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1 VACCINE-PREVENTABLE DISEASES

Measles outbreak update

A total of 62 laboratory-confirmed measles IgM-positive cases (excluding all vaccine-associated IgM-positive cases) was reported from 01 January to 31 December 2014. As at 09 January 2015, three

laboratory-confirmed measles IgM-positive cases have been detected for the year to date. By comparison, only five cases of confirmed measles were reported for the whole year during 2013.

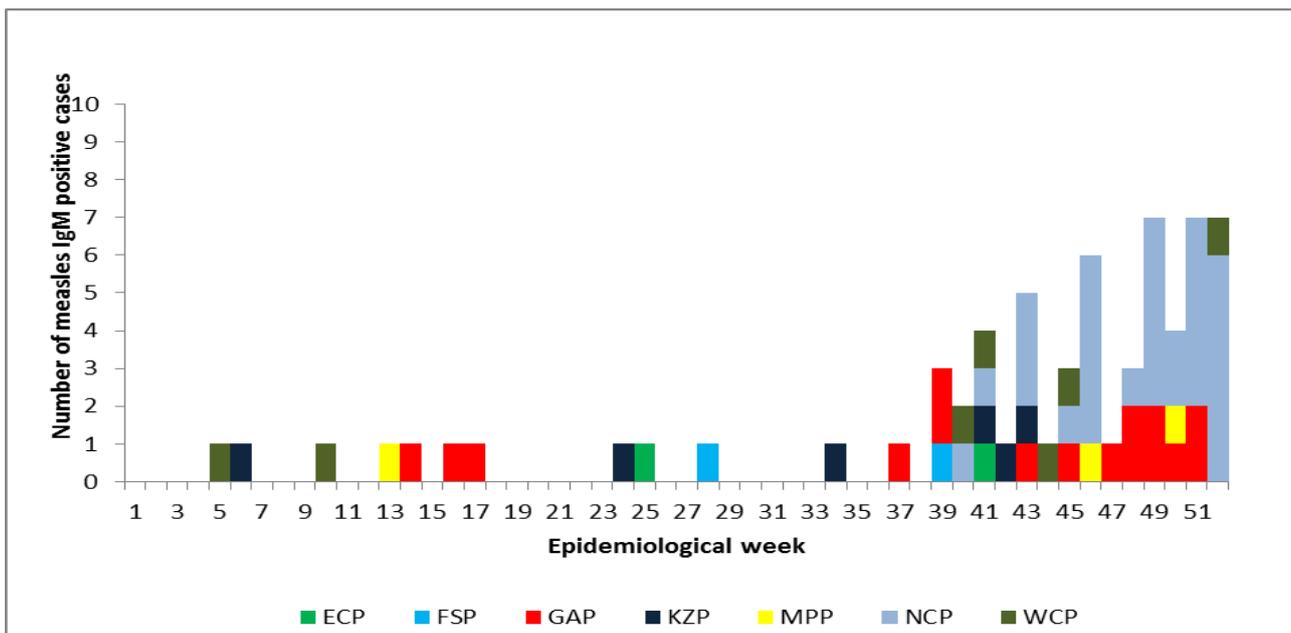


Figure 1. Laboratory-confirmed measles IgM-positive cases in South Africa, January - December 2014

A notable increase in confirmed measles cases began during epidemiological week 39 of 2014 (week ending 31 October 2014) – Figure 1. Of particular concern are the number of cases in Northern Cape Province (30 cases, clustered mostly in ZF Mgcau District – Figure 2), Gauteng Province

(6 cases from Ekurhuleni District, City of Johannesburg Metro and City of Tshwane Metro – Figure 3) and Western Cape Province (four cases). Additionally, sporadic cases of measles have been detected in all other provinces except for Limpopo.

