

GIHSN : Results of the 2017-2018 season, Lyon France

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Site presentation

- ✓ Our department, the department of Hygiene, Epidemiology and Prevention, belongs to the university-affiliated Edouard Herriot hospital (Lyon-France). The latter is the largest hospital in the Rhône-Alpes region with 1100 beds and 102 units located in 32 buildings.
- ✓ The main missions of this department are directed towards surveillance of nosocomial infections, development of practical recommendations to reduce the risks of hospital acquired infections, and continuous improvement of the quality of care. The department is also involved in a large number of research projects on community-acquired infections including influenza and other respiratory pathogens. In particular, we have extensive experience in conducting surveillance and epidemiology of nosocomial influenza.
- ✓ Indeed, since 2004, a surveillance of nosocomial influenza in patients and health-care workers has been set up and is still on-going. The main objective of this surveillance is to estimate the risk of hospital acquired-ILI for hospitalized patients in short-stay units, and to identify determinants associated with nosocomial Influenza infection. Determinants from the community (influenza incidence, vaccine coverage, etc.) and from the hospital (underlying diseases, two-bed rooms, vaccine coverage among HCW, etc.) are explored for description and also initiate preventive measures to avoid hospital outbreak of influenza. Our department is involved in vaccine effectiveness measurement. Many publications from the team are available on PubMed.
- ✓ Our experience with GIHSN started in the 2015-2016 influenza season via a national network surveillance. The GIHSN protocol has therefore been already used and has been an advantage for the smooth running of the study for this season. The study focused on adults (≥ 18 years old) of whom elderly and high-risk groups (diabetics, transplanted individuals, etc...).

Methods

Design: Prospective epidemiological active surveillance study

Study setting and population: The study will take place in Edouard Herriot hospital. All adults patients (≥ 18 years) that fulfilled the GIHSN eligibility criteria and hospitalized in the previous 24 hours was identified by a doctor via hospital admission registries, chart review or available records.

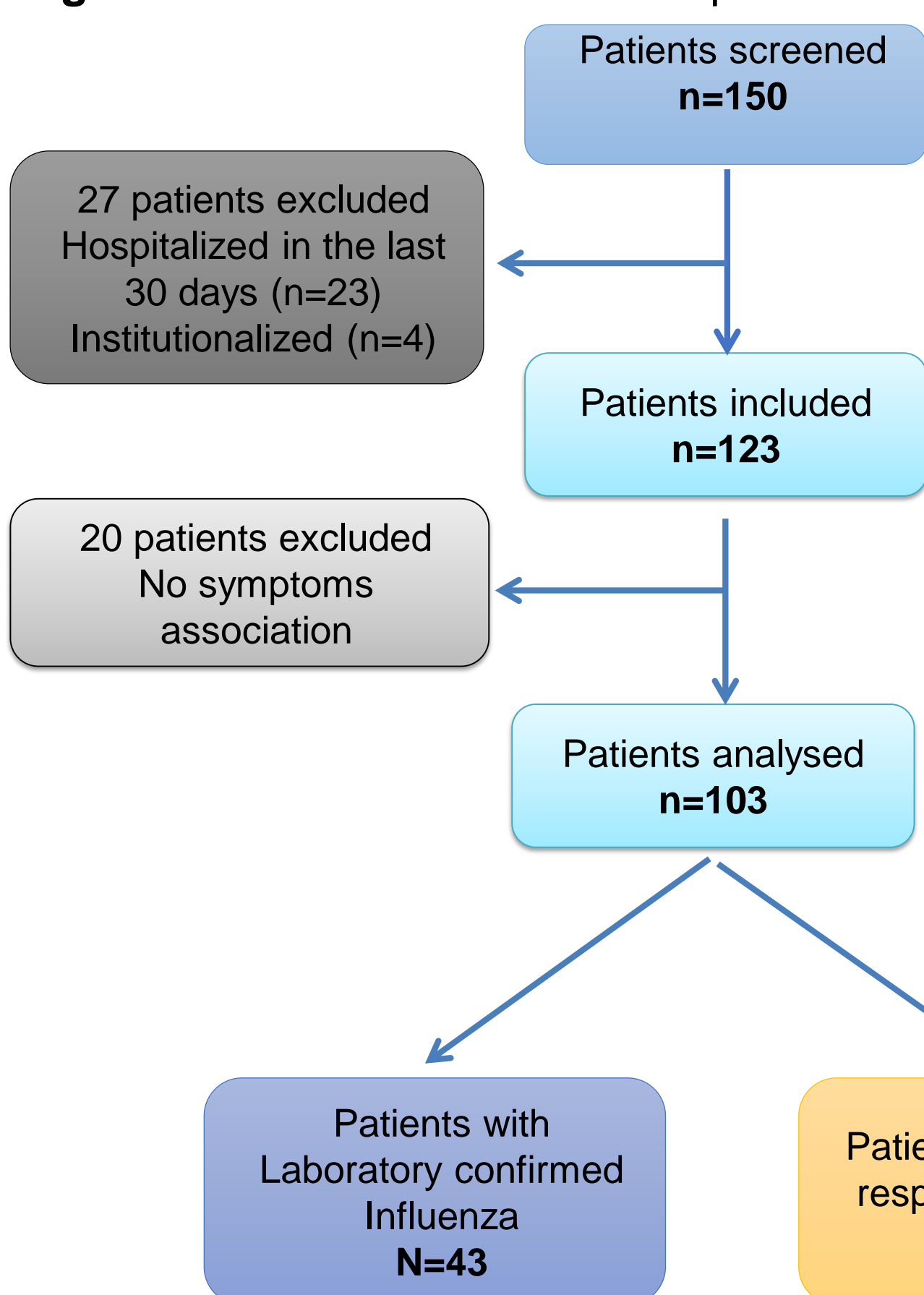
Swabbing procedures: A nasopharyngeal swab was performed by the staff of the unit for all patients after getting the signed consent form. The nasal swab was sent to the national influenza reference center. Multiplex real-time RT-PCR was performed on the samples to detect the presence of influenza A (H1N1 or H3N2), influenza B (B/Yamagata, B/Victoria). All samples were then kept at -20°C for future analysis of other respiratory viruses.

