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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 04/02/2018

Results until end of epidemiologic week 05 (2018)

Comments:

Influenza

The 2017 influenza season started in week 21 (week starting 29 May) when the influenza detection rate in the Viral watch rose above 10%, peaked in week 32 (week starting 7 August) and ended in week 42 (week starting 16 October). Influenza A(H3N2) was the predominant strain during the 1st part of the season with B predominating in the last few weeks.

ILI programme: From the 1st January 2018 to date, specimens from 63 patients were received from 3 ILI sites, influenza was not detected.

Viral Watch programme: During the same period, specimens from 40 patients were received from Viral Watch sites. Influenza A(H1N1)pdm09 was detected in one patient and influenza B in four patients, two of these had a history of international travel.

Pneumonia surveillance: In this same period, specimens from 288 patients with severe respiratory illness (SRI) were received from the 6 sentinel sites. Influenza was not detected.

Respiratory syncytial virus

The 2017 RSV season started in week 7 (week starting 13 February) and ended in week 30 (week ending 30 July). The highest detection rate to date was in week 11 (week starting 13 March) in ILI (19/65, 32%) and in pneumonia patients was in week 16 (week starting 17 April) (25/51, 49%).

From the 1st January 2018 to date RSV was detected in specimens of four patients in the ILI programme, and 13 from patients in the pneumonia surveillance programme.

During the same period, two 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 139 patients from 3 sentinel sites were tested for *S. pneumoniae* which was detected in 2 (1.4 %) specimens.

Bordetella pertussis

ILI programme: From 1st January 2018 to date, nasopharyngeal/oropharyngeal specimens were tested from 63 patients for *B. pertussis*, none tested positive.

Pneumonia surveillance: During the same period, sputa and/or nasopharyngeal specimens were tested from 288 patients for *B. pertussis* which was detected in six (2.0 %) specimens. The number of cases testing positive for *B. pertussis* has started to decrease compared to the last 3 months of 2017 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/>

