

Influenza activity in Portugal

2010/2011 season

Paulo Gonçalves¹; Ausenda Machado²; Baltazar Nunes²; Patrícia Conde¹; Pedro Pechirra¹; Raquel Guiomar¹

¹Laboratório Nacional de Referência para o Vírus da Gripe, Departamento de Doenças Infecciosas

²Departamento de Epidemiologia
Instituto Nacional de Saúde Dr. Ricardo Jorge
Lisboa, Portugal



Background

Influenza activity in Portugal has been monitored since 1953 at the National Institute of Health. Clinical and virological data is analysed and Influenza-like illness (ILI) incidence rates are estimated weekly. Information is forwarded to National Health Authorities, contributing for the management of the disease. The National Influenza Surveillance Programme collects and integrates information generated through 2 sentinel surveillance structures, the Network of Sentinel Medical Practitioners (since 1990) and the Network of Emergency Units (since 1999), and a Network of Laboratories for Influenza A(H1N1)2009 Diagnosis that has been operating since the 2009/2010 pandemic and is mainly focused on the diagnosis of the new influenza A(H1N1)2009 strain. The results obtained through this Network of Laboratories are presented elsewhere (please see poster PO44). Here we provide a snapshot of the influenza activity in Portugal during the 2010/2011 winter, based on the information generated through the sentinel components of the Portuguese Influenza Surveillance System.

Materials and Methods

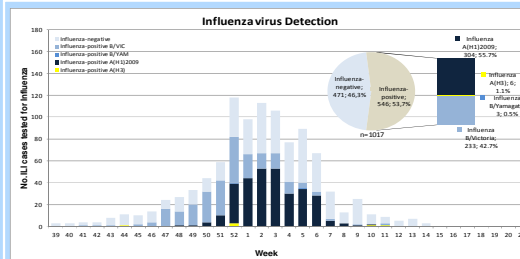
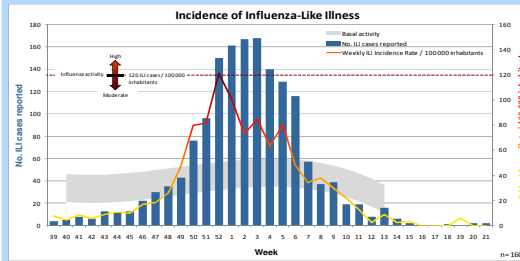
ILI cases were reported to the National Influenza Reference Laboratory and to the Epidemiology Department of the National Institute of Health, in the context of the National Influenza Surveillance Programme, from week 39/2010 through week 21/2011. The intensity and duration of the epidemic periods were described based on the weekly incidence rates for ILI. Nasopharyngeal swabs were collected for virological characterisation of influenza viruses circulating during this period.

Aknowledgements

The authors would like to thank the participation of the Sentinel Medical Practitioners and all health professionals that contributed to the clinical and virological components of the National Influenza Surveillance Programme during the 2010/2011 season.

Results

Moderate-to-high Influenza activity (max. 121.1 ILI cases / 100 000 inhabitants on week 52/2010).
Epidemic period of 8 weeks (from week 50/2009 through week 5/2011).



Influenza B/Victoria dominant at beginning of the winter, **gradually replaced by A(H1N1)2009**.
Influenza B/Yamagata and A(H3) sporadically detected.

Fever, cough and myalgia were the signs/symptoms with a highest association with a positive laboratory diagnosis.

This association is stronger for type A(H1)2009 than for type B/Vic.

