



<b>Page</b>	<b>Content</b>
<b>2</b>	<b>Surveillance programme description</b>
<b>3</b>	<b>Comments</b>
<b>4-5</b>	<b>Systematic Influenza-like illness (ILI) surveillance</b> <b>Influenza</b> <b>Respiratory syncytial virus</b>
<b>6-7</b>	<b>Influenza-like illness (ILI) Viral Watch</b> <b>Influenza</b>
<b>8-10</b>	<b>National syndromic surveillance for pneumonia</b> <b>Influenza</b> <b>Respiratory syncytial virus</b>
<b>11</b>	<b>Private Hospital Consultation</b> <b>Outpatient consultations</b> <b>In patient consultations</b>

# Weekly Influenza and Respiratory Syncytial Virus Surveillance Report

## Programme Descriptions

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

\*\*Started in 2019

\*\*\*INF: influenza virus; RSV: respiratory syncytial virus; BP: *Bordetella pertussis*;

# Weekly Influenza and Respiratory Syncytial Virus Surveillance Report

Reporting period 01/01/2019 to 09/06/2019

Results until end of epidemiologic week 23(2019)

## Comments:

### Influenza

The 2019 season started in week 16 (week ending 21 April) when influenza detection in the Viral Watch programme rose above the seasonal threshold, as determined by the Moving Epidemic Method. Influenza transmission is currently very high and impact moderate.

ILI programme: In 2019 to date, specimens from 824 patients were received from 4 ILI sites. Influenza was detected in 71 specimens, 12 were identified as influenza A(H1N1)pdm09, 48 as influenza A(H3N2) and 11 A to be subtyped.

Viral Watch programme: During the same period, specimens were received from 614 patients from Viral Watch sites in 6 provinces. Eleven influenza detections were made from 61 specimens (18%) in the first three months of the year, mainly from travellers.

Since April influenza was detected in 404 patients, of which 19 were influenza A(H1N1)pdm09, 378 influenza A(H3N2), and 7 A subtyping inconclusive.

Pneumonia surveillance: In this time period, specimens from 2029 patients with severe respiratory illness (SRI) were received from the 6 sentinel sites. Influenza was detected in 77 patients, influenza A(H1N1)pdm09 in four, influenza A(H3N2) in 57, influenza B(Yamagata) in one, and one dual positive for influenza A(H1N1)pdm09 and A(H3N2). In addition there were two influenza A subtype subtyped inconclusive, and seven influenza A to be subtyped.

### Respiratory syncytial virus

The 2019 RSV season started in week 8 (week starting 18 February) when RSV detections in pneumonia surveillance rose above the seasonal threshold, as determined by the Moving Epidemic Method.

In 2019 to date, RSV has been detected in the specimens of 111 patients in the ILI programme, 638 patients in the pneumonia surveillance programme and in 16 patients in the Viral Watch programme. The detection rate for RSV is declining in all programmes following a peak in week 17 (week starting 29 April) in the pneumonia surveillance programme.

