

Pandemic Influenza Preparedness & Response

Presented by the Cupertino
Office of Emergency Services
January 30, 2008



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Why the Concern About Pandemic Influenza?



- ◆ Influenza pandemics are inevitable; naturally recur at more-or-less cyclical intervals.
- ◆ Current bird flu strain has great potential to become next human influenza pandemic.
- ◆ There will be little warning.

About Seasonal Flu

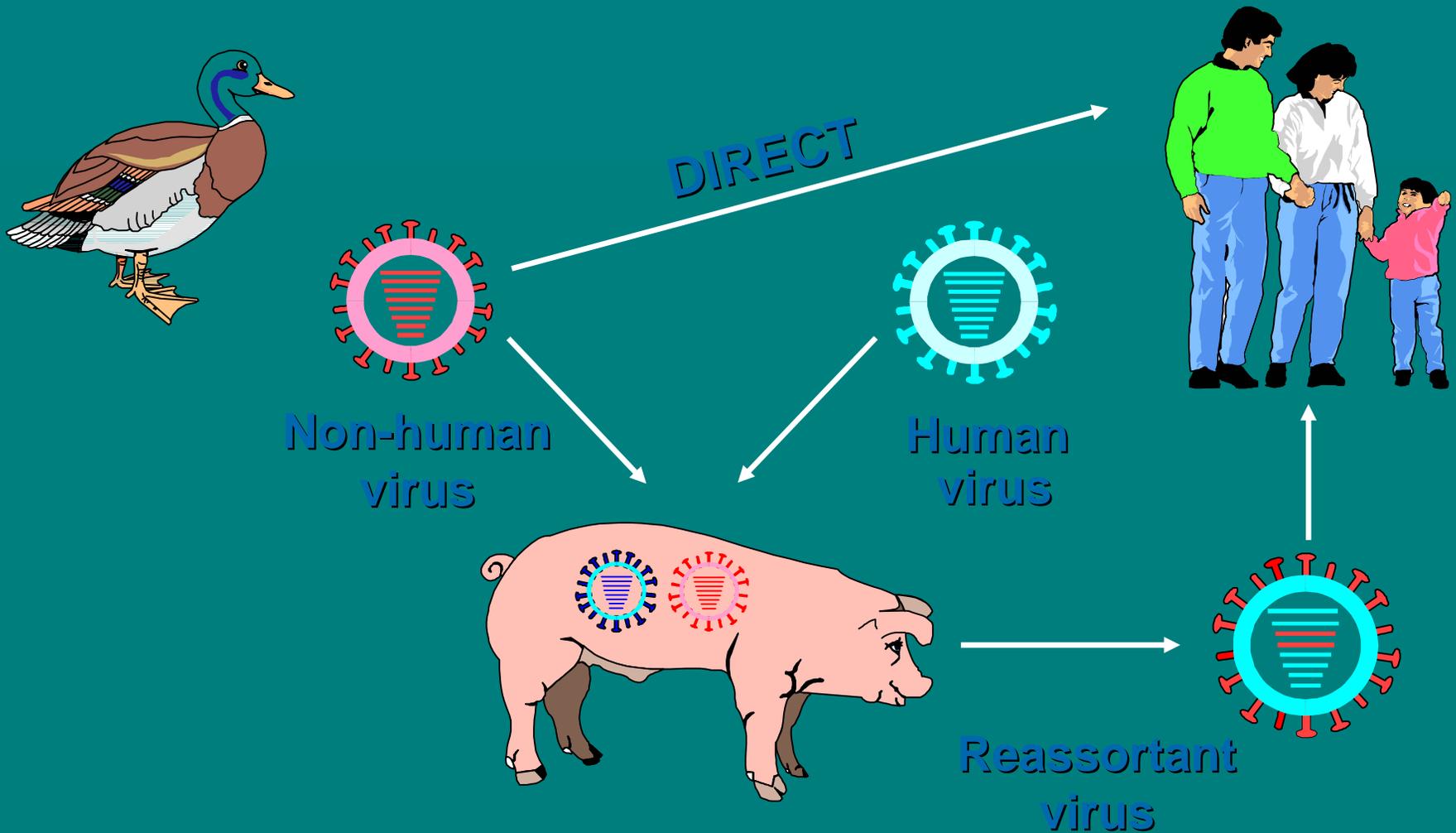
- ◆ Virus that infects the respiratory system and people have some immunity – or protection – against it.
- ◆ It is predictable, typically seen in the winter months. Vaccine developed every year.
- ◆ Minor impact on the community and economy with people home sick from work and school.

What is Avian Influenza?

- ◆ Literally “bird flu”, a non-human virus that causes illness in birds.
- ◆ Very contagious among birds, wild birds ‘carry’ the virus and infect domesticated birds.
- ◆ Does not usually infect people, but the latest outbreak has caused human illness and deaths. People get bird flu from close contact with infected birds.
- ◆ Hasn’t been able to efficiently and “sustainably” pass from person-to-person.