Sign/symptom	Flu			Flu A(H1)2009			Flu B(Vic)		
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	
Sudden onset	1.16 (0.81-1.68)	0.68 (0.39-1.20)	1.20 (0.76-1.87)	0.58 (0.29-1.15)	1.16 (0.73-1.88)	0.80 (0.40-1.57)			
Fever	4.66 (2.63-8.65)	4.25 (1.84-9.83)	4.02 (2.04-8.02)	5.50 (1.91-15.26)	5.64 (2.39-16.21)	3.24 (1.15-9.49)			
Malaise	1.11 (0.72-1.71)	0.78 (0.45-1.50)	1.01 (0.61-1.67)	0.94 (0.48-1.84)	1.29 (0.73-2.26)	0.94 (0.41-2.14)			
Headache	1.83 (1.35-2.51)	1.85 (0.85-3.99)	1.54 (0.92-2.57)	1.76 (1.17-2.62)	0.78 (0.44-1.38)	2.40 (0.79-7.63)	1.48 (0.79-2.83)		
Myalgia	2.26 (1.55-3.32)	2.47 (1.37-4.47)	3.57 (2.00-6.39)	3.76 (2.11-6.71)	1.31 (0.82-2.13)	1.32 (0.68-2.56)			
Cough	3.33 (2.34-4.80)	3.40 (1.92-5.94)	6.14 (2.88-13.02)	6.75 (3.28-13.45)	2.57 (1.39-4.67)	2.46 (1.12-5.35)			
Sore throat	1.03 (0.76-1.40)	0.87 (0.57-1.32)	0.84 (0.60-1.20)	0.62 (0.30-1.29)	0.93 (0.52-1.69)	1.25 (0.72-2.14)			
Respiratory difficulty	0.77 (0.43-1.39)	0.84 (0.50-1.41)	0.38 (0.20-0.69)	0.83 (0.41-1.55)	0.52 (0.33-0.80)	0.78 (0.41-1.50)			
Chills	1.45 (1.05-2.01)	1.80 (0.83-3.89)	1.74 (1.17-2.62)	1.01 (0.56-1.81)	1.17 (0.79-1.76)	0.93 (0.54-1.62)			
Contact with another flu patient	1.52 (1.08-2.14)	1.45 (0.98-2.14)	1.69 (1.13-2.53)	1.55 (0.97-2.46)	1.36 (0.89-2.06)	1.22 (0.76-1.95)			

Comments

As expected, the pandemic A(H1)2009 virus has adopted a seasonal behaviour during the 2010/2011 season, co-circulating with influenza B. Influenza activity and clinical presentation were similar to previous influenza winter seasons.

ILI incidence rate and proportion of influenza cases higher in children (5-14 years).

Influenza type A mainly detected on adults and the elderly (15-64 years)
Type B mainly detected in children (5-14 years).

Age group	ILI Incidence Rate / 10 ⁵ inhabitants	No. ILI cases tested for influenza	% Positive (n)	% Positive A* (n)	% Positive B* (n)
0-4	662.1	34	32.4 (11)	81.8 (9)	18.2 (2)
5-14	1590.4	115	70.4 (81)	33.3 (27)	66.7 (54)
15-64	1142.1	736	57.6 (424)	81.3 (260)	38.7 (164)
>65	520.6	116	19.0 (22)	54.5 (12)	45.5 (10)
No information	-	16	50.0 (8)	25.0 (2)	75.0 (6)
Total	-	1017	57.3 (546)	56.8 (310)	43.2 (236)

* Percentage refers to the total of positive cases

2010/2011 Trivalent flu-vaccine administration	No. ILI cases reported (%)	No. Influenza-tested (%)	No. Influenza-positive (%)
Yes	159 (9.9)	99 (9.7)	28 (28.3)
< 14 days onset of symptoms	6 (3.8)	6	1 (16.6)
≥ 14 days onset of symptoms	63 (39.6)	63	15 (23.8)
No administration date	90 (56.6)	30	12 (40)
No	1268 (79.2)	749 (73.6)	424 (56.6)
No information	175 (10.9)	169 (16.6)	94 (55.6)
Total	1602	1017	546 (53.7)

1427 (89.1%) ILI cases reported vaccination status with the trivalent vaccine.

159 (11.1%) of these were vaccinated (9.9% of the total cases notified) but only 63 (39.6%) were considered immunised (time between vaccination and onset of symptoms ≥ 14 days). 15 (23.8%) immunised patients tested positive for influenza.

Trivalent vaccine administration by age group	No. ILI cases	% vaccinated
0-4	4	2.5%
5-14	5	3.1%
15-44	34	21.4%
45-64	47	29.6%
≥ 65	68	42.8%
No information	1	0.6%
Total	159	9.9

The highest proportion of flu-vaccinated ILI patients were over 65 years.
Less than 6% were children aged 0-14 years.