Data collection: Trained research nurses or clinical research associates collected relevant clinical and socio-demographic information by a combination of face-to-face interview of patients and attending physicians, and by reviewing clinical records.

Vaccination status: Information on influenza vaccination status (vaccinated or not and date of vaccination) for the studied influenza season was obtained by asking the patient (or representative). As requested by the GIHSN core protocol, we validated this information by existing registers, vaccination cards or through contacting the person who the vaccine was administered (patient's general practitioner, nurse, specialist or pharmacist).

Results

Figure 1 - Flow chart of inclusion patients



Patients were included from November 9, 2017 to April 13, 2018 according to the data from virological surveillance system. In all, **150 patients were screened** during the 2017-18 season. Among them, **123 were included** of which **43 (35%) laboratory confirmed influenza (LCI)** and 12 (10%) with other respiratory viruses (ORV) (Figure 1). The **vaccine coverage** for this season was **40% for patients analyzed**.

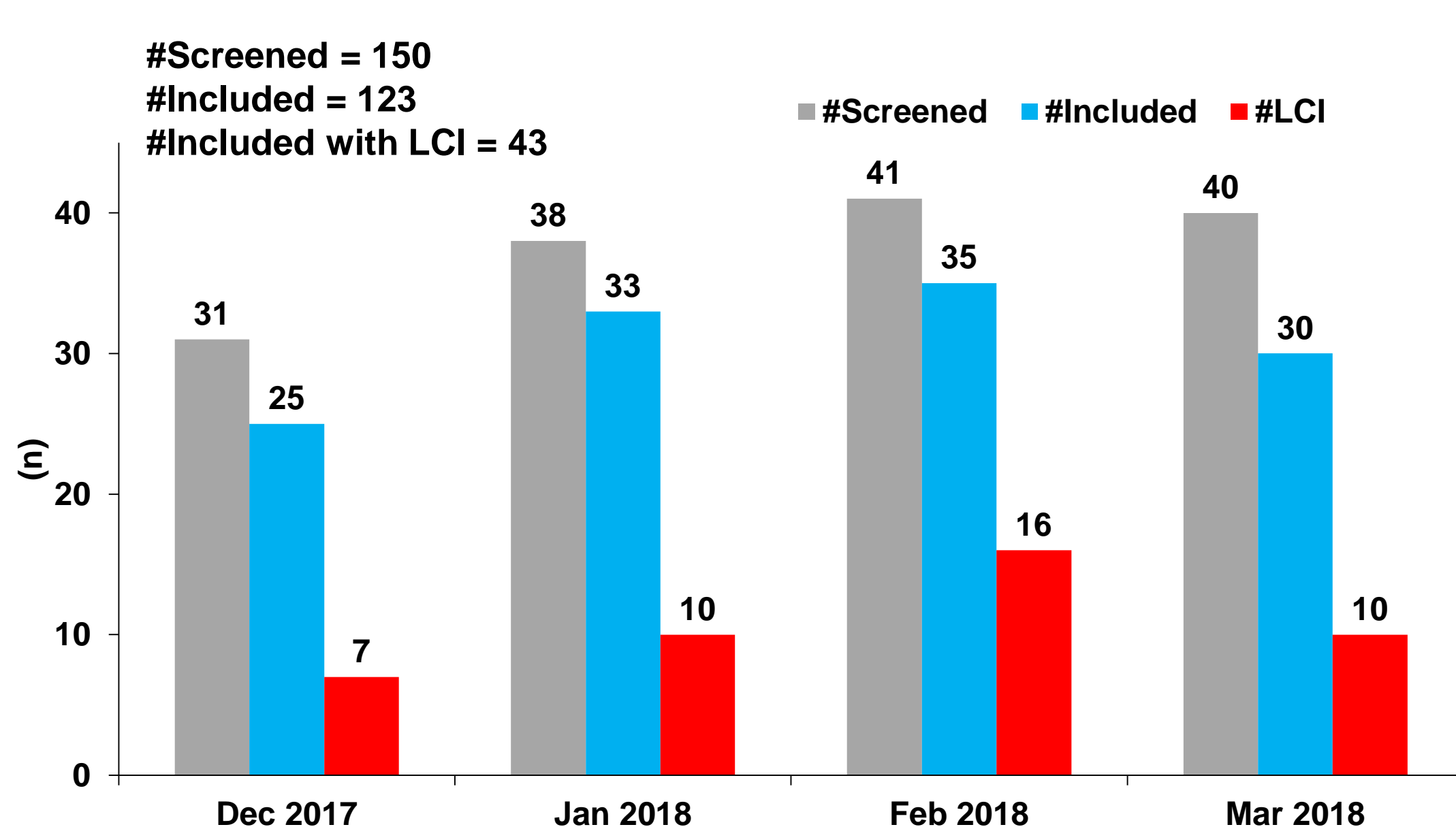


Figure 2 - Distribution of patient by criteria and month

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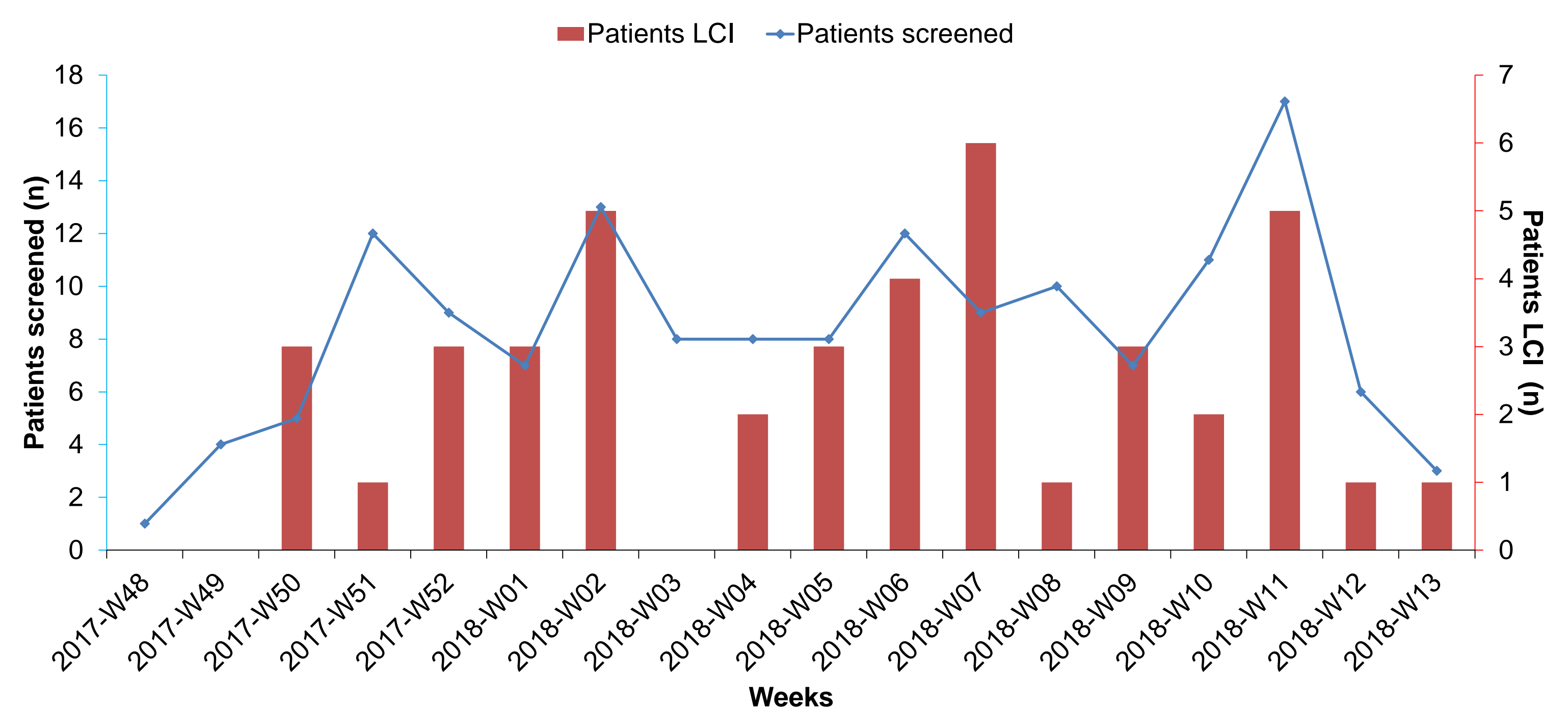


