National Institute for Communicable Diseases
-- Monthly Surveillance Report --

Page

2 Surveillance Summary
3 CENTRE FOR ENTERIC DISEASES
3 Laboratory-Based Enteric Disease Surveillance
4 *Salmonella* Typhi
5 *Vibrio cholerae* O1
6 Syndromic Diarrhoeal Disease Surveillance
6 Rotavirus (ROTA)
8 CENTRE FOR HIV AND STI
8 Sexually Transmitted Infections Surveillance
9 CENTRE FOR OPPORTUNISTIC, TROPICAL AND HOSPITAL INFECTIONS
9 Laboratory-Based Screening for Cryptococcal Disease
16 Laboratory-Based Nosocomial Disease Surveillance
16 *Staphylococcus aureus*
19 *Enterococcus, Staphylococcus, Klebsiella, Acinetobacter, Pseudomonas*, ESBL (ESKAPE)
24 Syndromic Respiratory Disease Surveillance
24 *Pneumocystis jirovecii*
26 CENTRE FOR RESPIRATORY DISEASES AND MENINGITIS
26 Laboratory-Based Respiratory and Meningeal Disease Surveillance
27 *Neisseria meningitidis*
28 *Haemophilus influenzae*
29 *Streptococcus pneumoniae*
30 Syndromic Respiratory Disease Surveillance
32 Influenza-like illness Primary Health Care clinics
35 Influenza-like illness (ILI) (Viral Watch)
36 National syndromic surveillance for pneumonia
41 Private hospital respiratory consultations
42 CENTRE FOR VACCINES AND IMMUNOLOGY
42 Case-based Measles Surveillance
45 Polio/ Acute Flaccid Paralysis (AFP) Surveillance

This Surveillance Report is published by the National Institute for Communicable Diseases (NICD), a division of the National Health Laboratory Service (NHLS), on a monthly basis to provide information on communicable diseases in South Africa. Much of the information is therefore preliminary and should not be cited or utilised for publication. Questions and comments may be addressed to the Division of Public Health Surveillance and Response and will be referred on to the responsible Centres: pennyc@nicd.ac.za; Private Bag X4, Sandringham, 2131, South Africa

Surveillance Summary

- *Salmonella* Typhi has been reported for 15 cases to date in 2016.
- No cases of *Vibrio cholerae* O1 have been reported to date in 2016.
- One specimen (1/30; 3.3%) has tested positive for rotavirus to date in 2016.
- Laboratory-based reflex screening for cryptococcal disease has been operational in Gauteng in the City of Johannesburg Metro since September 2012, and in the City of Ekurhuleni Metro since April 2013. Screening in Lejweleputswa and Fezile Dabi districts in the Free State commenced in October 2014 and February 2015 respectively. Between 3 September 2012 and 30 September 2015, 53 241 patients were screened at selected facilities in these four districts, 1971 (3.7%) of whom tested positive for cryptococcal antigenaemia (CrAg).
- To 31 August 2015, 1637 *S. aureus* cases were reported. The majority of cases were <10 years old (33%). The proportion of methicillin-resistant isolates was 32%.
- A total of 5597 patients over a 43 month period were tested *for Pneumocystis jirovecii.* Eight hundred and fifty-one (15%) cases were positive for *P. jirovecii*. These cases positive for *P. jirovecii* could indicate colonization or it could be true disease.
- By week 4 in 2016, 3 meningococcal cases had been reported to the NICD. No serogrouping results are available to date. Most of the cases occurred in children aged <10 years.
- By week 4 in 2016, 4 cases of *H. influenzae* had been reported. No serotyping results are available to date. Most cases occur in individuals aged <10 years.
- The number of pneumococcal cases was lower than that reported last year (69 versus 139). Most cases occur in children aged <5 years and adults aged 30-44 years.
- At the end of epidemiological week 4, two (2) measles cases were detected with date of onset of rash in 2016, from eThekwini district and uMgungundlovu district in KwaZulu-Natal province. Both measles IgM positive cases were adults. No measles IgM positive cases were detected in other provinces.
- From 1 January 2016 to 29 January 2016, 28 AFP cases <15 years of age have been reported with an annualized non-polio AFP detection rate of 2.4 per 100,000 population.

Laboratory-Based Enteric Disease Surveillance

Reporting period 01/01/2016 to 31/01/2016 *Results until end of epidemiologic week 4 (2016)*

Programme Description:

The Centre for Enteric Diseases (CED) at the National Institute for Communicable Diseases (NICD) of the National Health Laboratory Service (NHLS) monitors disease caused by *Salmonella* Typhi and *Vibrio cholerae* through a national, active, laboratory-based surveillance system (as part of GERMS-SA). All microbiology diagnostic laboratories throughout South Africa are requested to report laboratory-confirmed disease (defined as the isolation of *Salmonella* Typhi and *Vibrio cholerae* from any specimen. Reporting laboratories should include all private- and public-sector health care laboratories, and other specialist laboratories e.g. laboratories serving mining or military hospitals. Available isolates are sent to CED for confirmation and further characterisation, including serotyping.

Some of the limitations of this surveillance system are that we include only individuals that arrive at hospitals and have specimens taken, and cases are only counted if laboratories report them to us. Quarterly audits to verify completeness of reporting are conducted for all public-sector laboratories. Frequent communications and visits are conducted to improve case reporting. Isolates for serotyping are not available for cases identified by audit.

Comments:

By week 4 in 2016, *Salmonella* Typhi had been reported for 15 cases (all invasive), in Gauteng, KwaZulu Natal, Limpopo and Western Cape provinces. For the same period last year, 5 cases of *Salmonella* Typhi had been reported.

No cases of *Vibrio cholerae* O1 have been reported to date in 2016. No cases were reported for the same period last year.

Reporting period 01/01/2016 to 31/01/2016 *Results until end of epidemiologic week 4 (2016)*

Figure 1. Number of *Salmonella* Typhi cases by month in South Africa, 2015 and 2016

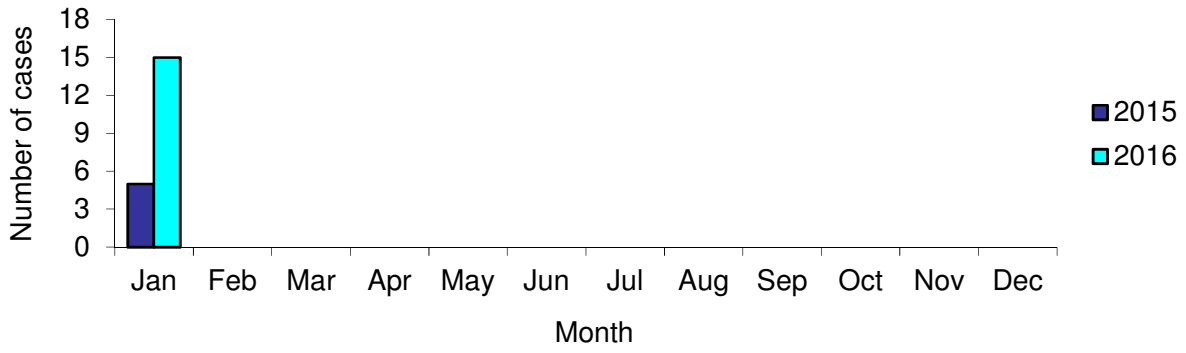


Figure 2. Number of *Salmonella* Typhi cases by province in South Africa, 2015 and 2016

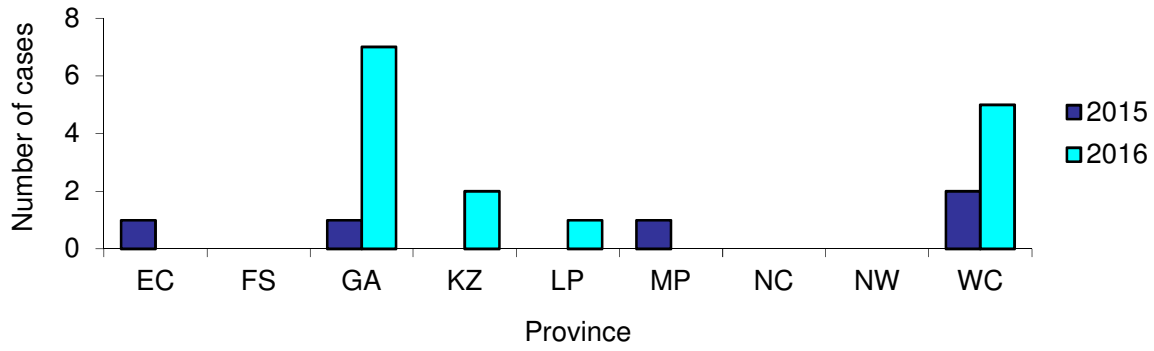
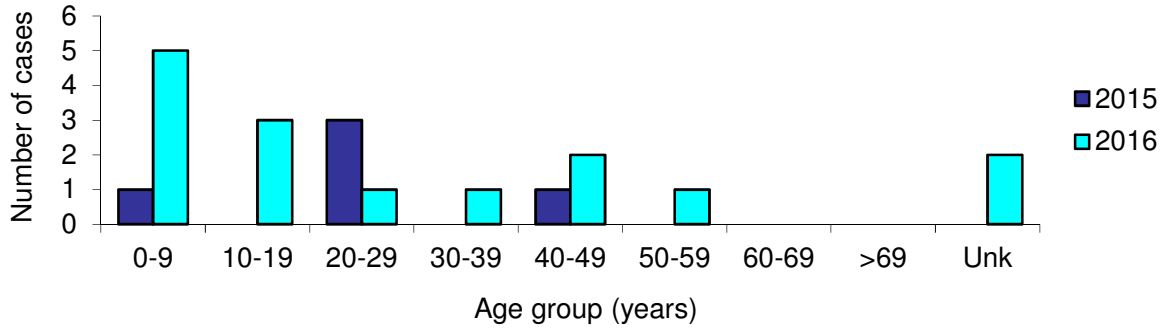


Figure 3. Number of *Salmonella* Typhi cases by age group in South Africa, 2015 and 2016



Vibrio cholerae O1 surveillance

Reporting period 01/01/2016 to 31/01/2016 *Results until end of epidemiologic week 4 (2016)*

Figure 4. Number of *Vibrio cholerae* O1 cases by month in South Africa, 2014 and 2015

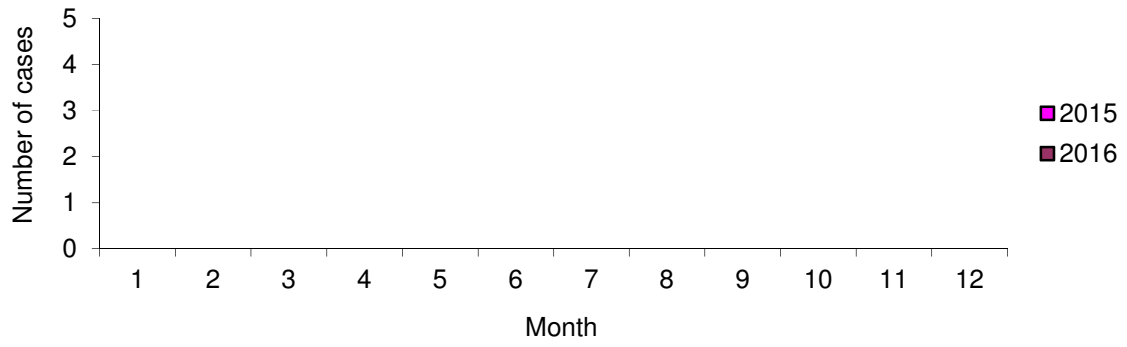


Figure 5. Number of *Vibrio cholerae* O1 cases by province in South Africa, 2014 and 2015

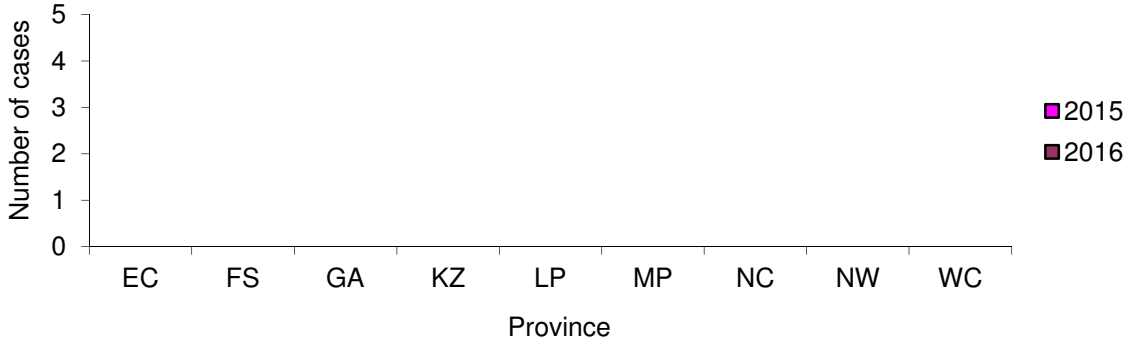
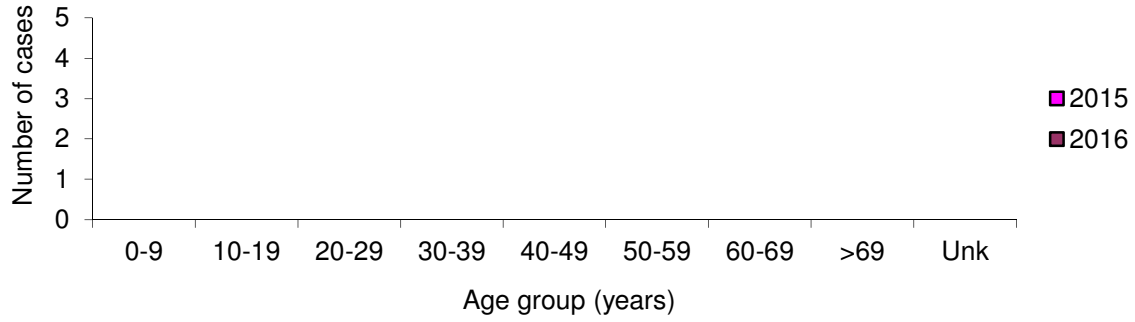


Figure 6. Number of *Vibrio cholerae* O1 cases by age group in South Africa, 2014 and 2015



Syndromic Diarrhoeal Disease Surveillance

Reporting period 01/01/2016 to 31/01/2016 *Results until end of epidemiologic week 4 (2016)*

Programme Description:

The Centre for Enteric Diseases (CED) of the National Institute for Communicable Diseases (NICD) monitors severe gastroenteritis in nine hospitals in seven provinces (Gauteng, Gauteng/North West border, KwaZulu Natal, Mpumalanga, Western Cape, Northern Cape, Limpopo and Free State) through the diarrhoeal sentinel surveillance programme. The aim of the programme is to evaluate the prevalence of rotavirus and other important enteric pathogens in severe diarrhoea cases in children <5 years of age. The programme also monitors the continued performance and impact of the monovalent Rotarix vaccine that was introduced into the expanded programme on immunisation in August 2009.

Children <5 years admitted (slept overnight in hospital) to one of the sentinel hospitals for acute diarrhoea (≥3 loose stools in 24 hour period and onset within 7 days) are eligible for enrolment in the surveillance. Stool specimens are collected and tested for rotavirus at the CED, NICD and the SAMRC Diarrhoeal Pathogens Research Unit, Sefako Makgatho Health Sciences University using the ProSpecT Rotavirus ELISA kit (Oxoid, UK). Stool samples are also screened for other viral, bacterial and parasitic enteric pathogens at CED, NICD.

Comments:

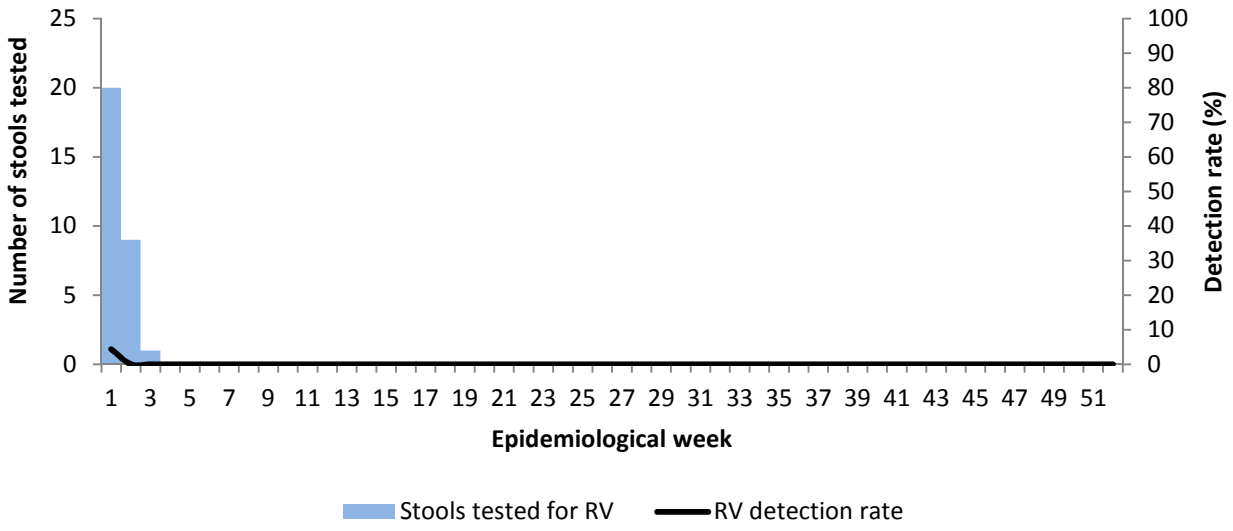
The start of the rotavirus season is defined as rotavirus detection rate of >20% for two consecutive weeks and the end as rotavirus detection rate <20% for two consecutive weeks.

In 2015, the rotavirus season started in week 20 (11 May) and ended in week 39 (27 September) with a rotavirus detection rate of 20.2% (165/818). The maximum detection rate (52.9%; 9/16) in 2015 was recorded in week 35 (24 August).

For the period 4th January to 31st January 2016, 30 specimens were screened for rotavirus with 1 positive detected from Kimberley Hospital (3.3%; 1/30).

Reporting period 01/01/2016 to 31/01/2016 *Results until end of epidemiologic week 4 (2016)*

Figure 7. Number of stools tested for rotavirus and detection rate by week, 2016



The rotavirus detection (in percentage) is the number of rotavirus-positive stool tests divided by the number of rotavirus stool tests in acute diarrhoea hospitalisations.

Table 1. Cumulative number of stools tested rotavirus positive and total number of stools collected by hospital, 2016

Site	Rotavirus Positive	Total stools tested
Chris Hani Baragwanath	0	9
Mapulaneng	0	3
Matikwane	0	0
Dr George Mukhari	0	0
Edendale	0	2
Red Cross Children's	0	0
Kimberley	1	6
Polokwane	0	0
Free State	0	10
Total	**1**	**30**

Sexually Transmitted Disease Surveillance

Reporting period 01/06/2015 to 30/06/2015 *Results until end of epidemiologic week 26 (2014)*

Programme Description:

The Gauteng clinical STI sentinel surveillance programme was introduced in 1997 by the Sexually Transmitted Infections Reference Centre (Centre for HIV and STI, National Institute for Communicable Diseases) in partnership with the Gauteng Department of Health. The aim of the surveillance program is to monitor STI trends and set up priorities for STI management and provincial control programmes. The data presented below are a summary for the period 1 June - 30 June 2015.

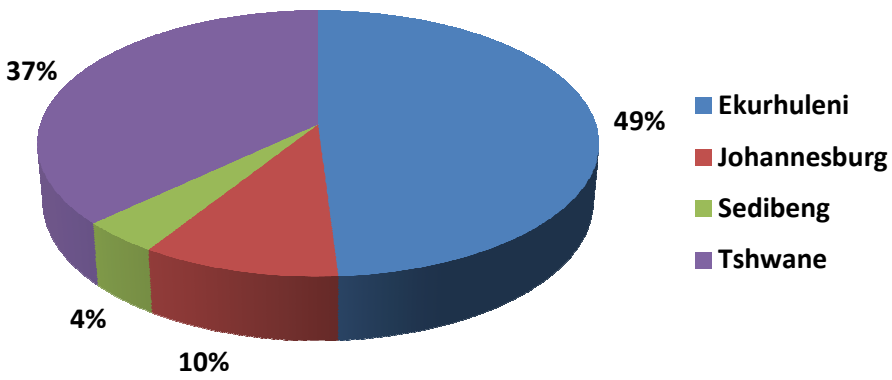
Comments:

For the period 1—30 June 2015, 815 new STI syndrome episodes were reported by sentinel sites.

