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DEPARTMENT OF HEALTH AND HUMAN SERVICES
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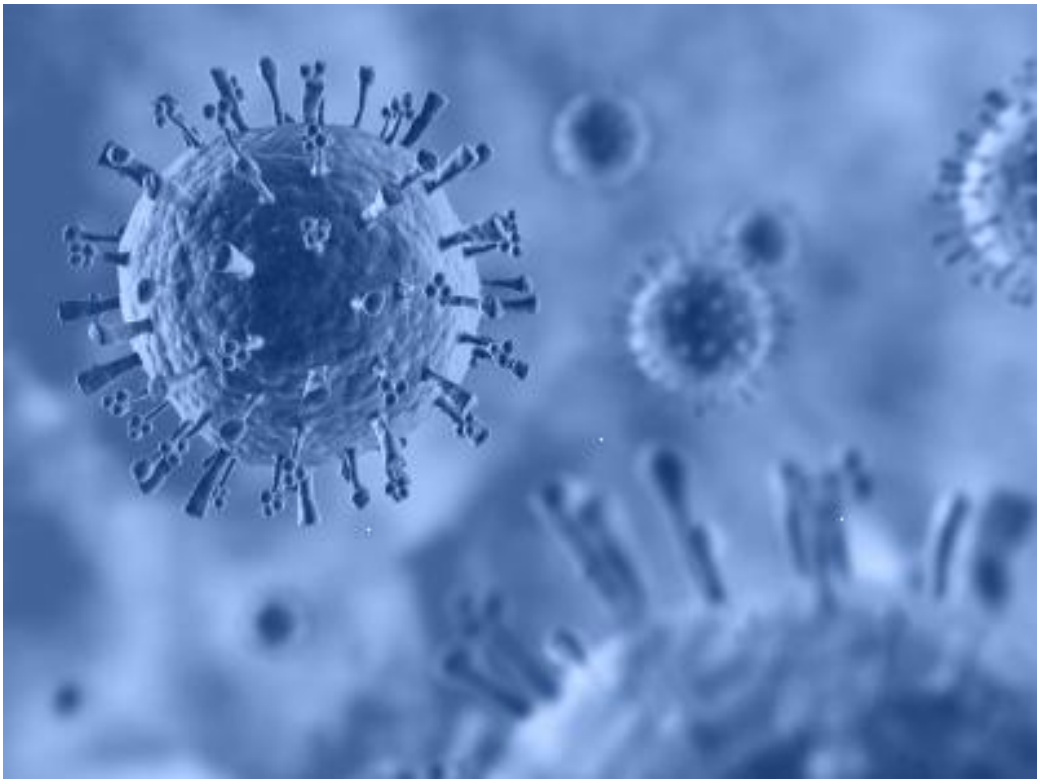
Pandemic Influenza Operations Plan



Version 1.4

August 21, 2013

Maine Center for Disease Control and Prevention
An Office of the Department of Health and Human Services

Paul R. LePage, Governor Mary C. Mayhew, Commissioner

Pandemic Influenza Operations Plan

APPROVAL AND IMPLEMENTATION

The Maine Department of Human Services, Maine Center for Disease Control and Prevention Pandemic Influenza Operational Plan is hereby accepted for implementation and supersedes all previous editions.

1/8/2013

Date

Dr. Sheila Pinette, Director
Maine Center for Disease Control

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Disclaimer

The Maine Department of Human Services, Center for Disease Control and Prevention's Pandemic Influenza Operational Plan serves as the operational preparedness, response and recovery plan for use throughout Maine; however, the primary target audience is state agencies, municipal agencies, and health care organizations tasked with developing pandemic influenza response plans.

This plan shall not be construed to alter any law, executive order, rule, regulation, treaty, or international agreement. Noncompliance with this document shall not be interpreted to create a substantive or procedural basis to challenge agency action or inaction.

Record of Changes and Reviews

The Maine Department of Health and Human Services, Maine Center for Disease Control and Prevention (ME CDC), Pandemic Influenza Operations Plan will require updates and be affected by changes related to advances in science and as new guidance and best practices relating to dealing with a pandemic influenza emerge. The Maine CDC Pandemic Influenza Planning Team will review the Pandemic Influenza Operations Plan on an annual basis.

Proposed changes should be submitted to:

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Change Number	Change/Review/Comments	Date	Version	Initials
1	**Dr. Stephen Sears; clarification of definition of pandemic; p14**	**1/10/13**	**V 1.1**	**JWC**
2	**Dale Rowley; correction; the death registration is a municipal responsibility; p12-26**	**2/25/13**	**V 1.2**	**JWC**
3	**William Jenkins; update of ME CDC IRT Notification and Assembly Protocol; p40**	**4/30/13**	**V 1.3**	**JWC**
4	**Jane Coolidge; update of IRT and ICS chart**	**8/21/13**	**V 1.4**	**JWC**

Abbreviations

ACIP	Advisory Committee on Immunization Practices
AHA	American Hospital Association
AHRQ	Agency for Healthcare Research and Quality
ARC	American Red Cross
ASPR	Office of the Assistant Secretary for Preparedness and Response (HHS)
ASTHO	Association of State and Territorial Health Officials
BFRSS	CDC's Behavioral Risk Factor Surveillance System
CDC	Centers for Disease Control and Prevention
CERT	Community Emergency Response Team
CFR	Code of Federal Regulations
COOP	Continuity of Operations Planning
CONOP	Concept of Operations
CRA	Countermeasures and Response Administration
DBH	Disaster Behavioral Health
DHHS	U.S. Department of Health and Human Services
EMS	Emergency Medical Services
EMT	Emergency Medical Technician
EOC	Emergency Operations Center
ESF	Emergency Support Function
ESAR-VHP	Emergency System Advanced Registration Volunteer Health Professionals
EUA	Emergency Use Authorization
FDA	Food and Drug Administration
FEMA	Federal Emergency Management Agency
HAN	Health Alert Network
HIPAA	Health Insurance Portability and Accountability Act
HSEEP	Homeland Security Exercise and Evaluation Program
IAP	Incident Action Plan
ICS	Incident Command System
ILI	Influenza-like Illness
IMS	Incident Management System
IRT	Incident Response Team
LRN	Laboratory Response Network
Maine CDC	Maine Center for Disease Control and Prevention
MaineHAN	Maine Health Alert Network
MEMA	Maine Emergency Management Agency
MOU	Memorandum of Understanding

MIP	Maine Immunization Program
MRC	Medical Reserve Corps
MVP	Mass Vaccination Plan
NACCHO	National Association of County and City Health Officials
NIMS	National Incident Management System
PHEOC	Public Health Emergency Operations Center
PHIN	Public Health Information Network
PPE	Personal Protective Equipment
SME	Subject Matter Expert
SNS	Strategic National Stockpile
SOC	State Operations Center
SOP	Standard Operating Procedure
SPSN	Sentinel Provider Surveillance Network
VA	Department of Veterans Administration
VAERS	Vaccine Adverse Events Reporting System
VIS	Vaccine Information Statement
VMI	Vendor-Managed Inventory
WebEOC	Web Based Emergency Operations Center
WHO	World Health Organization

Preface

On June 11, 2009 the World Health Organization (WHO) announced that the pandemic alert was raised to the Phase 6 on the alert scale, the highest level, to indicate that a pandemic caused by the influenza A (H1N1) swine flu virus was in progress. However, WHO stressed that Phase 6 indicates the geographic spread of the virus; it does not represent an indication of increased severity.

Until recently, experts believed that the next pandemic would evolve from the highly pathogenic H5H1 virus and cripple the nation. Fortunately, H1N1 2009 was a much less pathogenic virus than anticipated. The H1N1 2009 has been (to date) found to be no more contagious than the seasonal flu, with a global attack rate of between 11% -21%, and the severity index was no more severe than the normal seasonal flu. Most people recovered from infection without the need for hospitalization or medical care. Although high levels of disease occurred in some local areas and institutions, overall hospitals and health care systems in most countries were able to cope with the numbers of people seeking care.

Beginning in 2005, Maine CDC and others developed their Pandemic Influenza Operations Plan based on the probability of the occurrence of a pandemic strain with a much higher severity index rate such as H5H1 rather than H1N1 of 2009, which had a much lower severity index. This Plan has been revised and designed to be adaptable and scalable to facilitate a customized response depending on the severity and transmissibility of the circulating novel virus.

Also of note in this revision:

- The Plan includes a refinement of both the Maine Levels and Maine Pandemic Periods, which serve as a more precise set of "trigger points" for suggested actions relevant to a pandemic in Maine
- The Post Pandemic Recovery Period is more fully developed
- The planning Assumptions have been updated
- The Lessons Learned derived from the H1N1 Pandemic of 2009 experience have been identified and incorporated in to the Plan to strengthen Maine's readiness for, response to, and recovery from a future pandemic event
- Several new Supplements have been added to the Plan to enrich the reference, and to be consistent with the HHS Pandemic Influenza Plan.
- Supplement 9. Managing Travel-Related Risk of Disease Transmission has yet to be developed.

Scope and Purpose

The Maine CDC Pandemic Influenza Operations Plan has been developed to address anticipated challenges posed by an influenza pandemic. This document was prepared utilizing evidenced-based research, guidelines from the World Health Organization (WHO) and the U.S. Centers for Disease Control and Prevention (CDC).

The Plan outlines strategies to reduce pandemic influenza-related morbidity and mortality, as well as anticipated social disruption. The document includes an overview of pandemics, information on pandemic phases, transmission and severity, details regarding recognized mitigation strategies, and specifics on the various preparedness, response and recovery actions that will likely be implemented across the state. The Plan provides a framework for stopping, slowing or otherwise limiting the spread of an influenza outbreak. The strategies that are outlined are intended to enhance the State's infrastructure during a pandemic to reduce any resulting social/economic disruption. The guidance contained in this plan will be revised and/or enhanced as new information becomes available. Such updates will occur in consultation with local, state and federal authorities.

The purpose of the Maine CDC Pandemic Influenza Operations Plan is to provide an overview of the strategies that may be implemented by the Maine CDC in anticipation of, or in response to an actual influenza pandemic. It is assumed and imperative that close collaboration and coordination with other federal, state and local partners, before, during and following a pandemic, will be essential for overall success and maximal protection of the health and wellbeing of the citizens of the State of Maine.

