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Respiratory Pathogen Surveillance

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 KZ 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

* 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* children <1 year tested at KZ and all age groups tested at MP and NW

Respiratory Pathogen Surveillance

Reporting period 01/01/2018 to 01/04/2018

Results until end of epidemiologic week 13 (2018)

Comments:

Influenza

The 2018 influenza season has not started.

ILI programme: From the 1st January 2018 to date, specimens from 261 patients were received from 3 ILI sites, influenza was not detected.

Viral Watch programme: During the same period, specimens from 152 patients were received from Viral Watch sites. Influenza A(H1N1)pdm09 was detected in two patients, one of these had a history of international travel. Influenza A(H3N2) was detected in two patients, both had no international travel history. Influenza B was detected in eleven patients, six of these also had a history of international travel.

Pneumonia surveillance: In this same period, specimens from 1059 patients with severe respiratory illness (SRI) were received from the 6 sentinel sites. Influenza was not detected.

Respiratory syncytial virus

The 2018 RSV season started in week six (week starting 05 February) when the RSV detection rate rose above 10% in the pneumonia surveillance programme.

From the 1st January 2018 to date RSV was detected in specimens of 51 patients in the ILI programme, and 229 from patients in the pneumonia surveillance programme.

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

Streptococcus pneumoniae

Pneumonia surveillance: From the 1st January 2018 to date, blood specimens from 475 patients from 3 sentinel sites were tested for *S. pneumoniae* which was detected in 11 (2.3 %) specimens.

Bordetella pertussis

ILI programme: From 1st January 2018 to date, nasopharyngeal/oropharyngeal specimens were tested from 261 patients for *B. pertussis*, one tested positive.

Pneumonia surveillance: During the same period, sputa and/or nasopharyngeal specimens were tested from 1059 patients for *B. pertussis* which was detected in 22 (2.1 %) specimens. The number of cases testing positive for *B. pertussis* continues to decrease compared to the past few months where an increase was noted, especially from the Western Cape site. <http://www.nicd.ac.za/index.php/increase-in-pertussis-whooping-cough-in-children-in-western-cape-province/>