Figure 3 - Evolution of number of patients screened and patient with LCI by weeks (n=150)

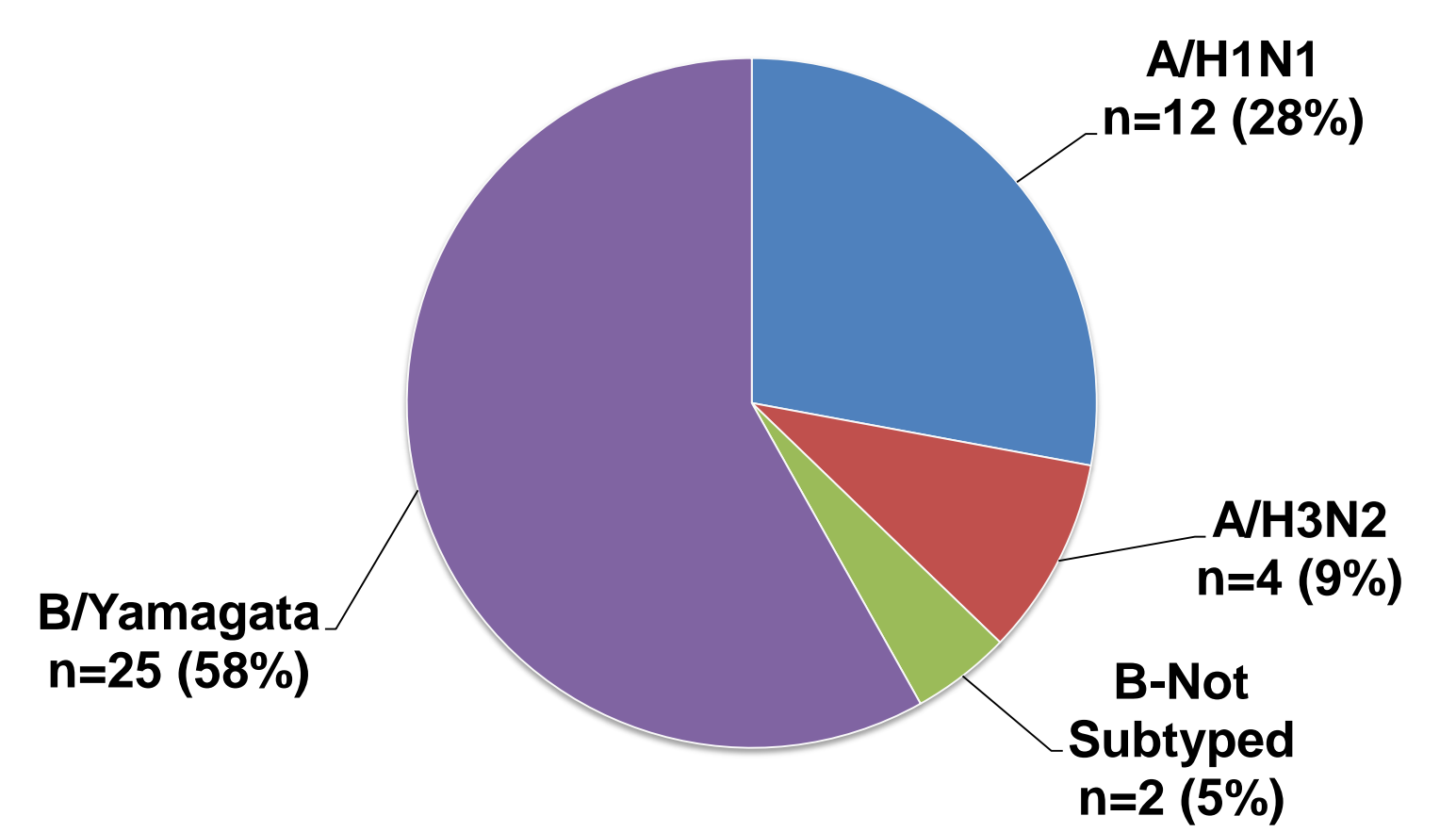


Figure 4 - Influenza distribution by type and subtype status (n=43)