The overarching goals of the Maine CDC Pandemic Influenza Operations Plan include:

- Protect the health and safety of the people of the State of Maine
- Implement an operational plan for a pandemic that provides leadership to an integrated local, state and federal response and recovery plan
- Provide guidance that is scalable and adaptable in response to the characteristics of the circulating novel viral.
- Mitigate the impact of a pandemic on the public
- Stop, slow, or otherwise limit the spread of the virus through disease control and community containment measures
- Limit and/or minimize the health, social and economic disruption resulting from an influenza pandemic
- Lessen the likelihood of illness (morbidity) and deaths (mortality);
- Reduce the psychological impact of a pandemic event
- Sustain critical infrastructure as well as essential functions and services
- Provide direction for the tasks of pandemic recovery

The Maine CDC Pandemic Influenza Operations Plan is based on guidelines provided by:

HHS Pandemic Influenza Plan, US Department of Health and Human Services, November 2005.

WHO global influenza preparedness plan: The role of WHO and recommendations for national measures before and during pandemics. Switzerland, World Health Organization, Department of Communicable Disease Surveillance and Response Global Influenza Programme; 2005.

Interim Pre-pandemic Planning Guidance: Community Mitigation Strategy for Pandemic Influenza Mitigation in the United States- Early, Targeted, Layered Use of Nonpharmaceutical Interventions (CDC, February 2007). This document includes guidelines and triggers for health departments to implement community-based strategies to decrease the spread of the pandemic virus through the population. It also includes a classification system for pandemics based on pandemic severity.

Draft Guidance on Allocating and Targeting Pandemic Influenza Vaccine (CDC, October 2007). This draft guidance includes a new prioritization scheme based on comments from stakeholders and the public.

Update: Status of Pandemic Influenza Vaccine Manufacturing Capacity, Prepandemic Stockpile, and Planning for Vaccine Distribution (HHS, November 2007). This update provides information for state and local health departments on how much pandemic influenza vaccine may be manufactured and when and how it will be distributed.

Federal Guidance to Assist States in Improving State-Level Pandemic Influenza Operating Plans (U.S. Government, March 2008). This multi-agency document introduces the federal government's new concept of "pandemic intervals."

Section I Base Plan: Pandemic Influenza

A. Pandemic Influenza

What is Influenza?

Influenza is a highly infectious viral illness that causes yearly seasonal epidemics reported since at least the early 1500's. In the U.S., complications of influenza cause an average of 36,000 deaths each year, primarily among the elderly. Complications include pneumonia and exacerbations in underlying cardiopulmonary or other chronic diseases. The virus is transmitted in most cases by droplets through the coughing and sneezing of infected persons, but it can be transmitted as well by direct contact. The incubation period for influenza is 1-4 days, with an average of 2 days. Adults typically are infectious the day before symptoms begin through approximately 5 days after illness onset. Children can be infectious for more than 10 days, and young children can shed virus for up to 6 days before their illness onset. Severely immunocompromised persons can shed virus for weeks or months. Typical symptoms include abrupt onset of fever (101 degrees F to 102 degrees F), headache, chills, fatigue, muscular pain or tenderness, sore throat, and nonproductive cough, and may include runny or stuffy nose, substernal chest burning, eye pain, or sensitivity to light. Gastro-intestinal symptoms, such as abdominal pain, nausea and vomiting, may also occur rarely, and are more commonly seen in children than adults. An annual influenza vaccination is the best method of protection against influenza. Other measures, such as frequent hand washing, staying home when sick, and the institution of public health measures for universal respiratory hygiene and cough etiquette, will help stop the spread of influenza in communities as well as in health care facilities.

There are three types of influenza viruses: A, B and C. Types A and B cause widespread outbreaks of influenza illness in humans each year. Influenza A and B possesses two surface glycoproteins: the hemagglutinin (H) and neuraminidase (N). Influenza A viruses are further subdivided into subtypes dependent on differences in these surface glycoprotein's. A minor change in these antigens, caused by mutation that results in the emergence of a new strain within a sub-type know as antigenic "drift", may result in epidemics, since incomplete protection remains from past exposure to similar viruses. A major change caused by genetic recombination that results in the emergence of a novel sub-type (i.e., never before occurred in humans) know as antigenic "shift", may result in a worldwide pandemic if the novel virus, for which humans have no protection, is efficiently transmitted from human to human. Antigenic shift occurs only with influenza A viruses. Influenza A viruses were the cause of the three Pandemics in the 20th Century.

Influenza viruses are distinctive in their ability to cause sudden, pervasive illness in all age groups on a global scale. Previous pandemics, however, caused disproportionate illness and death in young, previously healthy adults. Also, new data from recent epidemic years show that young children are at increased risk for complications, hospitalizations, and death from influenza. Within the 0- to 4-year-old age group, hospitalization rates are highest among children 0 to 1 years of age and are comparable to rates reported in persons 65 years of age. Influenza viruses present biological threats because of a number of factors, including a high

degree of transmissibility, the presence of a vast reservoir of novel variants (primarily in aquatic birds), and unusual properties of the viral genome. Recently, several subtypes of avian influenza A have been shown to cross the species barrier and infect humans in Asia (1997-present), in Europe (2003), and in North America (2003-2004). Such occurrences are reminders that a novel strain could occur at any time, with the potential for efficient person-to-persons transmission. With the increase in global travel, as well as urbanization and overcrowded conditions, global epidemics due to a novel influenza virus are likely to quickly spread around the world.

History and Background of Pandemic Influenza Outbreaks

Public health experts generally use three words to describe the level of an infection present in the human population: *endemic, epidemic, and pandemic*. An infection is considered to be at an endemic level when it is constantly present in a geographic area or group. An *epidemic* is considered to have occurred when the rate of new cases in a particular area is substantially higher than normal. An *epidemic* can occur in a localized fashion (such as in a city or town) or on a broader scale (such as across a county or an entire state). A *pandemic* occurs when a novel virus emerges that infects the human population, exhibits efficient human-to-human transmission, and affects multiple geographic regions or the entire world. A pandemic, therefore, is defined by increased ease of human to human transmission in multiple geographic regions; a pandemic is not defined by severity of illness. Animals are the most likely reservoir for these emerging viruses, with avian viruses having played a role in the last three of the last four pandemics, and a swine virus being the source of the last pandemic (2009).

Influenza pandemics are among the greatest threats to global human health. New influenza viruses are constantly evolving by mutation or by reassortment. Mutations can cause small changes in the hemagglutinin (H) and neuraminidase (N) antigens on the surface of the virus. This is called "antigenic drift", which slowly creates an increasing variety of strains until one evolves that can infect people who are immune to the pre-existing strains. This new variant then replaces the older strains as it rapidly sweeps through the human population—often causing an epidemic. However, since the strains produced by drift will still be reasonably similar to the older strains, some people will still be immune to them. In contrast, when influenza viruses reassort, they acquire completely new antigens—for example by reassortment between avian strains and human strains; this is called "antigenic shift". If an influenza virus is produced that has entirely new antigens, the entire human population will be susceptible, and the novel virus will spread uncontrollably, causing a pandemic. The exact nature of the pandemic virus (such as how severely it affects people, how long the incubation period is, and how easily the virus is transmitted from one person to another) cannot be known until the new strain emerges.

It is important to recognize that the severity of symptoms and health outcomes during an influenza pandemic can range from mild to very severe. Even if the severity of symptoms for a new strain of influenza is no more severe than those experienced in a typical influenza

season, the total number of adverse outcomes (such as hospitalizations) is likely to be substantially greater than what is experienced in a typical year. This is because of the greater number of people affected. If the new strain of influenza conveys a greater risk of severe disease, then the number of adverse outcomes could be dramatically greater than normal (higher rate of infection and higher rate of adverse outcomes in those infected). It is also noteworthy that, while adverse outcomes of seasonal influenza are typically more common in certain high-risk groups (such as the very young and the elderly) this is not always the case with influenza pandemics. In fact, it is impossible to predict the pattern of disease in an influenza pandemic. At the beginning of a pandemic, public health experts will analyze information on risk factors for adverse outcomes and provide guidance to policy-makers and the public as results become available. However, guidance is almost certain to change as the outbreak evolves.

In addition to causing serious illness and death, influenza pandemics have the potential to cause significant economic and social disruption. Absenteeism across multiple sectors related to personal illness, family illness, fear of contagion, or social distancing could threaten the functioning of critical infrastructure, the movement of goods and services, and operation of institutions such as governments, businesses and schools. A pandemic could have significant implications for the global economy, national security, and the basic functioning of society.

Although the timing, nature and severity of a pandemic cannot be predicted with any certainty, mitigation, preparedness, response and recovery planning is imperative to lessen the impact. The unique characteristics and events of a pandemic will strain local, state, and federal resources. It is unlikely that there will be sufficient personnel, equipment, and supplies to respond adequately to multiple areas of the country for a sustained period of time. States, counties and communities should plan to be as self-sufficient as possible for an extended period of time.

Based on observations from previous pandemics, the Centers for Disease Control and Prevention (CDC) has estimated that the economic losses in the United States associated with the next severe pandemic will range from approximately $71 billion to $166 billion. The level of economic loss will depend on the attack rate of the virus and the resulting morbidity and mortality.

The impact of an influenza pandemic on the healthcare system could be devastating. It has been estimated that in the United States, a moderate pandemic could result in 20 to 47 million people becoming ill; 18 to 42 million outpatient visits; 314,000 to 734,000 hospitalizations; and 89,000 to 207,000 deaths. This potential for high levels of morbidity and mortality, coupled with the significant disruption to society, make planning for the next influenza pandemic imperative.

Using software provided by the Centers for Disease Control and Prevention (CDC), it was estimated for Maine during a severe influenza pandemic that there would be approximately 165,000 outpatient visits, 40,000 hospital admissions, and 9,000 deaths. Estimates were based

on an overall attack rate of 25% over an 8-week period. At the peak of pandemic, influenza patients would require 23% of hospital capacity, 61% of ICU capacity, and 25% of ventilator capacity in the state. All estimates have wide margins of error and should be considered rough approximations.

Pandemics and their Impact on Maine

	*Low (2009-2010)	Moderate (1957-1968)	Severe (1918-1919)
Illness	2,235	390,000	390,000
Hospitalizations	232	5,000	40,000
Deaths	19	1,100	9,100

Source: Maine CDC Weekly Influenza Surveillance Report Week Ending April 6, 2010

Outbreaks of pandemic influenza occurred several times during the 20th and 21 centuries. The most famous and lethal outbreak was the Spanish Flu pandemic in 1918. This outbreak is believed to have originated in Spain and was spread around the globe by soldiers returning home from World War I. It is not known exactly how many the 1918 pandemic killed, but estimates range from 50 to 100 million people. This huge death toll was caused by an extremely high infection rate of up to 50% and the extreme severity of the symptoms. The Spanish Flu pandemic was truly global, spreading even to the Arctic and remote Pacific islands. The unusually severe disease killed up to 20% of those infected. Another unusual feature of this pandemic was that it mostly killed young adults, with 99% of pandemic influenza deaths occurring in people under 65, and more than half in young adults 20 to 40 years old. This is unusual since influenza is normally most deadly to the very young (< 2 years of age) and the very old (over age 70). It is estimated that as many as 25 million people worldwide may have been killed in the first 25 weeks of the 1918 pandemic; in contrast, HIV/AIDS has killed 25 million in its first 25 years.