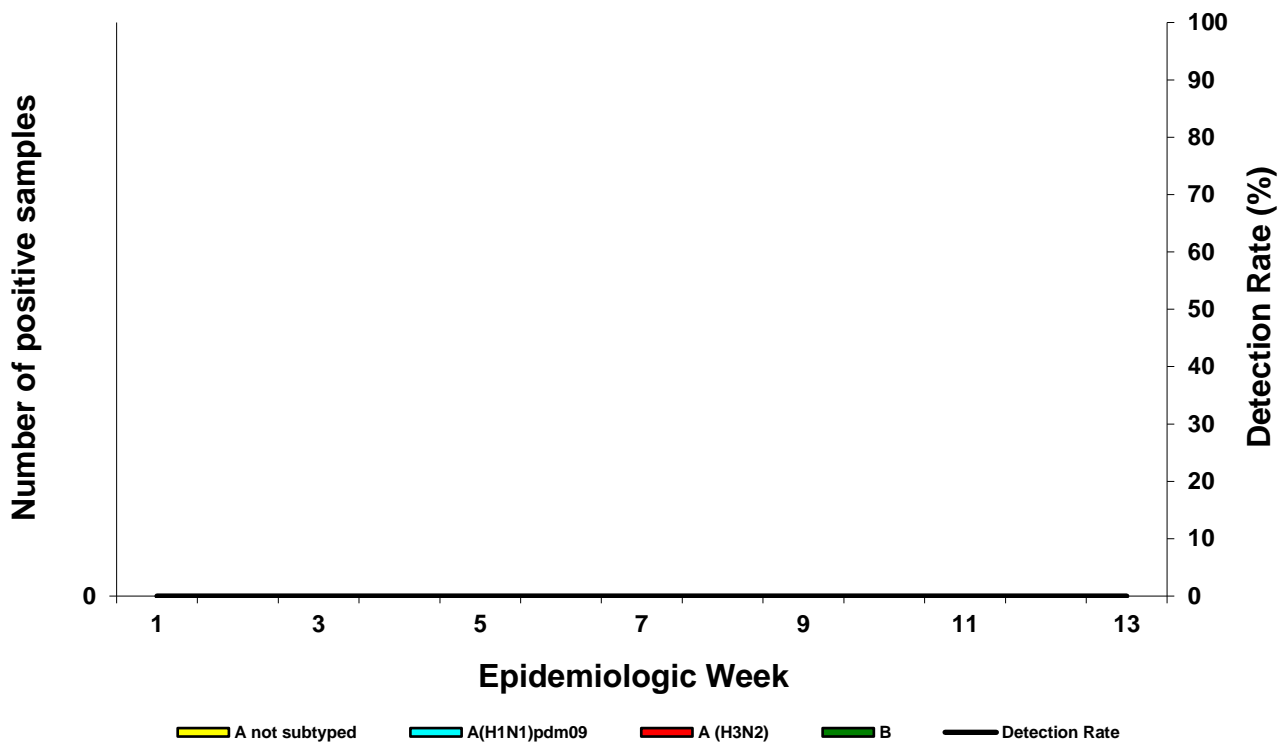
Respiratory Pathogen Surveillance

Reporting period 01/01/2018 to 01/04/2018

Results until end of epidemiologic week 13 (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)	0	0	0	0	91
Edendale Gateway Clinic (KZ)	0	0	0	0	104
Jouberton Clinic (NW)	0	0	0	0	66
Total:	0	0	0	0	261

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

Respiratory Pathogen Surveillance

Reporting period 01/01/2018 to 01/04/2018

Results until end of epidemiologic week 13 (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

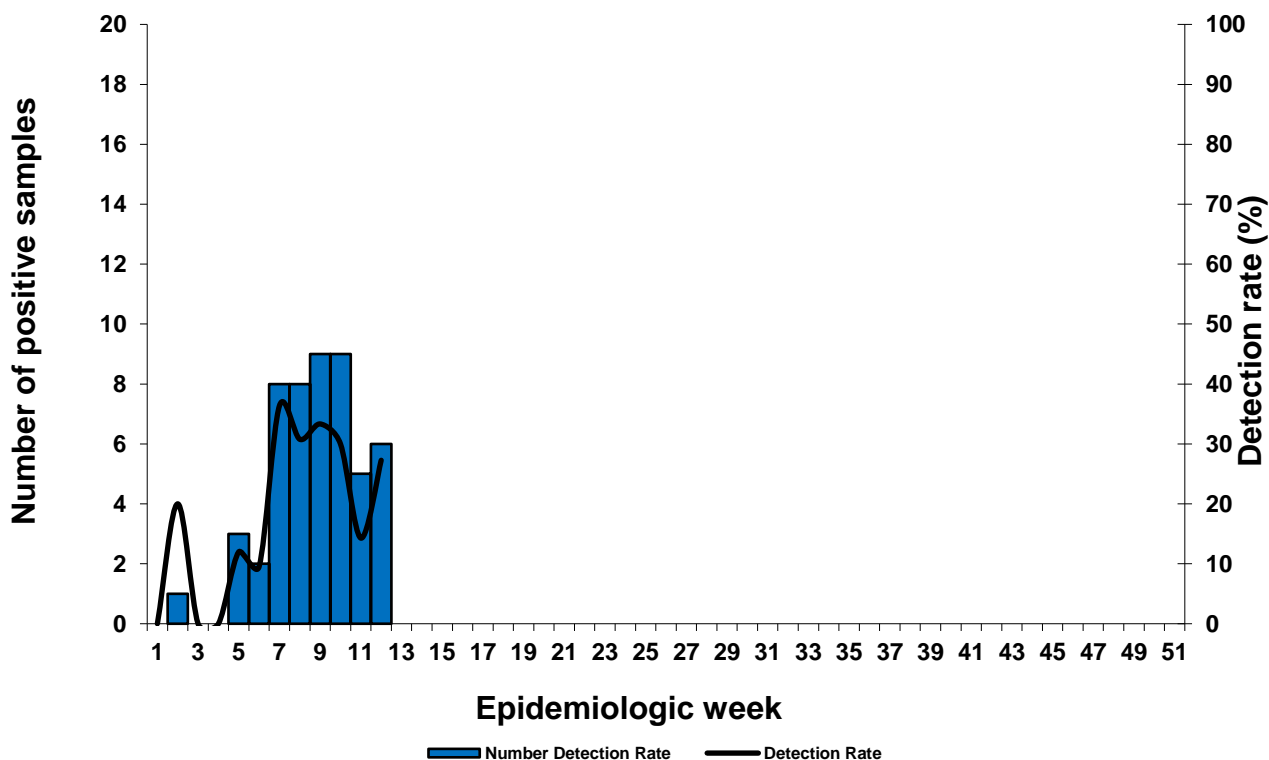


Table 2. Cumulative number of respiratory syncytial virus identified and total number of samples tested by clinic and province

Clinic (Province)	RSV Positive	Total samples
Agincourt Clinic (MP)	28	91
Edendale Gateway Clinic (KZ)	21	104
Jouberton Clinic (NW)	2	66
Total:	51	261

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

Respiratory Pathogen Surveillance

Reporting period 01/01/2018 to 01/04/2018

Results until end of epidemiologic week 13 (2018)