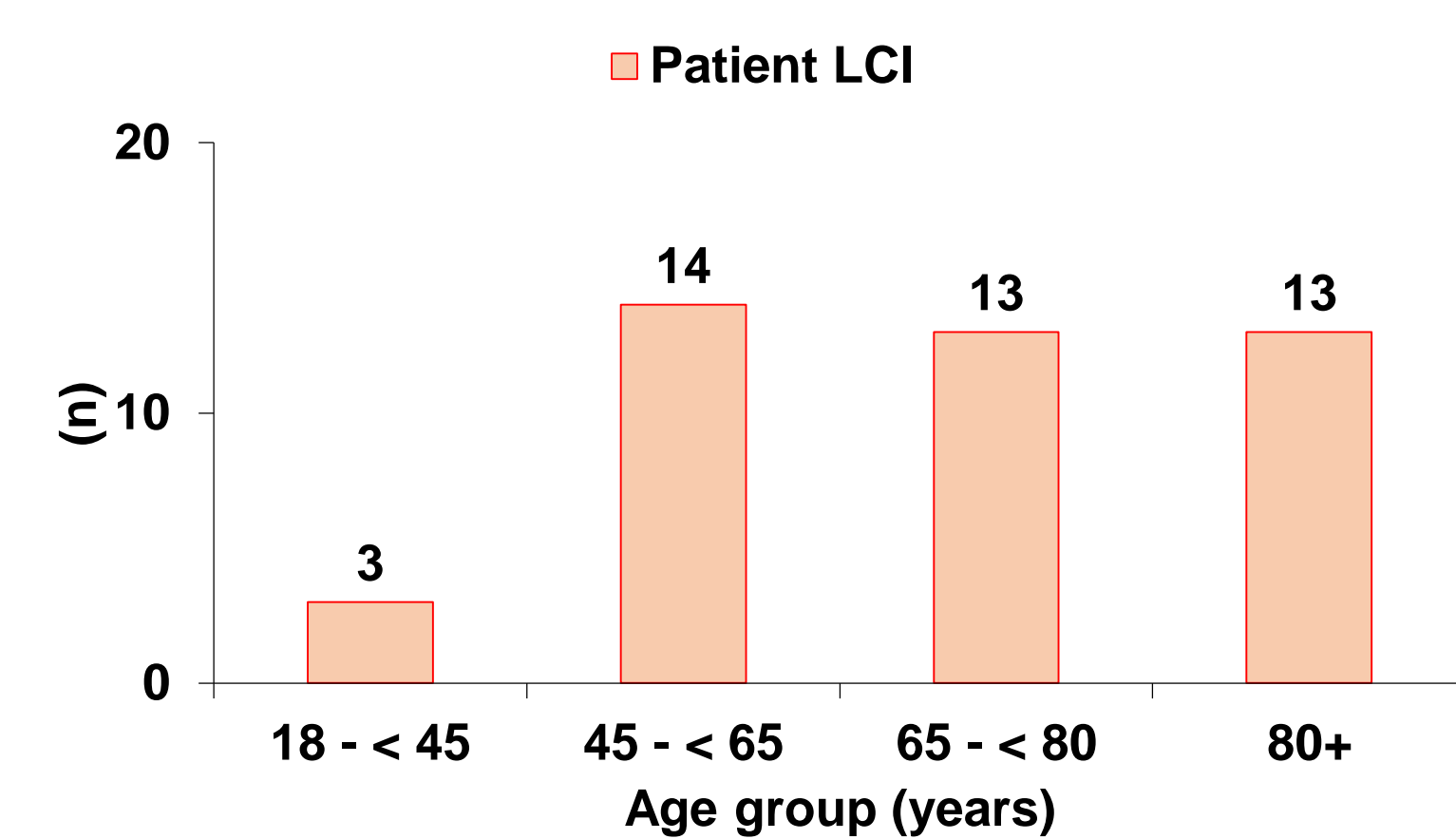


Figure 5 - Patient LCI distribution by age group (n=43)

