

# H1N1: A Framework for Discussing Outbreaks of Illness in School Settings

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Connecticut Department of Public Health

September 10, 2009

“It’s just the flu.”

“It is and it isn’t.”

# Illness short-circuits field trip

Wolcott pupils develop fevers, nausea in D.C.

BY MICHAEL PUFFER  
REPUBLICAN-AMERICAN

WOLCOTT — A four-day field-trip to Washington, D.C. for eighth-graders was cut short Friday after 26 students came down with “flu-like symptoms.”

The annual trip has been a rite of passage for generations of eighth-graders getting ready to graduate from Tyrell Middle School. This year’s trip included a three-night hotel stay and four days of sightseeing, including stops at the Smithsonian Museum and various monuments.

Four charter buses and a van set off with 209 students and about 22 chaperones Tuesday morning. By Wednesday afternoon, 11 stu-



JOSALEE THRIFT REPUBLICAN-AMERICAN

**Sarah Whitney, 14, is welcomed by family members, from left, Lauren, cousin Michelle, 10, Kathy and cousin Nicole Whitney, 14. Sarah arrived at Tyrell Middle School in Wolcott on Friday from a school trip to Washington, D.C., in which Nicole also participated. Sarah walked off the bus with a fever of 100.9 degrees, and a number of other students fell ill during the trip.**

dents were feeling ill. All had ridden the same bus. Some had high temperatures and vomited.

Sick students stayed in their hotel Thursday morning as

See **TRIP**, Page **4B**

# Sorority Rush, Football Practices Spur College Swine Flu Season

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By Meg Tirrell and Tom Randall



Aug. 31 (Bloomberg) -- Swine flu infected hundreds of students in at least 17 U.S. colleges in the first weeks of school, providing evidence the virus is resurging as it races through sorority events and football practices.

The U.S. is undergoing the highest influenza rates for this time of year since the 1968 Hong Kong flu, said **Joe Quimby**, a spokesman for the Centers for Disease Control and Prevention. School officials said they are preparing buses to transport the sick, isolation dorms and vaccination drive-throughs. College students are the least likely age group to avail themselves of the shots, key this year because young people are most susceptible to the H1N1 strain, health officials said.

"You can envision 200 young people being stuffed into the basement of a smoky fraternity -- what a perfect breeding ground for disease," said **Jim Turner**, director of the Department of Student Health at the University of Virginia and president of the **American College Health Association**. He has been tracking outbreaks at U.S. colleges.

# RISK OF CONTACT

TO REDUCE THE CHANCE OF TRANSMITTING SWINE FLU, DOCTORS ARE DISCOURAGING UNNECESSARY PHYSICAL CONTACT.  
**ESTIMATED LEVELS OF RISK FOR DIFFERENT KINDS OF GREETINGS**



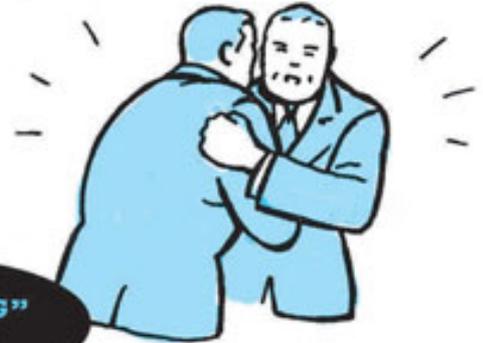
**ELBOW RUB**  
VERY LOW



**FIST BUMP**  
LOW



**HANDSHAKE**  
MILD



**"BRO-HUG"**  
MODERATE



**FULL-BODY HUG**  
HIGH



**MOUTH, CHEEK  
or AIR KISS**  
VERY HIGH

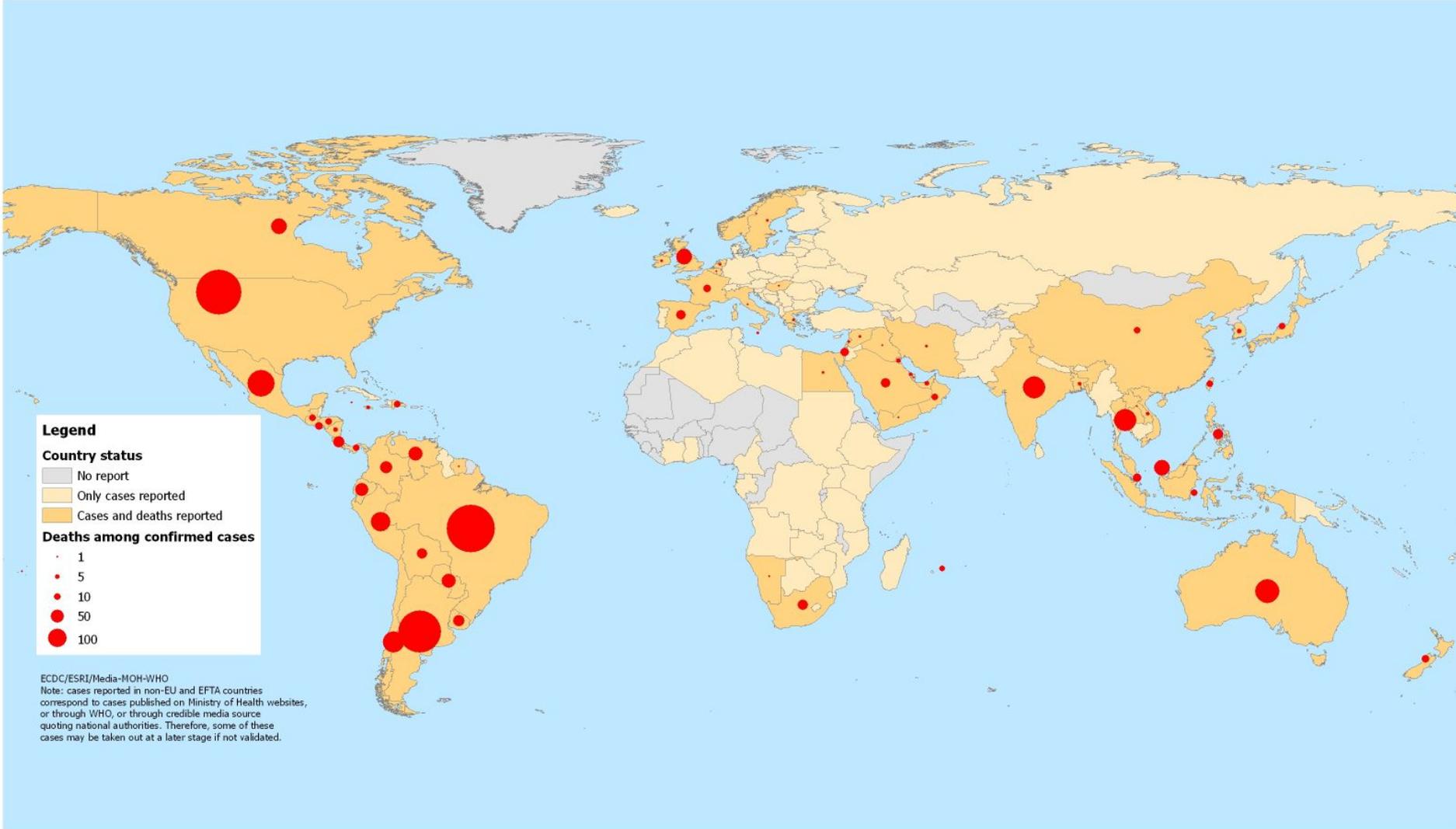
**Epidemic:** Occurrence of more cases of disease than expected in a particular area or among a specific group of people over a period of time