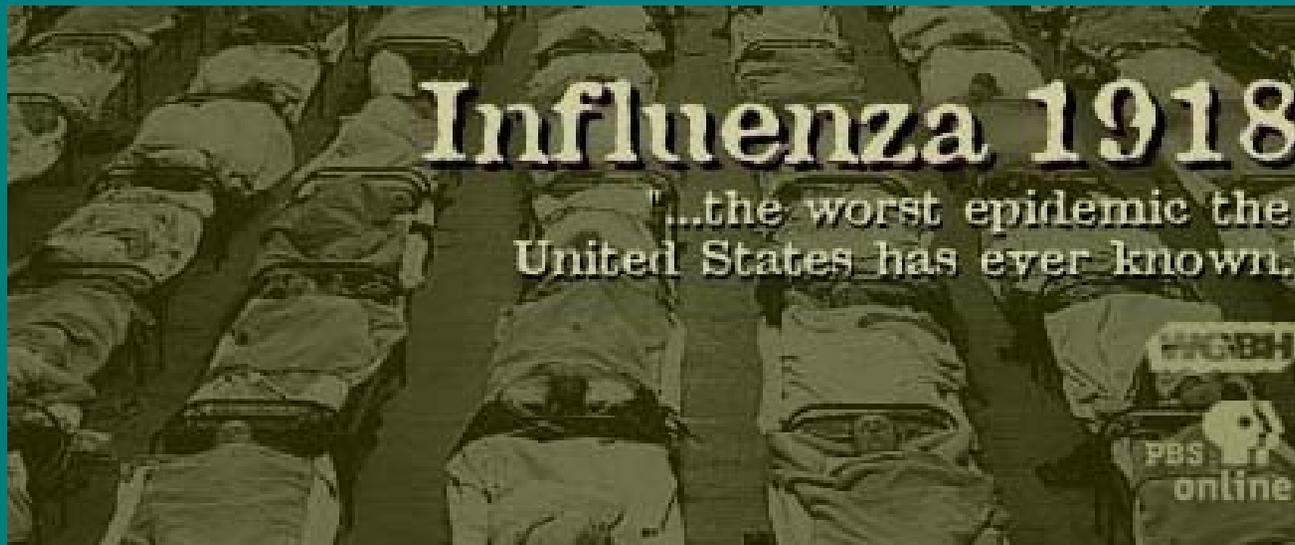


Mechanisms of Influenza Virus Antigenic "Shift"



Pandemic Influenza

An outbreak of disease that occurs when a new influenza A virus appears or “emerges” in the human population, causes serious illness, and then spreads easily from person-to-person worldwide.



