

Swine Flu and Pandemic Influenza Planning

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The
Economist

MAY 28th - 31st 2009

Economist.com

Obama's first 100 days

Latin America's economic resilience

Pakistan attacks the Taliban

Wall Street's angry shareholders

The dancing parrot

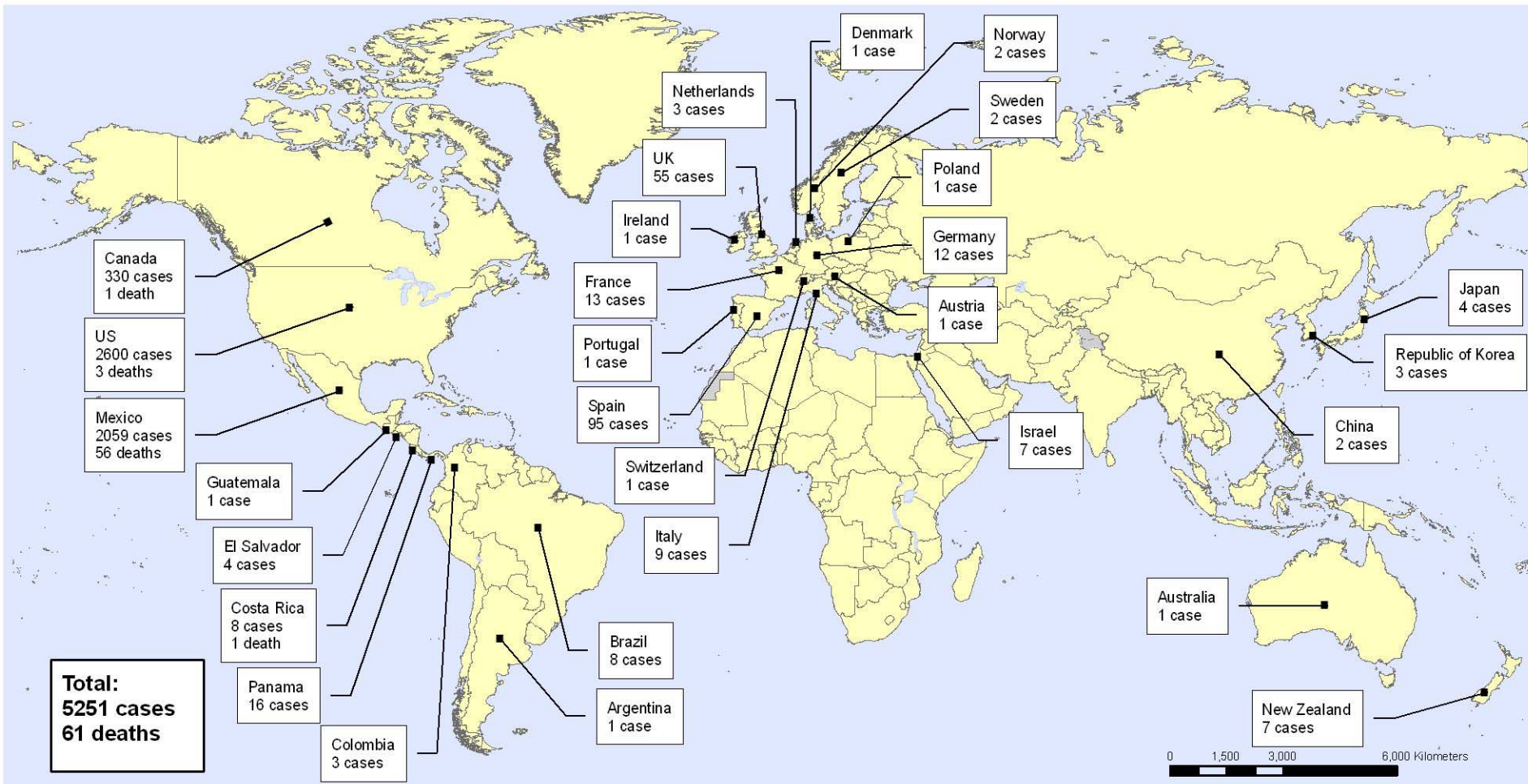
The pandemic threat

How scared should
you be?



