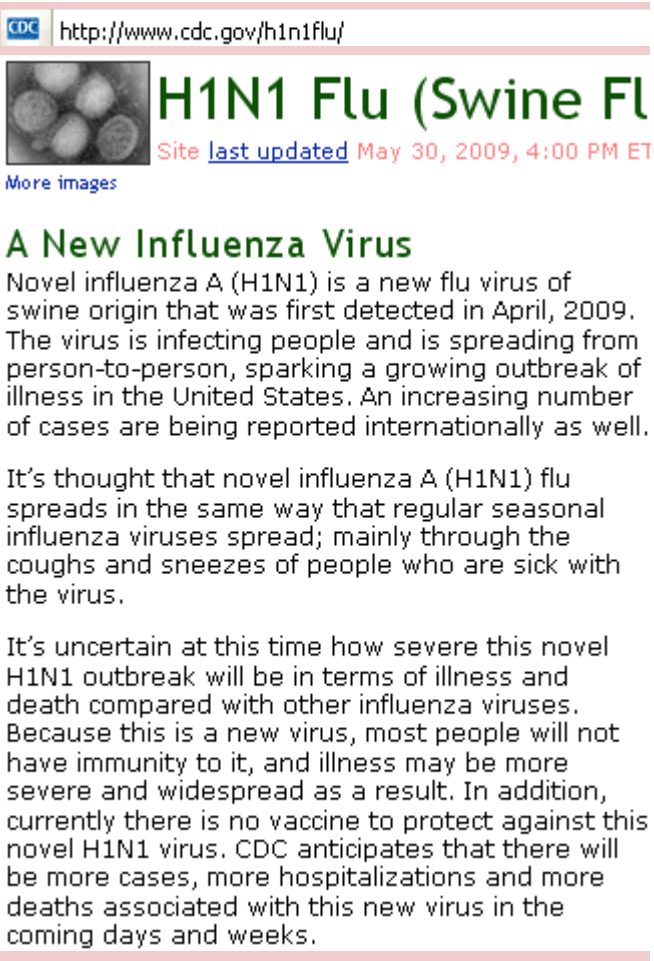
SWINE FLU

Swine Flu has not reached Africa

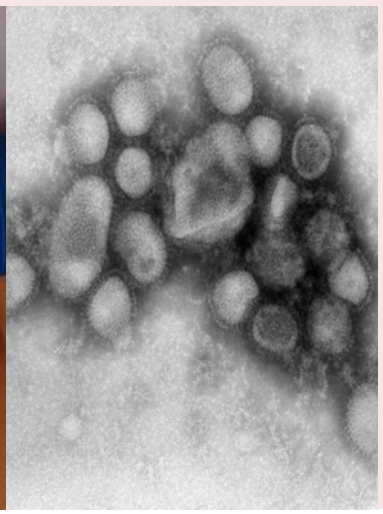
As of 25 May 2009, a total of 12,515 humans confirmed to have been infected with the new influenza A(H1N1), also known as swine flu, have been reported to the World Health Organization. Most of the humans who have been confirmed infected are confined to the Western Hemisphere, and transmission of swine flu to other continents has been limited. A total of 339 humans have been reported infected in European nations, with an additional 395 reported in Asian and Middle Eastern nations. None of these humans reported infected have died. Ninety-two percent of humans determined to have swine flu have been reported in the United States, Mexico, and Canada. These 3 nations account for 90 of the 91 reported deaths from swine flu, with the remaining fatality reported in Costa Rica. Africa therefore appears to be geographically positioned to allow for the most time to prepare for the onset of swine flu.(1) All nations in WHO's AFRO region have activated their national emergency preparedness and contingency response plans.(2) A major concern to the WHO is that many African countries do not have the resources to confirm that a cause of illness or death is swine flu.(2)

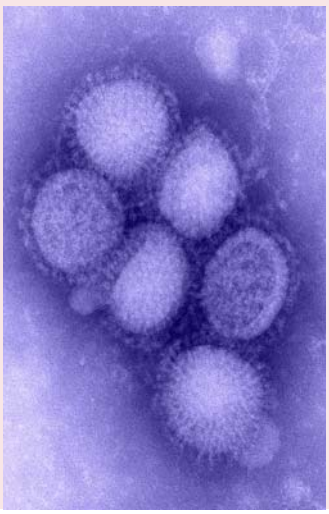
Swine influenza A (H1N1) viruses that have been detected in humans in the United States and Mexico are sensitive to 2 of the 4 antiviral drugs approved for use in the United States. According to the United States Government agency the Centers for Disease Control and Prevention, oseltamivir and zanamivir have been shown to be effective against swine flu in laboratory tests but 2 other drugs, amantadine and rimantadine, do not work against swine flu because H1N1 is resistant to them.(3,4)



Over 1 million doses of oseltamivir were to have been delivered to the 46 African nations in the WHO's AFRO Region by 17 May, and all nations had

Below, images from the CDC. Left, the laboratory kit developed by the CDC to detect the H1N1 virus by a test called PCR (photo by Greg Sykes, ATCC). The likelihood that the test can be used in a remote village lacking a functional laboratory is zero. Right, images of the virus under light microscope. All pictures were taken from the CDC website.