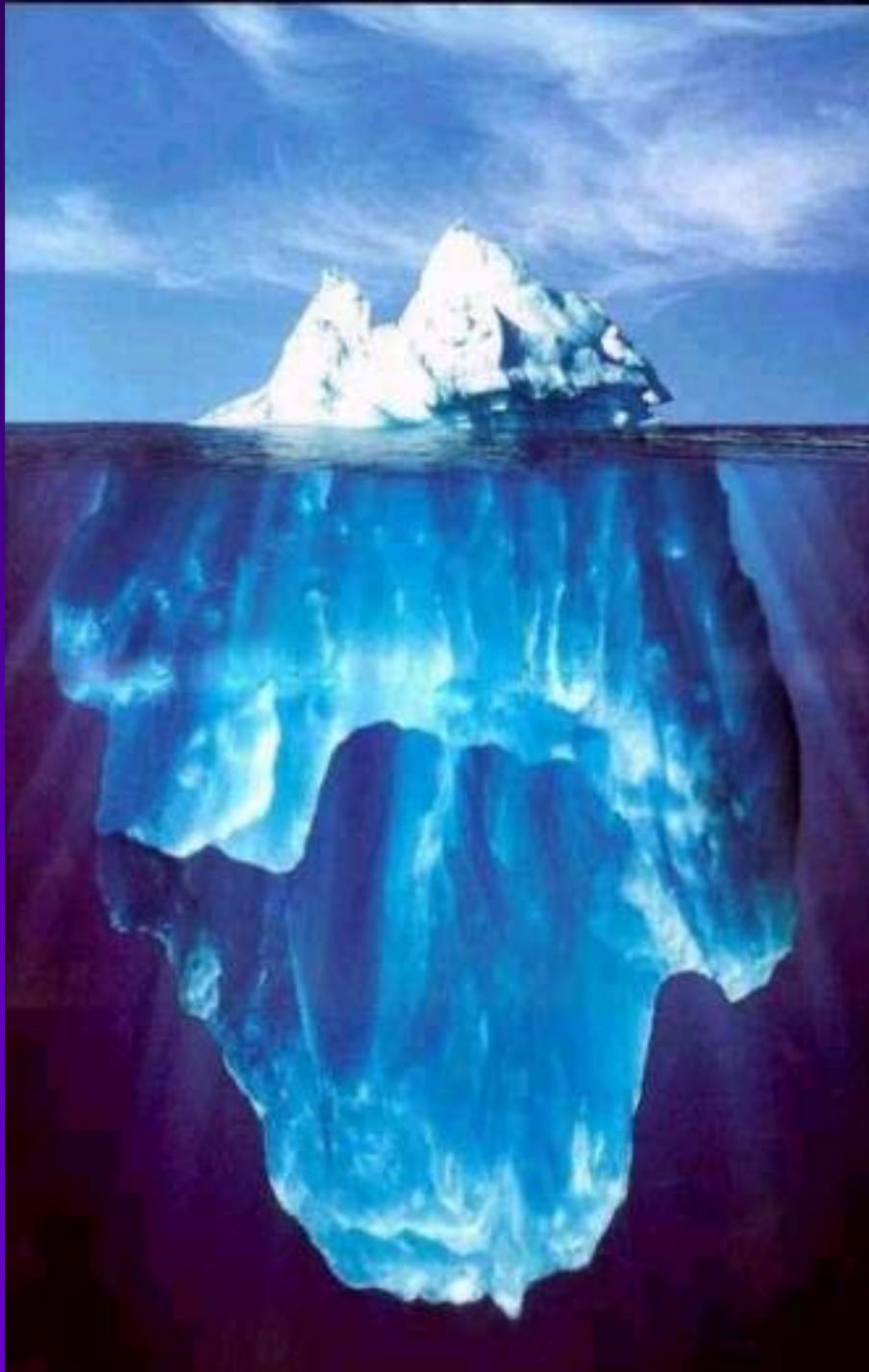
Pandemics over the Past 300 Years

Range; 10 to 49 years between pandemics.
Average; 24 years

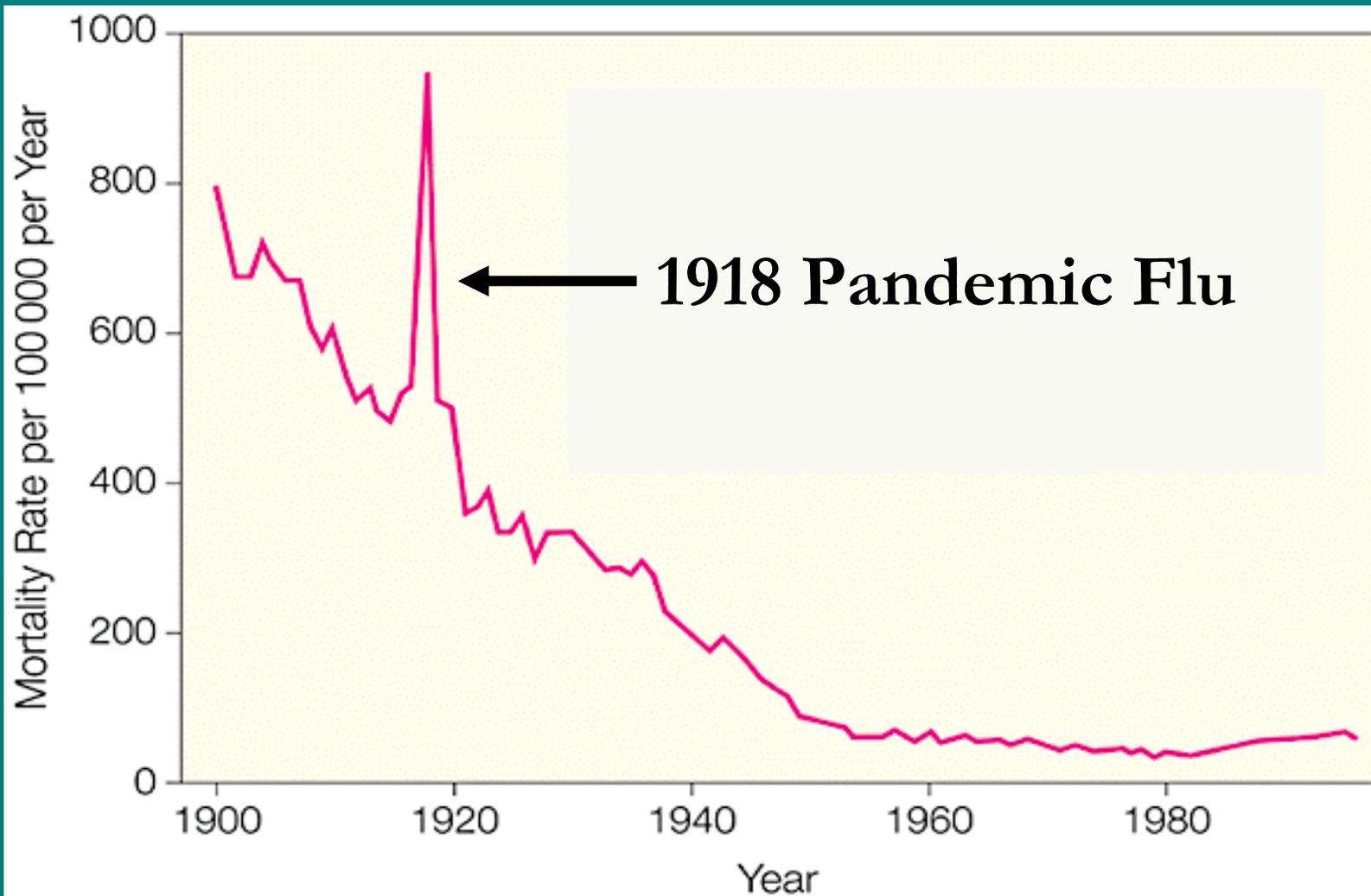
- ◆ 1732-33
- ◆ 1781-82
- ◆ 1800-02
- ◆ 1830-33
- ◆ 1847-48
- ◆ 1857-58
- ◆ 1889-90
- ◆ 1918-19
- ◆ 1957-58
- ◆ 1968-69