**Pandemic:** Epidemic occurring in a very wide area (several countries or continents) and usually affecting a large proportion of the population

**Outbreak:** Generally synonymous with epidemic, but may be smaller in scale

**Cluster:** Aggregation of cases in a given area over a period of time, without regard to whether the number of cases is more than expected

# Reported cumulative number of confirmed fatal cases of influenza A(H1N1)v and country reporting status by country, as of 09 September 2009, 16:00 hours CEST



# H1N1 cases on the rise

Bangalore, Aug 18, DH News Service :

***Over the past two days, no A(H1N1)-related deaths were reported from the City, but the number of people who tested positive for the contagious virus more than doubled on Tuesday.***



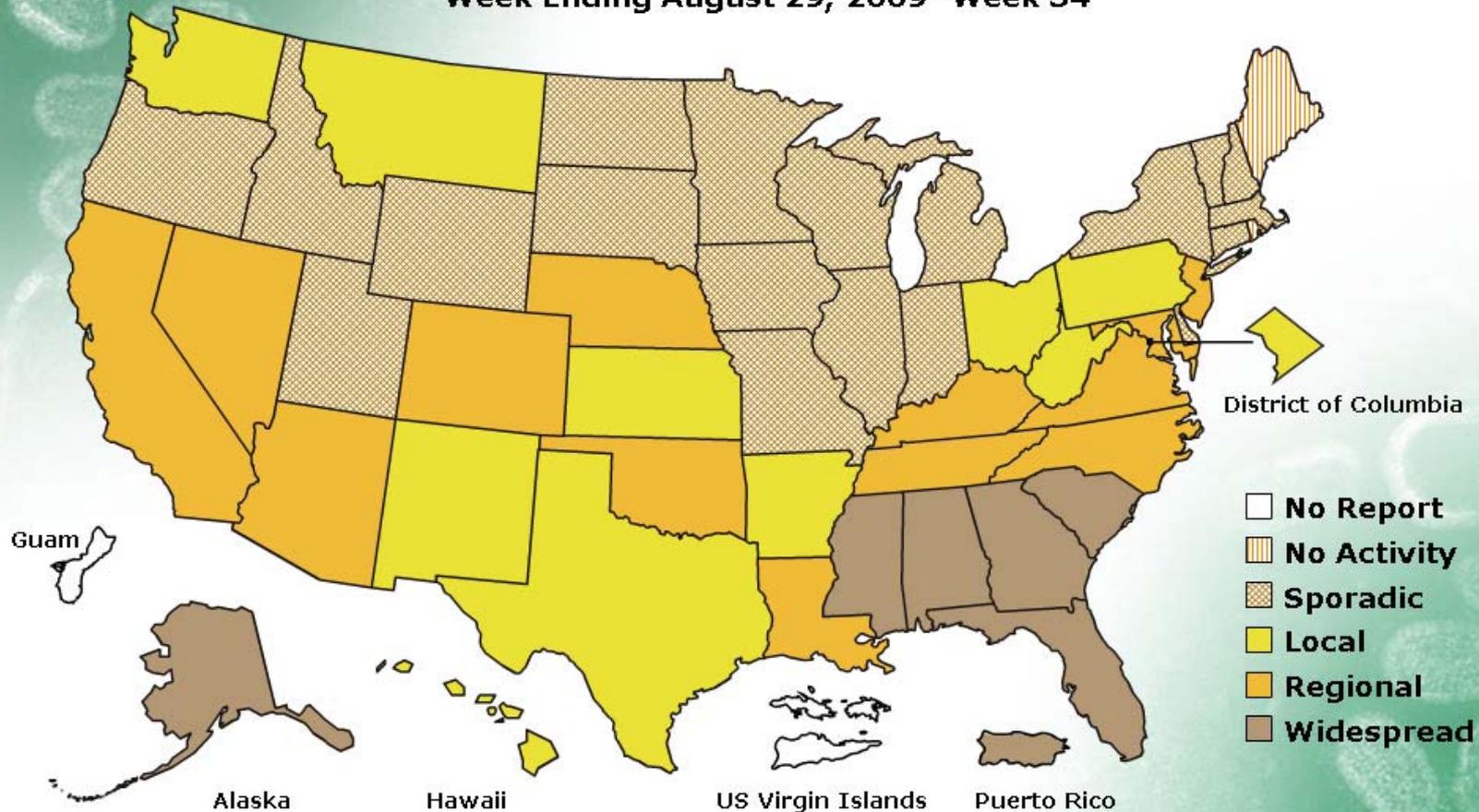
Authorities at the designated hospitals that tested the swab samples of some patients here and across the State confirmed that 22 persons were found carrying the A(H1N1) virus, taking the total number of positive cases to 194 with 834 categorised as “suspected”. Of the positive cases, all barring one were detected in hospitals across Bangalore with Udupi registering the remaining. As many as seven A(H1N1) positive cases were detected at the Rajiv Gandhi Institute of Chest Diseases (RGICD), while five were diagnosed at Sagar Apollo, followed by two each at the Command Hospital and Victoria. One case each was reported at M S Ramaiah, Pristine, Vydehi, Manipal and Shifa hospitals.

# FLUVIEW



**A Weekly Influenza Surveillance Report Prepared by the Influenza Division**  
**Weekly Influenza Activity Estimates Reported by State and Territorial Epidemiologists\***

