

Pandemic Preparedness

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Overview

- Review federal pandemic plans
 - National strategy
 - Planning assumptions
- Discuss domestic surveillance objectives



Seasonal, Avian, and Pandemic Influenza

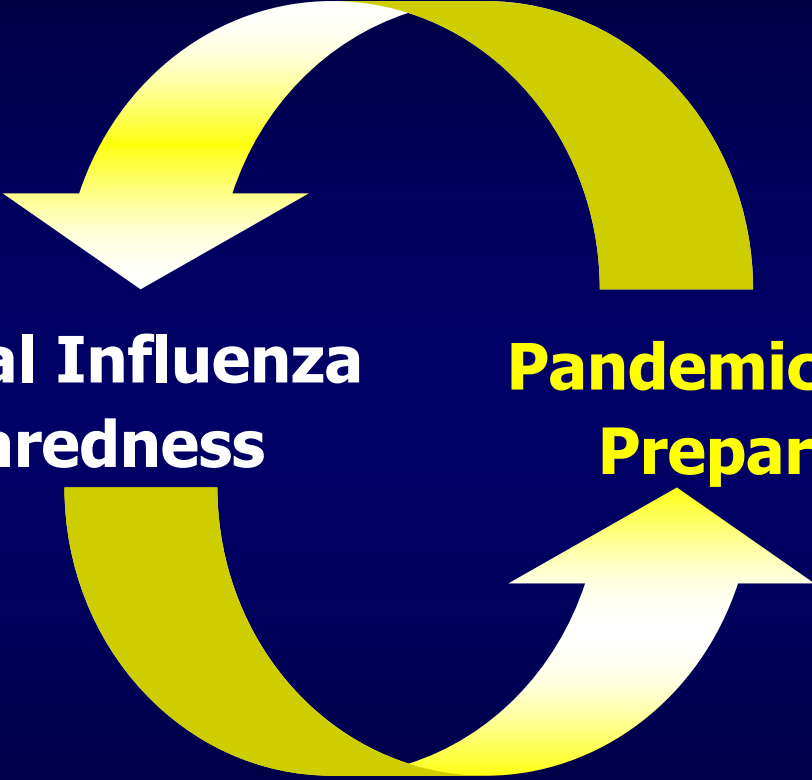
- Seasonal influenza viruses
 - Are a public health problem **every year**
 - Circulate throughout the human population
 - Spread easily from person to person
- Avian influenza A (H5N1) viruses
 - Devastating global outbreak in poultry
 - Cause severe but rare human infections
 - Do **not** spread easily from person to person
- Pandemic influenza viruses
 - Appear in the human population periodically
 - H5N1 is a likely candidate, but **is not a pandemic virus yet**



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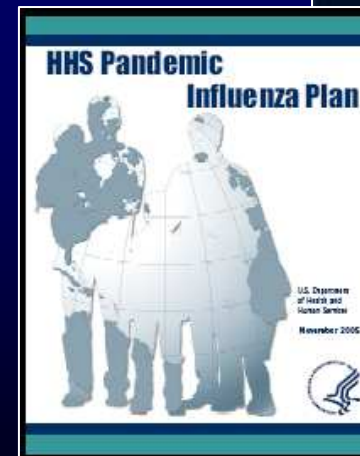
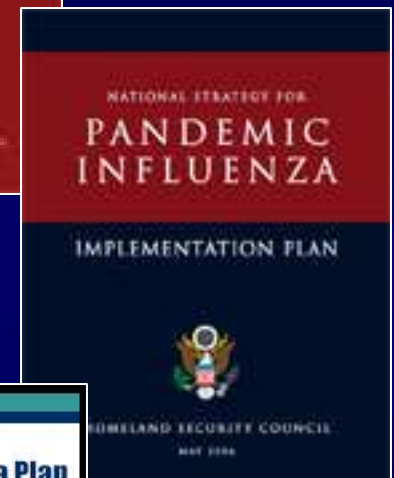
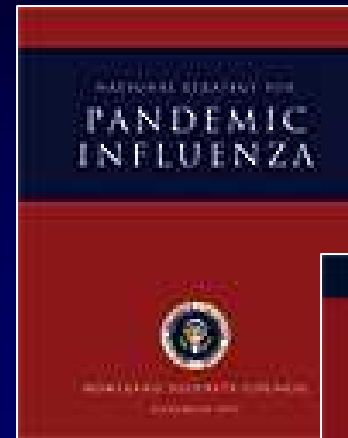
Concerns about Pandemic Influenza

