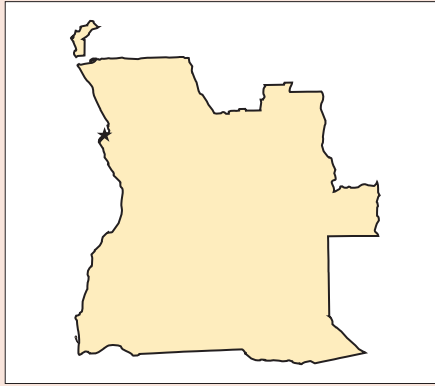


# Angola



- **Capital:** Luanda
- **Area:** 1,246,700 sq km
- **Population:** 18,056,072 (July 2012 est.)
- **Age Structure:** 0-14 years: 43.2% (male 2,910,981/female 2,856,527); 15-64 years: 54.1% (male 3,663,400/female 3,549,896); 65 years and over: 2.7% (male 157,778/female 199,959) (2011 est.)
- **Life Expectancy at Birth:** Total population: 54.59 years; male: 53.49 years; female: 55.73 years (2012 est.)
- **Infant Mortality Rate:** Total: 83.53 deaths/1,000 live births; male: 87.39 deaths/1,000 live births; female: 79.47 deaths/1,000 live births (2012 est.)
- **Literacy Rate:** Total population: 67.4%; male: 82.9%; female: 54.2% (2001 est.)
- **GDP:** \$115.9 billion (2011 est.)
- **GDP per Capita:** \$5,900 (2011 est.)

## Highlights

- National Public Health Institute (INSP) started collaboration with the Field Epidemiology Laboratory Training Program (FELTP).
- Influenza surveillance information started being reported weekly to the National Public Health Directorate, the World Health Organization (WHO), the U.S. Centers for Disease Control and Prevention (CDC), and FluNet by INSP personnel.
- WHO's African Regional Office (AFRO) contracted a national consultant through the Agence de Médecine Préventive (AMP) for the Strengthening Influenza Surveillance in Africa (SISA) project, with the aim to assess the influenza surveillance system in Angola and review protocols and standard operating procedures for influenza surveillance within the Ministry of Health.
- Along with the SISA project, surveillance activities were enhanced and a national influenza protocol was written.
- One fully operational sentinel site, a pediatric hospital in the capital city, Luanda, has been implemented.
- The second assessment for the WHO External Quality Assessment Project (EQAP) was completed in April 2011 with 100% correct.

## U.S. CDC Direct Country Support

Acute respiratory disease is one of the major causes of morbidity and mortality within the Angolan population and the country is classified as high-risk for infection and spread of avian influenza within the Pandemic Risk Index scale. The Republic of Angola has been collaborating with CDC on influenza control since 2006 through a cooperative agreement for avian influenza. INSP is the Central Reference Laboratory (CRL) of the Ministry of Health (MOH).

Notably, influenza laboratory diagnosis capacity has improved since the beginning of the collaboration. The agreement has also enhanced the general level of preparedness and response capacity for influenza and other emerging diseases in Angola.

Laboratory surveillance activities in Angola are ongoing. During FY 2011 respiratory samples were tested for influenza A. A new RNA extractor has arrived, enhancing the laboratory's capacity to receive a higher number of samples.

### Surveillance

In an effort to increase surveillance activities, sentinel sites were expanded to include a private hospital in Luanda (Clínica Sagrada Esperança) and two other main hospitals in the provinces of Huila and Cabinda.

The country has been able to implement one fully operational sentinel site—David Bernardino Pediatric Hospital—in the capital city Luanda. The National Public Health Directorate (DNSP) provides expertise in epidemiology surveillance matters; however, no one is specifically assigned to influenza surveillance data analysis. DNSP is making efforts to develop a stronger capacity to engage sentinel sites in order to produce, collect, analyze and interpret influenza surveillance data.

