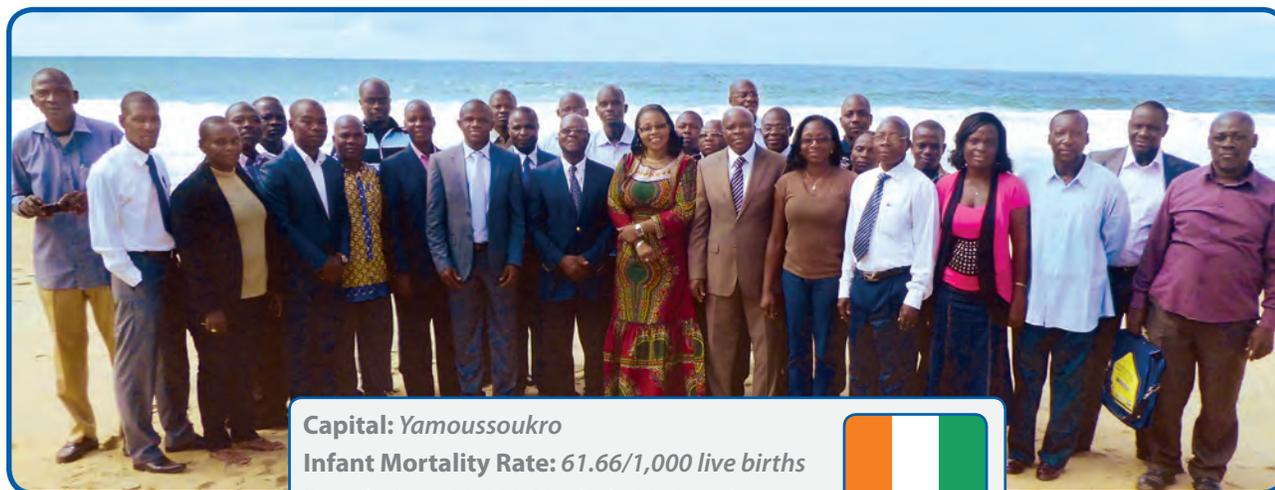


Republic of Côte d'Ivoire



Capital: Yamoussoukro
Infant Mortality Rate: 61.66/1,000 live births
Population: 22,400,835 (July 2013 est.)



Overview

Since 2006, CDC's Influenza Program has supported the national sentinel surveillance network in Côte d'Ivoire in collaboration with the Ministère de la Santé et de la Lutte contre le Sida (MSLS)/ Ministry of Health, the National Institute for Public Hygiene (INHP) and the Institut Pasteur of Côte d'Ivoire (IPCI). In order to harness the gains of the prior cooperative agreement and continue to maintain the quality of the influenza surveillance and control system in Côte d'Ivoire, a second five-year funding agreement was received in 2011.

This agreement provides supplementary support to the Ivorian Government in order to ensure the sustainability of the influenza surveillance system over time. Among other objectives, this funding will enable an estimation of the burden that influenza has caused in Côte d'Ivoire in terms of morbidity and mortality. Moreover, it will facilitate the development of an influenza vaccine policy based on surveillance data, as well as improved detection and control of influenza and other severe respiratory illnesses.

Highlights

- Developed a new protocol for influenza surveillance and implemented a reconfiguration of sentinel sites in order to make the network more efficient.
- Increased laboratory diagnostic capacity by acquiring technical equipment for molecular biology and antiviral susceptibility testing [Institut Pasteur of Côte d'Ivoire (IPCI) and the National Influenza Center (NIC)].

Surveillance

During this period, the sentinel network developed new objectives including determination of disease burden and severity factors for influenza. A new configuration of the sentinel sites was implemented based on new criteria (geographical distribution, improved site management, etc.). Using the new criteria, the surveillance sites have been reduced to nine, including four in Abidjan and five outside Abidjan. The surveillance sites notify the national epidemiological office of new cases on a weekly basis. Of these sites, eight are severe acute respiratory illness (SARI) and influenza-like illness (ILI) (3 in Abidjan and 5 outside). The remaining site is an ILI only site (Attecoubé Hospital in Abidjan).