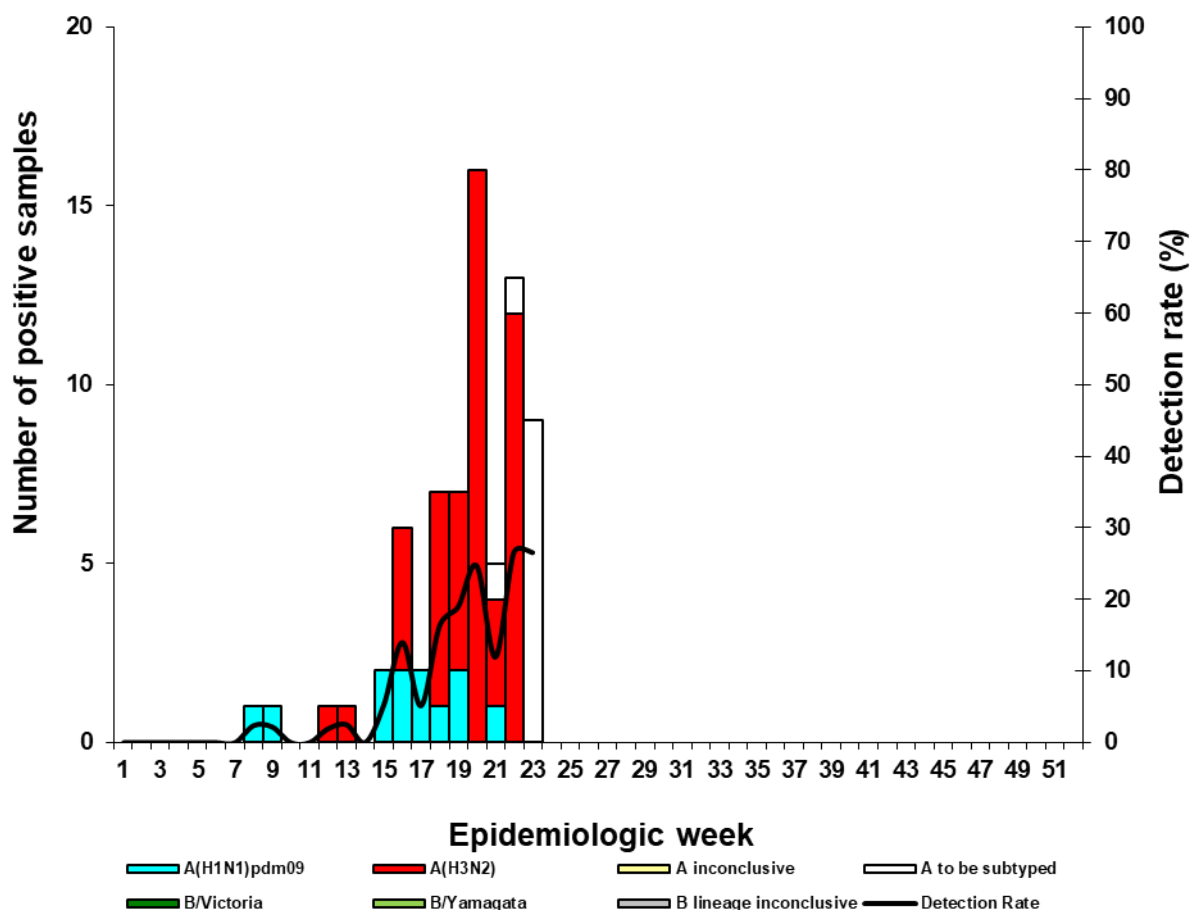
# Weekly Influenza and Respiratory Syncytial Virus Surveillance Report

Reporting period 01/01/2019 to 09/06/2019

Results until end of epidemiologic week 23 (2019)

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

Figure 1. Number of positive samples\* by influenza subtype and lineage 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

Inconclusive: insufficient viral load in sample and unable to characterise further

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

Clinic (Province)	A(H1N1)pdm09	A(H3N2)	A subtype inconclusive	A to be subtyped	B/Victoria	B/Yamagata	B lineage inconclusive	Total samples
Eastridge (WC)	11	46		5				515
Edendale Gateway (KZ)				1				41
Jouberton (NW)	1	2		5				262
Mitchell's Plain (WC)								6
<b>Total:</b>	<b>12</b>	<b>48</b>		<b>11</b>				<b>824</b>

KZ: KwaZulu-Natal; NW: North West; WCP: Western Cape

Inconclusive: insufficient viral load in sample and unable to characterise further