Characteristics of the Four Pandemics of the 20th and 21st Century

Pandemic	**Area of Origin**	**Virus Subtype**	**Est. Case Fatality Rate**	**US Mortality**	**Est. Mortality World Wide**	**Age Groups Most Affected**
1918-1919 Spanish Flu	Unclear	H1N1	2-3%	675,000	20-50 million	Young adults
1957-1958 Asian Flu	Southern China	H2N1	<0.2%	70,000	1-4 million	Children
1968-1969 Hong Kong Flu	Southern China	H3N2	<0.2-0.4%	34,000	1-4 million	All ages
2009-2010 "Swine Flu"	North America	H1N1	0.15-0.5%	12,200 (CDC website)	18,400 (WHO, 8/2010)	Children, young adults

The most recent pandemic, the H1N1 2009 was relatively mild relative to transmissibility and severity. In the US there were an estimated 60 M cases, resulting in approximately 265,000 hospitalization and 12,000 deaths nationwide. Of note, about one third of the cases, one third of the hospitalizations and about 10% of the deaths occurred in children younger than 18 (compared with less than 1% of deaths during an average seasonal influenza year). Many of these children were otherwise healthy. About 90% of the deaths due to H1N1 2009 were among those younger than 65, while about 90% of the deaths due to seasonal flu are among those 65 and older. In addition to children, pregnant women and people of any age with certain chronic lung or other medical conditions were found to be at higher risk of more complicated or severe illness.

CDC Estimates of 2009 H1N1 Cases and Related Hospitalizations and Deaths in the US from April 2009 - March 13, 2010, By Age Group

2009 H1N1	Mid-Level Range*	Estimated Range*
Cases		
0-17 years	~19 million	~14 million to ~28 million
18-64 years	~35 million	~25 million to ~51 million
65 years and older	~6 million	~4 million to ~9 million
Cases Total	~60 million	~43 million to ~88 million
Hospitalizations		
0-17 years	~86,000	~61,000 to ~127,000
18-64 years	~158,000	~112,000 to ~232,000
65 years and older	~26,000	~19,000 to ~39,000
Hospitalizations Total	~270,000	~192,000 to ~398,000
Deaths		
0-17 years	~1,270	~900 to ~1,870
18-64 years	~9,420	~6,700 to ~13,860
65 years and older	~1,580	~1,120 to ~2,320
Deaths Total	~12,470	~8,720 to ~18,050

* Deaths have been rounded to the nearest ten, hospitalizations have been rounded to the nearest thousand, and cases have been rounded to the nearest million. (CDC Website)

Seasonal versus Pandemic Influenza

Each year countries around the world face outbreaks of seasonal influenza. In the northern hemisphere, the influenza season typically runs from November to April. A new vaccine for seasonal flu must be developed annually based on current and emerging viral strains identified through worldwide disease surveillance. For most people, seasonal flu is not life-threatening. Some people, such as the elderly, young children (< 2 years of age), and people with certain health conditions (such as asthma, diabetes, or heart disease) are at high risk for serious flu

complications. For these individuals, the flu may lead to complications such as pneumonia, which can be fatal.

Pandemic influenza is far more infrequent than seasonal flu and is different in two other fundamental ways: 1) it has the potential of affecting far greater numbers of people, and 2) individuals of every age may be at risk of serious illness. Additionally, vaccine development and production are not possible until several months after the pandemic strain has been identified. In the absence of a vaccine, individuals must take personal responsibility for reducing their risk of exposure to the virus, and social responsibility to lessen viral spread.

The following table details further distinctions between seasonal and pandemic influenza:

Seasonal Influenza	Pandemic Influenza
Occurs every year (November to April)	Occurred four times in the 20th century.
Occurs during the winter	Occurs at any time of the year
For most people, it is an unpleasant but not life threatening infection.	It is typically a more serious infection for everyone.
Most people recover within one or two weeks without requiring medical treatment.	Some people will not recover, even with medical treatment. Because the illness can be more severe, there is greater risk that an infected person my die.
The very young, the very old and people with chronic illnesses are most at risk of serious illness.	People of every age may be at risk of serious illness.
Vaccine is usually available in advance.	Vaccine will not be available in advance.
Annual vaccination is recommended for everyone >6 months of age, especially for those at risk.	The whole population will be offered vaccination when the specific vaccine required becomes available based on priority groups.
Antiviral drugs are available to treat those at risk.	Antiviral drugs are likely to be in limited supply and will be used according to how the disease develops and based on priority groups.

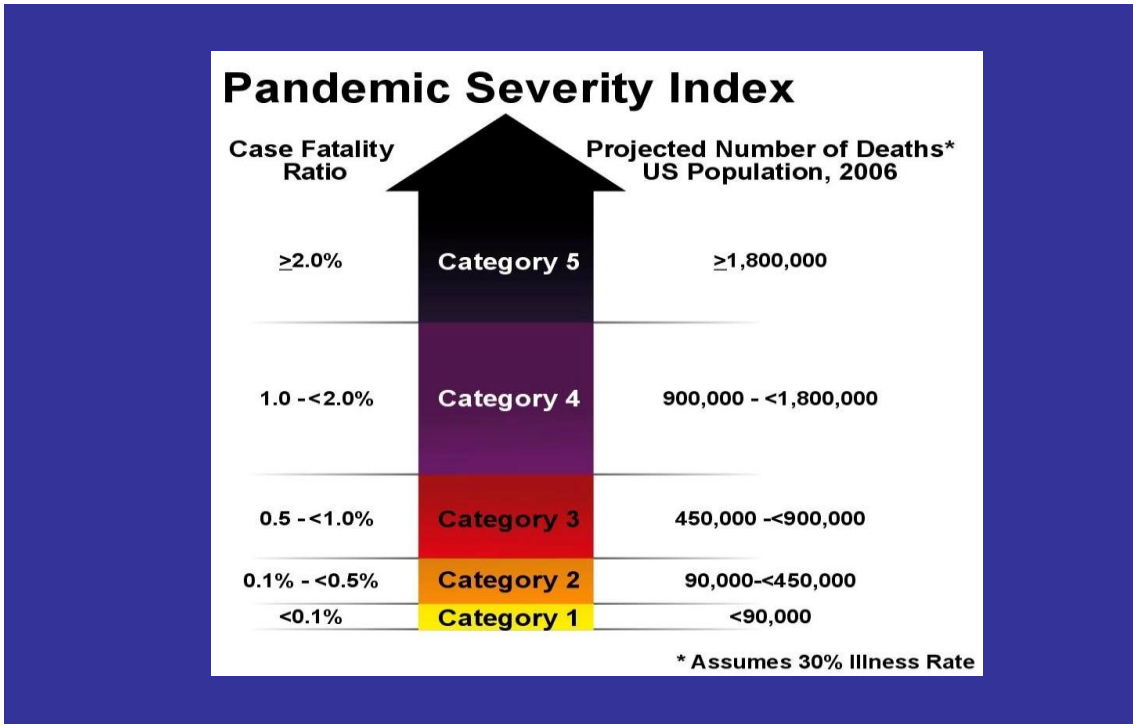
The threat of a severe influenza pandemic is not as much a question of *if*, but rather a question of *when*.

Severity and Transmissibility

The viral dimensions of severity and transmissibility have emerged as the most useful indicators for triggering actions. The severity and transmissibility of a novel virus can be highly variable and unpredictable. It is critical to define the severity and transmissibility characteristics of the circulating virus early on and communicate that information to those persons responsible for leading the preparedness and response efforts. Transmissibility is

defined as the illness rate; the percent of illness in the population. A pandemic has been defined as an illness rate of 20% for adults and 40% for children regardless of severity. (Interim Pre-pandemic Planning Guidance, CDC, 2007, p. 41)

The CDC has created a Pandemic Severity Index (PSI) based on case fatality ratio (CFR) with five discrete categories of increasing severity.



Interim Pre-pandemic Planning Guidance: Community Strategy for Pandemic Influenza Mitigation in the United States , CDC, 2007, p 34.

The PSI categories (1-5) provide a partial framework for the determination of preparedness and response action, and help to guide scalability of response.

Pandemic preparedness should include plans to implement a variety of response strategies depending on the virus severity and transmissibility characteristics which can vary from low to medium to high (scalability). For example, community mitigation strategies would be considered / recommended according to the PSI as shown in the following table:

Scalability of Actions Based on Severity and Transmissibility

	HTH Transmissibility (Illness Rate in the Pop)		
	Low Rare	**Medium 5-20%**	**High 20%-40%**
	Pandemic Severity Index (Case Fatality Ratio)		
Interventions by Setting	**1 Low <0.1 (CFR)**	**2 and 3 Medium 0.1 - <1.0 (CFR)**	**4 and 5 High 1.0 - = >2.0 (CFR)**
Home **Voluntary isolation** of ill at home (adults & children); combine with use of antiviral treatment as available and indicated	Recommend	Recommend	Recommend
Voluntary quarantine of household members in homes with ill persons (adult & children); consider combining with antiviral prophylaxis if effective, feasible, and quantities sufficient	Generally not recommended	Consider	Recommend
School **Child social distancing** -dismissal of students from schools and school based activities, and closure of child care programs	Generally not recommended	Consider: > 4 weeks	Recommend = 12 weeks
-reduce out-of-school social contacts and community mixing	Generally not recommended	Consider: >4 weeks	Recommend = 12 weeks
Workplace / Community **Adult social distancing** -decrease number of social contacts (e.g., encourage teleconferences, alternatives to face-to-face meetings)	Generally not recommended	Consider	Recommend
-increase distance between persons (e.g., reduce density in public transit, workplace)	Generally not recommended	Consider	Recommend
-modify, postpone, or cancel selected public gatherings to promote social distance (e.g., postpone indoor stadium events, theater performances)	Generally not recommended	Consider	Recommend
-modify workplace schedules and practices (e.g., telework, staggered shifts)	Generally not recommended	Consider	Recommend

ADAPTED FROM: Interim Pre-pandemic Planning Guidance: Community Strategy for Pandemic Influenza Mitigation in the United States , CDC, 2007, p 36.

