


H1N1 Update

Greg Dworkin, MD
Chief, Pediatric Pulmonology
Danbury Hospital
Nov 20, 2009

Pandemic Information Sharing & Resilience Workshop
June 26, 2009




<https://webmeeting.nih.gov/p12358385/>

PCAST - President's Council of
Advisors On Science And Technology



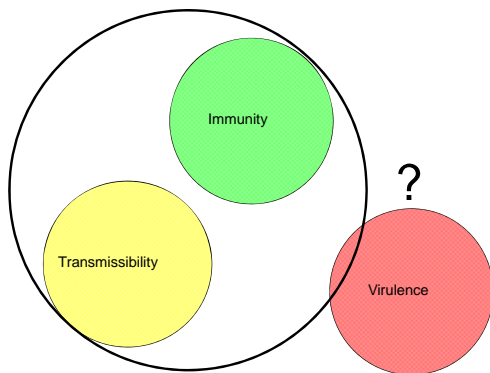
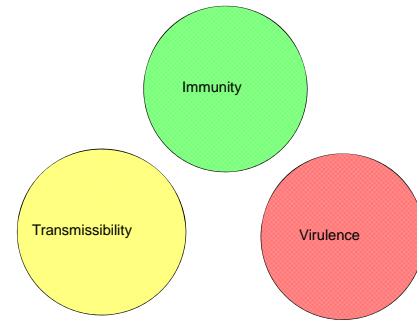
What is a flu pandemic?

- A flu pandemic is an outbreak of a new flu virus that spreads around the world.

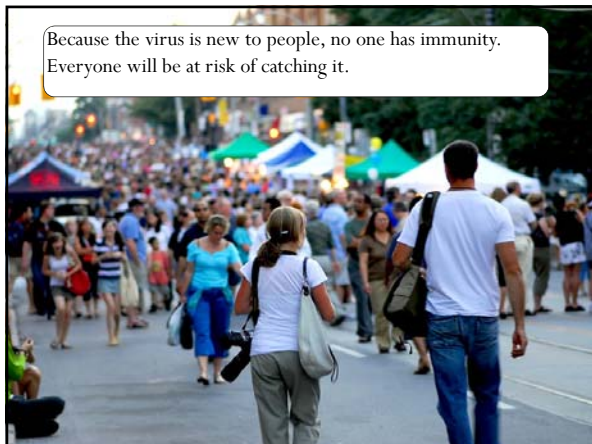


There are 3 criteria for a pandemic virus:

- 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).



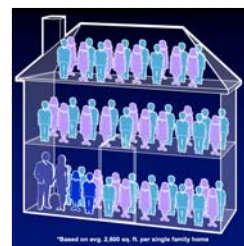
Because the virus is new to people, no one has immunity. Everyone will be at risk of catching it.



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 :

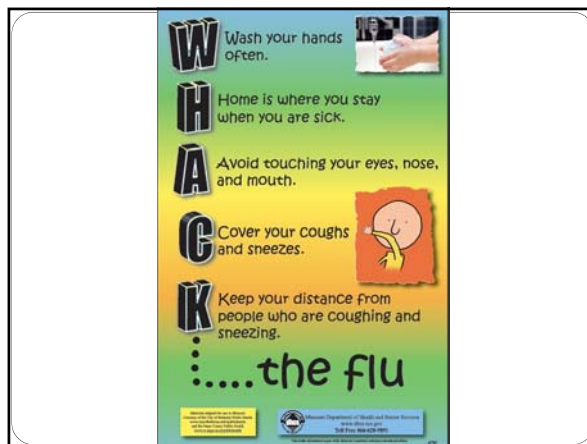
- Elementary Schools 3.9 ft
- Hospitals 7.8 ft
- Offices 11.7 ft
- Residences 16.2 ft