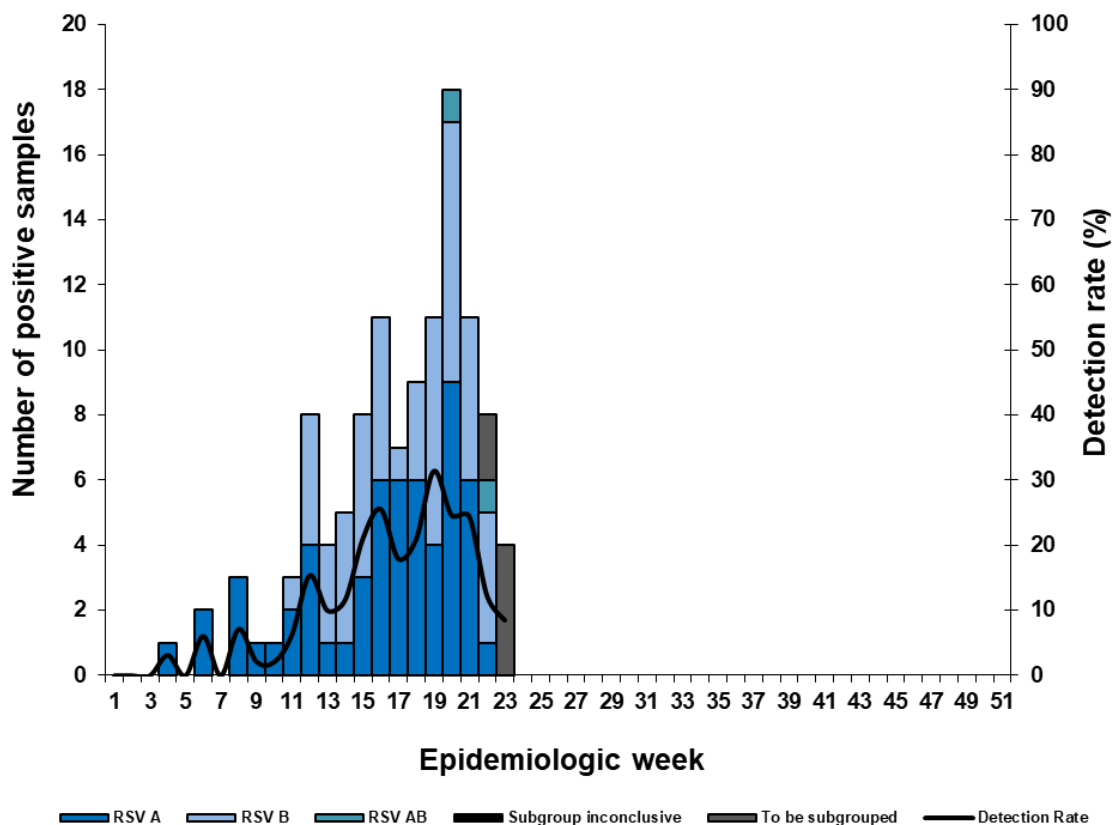
# Weekly Influenza and Respiratory Syncytial Virus Surveillance Report

Reporting period 01/01/2019 to 09/06/2019

Results until end of epidemiologic week 23(2019)

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

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



Inconclusive: insufficient viral load in sample and unable to characterise further  
 RSV AB: Both RSV A and B subgroup identified

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

Clinic (Province)	RSV A	RSVB	RSVAB	Subgroup inconclusive	To be subgrouped	Total samples
Eastridge (WC)	22	48	1	0	4	75
Edendale Gateway (KZ)	5	0	0	0	0	5
Jouberton (NW)	28	0	1	0	2	31
Mitchell's Plain (WC)	0	0	0	0	0	0
<b>Total</b>	<b>55</b>	<b>48</b>	<b>2</b>	<b>0</b>	<b>6</b>	<b>111</b>

KZ: KwaZulu-Natal; NW: North West; WC: Western Cape  
 Inconclusive: insufficient viral load in sample and unable to characterise further  
 RSV AB: Both RSV A and B subgroup identified

