

# Communicable Diseases Communiqué

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## Pandemic Influenza A (H1N1) 2009 update

Currently there is widespread community transmission of pandemic influenza A H1N1 (2009) in South Africa. As of the 27<sup>th</sup> August 2009, there have been 5719 laboratory-confirmed cases. Of major concern is the number of fatal cases, particularly in the third trimester of pregnancy and puerperal period. To date there have been 27 fatal cases with laboratory confirmation at the National Institute for Communicable Diseases of the National Health Laboratory Service. Twelve of the deaths have been in pregnant woman, with the majority in the third trimester of pregnancy or puerperal period (post-partum) period. Other co-morbidity identified in fatal cases has included asthma, diabetes, obesity and HIV. The majority of illness in persons without co-morbidity remains mild and self-limiting. Routine testing of all persons with influenza-like illness (ILI) for H1N1 is not recommended. **Any persons with co-morbidity or pregnant women in the second or third trimester, or in the puerperal period must receive early treatment with antivirals if influenza-like illness is present. Treatment should be instituted prior to any laboratory results in this group.**

### Fatal cases of pandemic H1N1 in South Africa:

Of the 27 fatal cases to date, 12 were pregnant women, five of whom had no identified co-morbidity, two were HIV-positive, two were HIV-positive with TB, one had TB and one was obese with a history of substance abuse. Details of one case are still outstanding. Co-morbidities were identified for 12 of the remaining fatal cases; one with asthma, one who was obese, two who were HIV-positive, three patients with chronic cardiac diseases plus obesity plus diabetes, two patients with diabetes, one with hypertension and chronic renal failure and one premature baby born to an H1N1 positive mother. The majority of patients did not receive antiviral treatment timeously.

### Guidelines for management in pregnancy

**Alert: high risk of severe disease in the third trimester of pregnancy, and in the puerperium**

**Pregnancy has been identified as a particular risk factor for severe illness.**

- Rapid progression of influenza-like illness to pneumonia and/or acute respiratory distress syndrome (ARDS) has been reported. Pneumonia may be viral or due to secondary bacterial infection. Pulmonary embolic disease has been identified in some patients particularly those with morbid obesity. The vast majority of pregnant women have not had co-morbidity. Pregnant women with underlying medical conditions may be at particularly high risk. Radiological features of pneumonia have been variable. Secondary bacterial infections with *Streptococcus pneumoniae* and *Staphylococcus aureus* have also been reported. Adverse pregnancy outcomes have also been reported. These include an increased rate of spontaneous abortion, premature delivery and intra-uterine deaths.

**There should be a high index of suspicion of pandemic influenza in any pregnant woman with influenza-like symptoms, (fever, muscle pain and/or dry cough) and/or any evidence of lower respiratory tract pathology including pneumonia and Acute Respiratory Distress Syndrome**

- While there is a broad differential diagnosis for acute febrile respiratory illness, the likelihood of influenza-like illness being due to the pandemic influenza strain is highly likely currently because of the widespread outbreak which appears to have replaced seasonal influenza.

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- In the third trimester of pregnancy and puerperal period, all pregnant women with influenza-like illness, pneumonia or ARDS must be treated empirically with antivirals, prior to any laboratory testing and results being received.

- Treatment is most effective if commenced within 48 hours after onset of symptoms but should still be given in pregnant women who present after this period.

- While no formal studies have been conducted to assess the safety of oseltamivir and zanamivir in pregnancy, to date there has been no increase observed in the frequency of malformations in the human foetus. In pregnant woman with suspected pandemic influenza, particularly in the third trimester of pregnancy where the risk of severe, rapidly progressive and even fatal disease is significant, the benefits of treatment with antivirals outweigh the theoretical risks of antiviral use.

- In the earlier stages of pregnancy the decision to treat must be made by the doctor based on the clinical condition of the patient.

- Fever management is essential and may reduce foetal neural defects in the first trimester and adverse foetal effects during labour.

#### **Pregnant women with influenza-like illness in the second or third trimester:**

- Treatment should be initiated for pregnant women in the second or third trimester with ILI (prior to confirmation of diagnosis of pandemic influenza A (H1N1)2009 infection).

- Oseltamivir is the preferred agent and should be commenced as soon as possible, preferably within 48 hours of illness onset.

- Patients should be referred urgently to hospital if they have hypoxia (oxygen saturation measured by pulse oximetry < 95%) and/or tachypnoea (respiratory rate > 24 breaths/min) and/or pulmonary infiltrates.

#### **Pregnant women with influenza-like illness in the first trimester:**

- Pregnant women in the first trimester are at lower risk for complications of influenza and women with mild ILI and with no risk factors other than pregnancy do not necessarily require antiviral treatment.

- However, if additional medical conditions (other than pregnancy) that confer increased risk are present, or if there is moderate or severe disease then antiviral treatment is indicated. Either oseltamivir or zanamivir may be used, though

zanamivir may be preferred, as it is administered by inhalation, achieves high concentrations in the respiratory tract with less systemic absorption and produces potentially less foetal exposure than oseltamivir.

#### **Pregnant women who are currently well but are contacts of a proven or probable pandemic (H1N1) 2009 influenza case:**

- Prophylaxis with antivirals is not routinely recommended.

