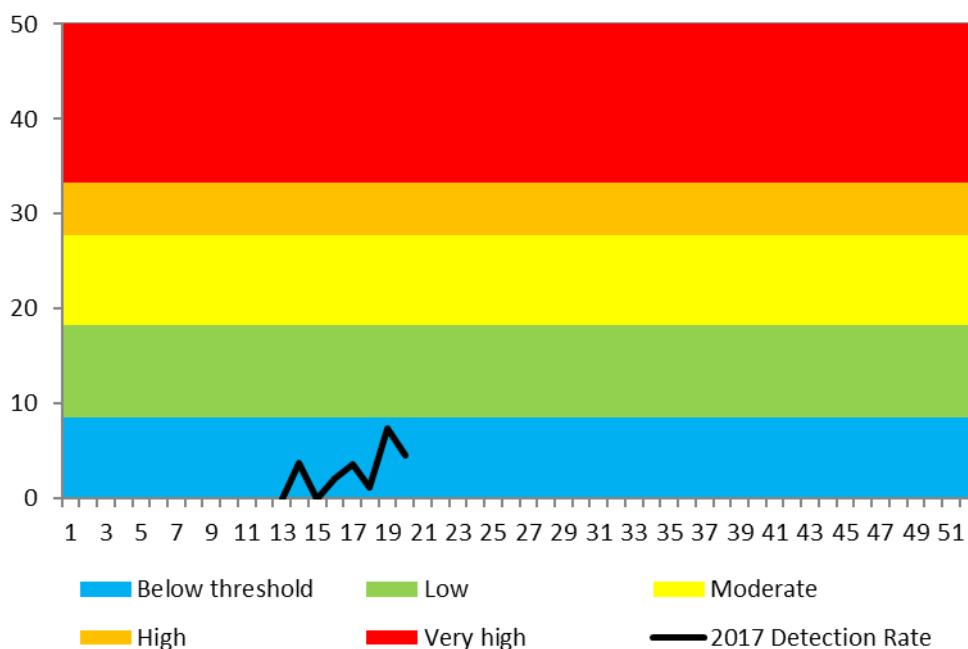
Figure 6. Number of positive samples* by influenza types and A not typed as yet and detection rate by week**



*Specimens from patients hospitalised with pneumonia at 6 sentinel sites in 5 provinces

**Only reported for weeks with >10 specimens submitted

Figure 7. National syndromic surveillance for pneumonia percentage influenza detections and epidemic thresholds*



*Thresholds based on 2010-2017 data

Data are provisional as reported to date. Number of consultations/specimens are reported/analysed by date of consultation/specimen collection.

Weekly Influenza and Respiratory Syncytial Surveillance Report

Reporting period 01/01/2018 to 20/05/2018

Results until end of epidemiologic week 20(2018)

Table 5. Cumulative number of identified influenza types and subtypes and total number of samples tested by hospital

Hospital (Province)	A not typed as yet	A(H1N1)pdm09	A(H3N2)	B	Total samples
Edendale (KZ)		15			338
Helen Joseph-Rahima Moosa (GP)		5			433
Klerksdorp-Tshepong (NW)		0			255
Mapulaneng-Matikwana (MP)		1			102
Red Cross (WC)		3			484
Mitchell's Plain (WC)		2			267
Total:		26			1879

GP: Gauteng; KZ: KwaZulu-Natal; NW: North West; MP: Mpumalanga; WC: Western Cape

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Reporting period 01/01/2018 to 20/05/2018

Results until end of epidemiologic week 20(2018)

National syndromic surveillance for pneumonia

Figure 8. Number of samples testing positive for respiratory syncytial virus and detection rate by week