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

Figure 3. Number of samples testing positive for *B. pertussis* and detection rate by month

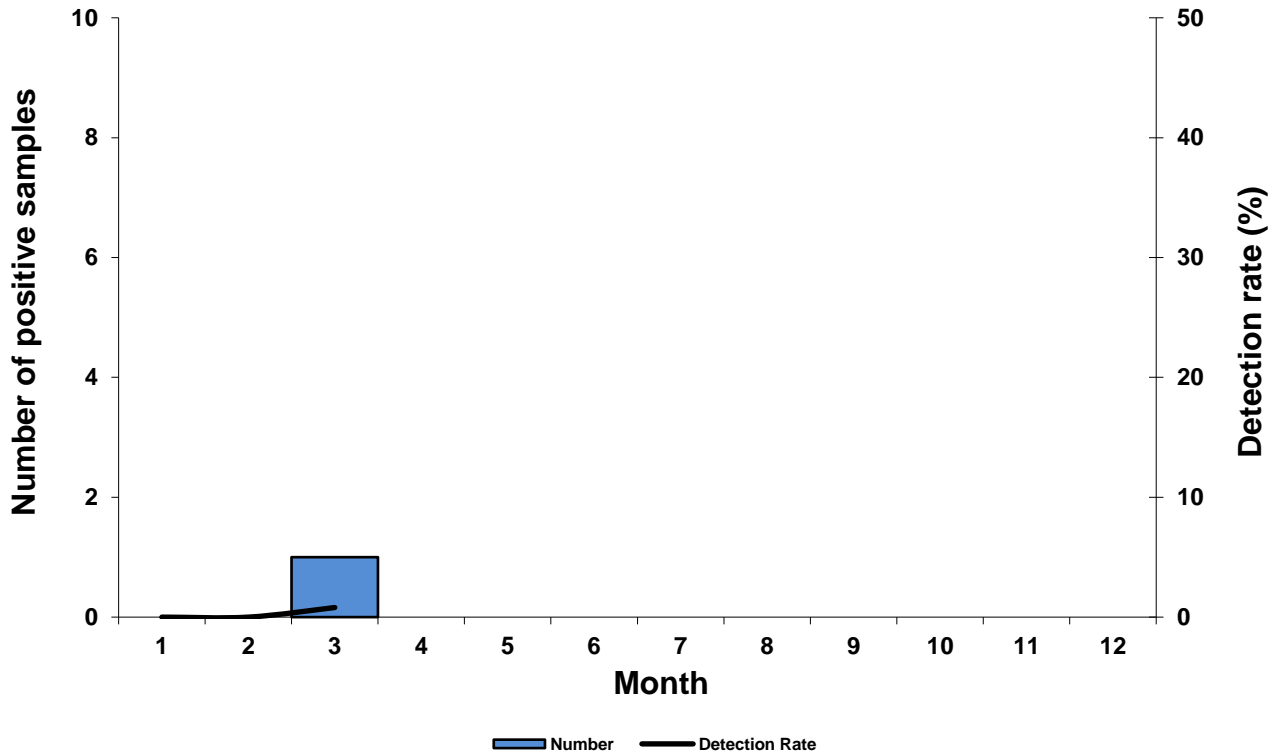


Table 3 Cumulative number of *B. pertussis* identified and total number of samples tested by province

Clinic (Province)	<i>B. pertussis</i> Positive	Total samples
Agincourt Clinic (MP)		91
Edendale Gateway Clinic (KZ)	1	104
Jouberton Clinic (NW)		66
Total:	1	261