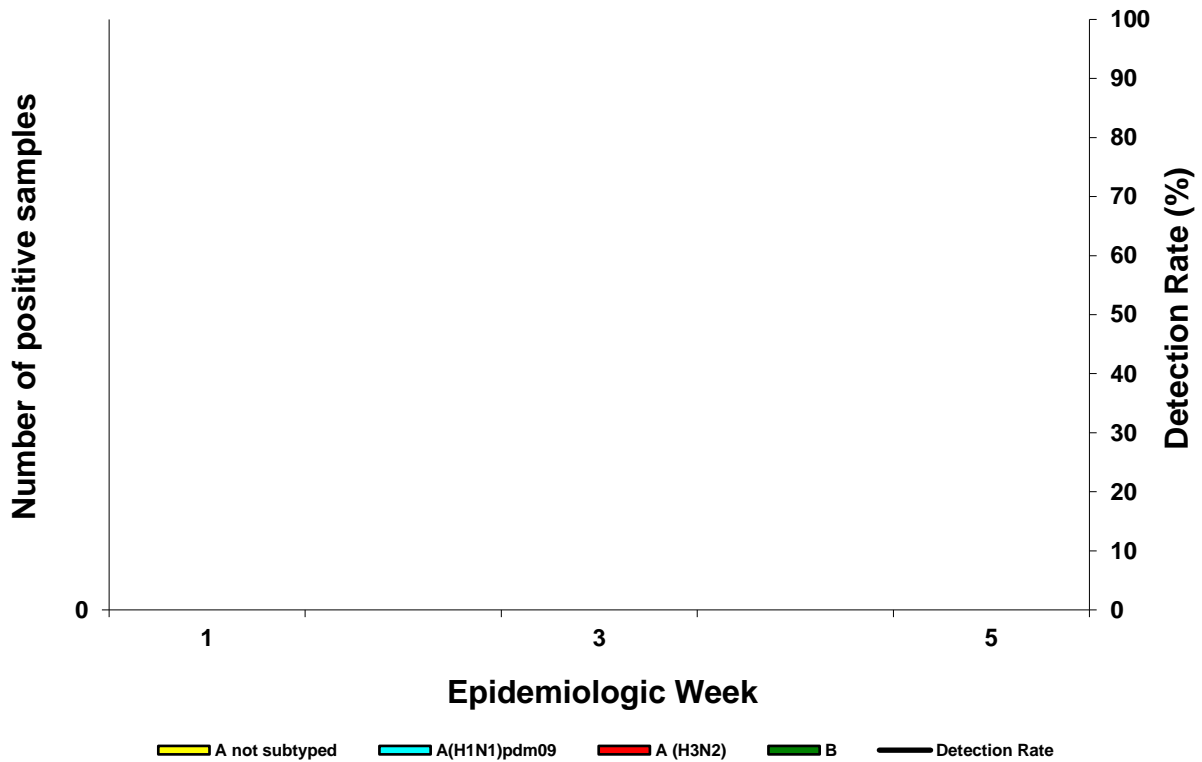
Respiratory Pathogen Surveillance

Reporting period 01/01/2018 to 04/02/2018

Results until end of epidemiologic week 05 (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	20
Edendale Gateway Clinic (KZ)	0	0	0	0	28
Jouberton Clinic (NW)	0	0	0	0	15
Total:	0	0	0	0	63

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

Respiratory Pathogen Surveillance

Reporting period 01/01/2018 to 04/02/2018

Results until end of epidemiologic week 05 (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

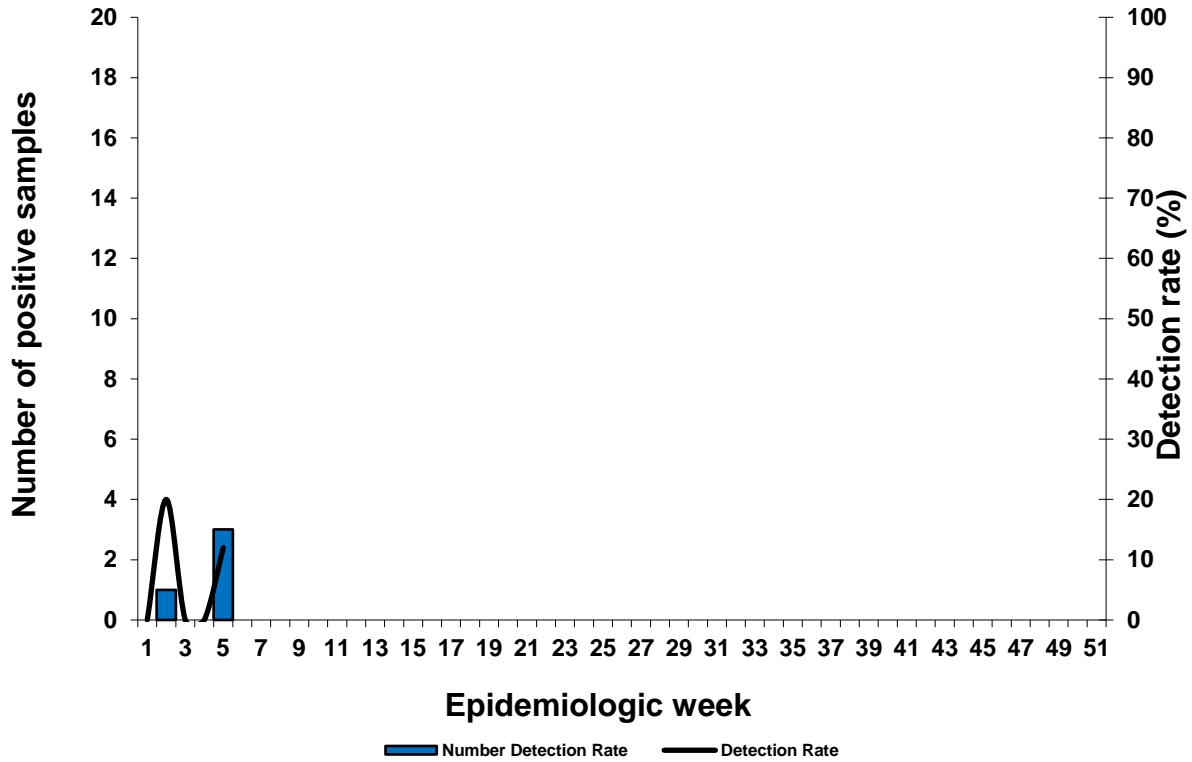


Table 2. Cumulative number of respiratory syncytial virus identified and total number of samples tested by clinic and province

Clinic (Province)	RSV Positive	Total samples
Agincourt Clinic (MP)	1	20
Edendale Gateway Clinic (KZ)	3	28
Jouberton Clinic (NW)	0	15
Total:	4	63

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

Respiratory Pathogen Surveillance

Reporting period 01/01/2018 to 04/02/2018

Results until end of epidemiologic week 05 (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

