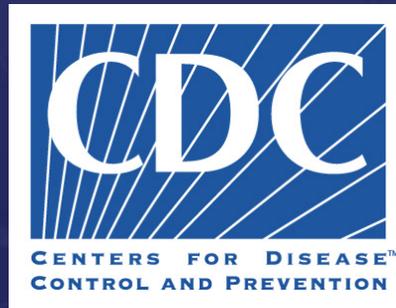




Pandemic Influenza Preparedness Update

Julie Louise Gerberding, MD, MPH



The Burden of Influenza

Seasonal Influenza

- Globally: 250,000 to 500,000 deaths each year
- In the United States each year:
 - 36,000 deaths
 - >200,000 hospitalizations
 - \$37.5 billion in economic costs from influenza and pneumonia

Pandemic Influenza

- An ever-present threat

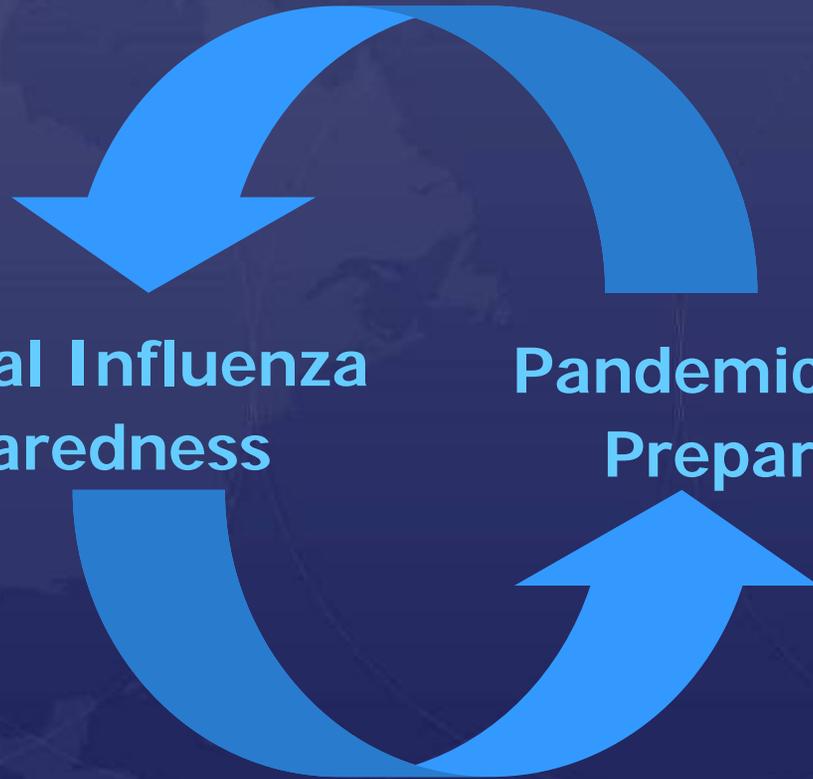
PANDEMIC PLANNING

GET INFORMED BE PREPARED



**Seasonal Influenza
Preparedness**

**Pandemic Influenza
Preparedness**

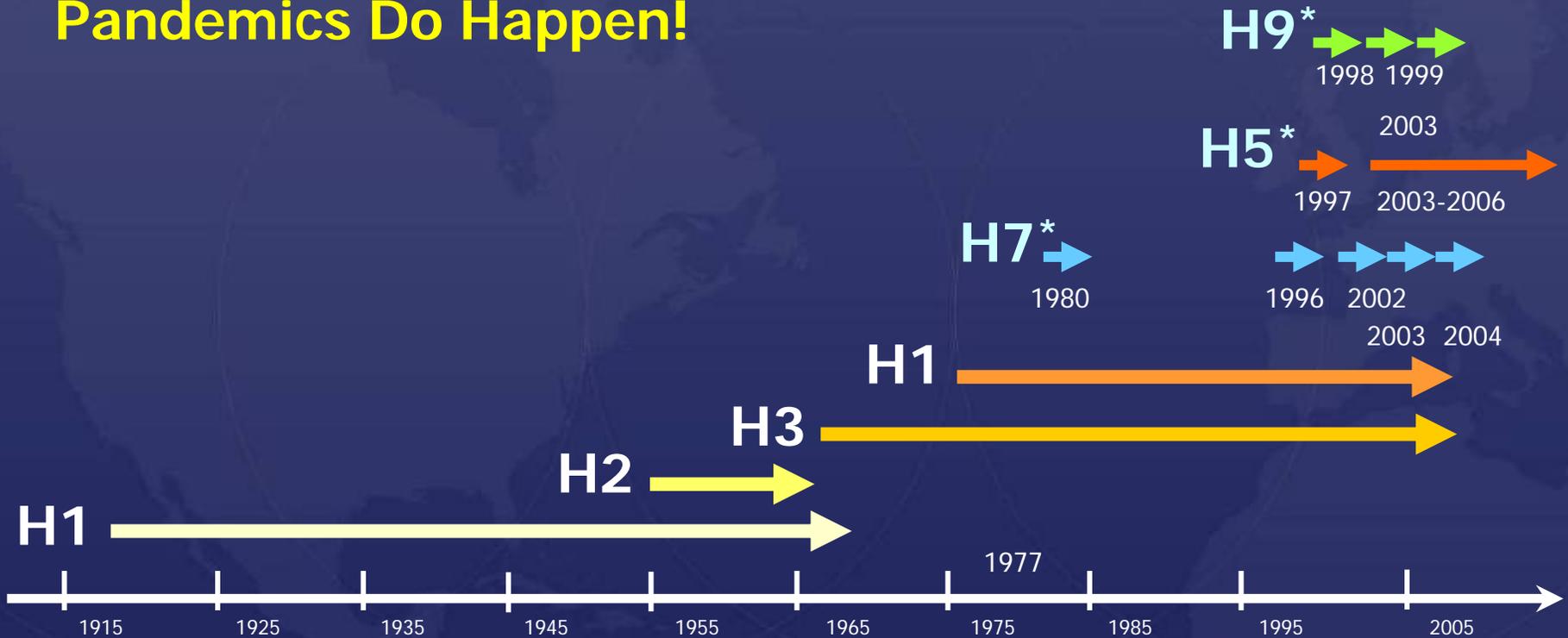


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Pandemics Do Happen!



