

AELG Workshop 31 March 2006

**Pandemic scenario
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Outline

- Outline of session
- Some technical stuff
- Pandemic wave models
- Response phasing
- Challenges to infrastructure providers
- Outline of scenario and why



Session Outline

- Introduction – 10'
- Presentations from each sector – 10' each
- Round-up and summary – 10'



Technical stuff

- Influenza – what it is
- Classical pattern
- Pandemics
- Bird 'flu' aka Highly Pathogenic Avian Influenza (HPAI) aka H5N1

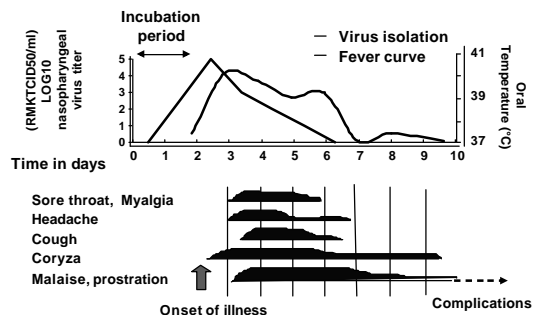


Influenza

- A debilitating acute viral disease, infecting the respiratory tree
- Can produce a range of complications
- Spreads readily from person to person via droplets & hand/mouth transmission
- 3 influenza virus families recognised:
 - **A** (can cause widespread epidemics or pandemics)
 - **B** (sometimes causes regional or widespread epidemics)
 - **C** (sporadic cases and local epidemics)

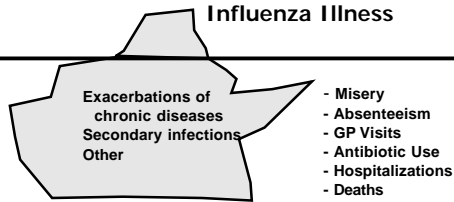


'Classical' Human Influenza



Kilbourne E. D., Influenza, New York, plenum 1987:156-218

Influenza Illness: Only The Tip of the Iceberg



Pandemic Influenza

- 1918-1919 (Spanish flu)
 - H1N1 strain
 - 200 million to 1 billion people were infected; more than 50-100 million died
 - killed a disproportionate number of healthy young adults (W curve)

Understanding Pandemic Influenza

- Pandemic – An epidemic that becomes very widespread and affects a whole region, a continent or the world.
- Influenza pandemics;
 - at least 10 pandemics recorded in last 300 years
 - 1918-1920; 50,000,000-100,000,000 deaths worldwide
 - 1830-1832 was similarly severe in smaller population

Understanding Pandemic Influenza

- Pandemics occur when a novel influenza strain emerges that has the following features:
 - readily transmitted between humans
 - genetically unique (i.e., lack of preexisting immunity in the human population)
 - increased virulence
- Pandemics have differed in terms of population-specific mortality rates and can not be characterized by a “single risk predictive model”

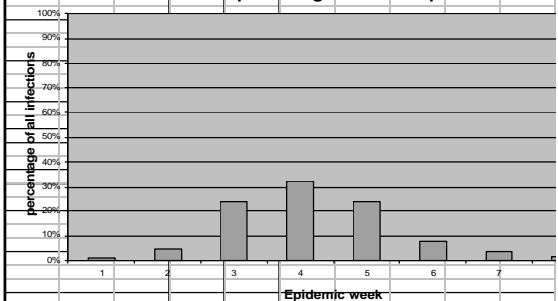
H5N1 – HPAI

- Highly pathogenic avian influenza
- Type A influenza virus
- Natural reservoir in wild water bird population
- Recent types H5N1, H9N2, H7N7
- Can infect mammals, including humans
- H5N1 – very high mortality in humans
- Can't spread between humans – yet

AVIAN → HUMAN

AVIAN → HUMAN → HUMAN → HUMAN

FluAid model – percentage infections per week



Response phasing

WHO PERIOD*	WHO PHASE*	NZ SCENARIO*	NZ STRATEGY	MoHDHB ALERT CODE**
Interpandemic Period	Phase 1		Planning (Plan for it)	N/A
	Phase 2	Scenario 1 Scenario 2		WHITE (Information / Advisory)
Pandemic Alert Period	Phase 3	Scenario 1	Border Management (Keep it out)	YELLOW (Standby)
		Scenario 2		
		Scenario 3		
		Scenario 4		
Pandemic Period	Phase 4	Scenario 1 Scenario 2	Cluster Control (Stamp it out)	RED (Activation)
	Phase 5	Scenario 1 Scenario 2		
Pandemic Period	Phase 6	Scenario 1	Pandemic Management (Manage it)	
		Scenario 2		
Post Pandemic Period	Post Pandemic Period		Recovery	GREEN (Stand Down)

Challenges to infrastructure providers

- Planning and preparedness
- Internal functions
- Business Continuity
- Emergency Response
- Unanticipated complications



Scenario and why

- Week 3 begins 1 May 2006
- Phase 6 – increased and substantial general population transmission with no animal cases
- 25% of staff absent – could rise to 30-50% in week 4
- Key staff absence – realistic to lose key people



Questions

- Services/activities discontinued
- Support required from other agencies
- Links with CDEM and other responders
- External supply concerns
- Worst-case supply scenario and back-up
- Infection control measures
- Personal staff issues
- Staff overseas
- Information required
- Storm warnings – for the hyperenergetic!