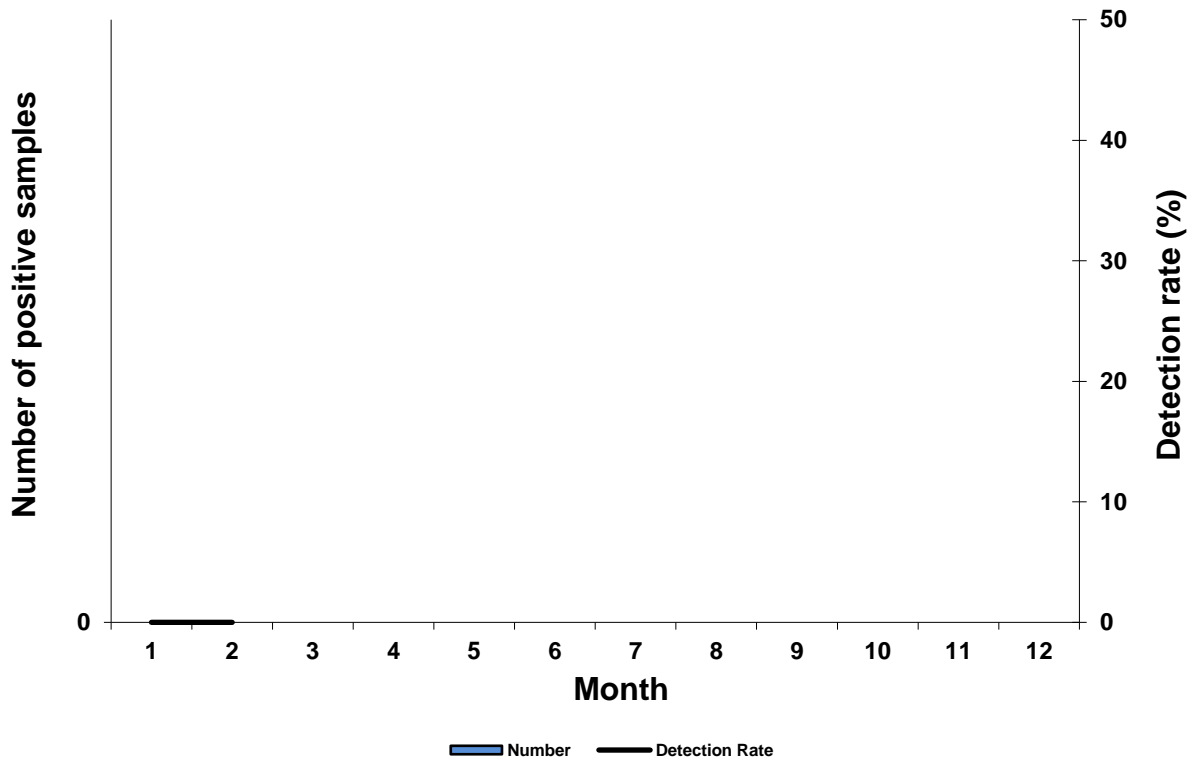


Table 3 Cumulative number of *B. pertussis* identified and total number of samples tested by province

Clinic (Province)	<i>B. pertussis</i> Positive	Total samples
Agincourt Clinic (MP)		20
Edendale Gateway Clinic (KZ)		28
Jouberton Clinic (NW)		15
Total:	0	63