1918
Spanish
Influenza
H1N1

1957
Asian
Influenza
H2N2

1968
Hong Kong
Influenza
H3N2

* Avian Flu

H5N1 Influenza Severe Pneumonia - Vietnam 2004



DAY 5

DAY 7

DAY 10

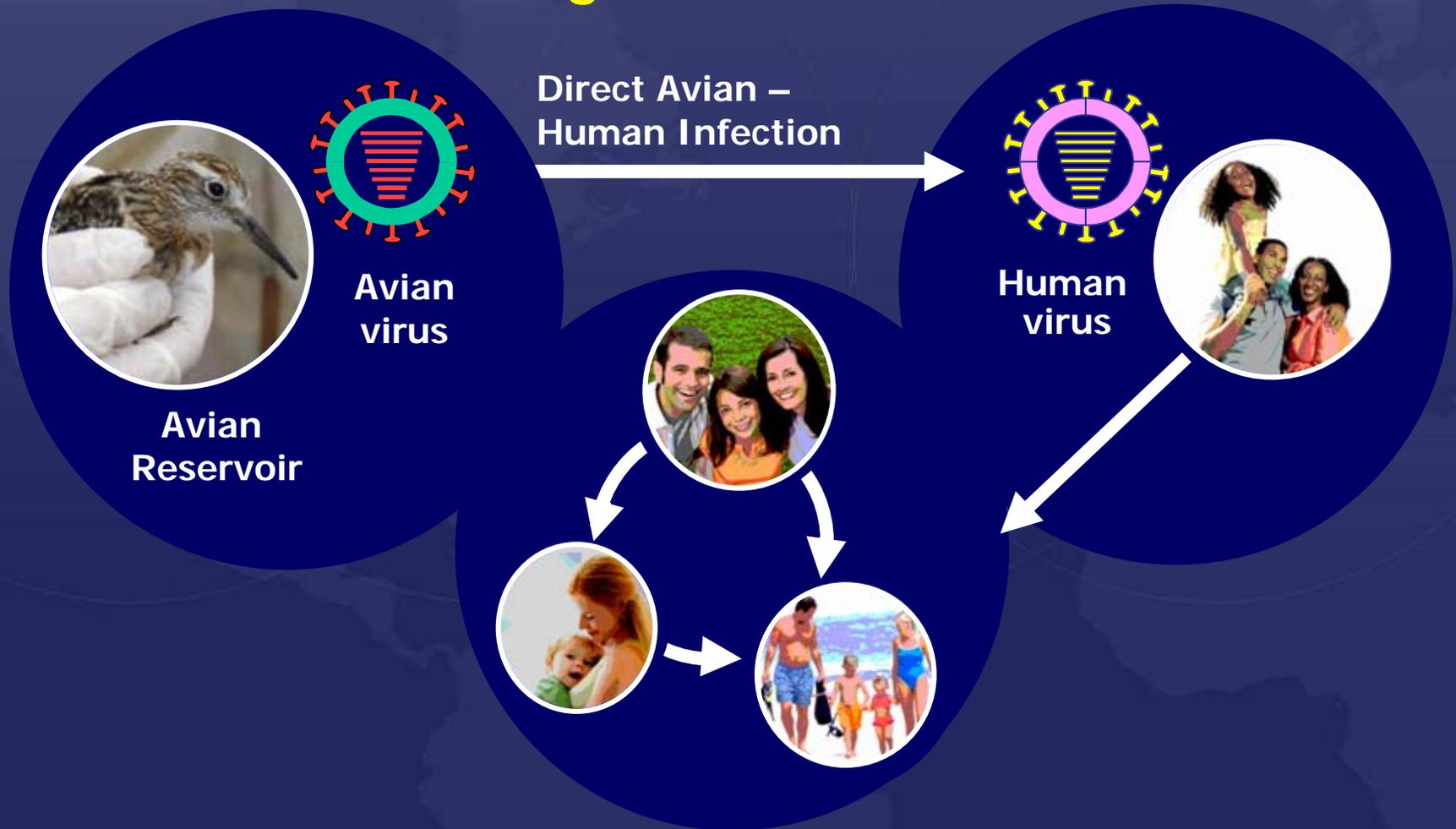