- Clinical judgement should be used where women have significant underlying medical conditions and are in the 2<sup>nd</sup> or 3<sup>rd</sup> trimester. In such circumstances, prophylaxis may be warranted.

#### **Newborns of pandemic influenza A (H1N1) infected mothers**

- Newborns of pandemic H1N1 influenza-infected mothers are at high risk of severe illness from influenza infections. The risk of transmission of the virus to the foetus is unknown, It is more likely that the infant will be infected postnatally by the respiratory route. Oseltamivir must be offered to symptomatic newborns with contact history at either 3mg/kg or 12mg total dose, twice daily x 5 days.

- Post-delivery chemoprophylaxis of potentially exposed infants should be given to healthy newborn infants who are born within 48 hours of onset of mothers' symptoms, or to infants who remain with mothers who are not breast feeding during the first seven days after onset of maternal symptoms. Prophylaxis dose: oseltamivir suspension 3 mg/kg (maximum total dose of 12 mg) PO daily x 10 days

#### **Breastfeeding women with influenza-like illness:**

- Breastfeeding should be promoted because of the protection from respiratory infection by breast milk. It is unclear whether temporary separation of baby from an infected mother is of benefit.

- Women with an uncomplicated ILI, who are nursing normal infants, would not normally require antiviral therapy. Breast milk from an infected mother is not considered infectious

- Antiviral treatment for the mother should be given on the basis of clinical consideration

- Breast milk from a mother receiving antiviral medication is unlikely to have an adverse effect on the infant.

Appropriate hygiene measures should be followed to minimize the potential for spread to the nursing infant, namely, use of mask by the mother and good hand and cough hygiene.

## Measles outbreak

The number of positive measles IgM specimens has increased over the past month, with a further 35 laboratory-confirmed cases from the Tshwane district since the August Communiqué. (Figure 1) There have also been six confirmed cases in the Ekurhuleni and Johannesburg districts. Suspected cases have been reported in other parts of the country, notably Marble Hall and Groblersdal in Limpopo Province. Sporadic cases have occurred in all provinces except the Free State. This brings the total number of confirmed measles cases for the year to 114, 97 of which were from Tshwane. Of these patients, ages were known for 90 (93%) and ranged from four months to 38 years with a median of 13 years. (Figure 2)

Measles is a notifiable disease, and as part of the Expanded Programme on Immunisation (EPI) measles elimination programme, all patients presenting with a rash and fever, and at least one of conjunctivitis, cough or coryza must have blood and urine specimens sent to the laboratory for measles testing. Cases should be notified to the Department of Health so that cases can be followed up and vaccination offered to contacts.

Measles is highly infectious and spreads rapidly amongst people who are not immune, leading to significant morbidity and mortality.

The most common complications are pneumonia, either due to the measles virus or as a result of secondary bacterial or viral infection, diarrhoea, croup, otitis media, mouth ulcers and eye pathology. Less commonly, encephalitis may complicate measles in 1 in 1000 reported cases, resulting in permanent brain damage. Myocarditis, pneumothorax, pneumomediastinum, appendicitis and sub-acute sclerosing panencephalitis (SSPE), a fatal chronic infection of the brain, have all been reported.

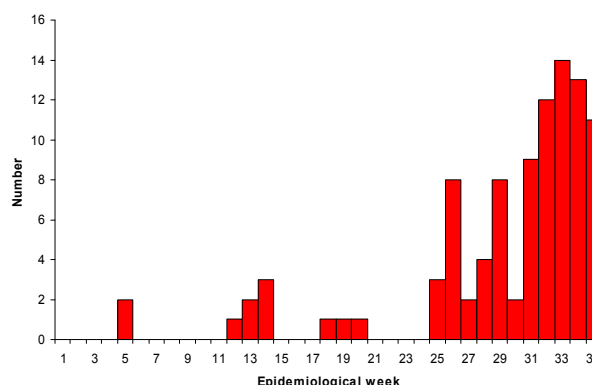


Figure 1: Number of laboratory-confirmed measles cases by week, Tshwane district, 2009

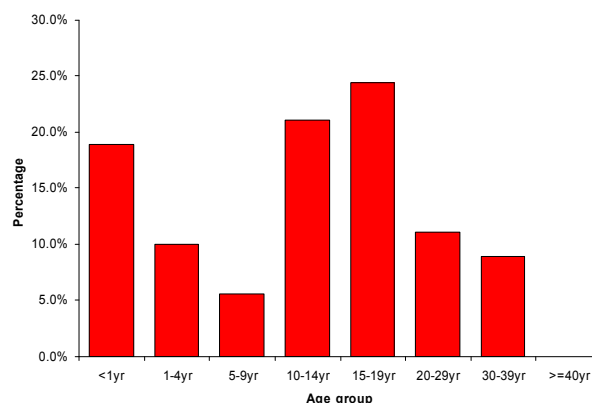


Figure 2: Age distribution of patients with measles, Tshwane district, 2009 (n = 90)

The Department of Health is planning a measles vaccination campaign in all primary and secondary schools in Tshwane from 24 August onwards. In addition, measles vaccination is being offered to all children aged < 5 years in Tshwane district as part of child health week from 7 to 20 September. Parents should be encouraged to take their children to the local clinic to be vaccinated if unsure about their child's vaccination status.

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