

## Influenza-Associated Severity Factors from inpatients in Cote d'Ivoire, 2018-2019

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### Site presentation

Cote d'Ivoire is a West Africa country located in the intertropical zone, in the Gulf of Guinea. Between 4° 30' - 10° 30' N and 2° 30' - 8° 30' W, its area is 322,463 km<sup>2</sup>.

The country is divided into 4 climatic zones: the Attieen climate over the southern, the Baouleen climate over the center, the equatorial climate over the northern zone and the mountain climate in the West. In these climatic zones, different dry and rainy seasons follow from one period to another. The average annual rainfall varies from 900 mm to 2300 mm. Influenza surveillance system are set up in country since 2007. Four hospitals are involved in the Global Influenza Hospital Surveillance Network. All of them are screened both children and/or adults. Influenza transmission is continuous throughout the year with 2 peaks during December to February and from May to June.

### 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 seriousness indicators of the OpenHealth® analysis platform.

### Results

- 520 cases, 5 deaths
- 39 cases of influenza including 1 death

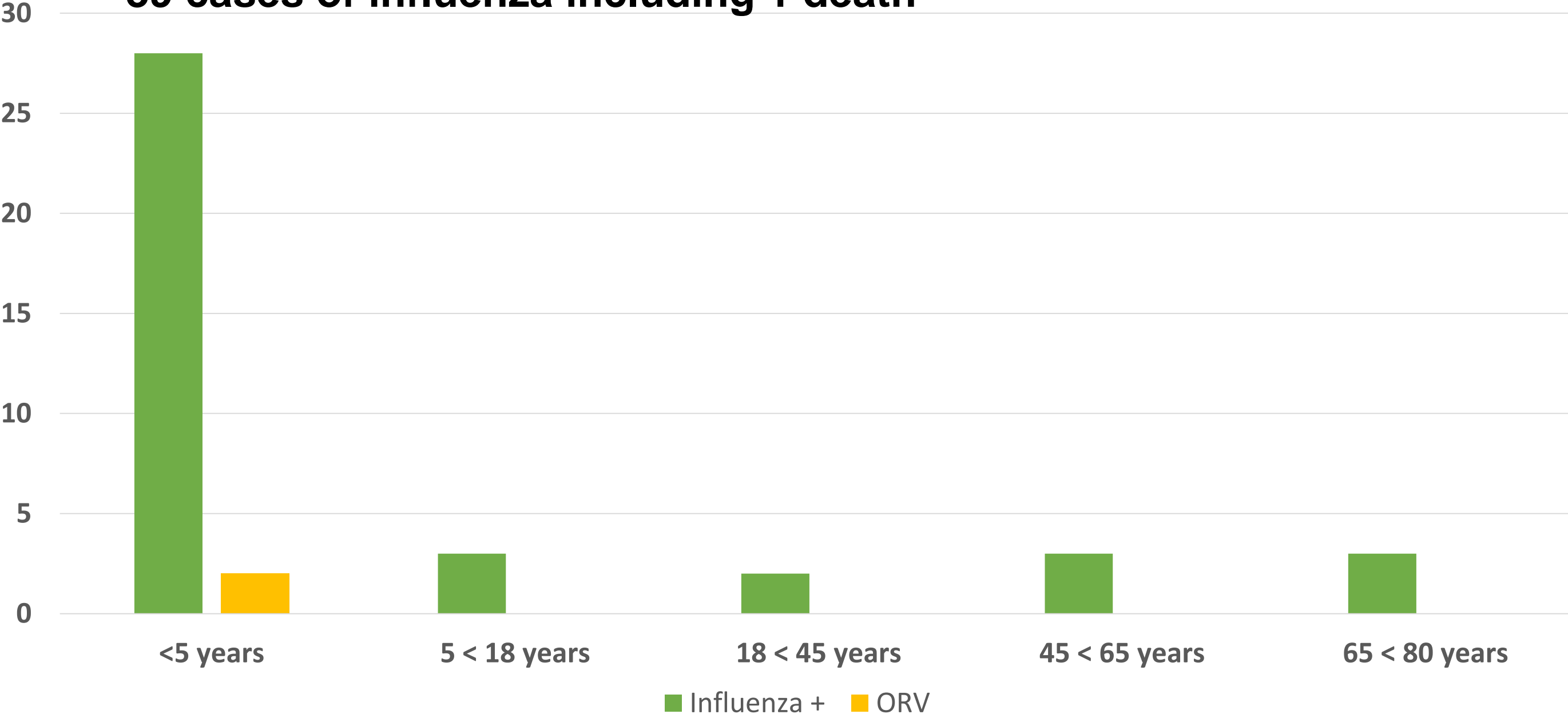


Figure 1: Influenza and other respiratory viruses by age groups, from september 2018 to August 2019, Cote d'Ivoire (n=41)

