
Planning for Pandemic Flu

To: Town of Middleton Administration

From: Middleton Health Department

2008

Influenza

- In people, a disease of the respiratory tract caused by a virus and usually associated with fever, muscle aches and other symptoms
- Three types of influenza virus
 - A: most frequent cause of annual **epidemics**, the type of influenza that causes **pandemics**
 - B: also causes annual **epidemics**, usually milder
 - C: causes “**colds**”, not epidemic

Influenza - Infectious

- Virus infects any part of the respiratory tract, from nose to throat to bronchial tract to lungs
- People with influenza **highly infectious**
 - Infectious before symptoms start
 - A lot of virus in secretions
 - Coughing, sneezing, talking
- Time from exposure to symptoms (**incubation period**) can be as short as **2 days**
- **Infectious for 7-10 days**, but infectiousness drops off after 5 days
- Young children can be infectious for 2-3 weeks

Influenza Viruses

- Reproduce with many mutations
- Many viruses in infection
 - Some viruses selected to escape human immune response
- **Genetic drift**
 - Gradual, continuous changes
 - Frequently requires change in vaccine
- **Genetic shift**
 - Major change
 - Viruses combine in infected person or animal
 - Virus jumps from birds

What is a pandemic?

A sudden, widespread outbreak caused by a new strain of the influenza A virus.

Because the virus is new, virtually no one is immune - all exposed could get sick.

Influenza pandemics...

- Spread rapidly throughout the world
- Result in an unusually high number of cases and deaths
- Last 1 - 2 years; may have a second wave
- Occurred in 1918, 1957, 1968

1918 influenza pandemic

Most deadly outbreak of infectious disease ever



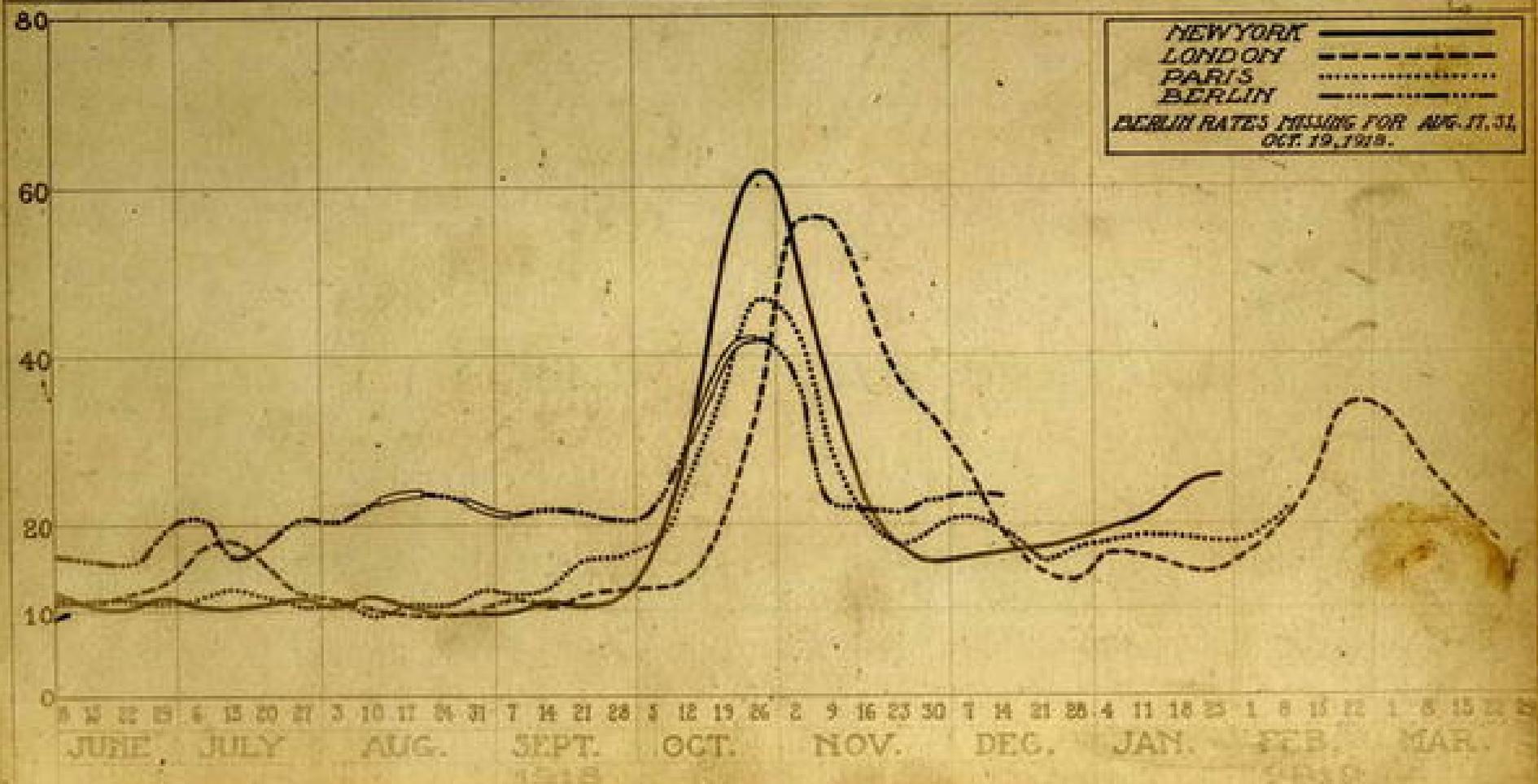
- ❑ 20 - 40 million or more died worldwide, 500,000 in U.S.
- ❑ 20% - 40% of population sick
- ❑ Quick to kill, especially healthy young adults