Females represented 57% (n=466) and males 43% (n=349) of the surveyed population. Amongst males, 60% (211/349) of STI syndromes were MUS (Male Urethritis Syndrome) and amongst females, 55% (254/466) of STI syndromes were VDS (Vaginal Discharge Syndrome). A total of 719 partner notification slips were issued to 815 patients with new STI episodes, resulting in an overall partner slip issue rate of 88%.

MUS and VDS continued to be the most common syndromes in this patient population group.

Figure 8. Percentage distribution of new STI syndrome episodes per surveillance region, 1-30 June 2015



Laboratory-Based Screening for Cryptococcal Disease (Phase 1)

Reporting period 03/09/2012 to 30/09/2015 *Results until end of epidemiologic week 39 (2015)*

Programme Description:

The NICD's Centre for Opportunistic, Tropical and Hospital Infections (COTHI), in collaboration with the Department of Health and several partner organizations, implemented the first phase of reflex laboratory-based screening for cryptococcal disease. The screen-and-treat programme began at 21 health care facilities in the City of Johannesburg in September 2012. In April 2013, 85 facilities in Ekurhuleni were also included. Since October 2014, 93 facilities in two Free State districts (Lejweleputswa and Fezile Dabi) were also included. Routine blood samples submitted for a CD4+ T-lymphocyte (CD4) count from patients seen at these 199 facilities were reflexively tested for cryptococcal antigen (CrAg) using a cryptococcal lateral flow assay (LFA), if the CD4 count was less than 100 cells/µl. CrAg test results were included on the CD4 count laboratory report. As part of intensive monitoring and evaluation (M&E), patients with cryptococcal antigenaemia at enhanced M&E sites, who provided informed consent, were followed up prospectively for up to 6 visits. The following data were collected: lumbar puncture results; antifungal treatment; antiretroviral treatment; time from CrAg testing to treatment initiation; adverse events and outcome (i.e. development of cryptococcal meningitis (CM), death or loss to follow-up). Other key programme indicators such as number of cases of CM detected at hospitals in the screening districts, the number of healthcare workers trained and availability of fluconazole at facilities were collected. Intensive M&E was concluded in City of Johannesburg and Ekurhuleni districts on 30 September 2014 and 30 May 2015 respectively and in Lejweleputswa and Fezile Dabi districts on 15 August 2015. The objective of this final close-out report is to provide an update of selected programme indicators to all stakeholders. Key laboratory and clinical indicators will continue to be reported to the National Department of Health.

Comments:

Between 3 September 2012 and 30 September 2015, 53 241 patients with a CD4 count <100 cells/µl were screened in four districts in Gauteng and the Free State; 1 971 (3.7%) tested positive for CrAg. In Johannesburg, 62% (446/718) of CrAg+ cases were detected at Helen Joseph Hospital, in Ekurhuleni, 11% (125/1 101) were detected at Tambo Memorial Hospital and 20% (30/152) were detected at Bongani Hospital in the Free State. In Gauteng, 21% (370/1 756) of CrAg+ patients with available age data were between the ages of 30 and 34 years; in Free State, this proportion was similar (23%; 35/152). During the reporting period, 496 cases of laboratory-confirmed CM were diagnosed at three hospitals (Helen Joseph, Rahima Moosa Mother & Child and South Rand) in Johannesburg, 663 cases were diagnosed at four hospitals in Ekurhuleni (Bertha Gxowa, Natalspruit, Pholosong and Tambo Memorial) and 274 cases were diagnosed at seven hospitals in the Free State screening districts (Bongani, Metsimaholo, Boitumelo, Parys, Nala, Thusanong and Mafube) This number may include hospitalised patients who were not screened through this programme.

NB. Numbers in reporting may have changed relative to the previous quarterly report (Nov 2015) due to data source changes aimed at improving statistical accuracy

Reporting period 03/09/2012 to 30/09/2015 *Results until end of epidemiologic week 39 (2015)*

Table 2. NHLS CD4 lab statistics for Phase 1 of the cryptococcal screening programme*, GA and FS^

Laboratory Statistics	Number
Number of NHLS CD4 laboratories enrolled in screening programme	3
Number of specimens eligible (CD4<100) for CrAg testing	62 028
Number of eligible specimen tested for CrAg (%)	60 279 (97.2%)
Number of tested specimen with CrAg+ results	2209 (3.7%)

*Data source: NHLS Corporate Data Warehouse and NHLS laboratory information system
^September 2012 (start-up month) data not included

Table 3.1.1 Case statistics* for Phase 1 of the cryptococcal screen & treat programme, GA and FS^#, 1 October 2012 to 30 September 2015

Case Statistics	2012	2013			2014				2015				
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Total
Patients tested for CrAg at all sites	1 206	1 242	4 121	4 326	4 370	4 884	4 297	4 492	4 841	6 124	5 981	6 972	**52 856**
CrAg+ patients at all sites (%)	60 (5.0)	64 (5.2)	165 (4.0)	180 (4.2)	160 (3.7)	163 (3.3)	137 (3.2)	173 (3.9)	186 (3.8)	191 (3.1)	192 (3.2)	278 (4.0)	**1 949 (3.7)**
Patients tested for CrAg at enhanced M&E sites	1 206	1 239	2 838	2 942	3 011	3 174	2 846	3 062	3 282	4 076	3 975	4 547	**36 198**
CrAg+ patients at enhanced M&E sites (%)	60 (5.0)	64 (5.2)	136 (4.8)	138 (4.7)	118 (3.9)	109 (3.4)	105 (3.7)	134 (4.4)	147 (4.5)	131 (3.2)	138 (3.5)	196 (4.3)	**1 476 (4.1)**

Table 3.1.2 Case statistics* for Phase 1 of the cryptococcal screen & treat programme, GA only^#, 1 October 2012 to 30 September 2015

Case Statistics	2012	2013			2014				2015				
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Total
Patients tested for CrAg at all sites	1 206	1 242	4 121	4 326	4 370	4 884	4 297	4 489	4 110	4 964	4 570	5 315	**47 894**
CrAg+ patients at all sites (%)	60 (5.0)	64 (5.2)	165 (4.0)	180 (4.2)	160 (3.7)	163 (3.3)	137 (3.2)	173 (3.9)	164 (4.0)	157 (3.2)	158 (3.5)	216 (4.1)	**1 797 (3.8)**
Patients tested for CrAg at enhanced M&E sites	1 206	1 239	2 838	2 942	3 011	3 174	2 846	3 060	2 705	3 201	2 907	3 340	**32 469**
CrAg+ patients at enhanced M&E sites (%)	60 (5.0)	64 (5.2)	136 (4.8)	138 (4.7)	118 (3.9)	109 (3.4)	105 (3.7)	134 (4.4)	129 (4.8)	100 (3.1)	111 (3.8)	151 (4.5)	**1 355 (4.2)**

Table 3.1.3 Case statistics* for Phase 1 of the cryptococcal screen & treat programme, FS only^#, 1 October 2014 to 30 September 2015

Case Statistics	2014	2015			
	Q4	Q1	Q2	Q3	Total
Patients tested for CrAg at all sites	734	1 160	1 411	1 657	**4 962**
CrAg+ patients at all sites (%)	22 (3.0)	34 (2.9)	34 (2.4)	62 (3.7)	**152 (3.1)**
Patients tested for CrAg at enhanced M&E sites	579	875	1 068	1 207	**3 729**
CrAg+ patients at enhanced M&E sites (%)	18 (3.1)	31 (3.5)	27 (2.5)	45 (3.7)	**121 (3.2)**

*Data source: NHLS Corporate Data Warehouse, NHLS laboratory information system and NICD M+E data
^ September 2012 (start-up month) data not included. #Phased implementation of screening commenced in the following order: COJ - September 2012; Ekurhuleni - April 2013; Lejweleputswa - October 2014; Fezile Dabi - February 2015

Reporting period 03/09/2012 to 30/09/2015 *Results until end of epidemiologic week 39 (2015)*

Table 3.2.1 Clinical data for CrAg-positive patients, October 2012 - August 2015, GA and FS enhanced M+E sites[#ψ]

Case Statistics	2012	2013				2014				2015			
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Total
Number of CrAg+ patients	75	53	129	124	118	104	90	123	141	114	117	43	1231
Number of CrAg+ patients with known lumbar puncture	28	19	28	34	42	22	28	27	18	18	8	5	277
Number of CrAg+ patients with known lumbar puncture and CM	18	11	15	19	24	10	21	21	13	13	5	4	174
Number of CrAg+ patients known to have initiated fluconazole treatment (%)†	34 (45)	31 (58)	71 (55)	61 (49)	38 (32)	51 (49)	37 (41)	30 (24)	45 (32)	34 (30)	18 (15)	6 (14)	456 (37)

Table 3.2.2 Clinical data for CrAg-positive patients, October 2012 - August 2015, GA enhanced M+E sites only[#ψ]

Case Statistics	2012	2013				2014				2015		
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Total
Number of CrAg+ patients	75	53	129	124	118	104	90	123	118	85	94	1113
Number of CrAg+ patients with known lumbar puncture	28	19	28	34	42	22	28	27	16	13	3	260
Number of CrAg+ patients with known lumbar puncture and CM	18	11	15	19	24	10	21	21	12	9	1	161
Number of CrAg+ patients known to have initiated fluconazole treatment (%)†	34 (45)	31 (58)	71 (55)	61 (49)	38 (32)	51 (49)	37 (41)	30 (24)	36 (31)	28 (33)	11 (12)	428 (38)

Table 3.2.3 Clinical data for CrAg-positive patients, October 2012 - August 2015, FS enhanced M+E sites only[#ψ]

Case Statistics	2014	2015			
	Q4	Q1	Q2	Q3	Total
Number of CrAg+ patients	23	29	23	43	118
Number of CrAg+ patients with known lumbar puncture	2	5	5	5	17
Number of CrAg+ patients with known lumbar puncture and CM	1	4	4	4	13
Number of CrAg+ patients known to have initiated fluconazole treatment (%)†	9 (39)	6 (21)	7 (30)	6 (14)	28 (24)

*Data source: NHLS Corporate Data Warehouse, NHLS laboratory information system, GERMS database and NICD; lumbar puncture is indicated based on clinical findings; CrAg: cryptococcal antigenaemia; CM: cryptococcal meningitis

[#] Phased implementation of screening commenced in the following order: COJ - September 2012; Ekurhuleni - April 2013; Lejweleputswa - October 2014; Fezile Dabi - February 2015

[ψ] M+E data collection ended on 30 September 2014 in COJ, 30 May 2015 in Ekurhuleni, and on 15 August 2015 in Lejweleputswa and Fezile Dabi

Figure 9.1 Proportion of CrAg+ cases at enhanced M&E sites in City of Johannesburg District, GA, September 2012 – September 2015*

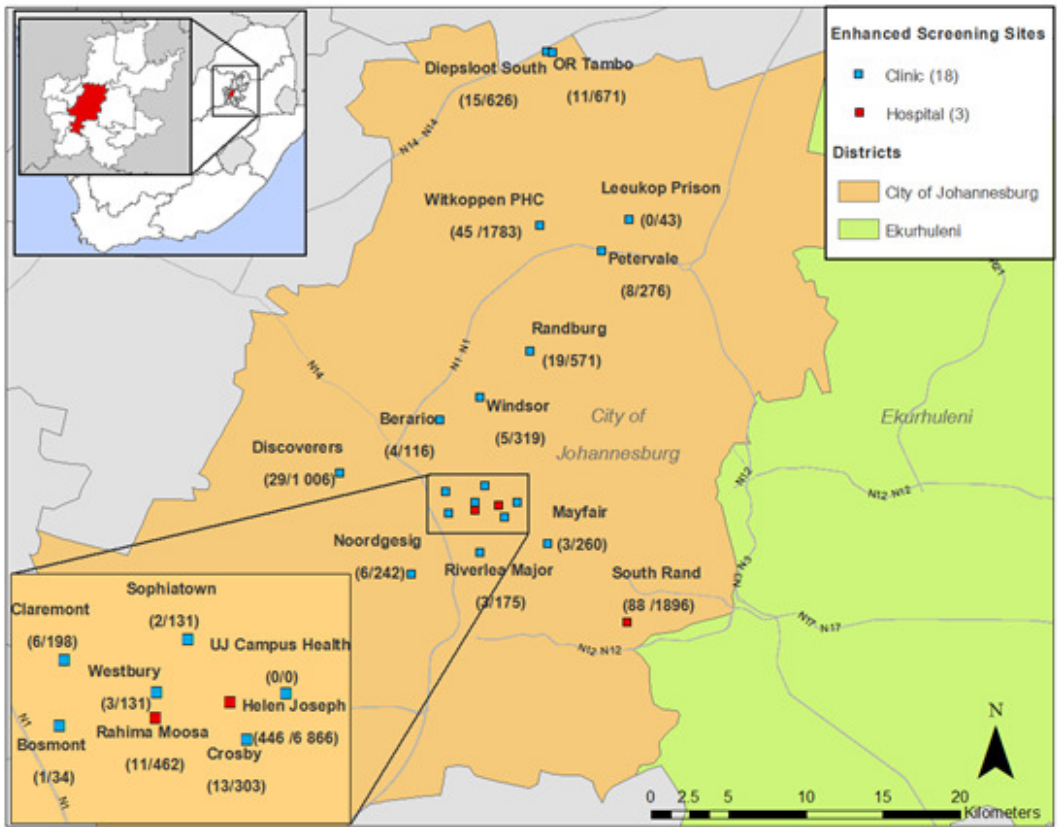


Figure 9.2. Proportion of CrAg+ cases at enhanced M&E sites in Ekurhuleni District, GA, April 2013 – September 2015*

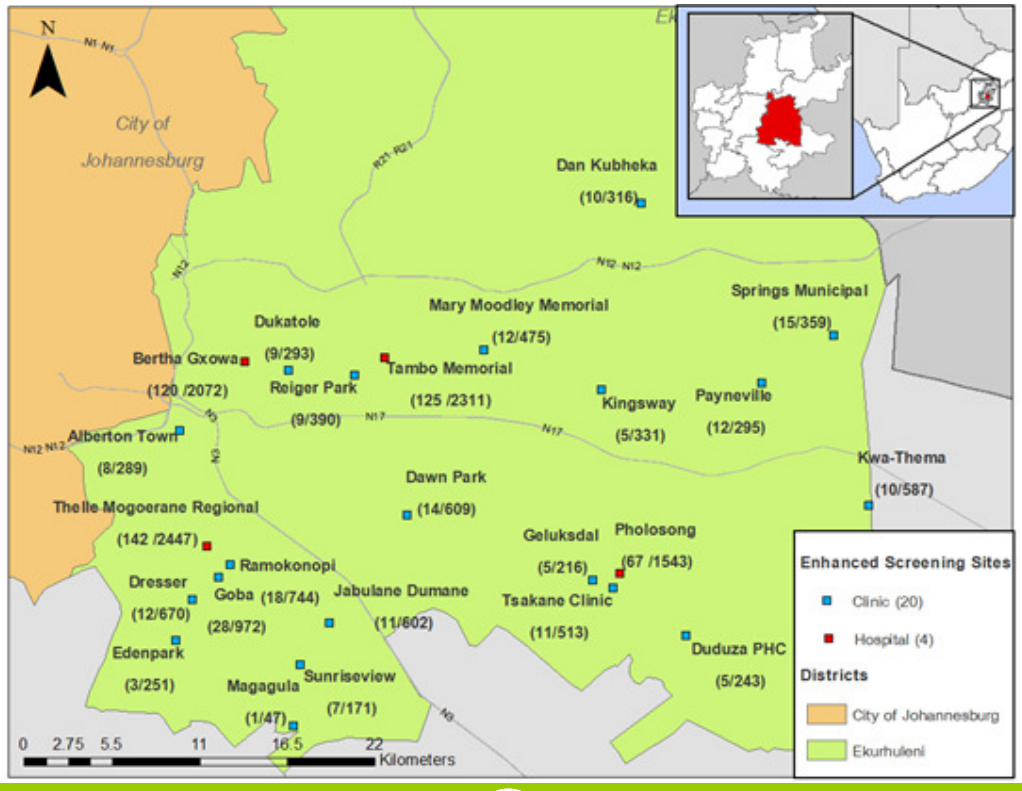


Figure 9.3 Proportion of CrAg+ cases at enhanced M&E sites in Lejweleputswa District, FS, October 2014 – September 2015*

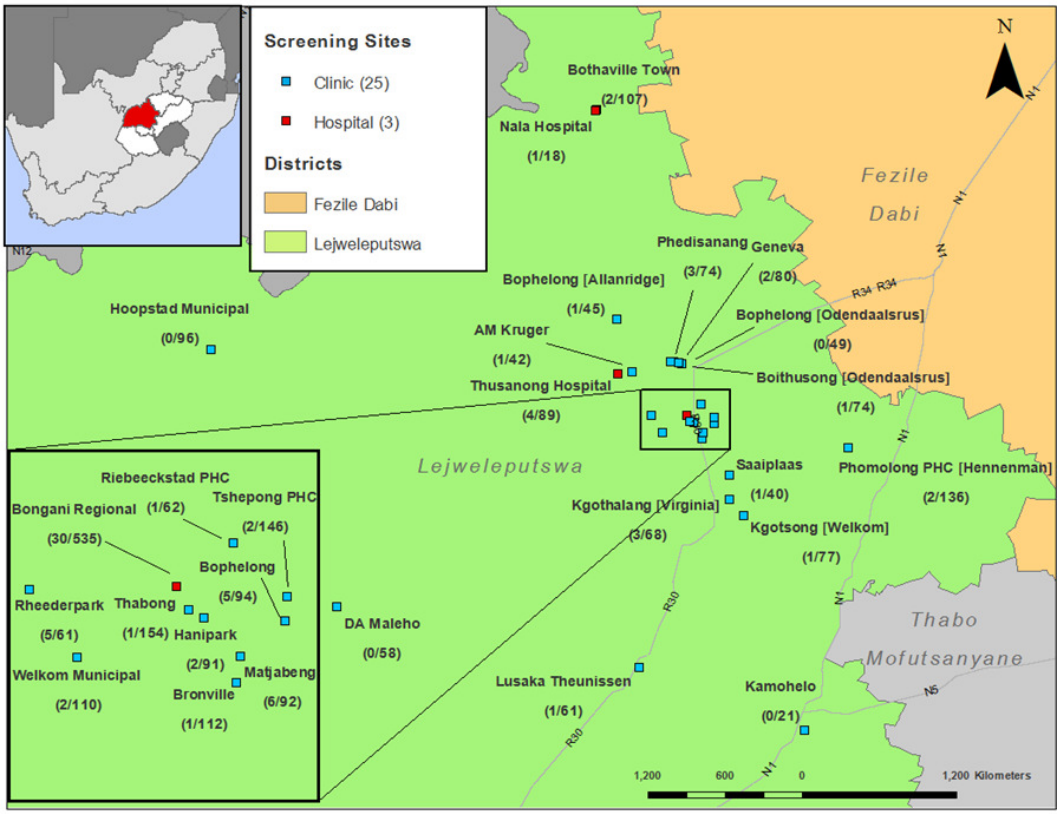


Figure 9.4 Proportion of CrAg+ cases at enhanced M&E sites in Fezile Dabi District, FS, October 2014 – September 2015*

