

The 2009 influenza pandemic begins

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On 11 June 2009, the WHO declared pandemic phase 6¹ and we moved into the first influenza pandemic of the 21st century. It had taken <6 weeks since the first notification to WHO of the new H1N1 infections in humans and the subsequent spread of this transmissible virus throughout the world. In contrast, past pandemics have taken about 6 months to become established and this is probably a reflection of our increasing global mobility nowadays. To the surprise of many, the new pandemic was not caused by the feared H5N1 virus but by an H1N1 virus recently associated with swine infections. Why should we be surprised? If we look back to recent pandemics in 1957 and 1968, we see that they were caused by genetic reassortment² and Professor Christoph Scholtissek³ has made convincing arguments that the reassortment events took place in swine prior to both pandemics. However most of us overlooked swine as the source of the next pandemic and instead our attention focussed on H5N1, chickens and SE Asia. In this issue of *Influenza and other Respiratory Viruses*, Brockwell-Staats *et al.*⁴ provide an elegant description of the evolution of the new pandemic H1N1 virus from its swine origin in 1918, through its promiscuous interaction with different avian, swine and human influenza genes throughout the intervening years. Indeed in a recent publication, Smith *et al.*⁵ have speculated that the reassortment event to create the current pandemic H1N1 virus actually occurred many years ago. There have been regular short-lived human infections with swine influenza viruses over the years the most notable of course being in 1976 with the Fort Dix episode in the USA.⁶

In his editorial for the previous issue of *Influenza and other Respiratory Viruses*, Alan Hampson⁷ commented that there was initially some confusion over the naming of the new candidate pandemic virus and criticised the WHO nomenclature (novel influenza A(H1N1) or A (H1N1)v) as bland and unrepresentative of its recent swine origins. Eventually the WHO has settled on 'pandemic (H1N1) 2009', but the controversy rages on in the pages of the current issue where de Lamballerie and Gould⁸ argue that the name should follow accepted influenza convention and be named 'Mexican flu' after the country where the first outbreak occurred.

As of 7 July 2009, the H1N1v pandemic had spread to 137 countries and there were an estimated 98 000 infections and >440 deaths.⁹ However these numbers are likely to be gross underestimates as countries gradually move from a reporting phase to a mitigation phase, so that many cases are no longer reported. On 16 July 2009 WHO announced that it would no longer issue such statistics as the virus is now out of control.¹⁰ It is thus timely that this issue contains a report which estimates the likely impact of an influenza pandemic on a large populous country such as China. Yu *et al.*¹¹ predict that a severe pandemic would overwhelm the Chinese hospital system and would cause great social disruption. Of course, we do not know if the current H1N1v pandemic virus will become more virulent in the coming months, but as Yu *et al.* suggest, we need to prepare for the worst.

Although H5N1 human infections have not progressed beyond pandemic phase 4 so far, the terrible threat of an H5N1 pandemic has been sufficient to persuade many countries to prepare for the worst and to bring pandemic influenza to the forefront of the scientific, public health and political agenda so that preparations for the H1N1v pandemic are much better than would have been the case without H5N1. At the time of writing many countries are using their stockpiled antivirals, implementing their pandemic plans and waiting anxiously for the first doses of vaccine previously ordered. There are of course areas of uncertainty and concern remaining:

- Will the H1N1v vaccines be immunogenicity and safe, as they are likely to have only been tested previously in an H5N1 formulation?
- Who will receive the first vaccine doses and will they be ready in time?
- Will the virus become more virulent and overwhelm our health care systems?
- Will resistance of H1N1v viruses to oseltamivir become more widespread?
- Will the H1N1v virus reassort with seasonal influenza viruses or even worse, H5N1 viruses?

The journal *Influenza and other Respiratory Viruses* is committed to publishing high quality and informative

contributions on pandemic influenza in an effort to stimulate debate and contribute to pandemic preparedness.

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