Buildings Databook, Dept of Energy

Message to children

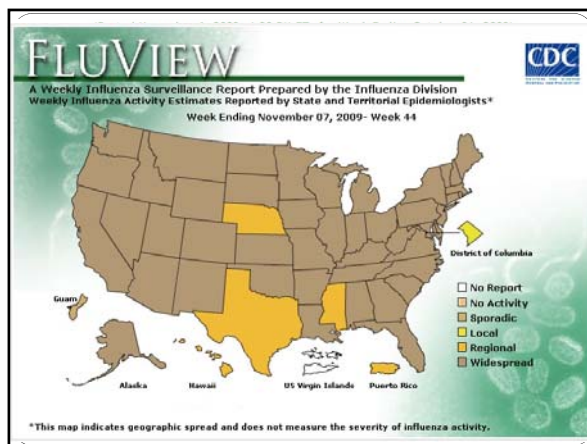
- If it's wet and it's not yours, don't touch it!" –
NYC school nurse, Spring 2009



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.

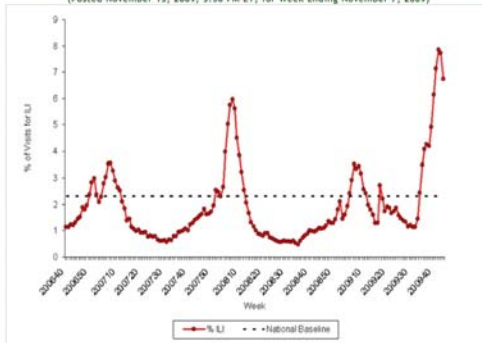
The Numbers

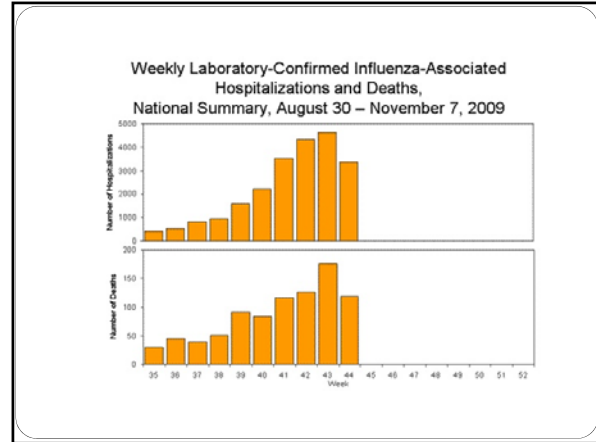
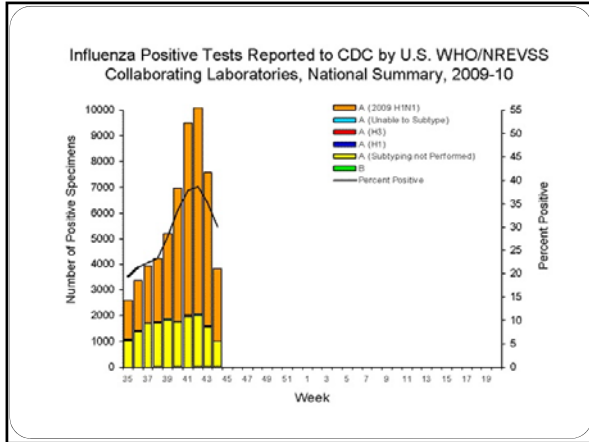
- CDC estimates that between about 63,000 and 153,000 2009 H1N1-related hospitalizations occurred between April and October 17, 2009. The mid-level in this range is about **98,000** H1N1-related hospitalizations.

The Numbers

- 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.

