

## **Avian Influenza in Southern Sudan**

### **No cases of human avian influenza detected**

12 October 2006

#### **1. Background**

During the early weeks of September 2006, the WHO Country Office in Sudan was alerted by United Nations Food and Agricultural Organization (FAO) on the detection and laboratory confirmation of *Highly Pathogenic Avian Influenza* (HPAI) in domestic chickens/birds in Juba, Southern Sudan. Cloacal and tracheal samples collected from a number of dead and dying birds/chickens from a backyard farm in Juba were tested positive for H5N1 in one of the OIE reference laboratories in the UK. Some reports of dying/dead wild birds or sick poultry in the area were, however, reported from Juba. At that time, this new H5N1 positive foci in Southern Sudan emerged following last report of positive foci of H5N1 virus in April and again in July in Khartoum state.

#### **2. Response to Avian Influenza in Southern Sudan**

At the request of the Federal Ministry of Health, an epidemiologist from the WHO Country Office in Sudan was immediately sent to the field to participate in a joint assessment mission with FAO, the Ministry of Animal Resource and Fisheries (MARF) and the Ministry of Health (MoH) of the Government of Southern Sudan (GoSS). A team from CDC-Atlanta also joined the investigation team to assess and screen for detection of suspected human cases of avian influenza (H5N1).

The control activities focused on

- Setting up an information sharing and coordination mechanism between the animal health and human health sector;
- Epidemiological surveillance including active case-finding;
- Timely laboratory diagnosis of influenza A/H5 virus infection and shipment of specimen for confirmation;
- Social mobilization campaigns aimed at reducing the risk of infection and at promoting referral of suspected human avian influenza (HAI) cases to designated isolation units;
- Health monitoring of contacts, including health-care workers associated with suspected HAI cases during the 7 days from the date of last exposure to the suspected HAI case;
- Case management of patients at designated isolation unit in Juba for whom HAI diagnosis was suspected;
- Training of health workers on Avian Influenza Preparedness.

## **2.1 Coordination**

An Avian Influenza Task Force chaired by MARF and co-chaired by the Ministry of Health of Southern Sudan (MoH GoSS) was formed immediately after this outbreak to coordinate and manage an organized response to the situation. The task force drew members from various disciplines and used met every week during the outbreak. Three sub-committees were also formed (animal health, human health and communication) which met daily and reported to the task force.

## **2.2 Active surveillance**

The joint investigation team of WHO, FAO, MARF, CDC-Atlanta and the MoH GoSS quickly developed and standardized a case investigation form for patients suspected of influenza A/H5 infection and trained over 30 volunteers and 5 supervisors on data collection using the case investigation form. On 18 September, daily active surveillance began in Juba town, which was divided into four sectors for screening purposes, and up to 25 September 1,590 households situated within the 5 km perimeter of the epicentre of the outbreak were visited by the newly trained volunteers to screen residents for influenza like illnesses (ILI). The outcome of active case findings were reported daily to the MoH and MARF who in turn reported the results to the AI Task Force.

On 20 September 2006, while the active surveillance for search of suspected human cases of Avian Influenza A/(H5N1) was still ongoing, a 50-year old married woman employed by the Ministry of Agriculture of the GoSS reported to the local hospital with fever and respiratory symptoms. The lady was examined at the hospital by a joint team from WHO, the MoH of GoSS and CDC-Atlanta. It was discovered that she developed her symptoms on 8 September and that she had disposed of a dead chicken from her house about ten days prior to her illness. The investigation also revealed that none of the five close contacts of her family developed any fever or respiratory symptoms although they might have been exposed to diseased or dead chickens in their households. Two nasopharyngeal swabs and two serum samples were taken on 20 September and one set of sample was sent to National Public Health Laboratory (NPHL) in Khartoum and the other set of sample was sent to the Laboratory of CDC/International Emerging Infectious Programme (IEIP) in Nairobi, Kenya. No further individuals were suspected or investigated for human avian influenza (HAI) in the town.

## **2.3 Laboratory diagnosis**

On 23 September 2006, the IEIP in Kenya reported back that all the specimens (both oro and nasopharyngeal swabs as well as the sera were negative for both Flu A and H5 tests run on both conventional and real-time PCR. The specificity of the test was supported by the absence of false-positive result and both the positive and negative controls worked well confirming the integrity of RNA isolated and test parameters.

The test performed at the NPHL in Khartoum was also negative - both by rapid test as well as run on real-time PCR.

A follow-up test on serum sample to be collected two to three weeks later from the lady has been scheduled to re-confirm that the test is negative for Flue A and H5.

## **2.4 Management of suspected case and contacts**

An isolation unit was quickly set up at the Juba Teaching Hospital for treatment of all suspected cases with HAI. The 50-year old lady who was sampled earlier was admitted in this isolation unit and received symptomatic treatment for her fever and respiratory symptoms. She was discharged from the hospital on 25 September 2006 after receiving the negative laboratory report and after she had been afebrile for over 48 hours and was without any upper respiratory symptoms. No more cases matching the case definition of HAI surfaced during the period of active case finding from any of the household which were investigated.

## **2.5 Social mobilization**

At the time when the active surveillance was ongoing, standard health education messages developed by WHO-EMRO and CDC were quickly adapted and broadcast daily through the local radio as well as through street campaigns. In view of the presence, in Juba, of a large number of UN staff including the UN peacekeepers, several briefing and orientation sessions were organized for the United Nations staff in Juba aiming to reduce exposure and also advising the staff on how to protect themselves from the risk. A separate information session was organized jointly by WHO/UNICEF/FAO/MARF/MOH on 7 October for the local press and media people of Juba for AHI. A question and answer session was also organized for the media people during this information session. A separate presentation was organized by WHO for the staff of the MoH of the GoSS.

## **2.6 Training on Avian Influenza Preparedness.**

Between 29 and 30 September, a two-day training session was jointly conducted by WHO, MoH (GoSS) and the CDC-Atlanta for medical staff of Juba Teaching Hospital and 45 participants were trained in case management, specimen collection, transportation and shipment, infection control and use of Personal Protective Equipments (PPEs) for case investigation.

## **3. WHO's ongoing support for AH**

To strengthen the public health capacity of the country to rapidly detect, assess, respond to and contain public health risks resulting from avian influenza epidemics in Sudan, WHO, the Federal Ministry of Health and partners worked closely together.

The Federal Ministry of Health, the World Health Organization and the United Nations Food and Agricultural Organization (FAO) along with other partners are working closely to strengthen national preparedness for human avian influenza, reduce opportunities from animal to human transmission and improve early warning to trigger appropriate public health containment measures for the avian human influenza. WHO continues to support the Federal Ministry of Health and the Ministry of Health of GoSS with technical assistance for active surveillance and strengthening of health services capacity to detect, prepare for, and respond to any threats from avian influenza.