Recent novel viral situations are plotted on the following severity and transmissibility matrix:

Novel Virus Characteristics on Two Dimensions:
Human to Human Transmissibility (HTHT) and Severity

Severity Index: Case Fatality Ratio (percentage)

Human to Human Transmissibility (HTHT): Illness Rate in the Population (percentage of the population)	1 **Low** <0.1%	2 0.1-<0.5%	3 **Medium** 0.5-<1.0%	4 1.0<2.0%	5 **High** = >2.0%
HTHT High Pandemic 20-40%		1957, & 1968 Pandemics			H1N1 1918-1919 Spanish Flu
HTHT Medium Seasonal 5-20%	Seasonal Flu	H1N1 2009-2010 Swine Flu 11% - 21% (IR 34%-43% in school age children; 3% in older adults)*			H1N1 1918-1919 Spanish Flu ** recent analysis suggests
Low Rare (Primarily animal to human)					H5N1 Bird Flu*** (CFR 59%; Indonesia, 83%)

Information adapted in part from: Interim Pre-pandemic Planning Guidance: Community Strategy for Pandemic Influenza Mitigation in the United States , CDC, 2007.

* Kelly H, Peck HA, Laurie KL, et al. (2011). The age specific cumulative incidents of infection with pandemic influenza H1N1 2009 was similar in various countries prior to vaccination. PLoS On, Aug 5; 6(8):e21828

****** Fraser C, Cummings DAT, Klinkenberg D, Burke DS, Ferguson NM. (2011) Influenza Transmission in Households During the 1918 Pandemic**.** *Am. J. Epidemiol., 174(5): 505-514.*

******* Clusters of human H5N1 cases ranging from 2-8 cases per cluster have been identified in most countries that have reported H5N1 cases. While most people in these clusters have been infected with H5N1 virus through direct contact with sick or dead poultry or wild birds, limited human to human transmission of the H5N1 virus cannot be excluded in some clusters. (CDC H5N1 website)

Although a circulating novel virus may not be considered severe, a highly transmissible virus producing relatively moderate symptoms may cause significant disruption to society due to a high incidence of sickness and employee absences.

It is possible that the circulating novel virus may mutate between pandemic waves; the viral severity and transmissibility characteristics might change. Timely situational awareness is crucial. Once a change is noted, response strategies would be adjusted accordingly.

Recovery

Until recently, Recovery has not been fully addressed in emergency management planning generally, and in pandemic planning specifically. It has been thought that successful recovery is dependent on what happens during the other phases of disaster management. Often the emphasis has been placed on mitigation, prevention, protection, reduced vulnerability, increased sustainability, and improved resilience all of which serve to reduce the challenges of recovery including recovery time and cost. (Baird, 2010, p. 2) However, it is acknowledged that disasters will occur and recovery will be required.

It is instructive to consider recovery in general in order to plan for recovery more specifically in a pandemic. The recently published National Disaster Response Framework published in September 2011, identifies nine Core Principles, when put into practice maximizes the opportunity of achieving a successful recovery:

- Individual and family empowerment
- Leadership and local primacy
- Pre-disaster recovery planning
- Partnerships and inclusiveness
- Public information
- Unity of effort
- Timeliness and flexibility
- Resilience and sustainability
- Psychological and emotional recovery (NDRF, 2011, p. 9)

Disaster recovery is thought to be more complex than the other components of emergency management as it involves a larger group of stakeholders with sometimes conflicting goals. Recovery activities involves rebuilding the infrastructure and restoring the social and economic life of the community with the goal of returning the affected area(s) to, at a minimum, the pre-disaster status, and at best, an improved pre-disaster state based on mitigation measures that incorporate lessons learned from the disaster event. (Baird, 2010, p. 2)

A disaster may occur quickly, leaving behind only the need for recovery operations, or a disaster can be a prolonged event requiring recovery activities to begin while the response phase is in full activation. (Baird, 2010, p. 7) As described in the NDRF, recovery is a continuum, but recovery actions occur in three general phases. (NDRF, 2011, p. 8) The

actions in each phase and the timing vary according to the nature and the severity of the disaster. The NDRF recommends that considerations for recovery be integrated early on into the response phase operations.

The first phase, **Short Term Recovery**, overlaps with emergency response and consists of immediate actions taken to reduce life-safety hazards and to temporarily restore critical lifelines. Short Term Recovery occurs within days following the disaster and when the Incident Command is in place.

The second phase, the **Intermediate Recovery**, is one of restoration of services and provides for ongoing social needs before permanent rebuilding/restoration is complete. The Intermediate Recovery phase may continue for weeks or perhaps months.

The third phase, **Long Term Recovery**, includes planning for and implementing the rebuilding of damaged buildings and other facilities and infrastructure, and the resumption of normal social and economic life in the community. This third phase can continue for months to years. Planning for long term recovery begins in the response phase and actions extend beyond the time that the Incident Command is deactivated. (NDRF, 2011, p. 8) Long Term Recovery operations are usually managed by a Recovery Management Task Force in a unified and collaborative manner.

ME CDC Recovery from a pandemic will begin during the Response phase due to the prolonged nature of a pandemic.

Short Term Recovery may include:

- Facilitate the provision of integrated mass care and emergency services
- Support efforts to provide for basic human needs like food and medicine if shortages have occurred
- Deploy volunteers to various sites statewide in light of likely personnel shortages
- Identification of adults and children who would benefit from counseling or behavioral health services and begin interventions
- Facilitate provision of emergency and temporary medical care
- Facilitate the establishment of temporary morgue(s) and temporary internment sites if needed, to handle mass fatalities
- Support the establishment of a virtual family assistance center
- Assess and understand the risks and vulnerabilities

Intermediate Recovery may include:

- Request the governor to cancel the PH emergency declaration which will restore usual rules, regulations, and policies, and cancel closures and lift bans
- Continue surveillance to monitor for a second wave
- Confer and coordinate with federal, local and other state partners

- Assess the situation statewide including: morbidity and mortality, availability of essential resources, status of infrastructure, availability of services, need for services
- Provide ongoing information to the public on situational awareness, what is open and what is closed, where to obtain needed resources and assistance
- Attempt to obtain needed supplies and arrange the distribution/redistribution of those resources, as needed
- Deploy volunteers where needed
- Provide support networks for ongoing behavioral health care
- Support continuity of health care through temporary facilities
- Support the restoration of healthcare facilities' personnel and supplies
- Continue to manage mass fatalities
- Continue to support the virtual family assistance center
- Compile documentation re: financial costs incurred
- Contact vendors and suppliers to begin restocking supplies and refurbishing response equipment at ME CDC
- Debrief responders both internally and externally
- Gather performance data both internally and externally
- Compile lessons learned, implement opportunities to restore the community to an improved pre-disaster state
- Prepare for a possible second wave
- Participate with other stakeholders on State Pandemic Recovery Management Task Force

Long Return Recovery may include:

- Provide public information as needed
- Publically acknowledge heroes and celebrate successes
- Acknowledge/support the need for the public to grieve their losses
- Follow up with ongoing counseling, behavioral health, and case management
- Reaffirm and rebuild list of volunteers
- Support demobilization of temporary healthcare facilities as established healthcare facilities resume services
- Facilitate the handling of deceased where handling has been delayed or temporary solutions have been instituted
- Collect and store unused antivirals from distribution sites
- Fill vacancies at ME CDC
- Facilitate replenishing supplies, refurbishing/replacing equipment and restoring facilities at ME CDC
- Prepare an AAR and an Improvement Plan defining Corrective Actions
- Implement mitigation strategies based on Lessons Learned
- Revise Pandemic Influenza Operations Plan reflecting the Lessons Learned
- Continue disease surveillance, and prepare for a possible second wave

- Continue to participate with other stakeholders on State Pandemic Recovery Management Task Force

See Figure below from the NDRF (2011, p. 8):

FIGURE 1. RECOVERY CONTINUUM – DESCRIPTION OF ACTIVITIES BY PHASE

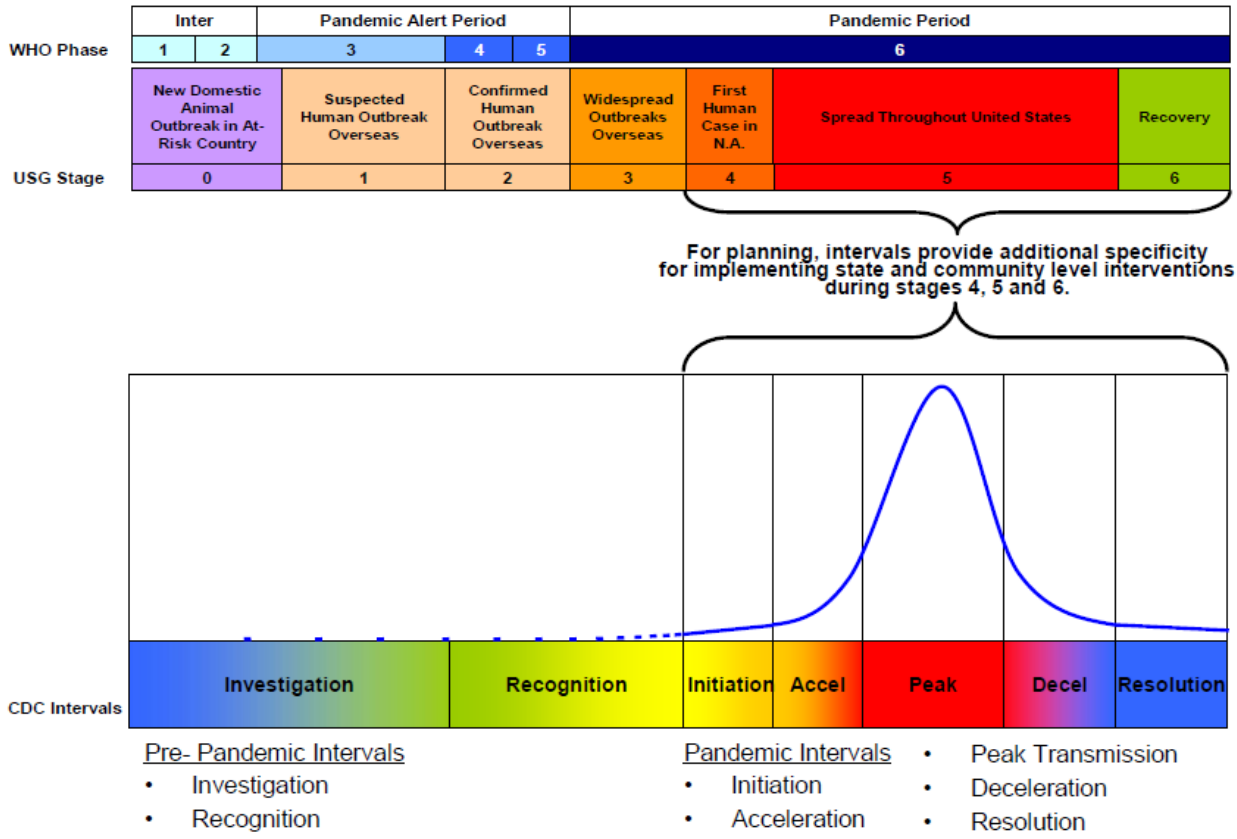
This recovery continuum describes overlapping recovery activities by phase.