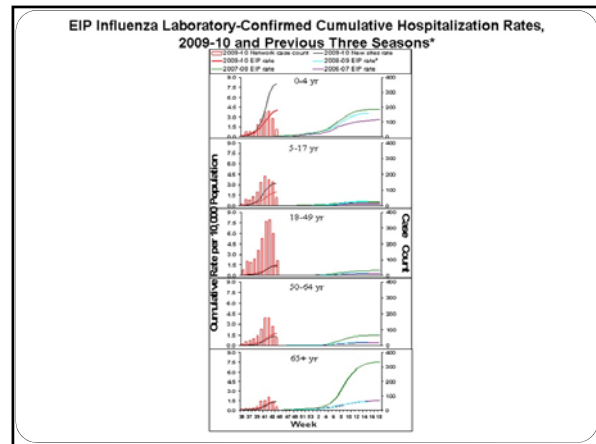
Percentage of Visits for Influenza-like Illness (ILI) Reported by the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), National Summary 2008-2009 and Previous Two Seasons (Posted November 13, 2009, 3:30 PM ET, for Week Ending November 7, 2009)





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.



The Numbers

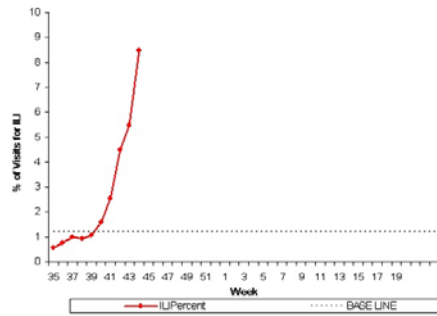
U.S. Influenza-associated Pediatric Mortality

Posted November 13, 2009 (Updated each Friday)
Data reported to CDC by November 7, 2009

Date Reported	Laboratory-Confirmed 2009 H1N1 Influenza Pediatric Deaths	Laboratory-Confirmed Influenza A Subtype Unknown Pediatric Deaths	Laboratory-Confirmed Seasonal Influenza	Total
This Week (Week 44, November 1-7, 2009)	26	8	1	35
Since August 30, 2009	98	19	0	117
Cumulative since April 26, 2009	156	22	1	179

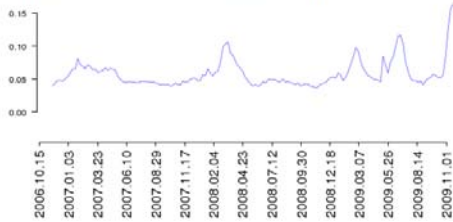
This table is based on data reported to CDC through the [Influenza-Associated Pediatric Mortality Surveillance System](#). Influenza-associated deaths in children (persons less than 18 years) was added as nationally notifiable condition in 2004.
For more information about influenza-associated pediatric mortality, see [EWView](#).

WEEKLY PERCENT OF VISITS FOR INFLUENZA-LIKE ILLNESS (ILI) REPORTED BY THE U.S. OUTPATIENT INFLUENZA-LIKE ILLNESS SURVEILLANCE NETWORK (ILI-NET) SUMMARY FOR THE REGION 1 (CT, ME, MA, NH, R, VT)



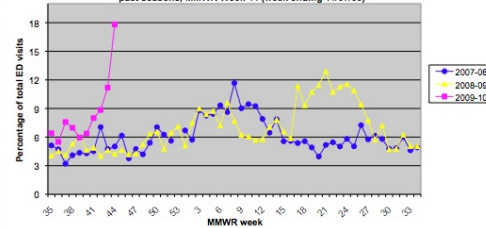
idsdistribute.org

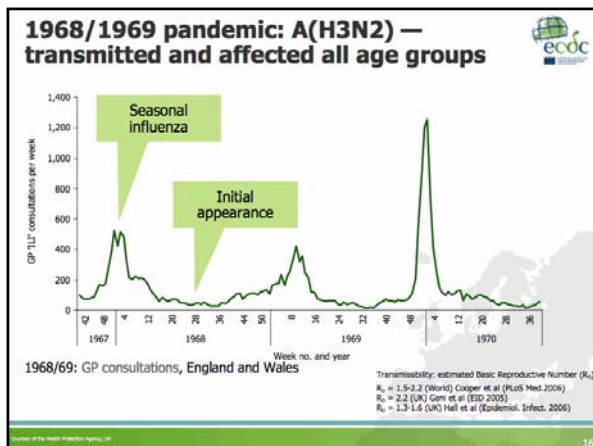
CT Dept of PH (last data upload 2009-11-13 07:05 - image generated 2009-11-14 02:59)