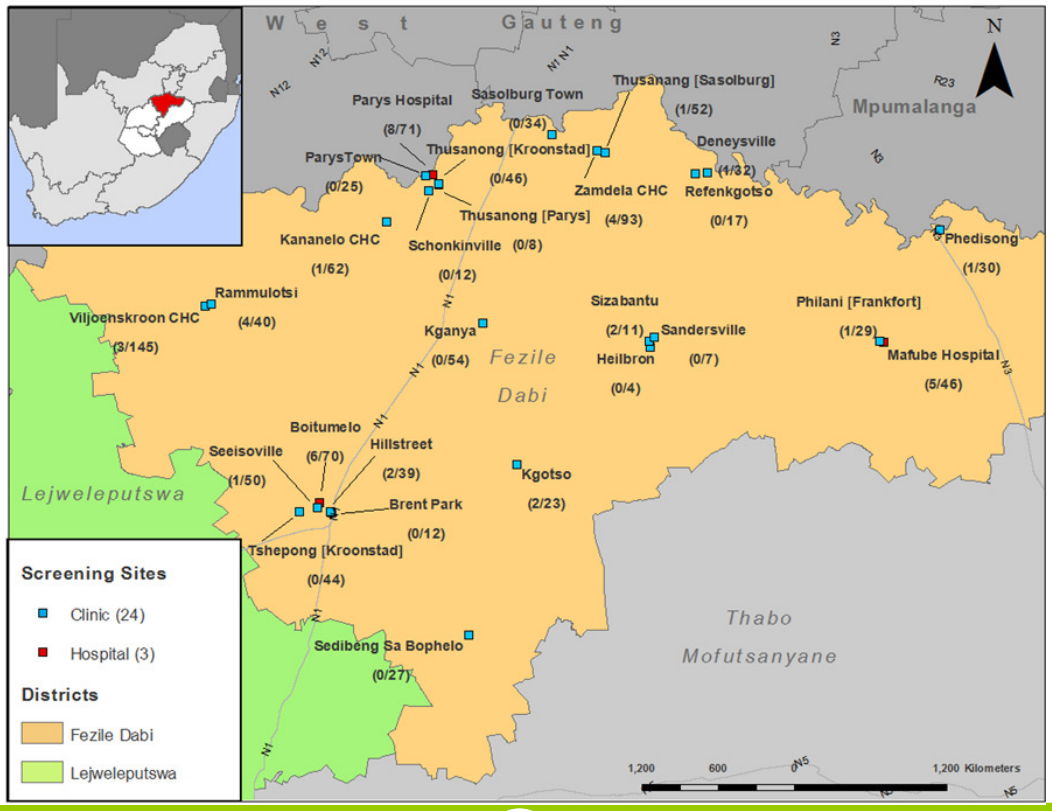
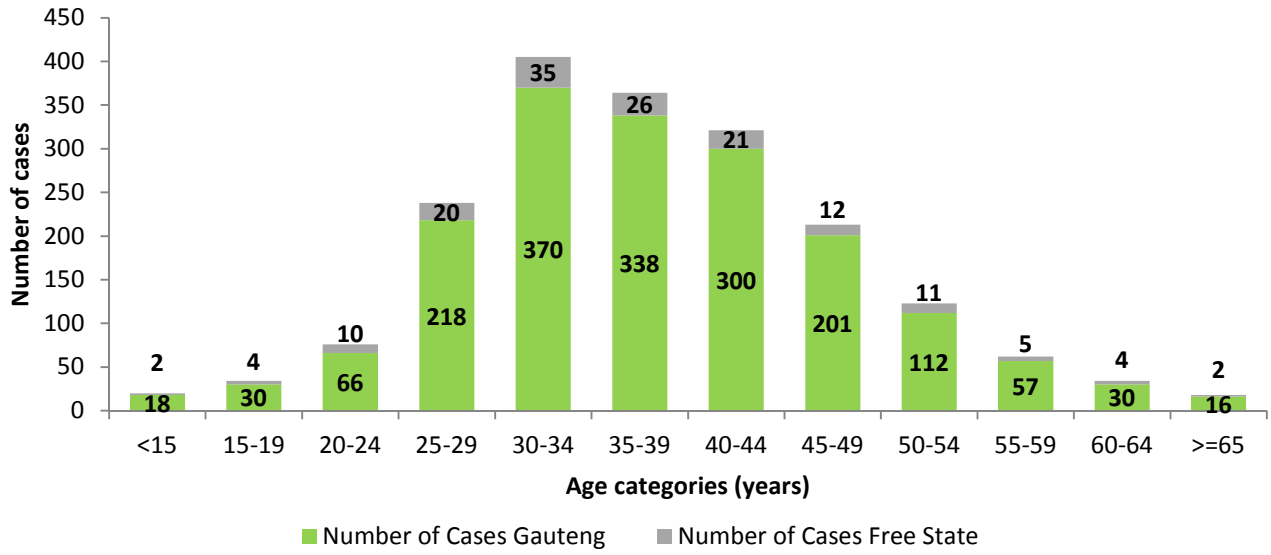
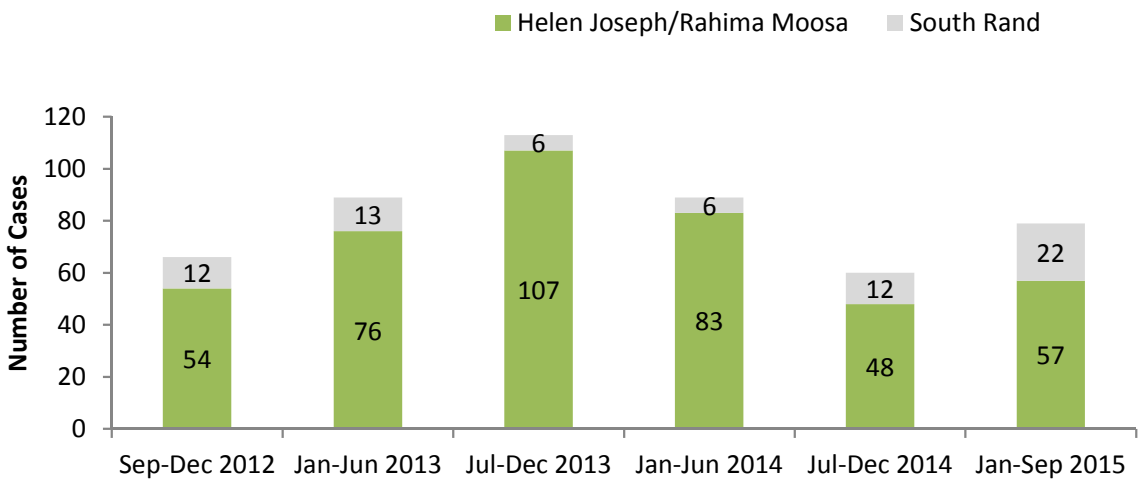


Figure 10. Number of CrAg+ patients*, by age category, at 199 facilities that refer specimens to Charlotte Maxeke Johannesburg Academic Hospital, Tambo Memorial Hospital and Bongani Hospital NHLS CD4 Laboratories, October 2012 through September 2015, n=1 908**



*Data source: NHLS Corporate Data Warehouse and NHLS laboratory information system ** Only includes patients with known age.

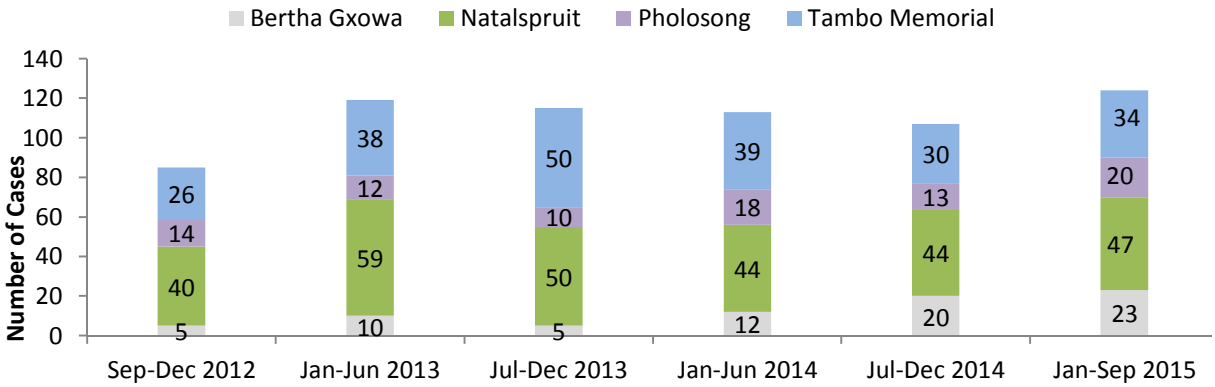
Figure 11.1 Number of laboratory-confirmed cases of cryptococcal meningitis† for City of Johannesburg*, September 2012 through September 2015, n=496



†May include hospitalised patients who were not screened through this programme
*Data source: GERMS-SA surveillance programme
*Data may be incomplete because surveillance audits have not been performed
*Data from three regional hospitals (Helen Joseph/Rahima Moosa Mother & Child and South Rand Hospital)

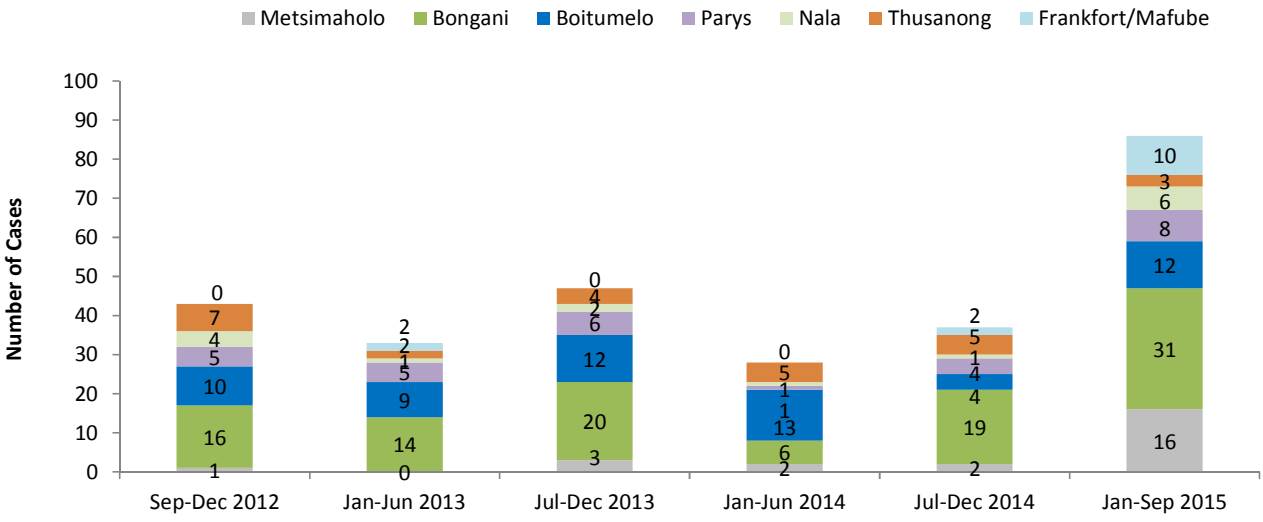
Reporting period 03/09/2012 to 30/09/2015 *Results until end of epidemiologic week 39 (2015)*

Figure 11.2 Number of laboratory-confirmed cases of cryptococcal meningitis† diagnosed for Ekurhuleni*, September 2012 through September 2015, n=663



†May include hospitalised patients who were not screened through this programme
*Data source: GERMS-SA surveillance programme
*Data may be incomplete because surveillance audits have not been performed.
*Data at four regional hospitals (Bertha Gxowa, Natalspruit, Pholosong and Tambo Memorial)

Figure 11.3 Number of laboratory-confirmed cases of cryptococcal meningitis† diagnosed for Free State*, September 2012 through September 2015, n=274



†May include hospitalised patients who were not screened through this programme
*Data source: GERMS-SA surveillance programme
*Data may be incomplete because surveillance audits have not been performed.
*Data at seven hospitals (Metsimaholo, Bongani, Boitumelo, Parys, Nala, Thusanong, Mafube)

Laboratory-Based Nosocomial Disease Surveillance

Reporting period 01/09/2012 to 31/08/2015 *Results until end of epidemiologic week 35 (2015)*

Programme Description:

Staphylococcus aureus (SA) is seen as a common pathogen associated with a wide range of clinical infections (blood stream, lower respiratory tract, skin and soft tissue infections, ventilator-associated pneumonia and central venous catheter associated with blood stream infections and foreign body infections).

The epidemiology of SA is changing. It is one of the most significant pathogens responsible for causing both nosocomial- and community-associated infections, particularly MRSA, which has a high prevalence worldwide as well as a high morbidity and mortality rate. Previously, MRSA was considered a nosocomial pathogen; now it is recovered from patients at admission to hospitals. This community-associated MRSA (CA-MRSA) occurs either from patients that have never been exposed to healthcare settings or patients that have been exposed to recent hospital admissions or any interventions in health care settings.

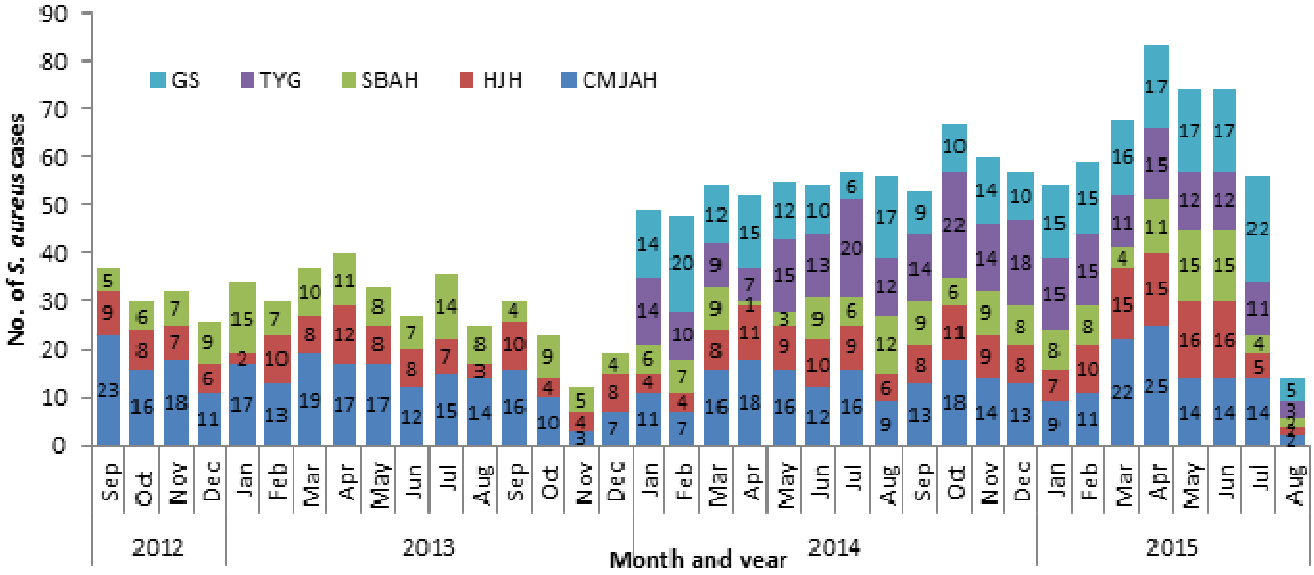
SA enhanced surveillance from patients with bacteraemia was introduced in September 2012 at three sentinel sites in Gauteng Province: Charlotte Maxeke Johannesburg Academic Hospital, Helen Joseph/Rahima Moosa Mother and Child Hospital, and Steve Biko Pretoria Academic Hospital. From January 2014, surveillance was introduced at two sentinel sites in Western Cape Province: Groote Schuur Hospital and Tygerberg Hospital. We report basic demographic findings from September 2012 to August 2015.

Comments:

- For the period 1 September 2012 to 31 August 2015, 1637 *S. aureus* cases were reported.
- The majority of *S. aureus* cases were 0-9 years of age (33%) and 30-39 years of age (15%).
- The highest case-fatality rate occurred in the ≥60 year age group, with just less than half of patients dying (49%).
- Antibiotic susceptibility varied by site.
- Thirty-two percent of *S. aureus* isolates were methicillin-resistant.

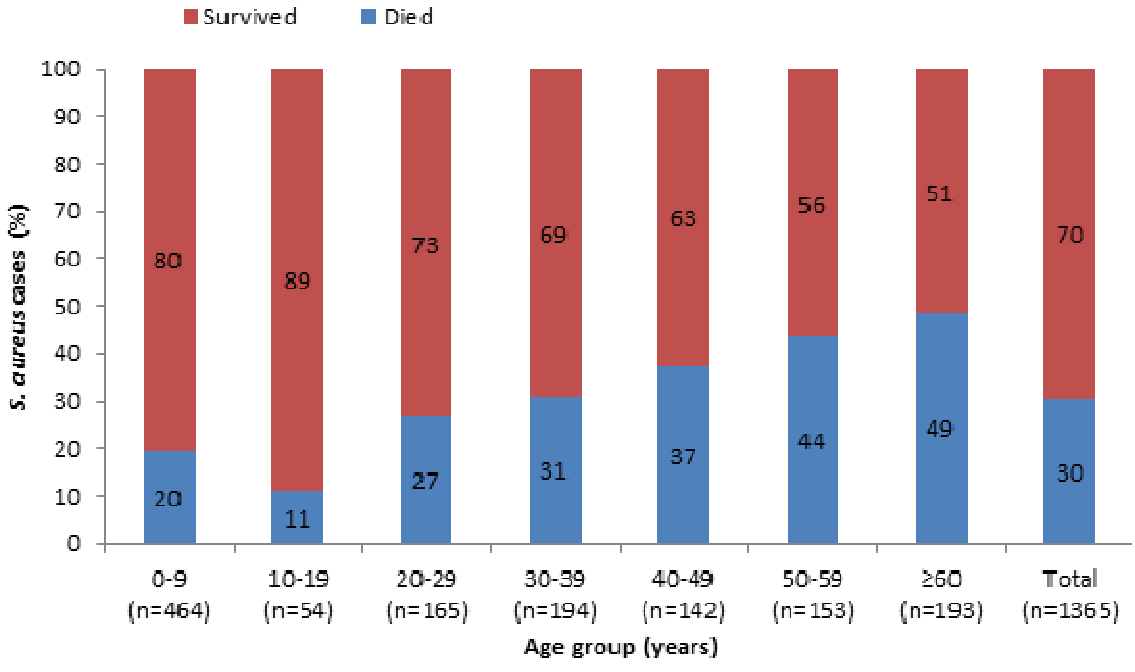
Reporting period 01/09/2012 to 31/08/2015 *Results until end of epidemiologic week 35 (2015)*

Figure 12. Number of *S. aureus* cases* reported by month and site from September 2012 to August 2015 (n=1638)



*Data may be incomplete because surveillance audits have not been performed

Figure 13. *S. aureus* cases by age category and outcome from September 2012 to August 2015 (N=1365)



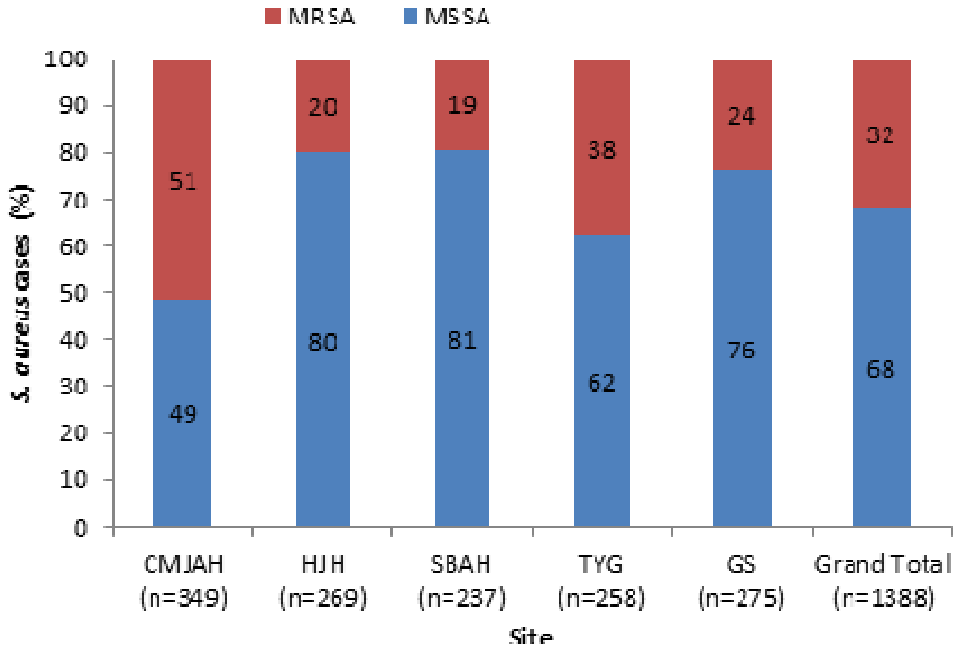
Reporting period 01/09/2012 to 31/08/2015 *Results until end of epidemiologic week 35 (2015)*

Figure 14. Antibiotic susceptibility profile of *S. aureus* isolates by percentage and site from September 2012 to August 2015

Antibiotic	CMJAH (%)	HJH (%)	SBAH/TDH (%)	GSH (%)	TYG (%)	Total (%)
Amikacin	47	64	65	98	89	72
Cefoxitin	85	91	90	100	99	93
Clindamycin	53	82	78	81	66	71
Ciprofloxacin	48	78	79	81	67	69
Erythromycin	46	79	75	81	67	68
Gentamycin	46	69	73	79	75	67
Linezolid	99	100	100	99	100	100
Oxacillin	49	80	81	76	62	68
Rifampicin	93	86	90	86	94	90
Cotrimoxazole	51	76	83	85	84	74
Teicoplanin	99	100	100	99	99	100
Vancomycin	99	100	100	99	99	99

CMJAH: Charlotte Maxeke Johannesburg Academic Hospital, HJH: Helen Joseph Hospital, SBAH: Steve Biko Academic Hospital/Tshwane District Hospital, GSH: Groote Schuur Hospital, TYG: Tygerberg Hospital

Figure 15. *S. aureus* bacteremia isolates by oxacillin susceptibility and site from September 2012 to August 2015



MSSA: Methicillin-susceptible *S. aureus*, MRSA: Methicillin-resistant *S. aureus*
CMJAH: Charlotte Maxeke Johannesburg General Academic; HJH: Helen Joeseph Hospital; SBAH/TSHW: Steve Biko Academic Hospital/ Tshwane District Hospital, GSH: Groote Schuur Hospital, TYG: Tygerberg Hospital

Laboratory-Based Nosocomial Disease Surveillance - ESKAPE

Reporting period 01/01/2015 to 30/06/2015 *Results until end of epidemiologic week 24 (2015)*

Programme Description:

The Centre for Opportunistic, Tropical and Hospital Infections is involved in antimicrobial resistance surveillance amongst hospital-associated infections utilising various sources. The source of data for this report is from the NHLS corporate data warehouse (CDW) based on electronic information from Track care Laboratory System at NHLS. Blood culture results from *Enterococcus, Staphylococcus, Klebsiella, Acinetobacter, Pseudomonas* and ESBL (*Enterobacter* and *E. coli*) (ESKAPE) organisms were cleaned and analysed. These are common, nosocomial, bacterial pathogens that are highly antibiotic-resistant. The data used were from the following hospitals: Charlotte Maxeke Johannesburg Academic Hospital, Chris Hani Baragwanath Hospital, Frere Hospital, Dr George Mukhari Hospital, Grey's Hospital, Groote Schuur Hospital, Helen Joseph Hospital, Inkosi Albert Luthuli Central Hospital, Livingston Hospital, King Edward VIII Hospital, Mahatma Gandhi Hospital, Nelson Mandela Academic Hospital, RK Khan Hospital, Steve Biko Academic Hospital, Tygerberg and Universitas Hospital. Cleaning of the data involved creating unique patient identifiers, which enabled us to de-duplicate and produce patient-level data. There was a lack of standardisation across NHLS laboratories on how data was captured. Wide-range in recoding of antibiotic names, organism names and susceptibility results were required to clean the data and to minimise errors. Every six monthly report is generated to reflect overall antimicrobial susceptibility patterns per organism and trend of resistance. Due to limited space, hospital-level antibiotic susceptibility data are not included in this report as they are available at NICD web site.