WHO Pandemic Phases, US Government Stages, Maine Levels/ Periods

The WHO Phases, US Government Stages, and Maine Levels define the progression of the pandemic from the perspective of the originating organization. The WHO perspective is the entire planet, the US perspective is the United States, and the Maine perspective is the State of Maine.

A county, town or city, or an organization such as a university, may have additional progression levels e.g. a university may identify "case on campus" as being a relevant progression of the illness. The various Phases, Stages, Levels/Periods (whatever the label), serve as "trigger points" for actions for that entity. The actions that are "attached" to the trigger points will be considered for implementation based on viral characteristics in order to help protect the health and safety of that population, mitigate the effect of the pandemic, limit the transmission of illness, and support the continuation of essential functions and services of that entity.

It should be noted that in March 2008, federal guidance was released that introduced the CDC's concept of "pandemic intervals" as an alternative description of the progression of an influenza pandemic within communities in a state. The seven CDC pandemic intervals (investigation, recognition, initiation, acceleration, peak transmission, deceleration, and resolution) provide a greater level of specificity than the World Health Organization's (WHO) pandemic periods/phases and the U.S. Government's pandemic stages (see diagram below).



However, for the purposes of this plan, the broader Pandemic Levels/ Periods organizing framework will be used.

Maine Pandemic Levels/Periods Defined

It is not possible to determine a policy based on what happens only "in state" due to the fact that many parts of Maine are located closer to Canada or other New England states than to other locations in state. The Maine CDC strategy is to continually evaluate data related to any novel influenza virus—internationally, nationally, regionally and statewide. Based on epidemiologic and other data (situational analysis) the Maine CDC will make timely categorical recommendations for school systems, businesses and the public.

While the scientific determination of triggers points is decidedly difficult, some reasonable guidelines can be developed that are based on understanding the impact of key changes in the progressive status of the pandemic. Maine CDC will determine and distribute community guidance on a regular and timely basis through a variety of communication methods.

The revised Maine Levels and Pandemic Periods (trigger points) are introduced below:

Maine Benchmark	Definition	Activities
Maine Inter-Pandemic Period		
Pre-pandemic	No new influenza virus subtypes have been detected in humans. An influenza virus subtype that has caused human infection may be present in animals, or a circulating animal influenza poses a substantial risk of human disease.	Awareness: Mitigation and preparedness activities
Level I	Human infection(s) with a new subtype, but no human-to-human spread, or at most, rare instances of spread to a close contact.	
Level II	Confirmed human outbreak overseas	
Maine Pandemic Alert Period		
Level III	Widespread human outbreaks in multiple locations overseas	On Standby: Heightened preparedness activities
Level IV	First human case in North America	
Maine Pandemic Period		
Level V	First human case(s) in Maine, or in close geographic proximity to Maine	Activate: Response activities
Level VI	Increases and sustained transmission throughout the State of Maine	
Maine Post Pandemic Recovery Period		
Level VII Post-Pandemic Recovery Phase	Indices of influenza activity have returned to pre-pandemic levels.	Recovery activities

Maine Level I and II / Inter-Pandemic Period

Level I and II constitute a pre-pandemic time; a time for close monitoring and the need for situational awareness. The primary functions in this phase includes planning, mitigating, preparing, educating the public, training and exercising plans, developing MOUs and MAAs, creating COOPs and/or closure plans by businesses, organizations and schools.

Maine Levels III and IV / Maine Alert Pandemic Period

As the pandemic emerges and intensifies, there will be a heightened state of standby alert. Level III and IV actions focus on heightened surveillance, and final preparations for activation of the planned response including the possibility of closures and potential shortages depending on the severity and transmissibility of the circulating novel virus. In addition,

response plans should be reviewed and updated as needed, the public educated and informed, anticipated essential supplies obtained, and preparations made for possible implementation of social distancing measures.

Maine Levels V and VI / Maine Pandemic Period

At Levels V and VI the pandemic is present in Maine, or in geographically close proximity to Maine; the response plan is activated (as indicated). Important factors to be considered in determining a threshold for community action include:

- Numbers of cases and close contacts
- Number of cases per town
- Number of cases per week
- Characteristics of local disease transmission (i.e., speed of spread, number of generations)
- Types of exposure categories (travel-related, close contact, health care worker, unlinked transmission, etc.)
- Morbidity and mortality rates
- Extent of community influx and efflux
- Availability of local health care and public health resources

If it is clear that the impact on Maine will be immediate and significant, the Governor may declare a public health emergency and may mandate that schools, businesses, and non-essential government offices be closed and other gatherings cancelled, either state-wide or in specific areas of the state. In a lesser intense pandemic situation, the governor may recommend closures. With a milder pandemic threat, selected social distancing of a less extreme nature may be recommended as sufficient.

Maine Level VII / Maine Post Pandemic Recovery Period

In the Recovery Period, Levels VII, the indices have returned to pre-pandemic levels. Surveillance is continued in anticipation of a possible second wave. Actions during this time include assessing, replenishing, repairing, replacing, restoring, refurbishing, healing and gradually resuming. Responders will be debriefed. After Action Reports will be completed noting lessons learned, specifically, what went well, what needs improvement, and gaps. Improvement plans will be developed to identify and guide corrective actions. Plans will be updated reflecting the lessons learned. Preparations should be made for a possible second wave.

The following table is a visual representation of how the WHO Phases, US Stages and the Maine Levels/ Periods fit together.

WHO Phases, US Government Response Stages, and Maine Response Levels/Periods

WHO Phases	Federal Government Response Stages	Maine Response Levels
Inter-Pandemic Period		**Maine Inter-Pandemic Period**
1 No new influenza virus subtypes detected in humans. An influenza virus subtype that has caused human infection may be present in animals. Of present in animals, the risk of human disease is considered to be low.	**0** New domestic animal outbreak in at risk country	**Pre-Pandemic** No new influenza virus subtypes detected in humans. An influenza virus subtype that has caused human infection may be present in animals, or a circulating animal influenza poses a substantial risk of human disease.
2 No new influenza virus subtypes detected. However, a circulating animal influenza virus poses a substantial risk of human disease.		
Pandemic Alert Period		
3 Human infection(s) with a new subtype, but no human to human transmission (HTHT), or at most rare instances of spread to a close contact.	**0** New domestic animal outbreak in at-risk country.	**Level I** Human infection(s) with a new subtype, but no HTHT, or at most instances of spread to a close contact.
	1 Suspected human outbreak overseas	
4 Small cluster(s) with limited HTHT but spread is highly localized, suggesting that the virus is not well adapted to humans.		
5 Larger cluster(s) , but HTHT still localized, suggesting that the virus is becoming increasingly better adapted to humans, but may not yet be fully transmissible (substantial pandemic risk).	**2** Confirmed human outbreak overseas	**Level II** Confirmed human outbreak overseas
Pandemic Period		**Maine Pandemic Alert Period**
6 Pandemic Phase Increased and sustained transmission in the general population	**3** Widespread human outbreaks in multiple locations overseas.	**Level III** Widespread human outbreaks in multiple locations overseas**.**
	4 First human case in North America	**Level IV** First human case in North America

	5 Spread throughout the United States	**Maine Pandemic Period**
		Level V First human case in Maine, or close proximity to Maine
		Level VI Increased and sustained transmission throughout the State of Maine
		Maine Post Pandemic Recovery Period
Post Peak Period Levels of pandemic influenza in most countries with adequate surveillance have dropped below peak levels.	**6** Recovery and preparation for subsequent waves	**Level VII** Indices of influenza have returned to pre-pandemic levels.
Possible New Wave Level of pandemic activity in most countries with adequate surveillance is rising again.		
Post pandemic Period Levels of influenza have returned to the levels seen for seasonal in most countries with adequate surveillance. (WHO, 2009b)		

Pandemic Influenza Planning Assumptions

The following planning assumptions were considered in developing this plan:

- A pandemic is a public health emergency that rapidly takes on significant political, social, and economic dimensions. A severe pandemic will affect all sectors of the critical infrastructure, public and private.

- Preventing the most devastating effects of a pandemic will require a highly interactive partnership among federal, state and community leaders in planning, directing resources, and ensuring services and care for Maine's residents.

- The Pandemic Influenza Plan must be scalable and adaptable to the characteristics of the circulating novel virus (low, medium, or high).

- Susceptibility to the pandemic influenza subtype will be universal. The clinical disease attack rate will be 30% in the overall population. Illness rates will be highest among school-aged children (about 40%) and decline with age. Among working adults, an average of 30% will become ill during a community outbreak resulting in a high level of workplace absenteeism.

- Individuals and families may not have pandemic preparedness plans and may not have made preparations to meet basic needs for an extended period of time within the context of scarce resources.

- Businesses may not have prepared business continuity plans (COOP) which provide guidance to sustain essential business functions for the duration of the pandemic in the event of scarce resources, including the possibility of 30% absenteeism. HR policies may not have been created proactively to respond to the various possible pandemic scenarios.

- Of those who become ill with influenza, 50% will seek outpatient medical care. The number of hospitalizations and deaths will depend on the virulence of the pandemic virus. Estimates differ about 10-fold between more and less severe scenarios.

- Multiple waves (periods during which community outbreaks occur across the country) of illness are likely to occur with each wave lasting 6-8 weeks. Historically, the largest waves have occurred in the fall and winter, but the seasonality of a pandemic cannot be predicted with certainty.

- The public healthcare system itself will likely be overwhelmed. This may have a cascading effect on those seeking medical attention for other (non-pandemic) illnesses and diseases.

- Workforce support for all levels of government, volunteers and the private sector will be a necessary, if not vital, resource to acquire.

- The State may need to implement protective actions (non-medical containment) that will likely be unfavorable to the general public. This may include closing schools, restricting travel, suspending mass gatherings, and imposing isolation or quarantine measures on the general public as indicated.

- The typical incubation period (interval between infection and onset of symptoms) for influenza is approximately 2 days. Non-medical containment will likely be covering the span of the incubation period until symptoms are presented.

- First case detection and early clusters is of particular importance for quick response and containment strategies to be implemented effectively.

- Decisions about non-medical containment measures will be made in an atmosphere of considerable scientific uncertainty. Containment measures must be adapted to the epidemiological context of each pandemic influenza phase of the pandemic.

- Non-medical containment measures will be the principal means of disease control until adequate supplies of vaccine and/or antiviral medications are available.

