

Influenza severe cases in hospitals, between 2014 and 2016 in Portugal

Portuguese Laboratory Network for the Diagnosis of Influenza Infection

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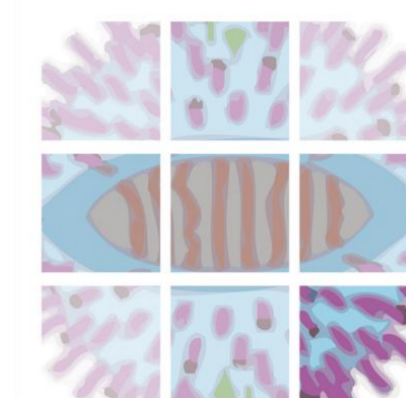
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Background:

Since 2009, the Portuguese Laboratory Network for Influenza Diagnosis (PLNID) has integrated 15 Laboratories in Portugal mainland and Atlantic Islands of Azores and Madeira. This PLNID added an important contribute to the National Influenza Surveillance Program regarding severe and hospitalized influenza cases. The study described influenza virus types/subtypes detected in influenza like illness (ILI) cases: outpatients (Outp), hospitalized (Hosp), and intensive care units (ICU), between 2014 and 2016.

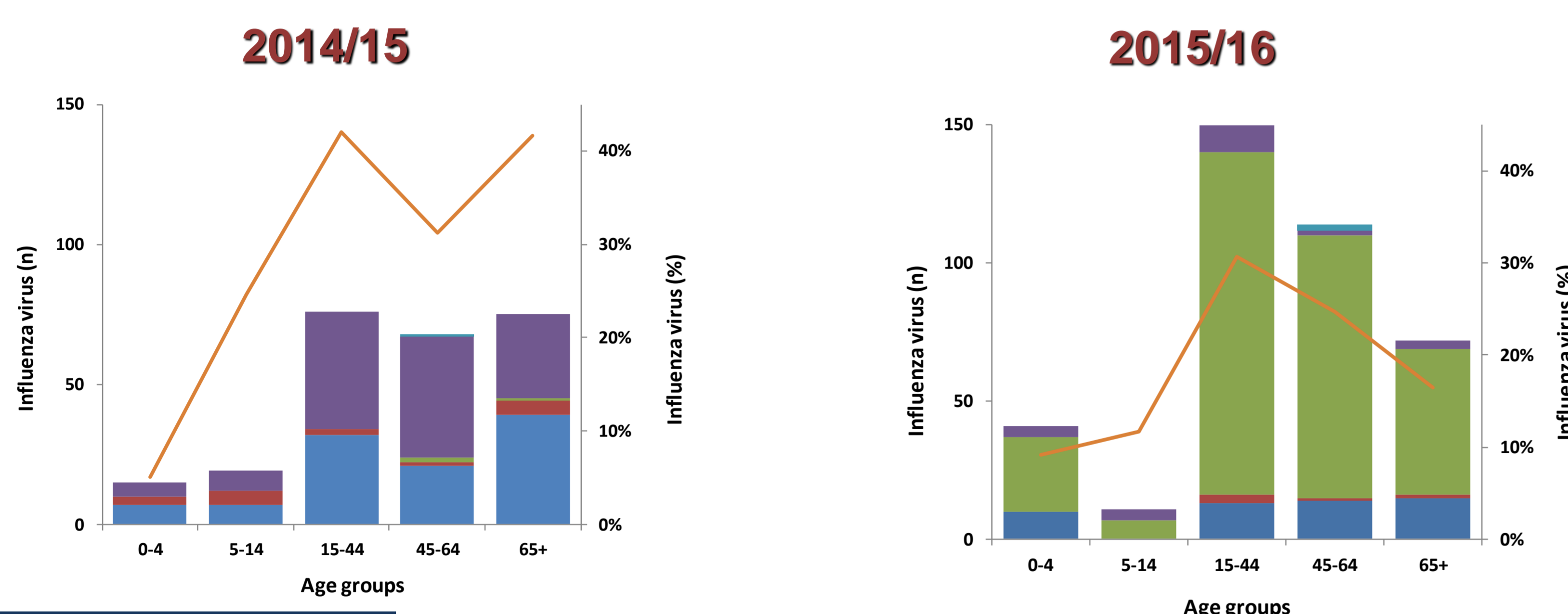
Methods:

The PLNID performs influenza virus diagnosis by biomolecular methodologies and weekly reports, to the National Influenza Reference Laboratory, ILI cases tested for influenza. Reports include data on detected types/subtypes, hospital assistance, antiviral therapeutics, and information on death outcome. Were reported during two winter seasons 8059 ILI cases, being 3560 cases in 2014/15 (1204 in Outp, 1750 Hosp, and 606 in ICU) and 4499 cases in 2015/16 (1933 in Outp, 1826 Hosp, and 740 in ICU).

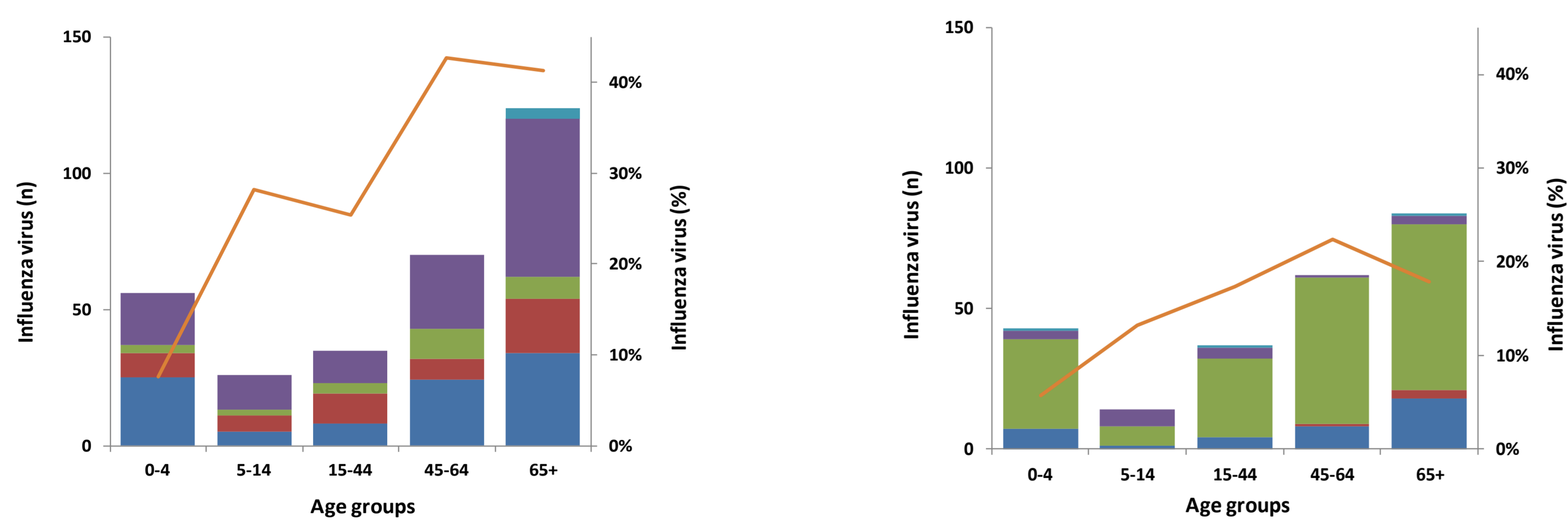
Table 1 – Number and proportion of influenza cases in outpatients, hospitalized and in ICU patients during 2014/15 and 2015/16 (weeks 40/2015 to 12/2016) reported by the Portuguese Laboratory Network for Influenza Diagnosis.