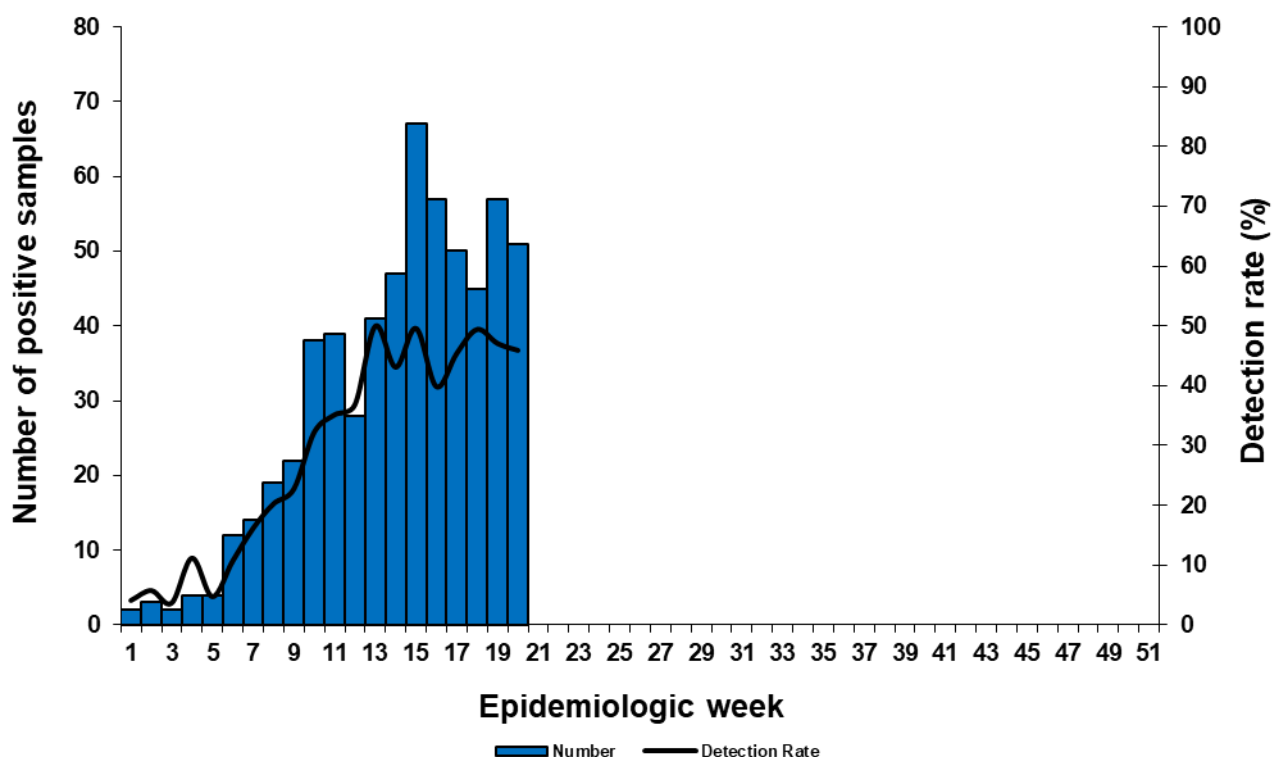


Table 6: Cumulative number of respiratory syncytial virus identified and total number of samples tested by hospital

Hospital (Province)	RSV Positive	Total samples
Edendale (KZ)	76	338
Helen Joseph-Rahima Moosa (GP)	144	433
Klerksdorp-Tshepong (NW)	30	255
Mapulaneng-Matikwana (MP)	45	102
Red Cross (WC)	206	484
Mitchel's Plain (WC)	101	267
Total:	602	1879

GP: Gauteng; KZ: KwaZulu-Natal; NW: North West; MP: Mpumalanga; WC: Western Cape

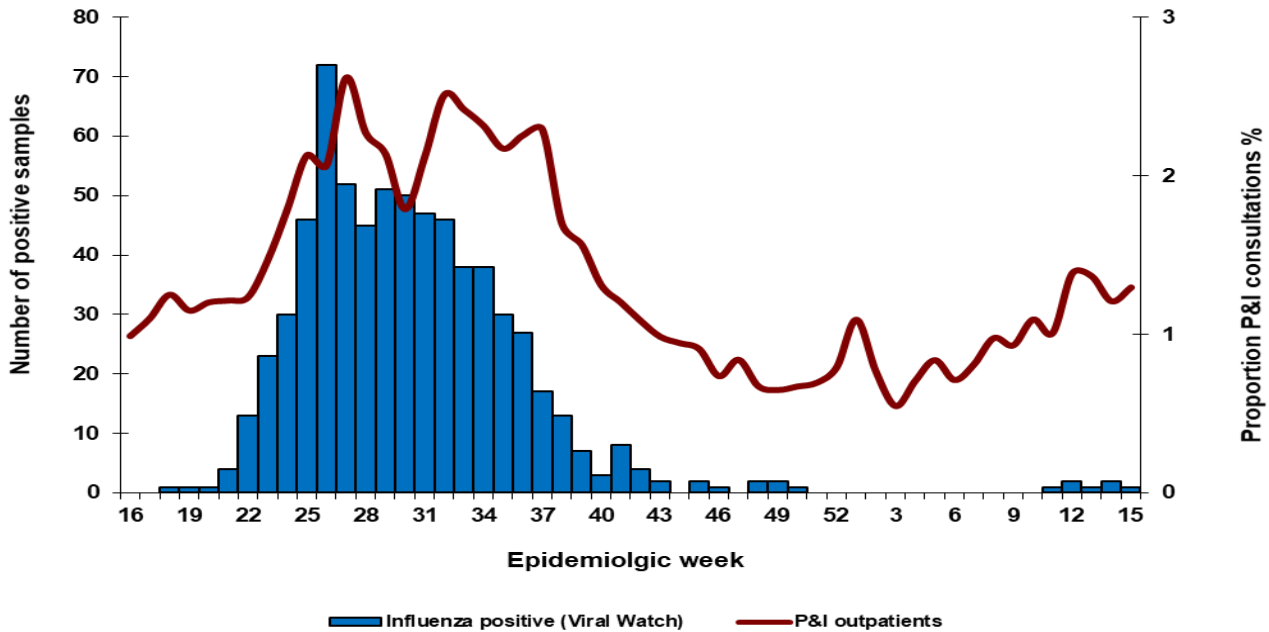
Weekly Influenza and Respiratory Syncytial Surveillance Report