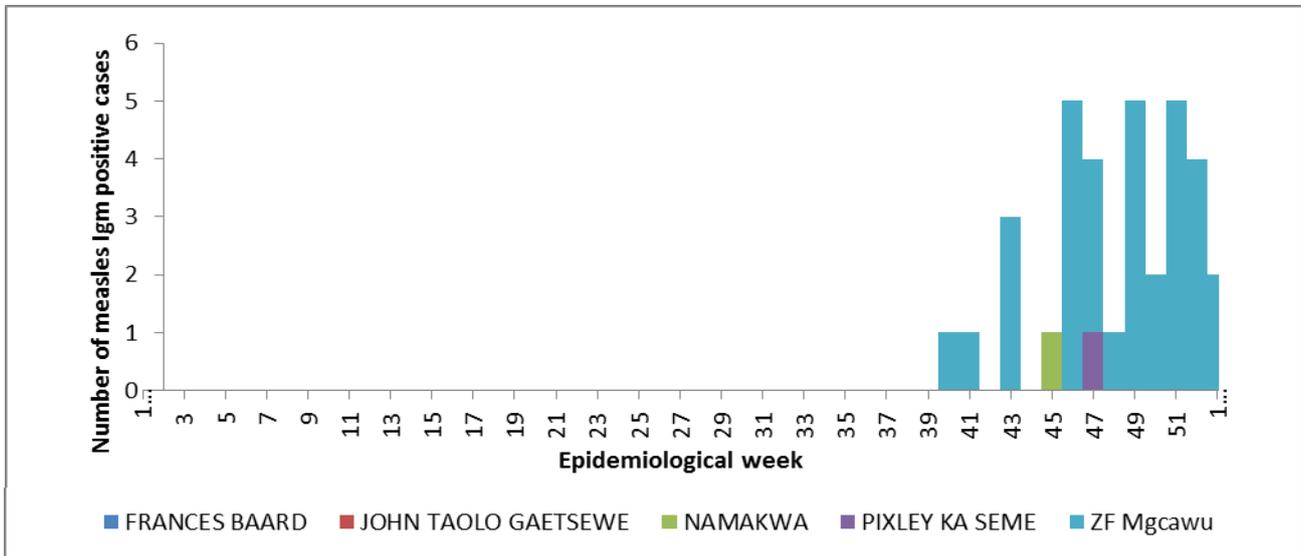


Figure 2. Laboratory-confirmed measles IgM positive cases in Northern Cape province, January - December 2014