Planning Assumptions: Health Care

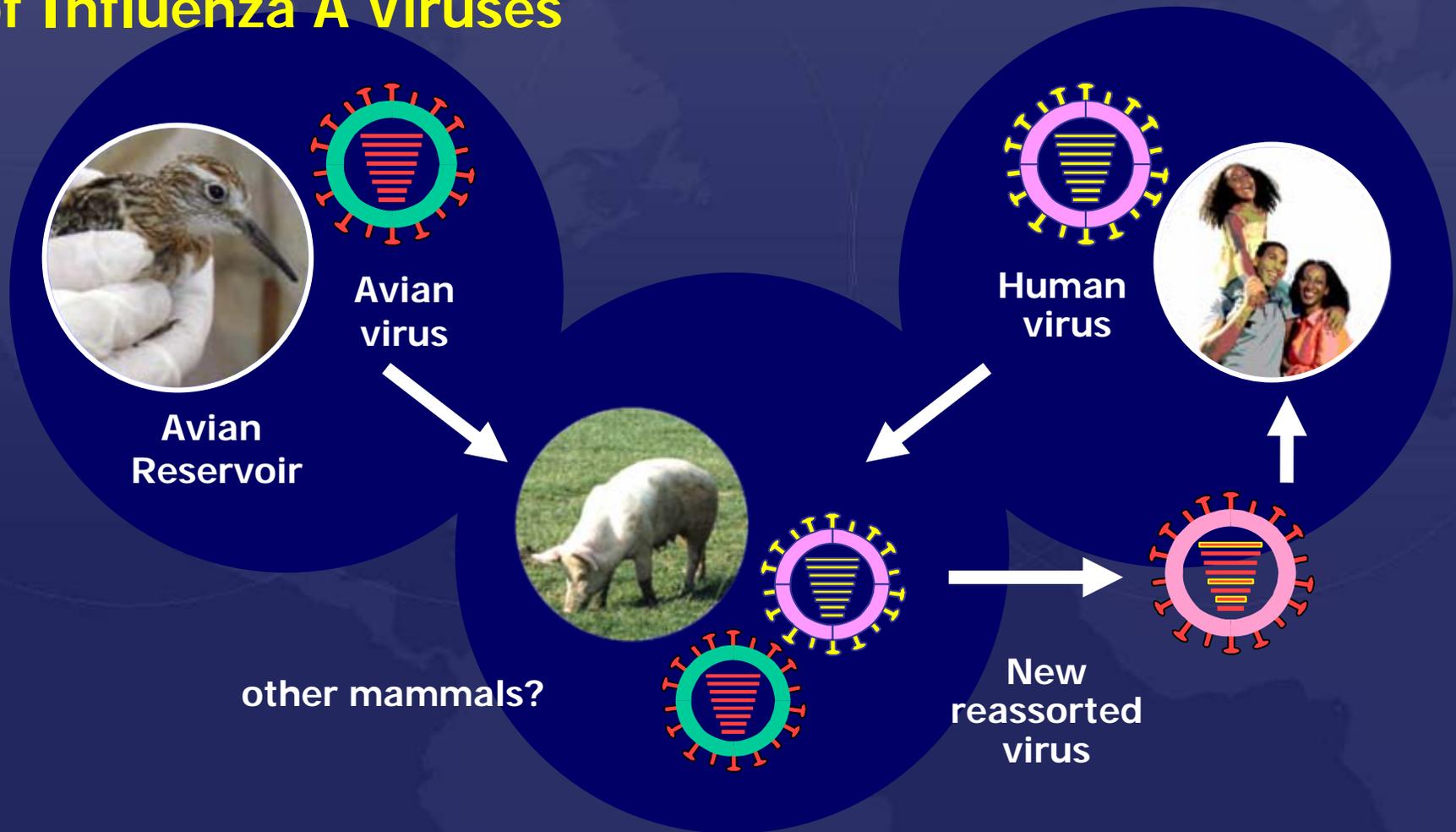
- 50% of ill persons will seek medical care
- Hospitalization and deaths will depend on the virulence of the virus