- An informed, calm, and responsive public is essential to minimizing the health effects of a pandemic.

- Public education messaging throughout the pandemic levels will enhance compliance with public health recommendations.

- Response actions need to be swift and decisive, necessitating the use of a variety of State and Federal statutes and authorities to effectively respond to and recover from a pandemic.

- Vaccination and antiviral treatment are anticipated to be the most effective medical strategies for reducing pandemic influenza morbidity and mortality. However, effective vaccines or antiviral medications may be non-existent or in limited supply, and numerous and ethical decisions concerning priority groups for vaccination and antivirals will need to be made by the State.

- The State will vigorously promote and coordinate use of vaccines and/or antivirals based on their availability and the best scientific evidence at the time.

- Although antiviral agents are available that can theoretically be used for both treatment and prophylaxis during the next pandemic, these agents will likely be available only for limited distribution.

- Activities identified in any given pandemic phase are not necessarily assumed to be completed during that phase; activities started in one phase will likely continue into subsequent phases or reoccur as additional waves of the pandemic become evident.

- Government at all levels will likely be overwhelmed in a severe pandemic. This may have an adverse effect on the ability of the State to acquire support from Emergency Management Assistance Compact (EMAC) partners or acquire adequate Federal support under the National Response Plan. The state must prepare to be self-supporting and develop systems to manage that support.

- Liability protection for vaccine manufacturers and persons who administer influenza vaccine will likely be made available through Congressional or state legislation.

- A severe pandemic with a significant medical surge will likely require the implementation of Alternative Care Sites. This planning should occur at the local level with state support as needed.

- Crisis Standards of Care may need to be implemented within the context of a severe pandemic and the subsequent scarcity of medical resources. It is anticipated that a severe pandemic will create a situation of depletion of essential resources needed for providing care to the sick.

- In the event of a highly virulent virus, fatalities will rapidly outstrip many communities' ability to manage them throughout the state.

- Business Continuity Plans when operationalized, can mitigate business losses and protect employees.

B. Legal Authority

The Maine CDC is the lead state agency responsible for the protection of public health in the event of a public health emergency. Situated within the Maine CDC is the Emergency Public Health Preparedness unit, responsible for development and implementation of public health emergency planning and coordination of public health interventions in the State of Maine. The Maine CDC has broad statutory and regulatory authority, in the event of a public health emergency, to establish and implement procedures to identify persons exposed to communicable, environmental or occupational diseases, or toxic agents, and impose appropriate educational, counseling or treatment programs to prevent the transmission of communicable disease. The Center may designate facilities appropriate for the quarantine, isolation and treatment of persons exposed to or at significant risk of

exposure to notifiable conditions, environmental hazards or toxic agents and to initiate court actions to secure involuntary disease control measures if necessary.

The Department may, with the approval of the Attorney General, issue administrative subpoenas to access health information relevant to any public health threat. If necessary to avoid a clear and immediate public health threat, the Department may obtain ex parte orders to place individuals into emergency temporary custody and seek court ordered public health measures to compel individuals to participate in medical examinations, health counseling, treatment, quarantine, isolation, and other public health measures. Quarantine, isolation and treatment of persons exposed or at significant risk of exposure to notifiable conditions, environmental hazards or toxic agents and to initiate court actions to secure involuntary disease control measures if necessary. In this regard, the Department may impose administrative emergency public health orders, exclude infected persons from school, and conduct investigations necessary to address any public health threat. The statutory procedures for the processing of public health measures are established in Title 22 M.R.S.A. Chapter 250, Subchapter II.

In the event the Governor declares an extreme public health emergency, the Department has enhanced powers necessary to collect additional health information from medical providers, pharmacists, and veterinarians and place persons into prescribed care, including involuntary examination, vaccination, treatment, quarantine and isolation. In periods of extreme public health emergency, the Department may impose prescribed care upon individuals without court order if necessary to prevent disease transmission. The statutory procedures for the processing of control measures in periods of declared extreme public health emergency are established in Title 22, Chapter 250, Subchapter II-A.

The Maine Department of Health and Human Services has adopted rules, which establish public health control measures to address public health threats, public health emergencies and extreme public health emergencies. The rules establish procedures governing the Departments' investigation and intervention into potential public health threats. In the event persons are unable or unwilling to cooperate in the Department's disease control programs, the rules establish step-wise interventions depending upon the characteristics of the suspected disease entity and the risk of disease transmission. The interventions available to the Department include counseling, treatment, disease control measures, administrative orders and court ordered examination, treatment and confinement. The rules also establish departmental protocol governing the investigation and response to outbreaks of communicable disease, epidemic investigation and intervention. In the event the Governor has declared an extreme public health emergency, the Department may also impose additional control measures, including the management of persons, control of property, commandeering of private property to provide emergency health care, the seizure and destruction of contaminated property, and the disposal of human and animal remains.

The Governor may assume direct operational control over all or any part of the civil emergency preparedness or public safety functions of the State and directly, or through

the Adjutant General, cooperate with federal agencies and the offices of other states and foreign governments and private agencies in all matters relating to the civil emergency preparedness of the State. Furthermore the Governor may declare a state of emergency and thereby activate a host of extraordinary powers, including the authority to suspend regulatory legislation, direct the evacuation of affected geographical regions, control traffic to and from affected areas, exercise control over private property, enlist the aid of emergency personnel and undertake all other measures necessary to mitigate or respond to the disaster emergency. The Governor's powers in this regard are complimentary to the powers of the Department of Health and Human Services in responding to a public health emergency. It is noteworthy, however, that among the enumerated powers of the Governor in a period of disaster emergency is the power to transfer the direction, personnel, or functions of state government for the purpose of performing or facilitating emergency services. Hence the Governor can effectively exercise all the authority of the Maine DHHS Commissioner in a period of public health emergency.

In order for the Department to exercise the extraordinary public health powers vested in it pursuant to Title 22, chapter. 250, subchapter II-A, the Governor must have declared an extreme public health emergency pursuant to his or her authority under Title 37-B, chapter 13, subchapter 11.

C. Concept of Operations

National Incident Management System / Incident Command System

The Homeland Security Presidential Directive 5 (HSPD-5), issued in 2003, requires all Federal, State, tribal, and local organizations to adopt the National Incident Management System (NIMS) and the Incident Command System (ICS) as a condition for Federal preparedness assistance (through grants, contracts, and other activities). Accordingly, the Maine CDC has adopted and developed an Incident Management System (IMS) that provides the framework for using incident management in response to public health emergencies.

Management of State Public Health Emergency Response

At the State level, authority and responsibility for emergency management reside with the Maine Emergency Management Agency (MEMA). Overall management of public health emergencies resides with the Maine CDC in collaboration with the MEMA should emergencies be large enough to require a unified command structure or cross regional resources. The Maine CDC, in the Department of Health and Human Services, serves as the executive body for enforcing laws that protect the health of the people of Maine. As the State's Public Health Agency, the Maine CDC addresses health concerns on a broad population basis and works in partnership with agencies and organizations at all levels to achieve public health goals.

Maine CDC will activate the assets of the Maine CDC, with PHEP leadership as well as other components of the local, regional and state public health infrastructure as required in response to an incident in cooperation and collaboration with other local, regional and state, public and private stakeholders.

Maine CDC Initial Response Team

The Maine CDC Initial Response Team (IRT) is comprised of a core group of key decision makers. The IRT members are:

1. Director, Maine CDC
2. Deputy Director, Maine CDC
3. State Epidemiologist, Maine CDC
4. Director, Division of Public Health Systems
5. Director, Division of Disease Control
6. Director, Division of Environmental Health
7. Director, Division of Local Public Health
8. Director, Division of Population Health
9. Manager, PHEP/HPP Programs

Initial Response Team Functions

The IRT will convene in-person or virtually by conference call whenever an incident or emergency is imminent. Upon convening, the IRT will:

1. Assess the nature of the incident or emergency (CBRNE, Natural Hazard, Infectious Disease, etc)
2. Assess the location(s) of the incident or emergency
3. Assess the size, scope, and severity of the incident or emergency
4. Determine what types of resources, services, and personnel will be required to implement a public health emergency response
5. Determine which public health ICS staff assignments will be activated
6. Determine how and when various components of the Public Health Emergency Risk Communication Plan will be utilized
7. Determine which response plans will be utilized in the response efforts
8. Determine whether to partially activate or fully activate the Maine CDC Public Health Emergency Operations Center (PHEOC)
9. Determine whether to partially activate or fully activate the Maine CDC Emergency Phone Bank

Public Health Emergency Operations Center and Levels of Activation

The PHEOC is the State coordination center for public health emergency situations, which require the utilization and commitment of State assets and/or services. This is the central point where decision-makers and response activity representatives are co-located

in order to effectively respond to emergencies. This close coordination assures an effective response in a timely manner with minimal duplication of effort.

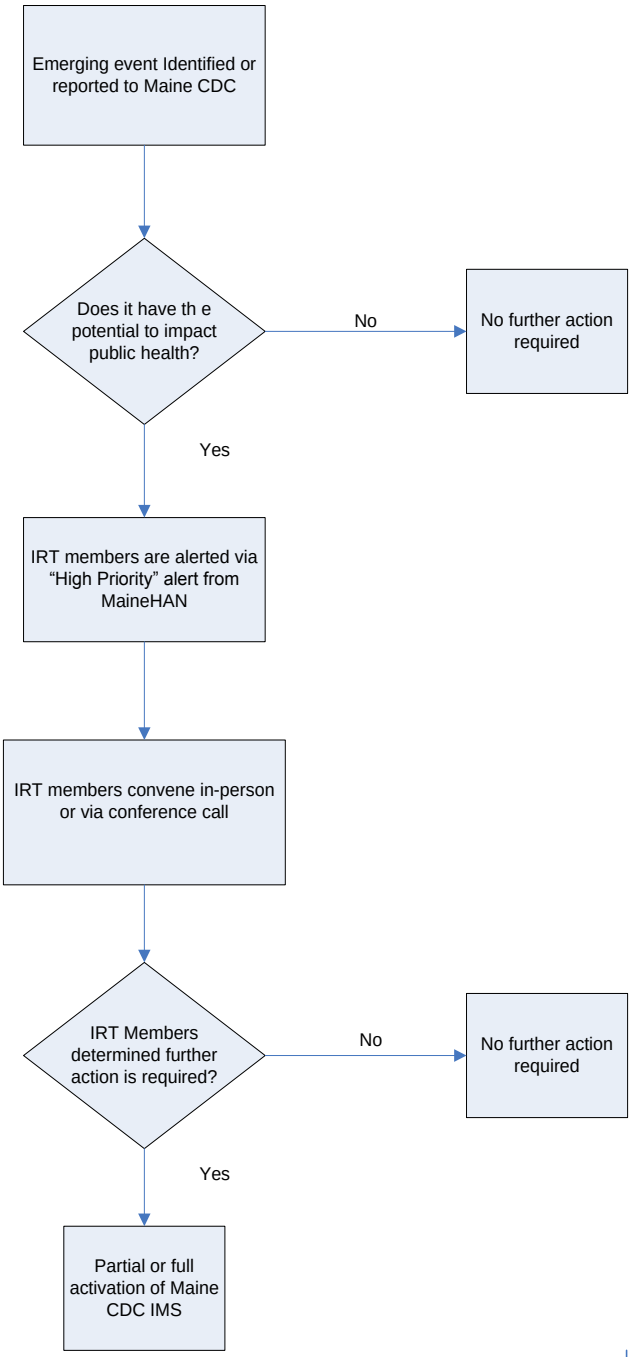
The ME CDFC utilizes three levels of Activation for the PHEOC. Level of Activation is scalable and dependent on the size, scope, and severity of the potential or actual threat. (Note: although there is continual day-to-day monitoring, the PHEOC is not considered activated unless an actual or potential threat emerges triggering activation).