**Week Ending August 29, 2009- Week 34**

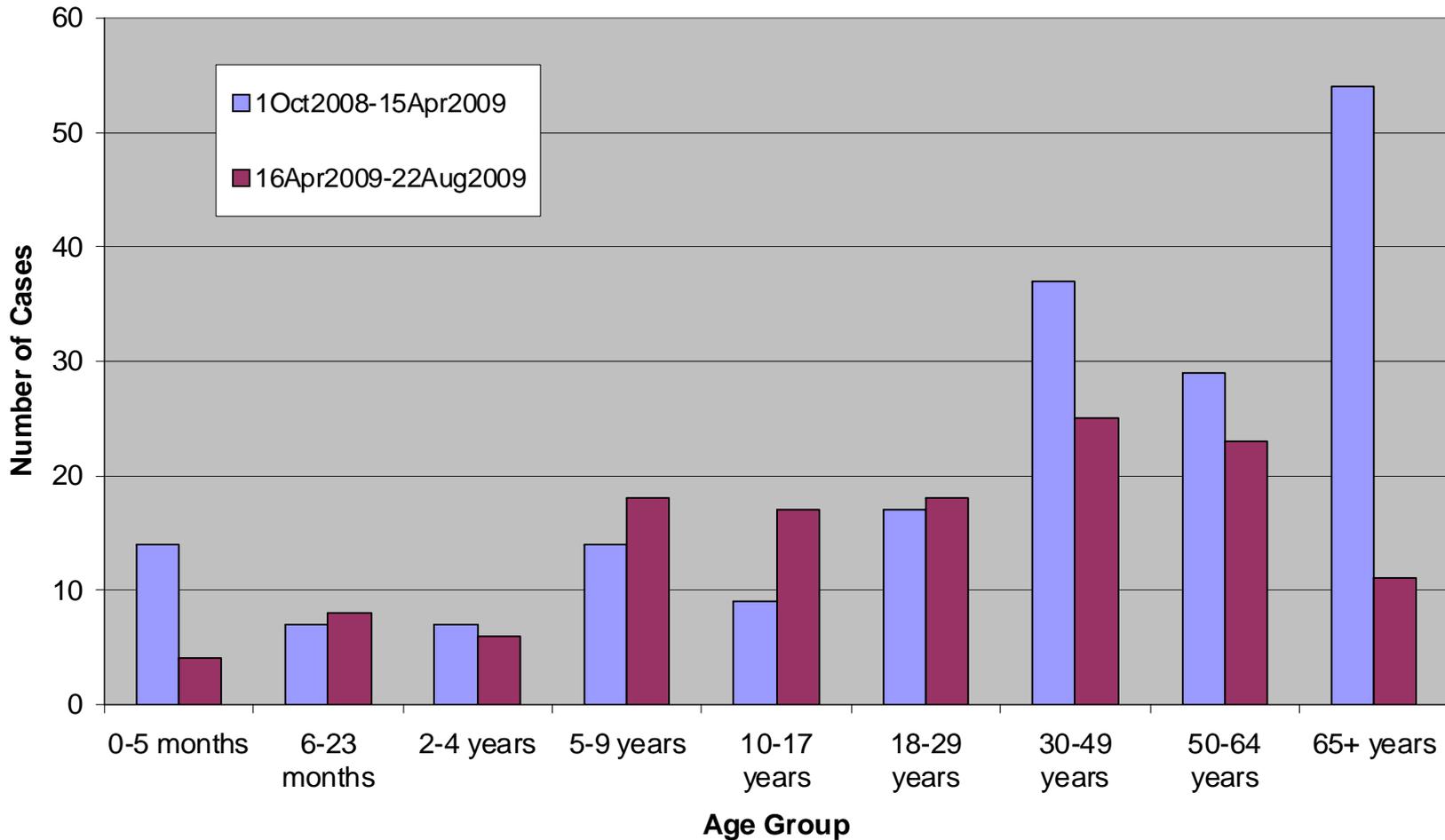


\*This map indicates geographic spread and does not measure the severity of influenza activity.

## As of 9/9/2009, 1,985 Connecticut residents who have tested positive for novel H1N1 influenza

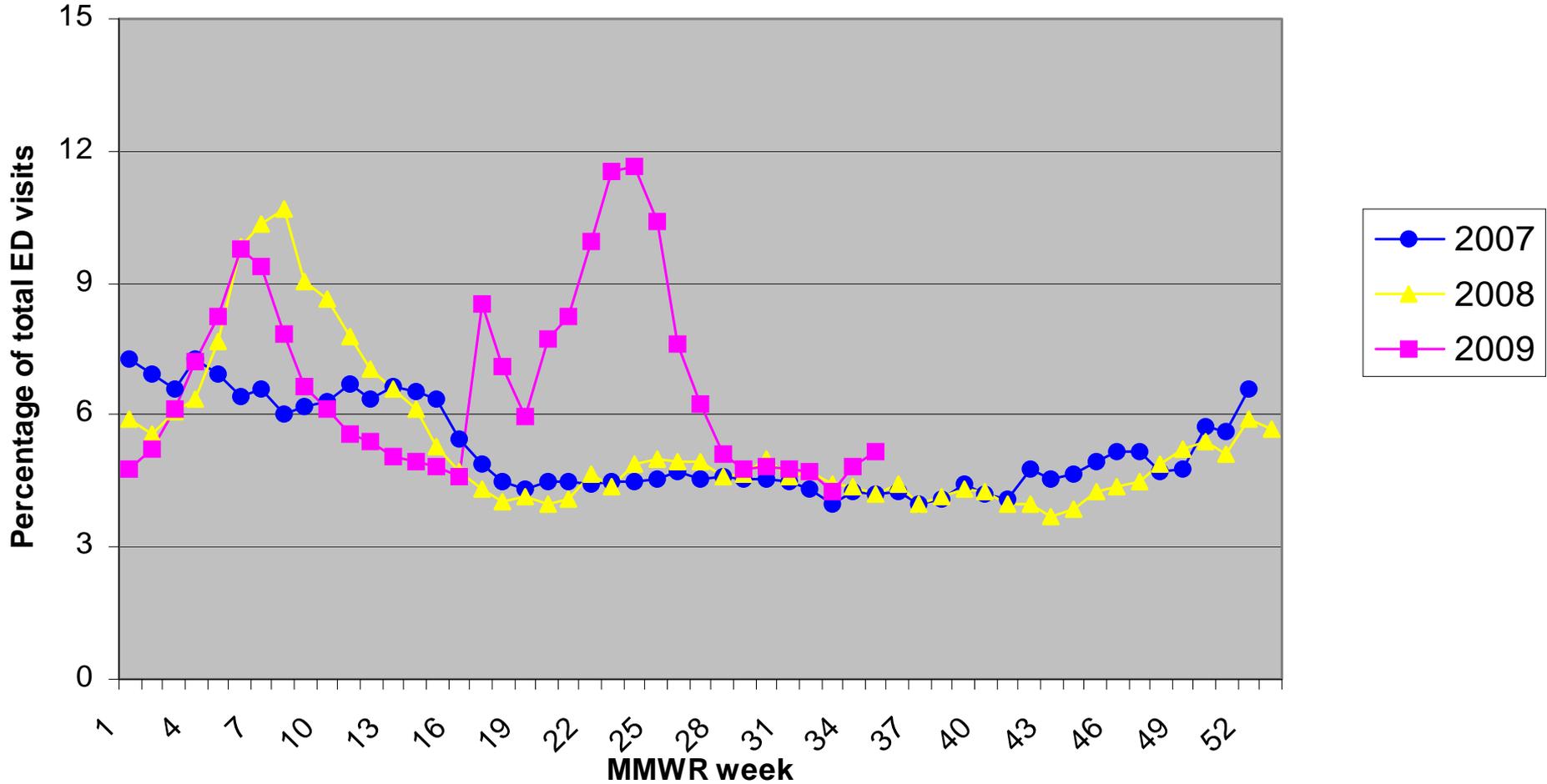
- Ages range from less than 1 to 93 years (median age 14 years)
- 50.9% are female, 47.2% are male and 1.9 % is sex unknown;
- 139 patients have been hospitalized for H1N1 related illnesses;
- 9 H1N1-related deaths: Hartford County 2, New Haven County 6, and New London County 1.
- Patients for whom home address is known are from the following counties: Fairfield (654), Hartford (367), Litchfield (31), Middlesex (28), New Haven (699), New London (76), Tolland (52), and Windham (21)

## Age Distribution of Influenza Hospitalizations, New Haven County, 2008-09 (Pre-Pandemic A(H1N1) and Post-Pandemic A(H1N1))



\*Please note that this graph represents preliminary surveillance data from the 2008-09 influenza season compiled by the Connecticut Department of Public Health and Connecticut Emerging Infections Program.