20th Century Pandemics

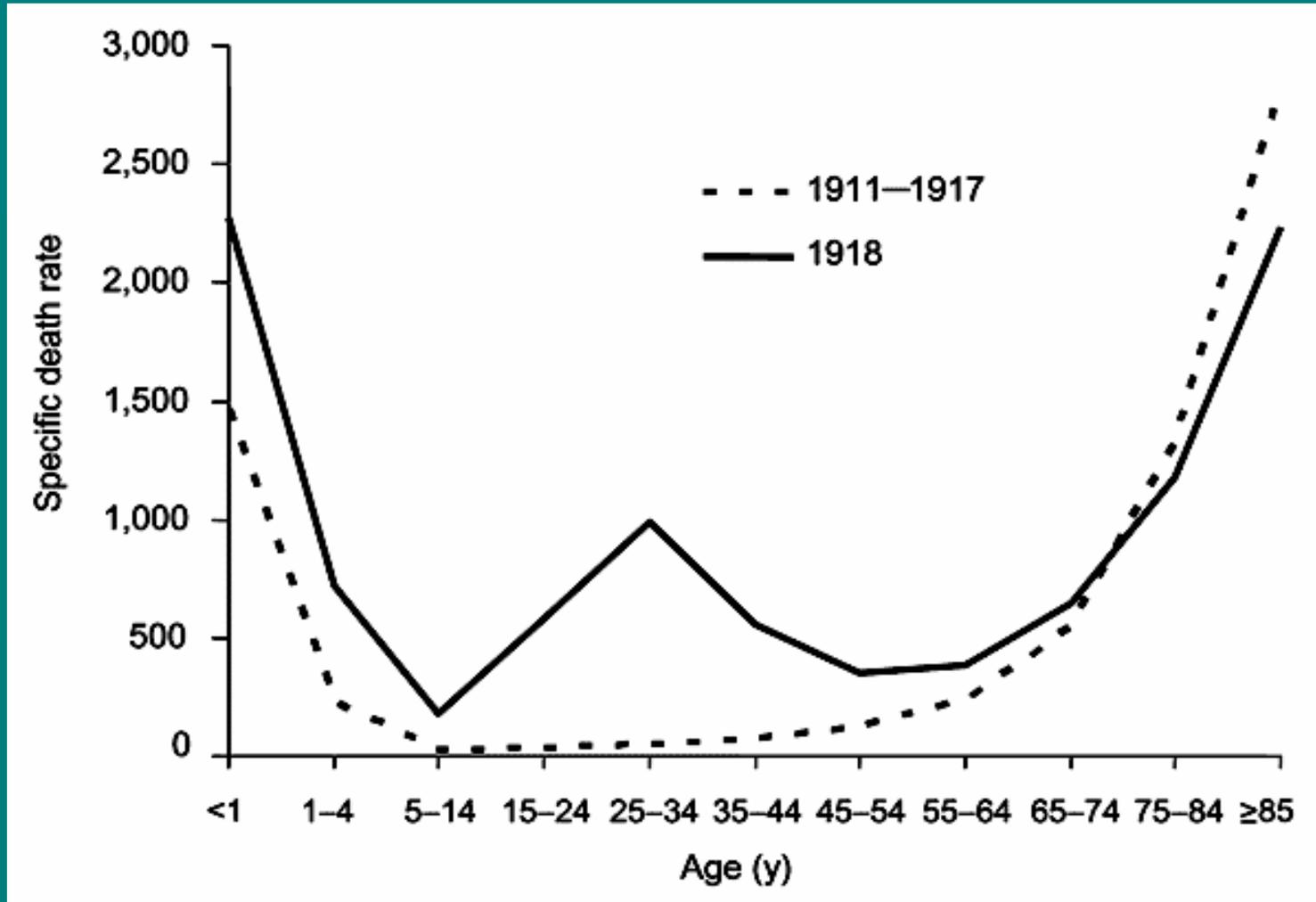
Year	Flu	Virus	Mortality
1918-1919	“Spanish”	H1N1	550,000 US
1957-1958	“Asian”	H2N2	70,000 US
1968-1969	“Hong Kong”	H3N2	34,000 US



