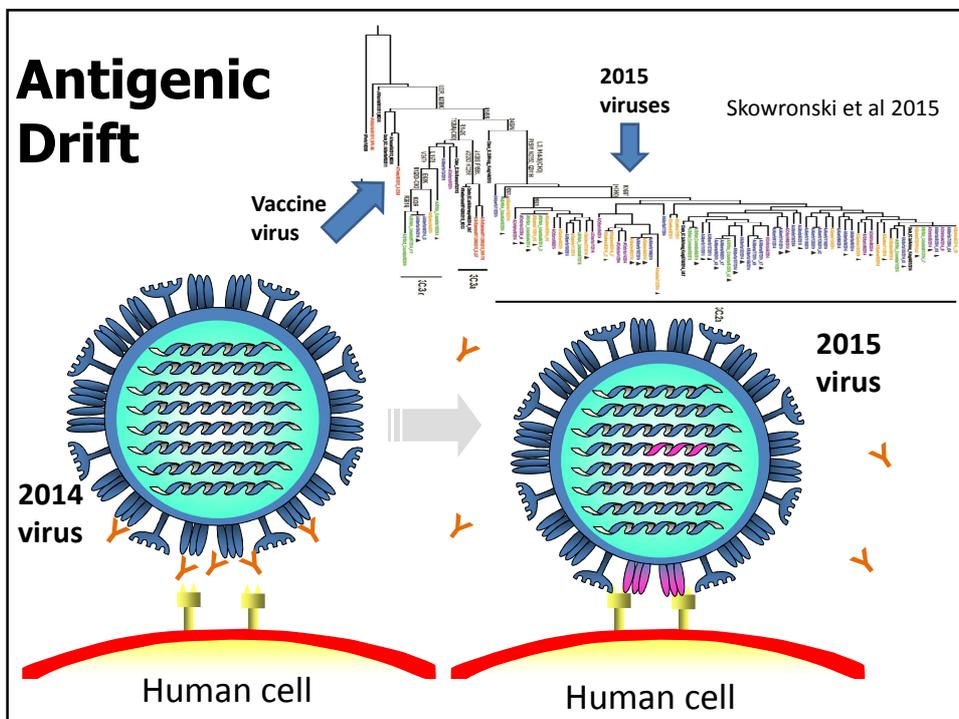


Latest Research Findings on H3N2 influenza virus from HKU

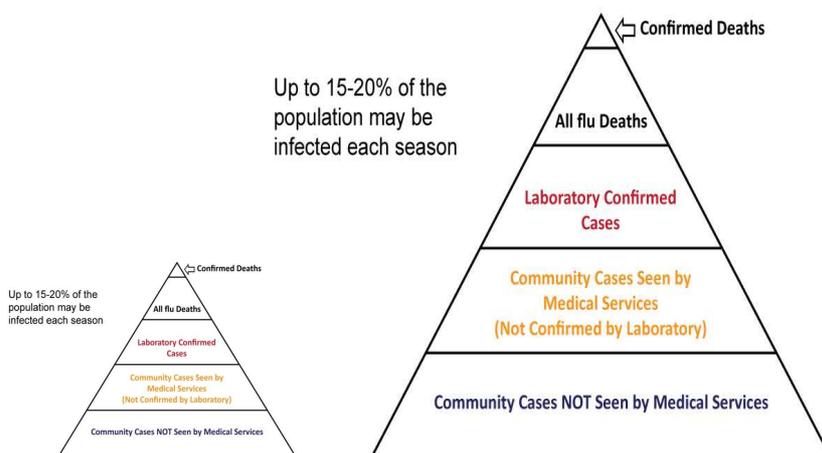
Department of Paediatrics and Adolescent Medicine

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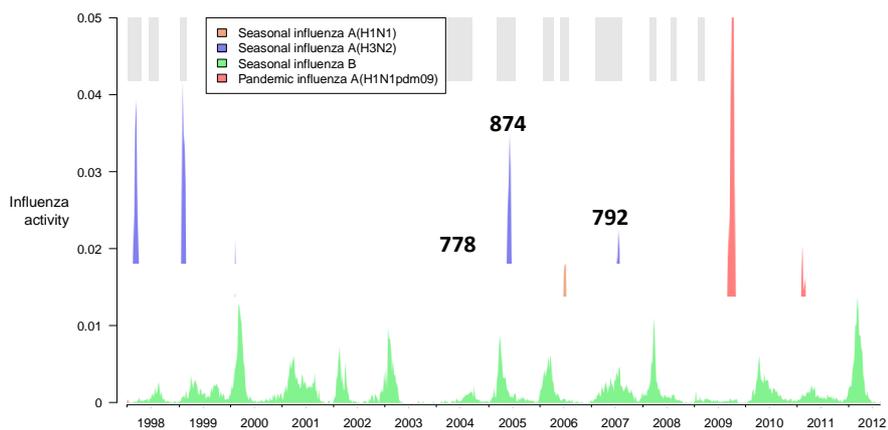