Reporting period 17/04/2017 to 21/04/2018

Results until end of epidemiologic week 15(2018)

Private hospital consultations

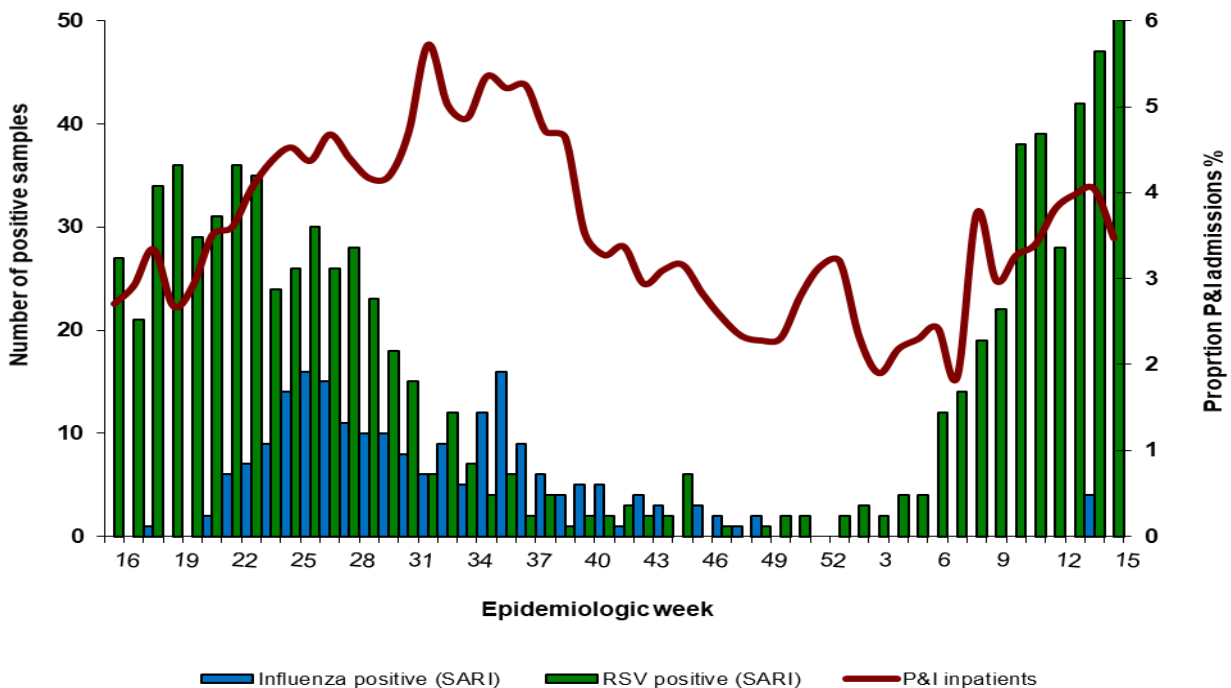
Figure 9. Number of private hospital outpatient consultations* with a diagnosis of pneumonia and influenza (P&I) and viral isolates**



* Hospital outpatient data from weekly reports of consultations to the Netcare hospital group. Discharge diagnosis is according to International Statistical Classification of Diseases and Related Health Problems coding by clinicians and does not represent laboratory confirmation of aetiology

** Influenza positive specimens from the Viral Watch surveillance programme

Figure 10. Number of private hospital admissions* with a discharge diagnosis of pneumonia and influenza (P&I) and viral isolates**



*Hospitalisation admission data from weekly reports of consultations to the Netcare hospital group. Discharge diagnosis is according to International Statistical Classification of diseases and Related Health Problems/ ICD by clinicians and does not represent laboratory confirmation of aetiology ** Influenza positive specimens from the national syndromic surveillance for pneumonia.