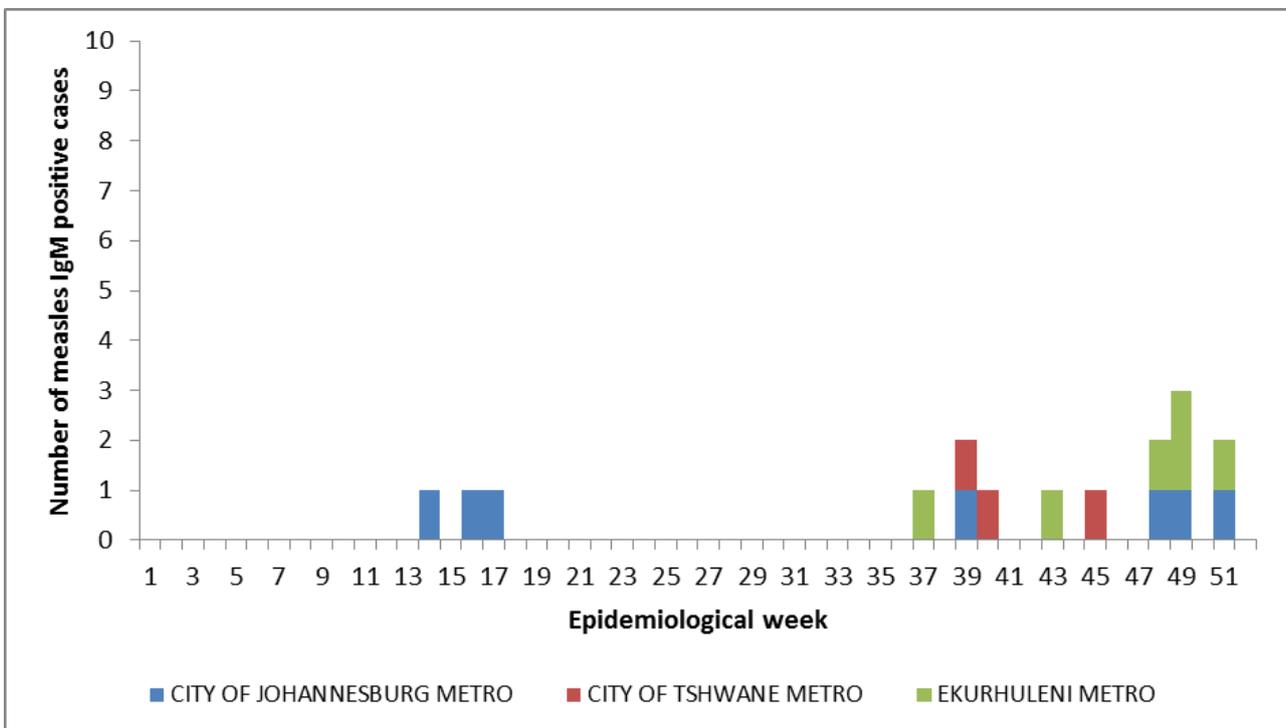


Figure 3. Laboratory-confirmed measles IgM positive cases in Gauteng Province, January -December 2014

Regarding the age distribution of cases (Figure 4), in Ekurhuleni District of Gauteng Province, four of the six children infected with measles were under nine months of age. In ZF Mgcau District of

Northern Cape Province, most case-patients were over 15 years of age (16/28, 57%) followed by children under nine months of age (9/28, 32%).

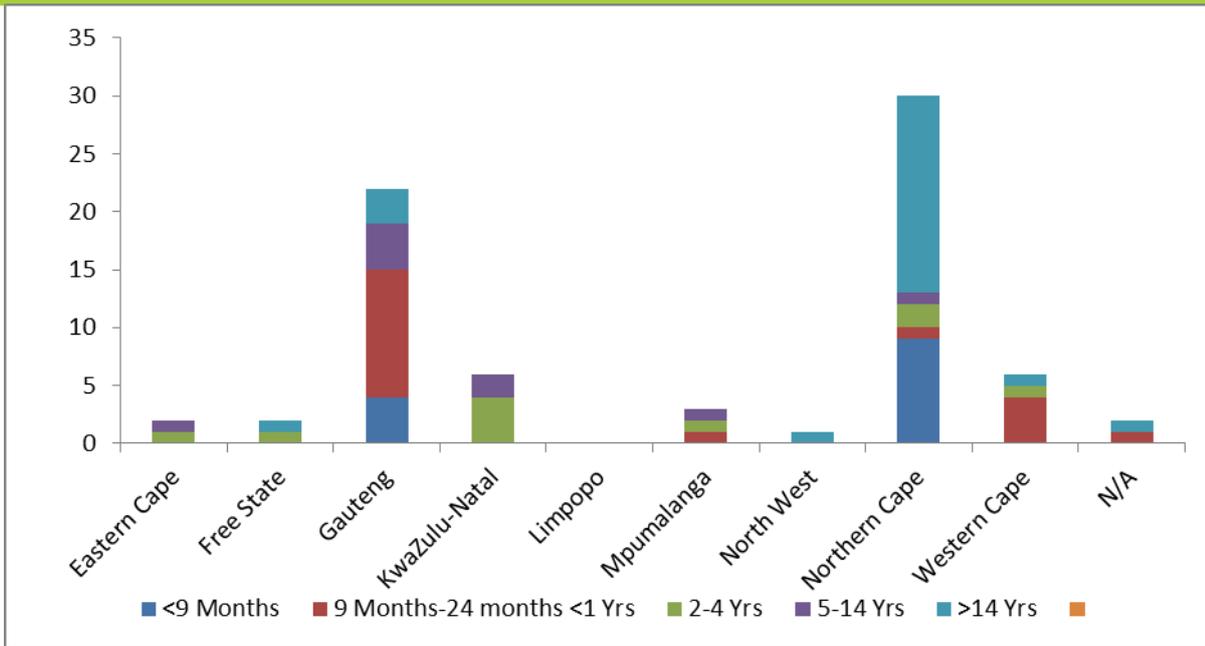


Figure 4. Laboratory-confirmed measles IgM positive cases by province and age group

This outbreak is of major public health concern, given that in 2009-2011 South Africa experienced a protracted nationwide measles outbreak with >18 000 recognised cases and, probable, a number of deaths and many more children who suffered permanent disabilities. Measles is targeted for global elimination, with South Africa aiming at an elimination target of 2020. The pre-elimination goal is less than 1 case per million population per annum. For the current outbreak, the estimated population incidence for the country is 1.4 per million population, reaching 25.6 per million for Northern Cape Province (data courtesy of Dr A.Kamruzzaman, World Health Organization).

