

Paediatric Pandemic Influenza:

“Do you know....?”

“Have you thought about....?”

Prepared by:

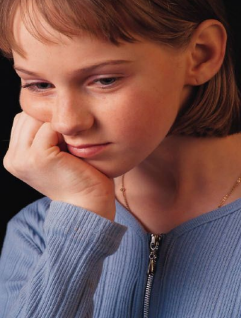
Lindy Samson MD

Children’s Hospital of Eastern Ontario

CAPHC Annual Meeting,

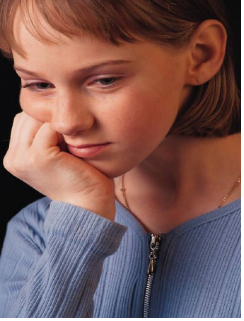
Vancouver, October 17, 2006





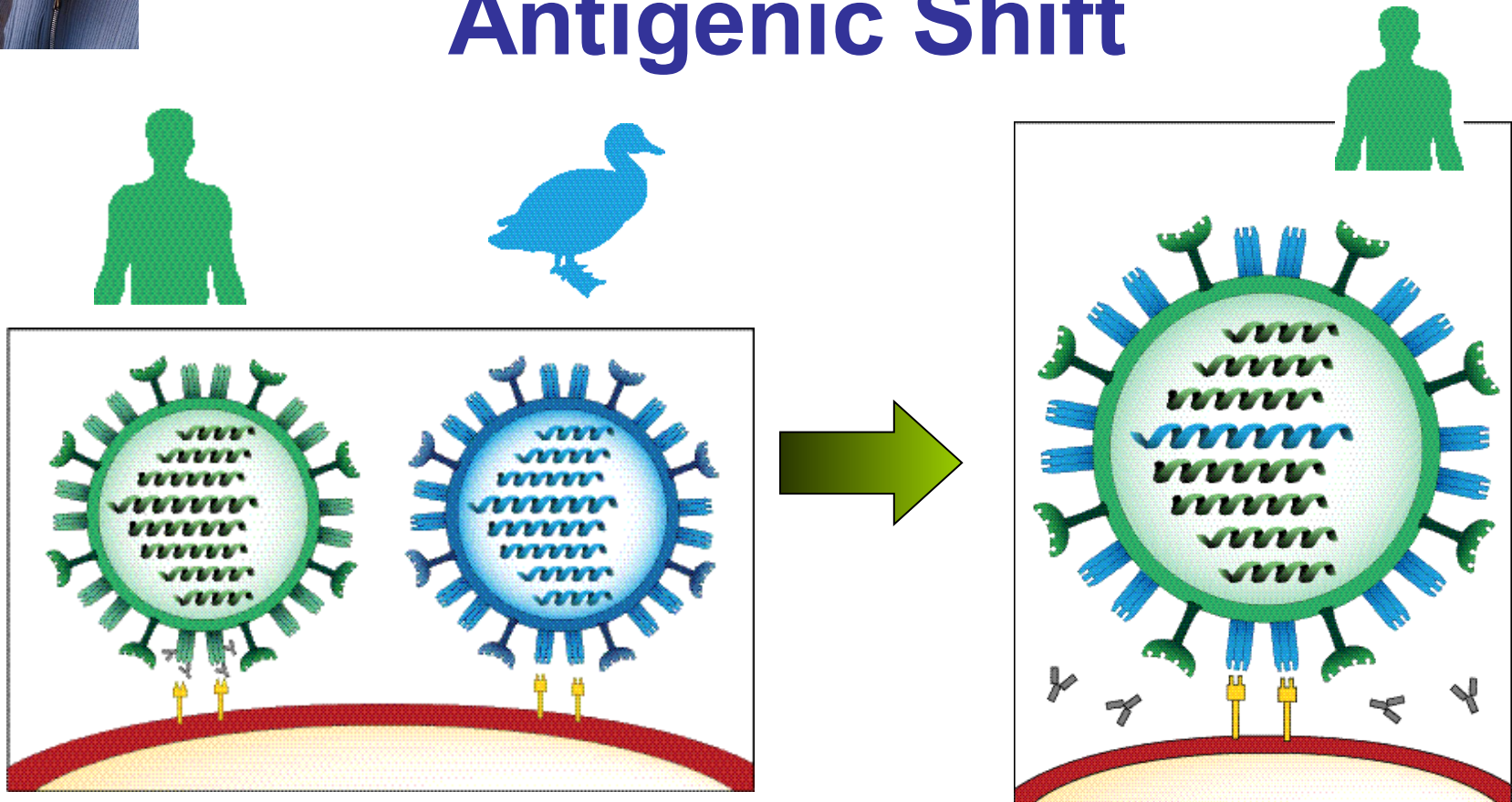
Do You Know What is Needed for an Influenza Pandemic?