Comments:

For the 6-month reporting period we described the most common organisms and their antimicrobial susceptibility; amongst them *K. pneumoniae* was the commonest organism (total of 1437 cases) followed by *S. aureus* (total of 1325 cases). *S. aureus* was resistant to oxacillin in 568 (37%) isolates and indicated decreased susceptibility compared to the previous year. All isolates were susceptible to vancomycin and to linezolid. Susceptibility testing results showed 99% of *E. faecalis* and 95% of *E. faecium* cases were susceptible to vancomycin. *P. aeruginosa* presented susceptibility to piperacillin-tazobactam (65%) and high susceptibility to colistin (99%). *K. pneumoniae* cases revealed a high rate of ESBL (69%) and retained 100% susceptibility to colistin. Carbapenems are down, showing non-susceptibility of 5% which hasn't changed compared to the previous year. *Acinetobacter baumannii* isolates were highly resistant to most of the antimicrobial agents tested except to colistin, which showed 2% resistance. *E. coli* revealed no changes in susceptibility to almost all agents, ciprofloxacin decreased in susceptibility (27%).

ESKAPE surveillance

Reporting period 01/01/2015 to 30/06/2015 *Results until end of epidemiologic week 24 (2015)*

Table 6. Number of ESKAPE cases per month from January to June 2015

	Number of cases							
Month	*A. baumannii complex*	*E. cloacae complex*	*E. coli*	*P. aeruginosa*	*S. aureus*	*K. pneumoniae*	*E. faecalis*	*E. faecium*
Jan	127	59	150	46	246	270	70	68
Feb	129	40	135	71	182	218	53	51
Mar	124	64	206	65	213	254	72	69
Apr	123	53	141	59	238	206	59	63
May	142	57	147	59	242	234	74	65
Jun	118	44	165	55	204	255	69	92
Total	**763**	**317**	**944**	**355**	**1 325**	**1 437**	**397**	**408**

Figure 16. Antimicrobial susceptibility of Gram-positive ESKAPE organisms

Staphylococcus aureus

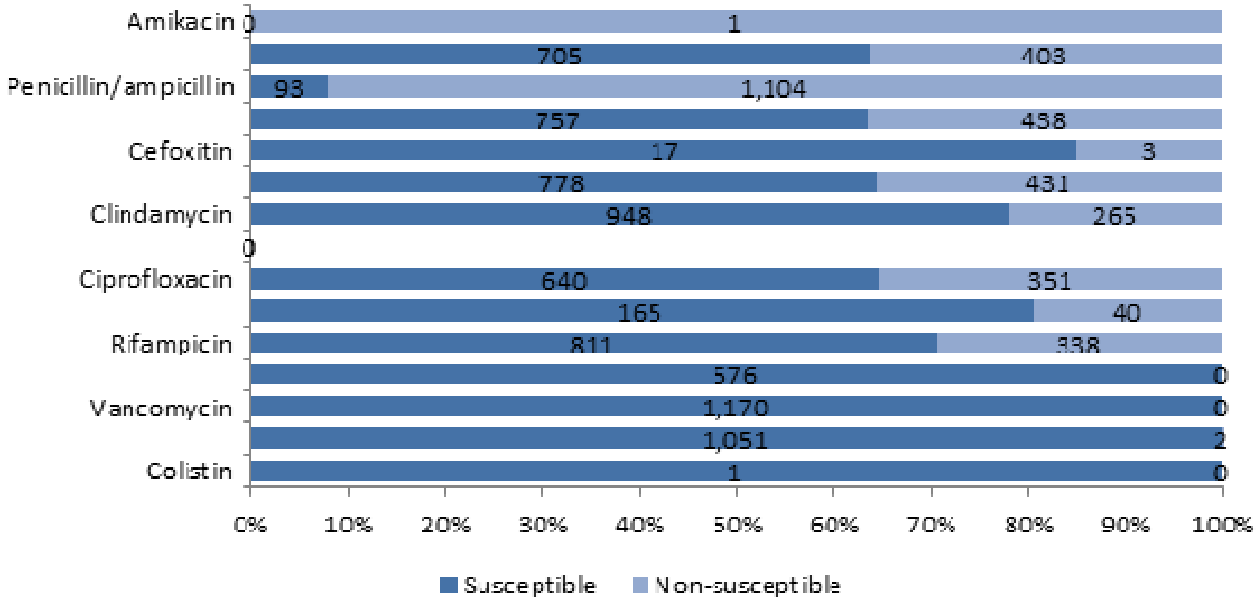
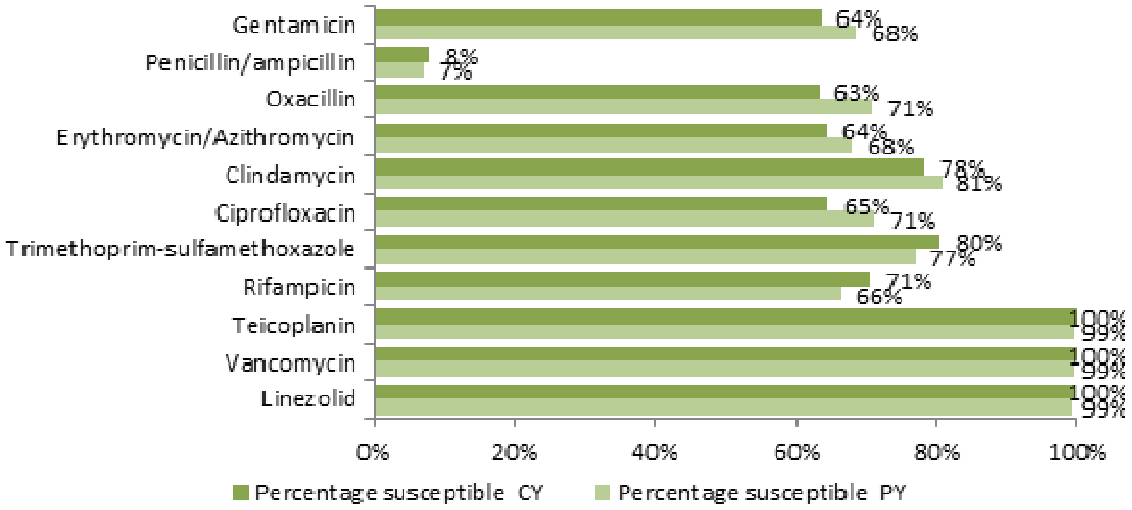
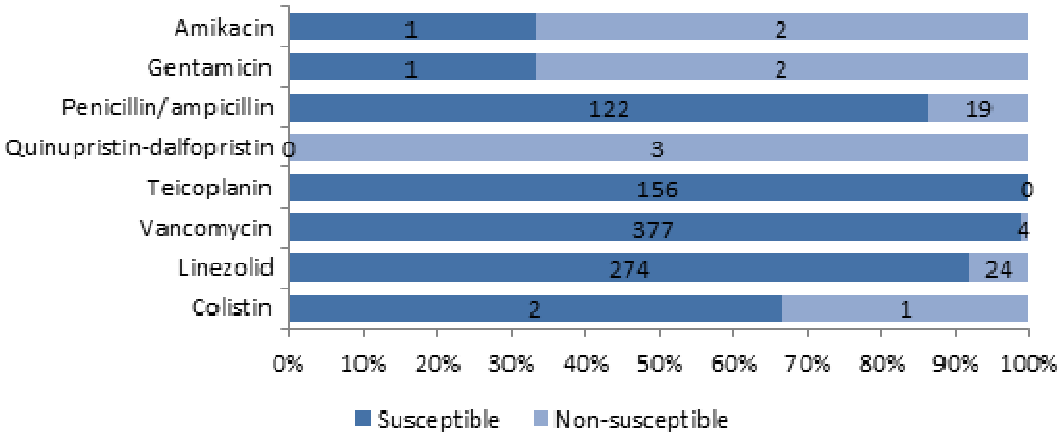


Figure 16 cont. Antimicrobial susceptibility of Gram-positive ESKAPE organisms

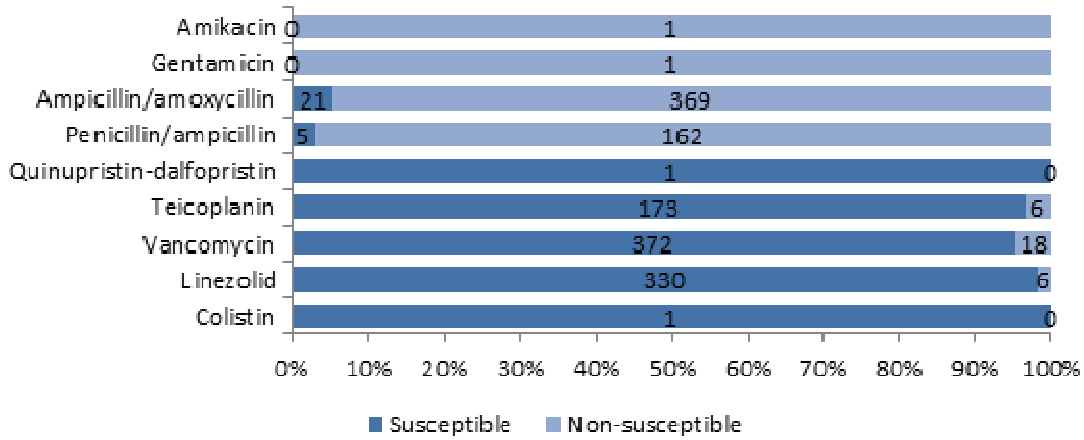
Comparison in susceptibility of *S. aureus* during the same period of current year (CY) and previous year (PY)



Enterococcus faecalis



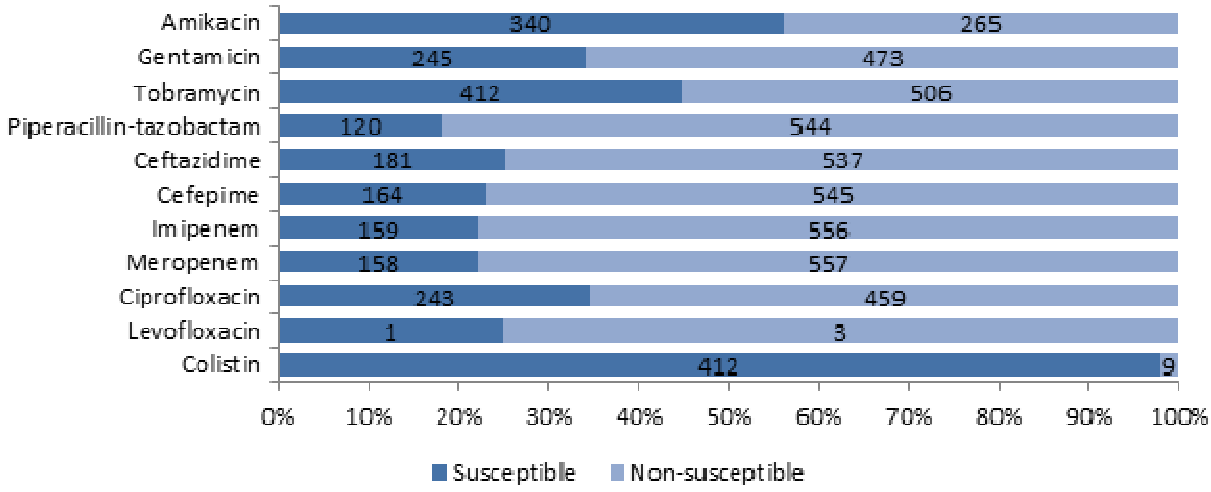
Enterococcus faecium



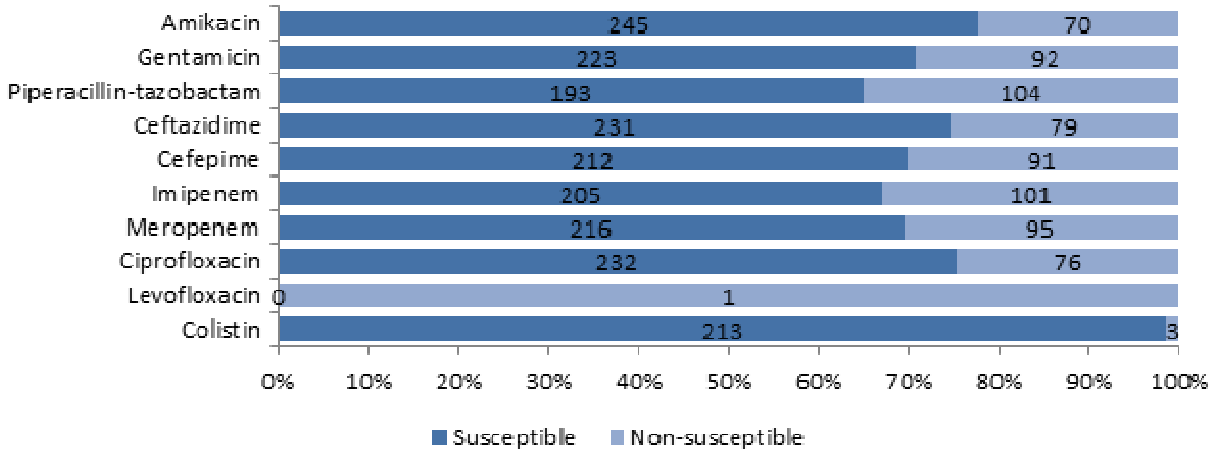
Reporting period 01/01/2015 to 30/06/2015 *Results until end of epidemiologic week 24 (2015)*

Figure 17. Antimicrobial susceptibility of Gram-negative ESKAPE organisms

Acinetobacter baumannii



Pseudomonas aeruginosa



Klebsiella pneumoniae

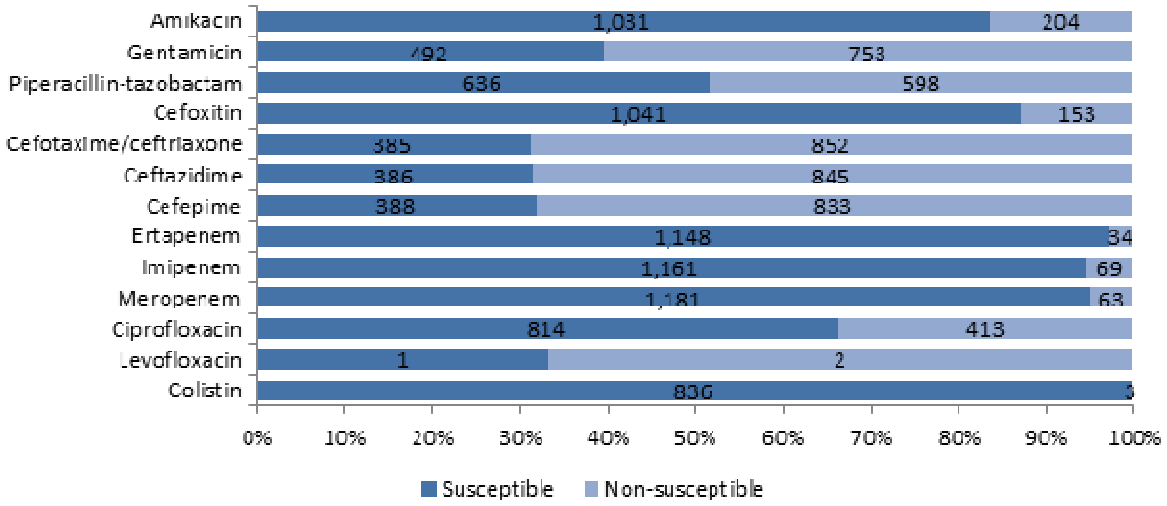
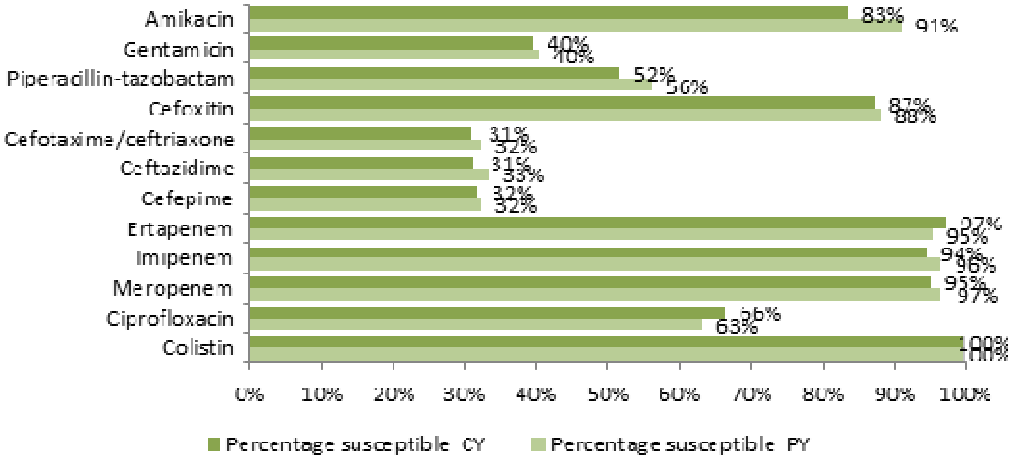
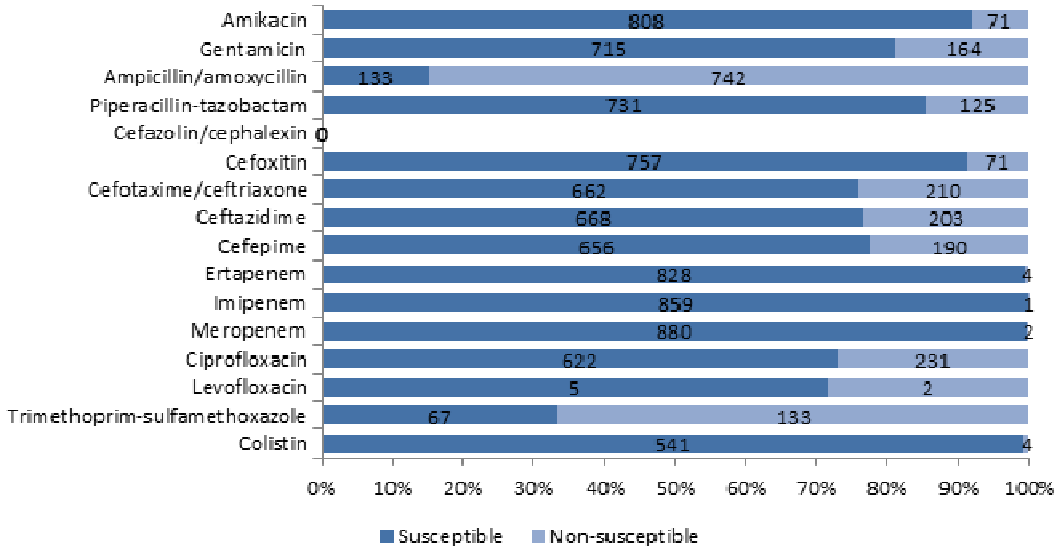