**Connecticut Hospital Emergency Department Syndromic Surveillance (HEDSS) System: Percentage of total ED visits for "fever/flu" syndrome category, 2009-10 influenza season compared to past seasons, through MMWR Week 35 (week ending September 5 2009)**

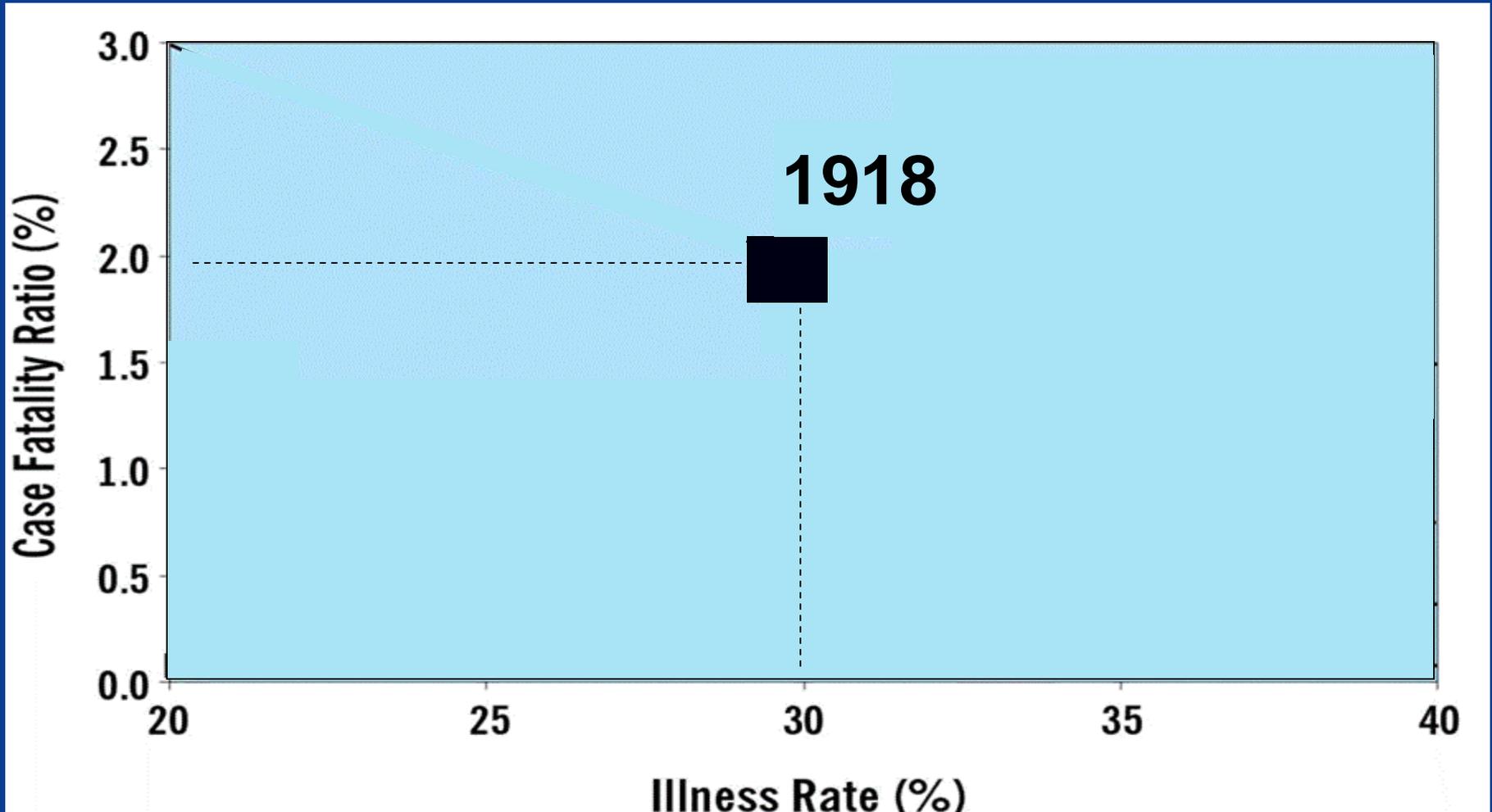


# Hurricanes and Pandemic Severity

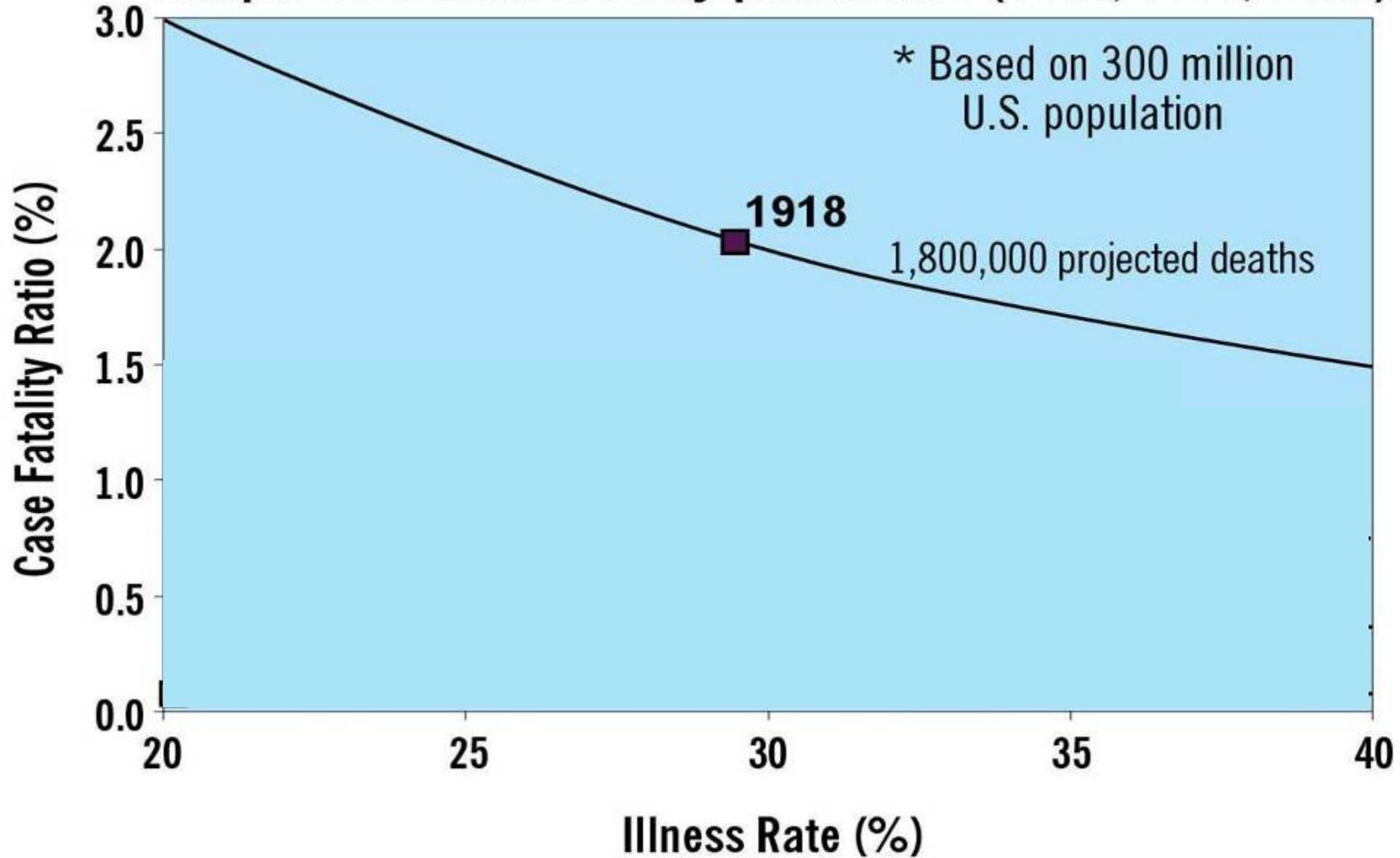
# Influenza pandemics in last century

Year	Strain	Name	Number of confirmed human deaths (USA)	Global deaths
1918-19	H1N1	“Spanish” Flu	650,000	20-40 million
1957-58	H2N2	“Asian” Flu	70,000	1 million
1968-69	H3N2	“Hong Kong” Flu	34,000	1 million