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

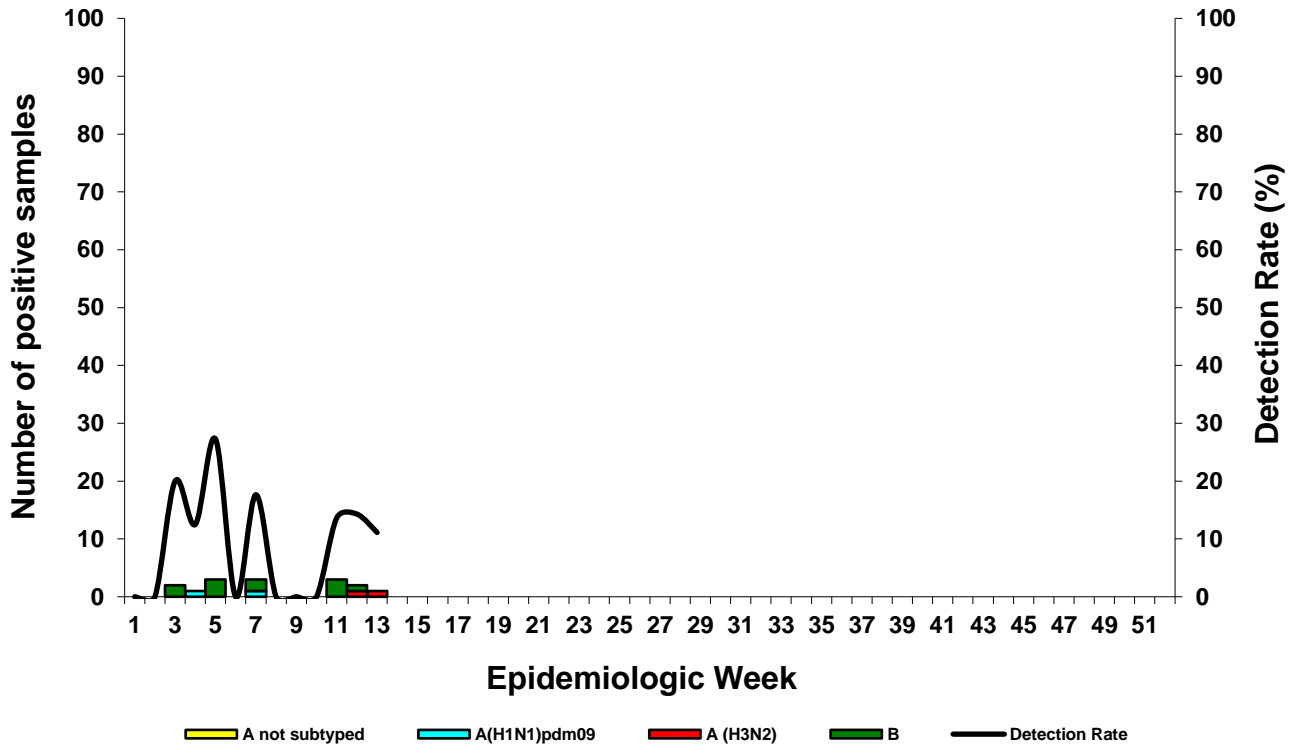
Respiratory Pathogen Surveillance

Reporting period 01/01/2018 to 01/04/2018

Results until end of epidemiologic week 13 (2018)

Influenza-like illness (ILI) surveillance Viral Watch

Figure 4. Number of positive samples* by influenza types and subtypes and detection rate by week**



*Specimens from patients with Influenza-like illnesses at 104 sentinel sites in 8 provinces

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

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

Province	A not subtyped	A(H1N1)pdm09	A(H3N2)	B	Total samples
Eastern Cape					5
Free State					1
Kwa-Zulu Natal					18
Gauteng			1	4	67
Limpopo					4
Mpumalanga		1			5
North West					26
Northern Cape					0
Western Cape		1	1	7	26
Total:	0	2	2	11	152

From 01 January 2018 to date, 35 patients were tested for influenza at the time of entry into South Africa following travel abroad and 14 have tested influenza positive.