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

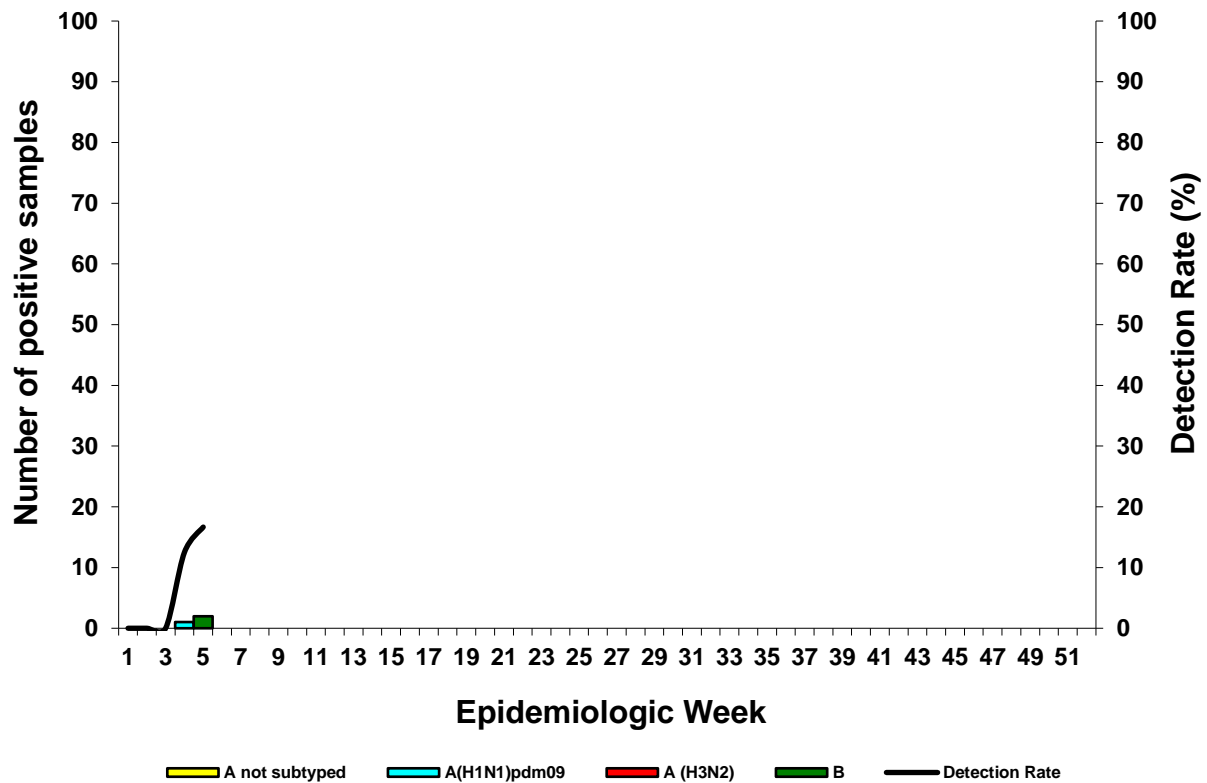
Respiratory Pathogen Surveillance

Reporting period 01/01/2018 to 04/02/2018

Results until end of epidemiologic week 05 (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					1
Free State					0
Kwa-Zulu Natal					4
Gauteng					21
Limpopo					0
Mpumalanga		1			2
North West					4
Northern Cape					0
Western Cape				2	6
Total:	0	1	0	2	38

From 01 January 2018 to date, 19 patients were tested for influenza at the time of entry into South Africa following travel abroad and 11 have tested influenza positive.