	Moderate (1957-like)	Severe (1918-like)
Illness	90 million (30%)	90 million (30%)
Outpatient medical care	45 million (50%)	45 million (50%)
Hospitalization	865,000	9,900,000
ICU care	128,750	1,485,000
Mechanical ventilation	64,875	745,500
Deaths	209,000	1,903,000

Pandemic Strain Emergence: Direct Infection



Pandemic Strain Emergence: Reassortment of Influenza A Viruses



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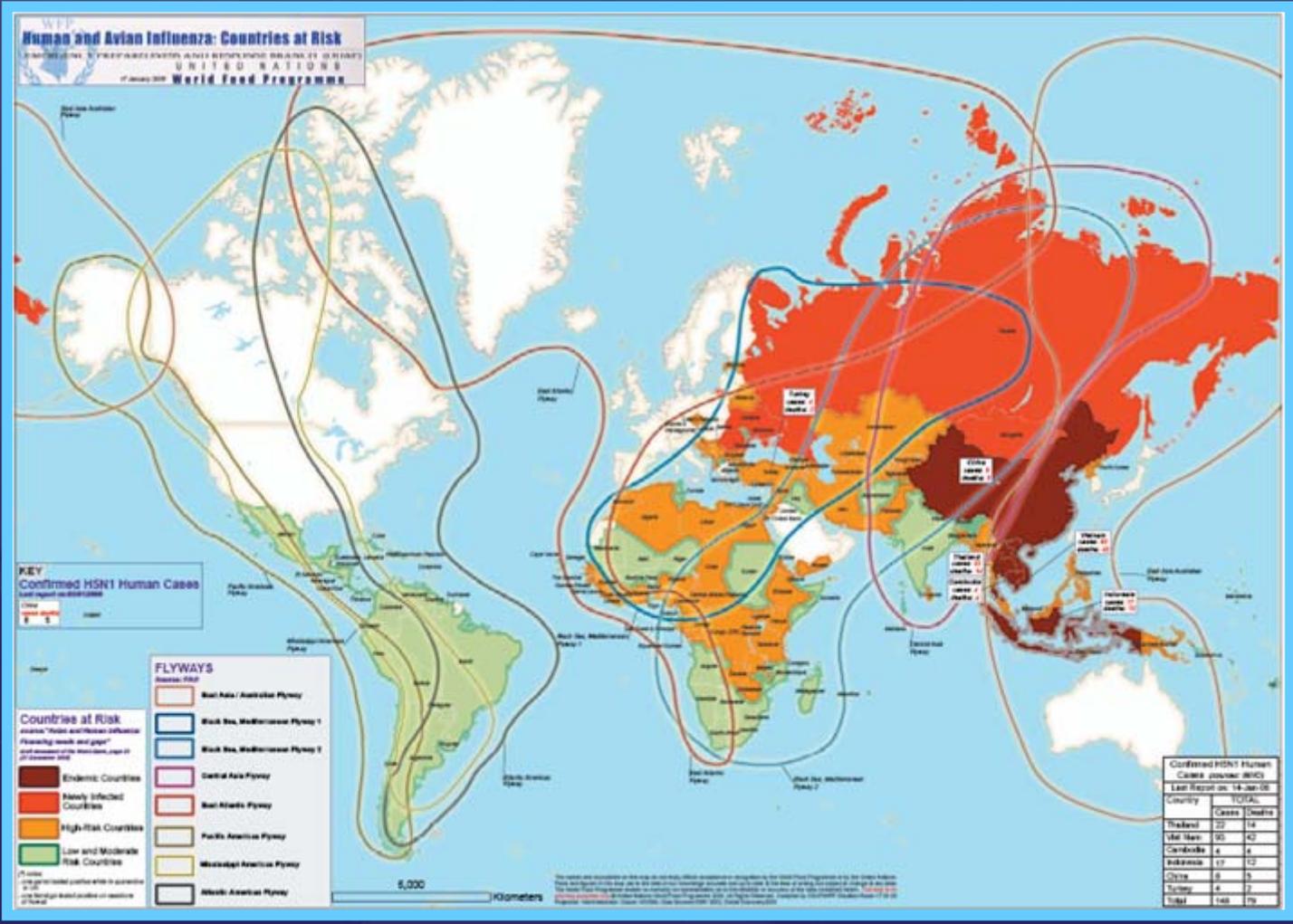


