



Age groups and circulation patterns of Influenza and other respiratory viruses from Severe Acute Respiratory Infections admitted in 4 hospitals of the Influenza surveillance Network of Cote d'Ivoire in 2018

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Site presentation

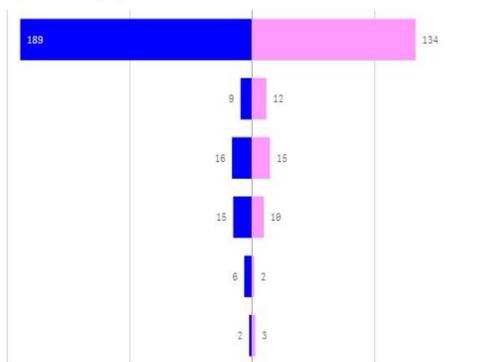
In Cote d'Ivoire, the Global Influenza Hospital Surveillance Network involves 4 hospitals: The Pediatric clinic of the University Teaching Hospital of Treichville, and the General Hospital of Yopougon Attie are located in Abidjan. The University Teaching Hospital of Bouake and the regional hospital of Man are located in the middle and the west parts of the country. All the hospitals receive both adults and children from districts covered except the Pediatric clinic. The transmission of influenza is continuous throughout the year with peaks during the rainy season (April to July and October to November).

Methods

Enrolment was based on case definition of ILI. Also the eligibility of patient was based on their resident, belonging to the source population base. For each case enrolled, the physician correctly filled the case form and realizes a nasopharyngeal swab for all patients in case they give consent. Multiplex real-time RT-PCR was performed by the lab to detect influenza or other respiratory viruses (coronavirus, metapneumovirus, respiratory syncytial viruses, adenovirus, parainfluenza viruses, rhinovirus). Epidemiologic analysis are done on severe acute respiratory cases by age groups like vaccine effectiveness of influenza seasonal vaccines on children under 5 years. With graphs we plotted the circulation pattern of Influenza and other respiratory strains.

Results

#Patient by age and gender for Ivory Coast
Population : Consent (413)



Based on 413 patients included:

- **Under 5 years patients are 78%**
- ✓ 46% were male
- ✓ 32% were female
- **Patients with 65 years and over were 3%**

Figure 1: Distribution of patients included in the study by age groups, from January to September 2018, Cote d'Ivoire

Patient distribution by age and severity
Population : Included (412)

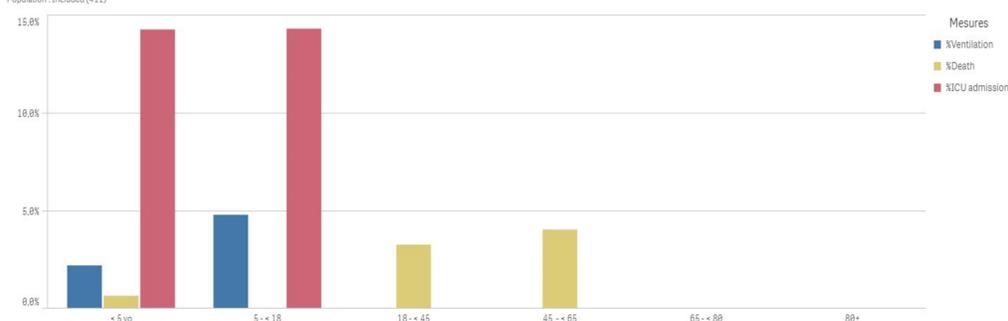


Figure 2: Evolution by age of patients with severe acute respiratory, from January to September 2018, Cote d'Ivoire

- **43.3% of included patients had severe infections.** They were under 65 years:
- **28.5% were admitted in ICU sections** mainly the < 5 years (14.2%) and 5-<18 years (14.3%)
- **7.8% were dead** from the groups of < 5 years (0.6%), 18-44 years (3.2%) and 45-64 years (4%)
- **6.9% were ventilated** in the groups of 5-<18 years (4.8%) and < 5 years (2.2%)