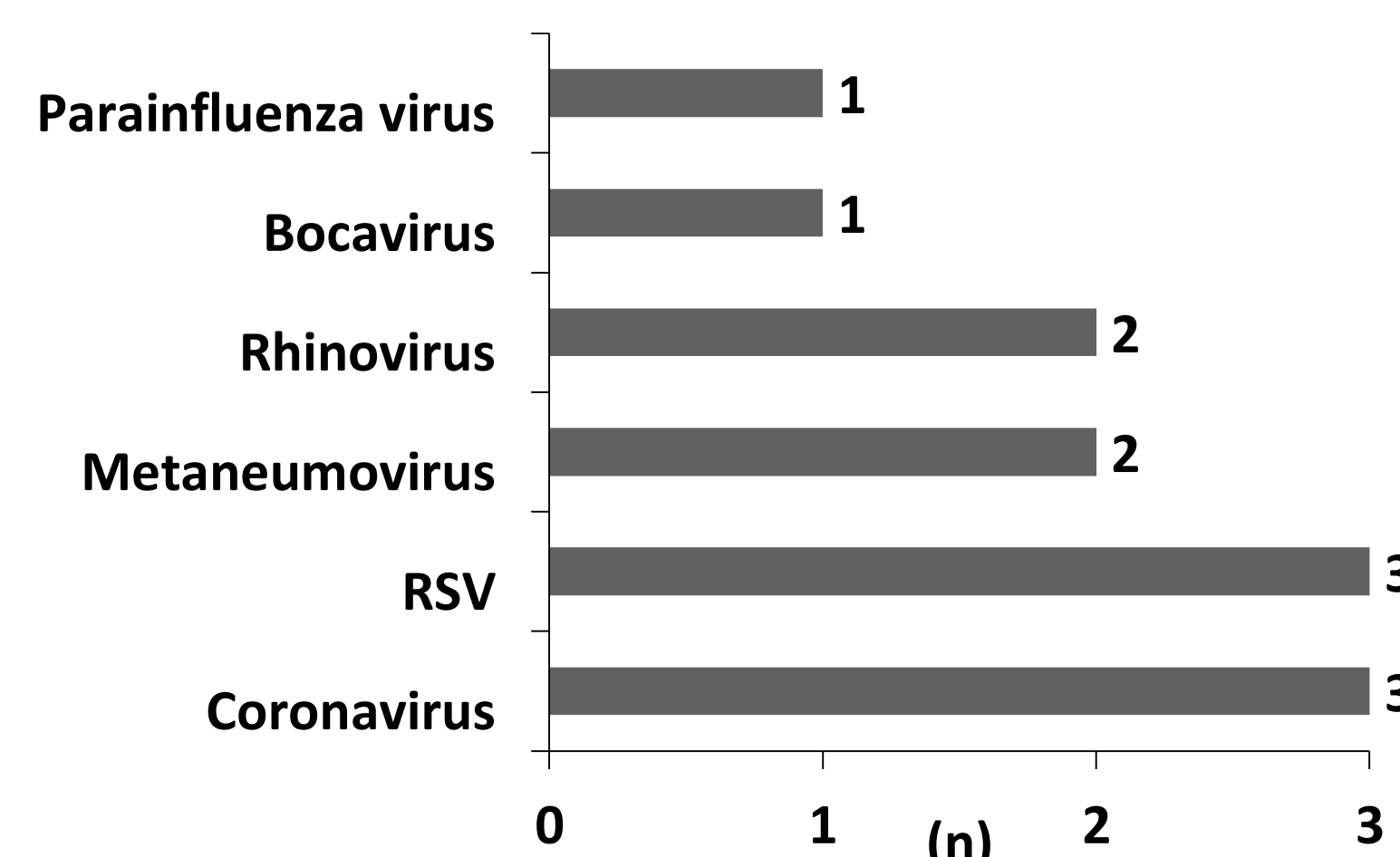


Figure 6 - Other respiratory viruses (n=12)