Medical ward	Influenza Positive			
	2014/15		2015/16 (weeks 40/2015 to 12/2016)	
	%	n/n total	%	n/n total
Outpatients	21	253/1204	20	382/1933
Hospitalized	18	311/1750	13	235/1826
ICU	18	109/606	16	117/740
All patients	19	673/3560	16	734/4499

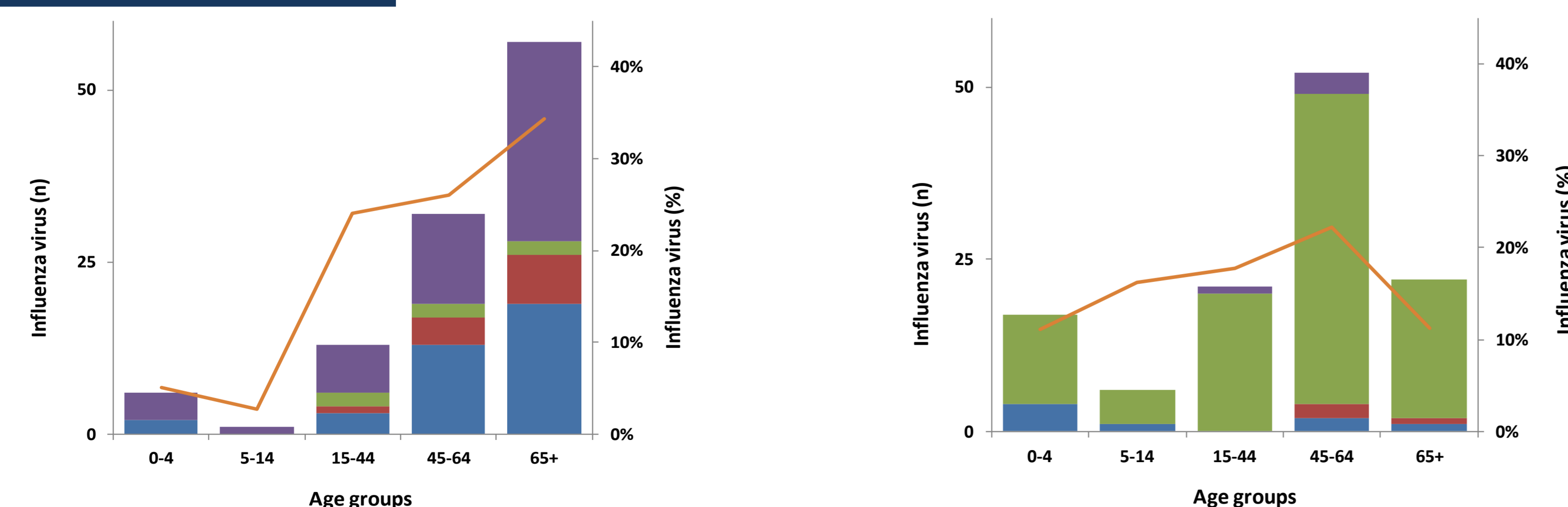
Outpatient



Hospitalized



ICU



Results:

▪ The higher percentage of influenza positive cases were detected in Outp in both seasons, 21% during 2014/15 and 20% in 2015/16.

2014/15

▪ Influenza B and A(H3) co circulated. Influenza cases were more frequent in adults. Individuals older than 65 years old required more hospitalizations, even in ICU.

▪ Even when influenza A is not the dominant virus, correlates with higher detection rate in hospitalized cases (Hosp and UCI), with higher frequencies in adults older than 44.

2015/16

▪ Influenza A(H1)pdm09 was the dominant virus. Influenza cases were mainly detected in individuals between 15-64 years old.

▪ Highest proportion of influenza positive cases with hospitalization in ICU were observed in adults between 45-64 years, majority associated with influenza A(H1).

▪ Influenza B represented a higher proportion of flu cases in younger age groups: 0-4 and 5-14 years old. Detections of influenza B increased till the end of the season.