With the distribution of reporting tools, the new influenza surveillance protocol and policies to sentinel sites have become routine and effective. To ensure timely information and availability of laboratory results, all sentinel sites were provided with internet connection. In addition to internet access, INHP, the NIC located at IPCI and three sentinel sites (Man, Yopougon Attie, San Pedro) received information technology equipment resulting in improved communication.

Surveillance Activities

- Conducted an annual review of surveillance activities and the influenza surveillance network in Bouaké, February 2013.
- Reconfigured the influenza surveillance network by implementing a sustainability plan with a workshop in October 2012.

Laboratory

In order to fulfill its role as a NIC and reinforce operational capacity, the influenza laboratory was provided with reagents, consumables and equipment such as QIAcube, conventional PCR machines through the cooperative agreement. The laboratory analyzed 517 influenza samples targeting influenza AH1N1, (AH1N1)pdm09, AH3N2, AH5N1 and B viruses in 2010. In 2012, 1,186 samples were analyzed. During the period from January to August 2013, 1,128 samples were routinely tested for influenza viruses and other respiratory viruses.

Preparedness

An awareness and communication tour was held for the general public on high-risk behavior and influenza prevention. Two campaigns were conducted in February 2013: (i) in the towns of Abengourou, Bondoukou, Bouna and Nassian (ii) in Korhogo, Ferke, Tengrela and Boundiali. Four hundred (400) persons at the community level, as well as political, administrative, traditional, and religious, and civil society participants and authorities were invited to the meetings.



Influenza Surveillance Network Annual Review Meeting in Bouake, February 2013.



Regional Training Workshop on Influenza Data Management and Scientific Writing, Abidjan, May 2013.

Training

- Trained an INHP epidemiologist on descriptive epidemiologic techniques, epidemiologic tools (assessment and biostatistics) in Ouagadougou, Burkina Faso, November 2012 and April 2013.
- Trained 50 laboratory technicians and doctors stationed at surveillance sites on lab management, influenza diagnostics and biosecurity.
- Trained 50 laboratory technicians and doctors at sites on sample collection, packaging, storage and transportation, as well as sample analysis (i.e., PCR), and cell culture.
- Trained nine focal points on Epi-Info in Yamoussoukro.
- Reviewed records at each sentinel site in Abidjan in August 2012 to estimate the burden of influenza. From January 2007 to December 2011, twenty six thousand fifteen (26,015) suspected cases of influenza were detected along with 650 deaths.
- Hosted the Regional Training Workshop on Influenza Data Management and Scientific Writing in Abidjan, May 2013. Participants from 10 West African countries and facilitators from CDC and CSTE were present at this workshop.
- Conducted a review of all sentinel sites in June 2013, to evaluate and address the daily constraints (high workload, time-consuming registration of flu cases) and communication challenges (internet connection issues) health care providers are facing.

Publications

Coulibaly D, Nzussouo NT, Kadjo HA, Traoré Y, Ekra DK, Chérif D, Kouassi PD, N'gattia AK, Dagnan SN. Pandemic Influenza A(H1N1) in Cote d'Ivoire: health-care providers' knowledge of influenza and attitudes towards vaccination. *J Infect Dev Ctries* 2013; 7(7):499–506. doi:10.3855/jidc.2771.

Nzussouo NT, Kadjo HA, Coulibaly D, Ekaza E, Kouakou B, N'Golo DC, Tempia S, Davis R, Dosso M, Thompson M. Comparing influenza positivity rates by Real-Time RT-PCR, Elisa and viral culture methods in Côte d'Ivoire, West Africa, in 2009. *Afr. J. Infect. Dis.* 2013. 7(2): 31–35.