New Influenza A (H1N1), Number of laboratory confirmed cases and deaths as reported to WHO

Status as of 12 May 2009
06:00 GMT



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: World Health Organization
Map Production: Public Health Information and Geographic Information Systems (GIS)
World Health Organization



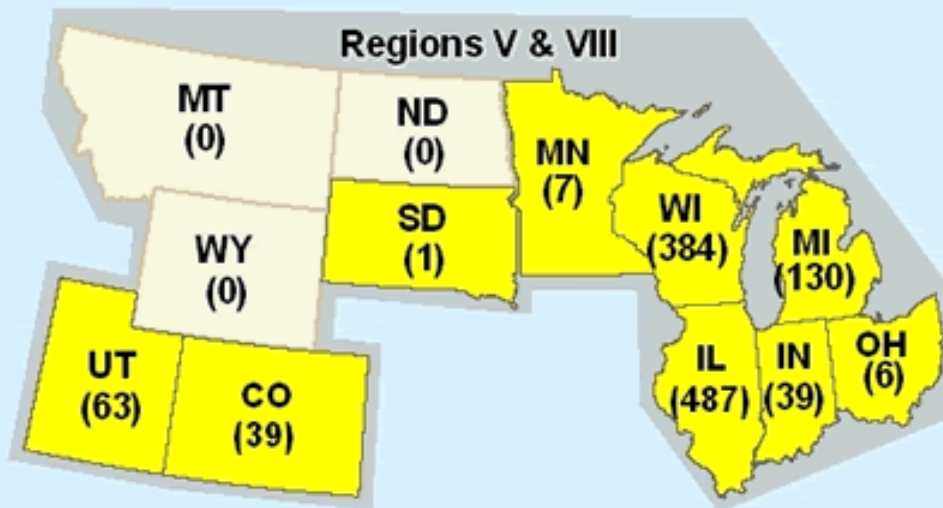
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Map produced: 12 May 2009 06:00 GMT