- The positivity rate for influenza is 39/520 (7.5%).
- Influenza cases were found in each age groups.
- The most part of influenza cases was observed in:
  - group of the under 5 years (28 cases, 8%), and those of
  - 65<80 years (3 cases, 12.5%).

### Severity result

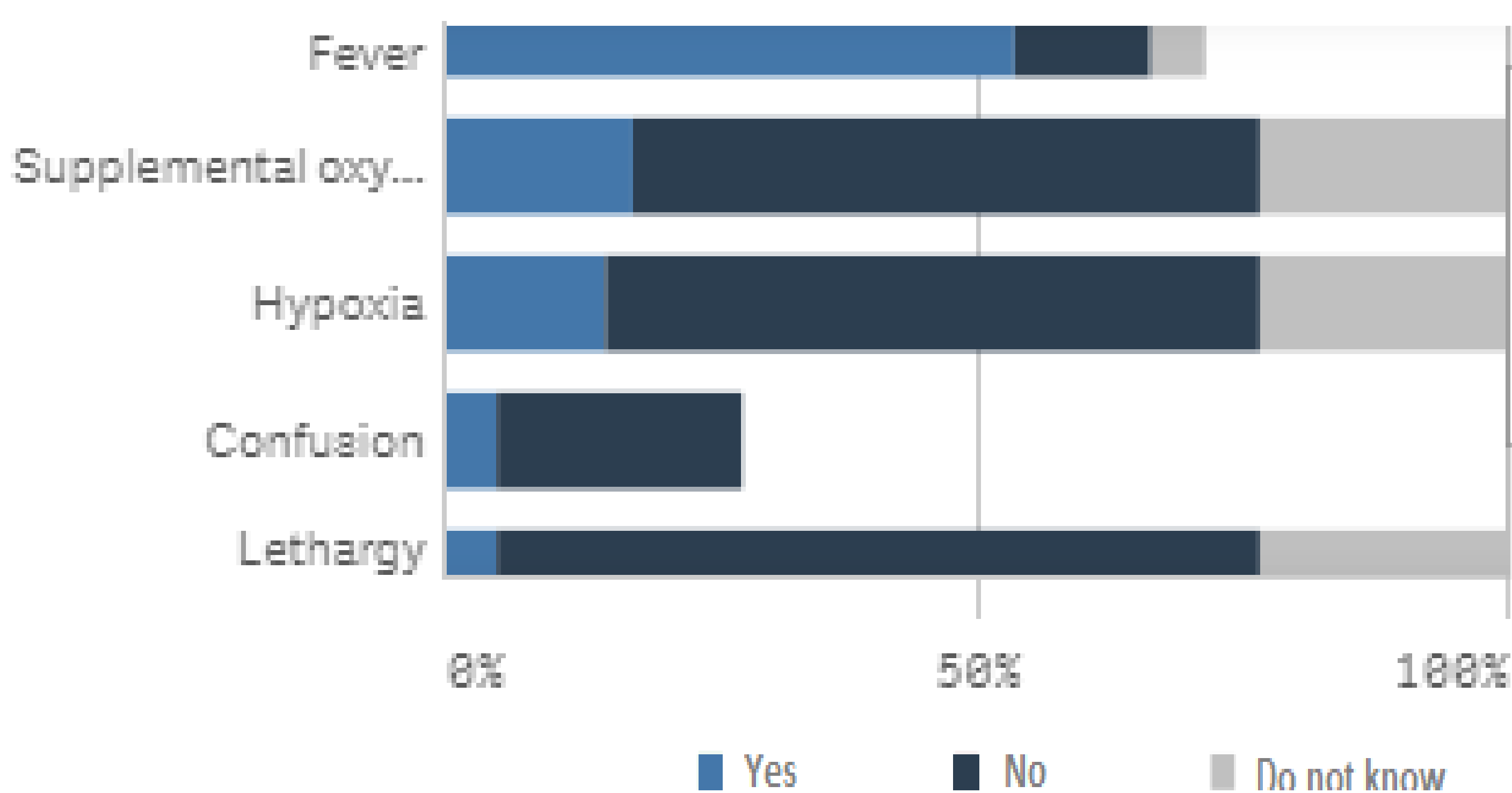
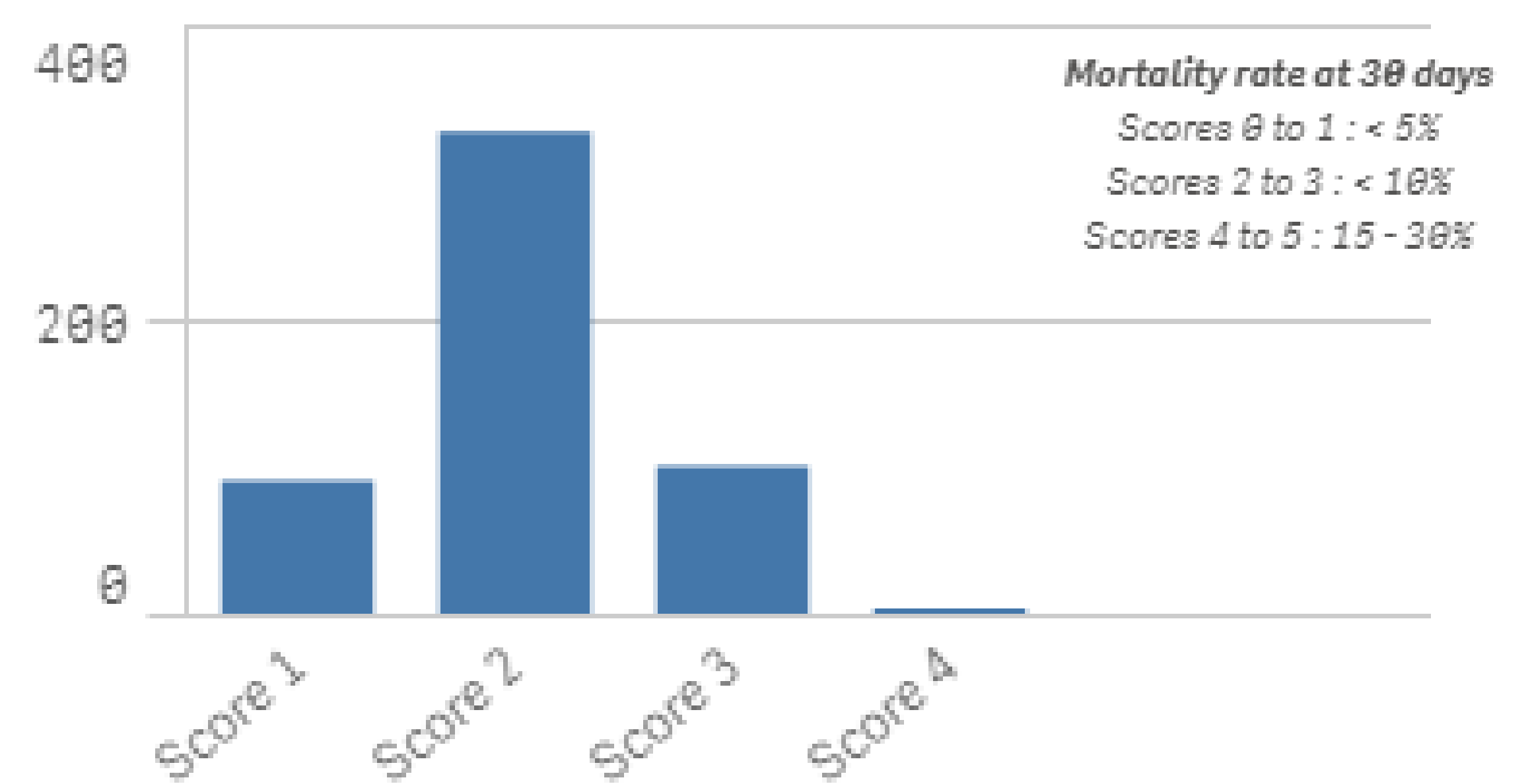


Figure 2: Severe signs for inpatients with influenza, from september 2019 to August 2019, Cote d'Ivoire (n=39)