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

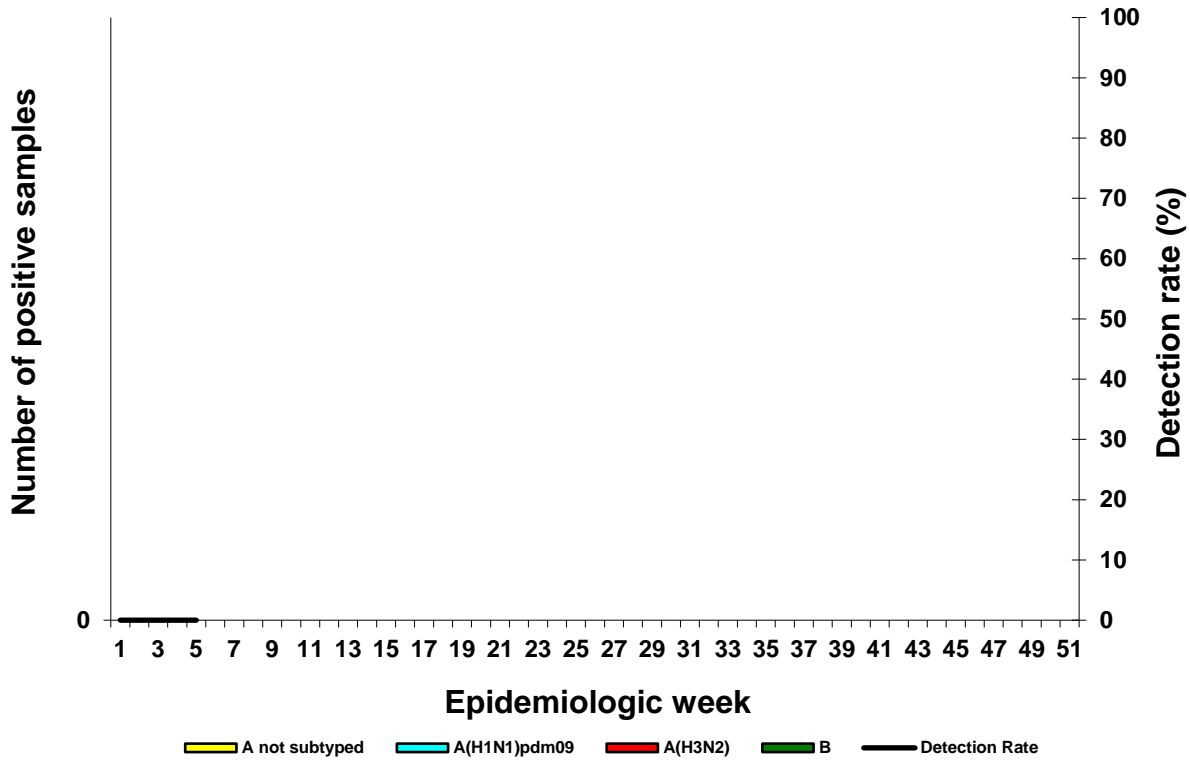
Respiratory Pathogen Surveillance

Reporting period 01/01/2018 to 04/02/2018

Results until end of epidemiologic week 05 (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)					63
Helen Joseph-Rahima Moosa (GP)					59
Klerksdorp-Tshepong (NW)					53
Mapulaneng-Matikwana (MP)					23
Mitchell's Plain (WC)					28
Red Cross (WC)					62
Total:		0	0	0	288

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

Respiratory Pathogen Surveillance

Reporting period 01/01/2018 to 04/02/2018

Results until end of epidemiologic week 05 (2018)

National syndromic surveillance for pneumonia

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

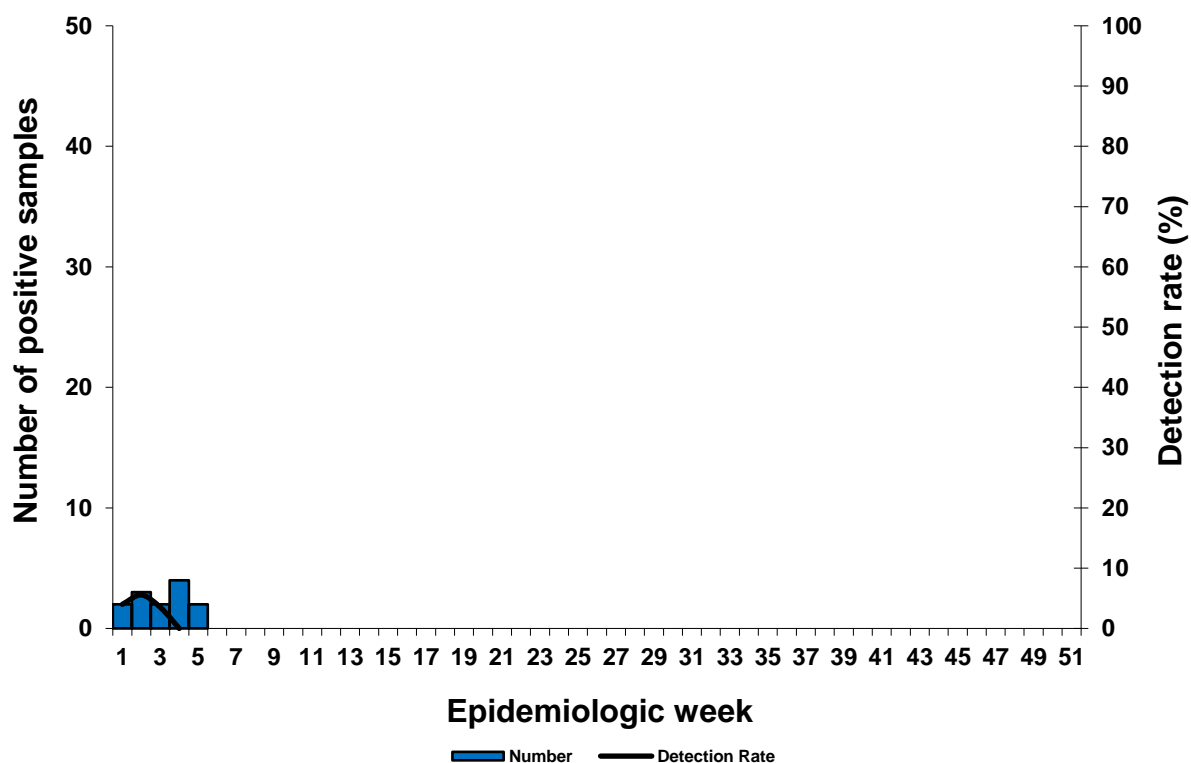


Table 6: Cumulative number of respiratory syncytial virus identified and total number of samples tested by hospital