Figure 17 cont. Antimicrobial susceptibility of Gram-negative ESKAPE organisms

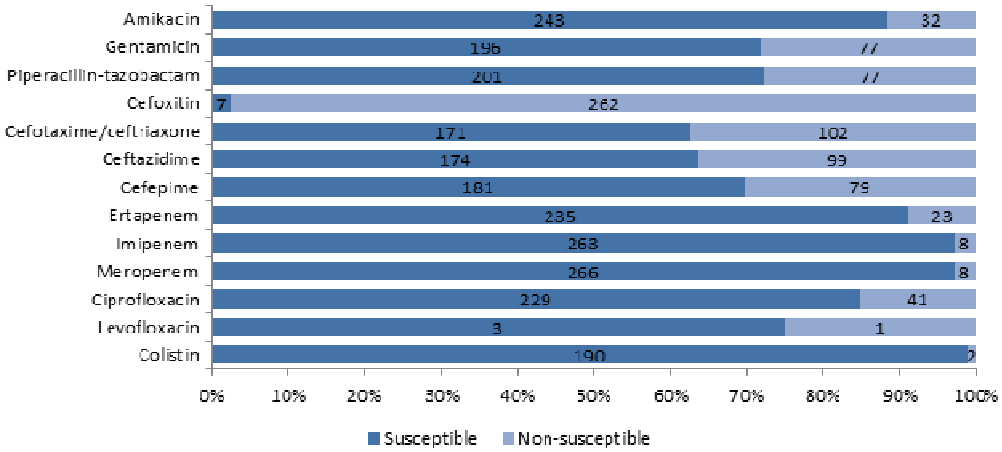
Comparison in susceptibility of *K. pneumoniae* during the same period of current year (CY) and previous year (PY)



Escherichia coli



Enterobacter cloacae



Reporting period 01/06/2012 to 31/12/2015 *Results until end of epidemiologic week 52 (2015)*

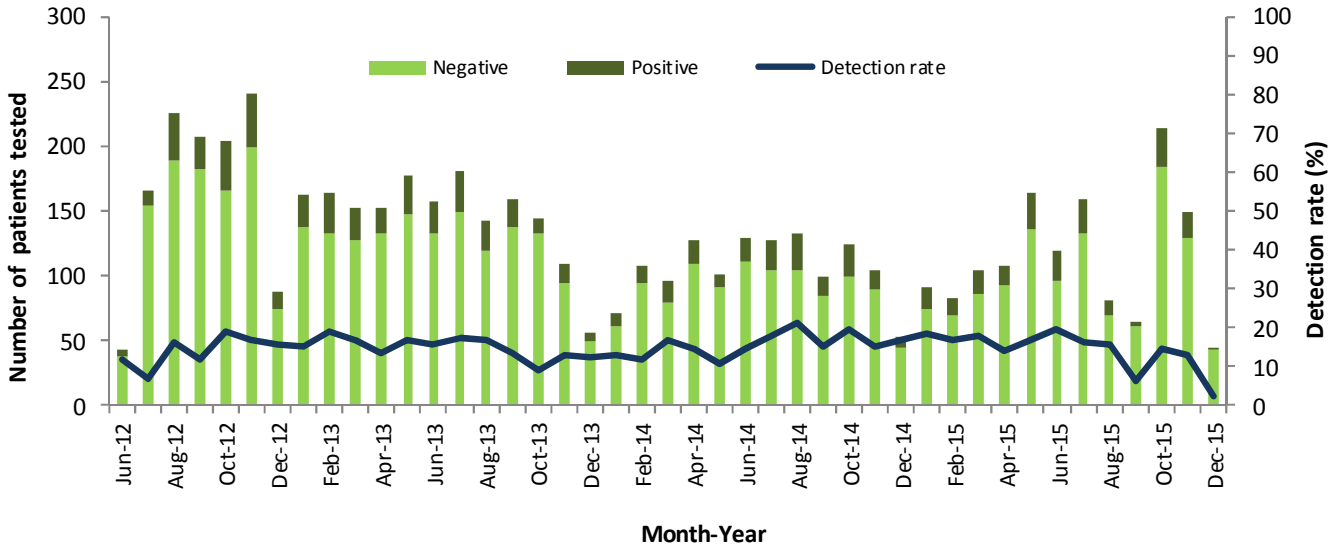
Programme Description:

The data source for this report is the Severe Acute Respiratory Illness (SARI) surveillance programme. SARI is a prospective sentinel hospital-based surveillance system. *Pneumocystis jirovecii* surveillance was conducted at 3 sites: Edendale, Klerksdorp and Tshepong Hospitals. Respiratory tract samples of 3 types (induced sputum (<5 and ≥5 year olds), oral rinses, and nasopharyngeal swabs (only in ≥5 year olds)) were obtained from cases that met the severe respiratory infection case definition. A quantitative real-time PCR was used to test for *P. jirovecii.* **Oral rinses were stopped in June 2015.*

Comments:

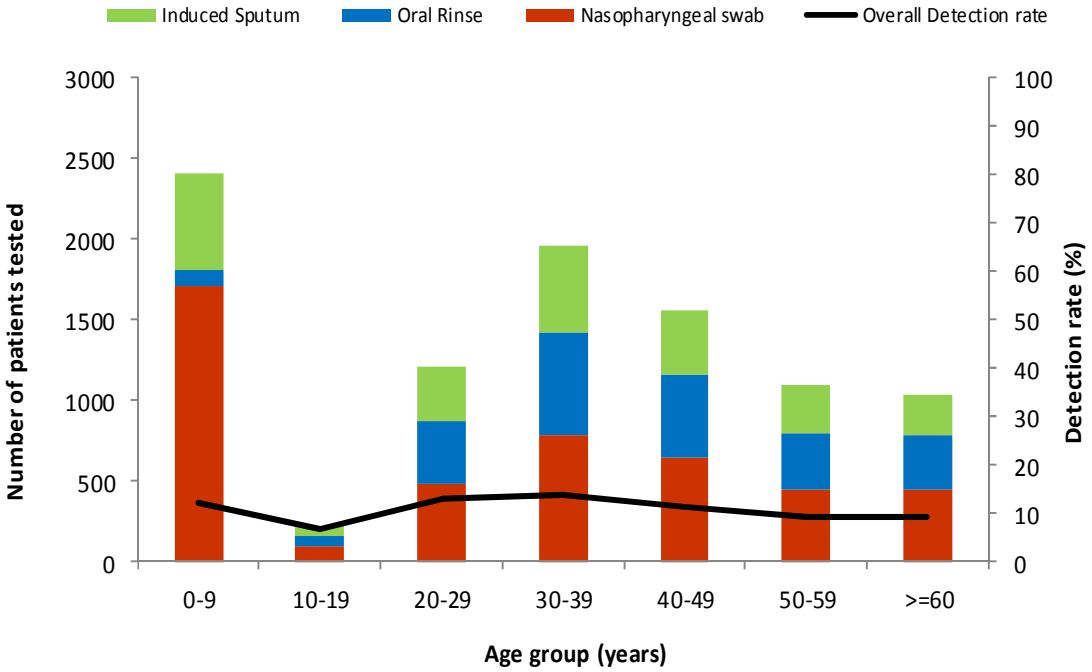
During the reporting period, 10654 specimens from 5597 patients were tested for *P. jirovecii*. The overall detection rate was 15% (851/5597). The detection rate is between 2-21%. The reason for the low detection rate observed in December 2015 could be due to delayed sample processing. Nasopharyngeal specimens accounted for almost half of all specimens taken (5135/10654, 48%). More than one-third of *P. jirovecii* cases were 0-9 years old (2032/5555, 37%). HIV-uninfected individuals with *P. jirovecii* were more common at the extremes of age, whereas HIV-infected individuals with *P. jirovecii* were mostly between the ages of 20-49 years.

Figure 18. Number of specimens tested for *Pneumocystis jirovecii* and detection rate by month from June 2012 to December 2015 (n=5597)



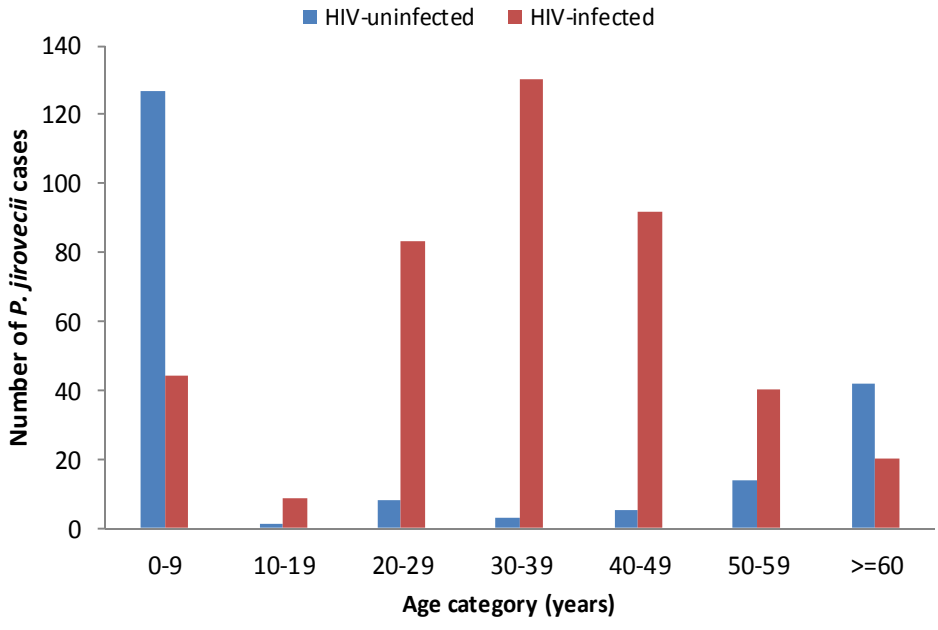
Reporting period 01/06/2012 to 31/12/2015 *Results until end of epidemiologic week 52 (2015)*

Figure 19. Number of patients tested for *P. jirovecii* by age category and specimen type and the overall detection rate* from June 2012 to December 2015



*Overall detection rate refers to the number of positive cases for *P. jirovecii* derived from all specimen types by age category

Figure 20. Number of *P. jirovecii* cases by age and HIV status from June 2012 to December 2015 (N=618)



Laboratory-Based Respiratory and Meningeal Disease Surveillance

Reporting period 01/01/2016 to 31/01/2016 *Results until end of epidemiologic week 4 (2016)*

Programme Description:

The Centre for Respiratory Diseases and Meningitis (CRDM) at the National Institute for Communicable Diseases (NICD) of the National Health Laboratory Service (NHLS) monitors invasive disease caused by *Neisseria meningitidis*, *Haemophilus influenzae*, and *Streptococcus pneumoniae* through a national, active, laboratory-based surveillance system (as part of GERMS-SA). All microbiology diagnostic laboratories throughout South Africa are requested to report laboratory-confirmed disease (defined as the isolation of *Neisseria meningitidis*, *Haemophilus influenzae*, or *Streptococcus pneumoniae* from normally sterile site specimens e.g. CSF or blood, or for culture-negative cases, any two of the following: a positive antigen latex agglutination test, a consistent Gram stain, and/or positive polymerase chain reaction [PCR]). Reporting laboratories should include all private- and public-sector health care laboratories, and other specialist laboratories e.g. laboratories serving mining or military hospitals. Available isolates are sent to CRDM for confirmation and further characterisation, including serogrouping. Increasingly more culture-negative specimens are being sent for PCR testing.

Some of the limitations of this surveillance system are that we include only individuals that arrive at hospitals and have specimens taken, and cases are only counted if laboratories report them to us. Quarterly audits to verify completeness of reporting are conducted for all public-sector laboratories. Frequent communications and visits are conducted to improve case reporting. Isolates for serogrouping are not available for cases identified by audit.

Comments:

By week 4 in 2016, 3 meningococcal cases had been reported to the NICD. No serogrouping results are available to date. For the same period last year, a total of 7 cases had been reported.

Four cases of *H. influenzae* have been reported to date in 2016. No serotyping results are available to date. For the same period last year, a total of 20 cases had been reported.

To date this year, 69 pneumococcal cases have been reported, compared to 139 cases reported for the same period last year. Most cases occur in children aged <5 years and adults aged 30-44 years.

Reductions of cases reported in 2016 may reflect the inherent delays of laboratory-based reporting, but may also reflect ongoing operational changes.

* Previously known as serogroup W135. For a comprehensive description of all current *N. meningitidis* serogroups and nomenclature, please refer to the following article: Harrison OB, Claus H, Jiang Y *et al*. Description and nomenclature of *Neisseria meningitidis* capsule locus. Emerg Infect Dis (Internet). 2013 April. Free online access at: http://wwwnc.cdc.gov/eid/article/19/4/11-1799_article.htm

Neisseria meningitidis surveillance

Reporting period 01/01/2016 to 31/01/2016 *Results until end of epidemiologic week 4 (2016)*

Figure 21. Number of *Neisseria meningitidis* cases by month in South Africa, 2015 and 2016

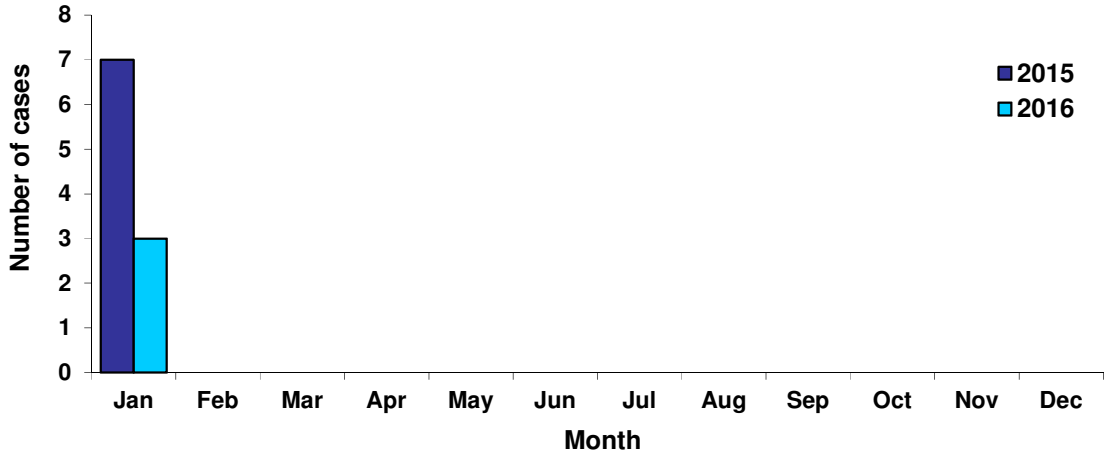


Figure 22. Number of *Neisseria meningitidis* cases by age group in South Africa, 2015 and 2016

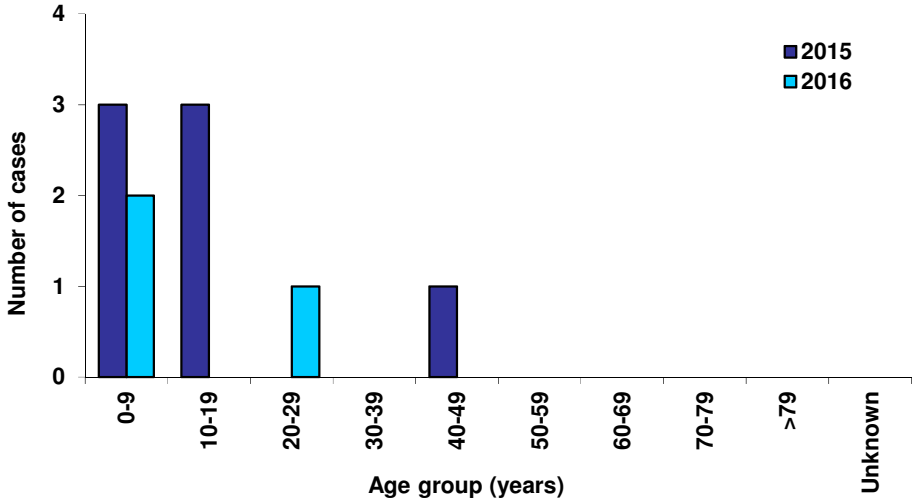
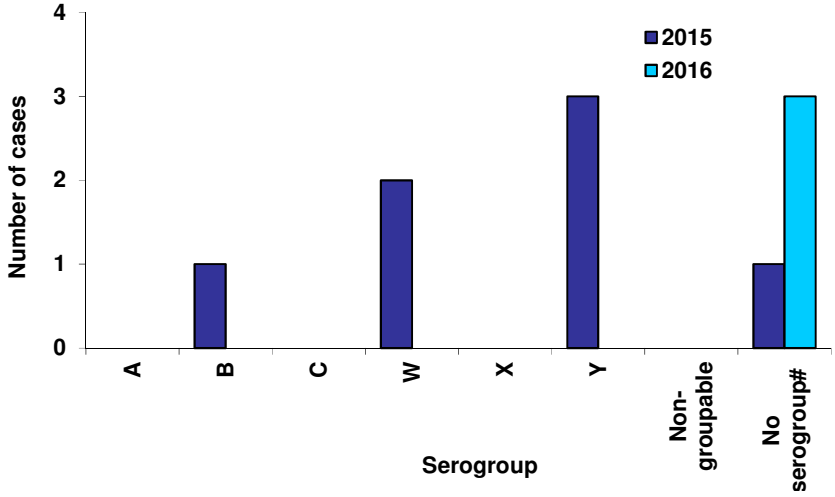


Figure 23. Number of *Neisseria meningitidis* cases by serogroup in South Africa, 2015 and 2016



No serogroup: Cases with serogrouping results not yet available, no isolate, or identified on audit

Reporting period 01/01/2016 to 31/01/2016 *Results until end of epidemiologic week 4 (2016)*

Figure 24. Number of *Haemophilus influenzae* cases by month in South Africa, 2015 and 2016

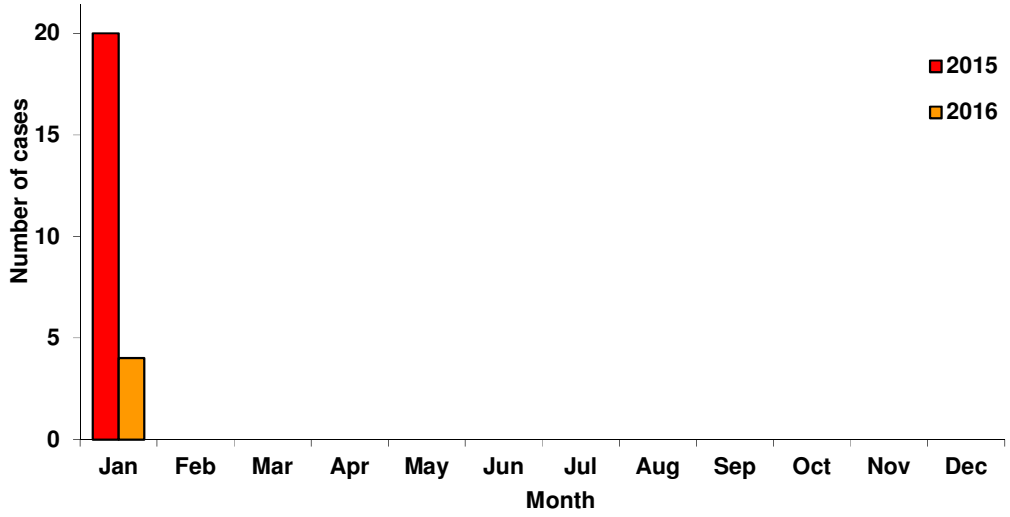


Figure 25. Number of *Haemophilus influenzae* cases by age group in South Africa, 2015 and 2016