INFLUENZA PANDEMIC

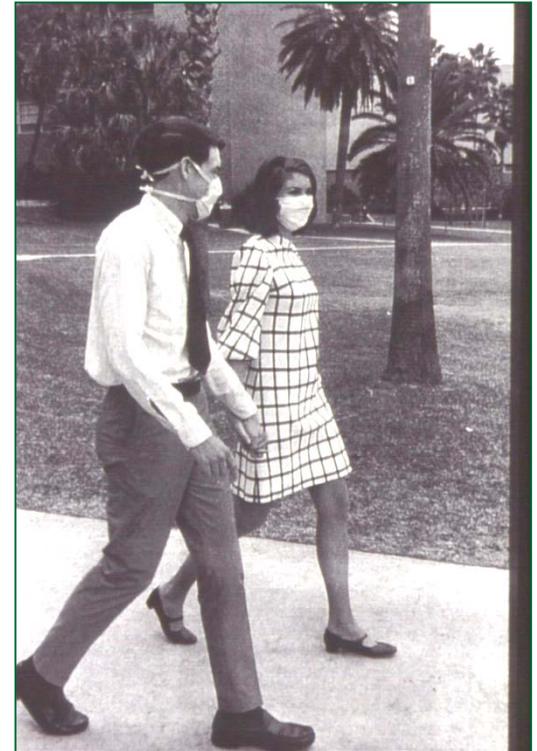
MORTALITY IN AMERICA AND EUROPE DURING 1918 AND 1919

DEATHS FROM ALL CAUSES EACH WEEK
EXPRESSED AS AN ANNUAL RATE PER 1000



1957 and 1968 influenza pandemics

- 1957 Asian Flu (H2N2)
 - 70,000 Americans died
- 1968 Hong Kong Flu (H3N2)
 - 34,000 Americans died



Avian influenza in humans (H5N1)

- Hong Kong, 1997
- Resulted in 18 human cases and 6 deaths
- Most transmission from chickens to humans
- Isolated instances of probable person-to-person transmission



