

Democratic Republic of Congo



Capital: Kinshasa

Infant Mortality Rate: 74.87/1,000 live births

Population: 75,507,308 (July 2013 est.)



Overview

CDC provides financial and technical assistance to the Ministry of Health (MoH) through the Kinshasa School of Public Health. The strategy is to develop an efficient and sustainable surveillance system which eventually will be funded and maintained by the national government of Democratic Republic of Congo (DRC). An enhanced routine surveillance system currently collects information used to estimate the national influenza burden. The system reports regular surveillance findings to the WHO Global Influenza Surveillance Network. In 2011, the surveillance system expanded to the neighboring country, Republic of Congo, and will expand to two additional provinces in DRC by the end of 2013.

Highlights

- Conducted a review of the surveillance system implemented during the previous five years project.
- Developed a sustainability plan for the national surveillance system.
- Maintained a routine influenza surveillance system that collects, analyzes and reports quality epidemiologic and virologic data.
- Disseminated surveillance findings including participating fully in the Global Influenza Surveillance and Response System (GISRS).

Surveillance

In DRC, the MoH 4th Directorate has instituted an integrated disease surveillance system, which provides routine reporting on 13 diseases that have epidemic potential, including influenza. This weekly surveillance is done in collaboration with the National Institute of Biomedical Research (INRB). Thanks to support from the CDC, the influenza sentinel surveillance system has been functional since 2006. Staff from sentinel sites identify suspect cases of influenza and take samples that are sent to INRB within 72 hours. INRB conducts analysis and writes weekly virological reports that are disseminated to all stakeholders, including sentinel site staff. The MoH 4th Directorate ensures the coordination of the sentinel surveillance activities and disseminates weekly reports.

Surveillance Activities

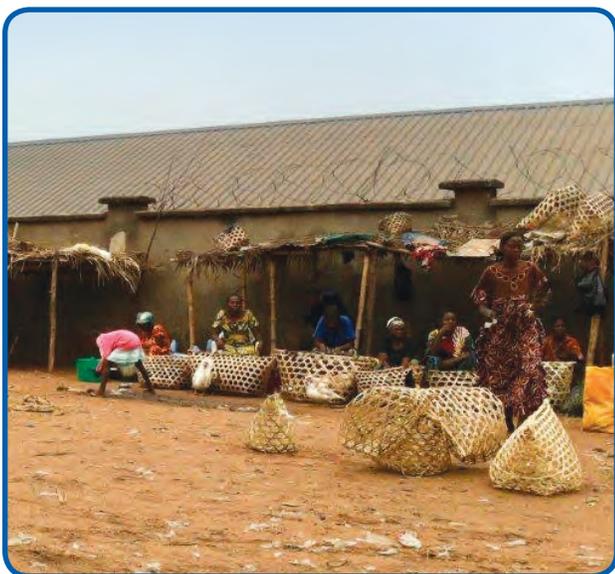
- Developed standard data collection tools and standard weekly reports which include virologic and epidemiologic data.
- Selected five new sentinel sites: two in Bas-Congo, two in Katanga and one in Kasai-Oriental. DRC's influenza sentinel surveillance system now has ten sentinel sites: two ILI specific sites and eight ILI and SARI sites.
- Notified and received samples for 4,437 influenza suspect cases: 3,246 ILI (73.2%) and 1,191 SARI (26.8%) from October 2011 to September 2012.
- Trained sentinel site staff in 2013 on completing notification forms, sampling techniques, packaging and shipping storage.

Laboratory

INRB, the DRC National Influenza Laboratory, is currently a Level 2 Biosafety Laboratory; with efforts underway to upgrade to Level 3 designation. During the previous five year project, the lab staff were trained in influenza diagnosis using real time RT-PCR techniques. Thus, the molecular diagnosis is conducted using real time RT-PCR of Influenza types A and B; the positive samples for influenza A are later sub-typed into seasonal H1N1 and H3N2, and avian H5N1 and pandemic H1N1. Weekly reports are produced and disseminated to share virological findings with all stakeholders. Since 2009, INRB has participated in reporting to the WHO External Quality Assessment with satisfactory results. Laboratory technicians from INRB were trained in the use of QIAcube for automatic viral extraction, this training was provided by an expert from Nairobi, Kenya. INRB is participating in WHO's Global Influenza Surveillance and Response System (GISRS) by providing data through WHO electronic systems.

Laboratory Activities

- Procured reagents, lab supplies and equipment.
- Established internet connectivity for the INRB influenza team.
- Received and analyzed 1,888 samples from October 2011 to September 2012. Among them, 1,180 were ILI cases (62.5%) and 708 were SARI cases (37.5%). After analysis, 93 samples were positive for influenza viruses (4.9%): 53 positive for influenza viruses A (57.0%) and 40 for influenza virus B (43.0%). Among the 53 samples positive for influenza virus A, 48 were sub-typed as seasonal influenza virus H3N2 (51.6%) and 5 as pandemic influenza virus (5.4%).
- Produced weekly virological reports and disseminated to sentinel sites and partners.



Poultry Market at Mbuji-Mayi near Dipumba Hospital.

Preparedness

In DRC, pandemic preparedness activities are carried out by the MoH in collaboration with all partners, notably CDC and WHO. Those activities consist of investigating influenza outbreaks, immunization planning for vulnerable groups, and simulation exercises.

Preparedness Activities

- Revised immunization plan for women and children. This plan has not yet been implemented due to fear of side effects.
- Received primers for H7N9 influenza virus from CDC.
- Investigated influenza outbreaks at Kahemba in the province of Bandundu and at Kingabwa on the border of the Congo River in Kinshasa.
- Organized a simulation exercise at Kisantu in Bas-Congo Province, September 2013.

Training

- Organized a short-term training session for 50 sentinel site staff members in each of the following provinces: Kinshasa, Bas-Congo, Katanga and Kasai-Oriental.
- Trained two physicians and three lab technicians from INRB on the use of QIAcube for automatic viral extraction.
- Attended the Data Management and Basic Epidemiological Analysis Training Course for African Countries in November 2011 (Johannesburg, South Africa).

Publications

Karhemere S, Tamfum M, Kabamba J, Wemakoy O. Evaluation of the sentinel surveillance system, Kinshasa, DR Congo, 2009–2011 [abstract].

Muyembe Tamfum JJ, Nkwembe E, Bi Shamamba SK et al. Sentinel surveillance for Influenza-like illness, severe acute respiratory illness, and laboratory-confirmed influenza in Kinshasa, Democratic Republic of Congo, 2009–2011. *J Infect Dis.* 2012 Dec 15;206 Suppl 1:S36–40. doi: 10.1093/infdis/jis537.