CT Hospital Emergency Department Syndromic Surveillance (HEDSS): Danbury Hospital

Percent of ED visits for fever/flu syndrome, 2009-10 influenza season compared to past seasons, MMWR Week 44 (week ending 11/07/09)





Danbury Hospital limits visitors to keep swine flu at bay
 By Robert Miller
 Staff Writer
 Updated: 10/19/2009 05:46:16 PM EDT

DANBURY – Danbury Hospital is asking any visitors or volunteers age 18 or younger to stay away – temporarily – due to fears of spreading swine flu inside the hospital.

The hospital is also asking visitors of any age who have flu-like symptoms – cough, sore throat, a fever of 100 degrees or more – to refrain from coming to see friends and family.

The restrictions will go into effect Wednesday and may last through the end of the seasonal flu season in spring.

Danbury Hospital is the first hospital in the state to do this, according to Dr. Gregory Dworkin, the hospital's pediatric pulmonologist.

"We're ahead of the curve, but only a little," Dworkin said Monday, pointing out that hospitals in several other state have already limited visitors.

CT Hospitals Restrict Visitors

Connecticut Hospitals Impose Tougher Visitor Restrictions Amid Swine Flu Concerns

By JENNIFER LAMBERTS
 Fox 61
 12:54 p.m. EDT, October 26, 2009

[E-mail](#) [Print](#) [Share](#) [Text Size](#)

Hospitals across the state are imposing tougher restrictions on visitors as suspected cases of swine flu spread across Connecticut.

The regulations generally deal with children 18 and under – who are proving more susceptible to infection with the H1N1 virus. Several hospitals will only allow visitors 18 and under if they are accompanied by an adult or if they are at the hospital for treatment themselves.

The hospitals that have implemented new regulations include Hartford Hospital, Bristol Hospital, Manchester Memorial, Lawrence & Memorial Hospital in New London, Rockville General and Danbury Hospital.

This list could grow today as other hospitals consider ways to help prevent further spread of the disease.

NB: 28 of 31 hospitals with some kind of restriction

Related

- How To Get The H1N1 Vaccine
- Connecticut's Frustration Grows In The Hunt For The Elusive Swine Flu Vaccine
- Picture: Swine Flu In Connecticut

Photos

- H1N1 D19
- Swine Flu
- Swine flu outbreak

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.

Paul Offit, NYT on H1N1 Myths

- **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.

Paul Offit, NYT on H1N1 Myths

- **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.

Paul Offit, NYT on H1N1 Myths

- **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.

Paul Offit, NYT on H1N1 Myths

- 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)

Influenza A (H1N1) 2009 Monovalent LAIV vaccine (nasal spray) 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 health care workers who have direct patient care contact. Priority will be given to health care workers who have direct patient care contact with children.

Vaccine Guidelines (Nov. 10)

Inactivated, injectable Influenza A (H1N1) 2009 Monovalent Vaccine ("shot") should only be use for the following priority populations:

- Pregnant women
- Household contacts and caregivers of infants less than 6 months of age
- All children aged 6 months through 83 months (age 6 months through 6 years)
- Children age 7 through 24 years with high risk medical conditions
- 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 health care 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/>
 - Triage Algorithm:
 - [Adults \(>18Years\)](#), Oct 2
 - [Children \(<=18 years\)](#), Oct 12
 - CT DPH
 - <http://www.ct.gov/ctfluwatch/>
 - Flu self-assessment (Emory)
 - **Could I have H1N1 flu (swine flu)?**
 - <https://h1n1.cloudapp.net/Default.aspx>

For the public

- CT DPH
 - <http://www.ct.gov/ctfluwatch/>
- 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