Infectious Disease Mortality United States – 20th Century

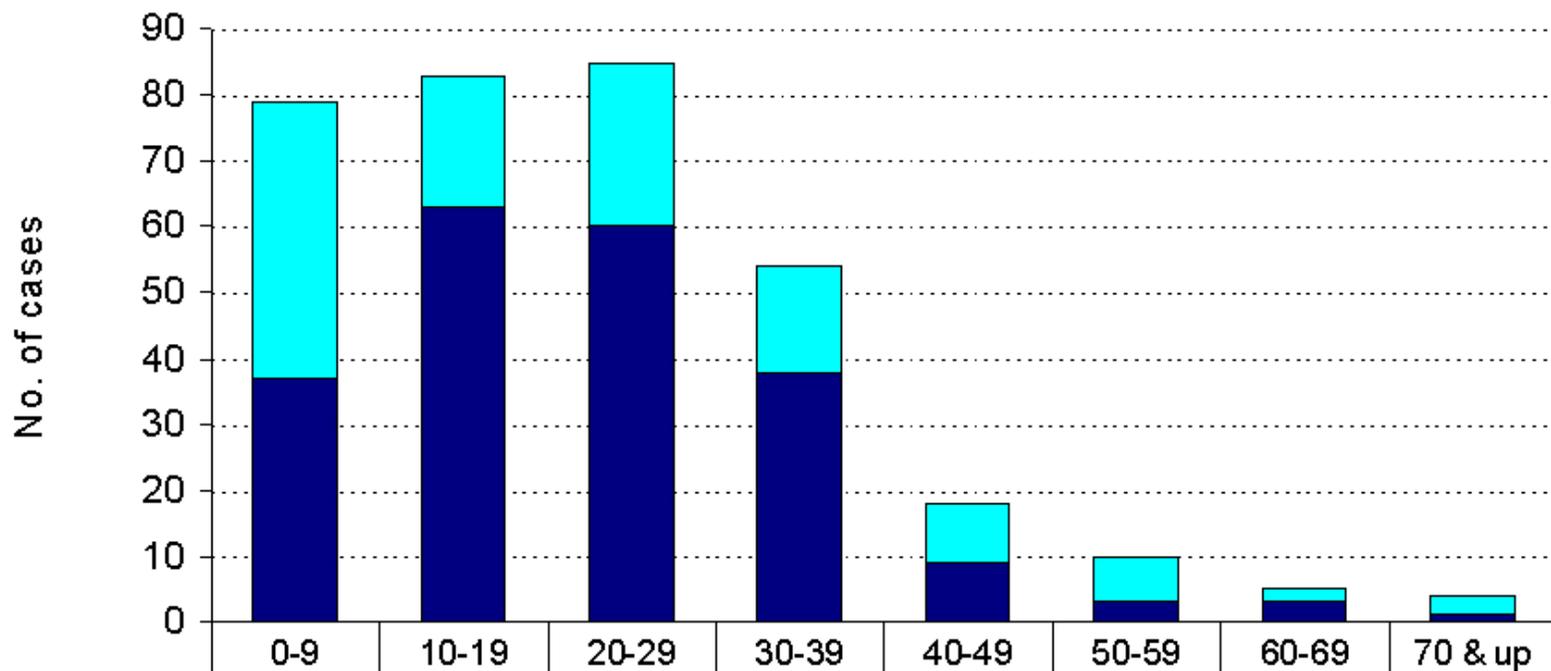


Pan Flu Mortality 1918



♦ <http://www.msnbc.msn.com/id/12375868>

Human Avian Influenza A (H5N1) Cases by Age Group and Outcome (n=338) (as of 18 January 2008)



	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70 & up
Alive (N=124)	42	20	25	16	9	7	2	3
Dead (N=214)	37	63	60	38	9	3	3	1

Age group

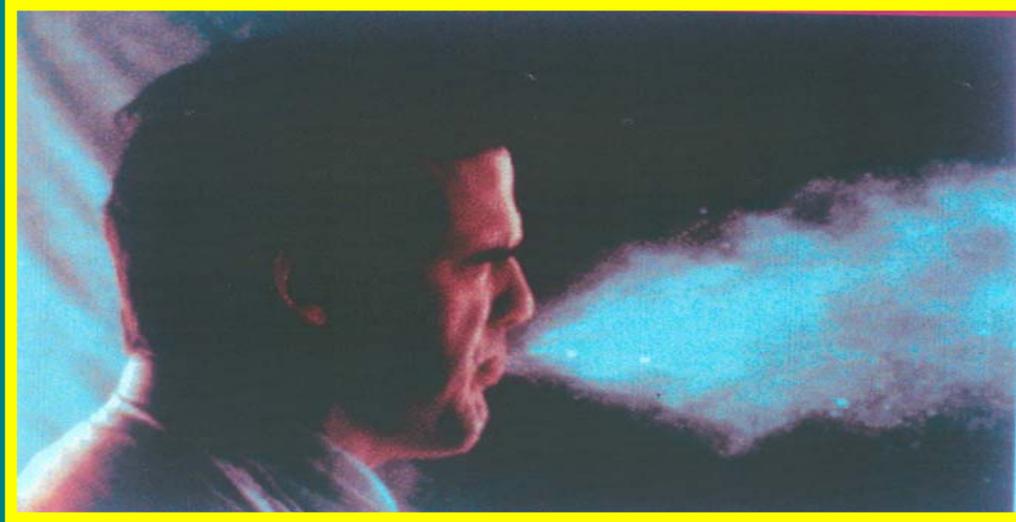
As of 18 January 2008, total of 350 cases were reported officially to WHO
The 12 cases in Turkey were excluded.