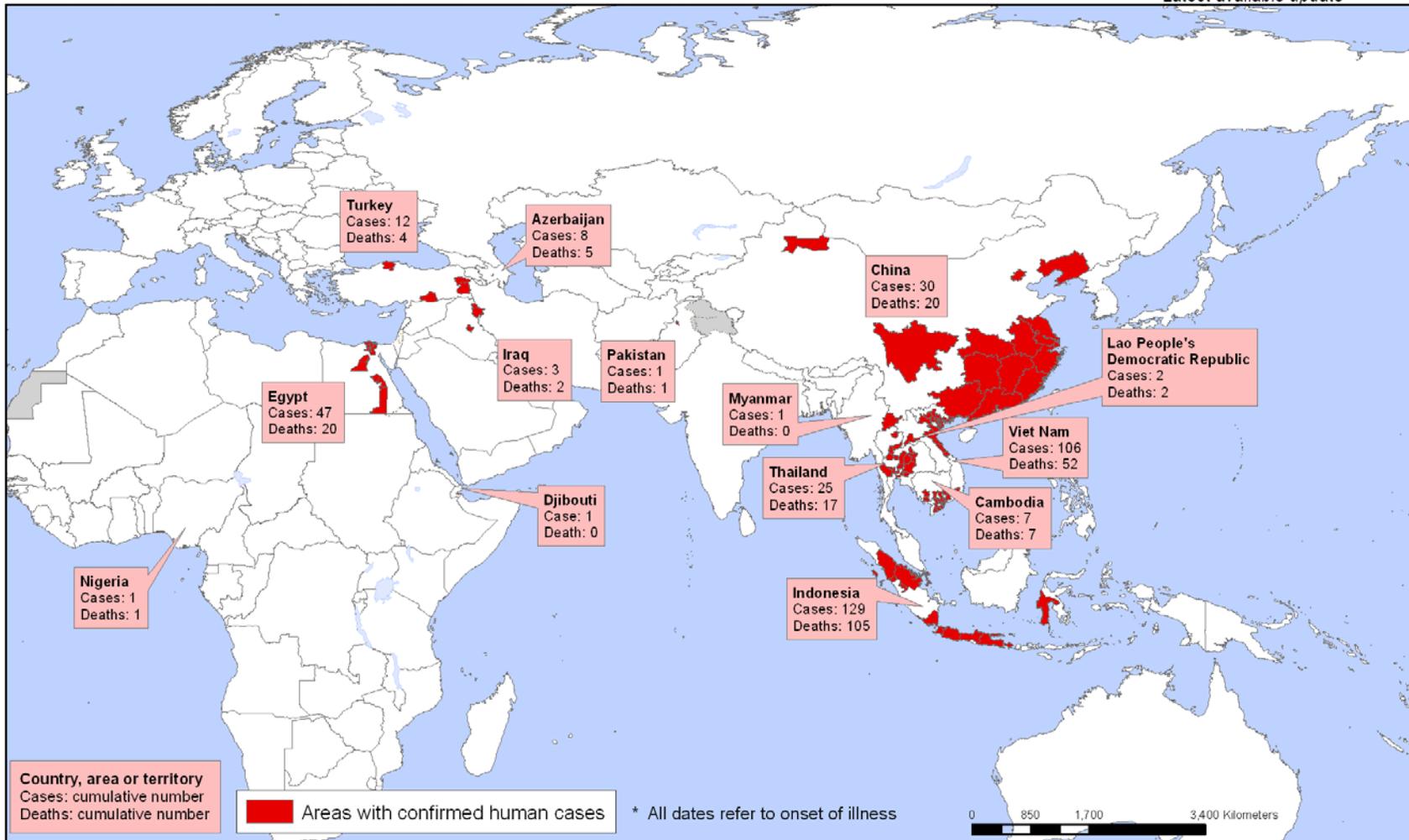
World Health Organization (WHO) Confirmed human cases of H5N1 (as of March 18, 2008)

	2003		2004		2005		2006		2007		2008		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Azerbaijan	0	0	0	0	0	0	8	5	0	0	0	0	8	5
Cambodia	0	0	0	0	4	4	2	2	1	1	0	0	7	7
China	1	1	0	0	8	5	13	8	5	3	3	3	30	20
Djibouti	0	0	0	0	0	0	1	0	0	0	0	0	1	0
Egypt	0	0	0	0	0	0	18	10	25	9	4	1	47	20
Indonesia	0	0	0	0	20	13	55	45	42	37	12	10	129	105
Iraq	0	0	0	0	0	0	3	2	0	0	0	0	3	2
Lao People's Dem Rep	0	0	0	0	0	0	0	0	2	2	0	0	2	2
Myanmar	0	0	0	0	0	0	0	0	1	0	0	0	1	0
Nigeria	0	0	0	0	0	0	0	0	1	1	0	0	1	1
Pakistan	0	0	0	0	0	0	0	0	1	1	0	0	1	1
Thailand	0	0	17	12	5	2	3	3	0	0	0	0	25	17
Turkey	0	0	0	0	0	0	12	4	0	0	0	0	12	4
Viet Nam	3	3	29	20	61	19	0	0	8	5	5	5	106	52
Total	4	4	46	32	98	43	115	79	86	59	24	19	373	236

Tracking H5N1

Areas with confirmed human cases of H5N1 avian influenza since 2003 *

Status as of 18 March 2008
Latest available update



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: WHO
Map Production: Public Health Mapping and GIS
World Health Organization
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Pathways of Infection