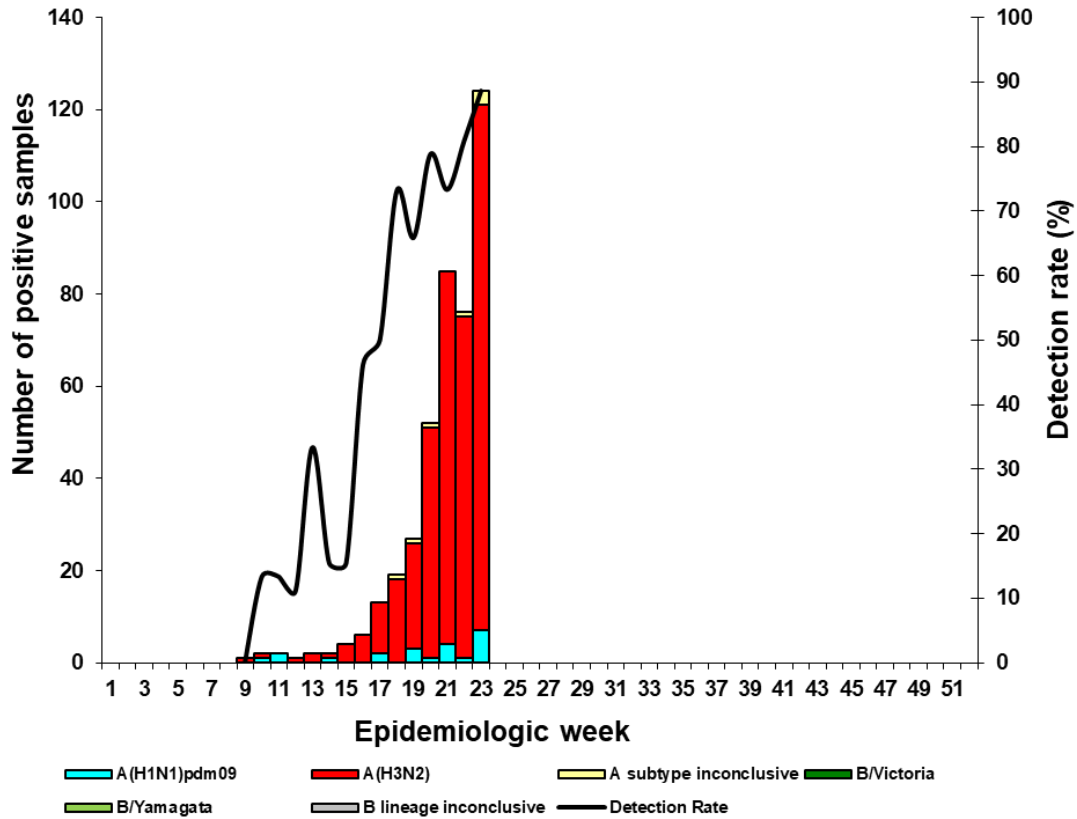
# Weekly Influenza and Respiratory Syncytial Virus Surveillance Report

Reporting period 01/01/2019 to 09/06/2019

Results until end of epidemiologic week 23(2019)

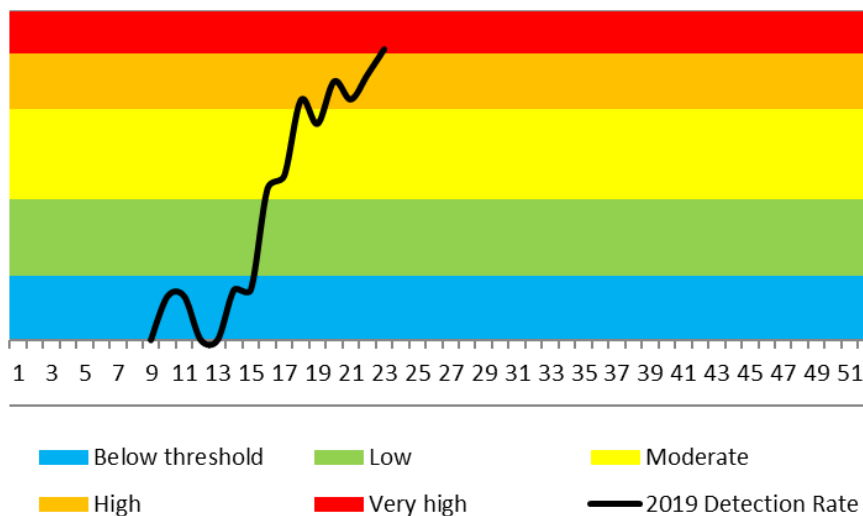
## Influenza-like illness (ILI) surveillance Viral Watch