People and Poultry



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Situation Report: Avian Influenza

- Widespread and spreading prevalence in migratory birds; broad host range
- Continued outbreaks among domestic poultry
- Mammalian infection (cats, pigs, etc.) lethal
- Virus is evolving
- Sporadic human cases (>200 reports to date)
 - Most in young and healthy
 - Case-fatality >50%
 - Rare person-to-person transmission
- Sustained and rapid person-to-person transmission

HHS Pandemic Influenza Doctrine: Saving Lives

- A threat anywhere is a threat everywhere!
- Quench first outbreaks: detect and contain where it emerges, if feasible
 - International collaborations
 - Frontline detection and response; rapid laboratory diagnosis
 - Isolation / quarantine / antiviral prophylaxis / social distancing / animal culling





HHS Pandemic Influenza Doctrine: Saving Lives

- Prevent or at least delay introduction into the United States
 - May involve travel advisories, exit or entry screening
 - For first cases, may involve isolation / short-term quarantine of arriving passengers

HHS Pandemic Influenza Doctrine: Saving Lives

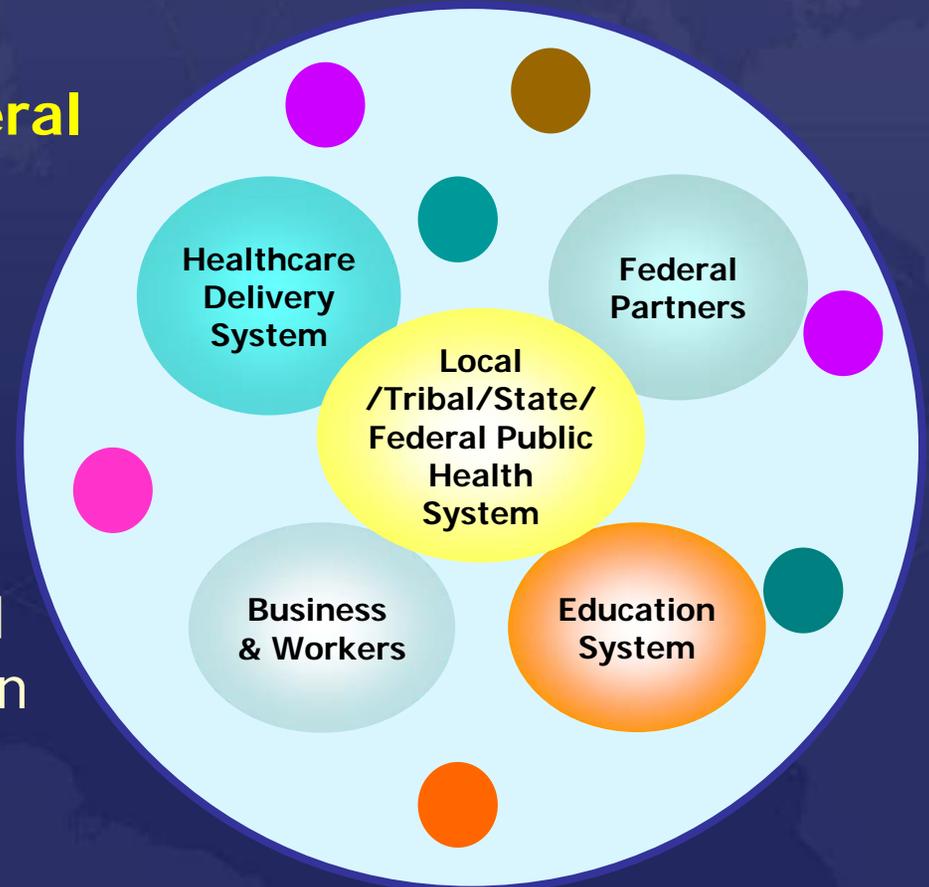
- Slow spread, decrease illness and death, buy time
 - Antiviral treatment and isolation for people with illness
 - Quarantine for those exposed
 - Social distancing
 - Vaccine when available
 - Local decisions