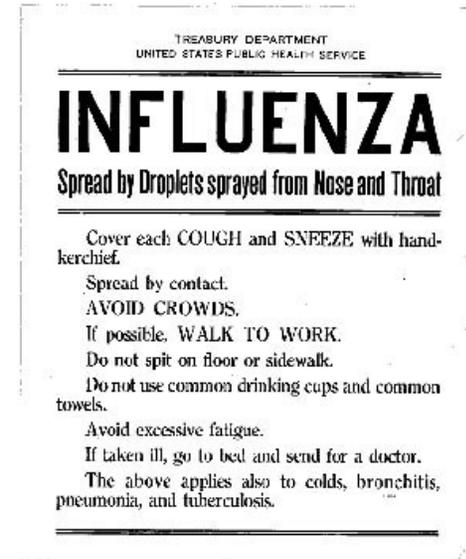
Mobile Groups

+



A Source

=



Key Components in the Spread of Disease

Section 1

The Virus Begins to Spread

WHO Pandemic Alert Phase 3

Why are we concerned about influenza?

- Very short incubation period (1-4 days, typically 2 days)
- **“Infectious prior to symptoms”**
- Severe disease may occur in children and young adults
- H5N1 has crossed the species barrier to infect humans

Population susceptibility to an H5N1-like pandemic virus would be universal

Potential impact of next pandemic in Massachusetts

Among our state's population of about 6.4 million could be...

- 2 million clinically ill
- 1 million outpatient visits
- 80,000 hospitalizations
- 20,000 deaths



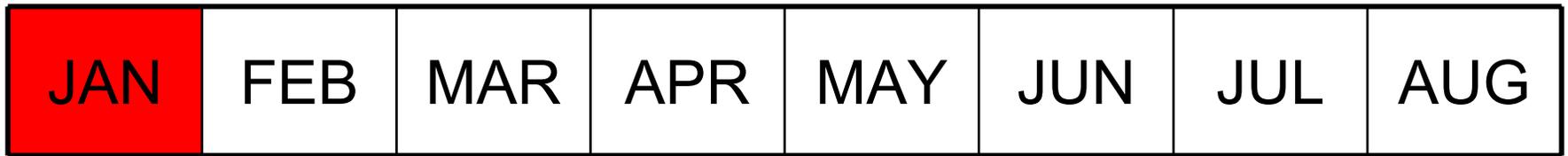
Potential impact of next pandemic in Massachusetts

- Outbreaks will occur simultaneously throughout the U.S.
- Up to 40% absenteeism in all sectors at all levels
- Order and security disrupted for several months, not just hours or days

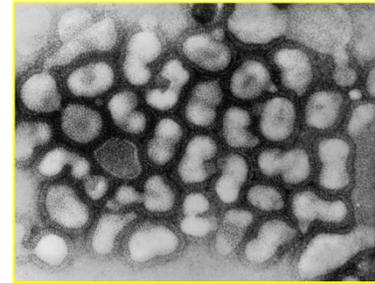
Outline
of
Pandemic Flu
in the US

Initial Situation

- 100 million chickens die in 8 countries
- Confirmed human cases in Vietnam and Thailand
- 2 cases of human-to-human transmission



Virus Alert



- Little or no immunity in the general population
- Potential precursor to a pandemic

Actions

- U.S. heightens disease surveillance and readies for a possible pandemic
- State and local agencies review continuity of operations plans, surge capacity plans and other emergency protocols

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
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Vaccine Availability

- 6.4 million Mass. residents will need 2 doses of vaccine, 1 month apart
- Vaccine is not currently available
- State issues general guidelines on priority groups for vaccine



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Increased Media Attention

- Possibility raised of a situation not as significant as the 1918 flu pandemic but much more serious than the 1968 pandemic, and potential vaccine shortage
- Some media sources declare that the government is “not doing enough to prevent a potential catastrophe”



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Questions for Community Planning:

1. What groups should we meet with now?
 2. What plans should be reviewed and/or activated at this point to assist with:
 - ❑ Risk communication
 - ❑ Vaccine prioritization & distribution
 - ❑ Provision of services and operations
 3. How will our community respond to media attention and the need for public information at this point?
-

Questions (con't)

4. What kinds of messages need to be crafted for the public before the outbreak occurs?
 - How will our agency and community prepare to ensure the provision of essential services and operations during pandemic for your agency and community?

Section 2

The Virus Reaches the U.S.