Figure 4. Number of positive samples\* by influenza subtype and lineage 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.  
 Inconclusive: insufficient viral load in sample and unable to characterise further

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



\*Thresholds based on 2008-2018 data (Excluding 2009)

# Weekly Influenza and Respiratory Syncytial Virus Surveillance Report

Reporting period 01/01/2019 to 09/06/2019

Results until end of epidemiologic week 23(2019)

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

Province	A(H1N1)pdm09	A(H3N2)	A subtype inconclusive	B/Victoria	B/Yamagata	B lineage inconclusive	Total samples
Eastern Cape	1	36	2				47
Free State		35					39
Gauteng	3	161	1				266
Limpopo		2					3
Mpumalanga	3	16					38
North West							
Northern Cape							
Western Cape	18	133	4				221
<b>Total:</b>	<b>25</b>	<b>383</b>	<b>7</b>				<b>614</b>

Inconclusive: insufficient viral load in sample and unable to characterise further

From 01 January 2019 to date, 27 patients were tested for influenza at the time of entry into South Africa following travel abroad and influenza was detected in two patients, of which one was influenza A(H1N1)pdm09 positive and one influenza A(H3N2).

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

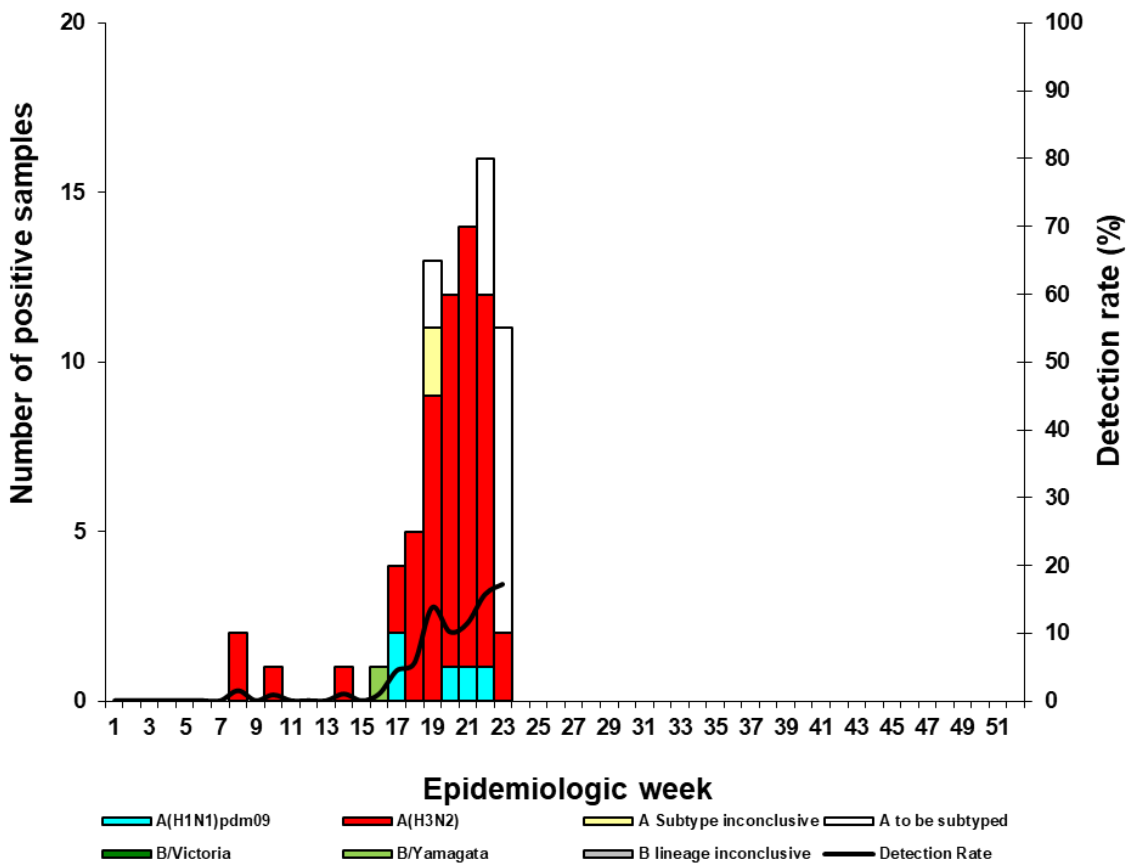
# Weekly Influenza and Respiratory Syncytial Virus Surveillance Report