Notification and investigation of suspected measles cases

All healthcare workers countrywide should be on high alert for suspected measles cases; given experience with previous measles outbreaks in South Africa, the incidence may rapidly increase if the virus spreads to susceptible populations.

The case definition for suspected measles is as follows: fever $\geq 38^{\circ}\text{C}$, rash, and one of the following: cough, coryza, conjunctivitis. As per the government’s Health Act (Act No. 61 of 2003), any case that meets this definition should be notified as a suspected measles case by the first healthcare worker who comes into contact with the case-patient. This may include clinic personnel, infection prevention and control practitioners, other hospital staff or private medical practitioners. In the event of cases or deaths in the community, a member of the community can notify the event. All suspected

measles cases must be reported immediately by phone, email or fax to the local health authority to enable a prompt public health response. For further details regarding the notification process and relevant contact details, go to www.doh.gov.za.

All suspected measles cases, including those who were tested by private laboratories, should have a blood sample collected and sent to the NICD for confirmatory testing, together with a completed case investigation form (available on the NICD website: <http://www.nicd.ac.za/assets/files/Measles%20Rubella%20case%20investigation%20form%20Mar%202014.pdf>). It is extremely important to elicit and document the measles vaccination history.

Measles vaccine

Two doses of measles vaccine are stipulated in the South African Department of Health Expanded Programme on Immunisation (EPI) schedule: the first at 9 months and the second at 18 months of age. In the public health sector, measles vaccine is usually administered as per the EPI guidelines (i.e. at 9 months and again at 18 months of age). In an outbreak situation, such as currently in the Northern Cape and Gauteng provinces, a supplementary dose of measles vaccine should be administered at 6 months of age. However, this does not replace the 9-month routine scheduled dose. It is also important that children under the age of 15 years who are admitted to hospital should receive a dose of measles vaccine, if proof of vaccination is not available. Children who are too sick to be vaccinated must be vaccinated with measles vaccine

before being discharged from the hospital.

In the private health sector, healthcare workers may follow the EPI schedule or adapted private health sector immunisation schedules. In the adapted private health sector immunisation schedules, the first dose of measles vaccine is administered at 9 months and the second dose is administered as a component of the MMR (measles, mumps and rubella) vaccine at 12-15 months of age, with an additional dose as a component of the second MMR vaccine dose given at 5-6 years of age. Further information regarding the EPI schedule can be accessed at www.doh.gov.za, and a summary of the adapted private health sector immunisation schedules can be accessed at http://www.amayeza-info.co.za/?page_id=517.

Measles vaccines are safe and highly effective at preventing measles. If a scheduled dose has been missed, it is never too late to catch up measles vaccination.

Measles vaccine is contra-indicated in the following circumstances:

- history of an anaphylactic reaction to previous measles/MMR vaccine
- history of an anaphylactic reaction to neomycin or gelatin
- severe primary immunodeficiency
- advanced leukaemia or lymphoma
- serious malignant disease
- HIV-infection with severe immunosuppression (CD4 percentage <15% at any age or CD4

count <200/mm³ for persons aged >5 years)

- treatment with high dose corticosteroids (>20 mg or >2 mg/kg daily prednisone or equivalent)
- treatment with immunosuppressive chemotherapy
- treatment with immunosuppressive radiation therapy
- theoretically, measles vaccine (alone or in combination with other vaccines) should be avoided by pregnant women.

Measles infection in HIV-infected persons is associated with increased morbidity and mortality. HIV infection per sé is not a contra-indication for vaccination, but should be avoided in patients with severe immunosuppression (CD4 percentage <15% at any age or CD4 count <200/mm³ for persons aged >5 years) since several severe and fatal measles cases have been reported in severely immunosuppressed HIV-infected persons after measles vaccination.

Mild concurrent infections are not a contraindication to measles vaccination, but vaccination should be avoided if the patient has a high fever or severe illness.

Source: Centre for Vaccines and Immunology, and Division for Public Health, Surveillance and Response, NICD-NHLS; Department of Health - EPI and Communicable Diseases Directorates (National, Northern Cape Province and ZF Mgqawu District)