Iceberg of influenza disease



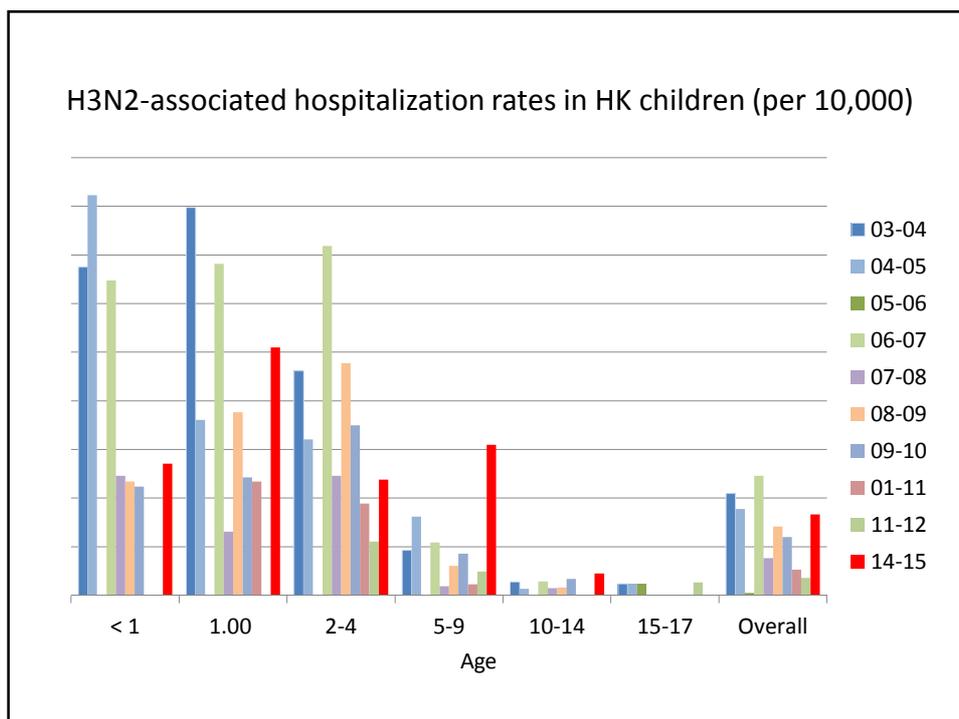
Source: image courtesy of World Health Organization

Mortality impact of influenza



Many deaths are associated with influenza virus infections each year, mostly in the elderly and infirm, and most will not be laboratory-confirmed. The numbers above indicate our estimates of the number of influenza-associated deaths in Hong Kong in previous severe H3N2 epidemics in 2004, 2005, and 2007.

Source: Wu et al. 2012 J Infect Dis



Pediatric admissions

- High pediatric hospitalization burden of influenza A(H3N2) in Hong Kong – 0.5 to 25 hospitalizations per 10,000 children per year in the past 10 years
- 17 admissions per 10,000 children in Hong Kong Island based on data collected from Queen Mary Hospital and Pamela Youde Nethersole Eastern Hospital in 2014-15 winter to date.

Source: Chiu et al. 2014 PLoS ONE

Vaccine effectiveness against H3N2

- VE in typical seasons tends to fall in the range 50%-70% (Cowling, Chiu et al. 2014 Vaccine)
- Preliminary estimates of influenza VE for 2014-15 winter
 - United States: 22% all ages (26% in children)
 - Canada: -8% all ages
 - Canada (separate study): 10% in adults
 - United Kingdom: -2.3% all ages

Hong Kong – current study: 46.0% in children

Based on 298 children 6m–17y of age admitted to Queen Mary Hospital or Pamela Youde Nethersole Eastern Hospital between 17 Dec 2014 and 7 Feb 2015 who had acute respiratory illness and were tested for influenza virus.

Effectiveness of oseltamivir treatment

- Oseltamivir (tamiflu) is an antiviral drug designed to treat influenza virus infections
- Since 2006, concerns have been raised that oseltamivir might not be as effective as originally thought
- New study just published in the Lancet confirms that early oseltamivir treatment reduces the duration of illness, reduces the risk of antibiotic prescription for lower respiratory tract infections, and reduces the risk of hospital admission.



Source: Dobson et al. 2015, Lancet
Kelly and Cowling, 2015, Lancet

Summary

- Influenza virus has substantial impact in Hong Kong each year
- Vaccine effectiveness varies from year to year, and appears to be lower than usual this year but our study showed moderate protection against hospitalization in children in Hong Kong.
- Oseltamivir (tamiflu) is effective in treating influenza if used within 1-2 days of illness onset.

The way forward

- Real-time assessment of transmissibility and severity
- Lack of scientific evidence on the potential benefit and safety of twice-annual vaccination in high-risk individuals
- High-dose influenza vaccine and adjuvanted influenza vaccine



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Q & A

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