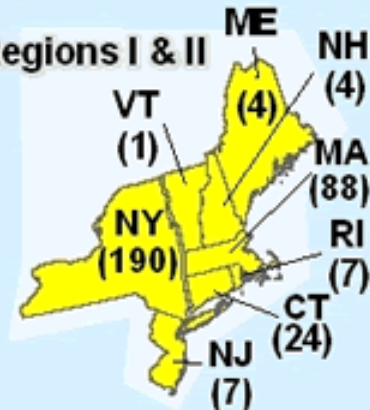
Regions IX & X



Regions V & VIII



Regions I & II



Regions VI & VII



Regions III & IV

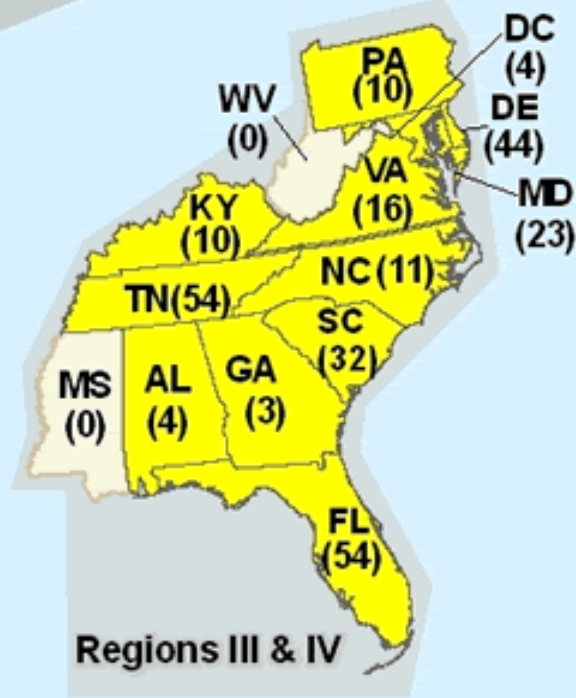
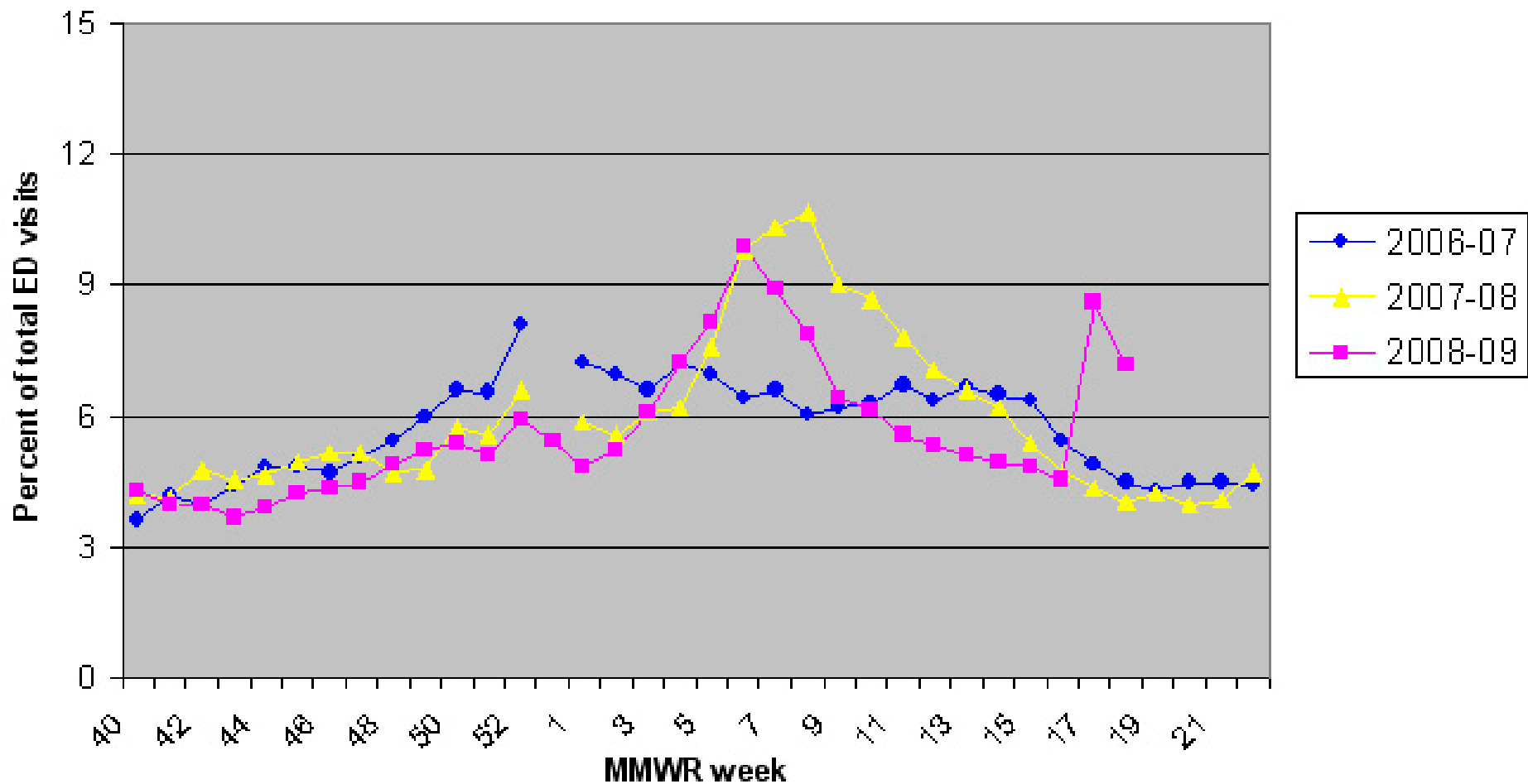
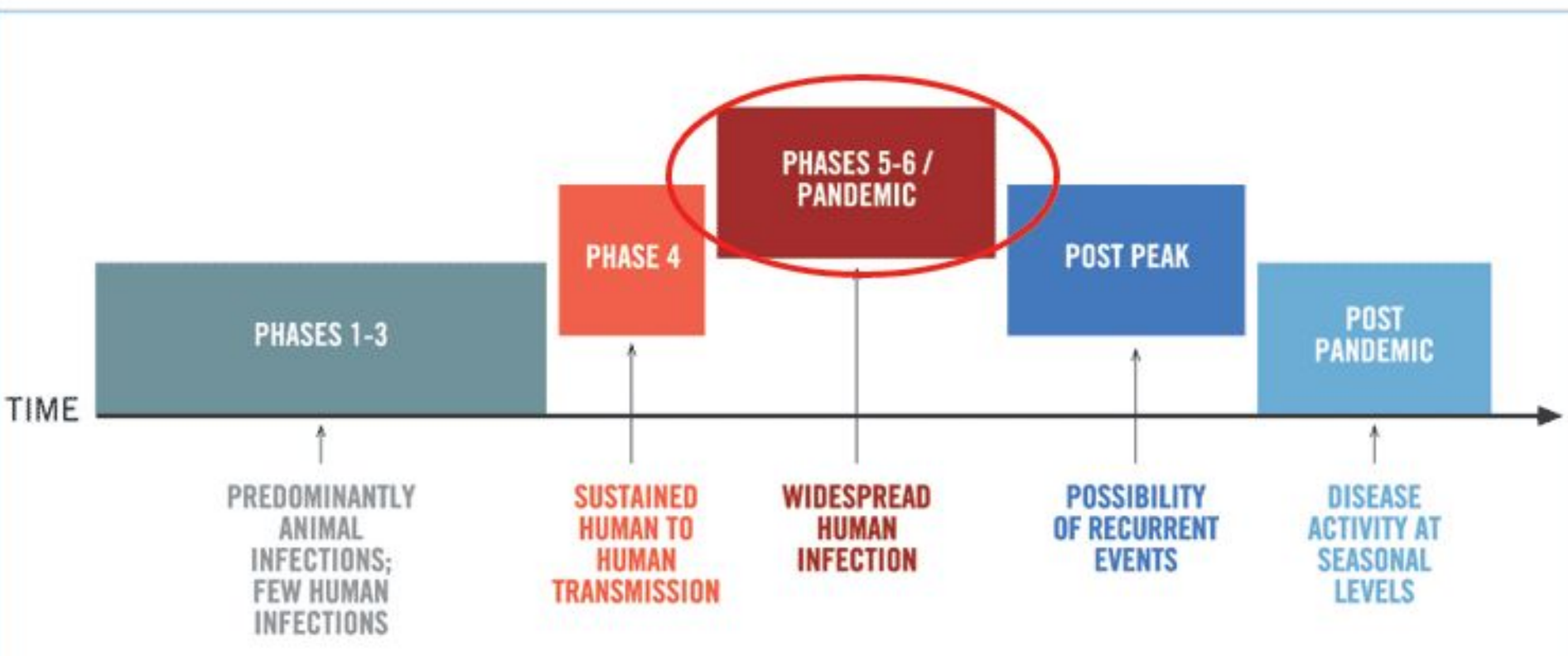