- Rapid global spread (morbidity and mortality)
- Shortages and delays – vaccines and antiviral medications
- Increases burden on hospitals and outpatient care systems
- Disrupts national and community infrastructures



Federal Pandemic Plans

- National Strategy for Pandemic Influenza
- Homeland Security Council Implementation Plan for the National Strategy for Pandemic Influenza
- HHS Pandemic Influenza Plan
 - Strategic Plan
 - Public Health Guidance for State and Local Partners
 - HHS Operational Plan (incl. continuity of operations)



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Goals of the National Strategy

- Stopping, slowing, or otherwise limiting the spread of a pandemic to the US;
- Limiting the domestic spread, and mitigating disease, suffering, and death; and
- Sustaining infrastructure and mitigating impact to the economy and functioning of society.



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Pillar One: Preparedness and Communication

- Planning for a pandemic
- Communicating expectations and responsibilities
- Producing and stockpiling vaccines, antivirals, and medical material
- Establishing distribution plans for vaccines and antivirals
- Advancing scientific knowledge and accelerating development



Pillar Two: Surveillance and Detection

- Ensuring rapid reporting of outbreaks
- Using surveillance to limit spread



Pillar Three: Response and Containment

- Containing outbreaks
- Leveraging national medical and public health surge capacity
- Sustaining infrastructure, essential services and the economy
- Ensuring effective risk communication



WHO Phases and US Stages of a Pandemic

WHO Phases			US Stages	
Inter-Pandemic Period (New virus in animals, no human cases)	Low risk of human cases	1	0	New domestic animal outbreak in at-risk country
	Higher risk of human cases	2		
Pandemic Alert (New virus causes human cases)	No or very limited human-human transmission	3	1	Suspected human outbreak overseas
	Evidence of increased human-human transmission	4	2	Confirmed human outbreak overseas
	Evidence of significant human-human transmission	5		
Pandemic Period	Efficient and sustained human-human transmission	6	3	Widespread human outbreaks in multiple locations overseas
			4	First human case in North America
			5	Spread throughout US
			6	Recovery and preparation for subsequent waves



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CENTERS FOR DISEASE
CONTROL AND PREVENTION

Planning Assumptions in the US (I)

- The seasonality of a pandemic cannot be predicted with certainty.
- Susceptibility to pandemic influenza will be universal.
- Overall, 30% of the population will become ill.
- 50% of those who are ill will seek outpatient medical care.
- The number of hospitalizations and deaths will depend on the virulence of the pandemic virus.
- Risk groups for severe and fatal infections cannot be predicted with certainty.



US Burden of Influenza

- **Seasonal**
 - >200,000 hospitalizations
 - 36,000 deaths
- **Pandemic**

	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



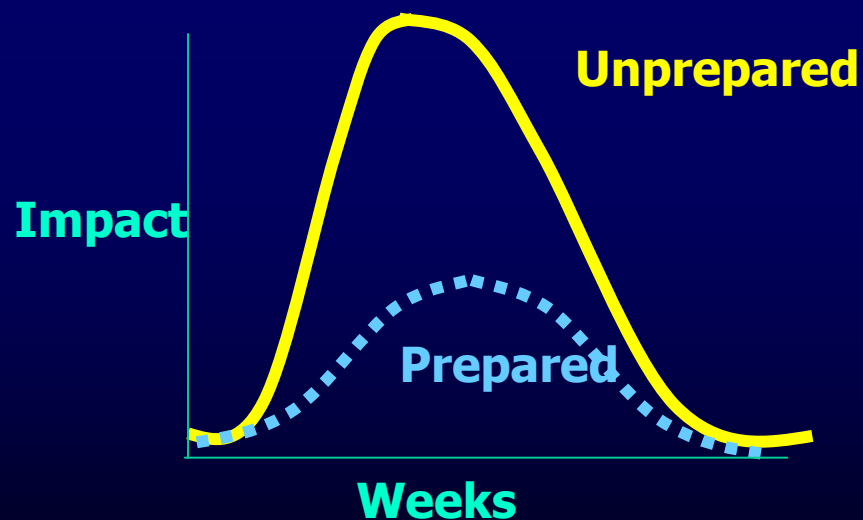
Planning Assumptions in the US (II)

- The typical incubation period for influenza averages 2 days.
- Persons who become ill may transmit infection for one-half to one day before the onset of illness.
- On average about 2 secondary infections will occur as a result of transmission from someone who is ill.
- In an affected community, a pandemic outbreak will last about 6 to 8 weeks.
- Work/school absenteeism may be as high as 40% at the peak.
- At least two pandemic disease waves are likely.