# Pandemic Severity Index

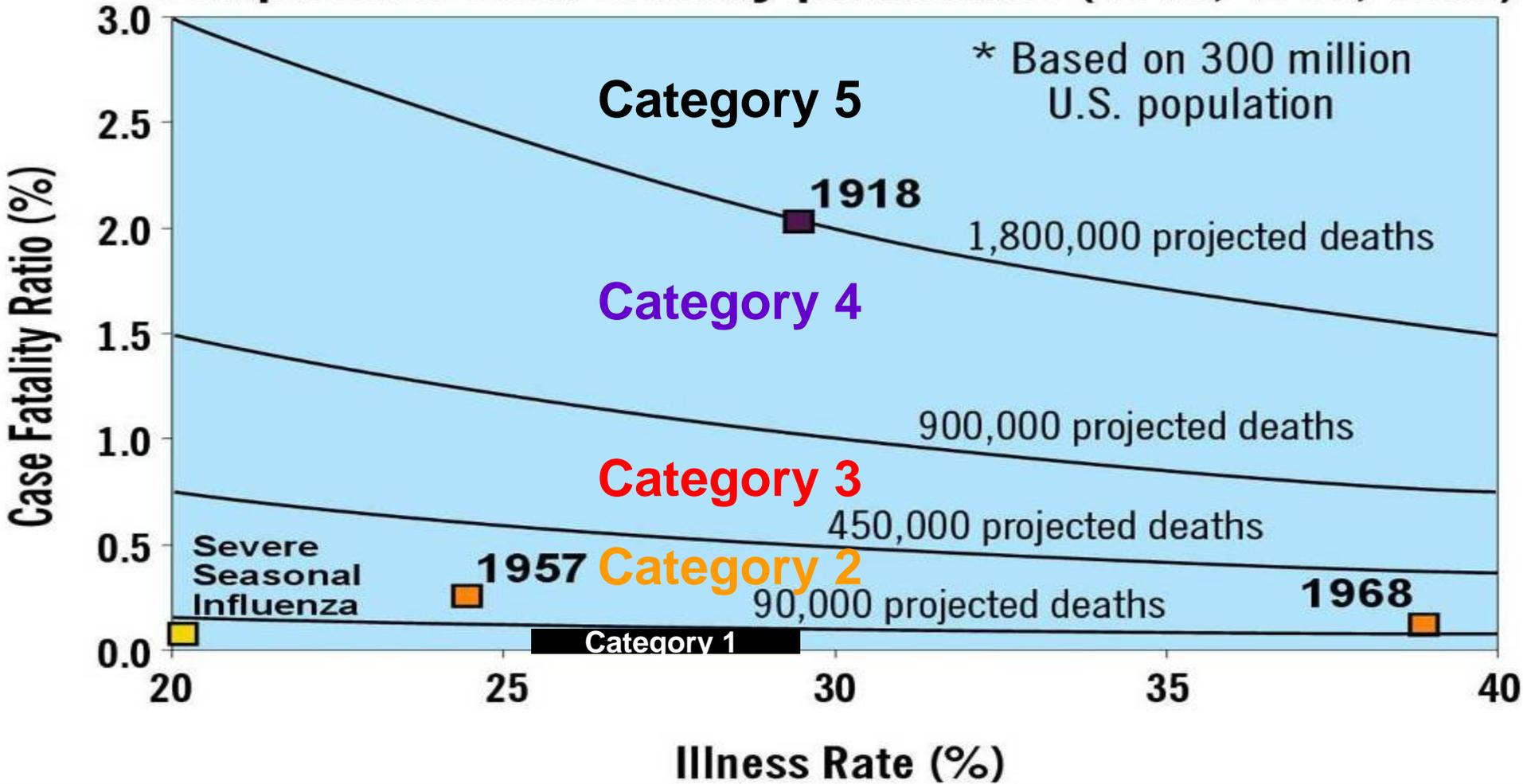


# Projected mortality\* of a modern influenza pandemic compared to 20th century pandemics (1918, 1957, 1968)



# Projected mortality\* of a modern influenza pandemic compared to 20th century pandemics (1918, 1957, 1968)

\* Based on 300 million U.S. population



# Most Likely Estimates of Potential Impact of an Influenza Pandemic with a 30% Illness Rate in CT

	Category 2 (1968-like)	Category 5 (1918-like)
Ill, No medical care	474,089	422,083
Outpatients	563,647	504,806
Hospitalizations	12,451	102,348
Deaths	2,902	23,852
Totals	1,053,089	1,053,089

# WHO warns of severe form of swine flu

Fri Aug 28, 2009 10:55pm EDT

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By [Maggie Fox](#), Health and Science Editor

WASHINGTON (Reuters) - Doctors are reporting a severe form of [swine flu](#) that goes straight to the lungs, causing severe illness in otherwise healthy young people and requiring expensive hospital treatment, the World Health Organization said Friday.

Some countries are reporting that as many as 15 percent of patients hospitalized with the new [H1N1](#) pandemic virus need intensive care, further straining already overburdened healthcare systems, WHO said in an update on the pandemic.

1 of 1

[Full Size](#)

