

## **Second isirv Antiviral Group Conference**

### **Severe Influenza: Burden, Pathogenesis and Management**

The second conference of the Antiviral Group was organised jointly with isirv in conjunction with the National Institute of Hygiene and Epidemiology (NIHE) in Hanoi, Viet Nam on 29<sup>th</sup> to 31<sup>st</sup> October. In the aftermath of the 2009 pandemic and the continuing threat of H5N1, the purpose of the meeting was to address the many gaps that remain in our understanding of the pathogenesis and management of severe influenza.

In her opening address, Professor Nguyen Thi Xuyen, Vice Minister of Health, drew attention to the unpredictability of influenza, how Viet Nam had been in the forefront of confronting the re-emergent H5N1 threat in 2004, and the public health importance of improving the clinical management of severe influenza and related respiratory virus infections. The location of the conference in Hanoi thus reflected the persistent threat of H5N1, and the divergent evolution of the viruses, particularly in South-East Asia. Of the 160 delegates from medical and academic institutions in 22 countries, 30 per cent were from Viet Nam.

An initial presentation on the conclusions from the earlier isirv meeting on *Incidence, Severity and Impact of Seasonal and Pandemic Influenza*, in September, was followed by a keynote lecture on Asian perspectives on the epidemiology and impact of severe influenza and SARI to set the scene. The second plenary session presented descriptions of the immunopathology of acute lung injury and ARDS, including of H5N1 cases, consideration of genetic factors in host susceptibility and the implications of viral-bacterial interactions. It was followed by two sessions focussing on challenges faced and recent advances made in the various aspects of clinical management, including the effectiveness of antivirals and adjunctive therapies, and the emergence of antiviral resistance. A final session looking to the future considered research priorities and included a comprehensive description of an investigation of one of the first fatal cases due to the novel (2012) coronavirus.

Six workshops provided a forum for more detailed discussion of particular aspects. These included the impact and severity of influenza in different geographical locations, and the basis of pathogenesis and the means of its mitigation. The clinical effectiveness of licensed antivirals was discussed together with the potential of alternative therapeutic approaches, including broadly neutralising antibodies. Discussion of the impact of different 'resistance' mutations on antiviral susceptibility also considered the influence of genetic variation among the viruses.

Interactive demonstrations facilitated discussion of the national surveillance platforms in Viet Nam, of WHO training materials for SARI management, of the use of the AVG reference panel of neuraminidase inhibitor (NAI) resistant and sensitive viruses in NAI susceptibility monitoring, and of methods for IC<sub>50</sub> determination and statistical analyses of

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antiviral resistance data. Information presented in the various sessions was also complemented by 45 poster presentations on various themes.

The historic Temple of Literature, built in the eleventh century and housing the first university in Vietnam, predating those in Europe, provided a perfect setting for pleasant interaction and thoughtful discussion during the conference dinner, on the evening of the first day. An informative excursion to NIHE on the afternoon of the third day was appreciated by many of the participants. Generous support of the conference allowed provision of travel grants to assist twenty delegates to attend.