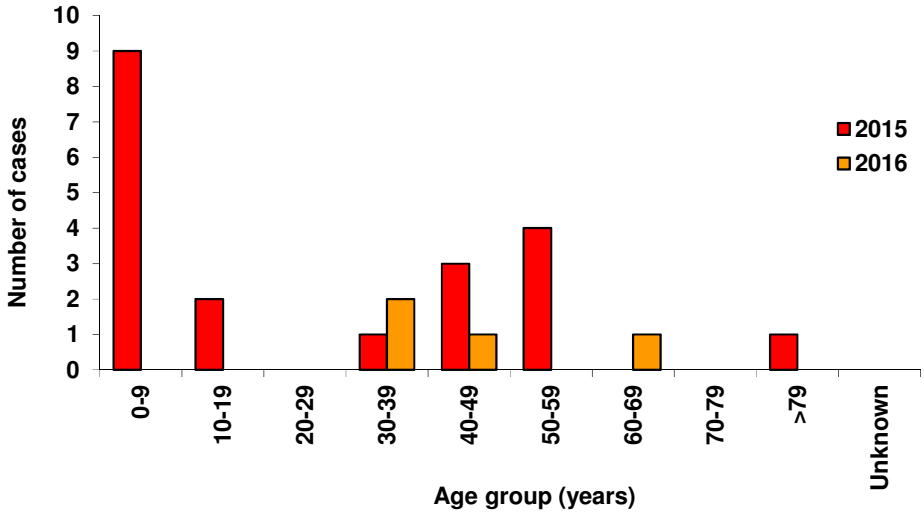
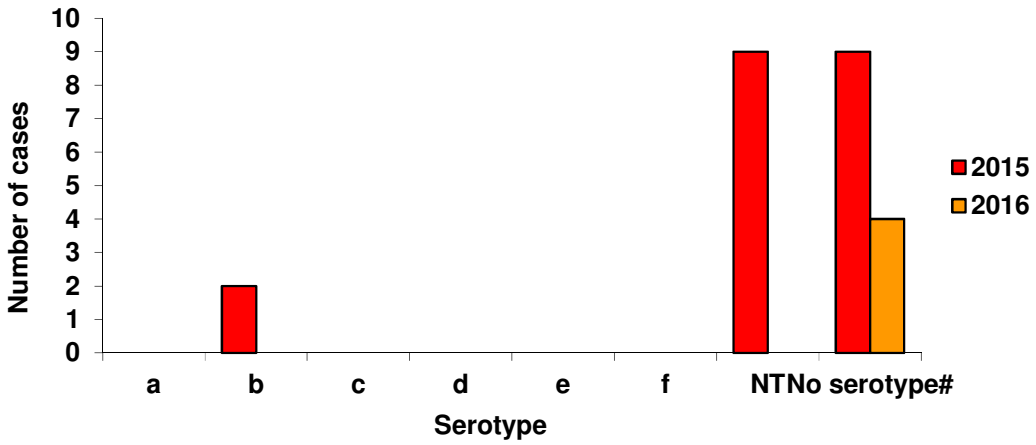


Figure 26. Number of *Haemophilus influenzae* cases by serotype in South Africa, 2015 and 2016



No serotype: Cases with serotyping results not yet available, no isolate, or identified on audit

Reporting period 01/01/2016 to 31/01/2016 *Results until end of epidemiologic week 4 (2016)*

Figure 27. Number of *Streptococcus pneumoniae* cases by week in South Africa, 2015 and 2016

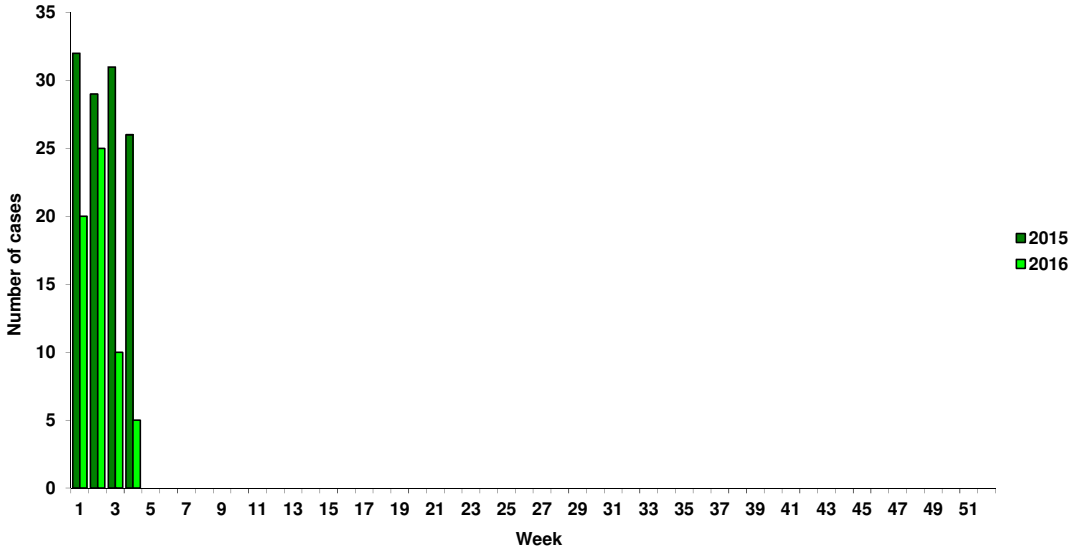


Figure 28. Number of *Streptococcus pneumoniae* cases by age group in South Africa, 2015 and 2016

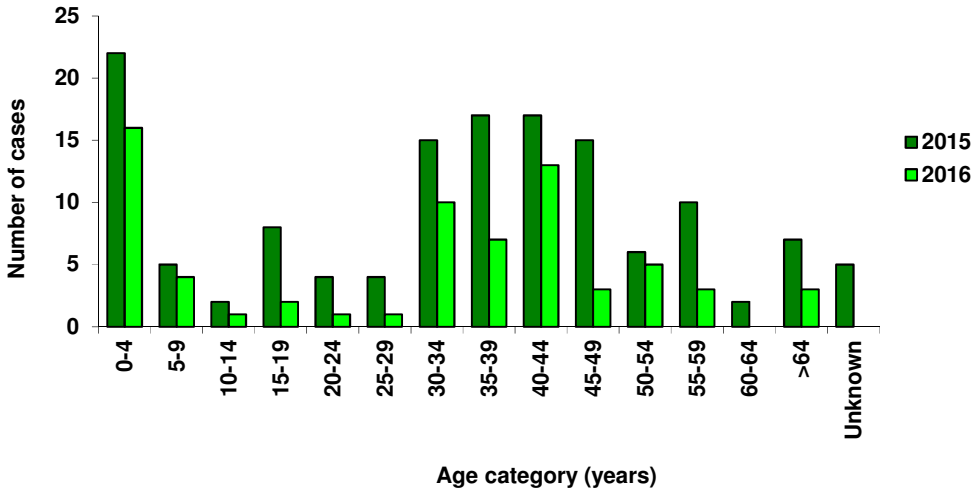
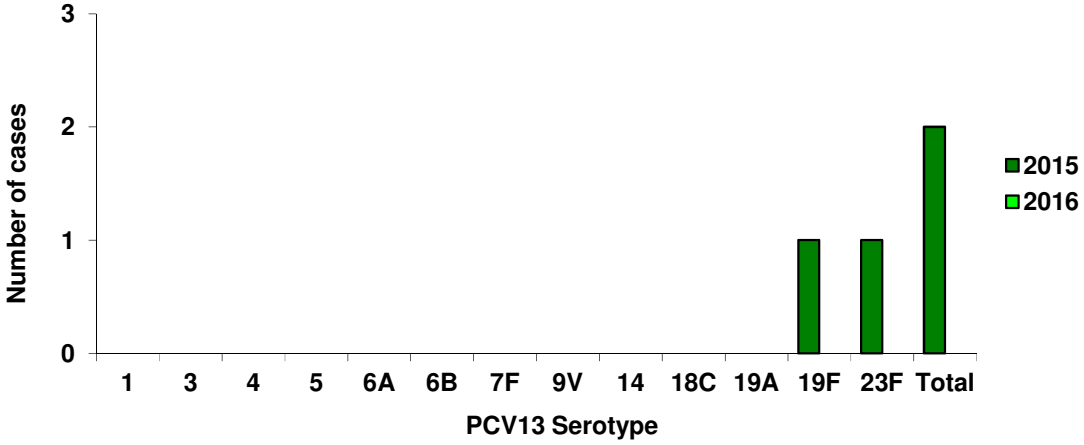


Figure 29. Number of *Streptococcus pneumoniae* cases by 13-valent pneumococcal conjugate vaccine (PCV13) serotype in children <5 years in South Africa, 2015 and 2016



Syndromic Respiratory Disease Surveillance

Reporting period 01/01/2016 to 31/01/2016 *Results until end of epidemiologic week 4 (2016)*

Programme Description:

Programme	ILI	Viral Watch	National syndromic surveillance for pneumonia	Private hospital consultations
Start year	2012	1984	2009	2002
Provinces*	KZ	EC	GP	EC
	NW	FS	KZ	FS
		GP	MP	GP
		LP	NW	LP
		MP	WC	MP
		NC		NW
		NW		WC
		WC		
Type of site	Primary health care clinics	General practitioners	Public hospitals	Private hospitals
Case definition	An acute respiratory illness with a temperature (≥38°C) and cough, & onset ≤10 days	An acute respiratory illness with a temperature (≥38°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 AD EV hMPV PIV 1-3 RSV RV BP	INF RSV BP	INF AD EV hMPV PIV 1-3 RSV RV SP BP LEG	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; AD: Adenovirus; EV: Enterovirus; hMPV: human Metapneumovirus; PIV 1-3: parainfluenza types 1-3; RSV: respiratory syncytial virus; RV: Rhinovirus; BP: Bordetella pertussis; SP: Streptococcus pneumoniae; LEG: Legionella species

Number of consultations/specimens are reported/analysed by date of consultation/specimen collection.

Syndromic Respiratory Disease Surveillance

Reporting period 01/01/2016 to 31/01/2016 *Results until end of epidemiologic week 4 (2016)*

Comments:

Influenza
Data from these programmes showed that during the 2015 influenza season the predominant circulating influenza subtype was influenza A(H1N1)pdm09. The season started in week 16 (ending 19 April), peaked in week 23 (ending 7 June) and ended in week 37 (ending 13 September).
ILI programme: In 2016 to date, specimens from 51 patients were received from 2 ILI sites. A(H3N2) was detected in one specimen from an adult patient with no travel history.
Viral Watch programme: During the same period, specimens from 16 patients were received from Viral Watch sites. Influenza B was detected in the specimen of an adult female whose husband had returned from abroad with influenza-like symptoms.
Pneumonia surveillance: In this time period, specimens from 208 patients with severe respiratory illness (SRI) were received from the 6 sentinel sites. Influenza was not detected in any of these specimens.

Respiratory syncytial virus
The 2015 RSV season, started in week 9 (week ending 1 March) peaked in week 17 (ending 26 April) and ended in week 29 (ending 19 July).
In 2016 to date RSV has been detected in the specimens of 4 patients in the ILI programme, and 3 patients with pneumonia.

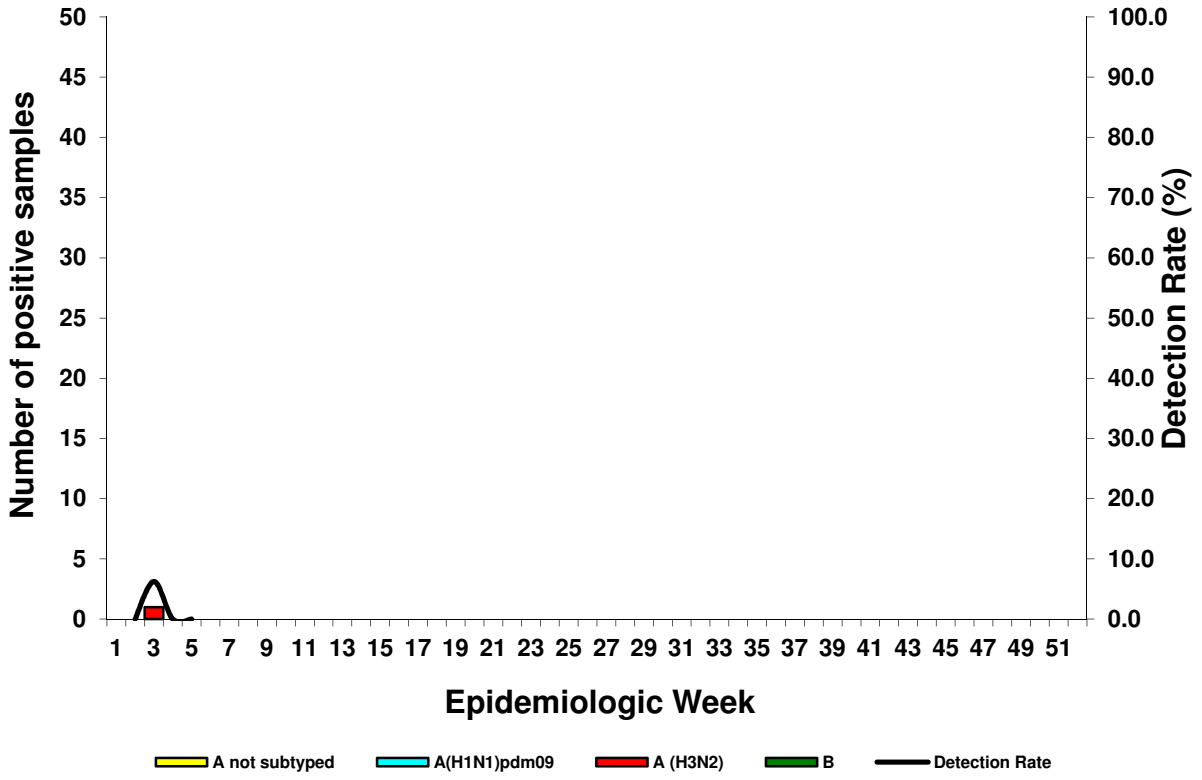
Streptococcus pneumoniae
Pneumonia surveillance: In 2016 to date, blood specimens from 74 patients were tested for *S.pneumoniae* which was detected in 8 (10.8%) specimens.

Bordetella pertussis
ILI programme: In 2016 to date, nasopharyngeal/oropharyngeal specimens were tested from 33 patients for *B.pertussis* none of which were positive.
Pneumonia surveillance: In 2016 to date, sputa and/or nasopharyngeal specimens were tested from 102 patients for *B.pertussis* which was detected in 3 (2.9%) specimens.

Legionella spp
Pneumonia surveillance: In 2016 to date sputa and/or nasopharyngeal specimens were tested from 154 patients for *Legionella spp*. NO patients tested positive for *Legionella species*.

Reporting period 01/01/2016 to 31/01/2016 *Results until end of epidemiologic week 4 (2016)*

Figure 30. Number of positive samples* by influenza types and subtypes and detection rate by**



*Specimens from patients with Influenza-like illnesses at 2 sentinel sites in 2 provinces
**Only reported for weeks >10 specimens

Table 7. Cumulative number of influenza type and subtype and total number of samples collected by province

Clinic (Province)	A not subtyped	A(H1N1)pdm09	A(H3N2)	B	Total samples
Edendale Gateway Clinic (KZ)			1		40
Jouberton Clinic (NW)					11
Total:	**0**	**0**	**1**	**0**	**51**

KZ: KwaZulu-Natal; NW: North West Province

Reporting period 01/01/2016 to 31/01/2016 *Results until end of epidemiologic week 4 (2016)*

Figure 31. Number of samples testing positive for respiratory syncytial virus and detection rate by week

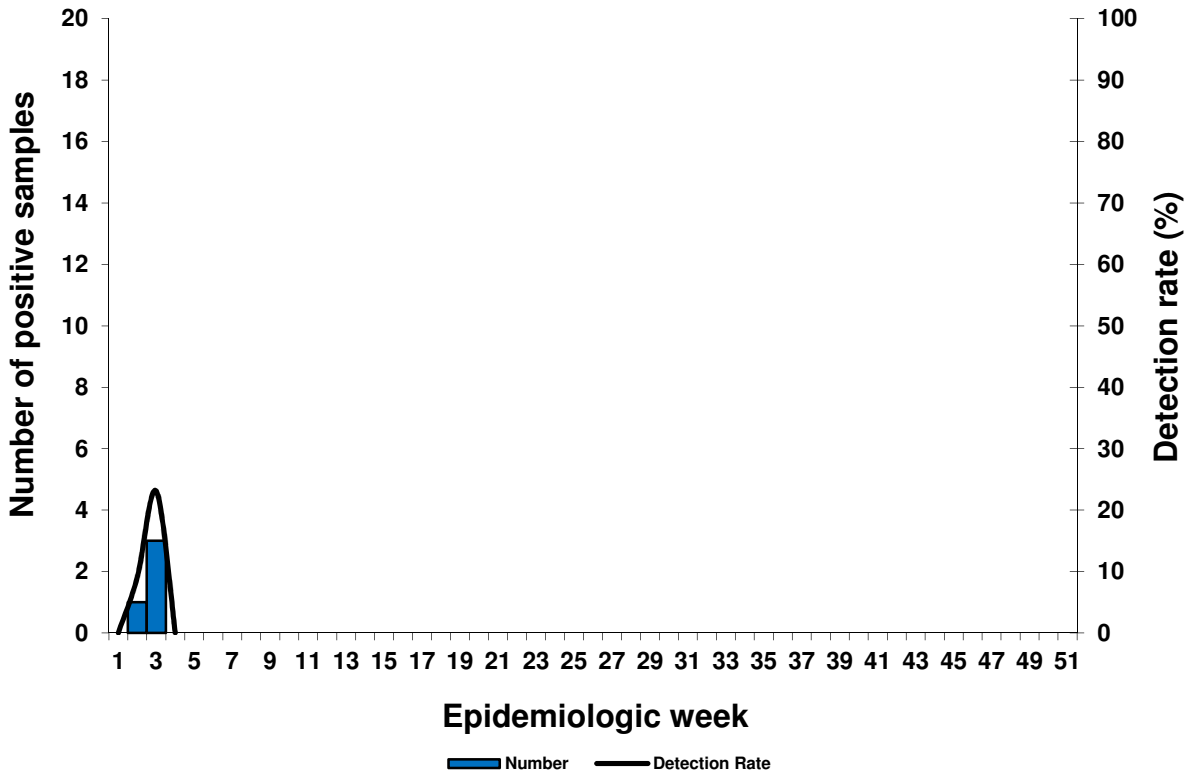


Table 8. Cumulative number of respiratory syncytial virus identified and total number of samples tested by clinic and province

Clinic (Province)	RSV Positive	Total samples
Edendale Gateway Clinic (KZ)	4	40
Jouberton Clinic (NW)		11
Total:	**4**	**51**

KZ: KwaZulu-Natal; NW: North West

Reporting period 01/01/2016 to 31/01/2016 *Results until end of epidemiologic week 4 (2016)*

Figure 32. Number of samples testing positive for *B. pertussis* and detection rate by month