Potential Strategies to Decrease the Impact of a Pandemic

- Prevent or delay introduction, slow spread (Buy time)
- Decrease illness and death
 - Antiviral treatment and isolation for people with illness
 - Quarantine for those exposed
 - Social distancing
 - Vaccine when available



Potential Implications of Public Health Control Measures

- Support needed for people who are isolated or quarantined
- Limitations on travel due to restrictions, advisories, and screening measures
- Limitations on public gatherings
- Changes in the workplace to avoid disease
- Worker absenteeism due to school closures
- Vaccine initially limited to priority groups
- Antivirals reserved for containment



Surveillance Objectives

- Ensure laboratory, epidemiologic, and clinical systems are in place.
- Detect and investigate initial human cases/clusters of H5N1/influenza virus subtypes with pandemic potential.
- Determine and track trends in the impact of disease in affected areas.
- Monitor changes in circulating influenza viruses and assess effectiveness of treatment guidelines, vaccines, antivirals, and public health interventions.



Establish and Enhance Systems to Detect and Monitor the Pandemic

- Provide standardized influenza reagents for influenza testing and research.
- Promote development, evaluation, licensure, and use of point of care rapid diagnostic tests.
- Train epidemiologists and other public health professionals in response and investigation methods.
- Create and update protocols for investigating and reporting suspect and confirmed cases.
- Ensure health care providers and the public are aware of case identification, reporting and appropriate utilization of health services.



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Detect and Investigate Initial Cases and Clusters (I)

- Continue routine surveillance for influenza.
 - WHO and NREVSS collaborating labs
 - Sentinel providers surveillance network
 - 122 cities mortality reporting system
 - Pediatric deaths
 - EIP and NVSN



Detect and Investigate Initial Cases and Clusters (II)

- Continue enhanced surveillance for H5N1 human cases.
 - Monitor health status of travelers from affected areas
 - Conduct active surveillance among persons exposed to H5N1 infected birds
 - Establish and initiate surveillance for illness and infection among health care workers
 - Continue surveillance among laboratory workers



Detect and Investigate Initial Cases and Clusters (III)

- Investigate identified human cases and clusters.
 - Describe clinical features
 - Assess risk factors
 - Effectiveness of/compliance with guidance for personal protective equipment)
 - Develop recommendations to prevent further spread of disease to humans
 - Prevention measures,
 - Case management, and
 - Risk communication messages



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Determine and Track Trends in the Impact of Disease

- Track number of hospitalizations and deaths.
- Monitor workplace safety and continuity of operations in critical infrastructure functions, including health care sector.
- Assess need for changes in disease containment and medical countermeasure strategies.



Monitor Changes in the Virus and Assess Effectiveness of Interventions

- Monitor changes in the virus
- Conduct epidemiologic studies linked with laboratory data to assess/monitor:
 - Treatment guideline effectiveness
 - Vaccine effectiveness
 - Antiviral effectiveness and resistance



Pandemic Influenza Planning Healthcare Checklists

- ✓ Emergency Medical Service and Medical Transport
- ✓ Home Health Care Services
- ✓ Hospitals
- ✓ Long-Term Care and Other Residential Facilities
- ✓ Medical Offices and Clinics

MEDICAL OFFICES AND CLINICS PANDEMIC INFLUENZA PLANNING CHECKLIST

Planning for pandemic influenza is critical for ensuring a sustainable healthcare response. The Department of Health and Human Services (HHS) and the Centers for Disease Control and Prevention (CDC) have developed the following checklist to help medical offices and ambulatory clinics assess and improve their preparedness for responding to pandemic influenza. This checklist is modeled after a pandemic preparedness checklist for hospitals and should be used in conjunction with guidance on healthcare preparedness planning in Supplement 3 of the HHS Pandemic Influenza Plan. Many of the issues included in the checklist are also relevant to other outpatient settings that provide episodic and chronic healthcare services (e.g., dental, podiatric, and chiropractic offices, ambulatory surgery centers, hemodialysis centers). Given the variety of healthcare settings, individual medical offices and clinics may need to adapt this checklist to meet their unique needs. Further information can be found at www.pandemicflu.gov.