- New serotype of Influenza A virus that has not infected humans before
 - Antigenic drift vs **antigenic shift**



Pandemic INFLUENZA

Antigenic Shift

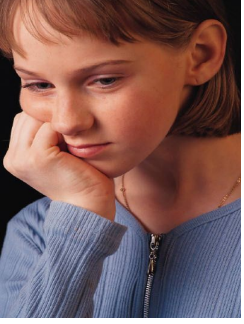


(Laver WG, Bischofberger N, Webster RG. Disarming flu viruses, *Sci Am* 1999;January)
(Cox NJ, Fukuda K. Influenza. *Infect Dis Clin North Am.* 1998;12:27-38)



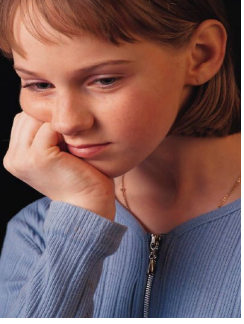
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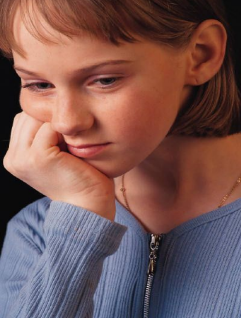
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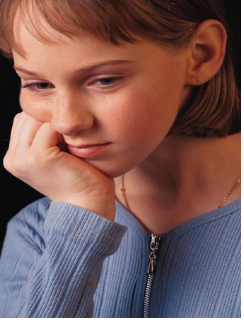
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 - Antigenic drift vs **antigenic shift**
 - No immunity in the population
- Develops ability to pass from person to person
- Retains ability to cause significant disease



Do You Know... What has happened so far?

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 - H5N1



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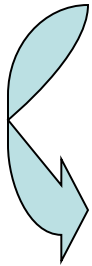


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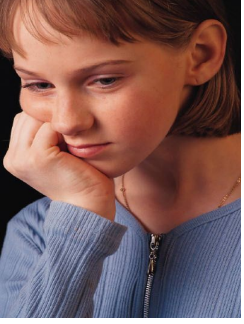




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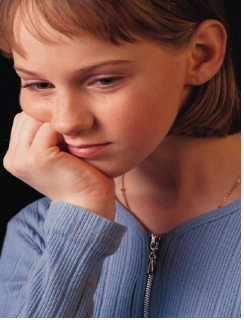
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- Can spread around the world causing a pandemic
 - **when** this is likely to occur is the question





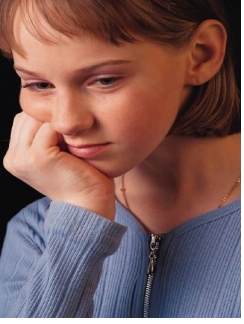
Do You Know ...?

- In Canada modeling predicts:
 - 4.5-10.6 million people become sick
 - 2.1-5 million people requiring outpatient care
 - 34,000-138,000 require hospitalization
 - 11,000-58,000 deaths
- What if.....
 - 10, 30 or 50% occur in children/youth?



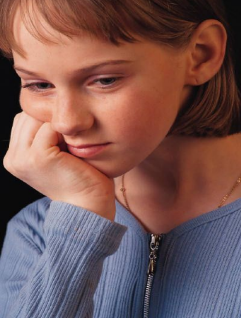
Do You Know ...?

- 1918 pandemic disproportionately infected very young
- Avian influenza has had more than 50% of cases in children/youth
 - highest mortality in 10-20 year olds
- Hospitalization rates for children < 2 years of age during annual influenza are the same as the elderly



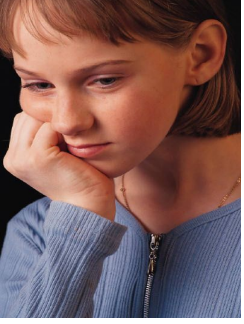
Do You Know ...?

- Presentations of influenza differ between children & adults
- Children shed the virus for longer & serve as a source of spread of the virus in communities
- Present antivirals are not licensed for children < 1 year of age



Do You Know ...?

- Canada is seen as a leader in pandemic planning but specific planning for children & youth has not been a priority
- Children have been given lowest priority so far for pandemic influenza vaccine



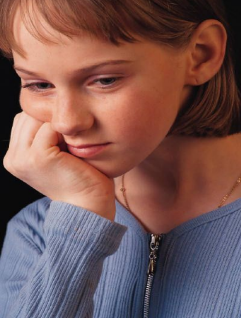
Have you thought about ...?

- The impact on paediatric health care centers if 15-50% of pandemic patients are children/youth
- That children may require admission to hospital but not have a parent/guardian well enough to accompany them
 - Consent for treatment for children/youth may not be attainable



Have you thought about ...?

- If parents/guardians die, large numbers of children may be temporarily without caregivers in the community
- That children/youth may be separated from their families for extended periods



Have you thought about ...?

- It may be difficult to discharge children/youth from hospital due to lack of caregivers
- The psychosocial impact of all/any of the above on children/youth
- That it is possible during a pandemic that schools & day care centers will be closed



Have you thought about ...?

- That paediatric/youth health care centers will reach surge capacity & have to triage children/youth to **not receive care**
- Up to 30% of health care professionals will likely not be able to work due to illness, caring for family members etc