What is a flu pandemic?

- A flu pandemic is an outbreak of a new flu virus that spreads around the world.
There are 3 criteria for a pandemic virus:

- Appearance of a novel virus for which humans have no immunity
- Ability to infect humans and cause disease
- Ability for sustained and efficient human-to-human transmission (h2h).

A pandemic flu virus spreads easily from person to person, mostly through coughing and sneezing.
Because the virus is new to people, no one has immunity. Everyone will be at risk of catching it.

If Homes Were Like Schools...

You would have to invite 50+ people to your house, to create the same density as what you would find in schools.

Centers for Disease Control

- In comparison, workplaces are being reminded that in a pandemic, unprotected employees should keep 6 ft distance with each other.

Occupational Safety & Health Administration, Dept of Labor

Children At Risk - High Social Density in Schools

- Separation between persons:
  - Elementary Schools: 3.9 ft
  - Hospitals: 7.8 ft
  - Offices: 11.7 ft
  - Residences: 16.2 ft

Buildings Factbook, Dept of Energy
Message to children

- If it's wet and it's not yours, don't touch it!” – NYC school nurse, Spring 2009

School nurse shortage hampers swine flu response

By TERENCE CHEA (AP) – 4 hours ago

- SAN FRANCISCO — As schools grapple with a resurgence of swine flu, many districts have few or no nurses to prevent or respond to outbreaks, leaving students more vulnerable to a virus that spreads easily in classrooms and takes a heavier toll on children and young adults.
The Numbers

- CDC estimates that between 14 million and 34 million cases of 2009 H1N1 occurred between April and October 17, 2009. The mid-level in this range is about 22 million people infected with 2009 H1N1.

- CDC estimates that between about 63,000 and 153,000 2009 H1N1-related hospitalizations occurred between April and October 17, 2009. The mid-level in this range is about 98,000 H1N1-related hospitalizations.

- CDC estimates that between about 2,500 and 6,000 2009 H1N1-related deaths occurred between April and October 17, 2009. The mid-level in this range is about 3,900 2009 H1N1-related deaths.
Hospital Admission Rates (Age)

- Rates [EIP (new sites)] for children aged 0-4 years and 5-17 years were 4.0 (8.1) and 2.0 (3.1) per 10,000, respectively.
- Rates [EIP (new sites)] for adults aged 18-49 years, 50-64 years, and ≥ 65 years were 1.5 (1.4), 1.7 (1.4) and 1.4 (1.3) per 10,000, respectively.
CT Hospitals Restrict Visitors

CT Hospitals Impose Tougher Visitor Restrictions Amid Swine Flu Concerns

By Amanda Jenkins

10:15 AM, Oct 28, 2009

Updated: 10:21 AM, Oct 28, 2009

Connecticut hospitals are implementing stringent restrictions on visitors to reduce the spread of swine flu. The restrictions are in response to the current swine flu outbreak which has infected over 1,000 people in the state.

The regulations generally apply to children under 18 and adults who are accompanying children under 18, and visitors of any age who have flu-like symptoms or are ill. The regulations are in place to reduce the risk of transmission of the virus to hospital patients and staff.

The restrictions apply to all patients and visitors at Connecticut hospitals. The hospitals that have implemented the new restrictions include:

- Yale-New Haven Hospital
- Bridgeport Hospital
- St. Vincent's Medical Center
- Waterbury Hospital
- Middlesex Hospital
- Norwalk Hospital

Visitors are encouraged to call the hospital before visiting to ensure that they are able to visit.

NB: 26 of 31 hospitals with some kind of restriction

Paul Offit, NYT on H1N1 Myths

- SWINE FLU VACCINE IS UNSAFE: The H1N1 virus revealed itself too late for it to be included in this year’s seasonal flu vaccine. But the H1N1-specific vaccine was manufactured in the same way as the regular vaccine: The shot form is made by growing the virus in hen’s eggs, purifying it and then treating it with a chemical that inactivates it. This technology has been used to make influenza vaccines for 60 years, and it has an excellent safety record.
THE VACCINE IS UNTESTED

The H1N1 vaccine has already been given to thousands of volunteers to determine whether it could protect them from the virus and to make sure that it caused no adverse reactions. Only then did the Food and Drug Administration license it.

THE VACCINE CONTAINS A DANGEROUS ADJUVANT

Some vaccines, like the hepatitis B and human papillomavirus vaccines, have substances called adjuvants, which are added to enhance the immune response, so that smaller quantities of vaccine can be given. Some people fear that the H1N1 vaccine contains, in particular, squalene, an adjuvant that, while included in other vaccines in Europe and Canada, has never been used in routine vaccines in the United States. But the H1N1 vaccine available in the United States has no adjuvant of any kind.

THE VACCINE HAS A DANGEROUS PRESERVATIVE

Thimerosal, a preservative containing ethyl mercury that has been in vaccines since the 1930s, is used to prevent inadvertent bacterial and fungal contamination of multi-dose vials. H1N1 vaccine distributed in multi-dose vials will contain about 25 micrograms of ethyl mercury per dose.

The issue of thimerosal received public attention in 1999 when the American Academy of Pediatrics and the United States Public Health Service took the precautionary step of asking that thimerosal be removed from single-dose vials of all vaccines. This was done in such a precipitous and frightening manner that it gave rise to the notion that thimerosal had led to autism or mercury poisoning. It hadn’t.
Paul Offit, NYT on H1N1 Myths

- In fact, subsequent studies found that infants could safely receive eight times as much mercury as is contained in the H1N1 vaccine. But the public’s perception of thimerosal was damaged. This year, enough thimerosal-free vaccine is available to inoculate children under age 6, but that does not mean doses with thimerosal are unsafe.

Vaccine Guidelines (Nov. 10)

Inactivated, injectable Influenza A (H1N1) 2009 Monovalent Vaccine ("shot") should only be used for healthy individuals 2–49 years of age who are not pregnant and who are in the following priority populations:

- Healthy children aged 24 months (2 years) through 24 years
- Healthy household contacts and caregivers of infants less than 6 months of age
- Healthy healthcare workers and Emergency Medical Services personnel who have direct contact with patients or infectious material. The supply of vaccine is not yet sufficient to offer vaccine to all healthcare workers who have direct patient care contact. Priority will be given to health care workers who have direct patient care contact with children.

Issues

- Current demands being met
- Antiviral supplies adequate**
- Masks supplemented from state supply
- N95 masks vs. simple masks a DPH issue
- Communication ongoing with providers
  - CDC Guidelines
  - CT DPH modification
  - Infection control
  - Vaccine infrastructure
“Lessons Learned”
1. Expect the unexpected
2. Don’t over-promise
3. Don’t underestimate the American public (and lose the word "panic" from your vocabulary)
4. Don’t underestimate anti-vaccine sentiment
5. Public health is under-funded at state and local level
6. A segment of the public will deny that the sun is coming up
7. We need novel vaccine production to come on board

For nurses and clinicians
- Other website tools
  - [http://www.cdc.gov/h1n1flu/clinicians/](http://www.cdc.gov/h1n1flu/clinicians/)
- Triage Algorithm:
  - Adults (>18 Years) Oct 2
  - Children (<18 years) Oct 12
- CT DPH
  - Flu self-assessment (Emory)
    - [Could I have H1N1 flu (swine flu)?](https://h1n1.cloudapp.net/Default.aspx)
- Where’s my vax?
  - 211 (state), 796-1619 (Danbury)
  - Flu.gov, flucliniclocator.org, google flu clinic locator

For the public
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