Figure 5. Hospital Emergency Department Syndromic Surveillance (HEDSS) System: Percent of total emergency department visits for "fever/flu" syndrome category, 2008-09 influenza season compared to past seasons



PANDEMIC INFLUENZA PHASES



WHO Phase of Pandemic Alert

- Phase 5 is characterized by human-to-human spread of the virus into at least two countries in one WHO region. While most countries will not be affected at this stage, the declaration of Phase 5 is a strong signal that a pandemic is imminent and that the time to finalize the organization, communication, and implementation of the planned mitigation measures is short.

WHO Phase of Pandemic Alert

- Phase 6, the pandemic phase, is characterized by community level outbreaks in at least one other country in a different WHO region in addition to the criteria defined in Phase 5. Designation of this phase will indicate that a global pandemic is under way.

Understanding pandemics

- **Epidemic:** serious outbreak in a single community, population or region
 - **Pandemic:** epidemic spreading around the world affecting hundreds of thousands of people, across many countries
-

Flu Terms

- Seasonal (or common) flu
 - Avian (or bird) flu
 - Swine flu
 - Pandemic flu
-

What causes pandemic flu?

- Emergence of a new flu virus
 - New virus passes easily from person to person
 - Few, if any, people have any immunity
 - This allows it to spread widely, easily and to cause more serious illness
-

Who is at risk?

- Everyone is at risk
 - Certain groups may be at greater risk of serious illness than others
 - Until the virus starts circulating we will not know for sure who is at most risk
-

Is there a vaccine?

- Because the virus will be new, there will be no vaccine ready to protect against pandemic flu
 - A specific vaccine cannot be made until the virus has been identified
 - Cannot be predicted in same way as 'ordinary' seasonal flu
 - 'Ordinary' flu vaccine or past flu jab will not provide protection
-

What is influenza?