- Communicate, communicate, communicate!

Our Health Protection Preparedness System A NETWORK of Shared Responsibility!

- **Local - tribal - state - federal**
- Domestic – international
- Public – private
- Multi-sector
- Non-partisan
- Animal – human
- Health protection – homeland security – economic protection



Pandemic Vaccine: In-time domestic production of effective modern vaccine for all who need it

- Expand production of current (egg-based) vaccine
- Evaluate dose-sparing technology (adjuvants, intramuscular vs. intradermal route)
- Accelerate development of modern (non-egg) vaccines
- Target new antigens
- Working with the National Institutes of Health
 - Clade 1 H5N1 Vaccine – 40 million doses
 - Clade 2 H5N1 Vaccine – in progress

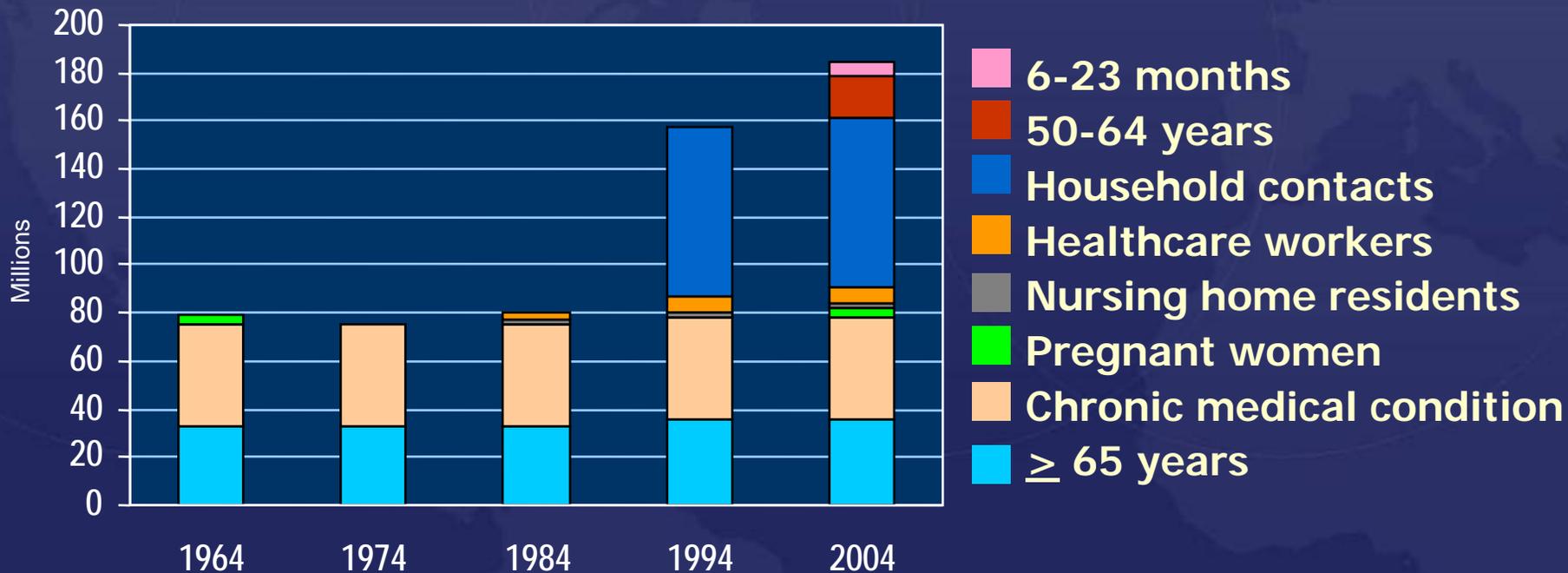




Vaccine Production and Use: U.S. Seasonal Influenza

	Doses Produced (millions)	Doses Distributed (millions)
1980	15.7	12.4
1985	23.1	20.1
1990	32.3	28.3
1995	71.5	54.9
1999	77.2	76.8
2000	77.9	70.4
2001	87.7	77.7
2002	95.0	83.0
2003	86.9	83.1
2004	61.0	56.5
2005	86.0	> 80 so far

