

Epidemiology, seasonality, and burden of influenza and influenza-like illness in urban and rural Kenya, 2007-2010.

Abstract:

BACKGROUND: The epidemiology and burden of influenza remain poorly defined in sub-Saharan Africa. Since 2005, the Kenya Medical Research Institute and Centers for Disease Control and Prevention-Kenya have conducted population-based infectious disease surveillance in Kibera, an urban informal settlement in Nairobi, and in Lwak, a rural community in western Kenya. **METHODS:** Nasopharyngeal and oropharyngeal swab specimens were obtained from patients who attended the study clinic and had acute lower respiratory tract (LRT) illness. Specimens were tested for influenza virus by real-time reverse-transcription polymerase chain reaction. We adjusted the incidence of influenza-associated acute LRT illness to account for patients with acute LRT illness who attended the clinic but were not sampled. **RESULTS:** From March 2007 through February 2010, 4140 cases of acute LRT illness were evaluated in Kibera, and specimens were collected from 1197 (27%); 319 (27%) were positive for influenza virus. In Lwak, there were 6733 cases of acute LRT illness, and specimens were collected from 1641 (24%); 359 (22%) were positive for influenza virus. The crude and adjusted rates of medically attended influenza-associated acute LRT illness were 6.9 and 13.6 cases per 1000 person-years, respectively, in Kibera, and 5.6 and 23.0 cases per 1000 person-years, respectively, in Lwak. In both sites, rates of influenza-associated acute LRT illness were highest among children <2 years old and lowest among adults ≥ 50 years old. **CONCLUSION:** In Kenya, the incidence of influenza-associated acute LRT illness was high in both rural and urban settings, particularly among the most vulnerable age groups