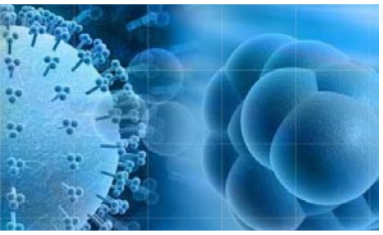
The newsletter of the Asia-Pacific Alliance for the Control of Influenza

Asian Focus Influenza

Volume 7, Issue 1, March 2011



Welcome to the 17th edition of *Influenza – Asian Focus*, the official newsletter of the renamed Asia-Pacific Alliance for the Control of Influenza (APACI). Since its establishment in 2002, APACI has highlighted the impact of influenza in the Asia-Pacific region and offered guidance on disease control.

In this issue of *Influenza – Asian Focus*, read what Lance Jennings, Chairman of APACI, revealed about the recent changes to the organisation, and what to expect from APACI in 2011. Uncover important issues captured at the latest APACI symposium, and read the latest "Flu review" on respiratory disease in the region. Also, to keep your knowledge ahead of the field, there are details of key upcoming conferences, and a reading list recommended by APACI members.

Visit APACI's website at www.apaci-flu.org

Interview with Lance Jennings

Associate Professor Lance Jennings, Chairman of APACI since 2004, announced that, as of 2011, APACI is officially a legal entity.

A new organisational structure, with defined membership and voting rights, will ensure improved transparency of all APACI's influenza awareness educational activities. An executive director, Kim Sampson, has been appointed, who brings his expertise as the executive officer of the Australian Influenza Specialist Group. Mr Sampson's role includes the development of a 5-year strategic plan that will identify sustainable activities for APACI that maintain relevance to the Asia-Pacific region. Pivotal to this plan will be the strengthening of linkages with the Influenza Foundations already established in India, Thailand, Indonesia and similar professional groups.

A/Prof Jennings explained that the change to APACI would not alter the organisation's overall objective, which is to reduce the burden of influenza across the Asia-Pacific region. He mentioned that the upcoming APACI influenza awareness activities in 2011 would include the publication of two editions of *Influenza – Asian Focus*, a scientific paper on influenza seasonality, and "Best Practice Guidelines" on the use of vaccines and antivirals within the region. A/Prof Jennings is particularly enthusiastic about his new responsibilities in APACI, which include fostering relationships with kindred influenza organisations and foundations, and providing targeted support for the diverse countries and cultures of the Asia-Pacific.

APACI members

Clinical Associate Professor Lance Jennings (Chair)	New Zealand	**Professor Ilina Isahak**	Malaysia
Professor Paul Chan (Vice-Chair)	Hong Kong SAR, China	**Dr Lalit Kant**	India
Clinical Professor David Smith	Australia	**Professor Cissy Kartasasmita**	Indonesia
Dr Paul Tambyah	Singapore	**Professor Woo-Joo Kim**	Korea
Dr Shelley de la Vega	Philippines	**Professor Malik Peiris**	Hong Kong SAR, China
Associate Professor Nguyen Thi Hong Hanh	Vietnam	**Dr Yuelong Shu**	China
Professor Li-Min Huang	Taiwan	**Professor Prasert Thongcharoen**	Thailand
		Professor Jen-Ren Wang	Taiwan

December APACI symposium highlights

The latest advances in influenza were presented by four APACI members at the 12th Western Pacific Congress on Chemotherapy and Infectious Diseases (WPCCID) in Singapore. In this 90-minute symposium, topics ranging from prevention to diagnosis and treatment were covered in depth, of which the key aspects are captured below.

Trends of influenza

The topic of influenza awareness in the Asia-Pacific region, specifically seasonality trends and disease burden, was presented by A/Prof Lance Jennings. He suggested that tropical regions such as Thailand are crucial to the evolution of seasonal influenza, as they demonstrate a year-round spread of influenza with a slight increase around the rainy season. In comparison, temperate climates such as New Zealand experience peaks of influenza incidence early in the winter season. Irrespective of location, mortality rates tend to follow a J-shaped curve, with the rate of death increasing in patients aged ≥ 65 years or < 2 years. He commented that the disease burden of influenza varies each year and is associated with increased hospitalisation, loss of work and school days, and large economic losses.