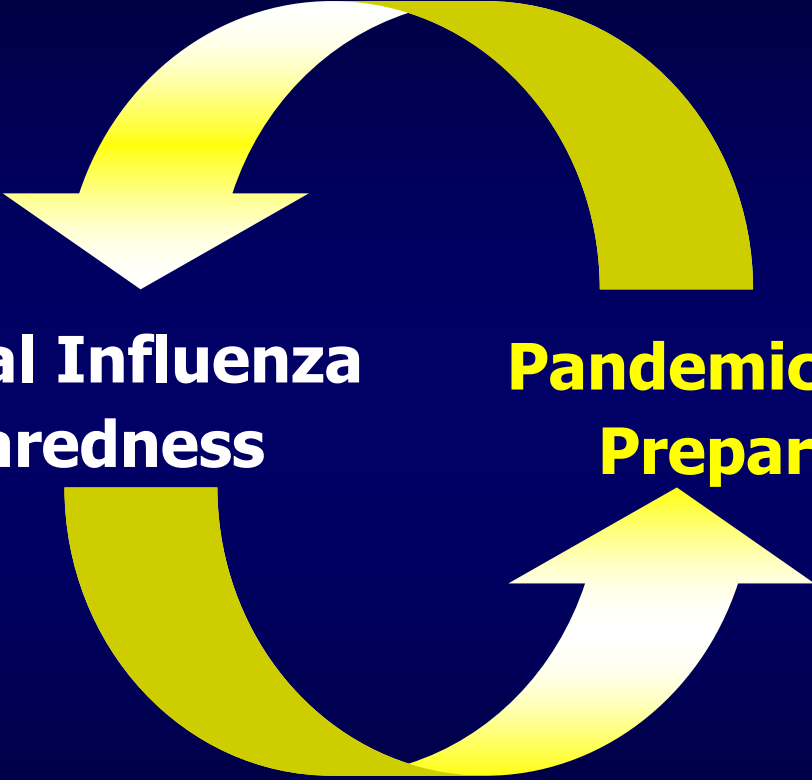
This checklist identifies key areas for pandemic influenza planning. Medical offices and clinics can use this tool to identify the strengths and weaknesses of current planning efforts. Links to websites with information are provided throughout the document. However, actively seeking information that is available locally or at the state level will be necessary to complete the development of the plan. Also, for some elements of the plan (e.g., education and training programs), information may not be immediately available and it will be necessary to monitor selected websites for new and updated information.

1. Structure for planning and decision making.

Completed	In Progress	Not Started	
☐	☐	☐	Pandemic influenza has been incorporated into emergency management planning for the organization.
☐	☐	☐	A planning committee ¹ has been created to specifically address pandemic influenza preparedness for the medical office or clinic.
☐	☐	☐	A person has been assigned responsibility for coordinating preparedness planning for the practice or organization (hereafter referred to as the pandemic influenza response coordinator). (Insert name, title and contact information)
☐	☐	☐	Members of the planning committee include the following: (Insert below or attach list with name, title and contact information for each) Administration: _____ Medical staff: _____ Nursing: _____ Reception personnel: _____ Environmental services (if applicable): _____ Clinic laboratory personnel (if applicable): _____ Other member(s): _____
☐	☐	☐	A point of contact (e.g., person assigned infection control responsibility for the organization or an outside consultant ²) for questions/consultation on infection control measures to prevent transmission of pandemic influenza has been identified. (Insert name, title, and contact information)

1. The committee could be very small (e.g., two or three staff members) or very large, depending on the size and needs of the organization.
2. Formal memorandum of understanding or contract may be needed if an outside consultant is used.





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Seasonal Protections Are Important Now and Good Practice for a Pandemic

- Promote seasonal vaccination
- Encourage good personal hygiene
- Support staying home if ill
- Stay informed



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Summary

- A pandemic will place incredible demands on the healthcare system
- Pandemic preparedness actions must begin now
 - Be familiar with national, state, and local plans
- Early detection of initial cases/clusters is essential
 - Know reporting guidelines
- Monitoring the impact of the pandemic will be critical
 - Assist federal, state, and local officials



For more information

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