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

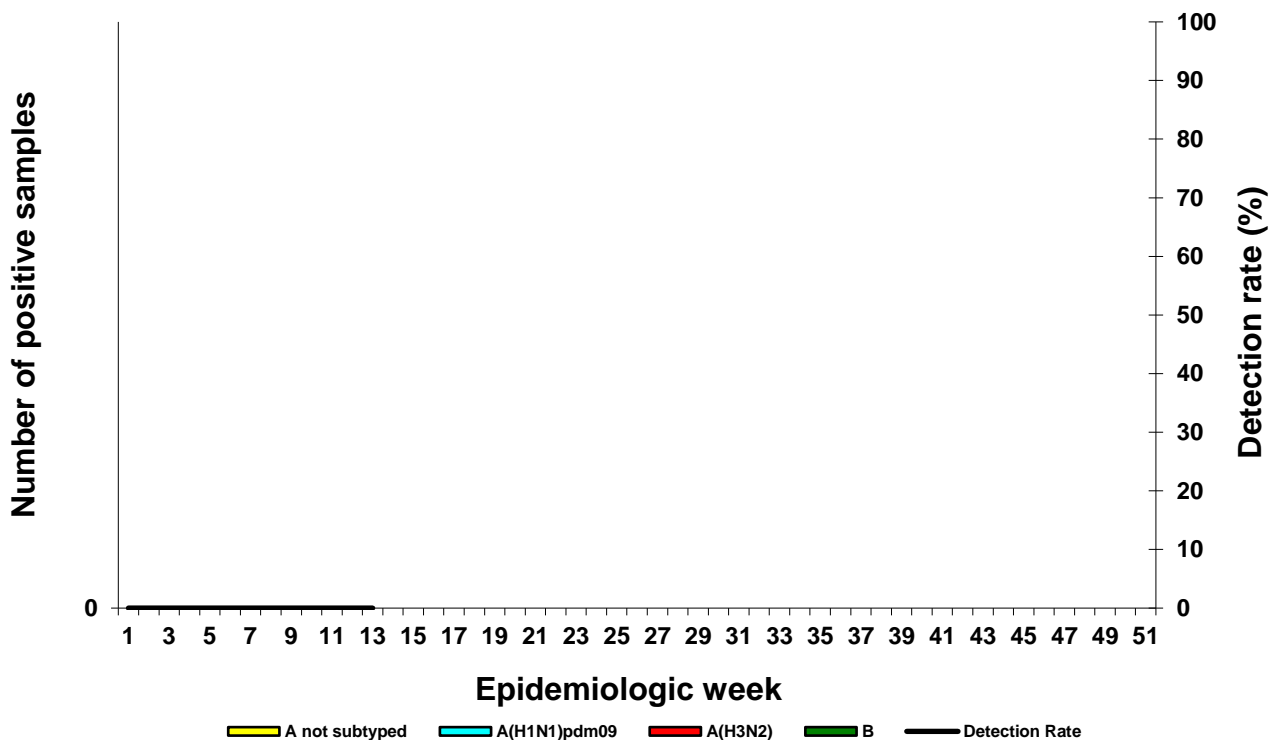
Respiratory Pathogen Surveillance

Reporting period 01/01/2018 to 01/04/2018

Results until end of epidemiologic week 13 (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

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)					232
Helen Joseph-Rahima Moosa (GP)					248
Klerksdorp-Tshepong (NW)					162
Mapulaneng-Matikwana (MP)					81
Red Cross (WC)					218
Mitchell's Plain (WC)					118
Total:		0	0	0	1059

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

Respiratory Pathogen Surveillance

Reporting period 01/01/2018 to 01/04/2018

Results until end of epidemiologic week 13 (2018)

National syndromic surveillance for pneumonia

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

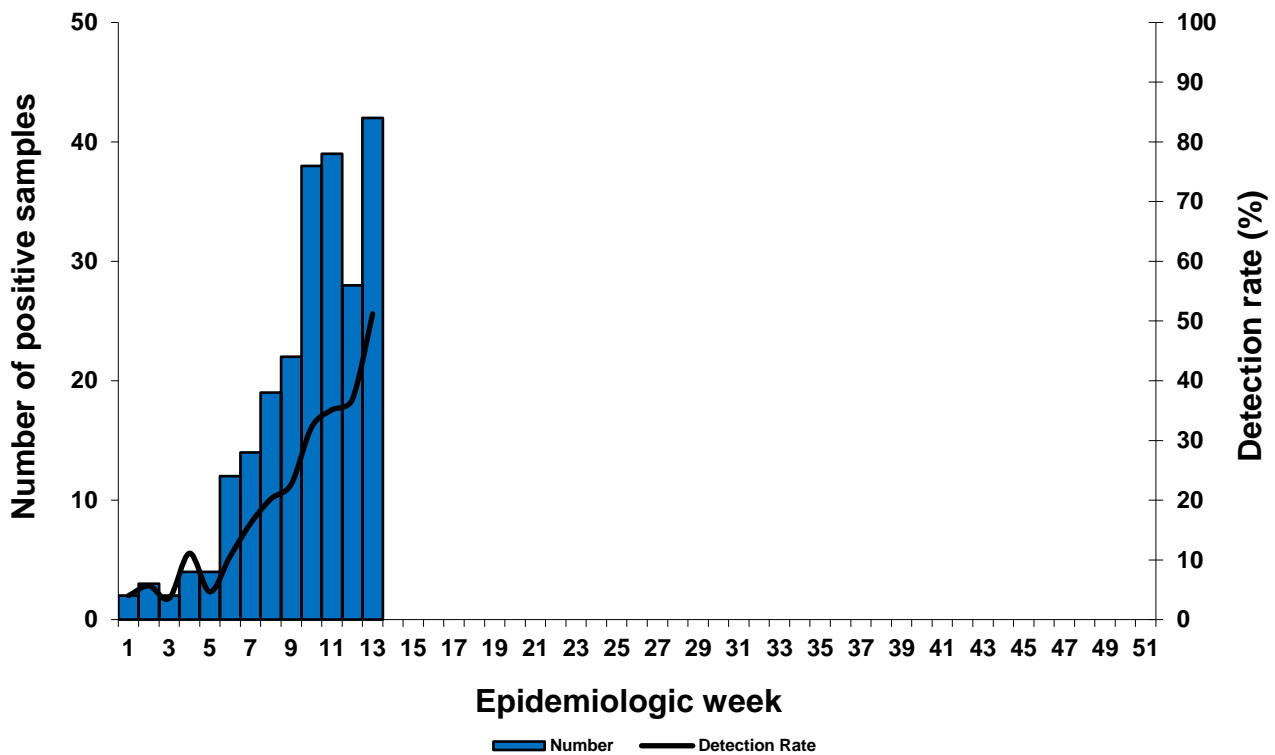


Table 6: Cumulative number of respiratory syncytial virus identified and total number of samples tested by hospital

