ABSTRACT

OBJECTIVE: To estimate the burden and age-specific rates of influenza-associated hospitalization in rural western Kenya.

METHODS: All 3924 patients with respiratory illness (defined as acute cough, difficulty in breathing or pleuritic chest pain) who were hospitalized between June 2007 and May 2009 in any inpatient health facility in the Kenyan district of Bondo were enrolled. Nasopharyngeal and oropharyngeal swabs were collected and tested for influenza viruses using real-time reverse transcriptase polymerase chain reaction (RT-PCR). In the calculation of annual rates, adjustments were made for enrolled patients who did not have swabs tested for influenza virus.

FINDINGS: Of the 2079 patients with tested swabs, infection with influenza virus was confirmed in 204 (10%); 176, 27 and 1 were found to be RT-PCR-positive for influenza A virus only, influenza B virus only, and both influenza A and B viruses, respectively. Among those tested for influenza virus, 6.8% of the children aged <5 years and 14.0% of the patients aged ≥5 years were found positive. The case-fatality rate among admitted patients with PCR-confirmed infection with influenza virus was 2.0%. The annual rate of hospitalization (per 100000 population) was 699.8 among patients with respiratory illness and 56.2 among patients with influenza (with 143.7, 18.8, 55.2, 65.1 and 57.3 hospitalized patients with influenza virus per 100000 people aged <5, 5-19, 20-34, 35-49 and ≥50 years, respectively).

CONCLUSION: In a rural district of western Kenya, the rate of influenza-associated hospitalization was highest among children aged less than 5 years.