- An acute illness resulting from infection by an influenza virus
 - Highly infectious
 - Can spread rapidly from person to person
 - Some strains cause more severe illness than others
-

Symptoms

- Generally of sudden onset
 - Fever, headache, aching muscles, severe weakness
 - Respiratory symptoms e.g. cough, sore throat, difficulty breathing
-

Incubation period of influenza

- Estimates vary
 - The range described is from 1 to 4 days
 - Most incubation periods are in the range of 2-3 days
-

How influenza spreads

- Easily passed from person to person through coughing and sneezing
 - Transmitted through
 - breathing in droplets containing the virus, produced when infected person talks, coughs or sneezes
 - touching an infected person or surface contaminated with the virus and then touching your own or someone else's face
-

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

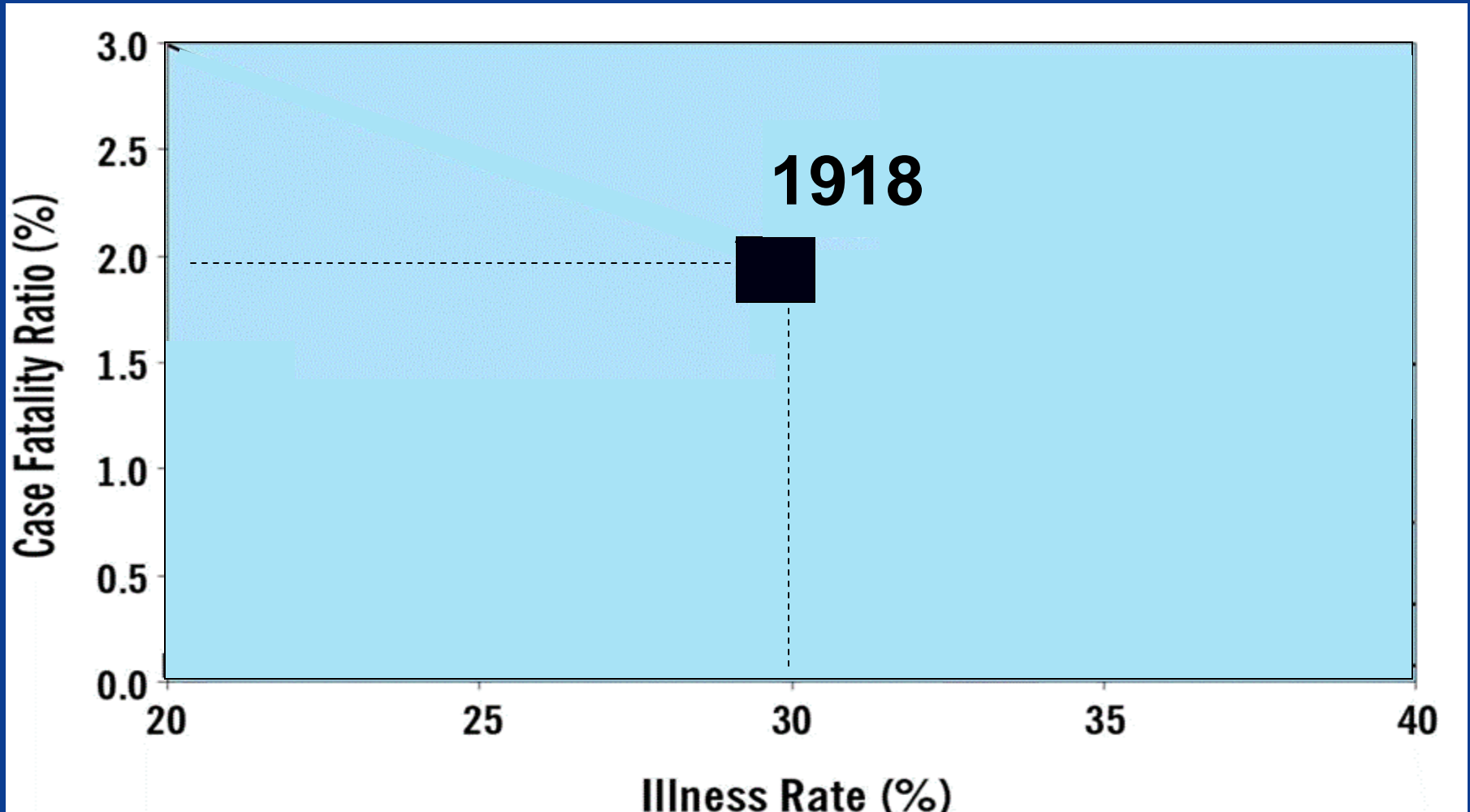
Lessons from past pandemics

- Occurs unpredictably, not always in winter
- Great variations in mortality, severity of illness and pattern of illness or age most severely affected
- Rapid surge in number of cases over brief period of time, often measured in weeks
- Tend to occur in waves - subsequent waves may be more or less severe