Hospital (Province)	RSV Positive	Total samples
Edendale (KZ)	58	232
Helen Joseph-Rahima Moosa (GP)	77	248
Klerksdorp-Tshepong (NW)	12	162
Mapulaneng-Matikwana (MP)	39	81
Red Cross (WC)	32	218
Mitchell's Plain (WC)	11	118
Total:	229	1059

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

Respiratory Pathogen Surveillance

Reporting period 01/01/2018 to 01/04/2018

Results until end of epidemiologic week 13 (2018)

National syndromic surveillance for pneumonia

Figure 9. Number of samples testing positive for *S. pneumoniae and detection rate by week**

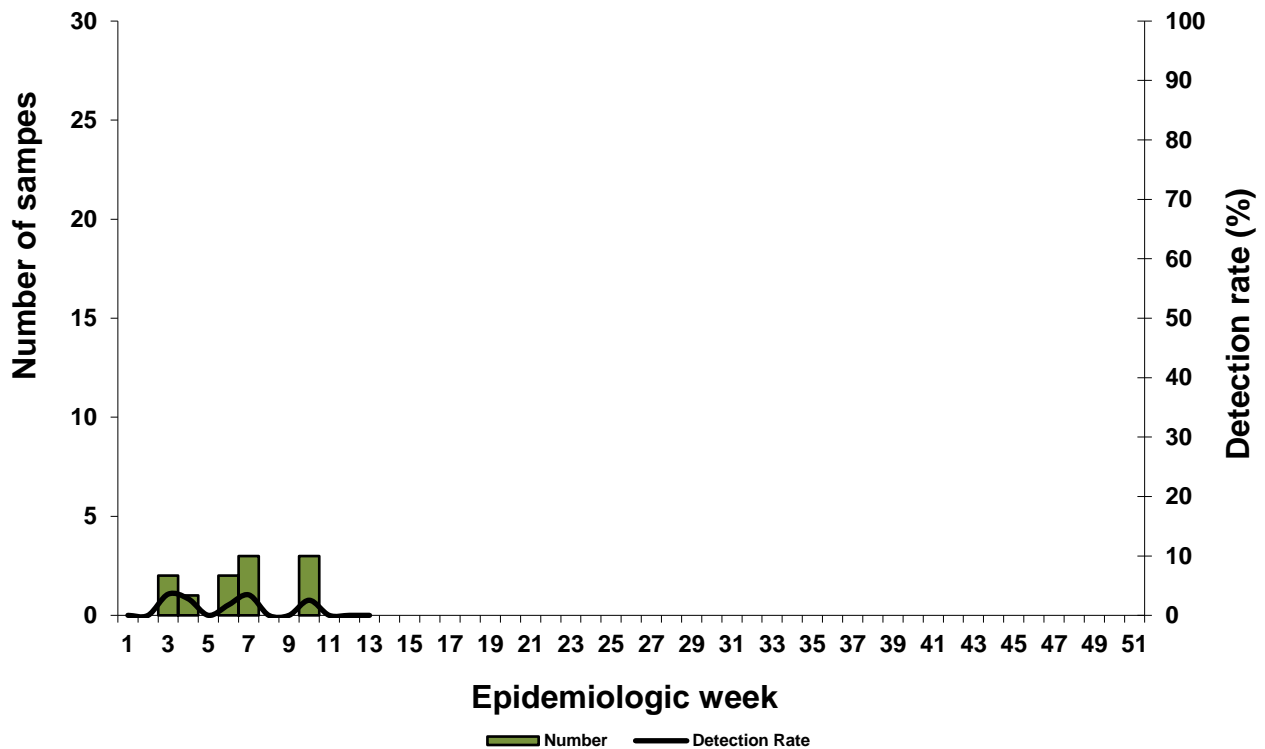


Table 7. Cumulative number of *S. pneumoniae* identified and total number of samples tested by hospital and province

Hospital (Province)	<i>S. pneumoniae</i> Positive	Total samples
Edendale (KZ)	2	232
Klerksdorp-Tshepong (NW)	3	162
Mapulaneng-Matikwana (MP)	6	81
Total:	11	475

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

* Children <1 year tested at KZ and all age groups tested at MP and NW

Reporting period 01/01/2018 to 01/04/2018

Results until end of epidemiologic week 13 (2018)