Reporting period 01/01/2019 to 09/06/2019

Results until end of epidemiologic week 23(2019)

## National syndromic surveillance for pneumonia

Figure 6. Number of positive samples\* by influenza subtype and lineage and detection rate\*\* by week

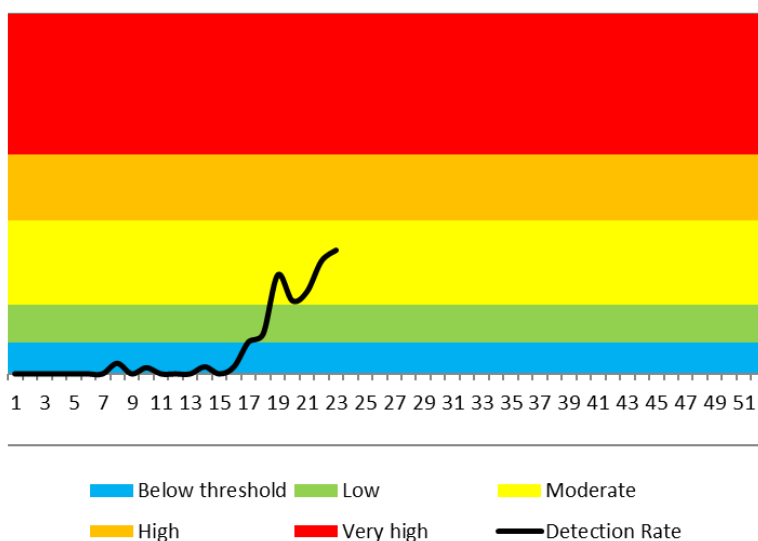


\*Specimens from patients hospitalised with pneumonia at 6 sentinel sites in 5 provinces

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

Inconclusive: insufficient viral load in sample and unable to characterise further

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



\*Thresholds based on 2010-2018 data



# Weekly Influenza and Respiratory Syncytial Virus Surveillance Report

Reporting period 01/01/2019 to 09/06/2019

Results until end of epidemiologic week 23(2019)

**Table 5. Cumulative number of identified influenza subtype and lineage and total number of samples tested by hospital**

Hospital (Province)	A(H1N1)pdm09	A(H3N2)	A subtype inconclusive	A to be subtyped	B/Victoria	B/Yamagata	B lineage inconclusive	Total samples
Edendale (KZ)	0	0		0				376
Helen Joseph-Rahima Moosa (GP)	0	10	1	3				511
Klerksdorp-Tshepong (NW)	0	5		1				290
Mapulaneng-Matikwana (MP)	0	3		0		1		216
Red Cross (WC)	2	14	1	3				161
Mitchell's Plain (WC)	3	26		0				475
<b>Total:</b>	<b>5</b>	<b>58</b>	<b>2</b>	<b>7</b>		<b>1</b>		<b>2029</b>

GP: Gauteng; KZ: KwaZulu-Natal; NW: North West; MP: Mpumalanga; WC: Western Cape  
 Inconclusive: insufficient viral load in sample and unable to characterise further