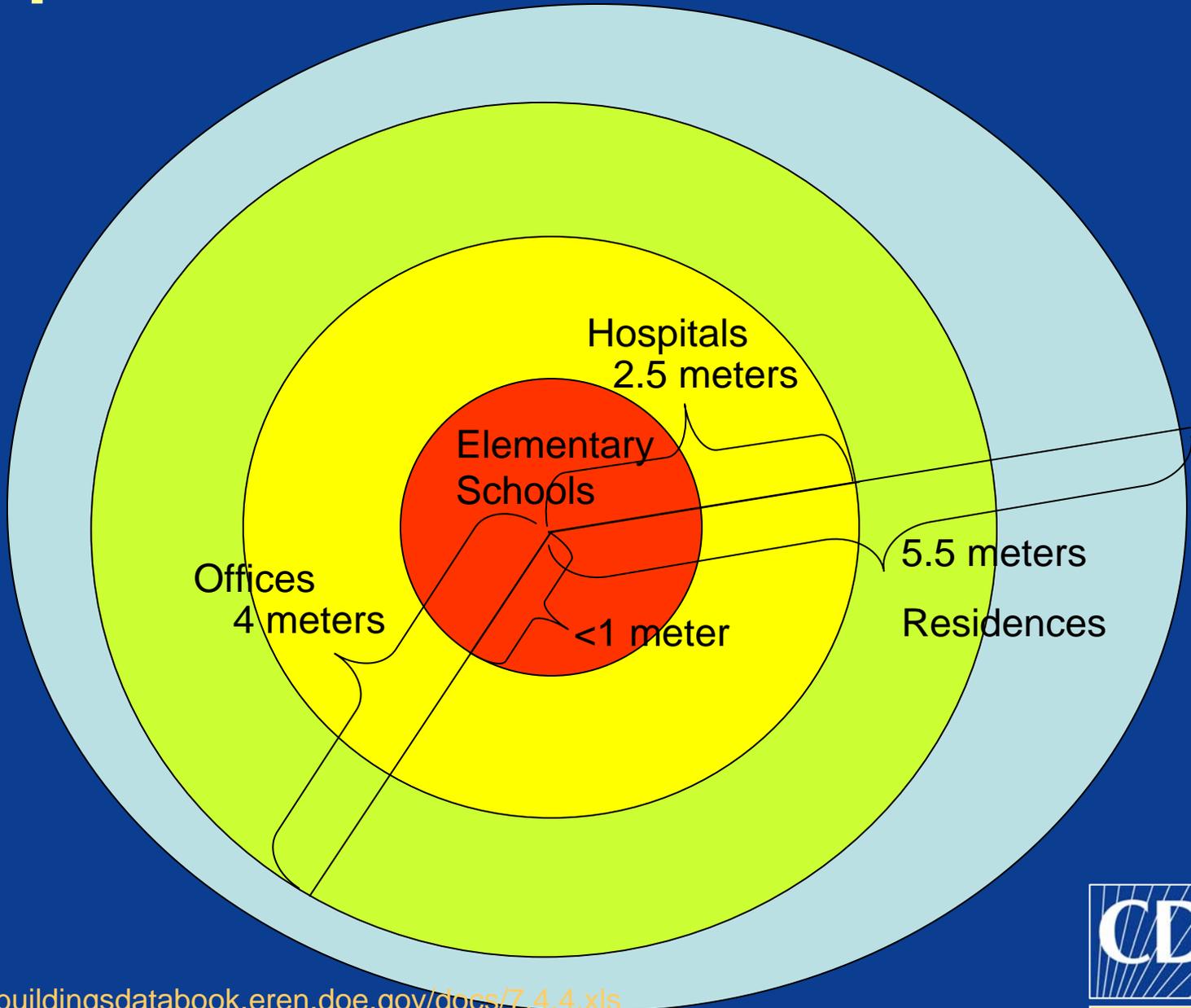
## MORE NEWS

[WHO warns of severe form of swine flu](#)

# Role of Children & Schools



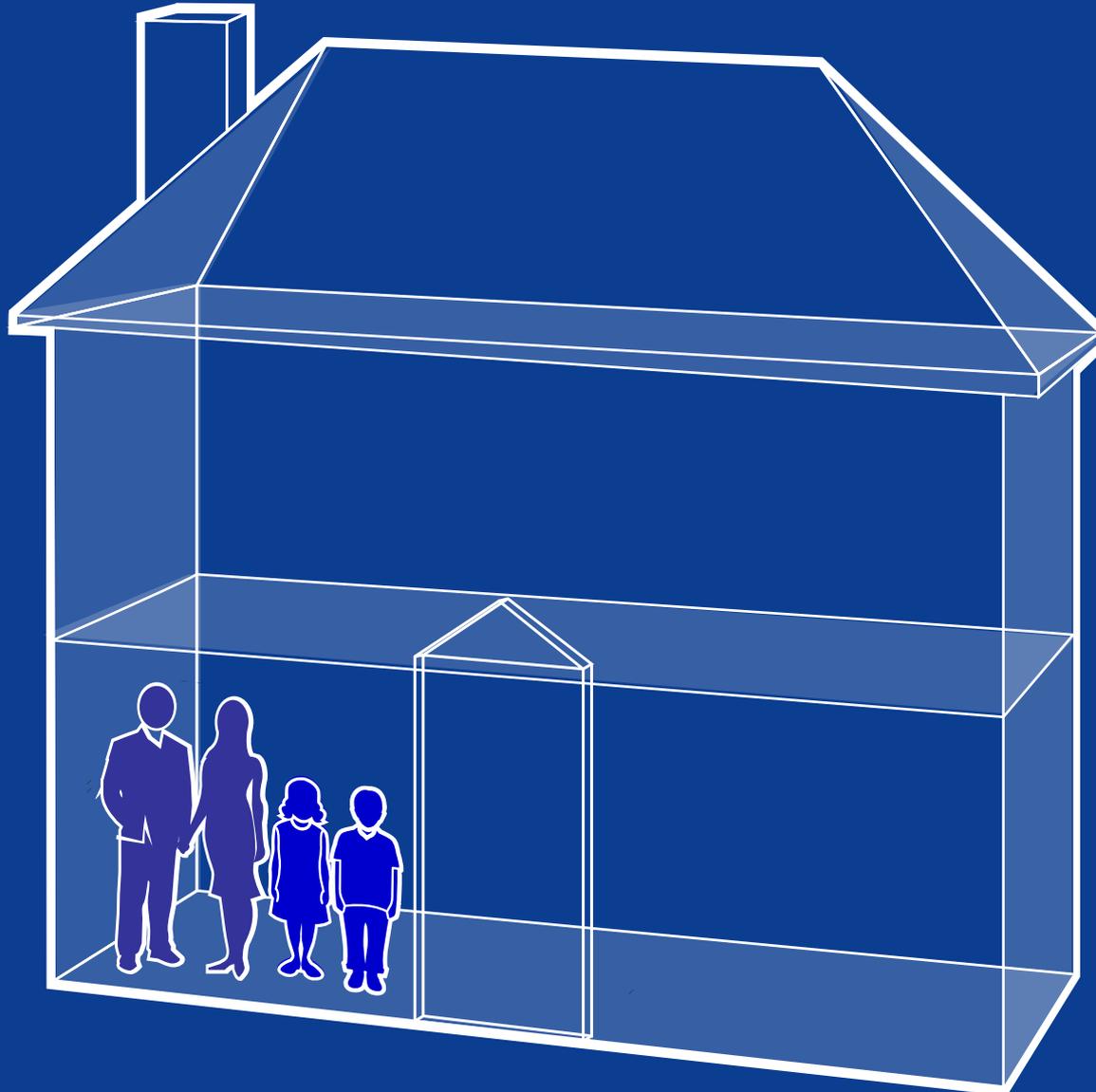
# Workplace / Classroom Social Density



<http://buildingsdatabook.eren.doe.gov/docs/7.4.4.xls>



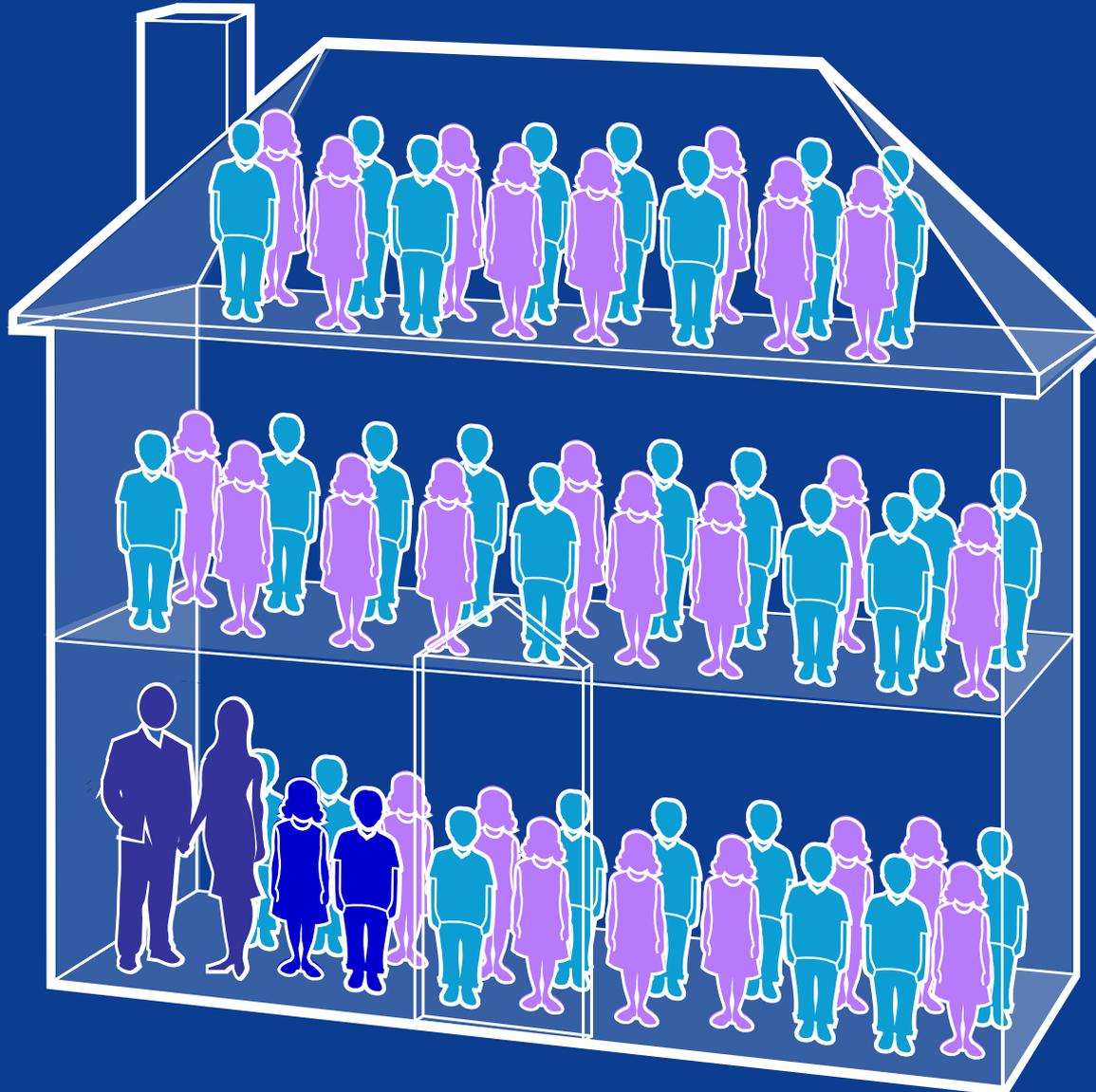
# Spacing of people: If homes were like schools