National syndromic surveillance for pneumonia

Figure 10. Number of samples testing positive for *B. pertussis* and detection rate by month

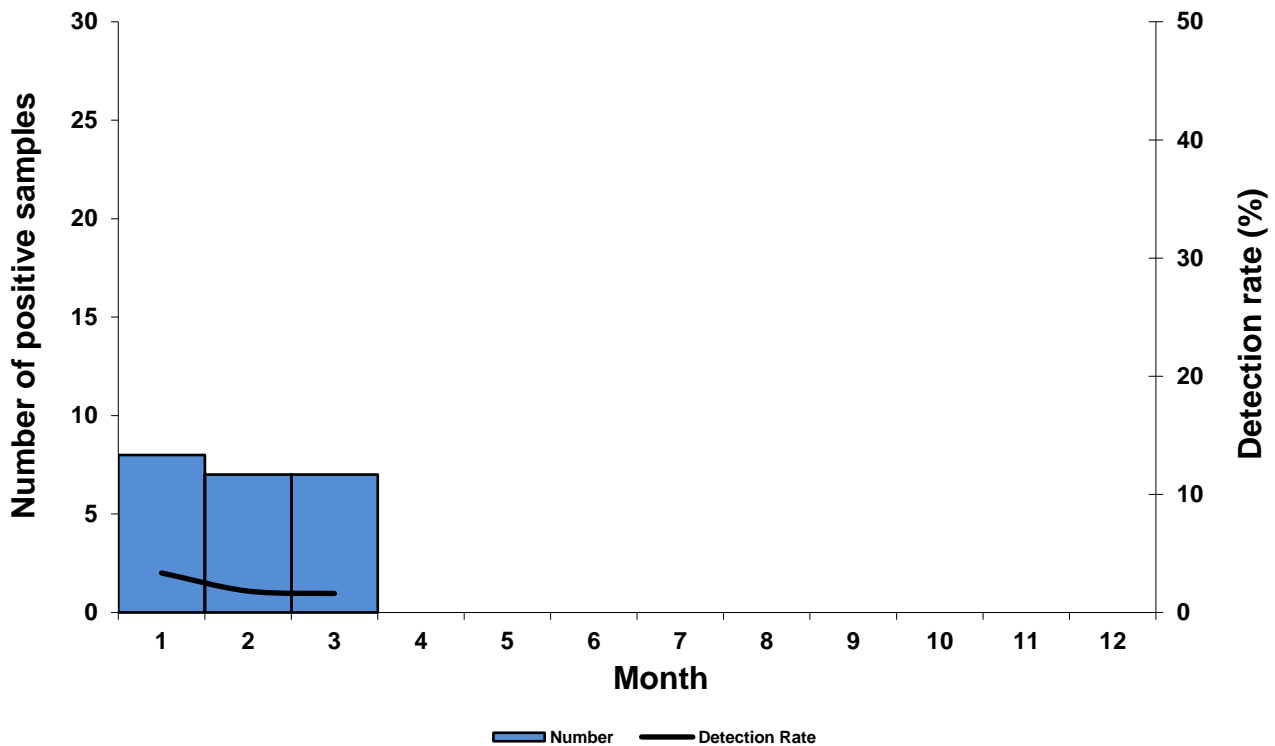


Table 9. Cumulative number of *B. pertussis* identified and total number of samples tested by hospital and province

Hospital (Province)	<i>B. pertussis</i> Positive	Total samples
Edendale (KZ)	4	232
Helen Joseph-Rahima Moosa (GP)	4	248
Klerksdorp-Tshepong (NW)	1	164
Mapulaneng-Matikwana (MP)	1	81
Red Cross (WC)	10	218
Mitchell's Plain (WC)	2	118
Total:	22	1059