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received personal protective equipment (PPE) by 14 May.(5) Shipments of personal protective equipment, which include fac masks, and oseltamivir were made by both the Africa Regional Office of WHO in Brazzaville and WHO Headquarters. Oseltamivir and PPE were also delivered to the WHO Inter Country Support Teams based in Harare, Libreville and Ouagadougou which have set up crisis management committees to support countries in their areas of coverage.(5) The virus is believed to be spread from human to human in the same way seasonal influenza viruses spread – through the coughs and sneezes of the infected.(6)

In no countries throughout Africa has a single human been confirmed infected with swine flu, though 25 humans had been suspected infected by 15 May 2009. As of 30 April, WHO advised no restriction of regular travel or closure of borders for healthy humans, though they recommended delay of international travel for anyone ill. The WHO also advised that those developing flu-like symptoms after international travel seek medical attention. Routine hand washing with soap and water were also encouraged.(7)

For the time being, these precautions represent the only effective means for preventing the spread of the H1N1 swine flu and combating it in those already infected. During the 20 May press briefing from the United States Centers for Disease Control (CDC), the Deputy Director of the Influenza Division, Dr Daniel Jernigan gave his best estimate for the production of a swine flu vaccine as being in the fall of 2009.(8)

The WHO and the Food and Agriculture Organization (FAO) of the United Nations issued a joint statement with the World Organization for Animal Health (OIE) to inform the public that influenza viruses are not known to be transmissible to to people by eating pork products. This statement did not clear pigs who were sick or found dead for human consumption.(9)

According to the CDC, the new H1N1 strain disproportionately affects children and young adults rather than older adults because similar H1N1 strains of flu circulated in 1957 and this likely has immunized anyone born before then; and subsequent flu viruses have given more or less immunity to anyone born after 1957 but before 1985. Sixty-four percent of humans infected with swine flu are between 5 to 24, while only 1% are over 65.(10) Exposure to these older strains of H1N1 influenzas could be responsible for this disparity, which runs counter to age-related virulence typically found in seasonal influenza. This novel strain differs from other H1N1 strains, such as the strain that caused the 1918 flu pandemic, because it contains genetic material identified in 4 other strains of flu – North American swine influenza, Eurasian swine influenza, North American avian influenza, and human influenza.(3)

The continuing potential for mutation of this new strain of influenza should not be disregarded, though indications in the United States suggest that the current outbreak may be subsiding. Concerns persist about the potential for mutation in the Southern Hemisphere during the upcoming flu season there.(10) Vigilance is required by health professionals in preventing and combating swine flu.

REFERENCES

1.WHO. Influenza A(H1N1) – update . At http://www.who.int/csr/don/2009_05_25/en/index.html.

2.WHO. Influenza A(H1N1). At http://www.afro.who.int/ddc/influenzaa/index.html.

3.CDC. Press Briefing Transcripts 23 April 2009. At http://www.cdc.gov/media/transcripts/2009/.

4.CDC. Antiviral Drugs and H1N1 Flu. At http://www.cdc.gov/h1n1flu/antiviral.htm.

5.Africa Continues to Strengthen Capacity To Deal With A/H1N1. At http://www.afro.who.int/press/2009/.

6.CDC H1N1 Flu. At http://www.cdc.gov/h1n1flu/.

7.Africa Braces Up to Combat Swine Flu. At http://www.afro.who.int/press/2009/pr20090430.html.

8.CDC. Press Briefing Transcripts 20 May 2009. At http://www.cdc.gov/media/transcripts/2009/.

9.WHO. Joint FAO/WHO/OIE Statement on influenza A(H1N1) and the safety of pork. At http://www.afro.who.int/ddc/influenzaa/Joint_FAO-WHO_statement.pdf.

10.MedlinePlus. Swine Flu Outbreak May Be Subsiding, CDC Says. At http://www.nlm.nih.gov/medlineplus/.

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