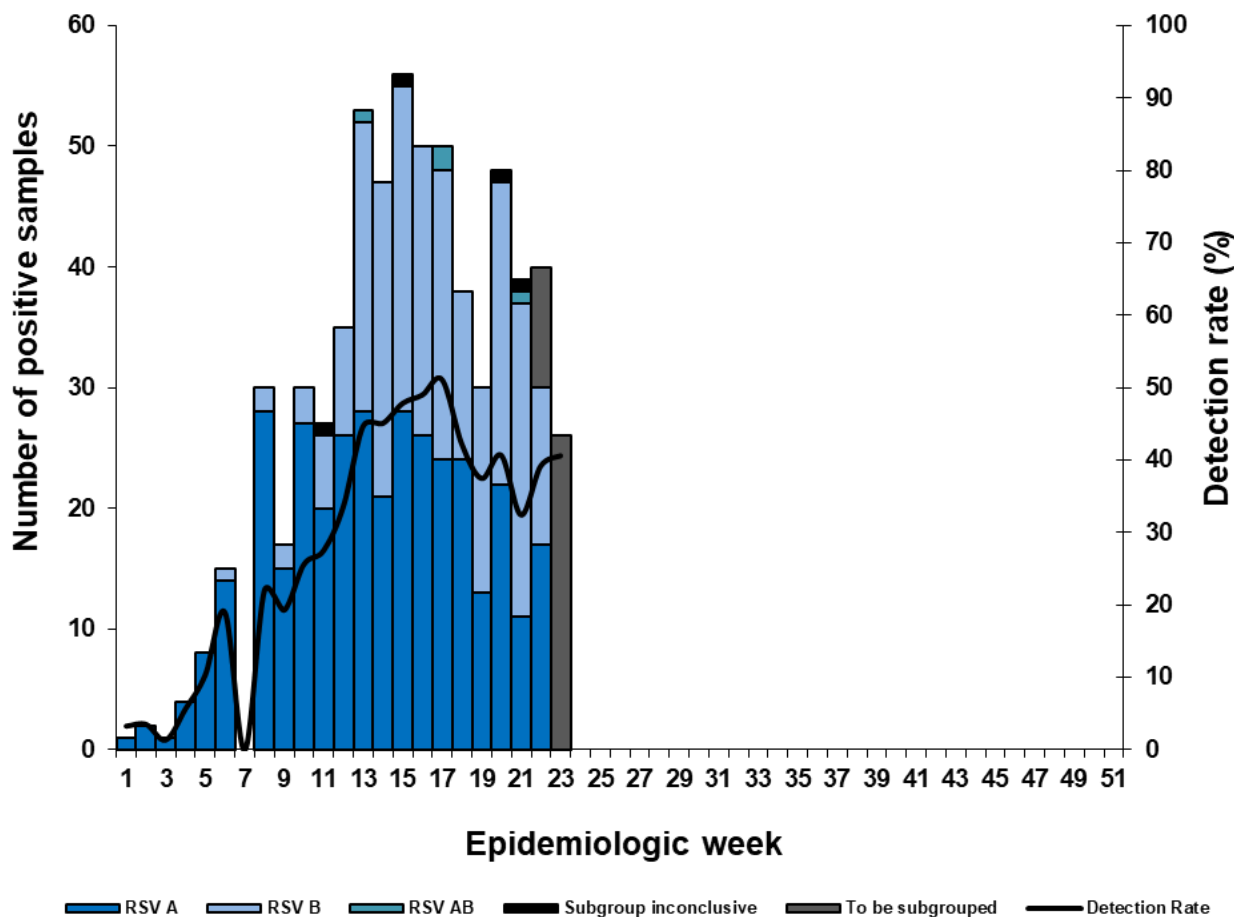
# Weekly Influenza and Respiratory Syncytial Virus Surveillance Report

Reporting period 01/01/2019 to 09/06/2019

Results until end of epidemiologic week 23(2019)

## National syndromic surveillance for pneumonia

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



Inconclusive: insufficient viral load in sample and unable to characterise further

RSV AB: Both RSV A and B subgroup identified

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

Hospital (Province)	RSVA	RSVB	RSVAB	Subgroup inconclusive	To be subgrouped	Total samples
Edendale (KZ)	121	5	0		1	376
Helen Joseph-Rahima Moosa (GP)	97	53	2		2	511
Klerksdorp-Tshepong (NW)	30	6	0	2	6	290
Mapulaneng-Matikwana (MP)	48	1	0		4	216
Red Cross (WC)	19	37	0	1	3	161
Mitchell's Plain (WC)	40	136	3		21	475
<b>Total:</b>	<b>355</b>	<b>238</b>	<b>5</b>	<b>3</b>	<b>37</b>	<b>2029</b>