Q: In Singapore, rain doesn't only fall during the rainy season; it falls throughout the year. Why are there still two peaks in influenza prevalence?

A: The two peaks are thought to be related to the June and December school holidays. This suggests that children are the main reservoir of the virus. These peaks could be the result of increased travel during the holiday period. The trend to spend more time indoors during the rainy season may also enhance the spread of the virus.

Clinical features of influenza

Clinical features can differentiate the two types of H1N1 influenza. Firstly, rhinitis tends to be more common in pandemic H1N1, and secondly, respiratory distress is more frequently seen in seasonal H1N1 infections. Dr Paul Tambyah discussed these clinical features and also identified a number of risk factors and co-morbidities that may result in severe influenza. These include obesity, diabetes, asthma, chronic obstructive pulmonary disease, neuromuscular disorders, hypertension, and cerebrovascular disease. He commented on the strategies for controlling a novel viral pandemic and concluded that if clinicians were at risk of a deadly virus, then use of N95 masks, vaccines, antivirals, strict quarantine and isolation procedures would be warranted. However, if it was a seasonal virus, then efficient use of vaccines and antivirals with proper infection control might be sufficient.

Q: How many days should patients remain isolated after beginning treatment?

A: There is no good evidence to denote how infectious an individual is after an infection, but we can extrapolate data from tuberculosis patients who are isolated for 14 days. It may be best to discharge patients as soon as possible to avoid infection of healthcare workers and immunocompromised patients.

Laboratory diagnosis of influenza

Prof Paul Chan discussed the importance of understanding diagnostic techniques, including sample collection by nasopharyngeal aspirates and flocked swabs. He noted that timing of the sample collection, a patient's age, and severity of the disease could all influence the test result. Firstly, he emphasised that most molecular methods are highly sensitive and can produce reliable results when samples are taken within 4 days of illness onset. After 4 days, viral load drops significantly and more sensitive tests such as real-time or nested PCR (polymerase chain reaction) are required. Secondly, the age of a patient is an important variable, as the viral load tends to decrease with age. Finally, he explained that patients with severe disease demonstrate a higher viral load with a longer viral shedding profile despite administration of antiviral treatment, suggesting the need for a higher dose and longer duration of treatment.

Q: What is your opinion regarding repeated use of oseltamivir in countries such as Thailand, where the PCR is not used in clinical diagnosis?

A: Where rapid tests are unavailable, physicians may predict a case of influenza based on the symptoms and the local epidemiological and surveillance data. Rapid influenza tests are good at detecting a positive case, but their sensitivity for the pandemic strain is only between 50% and 70%. Using antivirals may be justified even without a positive test, ensuring the patient takes a full course of adequate dose to minimise the chance of emergence of resistance.

Influenza prevention and treatment

Prof David Smith emphasised the value of vaccination against influenza but pointed out that current vaccines cannot be produced fast enough for pandemic control. He suggested that newer approaches to influenza vaccine production would help. Vaccines derived from cell culture are currently available and could result in faster production, but they are more expensive than conventional egg-derived vaccines. Newer adjuvants allow effective use of lower antigen doses, and also there are a number of approaches to producing broadly cross-protective vaccine. He also presented the benefits of early treatment with neuraminidase inhibitor antivirals, mentioning that for upper respiratory tract infections with influenza they need to be commenced as early as possible within 48 hours of onset. However, in patients who are immunocompromised or have lower respiratory tract infection, administration of the antivirals after 48 hours may still be beneficial.

Q: Will protection provided by the influenza vaccination be reduced if patients are receiving corticosteroid treatment?

A: Oral corticosteroids will attenuate the response to the vaccine, but it is dose dependent. During the influenza season, patients on moderate to high doses should be vaccinated but should also be considered for chemoprophylaxis. Also, immunosuppressed patients who develop a respiratory illness during the influenza season should be tested for influenza and considered for immediate treatment. Early treatment may reduce the chance of progressing to severe and potentially life-threatening influenza.

Recommended readings

Australia – Response to pandemic (H1N1) 2009 influenza in Australia – lessons from a State health department perspective

The accomplishments and shortcomings of the Western Australian State health department's planning, decision-making and communication in the 2009 influenza (H1N1) pandemic are investigated in this paper. Read how Australia responded to the pandemic, and the suggestions made to prepare for a future outbreak.