\*Based on avg. 2,600 sq. ft. per single family home



# Spacing of people: If homes were like schools



\*Based on avg. 2,600 sq. ft. per single family home



# PUBLIC NOTICE

In view of the severity of the present

## Epidemic of Influenza

and in order that all efforts may be concentrated on the stamping out of the disease, the local Board of Health, after consultation with Kingston Medical Society and the Mayor, has enacted that after Oct. 16th, and until further notice,

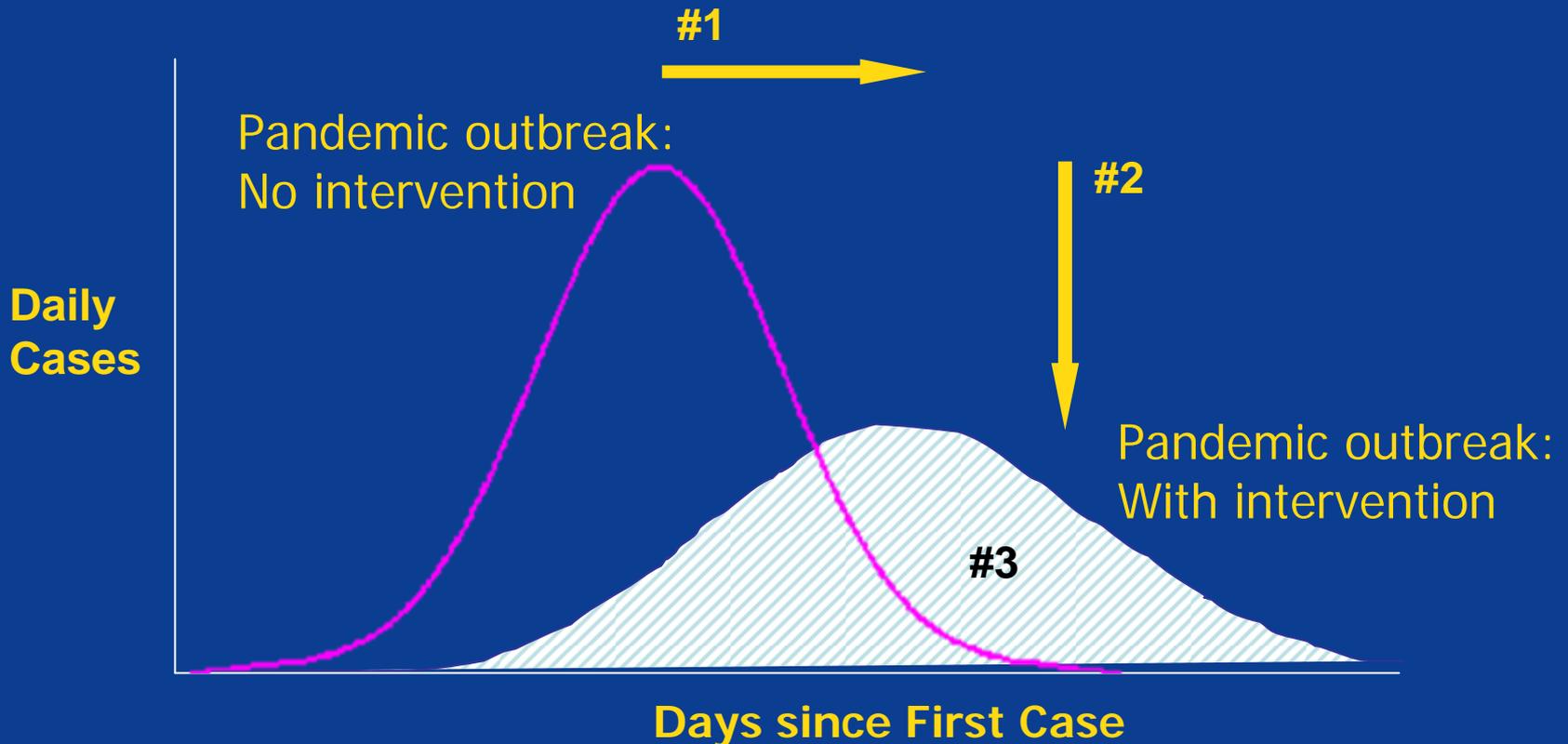
1. Theatres and Moving Picture Houses shall be closed and remain closed
2. Churches and Chapels of all denominations shall be closed and remain closed on Sundays.
3. All Schools, Public or Private, including Sunday Schools, shall close and remain closed.
4. Hospitals shall be closed to visitors.
5. No public shall be admitted to courts except those essential to the prosecution of the cases called.
6. The Board advises the public most strongly not to crowd into street cars and to avoid as much as possible any crowded train or an assembly of any kind.

Provisions have been made by the Kingston Medical Society whereby all cases applying for assistance will receive the same either by registered practitioners or by final year medical students acting under instructions. Therefore every case of illness should send in a call to a physician.