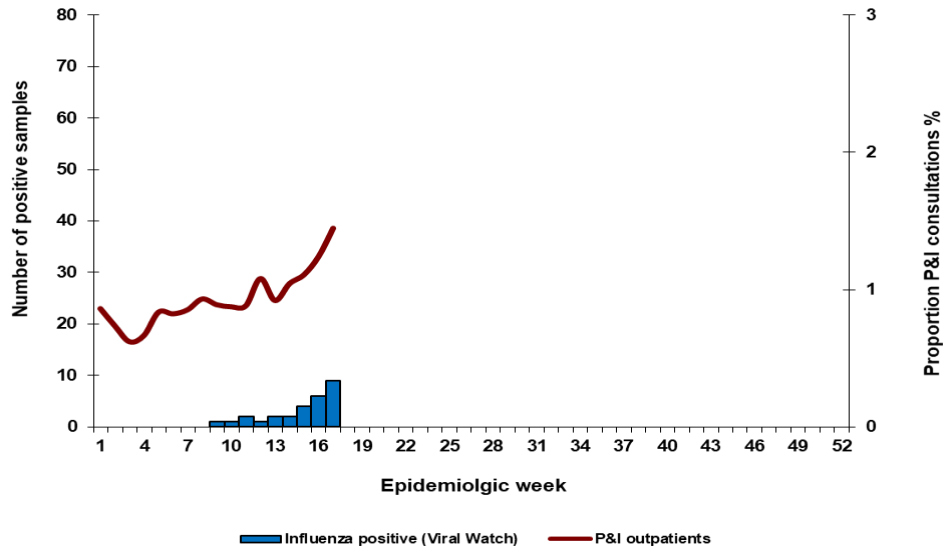
GP: Gauteng; KZ: KwaZulu-Natal; NW: North West; MP: Mpumalanga; WC: Western Cape

Inconclusive: insufficient viral load in sample and unable to characterise further

RSV AB: Both RSV A and B subgroup identified

## Private hospital consultations

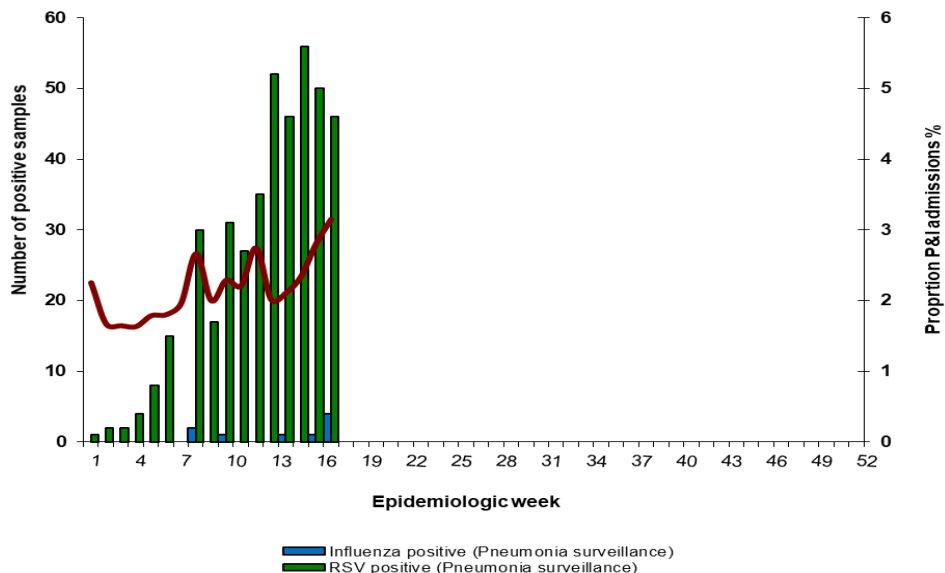
**Figure 9. Number of private hospital outpatient consultations\* with a diagnosis of pneumonia and influenza (P&I) and viral isolates\*\***



\* 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.