Expanding the Market for Seasonal Vaccine



Influenza Antiviral Drugs and Medical Supplies

- Stockpile
 - Tamiflu: 5.1 million adult courses in SNS with 16.4 million ordered
 - Tamiflu oral suspension: 8,600 courses in SNS with 88,000 ordered
 - Relenza: 84,000 courses in SNS with 3.9 million ordered
- Strategy
 - Procure 81 million courses of antivirals
 - 6 million courses to be used to contain an initial U.S. outbreak
 - 75 million courses to treat 25 percent of U.S. population
- Accelerate development of promising new antiviral drugs



PANDEMIC PLANNING

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State and Local Pandemic Influenza Planning Checklist

- ✓ Community Leadership and Networking
- ✓ Surveillance
- ✓ Health System Partnerships
- ✓ Infection Control and Clinical Care
- ✓ Vaccine Distribution and Use
- ✓ Antiviral Drug Distribution and Use
- ✓ Community Disease Control and Prevention
- ✓ Communications
- ✓ Workforce Support

STATE AND LOCAL PANDEMIC INFLUENZA PLANNING CHECKLIST			
Completed	In Progress	Not Started	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	• Establish a Pandemic Preparedness Coordinating Committee that represents all relevant stakeholders in the jurisdiction (including governmental, public health, healthcare, emergency response, agriculture, education, business, communication, community-based, and faith-based sectors, as well as private citizens) and that is accountable for articulating strategic priorities and overseeing the development and execution of the jurisdiction's operational pandemic plan.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	• Delegate accountability and responsibility, capabilities, and resources for key stakeholders engaged in planning and executing specific components of the operational plan. Assume that the plan includes timelines, deliverables, and performance measures.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	• Within every state, clarify which activities will be performed at a state, local, or coordinated level, and indicate what role the state will have in providing guidance and assistance.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	• Assume that the operational plan for pandemic influenza response is an integral element of the overall state and local emergency response plan established under Federal Emergency Support Function 8 (ESF8): Health and medical service and compliant with National Incident Management System.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	• Address integration of state, local, tribal, territorial, and regional plans across jurisdictional boundaries in the plan.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	• Formalize agreements with neighboring jurisdictions and address communication, mutual aid, and other cross-jurisdictional needs.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	• Ensure existence of a demographic profile of the community (including special needs populations and language minorities) and ensure that the needs of these populations are addressed in the operation plan.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	• Address provision of psychosocial support services for the community, including patients and their families, and those affected by community containment procedures in the plan (see Supplement 11).

December 2, 2010
Version 4.4



Pandemic Influenza Checklists

- State and Local
- Business
- Preschool
- Schools (K-12)
- Colleges & Universities
- Faith-based & Community Organizations
- Physician Offices and Ambulatory Care
- Home Health
- Emergency Medical Services
- Travel Industry
- Correctional Facilities

PANDEMIC PLANNING

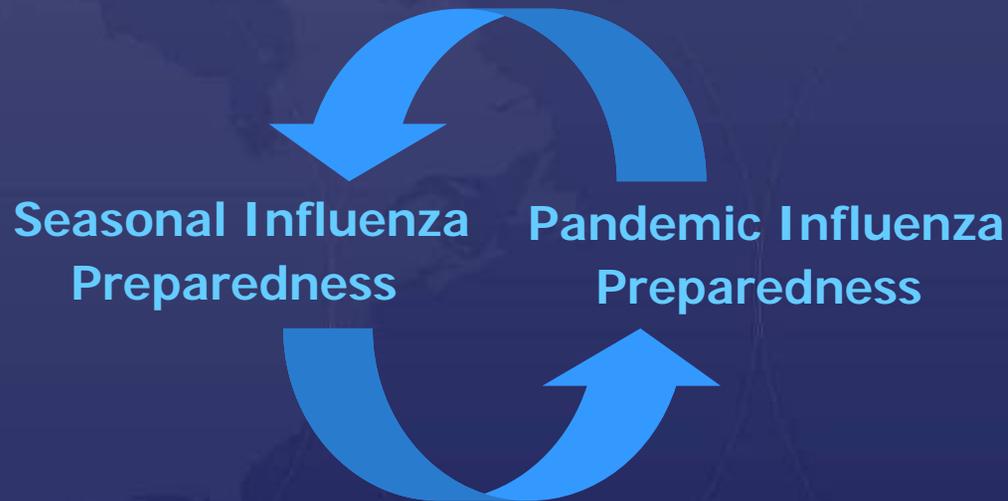
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Health Protection at the Frontline!