Maine CDC PHEOC Activation Levels are:

Level 3: Monitoring & Assessment	This level is a monitoring and assessment phase where a specific threat, unusual event, or developing situation is actively monitored. Notification will be made to those who will need to take action as part of their everyday responsibilities. The PHEOC is staffed only during regular working hours.
Level 2: Partial Activation	Partial activation is typically limited agency activation. Those staff with a role in the incident response are activated and required to report to the PHEOC, which is located in room 16 on the 1st floor of the Maine CDC.
Level 1: Full Activation	In full scale activation, the PHEOC is activated on a 12 hour operational period in response to an imminent threat or occurrence of a disaster. All pre-identified PHEOC staff will be notified through the Maine HAN and required to physically report to the PHEOC within two hours of being notified.

Maine CDC Initial Response Team Notification & Assembly Protocol

Tuesday, April 30, 2013

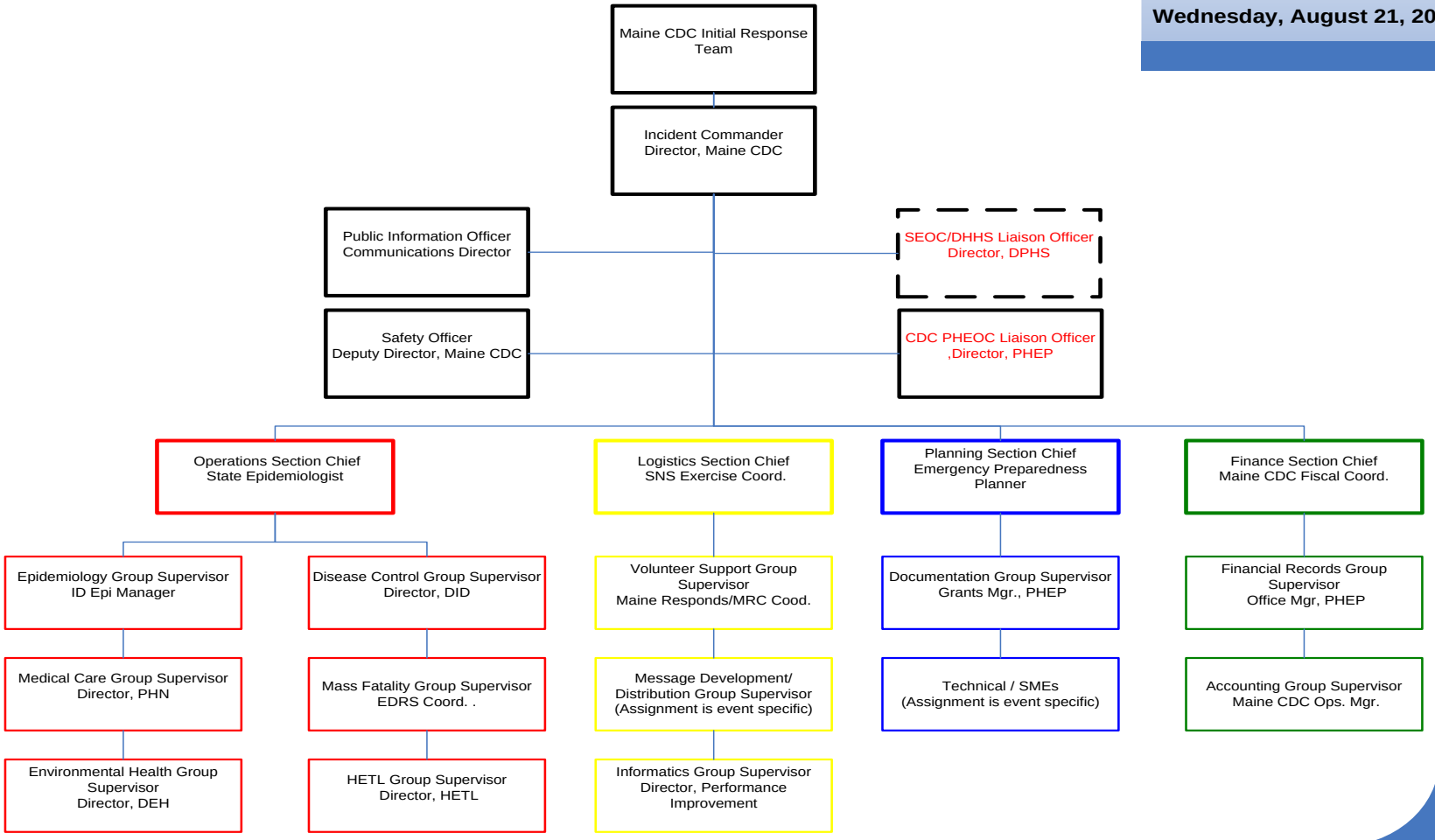


Command and Control

The Director of the Maine CDC, or designee, or the most senior person on site at the time of the situation, will participate in the IRT, and will be the person authorized to activate the PHEOC as indicated by the situation and determined by the IRT. The ICS organizational structure for the PHEOC is represented in the following diagram and will be implemented / expanded to the extent necessary to respond to the situation.

Maine CDC All-Hazards Incident Command Structure

Wednesday, August 21, 2013



Mobilization of Maine CDC Response and Recovery

The pandemic may or may not arrive with any advance notice despite increased surveillance efforts by the World Health Organization (WHO) and the federal CDC. Whether the pandemic strain originates in North America, in Asia, or elsewhere the WHO and CDC will continue to provide governments and the general public with updated information regarding the pandemic's status. Maine CDC will act according to the recommended actions of Maine Levels I and II, the Maine Inter-pandemic Period.

As the pandemic becomes a threat to the United States, we anticipate that the federal CDC and the Department of Homeland Security will hold regular telephone conference calls with the states to provide status reports and guidance. Call attendees will likely include representatives from governors' offices, and departments of health and emergency management. Maine CDC will additionally act according to the recommended actions of Maine Levels III and IV, the Maine Pandemic Alert Period as indicated.

As noted previously, the declaration of a public health pandemic emergency will come from the Governor, based on consultation with the Director of the ME CDC and the Director of MEMA and their respective commissioners. There is also the possibility that responsive action to an influenza epidemic will not require the declaration of an emergency. That response would be managed by the Director of the ME CDC and Director of MEMA under authority delegated by their respective commissioners. DHHS liaisons work closely with MEMA as members of the Emergency Response Team (ERT) which sits at the MEMA Emergency Operations Center (EOC). These representatives work directly with MEMA and DHHS leadership to respond to an emergency. Maine CDC will additionally act according to the recommended actions of Maine Levels V and VI, the Maine Pandemic Period, as deemed necessary.

Once the pandemic eases and the indices of influenza activity return to pre-pandemic levels, any declaration of public health pandemic emergency will be cancelled by the Governor. ME CDC will work collaboratively with MEMA, and other members of the Disaster Assistance Team (DAT) to rebuild infrastructure, to restore the social and economic life, and public health of the community with the goal of returning the State to an improved pre-disaster status based on mitigation measures that incorporate lessons learned from the pandemic event. In the Recovery Phase of a pandemic the Maine CDC will act according to the recommended actions of Maine Level VII, the Maine Post Pandemic Recovery Period.

Continuity of Operations Plan (COOP)

During a disaster, the Division of Health and Human Services has two overall competing responsibilities: one is to respond the public health threat, and one is to continue to provide critical public health services to the citizens of the State of Maine. This Pandemic

Influenza Operations Plan addresses the emergency public health services and functions that would be operational in direct response to a pandemic. A companion plan, the Maine CDC Continuity of Operations Plan (COOP) identifies: 1) the core public health services and functions that are critical to maintaining the health of the citizens of the state of Maine and must be maintained/sustained during a disaster situation, and 2) the public health services and functions deemed non-essential in an emergency that will likely be temporarily interrupted, with non-essential staff being reassigned and cross-trained to assist with the essential services and functions of either the emergency response or the maintenance of critical services.

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Appendix

Appendix A.

Lessons Learned from Previous Pandemics (1918 to 2009)

It is important to learn the lessons from the experience of past pandemics in order to improve the strategies of mitigation, preparedness, response and recovery. The lessons learned that follow include the lessons learned during the 2009 H1N1 pandemic of 2009.

- Pandemics behave as unpredictably as the viruses that cause them. During the previous century, great variations were seen in timing, mortality, severity of illness, and patterns of spread. The severity of the illness caused by the virus will not be known in advance and will challenge the capacity of the healthcare system to respond.
- Pandemic Influenza plans need to be flexible and scalable with implementation dependent on the severity and transmissibility of the circulating novel virus.
- One consistent feature important for pandemic preparedness planning is the rapid surge in the number of cases and their exponential increase over a very brief time, often measured in weeks. This will always result in a sudden sharp increase in the need for medical care.
- Apart from the inherent lethality of the virus, its capacity to cause severe disease in non-traditional age groups, namely young adults, is a major determinant of a pandemic's overall impact.
- Persons under the age of 65 who contract influenza and who also have underlying medical conditions are at greater risk of hospitalization and death.
- The epidemiologic potential of a virus tends to unfold in waves and usually lasts 6-8 weeks and is separated by several months. Subsequent waves have tended to be more severe.
- Virologic surveillance, as conducted by the WHO Laboratory Network, has performed a vital function in rapidly confirming the onset of pandemics.
- Most pandemics have originated in parts of Asia where dense populations of humans live in close proximity to animals; although it is noted that H1N1 2009 began in North America.
- Some public health interventions may have delayed the international spread of past pandemics, but those efforts could not stop them.
- Delaying spread by way of social distancing measures is desirable, as it can flatten the epidemiological peak, thus distributing cases over a longer period. As a result, there will be fewer people ill at any given time, increasing the likelihood of the health care system to handle the sharp demand for care and reduce the impact on the community.
- The impact of vaccines on a pandemic, though potentially great, remains to be demonstrated. In 1957, 1968, and 2009 vaccine manufacturers responded rapidly, but limited production capacity resulted in the arrival of inadequate quantities too late to have an impact.