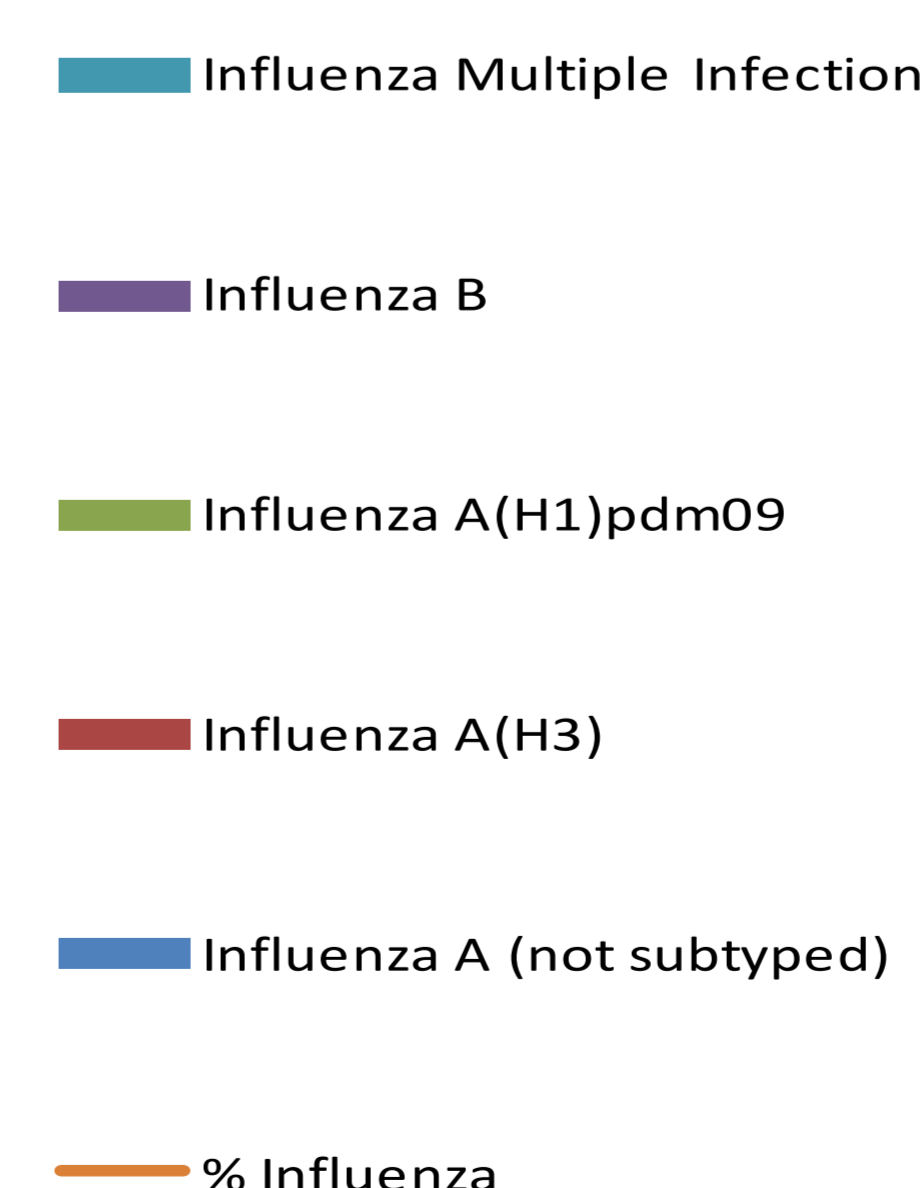


Figure 1 – Number and proportion of influenza cases by age group detected in outpatient, hospitalized and ICU patients during 2014/15 and 2015/16 (weeks 40/2015 to 12/2016) reported by the Portuguese Laboratory Network for Influenza Diagnosis.

Conclusions:

This study highlights the correlation of the influenza virus type/subtype that circulates in each season with the possible need for hospitalization and intensive care in special groups of the population. Circulation of influenza A subtypes can cause more frequent disease in individuals older than 45 [A(H1)pdm09] in 45-64 and A(H3) in 65+, with need of hospitalization including intensive care. On the other hand, influenza B is more frequently associated with less severe cases and with infection in children and younger adults. Influenza B circulation might predict lower number of hospitalizations. The identification of influenza type in circulation, by PLNID in each season, could guide action planning measures in population health care.