Hospital (Province)	RSV Positive	Total samples
Edendale (KZ)	8	63
Helen Joseph-Rahima Moosa (GP)		59
Klerksdorp-Tshepong (NW)		53
Mapulaneng-Matikwana (MP)	1	23
Mitchell's Plain (WC)	2	28
Red Cross (WC)	2	62
Total:	13	288

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

National syndromic surveillance for pneumonia

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

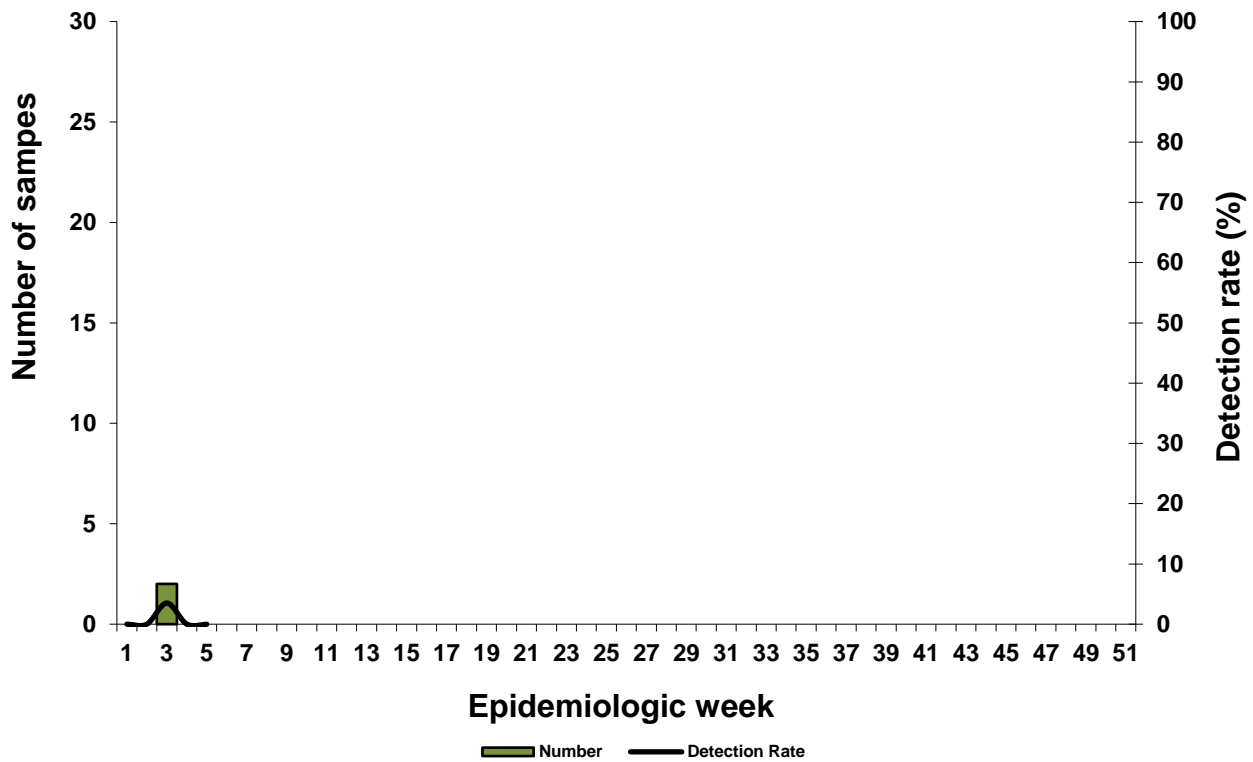


Table 7. Cumulative number of *S. pneumoniae* identified and total number of samples tested by hospital and province

Hospital (Province)	<i>S. pneumoniae</i> Positive	Total samples
Edendale (KZ)	1	63
Klerksdorp-Tshepong (NW)	0	53
Mapulaneng-Matikwana (MP)	1	23
Total:	2	139

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

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

Respiratory Pathogen Surveillance

Reporting period 01/01/2018 to 04/02/2018

Results until end of epidemiologic week 05 (2018)