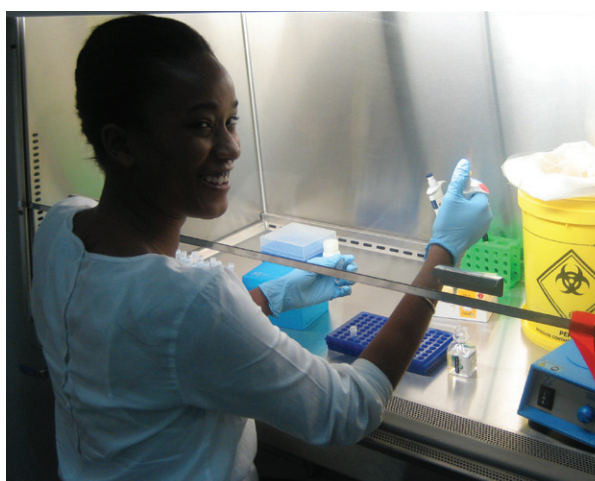
### Surveillance Activities

- The influenza surveillance system was assessed by the SISA consultant and a report was written and discussed within the technical group.
- Influenza surveillance protocol based on the *WHO AFRO Sentinel Surveillance Protocol* was written.
- Case definitions were reviewed with all the provincial disease surveillance focal points.
- A health professional was hired in August. She has been trained to supervise and monitor the activities of the sentinel sites, and to develop an influenza epidemiological database.

### Laboratory

The biosafety cabinets of the molecular biology laboratory of the INSP were certified, the exhaust and negative pressures system were remodeled; laboratory reagents and consumables were procured; and the laboratory was assessed by experts from the Association of Public Health Laboratories (APHL).

From September 23–30, 2010, the CRL was attended by the experts from the South African Maintenance Air Filter Service Company for the certification and installation of two new cameras, as well as assembly of an exhaust system to establish negative pressure in the extraction room for nucleic acids.



Laboratory Technician, Ms. Jocelyne Vasconcelos, preparing samples for a test-run using the laboratory's new QIAcube.

Technicians conducted preventive maintenance for equipment from Applied Biosystems, through a maintenance contract INSP established with the company for a period of three years.

### **Laboratory Activities**

- December 13–14, 2010, training was conducted on practices for harvesting and packaging of samples of influenza at Américo Boavida Hospital.
- In May 2011, a QIACube for extraction was received as a donation from CDC to strengthen the influenza activities.
- From June to July 2011, the laboratory participated in the WHO EQAP for the detection of influenza virus type A by PCR. Twelve samples were tested through this project and the results showed 100% concordance with the CRL.
- During August 2011, a surveillance and laboratory capacity review was conducted in collaboration with CDC.

### **Preparedness**

In efforts to strengthen influenza surveillance awareness and commitment, the INSP and DNSP started collaboration with FETLP. INSP and DNSP personnel participated in lectures and conferences at national and international levels for the discussion of surveillance results.

INSP personnel began weekly reporting of influenza surveillance information to DNSP, WHO, CDC and FluNet in August 2011.

### **Preparedness Activities**

- Ensure antiviral medications are in stock for influenza disease treatment.
- Produce and distribute educational and communication materials (i.e. pamphlets, fliers).
- Transmit television and radio spots.

### **Training**

- One INSP technician participated in a workshop on cell culture and viral isolation at Noguchi Memorial Institute of Medical Research in Accra, Ghana.
- Three INSP technicians, in conjunction with a CDC consultant, participated in the assessment of laboratories in nine provinces of Angola (Luanda, Cunene, Huila, Cabinda, Moxico, Huambo, Kuando, Lunda Sul and Lunda Norte) for the elaboration of a strategic plan for national laboratories. The plan is meant to improve the supply and laboratory services and the formation of a single national standard in quality for accreditation by WHO.
- Two INSP technicians participated in a training course on influenza laboratory management in Johannesburg, South Africa.
- Two INSP technicians participated in a scientific writing workshop based on years of working with influenza in Nairobi, Kenya.
- Two technicians—one from INSP and one from DNSP—participated in the Second Annual African Network for Influenza Surveillance and Epidemiology (ANISE) Meeting held in Accra, Ghana.

## Contacts

Fatima Valente, MD, MSc  
Head of Epidemiology Unit  
National Public Health Directorate  
Luanda, Angola  
Email: luisafatima@hotmail.com

Filomena Gomes da Silva, BSc  
Director of National Public Health Institute  
National Public Health Institute  
Luanda, Angola  
Email: filomenasilva5@yahoo.com.br

Rosa de Fatima da Silva, BSc, MSc  
Head of Molecular Biology Lab  
National Public Health Institute  
Luanda, Angola  
Email: rosainsp@hotmail.com

Yolanda Rebello Cardoso, MSc  
Virologist  
National Public Health Institute  
Luanda, Angola  
Email: yolanda.insp@gmail.com

Erika da Cunha Oliveira, BSc  
Molecular Technician  
National Public Health Institute  
Luanda, Angola  
Email: oliveira\_erika@hotmail.com

Jocelyne de Vasconcelos, MSc  
Molecular Technician  
National Public Health Institute  
Luanda, Angola  
Email: jjdevasconcelos@hotmail.com