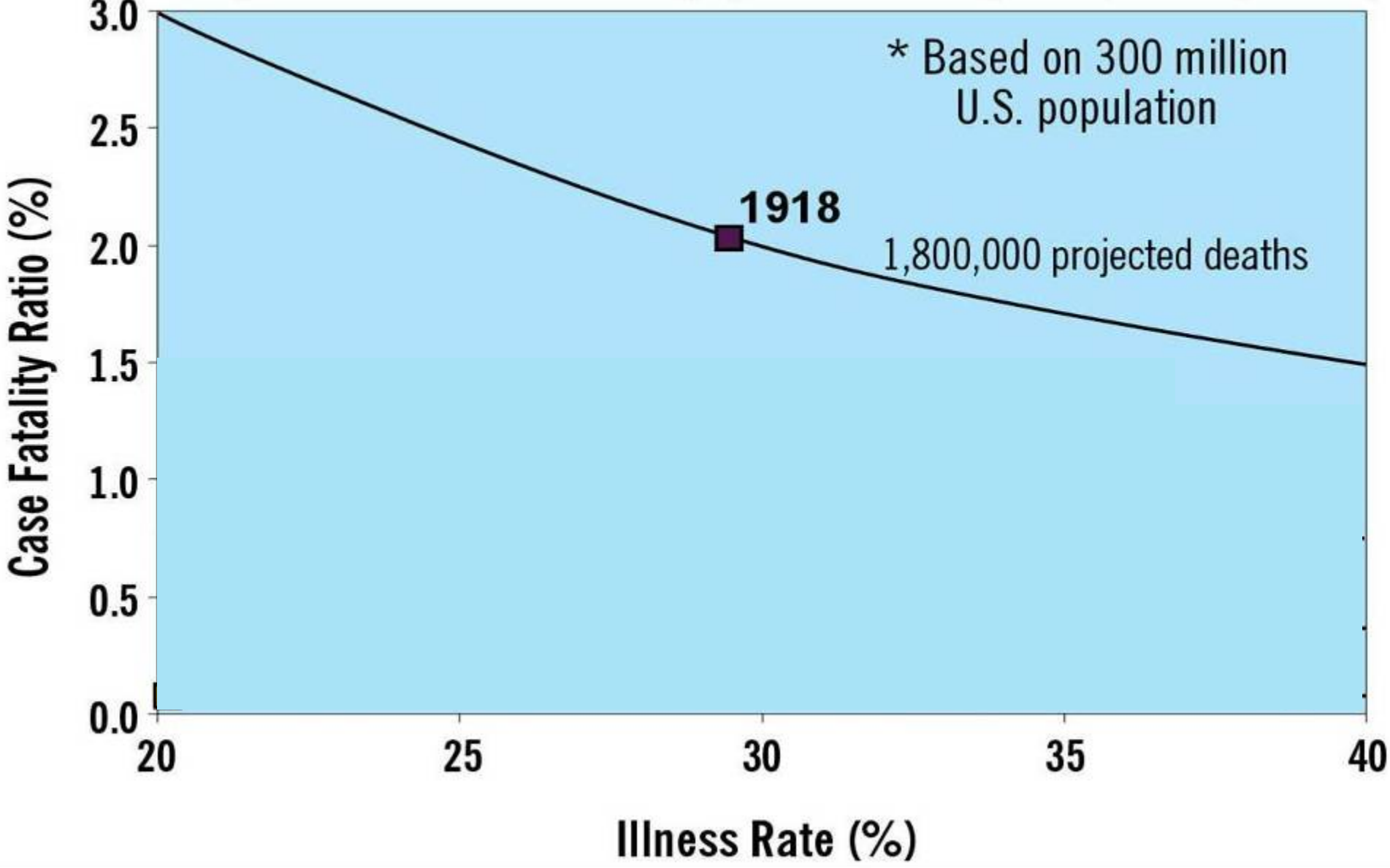
Key lesson – unpredictability

Hurricanes and Pandemic Severity

Pandemic Severity Index

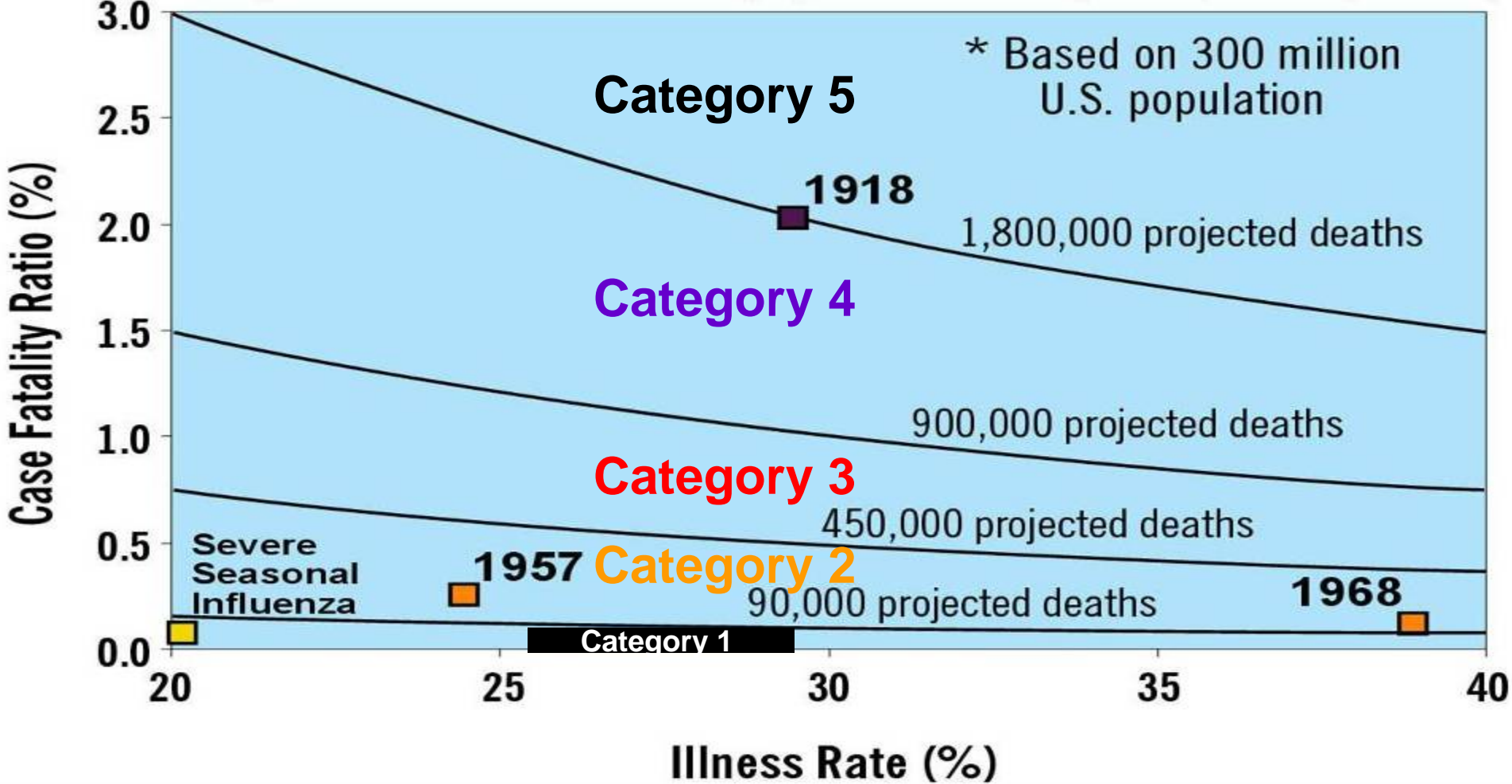


Projected mortality* of a modern influenza pandemic compared to 20th century pandemics (1918, 1957, 1968)



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

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.

Damned 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."