National syndromic surveillance for pneumonia

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

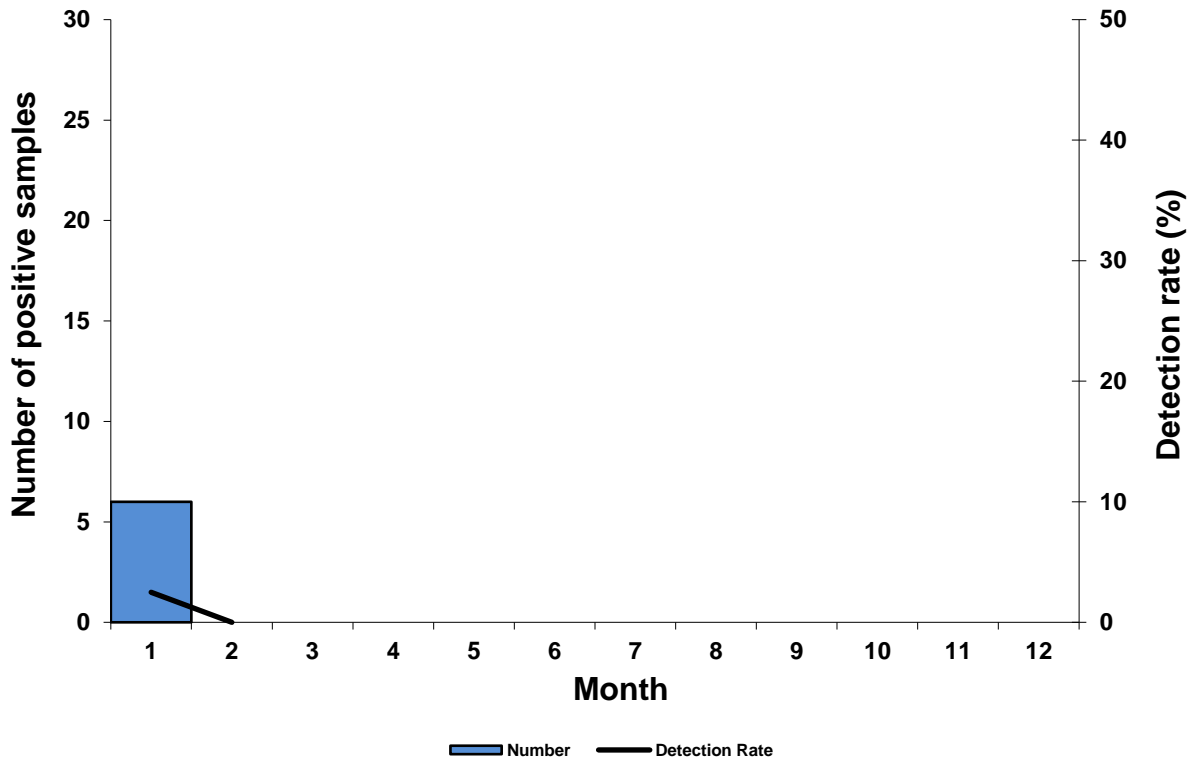


Table 9. Cumulative number of *B. pertussis* identified and total number of samples tested by hospital and province

Hospital (Province)	<i>B. pertussis</i> Positive	Total samples
Edendale (KZ)	0	63
Helen Joseph-Rahima Moosa (GP)	1	59
Klerksdorp-Tshepong (NW)	1	53
Mapulaneng-Matikwana (MP)	0	23
Mitchell's Plain (WC)	0	28
Red Cross (WC)	4	62
Total:	6	288