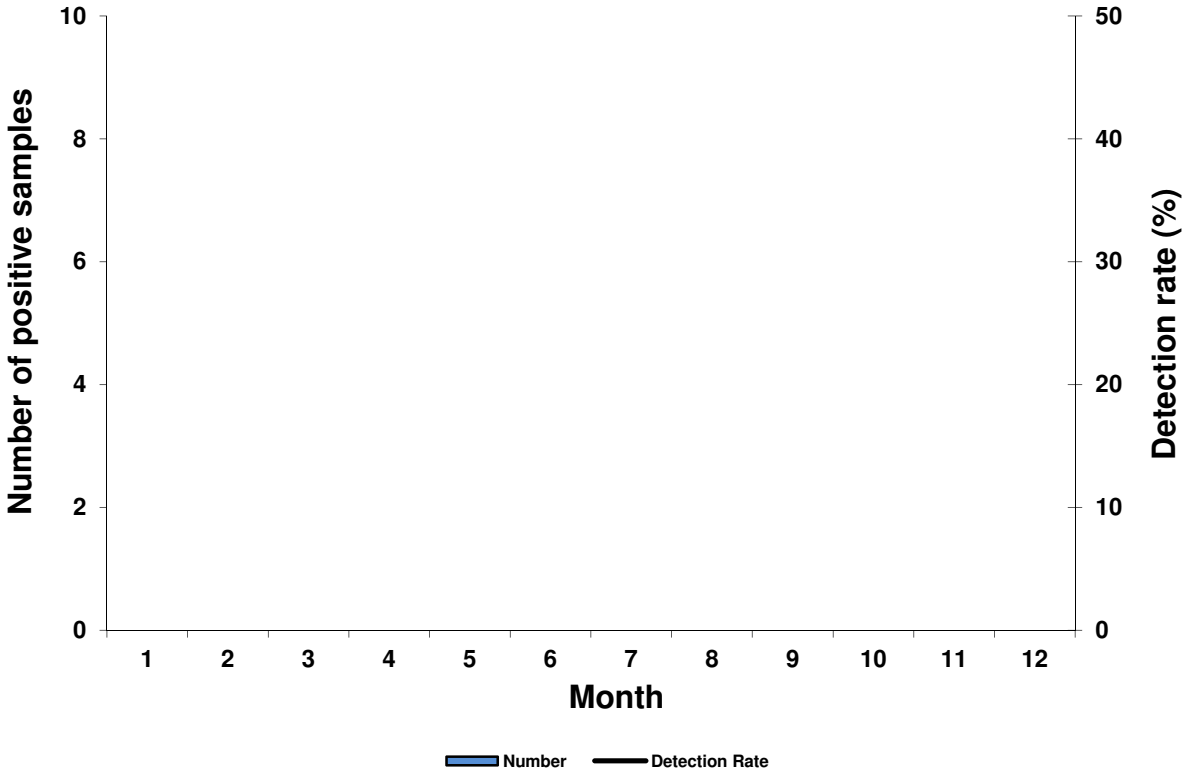


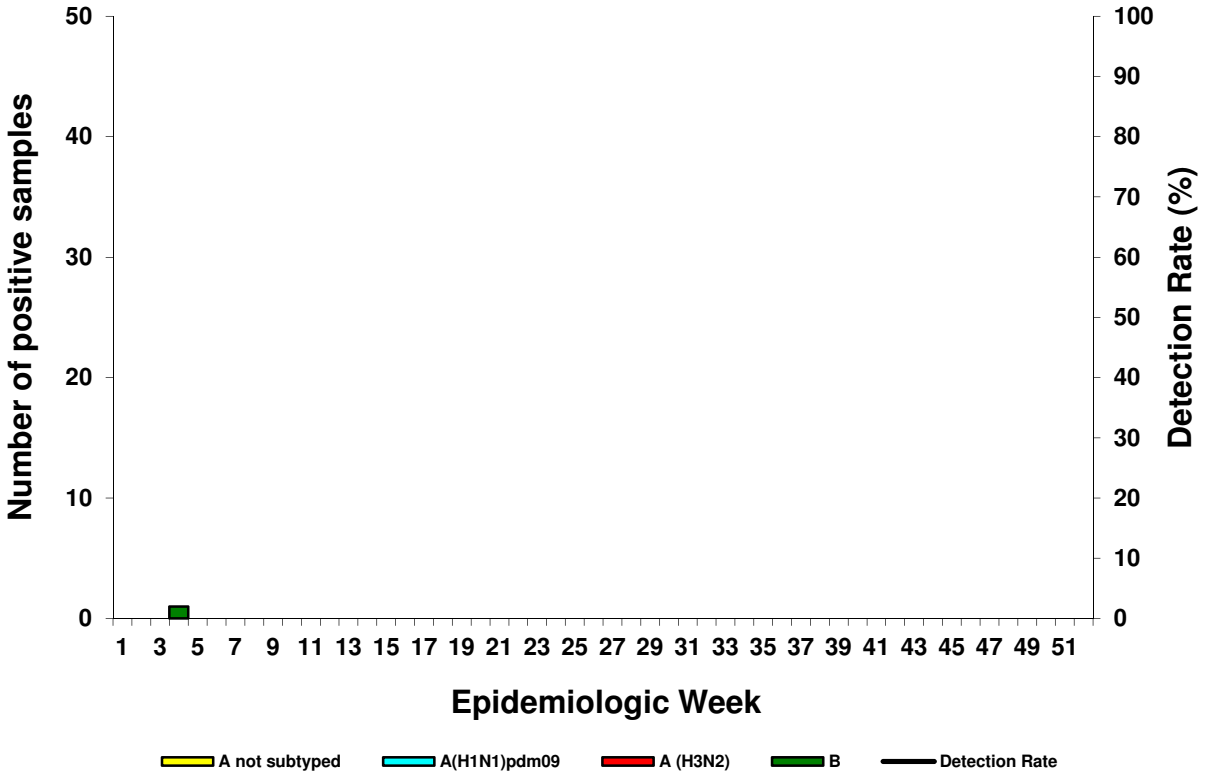
Table 9. Cumulative number of *B. pertussis* identified and total number of samples tested by province

Clinic (Province)	*B. pertussis* positive	Total samples
Edendale Gateway Clinic (KZ)		27
Jouberton Clinic (NW)		6
Total:		**33**

KZ: KwaZulu-Natal; NW: North West Province

Reporting period 01/01/2016 to 31/01/2016 *Results until end of epidemiologic week 4 (2016)*

Figure 33. 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.

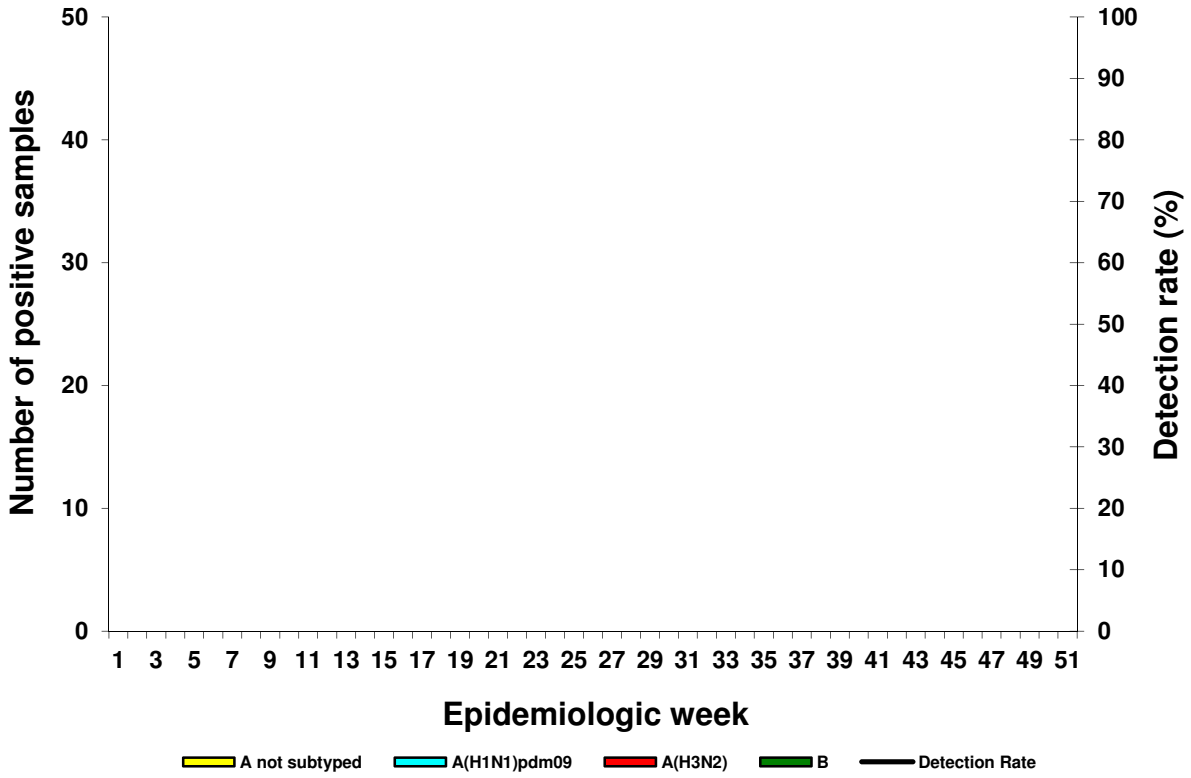
Table 10. Cumulative number of influenza type and subtype and total number of samples tested by province

Province	A not subtyped	A(H1N1)pdm09	A(H3N2)	B	Total samples
Eastern Cape					2
Free State					
Gauteng				1	10
Limpopo					4
Mpumalanga					
Northern Cape					
North West					
Western Cape					
Total:	**0**	**0**	**0**	**1**	**16**

To date in 2016, 3 patients have been tested for influenza at the time of entry into South Africa following travel abroad and 1 has tested influenza positive.
Patients known to have acquired influenza abroad are not included in the table or epidemiological curve.

Reporting period 01/01/2016 to 31/01/2016 *Results until end of epidemiologic week 4 (2016)*

Figure 34. Number of positive samples by influenza types and subtypes and detection rate by week**



*Specimens from patients hospitalised with severe acute respiratory infections at 6 sentinel sites in 5 provinces
**Only reported for weeks with >10 specimens submitted

Table 11. Cumulative number of identified influenza types and subtypes and total number of samples collected by hospital

Hospital (Province)	A not subtyped	A(H1N1)pdm09	A(H3N2)	B	Total samples
Edendale (KZ)					48
Helen Joseph-Rahima Moosa (GP)					64
Klerksdorp-Tshepong (NW)					40
Mapulaneng-Matikwana (MP)					15
Red Cross (WC)					41
Total:	**0**	**0**	**0**	**0**	**208**

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

Reporting period 01/01/2016 to 31/01/2016 *Results until end of epidemiologic week 4 (2016)*

Figure 35. Number of samples testing positive for respiratory syncytial virus and detection rate by week

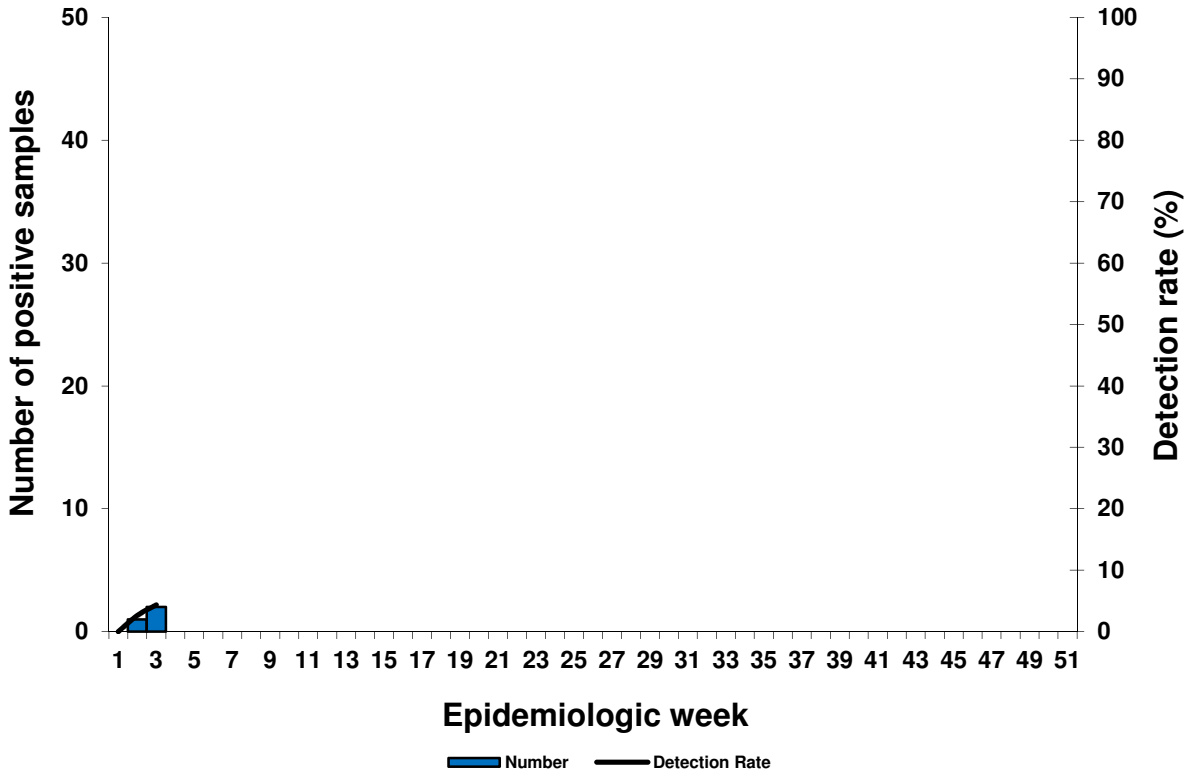


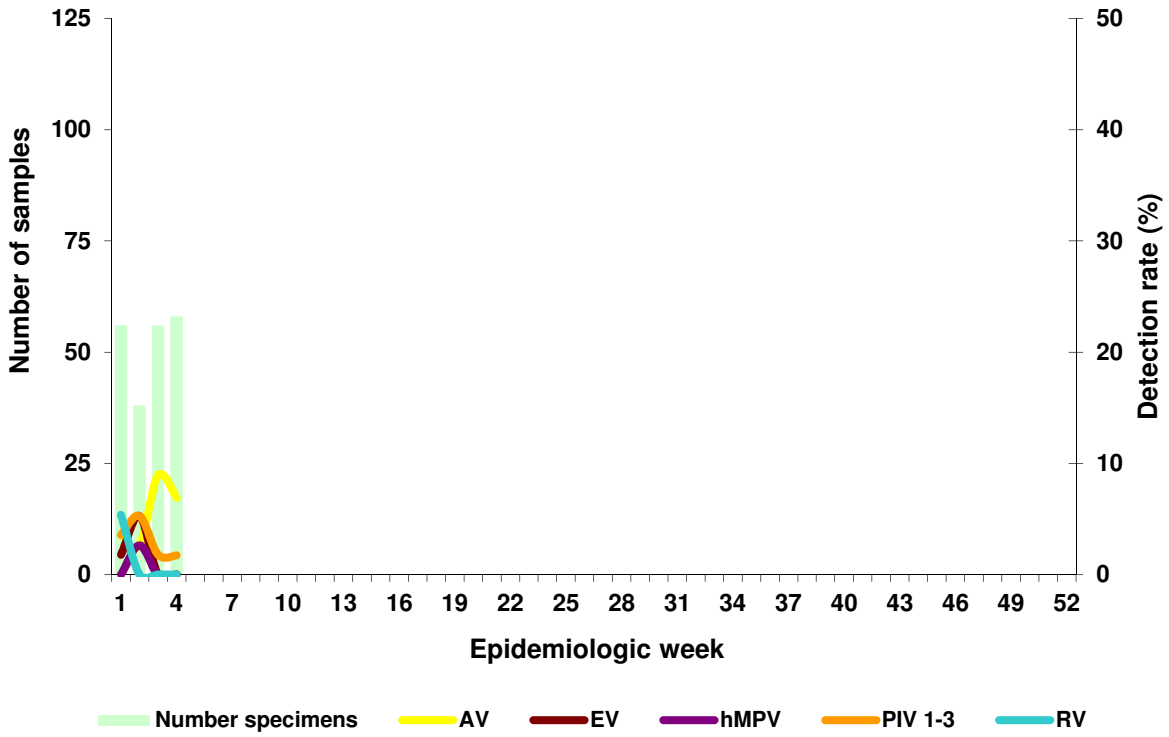
Table 12. Cumulative number of identified influenza types and subtypes and total number of samples collected by hospital

Hospital (Province)	RSV Positive	Total samples
Edendale (KZ)	3	48
Helen Joseph-Rahima Moosa (GP)		72
Klerksdorp-Tshepong (NW)		40
Mapulaneng-Matikwana (MP)		15
Red Cross (WC)		42
Total:	**3**	**217**

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

Reporting period 01/01/2016 to 31/01/2016 *Results until end of epidemiologic week 4 (2016)*

Figure 36. Number of samples testing positive for other respiratory viruses* and detection rate by week



*AV: Adenovirus; EV: Enterovirus; hMPV: human Metapneumovirus; PIV 1-3: Parainfluenza types 1-3; RV: Rhinovirus

Table 13. Cumulative number of *Legionella* spp identified and total number of samples tested by hospital and province

Hospital (Province)	*Legionella* spp Positive	Total samples
Edendale (KZ)		32
Helen Joseph-Rahima Moosa (GP)		47
Klerksdorp-Tshepong (NW)		35
Mapulaneng-Matikwana (MP)		10
Red Cross (WC)		30
Total:	**0**	**154**

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

Figure 37. Number of samples testing positive for *S. pneumoniae* and detection rate by week

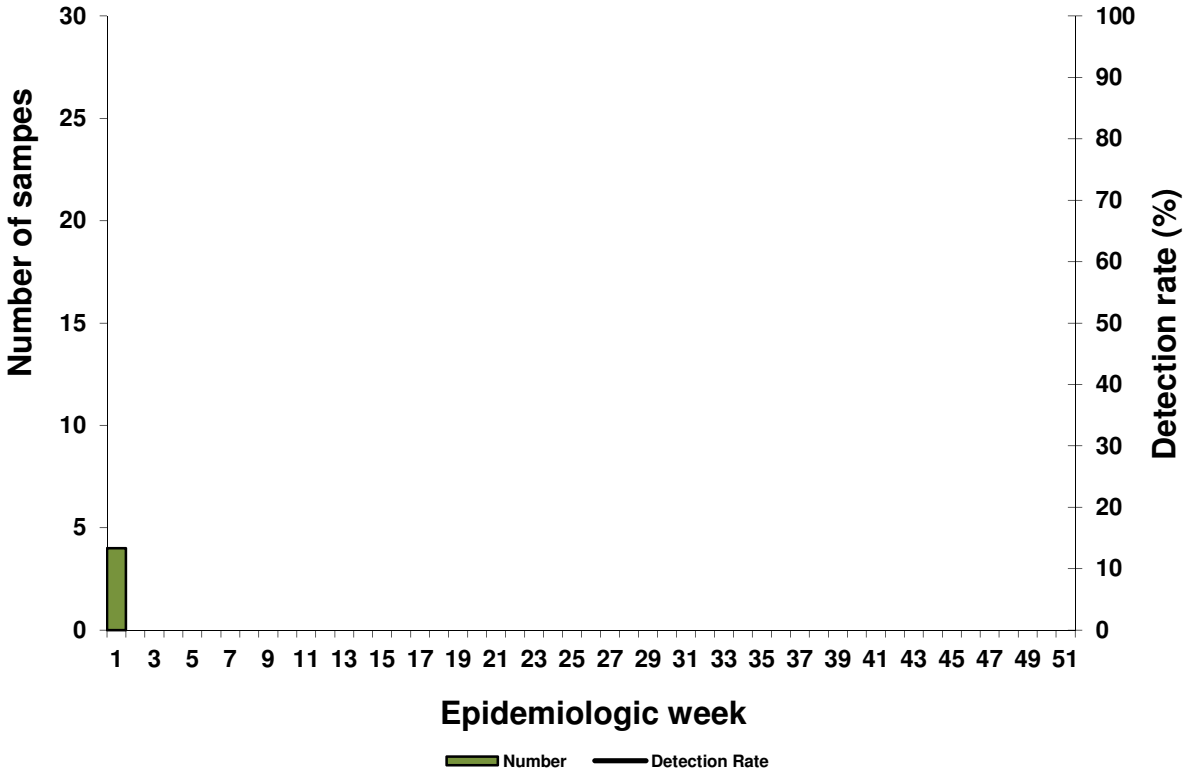


Table 14. Cumulative number of *S. pneumoniae* identified and total number of samples tested by hospital and province

Hospital (Province)	*S. pneumoniae* Positive	Total samples
Edendale (KZ)	3	30
Helen Joseph-Rahima Moosa (GP)	1	13
Klerksdorp-Tshepong (NW)	3	24
Mapulaneng-Matikwana (MP)	1	7
Red Cross (WC)	0	0
Total:	**8**	**74**

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

Figure 38. Number of samples testing positive for *B. pertussis* and detection rate by month