A. R. B. WILLIAMSON,  
Medical Health Officer.

# Community-Based Interventions

1. Delay disease transmission and outbreak peak
2. Decompress peak burden on healthcare infrastructure
3. Diminish overall cases and health impacts



# Tools in Our Toolbox



- **Pandemic Vaccine**
  - likely unavailable during the first wave of a pandemic
- **Antiviral medications**
  - Quantities
  - Distribution logistics
  - Efficacy / Resistance
- **Social distancing and infection control measures**





## Community Strategies by Pandemic Flu Severity (2)

<i>Interventions by Setting</i>	<i>Pandemic Severity Index</i>		
	<i>1</i>	<i>2 and 3</i>	<i>4 and 5</i>
<p><b><i>Workplace/Community</i></b>  <b>Adult social distancing</b></p> <p>–decrease number of social contacts (e.g., encourage teleconferences, alternatives to face-to-face meetings)</p> <p>–increase distance between persons (e.g., reduce density in public transit, workplace)</p> <p>–modify, postpone, or cancel selected public gatherings to promote social distance (e.g., stadium events, theater performances)</p> <p>–modify workplace schedules and practices (e.g., telework, staggered shifts)</p>	<p><b>Generally not recommended</b></p> <p><b>Generally not recommended</b></p> <p><b>Generally not recommended</b></p> <p><b>Generally not recommended</b></p>	<p><b>Consider</b></p> <p><b>Consider</b></p> <p><b>Consider</b></p> <p><b>Consider</b></p>	<p><b>Recommend</b></p> <p><b>Recommend</b></p> <p><b>Recommend</b></p> <p><b>Recommend</b></p>



## THE CASE FOR KENO

When it comes to gambling in Connecticut, the "horses are already out of the barn ..." **Stan Simpson, Page A2**



SATURDAY  
6.6.09 >> 1 \*

AMERICA'S OLDEST CONTINUOUSLY PUBLISHED NEWSPAPER  
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Hartford Courant.com

### SWINE FLU AND THE SCHOOLS

# To Close, Or Not To Close?

## Virus Poses Tough Choices For Officials At End Of Academic Year

By **ARIELLE LEVIN BECKER**  
alevinbecker@courant.com

The early days of the swine flu outbreak brought a rash of school closings.

Then, with signs that the virus was milder than initially feared, schools reopened and the closures stopped.

Now the H1N1 virus is doing what flu viruses usually do: spread. So far,

480 state residents have had confirmed cases of the virus. Most have been mild, though one person died and five others were hospitalized.

And this week, schools began closing again — an elementary school in Hamden where more than 15 percent of the pupils had flu-like symptoms, and a middle school in Wolcott where more than 200 students were absent.

### ON THE WEB

For more information about the swine flu, visit

[courant.com/swineflu](http://courant.com/swineflu)

It's not yet clear whether school closings will remain relatively rare or whether more will close before summer break begins. As the end of the school year approaches, closures could become more problematic, with finals, graduations and 180-day

requirements to contend with.

While Wolcott and Hamden closed schools this week, West Hartford and New Haven kept schools open after being affected by swine flu because local health and school officials did not forecast problems.

That, in part, reflects changes in the reasons schools are closing. While state and federal officials

**TOUGH, A4**

### ANIMAL SCIENCE



GROUNDLED

# Recommended School Responses (Similar Severity as in Spring 2009)

- Stay home when sick
- Separate ill students and staff
- Hand hygiene and respiratory etiquette
- Early treatment of high-risk students and staff
- Routine cleaning
- Consideration of selective school dismissal



# Recommended School Responses (Increased Severity)

- ✦ Active screening
- ✦ High-risk students and staff members stay home
- ✦ Students with ill household members stay home
- ✦ Increase distance between people at schools
- ✦ Extend the period for ill persons to stay home
- ✦ School dismissals



# School Dismissal Monitoring

- **Report dismissals to CDC, the U.S. Department of Education, and your state health and education agencies at [www.cdc.gov/FluSchoolDismissal](http://www.cdc.gov/FluSchoolDismissal)**
- **Generate real-time, national summary data daily on the number of school dismissals/closures and # of impacted students, teachers**



I HAVE  
VACCINE





# MMWR™

**Morbidity and Mortality Weekly Report**

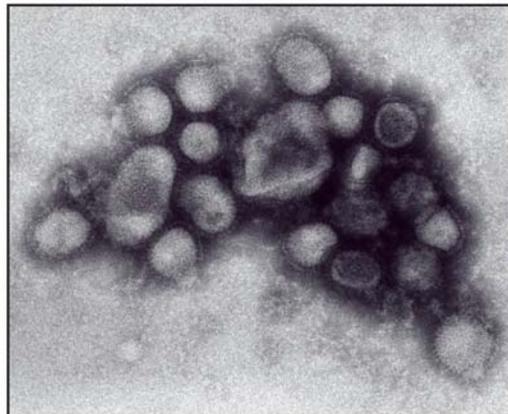
[www.cdc.gov/mmwr](http://www.cdc.gov/mmwr)

Early Release

August 21, 2009 / Vol. 58

## **Use of Influenza A (H1N1) 2009 Monovalent Vaccine**

**Recommendations of the Advisory Committee  
on Immunization Practices (ACIP), 2009**



# ACIP Recommendations: Influenza A (H1N1) 2009 monovalent vaccine use\*§

- Vaccinate as many as possible in 5 initial target groups (~159 mil)
  - Pregnant women
  - Household and caregiver contacts of children younger than 6 months of age (e.g., parents, siblings, and daycare providers)
  - Health-care and emergency medical services personnel<sup>1</sup>
  - Persons from 6 months through 24 years of age
  - Persons aged 25 through 64 years who have medical conditions associated with a higher risk of influenza complications<sup>2</sup>
- Seasonal influenza vaccine coverage in these target groups is only 20-50%

# ACIP Recommendations: Influenza A (H1N1) 2009 monovalent vaccine use\*<sup>§</sup> (2)

- *Prioritization* within these 5 target groups might be necessary if initial vaccine availability is insufficient to meet demand (~42 mil)
  - Pregnant women
  - Household and caregiver contacts of children younger than 6 months of age
  - Health-care and emergency medical services personnel with direct patient contact
  - Children from 6 months through 4 years of age
  - Children and adolescents aged 5 through 18 years who have medical conditions associated with a higher risk of influenza complications

# ACIP Recommendations: Influenza A (H1N1) 2009 monovalent vaccine use\*<sup>§</sup> (3)

Once demand is met for the 5 initial target groups include:

- All other persons ages 25 through 64 years

Followed by:

- All persons 65 years and older

- 
- Decisions about when to begin offering vaccination to persons outside of the initial target groups should be made in consultation with local public health authorities

# Influenza A (H1N1) 2009 monovalent vaccine planning assumptions

- Vaccine available starting mid-October
- Initial amount: At least 45 million doses will be available by Oct 15, followed by a projected average of 20M per week (up to the 195 million doses already purchased)
- Likely 2 doses required, 3-4 wks apart

# Influenza A (H1N1) 2009 monovalent vaccine – Public health planning efforts

- Planning large scale clinics and school-located clinics
- Reaching out to providers to assess interest and capacity to provide Influenza A (H1N1) 2009 monovalent vaccine in a variety of settings

# Between a virus and a hard place

Complacency, not overreaction, is the greatest danger posed by the flu pandemic. That's a message scientists would do well to help get across.

**D**amned if you do, damned if you don't. The emergence of a new, swine-flu-related H1N1 strain of influenza in people in North America, with sporadic cases elsewhere in the world, has left the US Centers for Disease Control and Prevention (CDC) in Atlanta, Georgia, and the World Health Organization (WHO) in Geneva in an unenviable position.

For more than a week now, these two agencies have been holding daily media briefings to keep the world informed about the rapidly unfolding story. There is ample reason for concern: a new flu virus has emerged to which humans have no immunity, and it is spreading from person to person. That has happened only three times in the past century. The pandemics of 1957 and 1968 were mild in most

of falsely reassuring officialdom that has too often accompanied past crises. As Peter Sandman, a risk-communication consultant based in Princeton, New Jersey, aptly puts it: "Anyone who's paying attention gets it that we just don't know if this thing is going to fizzle, hang in abeyance for months, disappear and then reappear, spread but stay mild, replicate or exceed the 1918 catastrophe, or what. The reiteration of uncertainty and the insistence on what that means — e.g., advice may change; local strategies may differ; inconsistencies may be common — has been almost unprecedentedly good."

**"The risk is not hyping the pandemic threat, but underplaying it."**