

Influenza (AH1N1v) Pandemic 2009: an update

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In a previous editorial, we described the outbreak of the first influenza pandemic of the 21st century, which was caused by a new variant of the AH1N1v virus. On the basis of the first observations, we attempted to forecast the most probable evolution of this phenomenon [1]. Three months later, it now seems useful to take stock of what has happened, in order to evaluate and utilize the experience gained.

In those three months, the AH1N1v virus spread to almost all countries in the world. However, the epidemiological scenario differed on account of factors that cannot all be explained. In North America (USA [2], Mexico [3] and Canada [4]), where the first outbreaks were reported, an initial rapid rise in the number of cases (May, 2009) was followed by a more gradual spread of the disease. At the end of August, however, infections again accelerated and continued to rise up to the end of September. The hospitalization rate of laboratory-confirmed cases among 5-17-year-old patients exceeded that of seasonal influenza, while it was markedly lower in the over- 65 age-group.

The pandemic virus reached the temperate zones of the southern hemisphere (Argentina, Chile, Australia, etc.) right at the beginning of the winter season, and practically replaced seasonal viruses. Data from the "Sentinel general practice survey" of the Ministry of Health in New Zealand show that the rate of consultations for ILI (Influenza-Like Illness) was higher than that of the seasonal peak in the two previous years. The epidemic began in June (24th week) and reached its peak in July (29th week); it subsequently began to decline, returning to baseline values in September (39th week) [5]. The Australian Ministry of Health underlined the different age-distribution of the virologically confirmed cases in comparison with seasonal forms of influenza. Indeed, the median age of all patients affected was 21 years; that of hospitalized patients was 32 years; that of those hospitalized in intensive care units was 44 years, and that of those who died was 53 years. This means that these patients were much younger than those affected by seasonal influenza in the previous two years. Moreover, pregnant women proved to be particularly at risk of H1N1v infection; indeed 25% of women aged between 15 and 44 years who requested hospitalization were pregnant [6].

In the tropical zones of the southern hemisphere, where influenza is usually less affected by the climate factor, Central and South America were hit hard; however, the pandemic is currently stable or declining. It is noteworthy that cases of co-infection by the H1N1v

and Dengue viruses have been found in Barbados and Nicaragua.

Europe in general, and Italy in particular, were affected relatively slightly during the summer period, in spite of the numerous cases imported from areas of outbreaks. The only exception was the United Kingdom, where the new influenza peaked in July 2009 [7].

In sum, the 2009 A/H1N1v pandemic displayed the following features:

- very high incidence in the 4-18-year age-group and very low incidence among the over 60s;
- a less close link with the factor "winter" than seasonal influenza;
- the "severity" of the pandemic, as assessed by means of WHO criteria, was slight in countries with a good qualitative level of healthcare organization;
- the new A/H1N1v virus predominated over seasonal subtypes in the period considered;
- no significant mutations of the genome of the pandemic virus were detected in this period;
- resistance of the A/H1N1v strain to Oseltamivir has so far proved to be rare and sporadic, the majority of resistant strains being isolated from immunodepressed subjects;
- no epidemics triggered by Oseltamivir-resistant viral strains have been reported;
- in several developed countries, an A/H1N1v vaccine availability has been announced for the mid October 2009;
- the rapid preparation of the vaccine, which has its cultural and experimental roots in the vaccine against the avian influenza virus A/H5N1, constitutes a historic event and provides a very important weapon against the spread of the pandemic.

However, some important questions remain open:

- Will we have only one pandemic or will we see successive waves?
- Will the prevalence of the infection chiefly remain confined to the younger age-groups in Europe too, or will adult and elderly populations also be significantly involved?
- Will the pathogenicity of the virus remain unchanged, or will variants be selected that make the pandemic more severe, as has happened in every pandemic since 1889 [8]?
- What role will be played by seasonal strains, particularly those of the B viruses and of the H3N2 subtype viruses?
- Will it be possible to modify the trend of the pandemic by means of astute use of the vaccine?

In conclusion, to echo the advice of a well-known English saying: “Hope for the best, prepare for the worst, take what comes”, it seems logical that the task of public

health services is to prepare for the worst. If the virus cooperates (by remaining “well-behaved”), we will have good reason to be thankful.

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