Weeramanthri TS *et al. Aust Health Rev* 2010; 34: 477–86.

Singapore – Differing symptom patterns in early pandemic vs seasonal influenza infections

A novel assay targeting the new influenza A (H1N1/2009) virus enhanced diagnosis and differentiation from seasonal influenza A (H1N1) in Singapore in 2009. Differentiating features of the 2009 H1N1 include younger age and overall fewer symptoms.

Tang JW *et al. Arch Intern Med* 2010; 170: 861–7.

Hong Kong – Clinical management of pandemic 2009 influenza A (H1N1) infection

Effective clinical management is vital in coping with an influenza pandemic. Key aspects include recognising the signs of severe illness, treatment techniques for patients with underlying complications, and the non-pharmacological control of influenza spread.

Hui DS *et al. Chest* 2010; 137: 916–25.

Asia-Pacific region – Oseltamivir-resistant influenza viruses circulating during the first year of the influenza A (H1N1) 2009 pandemic in the Asia-Pacific region, March 2009 to March 2010

More than 1,400 influenza viruses from the Asia-Pacific region were tested for resistance to neuraminidase inhibitors oseltamivir and zanamivir. Despite increased usage of oseltamivir during the pandemic, overall resistance and transmission of resistant viruses remains rare.

Hurt AC *et al. Euro Surveill* 2011; 16: pii: 19770.

Next APACI meeting

APACI will hold its first AGM as a legal entity on 19–20 May 2011. If you wish to contribute to the next edition of *Influenza – Asian Focus* or to the AGM, please contact Kim Sampson at kim@isg.org.au.

Flu review

More than 4 million deaths each year are attributable to lower respiratory infections, making these the third leading cause of death globally.[1] In South-East Asia alone, there are 1.4 million deaths, the major causes being pneumonia, influenza, and respiratory syncytial virus.[1,2]

Influenza is endemic in some subtropical areas of Asia, in contrast to the seasonal peaks of influenza experienced in most regions of the world.[3] Factors such as high population density, poverty, increasing pollution, and close contact with infected animals are widespread in areas of the Asia-Pacific region, predisposing it to outbreaks and making it a potential source of a future pandemic.[3]

Respiratory infections are predicted to remain a leading cause of death over the next two decades, with another influenza pandemic highly possible.[1] Nations within the Asia-Pacific region must ensure they stay up to date with scientific data in order to guide medical and strategic approaches for the future.

References

1. World Health Organization. The global burden of disease: 2004 update. Geneva: WHO, 2008.
2. Mayor S. Acute respiratory infections are the world's third leading cause of death. *BMJ* 2010; 341: c6360.
3. Jamrozik E, Musk AW. Respiratory health issues in the Asia-Pacific region: an overview. *Respirology* 2010; 16: 3–12.

Upcoming meetings

International

Keystone Symposium – Pathogenesis of Influenza: Virus-Host Interactions
Hong Kong, SAR — 23–28 May 2011
www.keystonesymposia.org

4th International Influenza Conference
Oxford, UK — 7–9 September 2011
www.libpubmedia.co.uk

4th European Scientists Fighting Influenza (ESWI) Conference
Malta — 11–14 September 2011
www.eswiconference.org

European Respiratory Society (ERS) Annual Congress
Amsterdam, The Netherlands — 24–28 September 2011
www.erscongress2011.org

Regional

8th International Symposium on Antimicrobial Agents and Resistance (ISAAR) 2011
Seoul, Korea — 6–8 April 2011
www.isaar.org

5th Annual World Vaccine Congress Asia 2011
Singapore — 20–24 June 2011
www.terrapinn.com/2011/wvcasia

In the next issue…

- Reports from the APACI AGM
- Highlights from the scientific meeting organised by Professor Cissy Kartasasmita
- Interview with a member of the US Centers for Disease Control and Prevention

Produced and published by In Vivo Communications (Asia) Pte Limited, 190 Middle Road, #14-08, Fortune Centre, Singapore 188979.

The Asia-Pacific Alliance for the Control of Influenza would like to thank its generous sponsors and supporters, who enable APACI to carry out its important work. Through its Board of Directors, APACI maintains full editorial control over its activities and published materials.