WHO Pandemic Phase 6

Pandemic Declared

- By mid-April, human cases of H7N3 have been reported in Hong Kong, Singapore, South Korea, and Japan.
- Although cases are reported in all age groups, young adults appear to be the most severely affected.
- Vaccine production has begun.
- In late April, human cases are identified in the United States.

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Pandemic Declared

- H7N3 spreads throughout multiple continents
- Cases reported in 18 U.S. states
- Three cases identified in Boston hospitals in early May
- President makes formal pandemic declaration

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Media Scrutiny



- Media coverage escalates
- Cable stations devote 24-hour coverage to worsening public health crisis
- Residents contact elected officials about frustrations over vaccine supply



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Impact in MA

- Residents demand vaccine
- Mayor of Boston urges Massport to close Logan Airport
- Some residents stay at home for fear of exposure to the flu



Demand for Vaccine

- Labor unions and elderly advocacy groups complain of lack of vaccine for their constituents
- Demand for vaccine becomes stronger and serious questions raised about priority setting



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Large Crowd Warning

- Several mayors & town managers suggest that Fourth of July celebrations be cancelled
- Questions raised over whether summer activities for children should be cancelled



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Additional Community Questions

1. As you make plans for vaccinating, how will we be responding to the angry public that wants vaccine?
2. What plans have been developed to vaccinate priority groups after the first shipments of vaccine arrive?

Section 3

The Pandemic Escalates

WHO Pandemic Phase 6

The Pandemic Escalates in MA

- Hundreds of deaths reported in MA
- Traditional health care services incapable of managing pandemic
- Clinics and hospitals face staff shortages



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The Pandemic Escalates in MA

- Many towns report 30% absenteeism among public safety workers because of illness
- Local officials discover that existing emergency operations plans do not adequately address pandemic-related needs



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The Pandemic Escalates in MA

- Communities across the state report difficulty in staffing essential services
- Prisons and jails on 24-hour lockdown
- Day care centers for children and the elderly are closed



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Vaccine Distribution

- MDPH receives first 50,000 doses of vaccine (of 12 million doses needed)
- Vaccine distributed to state, local health depts and hospitals for people in vaccine priority groups



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Media Saturation



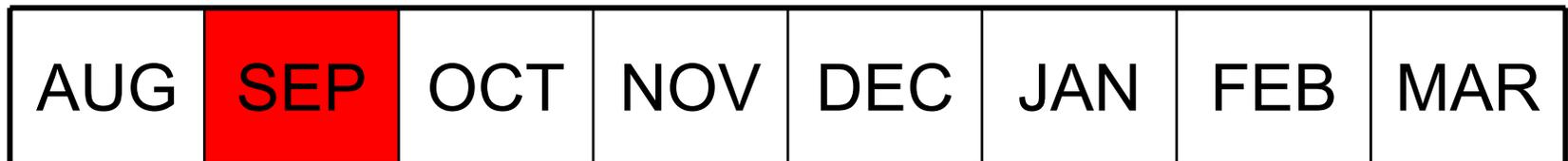
- All media attention on the pandemic
- State and local authorities are being challenged about the effectiveness of pandemic preparedness policies



AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR
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Final Situation Update

- 6,000 Mass. residents have died from influenza
- Based on past experience with pandemics, a second wave of outbreaks is expected to occur within 3 - 9 months of the end of the initial wave



Community Questions:

1. With 30% of the workforce out sick, how will we provide services to maintain consistent risk communication to our partners and the public?
2. With 30% of our workforce out sick, how do we plan to safeguard and monitor your vaccine?
3. What actions, resources, plans and support must be taken at the local level?

Local Responses to Pandemic Flu

- **Decision-making process (Who, What Authority)**
 1. When (& if to) close schools?
 2. Social Distancing (Canceling gathering events, etc.) and sheltering in place may be necessary to decrease transmission
- **Proper communication to residents & employees**
- **Continuity of Operations for Town and Businesses**
 1. Keeping the town running
 - (water, sewage, transfer station, buses, deliveries, paychecks, etc)
 2. **Keeping businesses running** . Assuring the **supply chain** and adequate supplies of essentials, such as food, water, utilities, medicines, etc. in a just-in-time economy
 - (just-in-time deliveries)

Local Responses to Pandemic Flu (con't)

- Mobilization of volunteer medical corps
- Setting up and running Emergency Dispensing Sites for vaccine administration
- 1. Crowd Control, Traffic Control, etc.
- Addressing Special Populations
- Continuous disease surveillance updates
- Supporting home **emergency plan** and **supplies** of staples
- Maintaining **public order and essential community functions**

Next Steps: Pandemic Planning

Federal & State Government

- National & State Pandemic Influenza Preparedness Plans:
www.pandemicflu.gov
- http://www.mass.gov/dph/cdc/epii/flu/pandemic_government.htm

What must we prepare for LOCALLY?