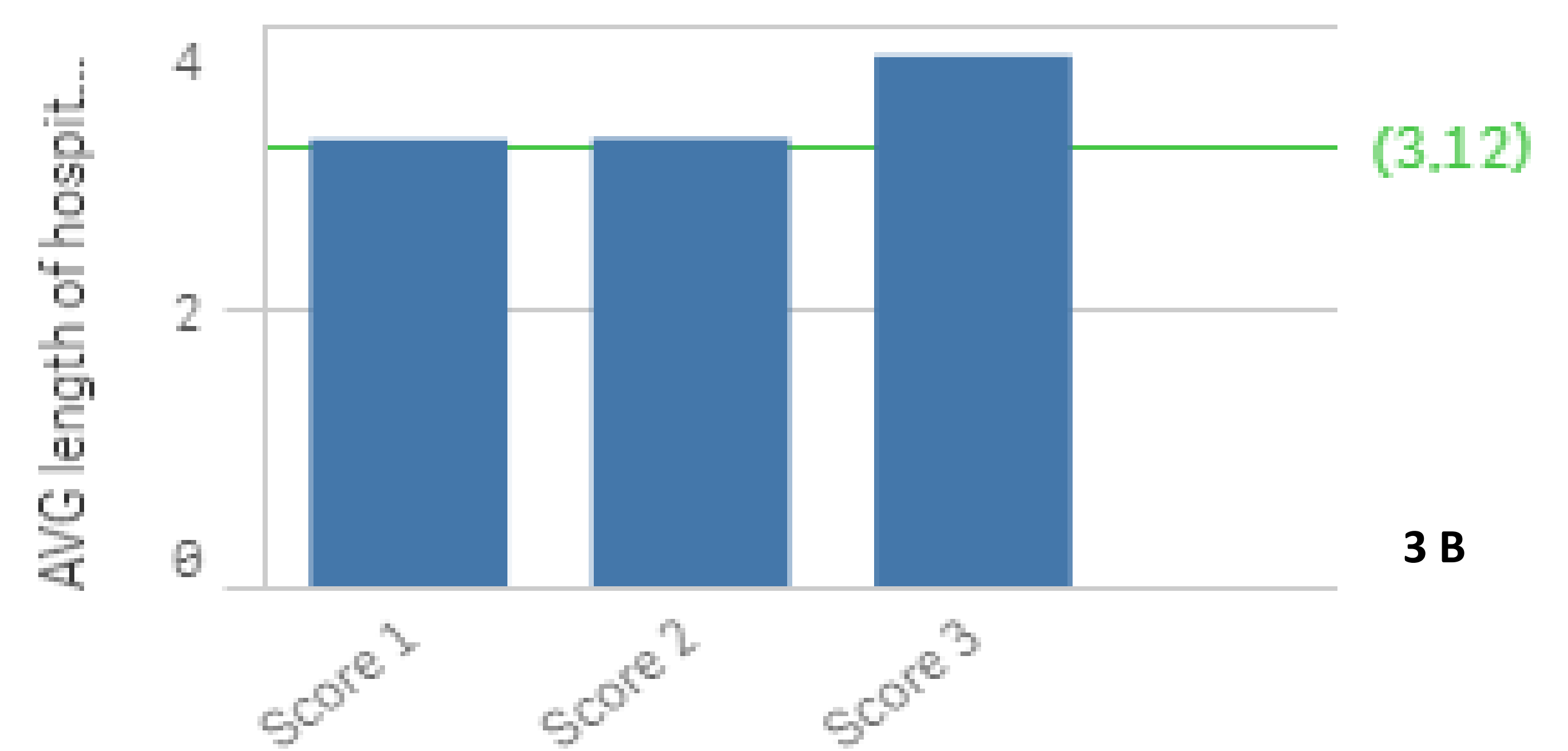
- Inpatients with serious signs were under 5 years (72%).
- The serious cases of influenza had Fever (54%), 18% were supplemented with oxygen, 15% had hypoxia and 5% were lethargic and the same proportion were confused.