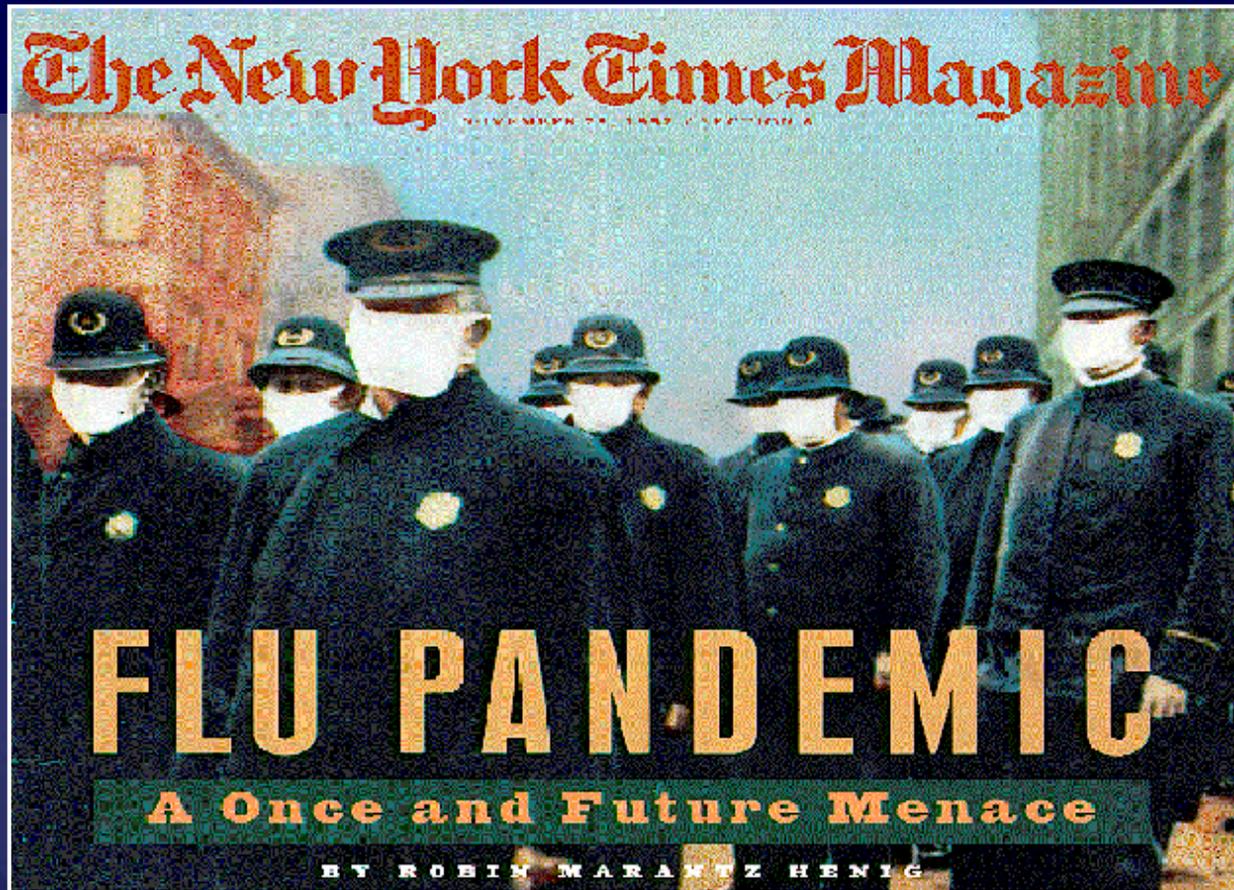


Influenza Preparedness: Return on Investment



- Saves lives during seasonal influenza outbreaks
 - Modern seasonal vaccine for all who need it
 - New antiviral drugs
- Protects communities from other threats
- Provides peace of mind

Complacency is the enemy of health protection!



www.pandemicflu.gov