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

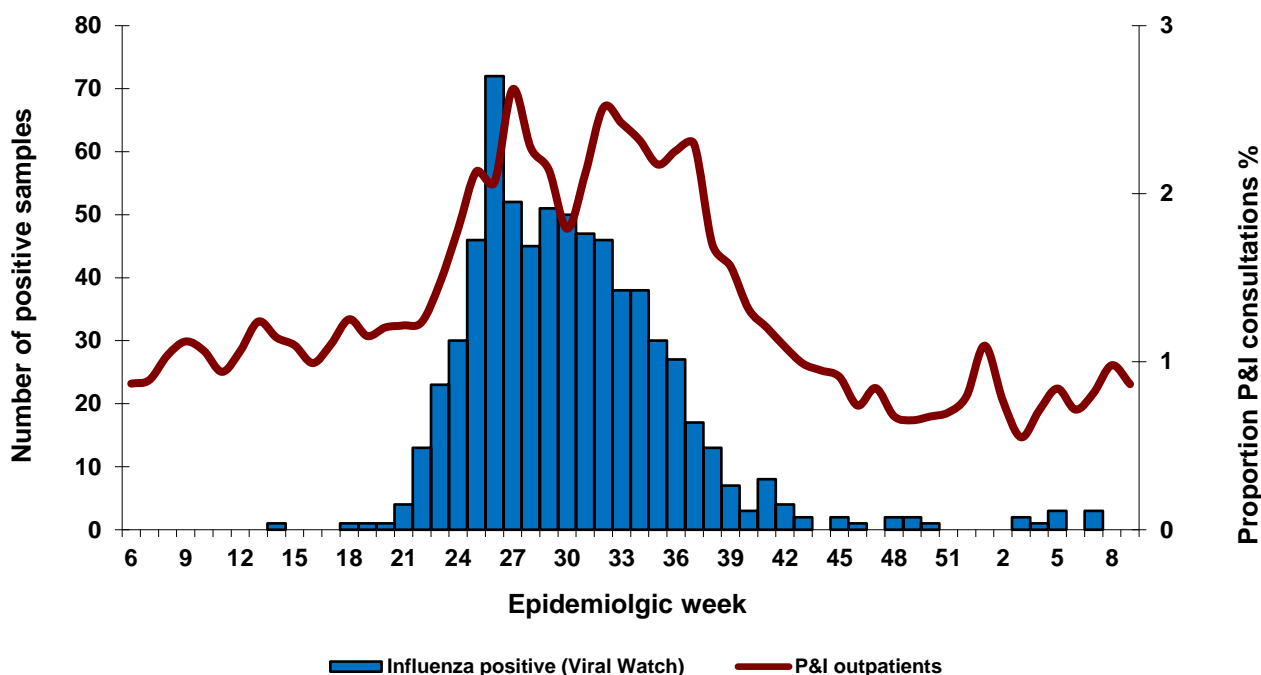
Respiratory Pathogen Surveillance

Reporting period 05/02/2017 to 02/03/2018

Results until end of epidemiologic week 09 (2018)

Private hospital consultations

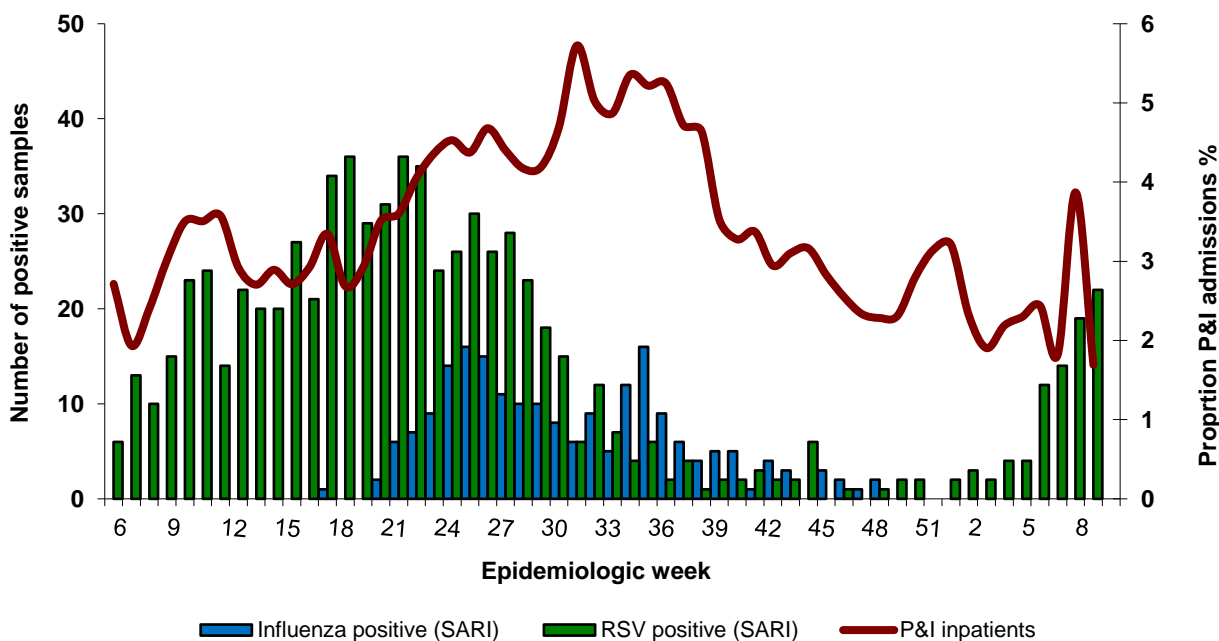
Figure 9. Number of private hospital outpatient consultations* with a diagnosis of pneumonia and influenza (P&I) and viral isolates**



* 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.