- All persons over the age of 6 months should receive flu vaccine each year. (CDC, ACIP)
- Countries with domestic manufacturing capacity will likely be the first to receive vaccines.
- The tendency of pandemics to be most severe in later waves may extend the time that large supplies of vaccine are needed to prevent severe disease in high-risk populations.
- Countries with good programs for yearly influenza vaccinations will have experience with the logistics of vaccinations for these populations.

The following lessons were learned from the Maine H1N1 2009 pandemic experience as documented in the Maine CDC, After Action Report, February, 2011 and the focused SNS After Action Report.

Public Health Laboratory Testing

- Need increased number of laboratory workers to respond to a record surge in influenza tests

Surveillance

- Need to increase the number of hospitals in Maine that are participating in the EARS program.
- Need hospital surveillance data to include (non-identifying) demographic data of all flu cases (not simply aggregate data).
- Need access to flu death surveillance data from Vital Records EDRS System
- The Laboratory Requisition Form needs to be revised to streamline the process.
- Need to develop partnerships with non-state labs to coordinate influenza testing.
- Community stakeholders need to be educated regarding the two purposes of public health surveillance: clinical management and populations based surveillance of disease spread.
- Influenza surveillance reports should be distributed widely.

Communications and Outreach

- Within the context of the ICS structure, a Joint Information Center (JIC) should be implemented the one source of reliable, accurate, timely and consistent information.
- Major announcements should be delivered within the context of a press conference to control messaging.
- Communications from the ME CDC should be more directive when possible and appropriate.
- Communications issued by contracted partners and other state agencies must be consistent with the Maine CDC's communications to prevent public confusion.
- Planners should review the Governor's declarations and make any revisions to have ready for future use. Declarations should be made very early on in any future pandemic.

- An annual flu "refresher" campaign should be implemented proactively including an emphasis on hygiene measures and staying home when ill.
- There is a need for enhanced mechanisms to support public health messaging at the local level.
- There is a lack of capability to translate technical vaccine documents into many languages quickly which inhibits the servicing of sub-populations.
- Capacity should be maintained (211 contract) to initiate a treatment hotline quickly with adequate resources and infrastructure to support the hotline for an extended period of time. Nurses participating in the nurse triage line should have the ability to refer people to alternative care sites and dispense (prescribe) antivirals.
- State and local triage lines need to be closely coordinated.
- More work needs to be done to enroll additional health care providers and pharmacists into the HAN to facilitate communications to those stakeholders.

Mass Vaccination

- Prioritization of recipients to those at high risk will be necessary causing anxiety and perhaps panic; prioritization may change depending on the availability of vaccine type
- Because of their vulnerability to influenza, vaccination of children will continue to be a priority, therefore planning for and supporting streamlined school based vaccination clinics is a priority.
- Standardized documentation and online toolkits facilitate the work of the mass vaccination clinics.
- Students who were vaccinated benefited from a robust protection against laboratory-diagnosed H1N1 disease.
- Schools with higher vaccination rates had lower rates of absenteeism as evidenced by both students who were vaccinated (direct effect) as well as by those who were not vaccinated (indirect effect).
- Daily average teacher absenteeism was lower in schools with high vaccination coverage even though teachers themselves were not vaccinated at that time (indirect effect).
- It is important to proactively determine who in the critical infrastructure is a priority to receive vaccine (need to define critical infrastructure).
- The infrastructure for cold chain management at schools needs to be improved
- Mass vaccination clinics located in non health care facilities need a plan in place for the disposal of large amounts of medical waste e.g., sharps containers.
- Implementing mass vaccination clinics requires a larger vaccinator workforce including clinic coordinators, vaccinators and administrative support. Continue to develop Medical Response Team, and continue to develop and use the Medical Reserve Corp.
- A process that expedites contracting and the hiring process during an emergency needs to be developed.

- Planning should be completed to allow the use of IMMPact2 a web based immunization registry to facilitate immunization documentation, collection of immunization data and insurance billing. Several system barriers need to be overcome including computer/internet access, user training, and efficient work flow.
- Planners should proactively determine how best to distribute federal funds to finance mass vaccine clinics: invoice vs RFP.
- Assets from the Strategic National Stockpile will be made available.

SNS

- Overall the warehousing operations were successful
- The warehouse capabilities were underutilized
- Need to plan for better communications re: delivery of the cache.
- Need to clarify the protocol for breaking the seal of the SNS.
- Need to solve issues around the bill of lading process.
- Need to rectify issues which arose in developing the pick lists.
- The security of the SNS warehouses needs to be enhanced.
- The plan for redistribution of vaccine from health care facility distribution sites to vaccine administration sites needs to be made clear.
- Information about the SNS process needs to be more tightly controlled.

Anti-virals

- Nurses participating in the nurse triage hotline lacked the ability to prescribe antiviral prescriptions under protocol.
- Both public and health care providers were confused about how to access the federal stockpile, as well as availability and usage.

Infection Control

- There continues to be a challenge with federal stockpile of PPEs including adequate availability, differing brands with different fitting and use requirements, variation in quality, conflicting guidelines for use and lack of access by some.

Non Pharmaceutical Community Mitigation Strategies

- Guidance for staying home when sick was not clear, was inconsistent, and interfered with sick leave policies.

Hospital Care and Alternative Care Sites

- Hospitals need to update their pandemic influenza operations plans.
- Hospitals and their community partners must proactively collaborate on the development of plans for establishing community Alternative Care Sites; issues to consider include location, access, special populations, resources, (equipment, supplies, and staffing), educating the public, communications, and levels of clinical care.

Collaborative Action

- The ME CDC should continue to convene the Pandemic Influenza Advisory Board of stakeholders.
- Planning partners need to participate in joint training and exercising of the plans.

Public Health Infrastructure

- Roles and responsibilities of various components of the newly formed public health infrastructure need to be defined and clarified.
- There needs to be a plan for expanding public health capacity in response to surge.

NIMS/ICS Structure

- The NIMS / ICS structure must be used as the organizational framework to manage the response to an influenza pandemic, and to clarify roles and responsibilities.
- Maine CDC senior staff and stakeholders need to receive regular training.
- A list of Maine CDC staff highly involved with the pandemic response, their functions and contact information should distributed to stakeholders

Recovery

- Need a plan for completing the tasks of the Recovery Period including debriefings, lessons learned, and preparing an After Action Report; systematically resuming functions and services; providing responder support and recognition.

Appendix B.

Pandemic Influenza Planning Template

Maine Inter-Pandemic Period
Mitigation and Preparedness, Awareness
ME Level 0, I, II

Identify and describe all actions suggested, why and how.

Maine Pandemic Alert Period
Heightened Preparedness, Standby
ME Levels III, IV

Identify and describe all actions suggested, why and how; include any actions you carry over from the previous Level.

Maine Pandemic Period
Response, Activate
ME Levels V, IV

Identify and describe all actions suggested, why and how; include any actions you carry over from the previous Level.

Maine Post Pandemic Recovery Period
ME Levels VII

Identify and describe all actions suggested, why and how; include any actions you carry over from the previous Levels.

Summary Matrix: The Summary Matrix should reflect all action categories from the larger template, and will serve as a quick reference, summary or overview. The arrows will serve to indicate that the action is continued; eliminate the arrow if the action is discontinued; example below:

Supplement Name and #	**Maine Inter-Pandemic Period: Awareness** **Mitigation/ Preparedness** **ME Level 0, I, II**	**Maine Pandemic Alert Period: Standby** **Heightened Preparedness** **ME Levels III, IV**	**Maine Pandemic Period: Activate** **Response** **ME Levels V, IV**	**Maine Post Pandemic Recovery Period** **Recovery** **ME Levels VII**
Topic	Actions →	Carry forward, and add new actions→	Action →	Action continued
Topic	Actions →	Carry forward, and add new actions→	Action →	Action continued
Topic	Actions →	Carry forward, and add new actions→	Action	New actions
Topic	Actions →	Carry forward, and add new actions→	Action	No action
Topic	Actions →	Carry forward, and add new actions→	Action	New actions
Topic	Actions →	Carry forward, and add new actions→	Action →	Action continued
Topic	Actions →	Carry forward, and add new actions→	Action	New actions

Appendix C.
Scalability of Actions based on Severity and Transmissibility Template

	HTH Transmissibility (Illness Rate in the Pop)		
	Low Rare	**Medium 5-20%**	**High 20%-40%**
	Pandemic Severity Index (Case Fatality Ratio)		
Interventions	**1 Low <0.1 CFR**	**2 and 3 Medium 0.1 - <1.0 CFR**	**4 and 5 High 1.0- = >2.0 CFR**

First column list actions that are to be adjusted based on the severity and transmissibility of the circulating virus…
In the subsequent columns… possible wording: generally not recommended, consider, recommend

Section II. Functional Annexes

Introduction to Functional Annexes

The following Annexes identify the functions the Maine CDC will perform and the services it will provide during a pandemic emergency with some detail on how that will be accomplished. The organizing framework of the Annex Plans is the Maine Levels/Periods.

ME CDC pandemic influenza responsibilities include:

- Enhancing disease surveillance to ensure early detection by laboratory diagnosis of the first cases of pandemic influenza in their jurisdictions (see **Annexes 1 and 2**).
- Distributing public stocks of antiviral drugs and vaccines and providing local physicians and health care facilities with updated guidance on clinical management and infection control as the situation unfolds (**Annexes 3 to 7**)
- Preventing local disease transmission using a range of containment strategies (**Annexes 8 and 9 TBA**)
- Providing ongoing communication with the public (about the response effort, including the purpose and duration of containment measures) (**Annex 10**)
- Attending to psychological and social support services to emergency field workers, other responders and the community in general. (**Annex 11**)

ME CDC will support affected jurisdictions during an influenza pandemic by:

- Conducting outbreak investigations, as requested
- Completing epidemiologic and laboratory-based studies ("special studies")
- Providing ongoing information from the national influenza surveillance system on the pandemic's impact on health and the healthcare system
- Distributing public stocks of antiviral drugs and other medical supplies from the Strategic National Stockpile
- Facilitating the distribution of public stocks of vaccines, when they become available
- Providing guidance on community containment strategies, including travel restrictions, school closings, and quarantine
- Communicating with the public via the news media and other modes
- Monitoring the response