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

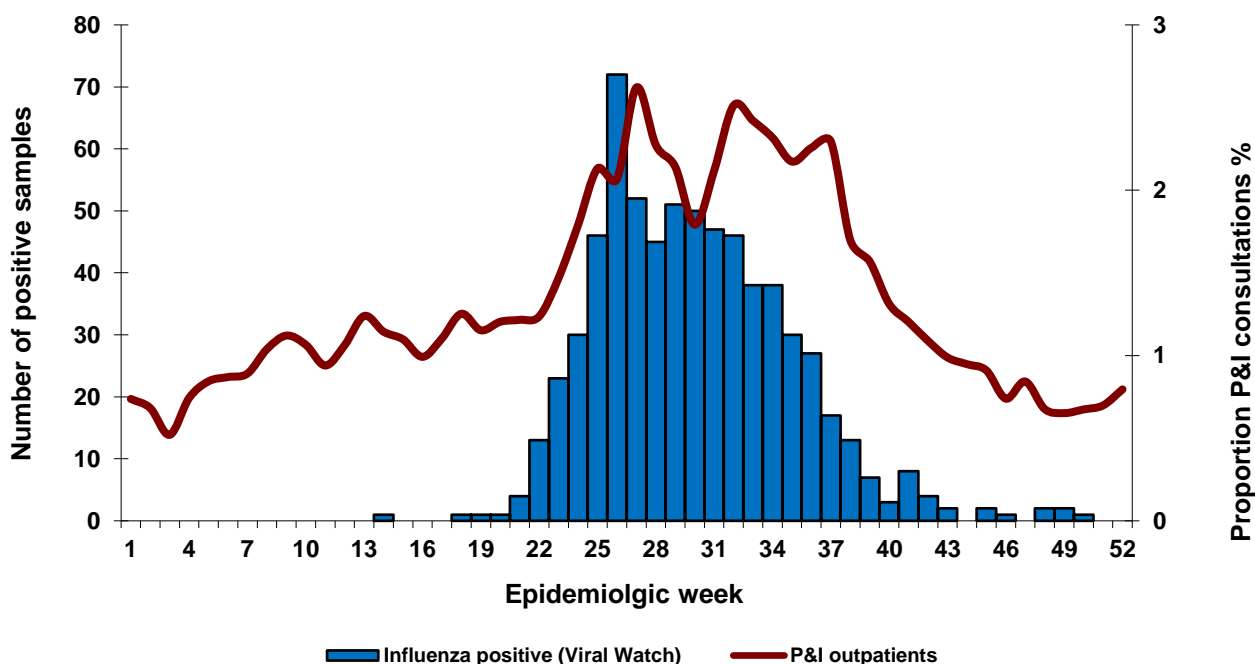
Respiratory Pathogen Surveillance

Reporting period 01/01/2017 to 31/12/2017

Results until end of epidemiologic week 52 (2017)

Private hospital consultations

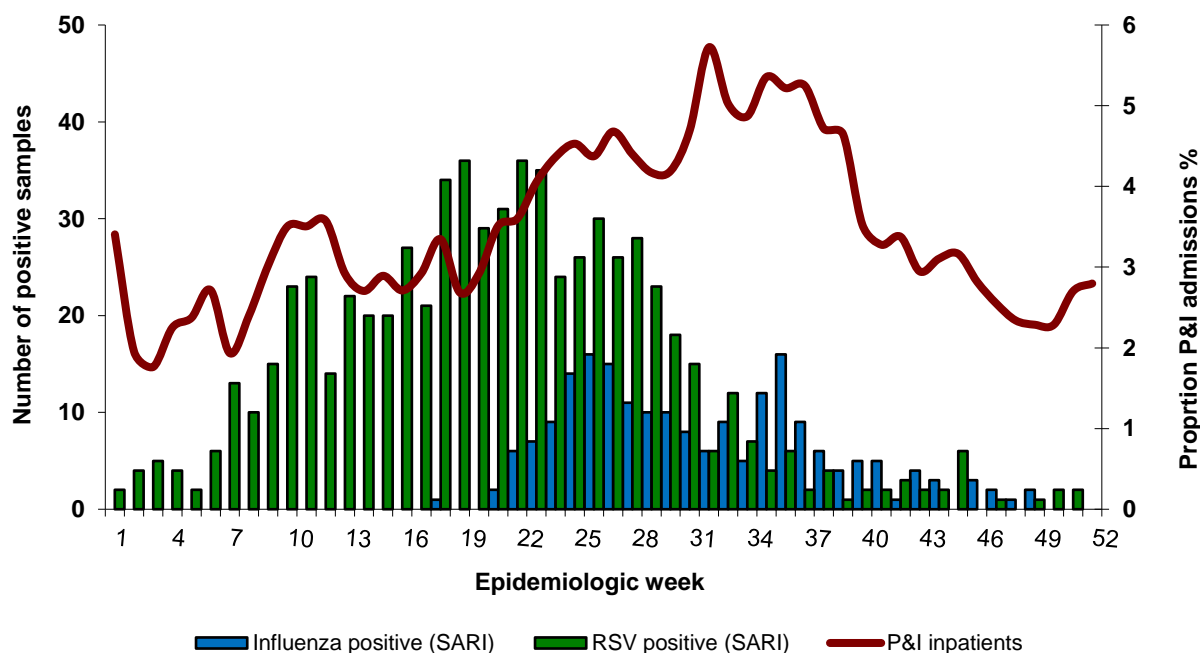
Figure 9. Number of private hospital outpatient consultations* with a diagnosis of pneumonia and influenza (P&I) and viral isolates**



* 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.