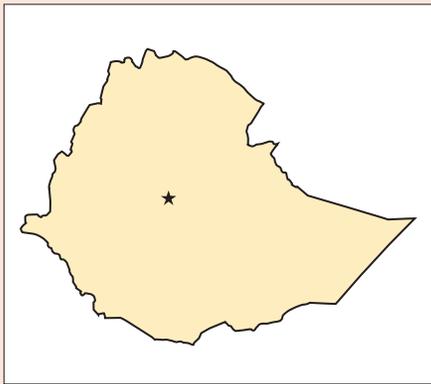


Ethiopia



- **Capital:** Addis Ababa
- **Area:** 1,104,300 sq km
- **Population:** 93,815,992 (July 2012 est.)
- **Age Structure:** 0-14 years: 46.3% (male 20,990,369/female 21,067,961); 15-64 years: 51% (male 22,707,235/female 23,682,385); 65 years and over: 2.7% (male 1,037,488/female 1,388,301) (2011 est.)
- **Life Expectancy at Birth:** Total population: 56.56 years; male: 53.99 years; female: 59.21 years (2012 est.)
- **Infant Mortality Rate:** Total: 75.29 deaths/1,000 live births; male: 86.03 deaths/1,000 live births; female: 64.23 deaths/1,000 live births (2012 est.)
- **Literacy Rate:** Total population: 42.7%; male: 50.3%; female: 35.1% (2003 est.)
- **GDP:** \$94.76 billion (2011 est.)
- **GDP per Capita:** \$1,100 (2011 est.)

Highlights

- A manuscript on influenza surveillance in Ethiopia was finalized and submitted to an international journal.
- Two members of an influenza technical working group participated in a scientific writing workshop sponsored by the U.S. Centers for Disease Control and Prevention (CDC) in Nairobi, Kenya.
- Influenza surveillance data was analyzed and used to improve public health.
- In September 2011 the oral presentation “A Two-year Review of Influenza A (H1N1)pdm09 cases in Ethiopia” was given at the First International Congress on Pathogens at the Human–Animal Interface in Addis Ababa.

U.S. CDC Direct Country Support

Ethiopia is supported in its efforts to enhance laboratory and surveillance capacity to detect and respond to avian, seasonal, and pandemic influenza through a CDC cooperative agreement. The first cooperative agreement between the Federal Ministry of Health (MOH)-Ethiopia Health and Nutrition Research Institute (EHNRI) and CDC began in August 2007. Fiscal Year 2011 is the first year but the second round of this funding opportunity. The overarching goal of this project is to sustain and strengthen the influenza surveillance, preparedness and response to seasonal and pandemic influenza in Ethiopia.

Implementation of these cooperative agreements has resulted in established laboratory-based influenza surveillance, national public health laboratory capacity to perform molecular detection of influenza viruses, and strengthened public health emergency management capacity to rapidly detect, assess, respond to, and contain the public health risks that could be brought about by a pandemic.

Surveillance

Sentinel surveillance has the potential to provide more complete data about some of the epidemiologic characteristics of severe acute respiratory infections (SARI). Ethiopia has made it mandatory to report 20 priority diseases. Among those that are required to be reported immediately are avian-human influenza, pandemic influenza, and severe acute respiratory syndrome (SARS). The MOH Ethiopia started sentinel surveillance activities for SARI and influenza-like illness (ILI) in September 2008. Currently, there are a total of eight sentinel surveillance sites located in five mega regions—five are dedicated to SARI and three are dedicated to ILI. The four newly selected SARI sites are expected to be fully functional in FY 2012.

Surveillance Activities

- Site visits were conducted in mega regions of the country to assess the establishment of new SARI sites.
- Based on the assessment, four additional SARI sites were established.
- Regular supervision was provided to all SARI/ILI sentinel surveillance sites.
- Technical meetings were conducted regularly to improve influenza surveillance activities.
- A review of laboratory-confirmed cases was presented at local and international scientific meetings.
- The national SARI/ILI surveillance implementation guideline was revised and distributed to sentinel surveillance sites.
- A manuscript on the Ethiopia weekly surveillance report was prepared.

Laboratory

The National Influenza Laboratory (NIL) at EHNRI is the only laboratory capable of influenza diagnostic testing in the country. The laboratory became functional in June 2009. The NIL has worked closely with CDC to establish a state-of-the-art laboratory. Routine testing of respiratory samples collected through the SARI/ILI sites commenced in 2009. Collaboration between human and animal health laboratory staff is also being supported.

Laboratory Activities

- Provided technical support and on-site training to influenza sentinel surveillance sites.
- Conducted PCR testing. A total of 121 influenza specimens were collected in 2011 and 17 of them tested positive; eight were influenza B, seven were seasonal influenza A (H3), and two were influenza A(H1N1)pdm09.
- Reported laboratory findings on a weekly basis to the World Health Organization (WHO) African Regional Office (AFRO).
- Participated in the WHO External Quality Assessment Project (EQAP) for the detection of influenza virus and achieved 100% accurate scores in all three proficiency panels.
- Achieved biosafety cabinet annual certification and performed real-time PCR maintenance.
- Participated in outbreak investigations of respiratory illnesses reported in the country. Twenty-nine samples were collected and analyzed from outside routine influenza sentinel surveillance; one tested positive for influenza A(H1N1)pdm09.
- Shipped a total of 31 specimens to the WHO Collaborating Center in Atlanta for confirmation and further antigenic characterization.
- Coauthored a manuscript for a peer-reviewed journal supplement on influenza in Africa. Data were provided for the Global SARI Survey Project.

Preparedness

An overhaul of the entire health sector was carried out in 2009, during which new organizational structures were set up, including the Public Health Emergency Management Center (PHEMC). This Center is responsible for preparedness, early warning and response to any public health emergencies including avian and human influenza and pandemic influenza. This newly established body is now situated at EHNRI in order to spearhead epidemiological surveillance of diseases and events, with the EHNRI laboratory providing the technical support.

Preparedness Activities

- The public health emergency management center annual plan was prepared and implemented.
- An automatic extractor (QIAcube) was received from CDC.
- Communication and education materials were produced.

Training

The FMOH, EHNRI, and CDC-Ethiopia hosted the following training activities in 2011:

- Two laboratory personnel from the NIL attended training on laboratory management for influenza in South Africa from February 28–March 4, 2011.
- SARI/ILI refresher training was provided for 16 surveillance officers and health care providers from all sentinel sites in October 2011.
- One staff member from the NIL attended “Bio-risk Management and Transport of Infectious Substances” training in Dar es Salaam, Tanzania, July 11–15, 2011.
- FMOH, EHNRI and CDC-Ethiopia jointly conducted a national workshop on influenza surveillance systems, functions and its operational components in such a way that all 55 participants were able to implement influenza surveillance in their respective regions.

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The Public Health Emergency Management Center (PHEMC) and CDC-Ethiopia's Technical Officer provided training on influenza sentinel surveillance in Addis Ababa for select participants from surveillance sites.