WHO Threat Levels

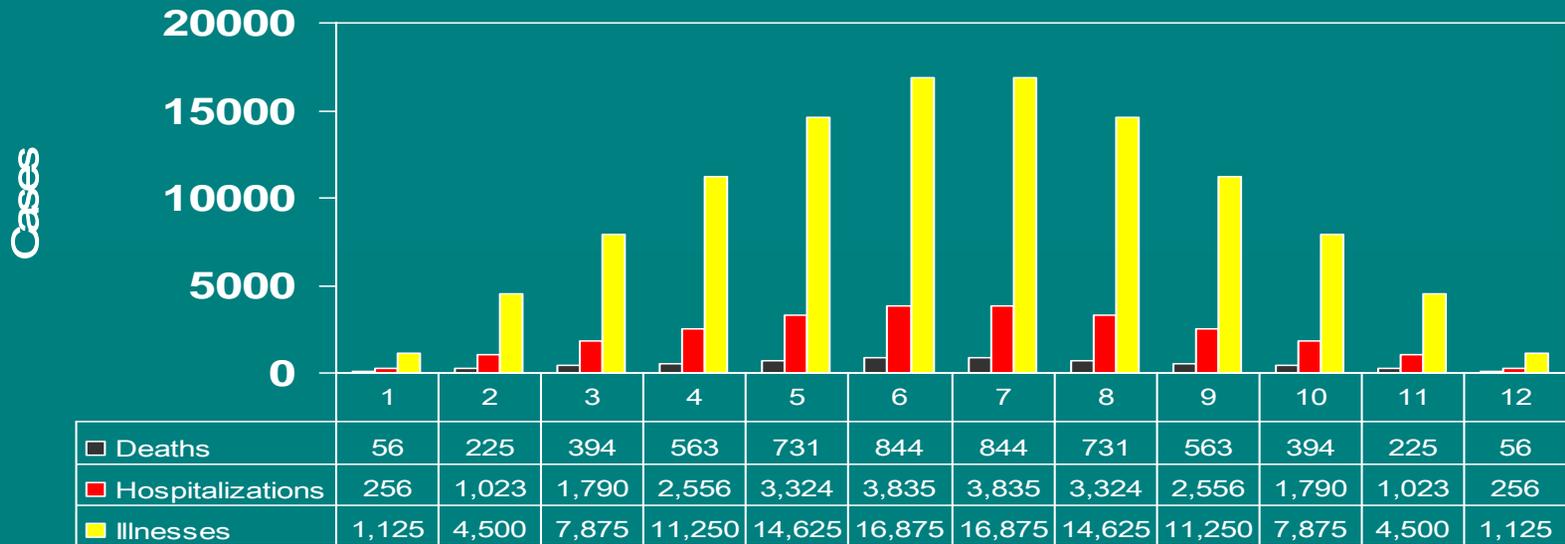
Inter-pandemic phase New virus in animals, no human cases	Low risk of human cases	1
	Higher risk of human cases	2
Pandemic alert New virus causes human cases	No or very limited human-to-human transmission	3
	Evidence of increased human-to-human transmission	4
	Evidence of significant human-to-human transmission	5
Pandemic	Efficient and sustained human-to-human transmission	6

Mode of Transmission



- ◆ **Primarily close contact – large droplets spread by coughing, sneezing, talking**

Surge and Capacity Challenges



Impact on Healthcare System

- ◆ Staffing and bed shortages.
- ◆ Shortages of key supplies and equipment; anti-virals, ventilators, etc.
- ◆ Demand will outpace supply for months (waves of illness for up to 2 years).
- ◆ Vaccine not available for 6 to 8 months.
- ◆ Vast majority of ill people will be taken care of at home by family members.

Levels of Care

Influenza Care Centers

- ◆ **Intermediate**
(minimally staffed with physicians and nurses)
- ◆ **Board & Care**
- ◆ **IV hydration**
- ◆ **Oxygen only**
(no ventilators)



At Home Care

- ◆ **Isolation**
- ◆ **Oral Hydration**
- ◆ **Oral Antibiotics**
(for secondary pneumonia)



Hospital Care

- ◆ **Critical Care**
- ◆ **Ventilators**
- ◆ **Ancillary Services**
(Lab and X-ray)



Planning Assumptions

- ◆ No “business as usual”
- ◆ All sectors of society and government involved
- ◆ Limited mutual aid
- ◆ Requires sustained response
- ◆ Disruption of workforce