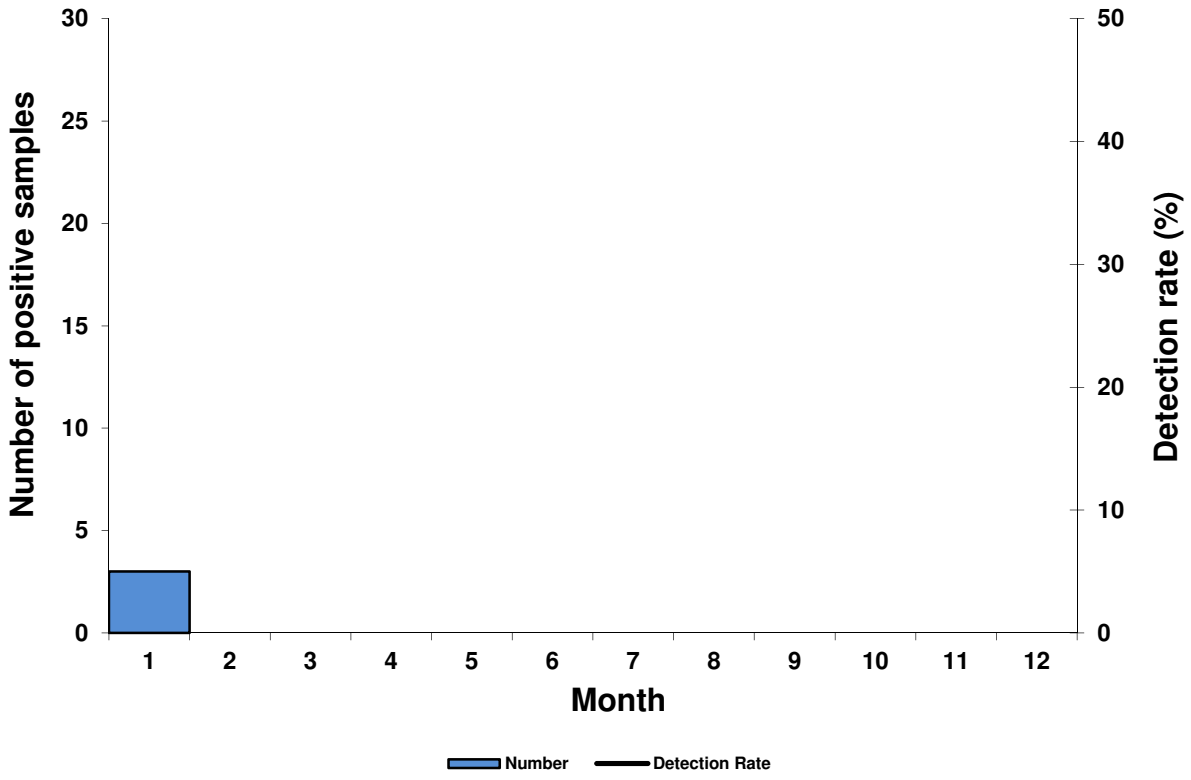


Table 15. Cumulative number of *S. pneumoniae* identified and total number of samples tested by hospital and province

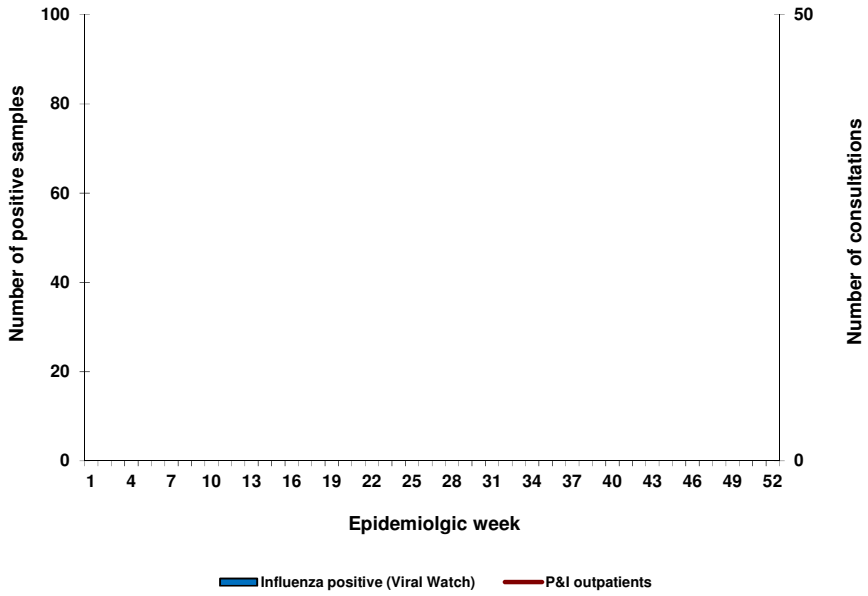
Hospital (Province)	*B. pertussis* Positive	Total samples
Edendale (KZ)	1	24
Helen Joseph-Rahima Moosa (GP)	1	24
Klerksdorp-Tshepong (NW)	0	24
Mapulaneng-Matikwana (MP)	0	6
Red Cross (WC)	1	24
Total:	**3**	**102**

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

Private hospital consultations

Reporting period 01/01/2016 to 31/01/2016 *Results until end of epidemiologic week 4 (2016)*

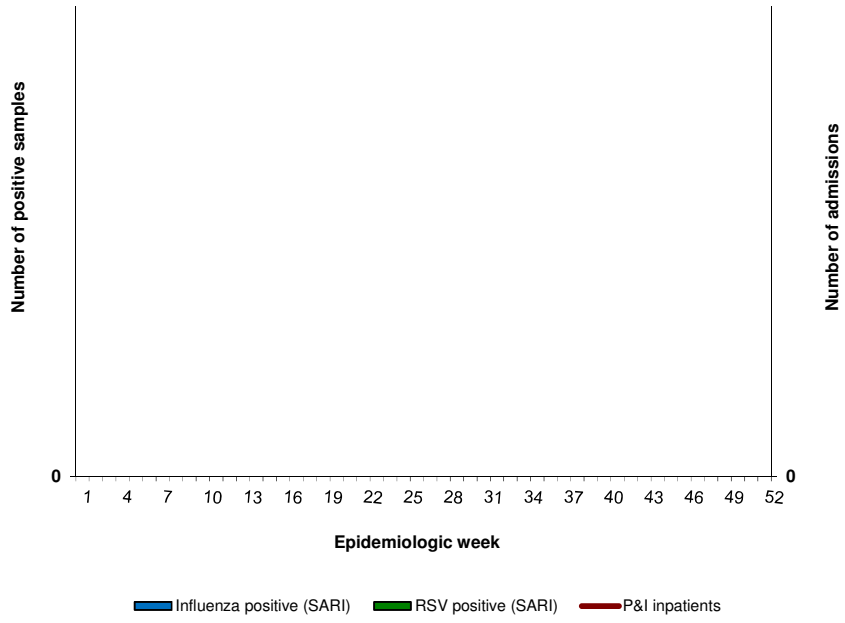
Figure 39. Number of private hospital outpatient consultations* with a discharge diagnosis of pneumonia and influenza (P&I) and viral isolates**



* 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 40. 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 programme

Suspected Measles Case-Based Surveillance

Reporting period 01/01/2016 to 29/01/2016 *Results until end of epidemiologic week 4 (2016)*

Programme Description:

Case-based measles surveillance programme with laboratory support started in 1998 as part of the National Department of Health's measles elimination strategy. Blood and urine or throat/nasopharyngeal swab specimens from suspected measles cases (patients with fever ≥38°C and rash, and at least one of: cough, coryza or conjunctivitis) nationally are submitted to the NICD for laboratory confirmation. The numbers presented here represent specimens received by the National Institute for Communicable Diseases (NICD) of the National Health Laboratory Service (NHLS) and may differ from those presented by the National Department of Health as they may receive information on cases where no specimens were taken.

Comments:

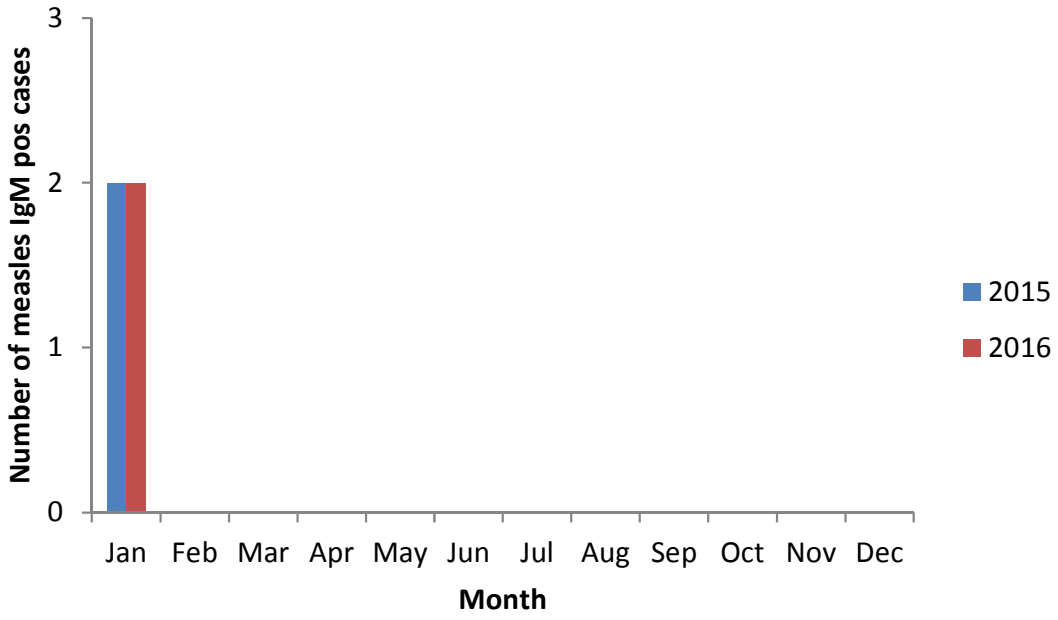
For the period 1-29 January 2016, 2 measles IgM positive laboratory confirmed cases were detected through measles surveillance from two adults in KwaZulu-Natal province. Both measles cases were adults residing in two different districts — eThekwini district and uMgungundlovu district. No measles IgM laboratory confirmed cases have been detected in other provinces since beginning of 2016.

Table 16. Number of laboratory-confirmed cases per province, South Africa, 2016

Province	Measles positive
Eastern Cape	0
Free State	0
Gauteng	0
KwaZulu-Natal	2
Limpopo	0
Mpumalanga	0
Northern Cape	0
North West	0
Western Cape	0
South Africa	**2**

*Provinces with unclassified measles IgM positive cases

Figure 41. Number* of laboratory-confirmed measles cases by month of specimen collection, South Africa, 2015 and 2016



Reporting period 01/01/2016 to 29/01/2016 *Results until end of epidemiologic week 4 (2016)*

Figure 42. Number of measles cases by province and age group in South Africa, 2016

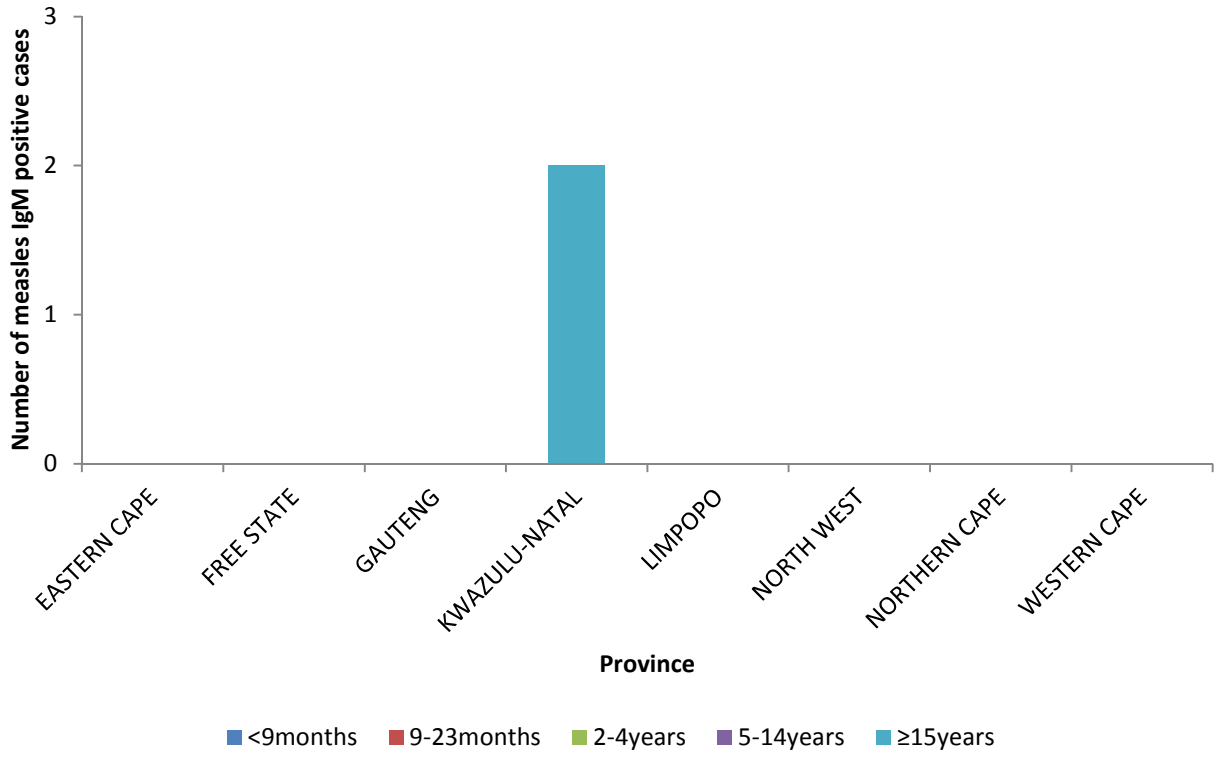
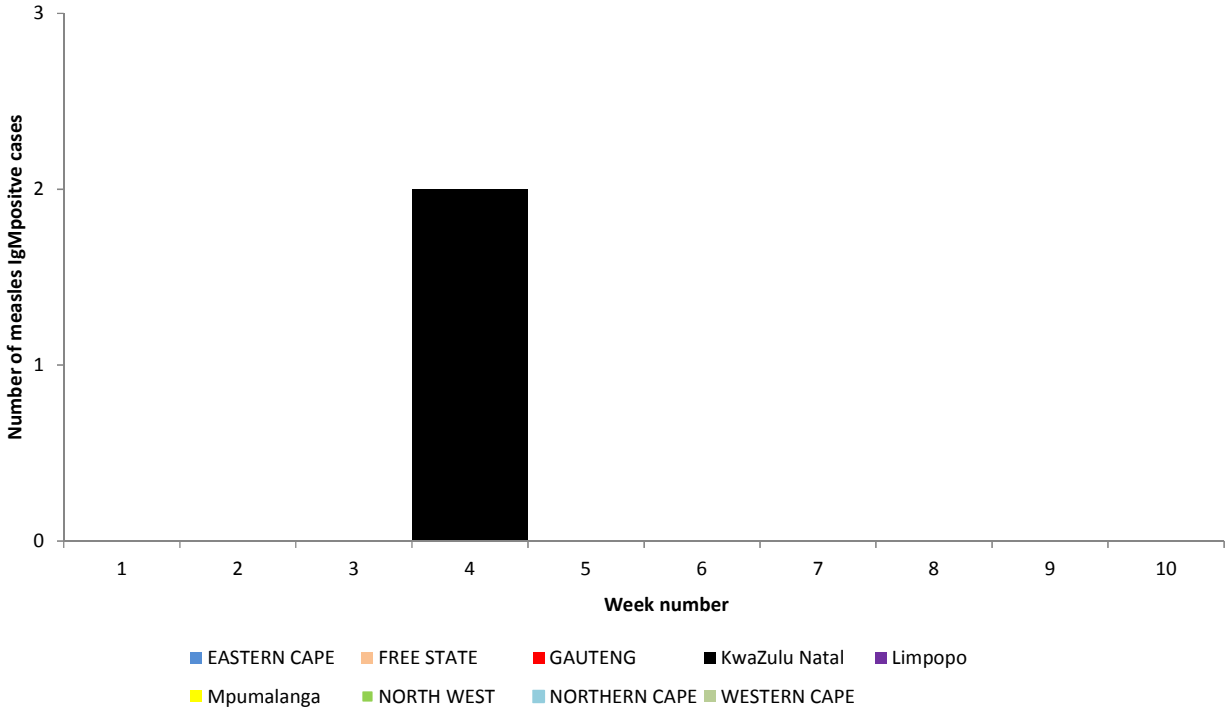


Figure 43. Number of laboratory-confirmed measles cases by epidemiological week of specimen collection, South Africa, 2016



Polio/ Acute Flaccid Paralysis (AFP) Surveillance

Reporting period 01/01/2016 to 29/01/2016 *Results until end of epidemiologic week 4 (2016)*

Programme Description:

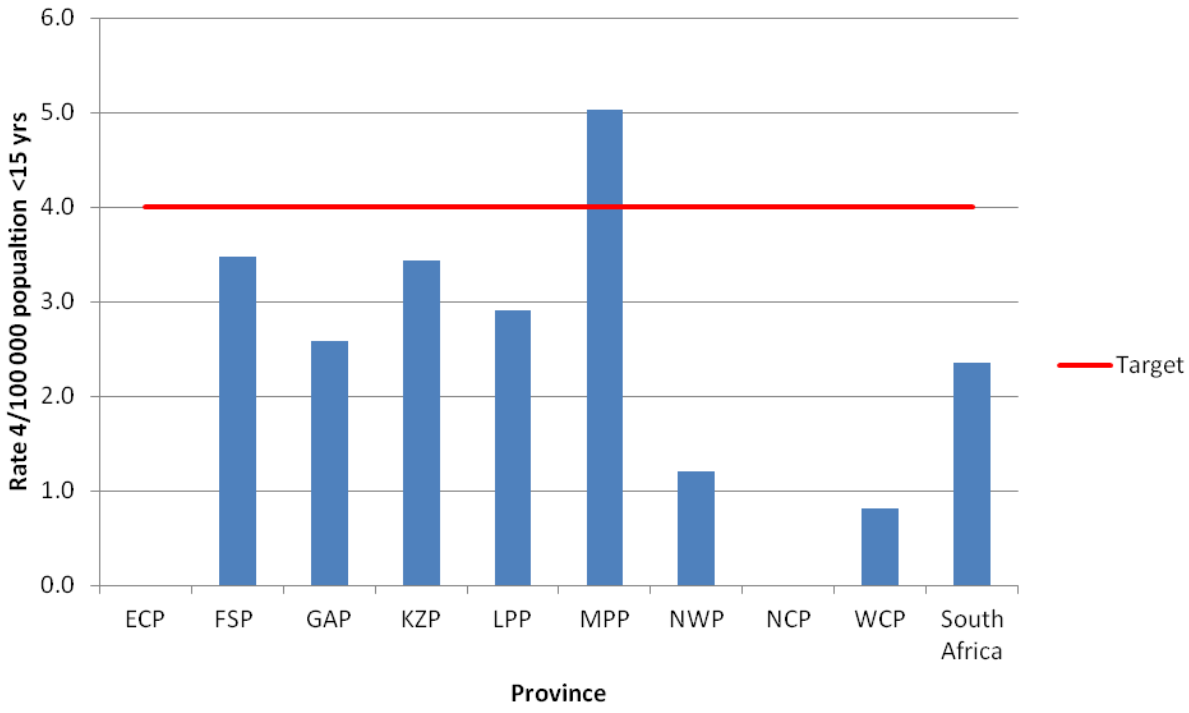
Data presented in this report are generated from the AFP surveillance database and represent specimens received at the National Institute for Communicable Diseases (NICD) of the National Health Laboratory Service (NHLS). These figures may differ from those presented by the National Department of Health who may receive information on cases from whom no specimen was taken. Every patient with AFP, including Guillain-Barre syndrome, in children younger than 15 years of age, or a patient of any age with a clinical diagnosis of polio made by a medical doctor, must be regarded as a possible polio case until proven otherwise. To meet sample adequacy requirements, all cases require two stool specimens in good condition and sufficient quantity collected at least 24 -48 hours apart within 14 days of the onset of paralysis.

Comments:

For the reporting period 01 January 2016 to 29 January 2016 (up to end of week 4 of 2016), 49 specimens were received from AFP surveillance in South Africa with date of onset year 2016. Twenty eight (28) AFP cases were detected with date of onset of 2016 for population <15 years old. Annualised Non-Polio AFP detection rate for South Africa is 2.4 per 100 000 ranging from 0.0 to 5.0 (Fig 44). Non-Polio AFP detection rate was 2.4 per 100 000 for children <15 years of age is below the WHO target of 4 per 100 000 population. At the time of reporting Eastern Cape province and Northern Cape province have not reported cases with date of onset of 2016 although they have been reporting the AFP cases detected in their provinces.

Ninety two percent (92%) of the specimens were received in good condition, while 67% arrived at the NICD within 3 days of collection. Where results were available, 100% were resulted within 14 days of receipt with a Non-Polio enterovirus isolation rate of 10 % (Table 17).

Figure 44. Annualised Non-Polio AFP detection rate by province, South Africa, 2016



*Target for detection rate is 4/100,000 population

Table 17. Acute Flaccid Paralysis (AFP) surveillance, laboratory performance indicators, South Africa, 2016*

Laboratory indicators	2016*	Target
Specimens received in good condition	92%	90%
Specimens received within 3 days of collection	67%	80%
Specimens resulted within 14 days of receipt	100%	80%
Non-Polio enterovirus isolation rate	10%	10%

* Samples received in 2016