### Patient distribution by severity score (CURB-65)



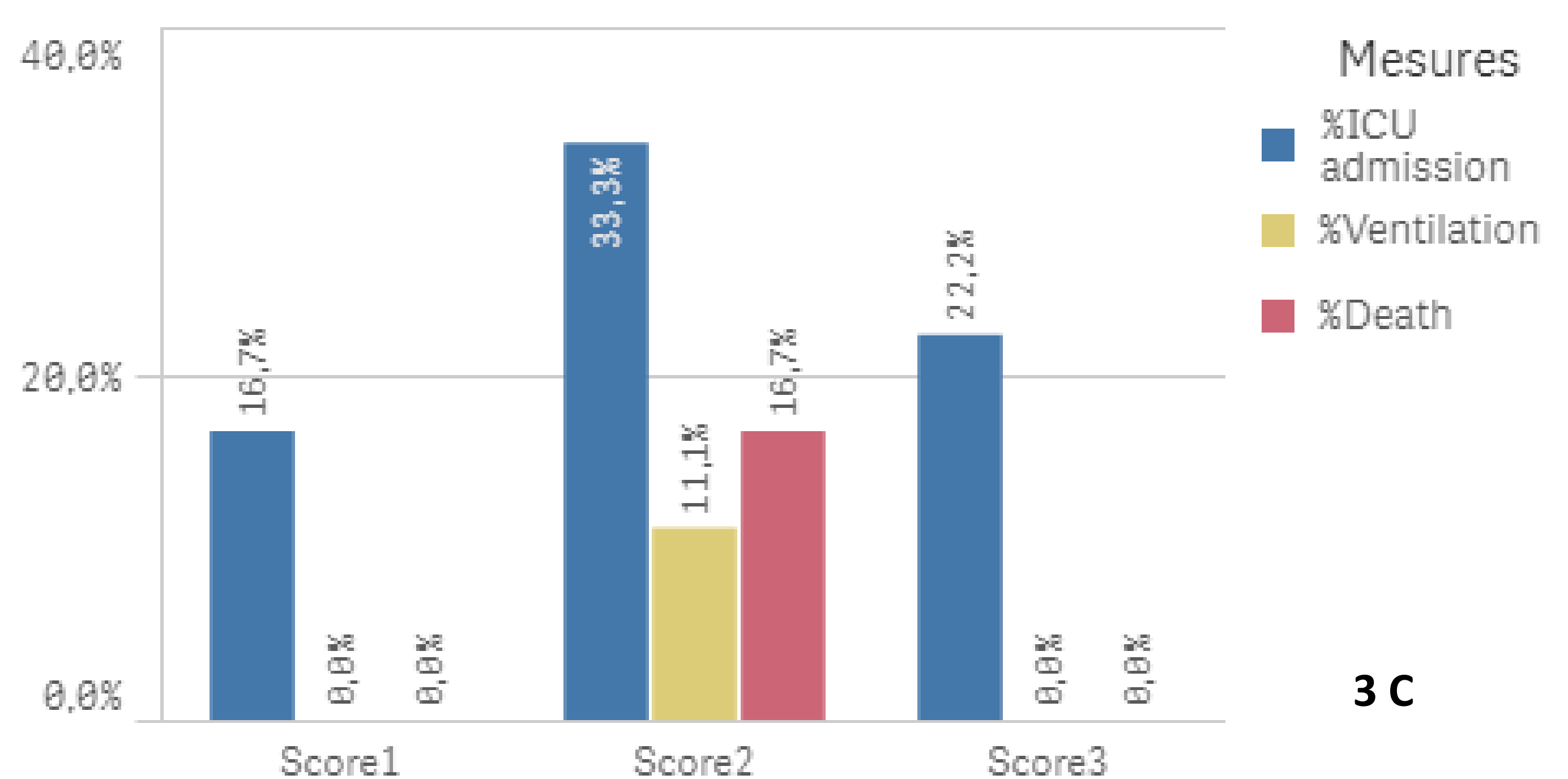
3 A

### Patient distribution by average length...



3 B

### Level of health care



3 C

Figure 3: Severity measures for inpatients, from september 2019 to August 2019, Cote d'Ivoire (n= 520)

Inpatients with influenza at different scores exceeded the threshold of AVG length of hospitalization (3.12 days), especially those with score 3.

### Key aspects & challenges

- Influenza cases predominated in under 5 years and 65-80 years.
- Severity criteria: Hypoxia.
- Around 1/5 of patients have high risk of death at 30 days (Score 3).

#### Challenges :

- Pandemic Influenza Severity Assessment (PISA)
- Estimate the mortality associated with influenza