Pandemic Impact: Infrastructure

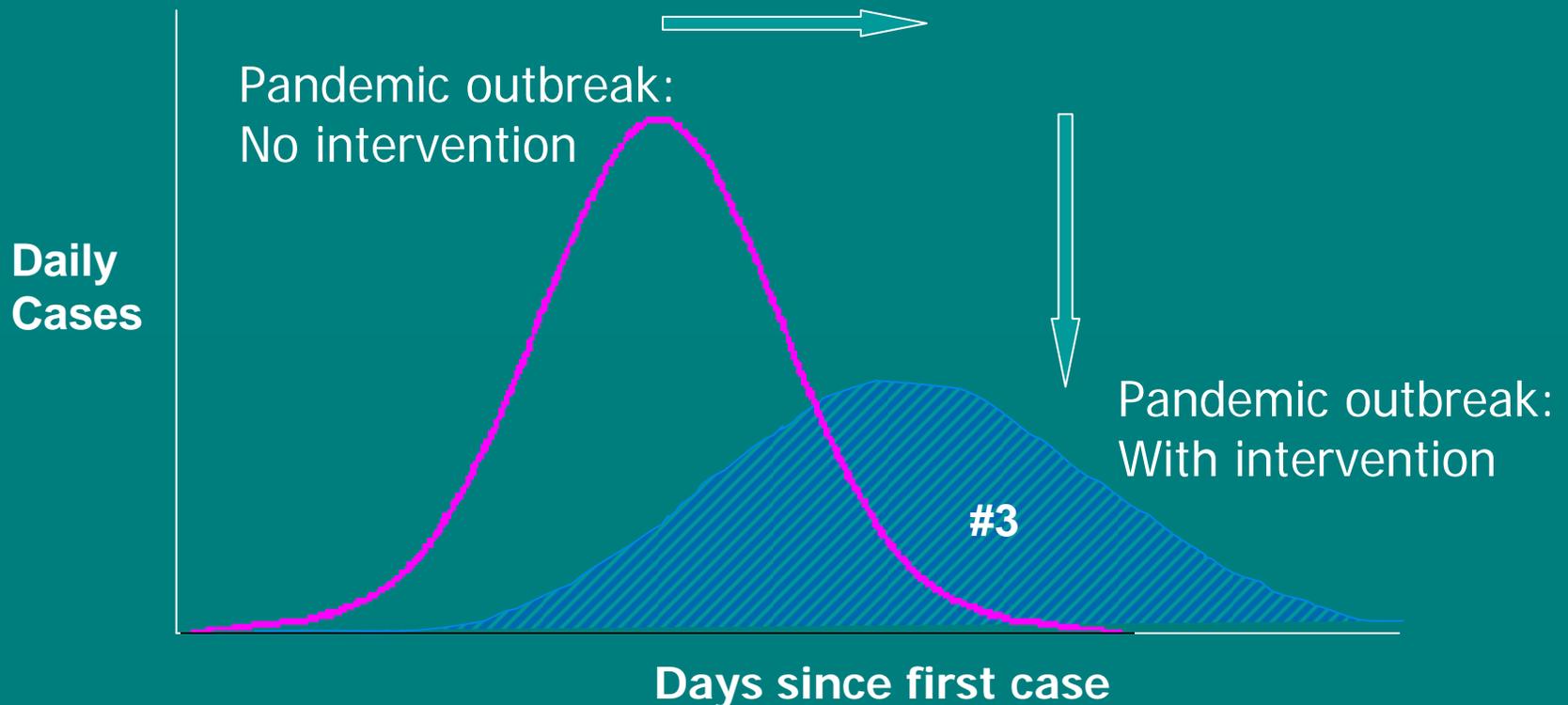
- ◆ Initially, limited or no assistance from State and Federal governments
- ◆ Significant disruption of transportation, commerce, utilities, public safety and communications
- ◆ Social distancing strategies may include closing schools, day care centers, and canceling public events

Pandemic Impact: Government and Business

- ◆ High absenteeism (40% at height) will necessitate continuity of operations plans
- ◆ Psychological impacts on workforce will be extreme
- ◆ Changes in workplace policies and practices critical to minimize the spread of disease (mandatory sick leave)

Community-Based Interventions

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



A TALE OF TWO CITIES:



Philadelphia

- Excess death rate of 719 people for every 100,000
- ◆ City allowed large public gatherings, including a citywide parade in support of a World War I war bond drive, to go on as planned
 - ◆ In four months, more than 12,000 Philadelphians died

A TALE OF TWO CITIES:

St. Louis

- ◆ Excess deaths in St. Louis were **347** per 100,000 people
- ◆ Registered influenza cases with the health department. Police enforced PH's **shutdown** of schools, churches and gathering places
- ◆ **Early interventions saved thousands of lives!!!**



What First Responders Can Do

- ◆ Educate yourself, stay informed, limit spread
 - Know how to isolate the ill person(s) within your home.
 - Practice good hand-hygiene/hand awareness
 - Practice covering your coughs and sneezes
 - Stay 3-5 feet away from others
 - Stay home when sick
 - Don't sent sick children to school or day care
 - Get a flu shot! – Stay healthy.