- Timely, effective communication planning.
- Surge capacity overflow within the health care system (personnel and hospital capacity)
- Protecting the health and safety of the most vulnerable citizens.
- Keeping the continuity of society.
- Surveillance / real time identification capability regarding flu outbreaks
- Effective education about respiratory hygiene/cough etiquette and other non-vaccine, non-medication ways of prevention

How can we continue to prepare?

Local Planning

- **Create a pandemic flu planning committee with, (but not limited to)....**
 - ❑ Town Government Officials
 - ❑ School/Education Reps
 - ❑ Pharmacists
 - ❑ Physicians, local hospital reps
 - ❑ Clergy, Faith based Reps
 - ❑ Middleton Chamber of Commerce / Business Reps
 - ❑ Media Reps
 - ❑ Funeral Directors
 - ❑ Community Organizations

Local Planning Con't

- Incident Command Training for additional town employees
- Communications: Build on existing system (explore reverse 911, etc.)
- Special Populations Planning
- Risk Communication Planning: Town Public Information Officer (PIO) and PIO rep's from Dept's.
- Establish a Local Emergency Planning Committee in addition to a Pandemic Planning Committee
- Use a seasonal flu vaccine clinic as an exercise for pandemic flu response at Middleton's emergency dispensing site.

BOH Current Planning Efforts:

- BOH/Health Department continues to plan for pandemic flu (& other emergencies)
- Plans require community input, discussion, assistance and collaboration
- Plans are constantly evolving as situations are revealed
- Plans are no good if they are not tested, exercised, critiqued, by everyone involved with the planning.

Current Projects, Plans, and Efforts (con't)

- ✓ **Incident Command System and National Incident Management Training for Health Department**
 - Completed by ALL Health Department Staff

- ✓ **Medical Reserve Corp**
 - Middleton recently joined the newly formed Region 3A Medical Reserve Corp (consists of Amesbury, Merrimack, Boxford, Topsfield, Rowley, Middleton). Recruiting for Middleton volunteers will be conducted in 2008. Informational sessions and trainings are available for MRC volunteers.

- ✓ **Family Disaster Plan Mailing**
 - Town-wide mailing to all residents with Family Disaster Plan brochure supporting the need for families to create home emergency supply kits and contact lists anticipated for fall of 2008. In addition to supporting the cause of “check on your neighbor.”

- ✓ **Public Health Nurse**
 - Continue efforts to establish community public health nurse for proper communicable disease surveillance, vaccination, and emergency planning.

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- ✓ **Development of Emergency Operations Plan**
 - ❑ Includes plans for all incident response, risk communication, emergency dispensing site identification & management, infectious disease response, and biological/chemical/radiological response
 - ✓ **Public Health Continuity of Operations Plan (COOP)**
 - ❑ Ensure the execution of essential functions of the Board of Health during an emergency.
 - ✓ **Mutual Aid for Public Health**
 - ❑ Town Meeting Approval 2006, Roundtable with Region 3A and communities counsel tentatively planned for June 2008 to finalize language for towns to enter into inter-municipal agreements.
 - ✓ **Special Populations Planning**
 - ❑ Special populations plan drafted. Further Gathering of information on special populations in the community required. Will collaborate with. with the Senior Center, Police, and Fire, etc.).
 - ✓ **Region 3A Emergency Preparedness Coalition**
 - ❑ The Town of Middleton is one of fourteen communities in Region 3A that has been working on regional readiness planning.
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Our Goal:

When the pandemic has passed, and the impact of the wave recedes,

we will be able to look back and know:

- That the Town of Middleton did everything it could; and
- That by having the right plans in place, and the capability to respond effectively and efficiently, we were able to come together to meet the challenges.

We will be able to say that:

- We maintained essential services,
 - We preserved life and minimized discomfort,
- We created a supportive caring network for our most vulnerable,
 - We minimized the suffering of ALL our residents, and
 - We protected our families and first responders

*Most of the impact
and most of the
response will be
local.*

Sources

- The Massachusetts Department of Public Health and The Local Public Health Institute of Massachusetts
- World Health Organization: Avian Flu Data and Maps