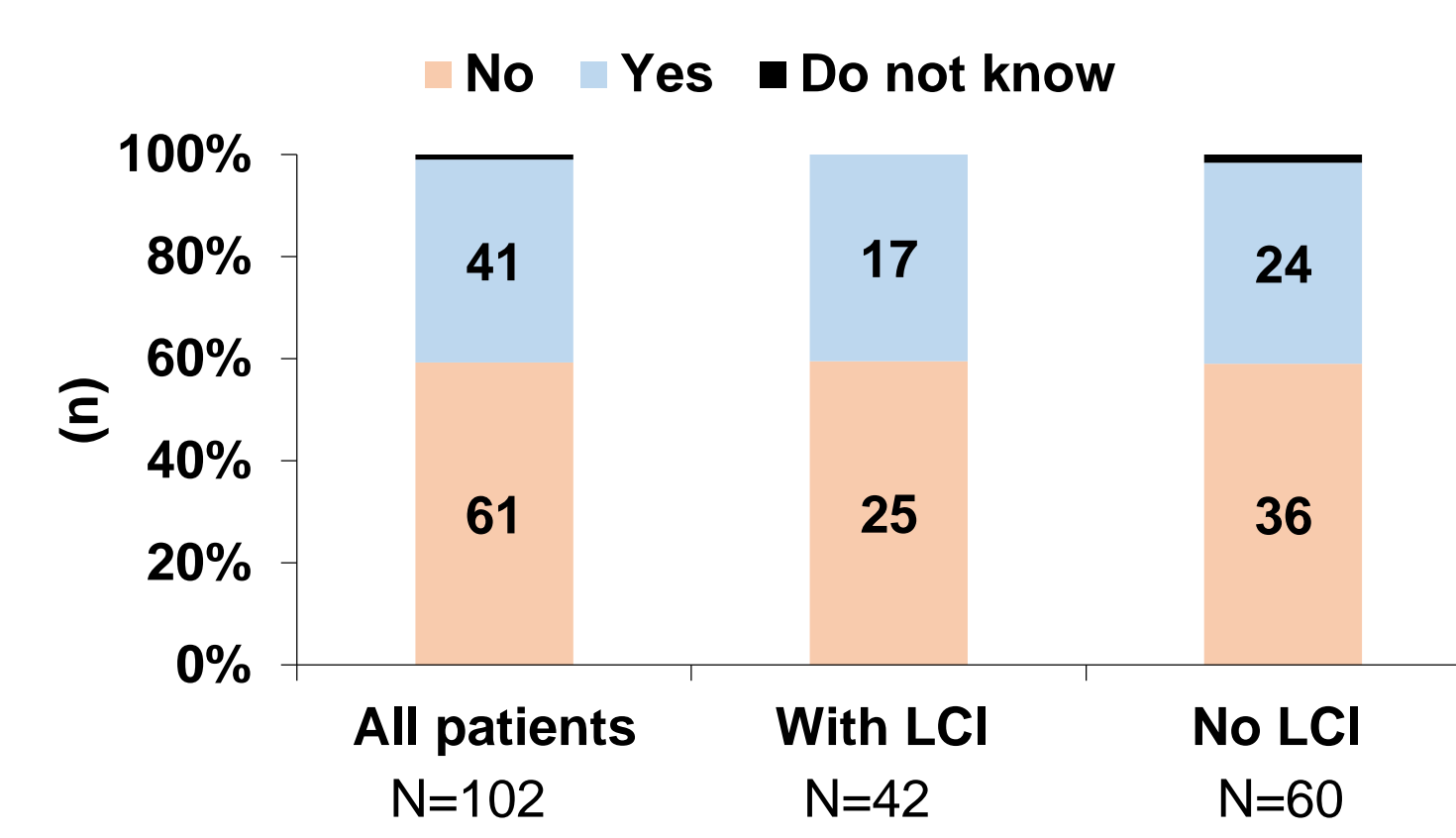
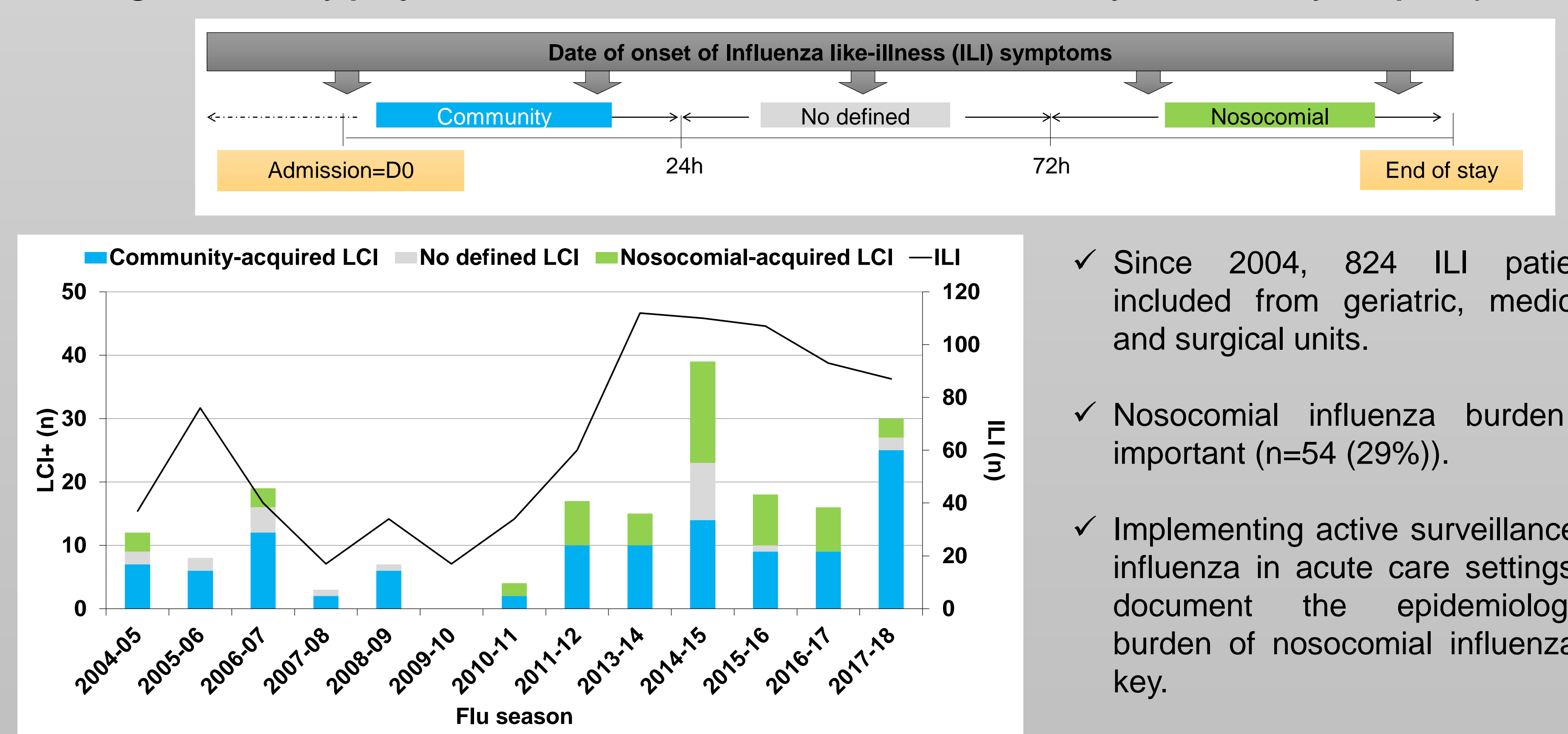


Figure 7 - Vaccine coverage by type of patient (n=102)

Challenges - ancillary project : surveillance of nosocomial influenza at Lyon University hospital (2004-18)



- ✓ Since 2004, 824 ILI patients included from geriatric, medicine and surgical units.
- ✓ Nosocomial influenza burden is important (n=54 (29%)).
- ✓ Implementing active surveillance of influenza in acute care settings to document the epidemiological burden of nosocomial influenza is key.