Supplies

Prepare/Adapt your Emergency Preparedness Kit

- Two weeks of food and water
- Two weeks worth of prescription medicines and ibuprofen or acetaminophen (Tylenol[®])
- Rehydration solution for adults and for kids (Pedialyte[®])
- Cell phone and charger (home & car)
- Supply of facemasks and gloves
- Disinfectants and chlorine bleach

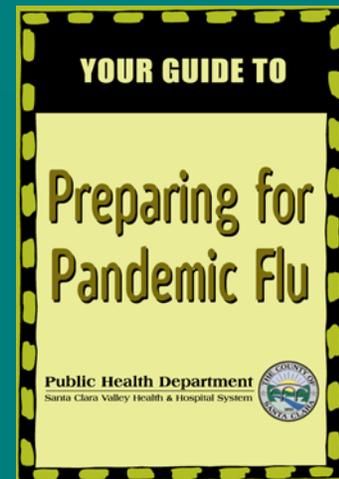
Pandemic Influenza

Public Health Information

- Web site www.sccphd.org will post new materials and information as they become available.
- The Public Health Information Line (PHIL) updated information & health questions 408.885.3980.

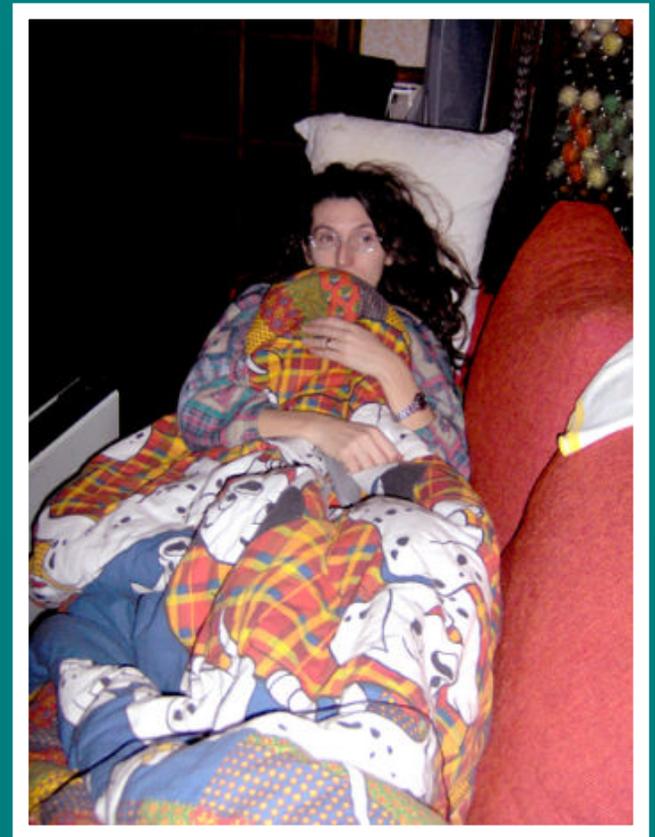
Public Health Department

Santa Clara Valley Health & Hospital System



Managing Flu

Symptoms and Care



INFLUENZA SYMPTOMS



- ◆ **Rapid onset of:**

- **Fever (101.5+)**
- **Chills**
- **Body Aches**
- **Non-productive cough**
- **Runny nose**
- **Headache**

Home Care

- ◆ Keep ill person resting at home!
 - ◆ Isolate ill person
 - ◆ Offer plenty of liquids, including
 - Pedialite
 - Gatorade
 - Other rehydration solution
 - ◆ Offer acetaminophen for fever and body aches
- ANTIBIOTICS WILL NOT CURE FLU*

Home Care

- ◆ The ill person should wear a mask when others are in the room
- ◆ Wear a mask when giving care
- ◆ Wear gloves when cleaning an area where the ill person has been
- ◆ Wash hands before and after giving care or handling the ill person's belongings

Preventing Spread of Disease at Home

- ◆ Clean surfaces and shared items daily with disinfectant
 - Doorknobs, refrigerator and cabinet handles
 - Faucets, light switches, phones, TV remotes, keyboards, toys
 - Toilet seats and handles
- ◆ 10% bleach to water makes a disinfectant

Supplies to Keep On Hand

- ◆ **Cleaning supplies**
 - Soap, bleach or other disinfectant
 - Paper towels, plastic bags
- ◆ **Caregiver supplies**
 - Fever reducer, pain reliever
 - Tissues
 - Masks, disposable gloves

Helping the Community

- ◆ Staff influenza care centers
- ◆ Distribute food, supplies and medicines to homebound
- ◆ Communications
- ◆ Public information distribution
- ◆ Garbage collection
- ◆ Translation

Ask Questions!



- ◆ Schools
- ◆ Employer
- ◆ Government
- ◆ Access Cupertino

www.cupertino.org

Pandemic Influenza Preparedness

"For the first time in human history, we have a chance to prepare ourselves for a pandemic before it arrives...it is incumbent upon the global community to act now."

-Dr. Margaret Chan, WHO Director, Communicable Diseases