

Surveillance of Influenza A and Respiratory Syncytial Virus by the Belgian Sentinel Laboratory Network

by

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Introduction

Since 1983, the Sentinel Network of Laboratories, coordinated by the Scientific Institute of Public Health (WIV-ISP), collects data on 40 infectious diseases. In 2009, 102 laboratories (representing 59% of all Belgian laboratories of microbiology) participated on a voluntary basis in the surveillance system. Private or hospital laboratories were evenly distributed throughout 33 of the 43 administrative districts. Influenza A virus and Respiratory Syncytial Virus (RSV) were among the respiratory infections included in the surveillance. In this paper, we present data about these 2 viruses circulating in Belgium between week 35, 2009 and week 10, 2010.

Method

On a weekly basis, anonymous data were collected by the former Epidemiology Unit of the WIV-ISP, using different reporting systems: an electronic system (Epi-Lab), a web-based application, a registration form or an extraction of data from the laboratories' own databases.

During the studied period, 49 out of 102 participating laboratories reported data on Influenza A, 46 of which were attached to a hospital, and 65 transmitted data about RSV, 62 of which were attached to a hospital. For both viruses, diagnosis by serology was excluded (1).

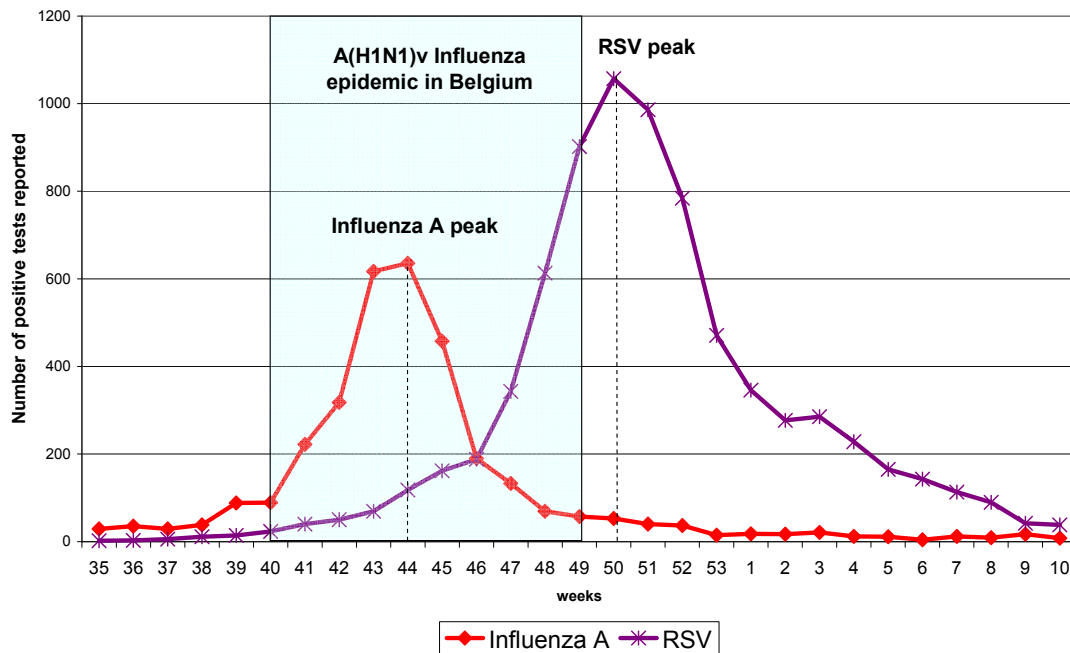
Results

During the studied period, 3153 cases of Influenza A were registered and a peak was observed in week 44 with a total of 636 cases. 49% of the cases were children younger than 5 years. Cases came from all Belgian districts.

For RSV, 5842 cases were diagnosed during the studied period which is significantly higher than the previous years. 72% of the cases appeared among children under 1 year old and 97% among children younger than 5 years. Cases came from all Belgian districts (Figure 1). In 2009, 1057 cases were reported in week 50. The number of diagnosed cases per district is published monthly on the website of the WIV-ISP during the period in which the virus is active (October-March) (2).

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Figure 1. Number of weekly Influenza A and RSV positive tests reported to the Sentinel Laboratory Network, 2009-2010



Discussion and conclusion

In Belgium, the RSV season shows great regularity. RSV circulates generally in Belgium between week 40 (beginning of October) and week 15 (end of March), with the highest number of cases in week 50. RSV thus circulates for a period of 6 months, including autumn and winter. In 2009, with a peak in week 50, the regularity of the RSV season patterns was not altered but the number of cases was significantly higher ($p < 0.000$) than the previous years. Considering that children were identified as risk group for Influenza A(H1N1)2009, this rise could be due to an increased number of performed tests.

Over the years, the period of circulation of Influenza virus varies between October and May. If generally observed after Christmas holidays in recent times, the epidemic peaks were observed in December during the seasons 1995/96 and 2003/04. As described by the SGP network, data from sentinel laboratories showed that the peak of the Influenza A(H1N1)2009 epidemic was situated at the end of October, in week 44, which is unusual. The early occurrence of the Influenza epidemic did not change the pattern of the RSV epidemic.

Acknowledgements

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References

1. Ducoffre G. Surveillance of infectious diseases by a network of microbiological laboratories, annual report 2008. www.wiv-isp.be/epidemiolabo
2. <http://www.wiv-isp.be/epidemiolabo/epifir/plabfr/mens.htm>