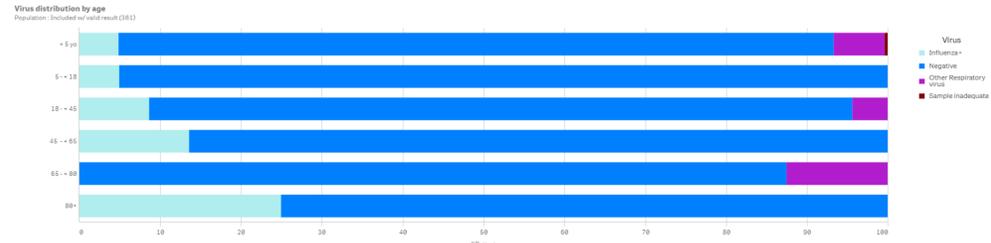


Figure 3: Influenza cases and other respiratory cases by age groups, from January to September 2018, Cote d'Ivoire

Virus distribution per time period
Population : LCI (21)

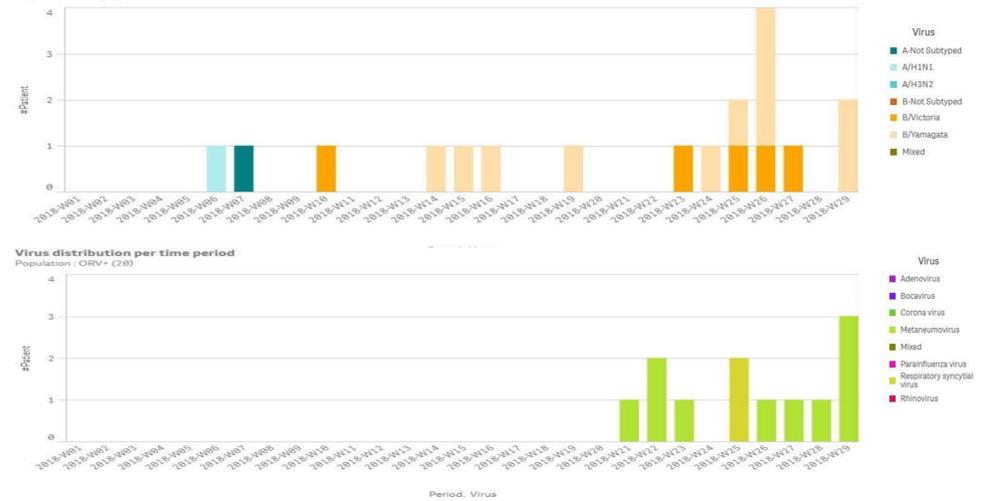


Fig. 4: Influenza and other respiratory viruses circulation pattern, from week 1 to 29, 2018 Cote d'Ivoire

In addition to influenza viruses, other respiratory viruses circulate in children under 5 and 18-45 year olds.

Virus were concentrated from w21 to w29 with a peak for influenza viruses at w26 and another peak at w29 for other respiratory viruses

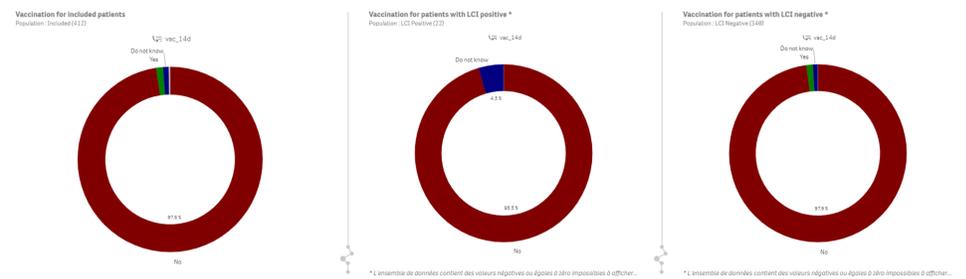


Fig. 5: Vaccination status of patients included, from week 1 to 30, 2018 Cote d'Ivoire

- 5 patients are vaccinated against influenza
- No influenza cases have been reported in the vaccinated group
- 1 case of Metapneumovirus isolated from a vaccinated <6 months patient
- Vaccine effectiveness could not be estimated given to the very low number of vaccinated patients

Key aspects & challenges

- An important part of patients included in the study aged under 5 years.
- Severe cases were observed in young and adult groups.
- Influenza and other respiratory virus peaked in rainy season.
- Very few patients are vaccinated against influenza

Challenges are :

Data collection of some indicators in the surveillance form

Collect weekly admission from all cases in hospitals remain the main challenge to estimate hospitalization rate.