

# Utah Pandemic Influenza Response Plan

**DRAFT**

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## Executive Summary

An influenza pandemic is a worldwide outbreak or epidemic caused by an influenza virus to which few if any humans have immunity developed by prior exposure. Influenza pandemics occur predictably but at unpredictable intervals; three occurred during the 20th century. The most serious pandemic on record, the “Spanish flu” of 1918-1919 caused an estimated 20-100 million deaths worldwide and over 500,000 deaths in the United States. Influenza viruses capable of causing a pandemic must be able to cause human disease, have novel surface antigens, and be able to spread effectively from person-to-person. Such influenza viruses can emerge through several mechanisms. Beginning in 1997 and continuing through 2007, a widespread outbreak of avian influenza (H5N1) has affected birds in multiple countries in Asia, Africa, and Europe. That strain has demonstrated the ability to cause lethal disease among humans and created concern that it might evolve into a strain of virus capable of causing a pandemic. It is not known whether that will occur, but it is certain that another influenza pandemic will afflict humans at some point in the future.

An influenza pandemic as severe as the 1918 pandemic could cause nearly a million Utahns to become ill and result in over 350,000 outpatient doctor visits, 80,000 hospitalizations, and 16,000 deaths over the course of a year. Critical assumptions used in developing this plan included: 1) outbreaks would probably occur widely across the state and nation, limiting the ability to share resources among jurisdictions; 2) vaccine would not be available until several months had elapsed; 3) shortages of critical medicines (including antiviral medications) and other supplies would occur; 4) capacity to provide medical care would be severely stressed or exceeded; and 5) absenteeism rates and fear would stress the abilities to maintain business continuity and to provide for essential community services including police, fire, water, food, transportation and sanitation.

The goals of this plan are, first, to minimize serious illness and death, and second, to limit societal disruption and economic losses. The plan is intended to coordinate with global and national plans developed by the World Health Organization (WHO) and the U.S. Department of Health and Human Services (DHHS). It outlines responsibilities and activities in six areas (Planning and Coordination; Public and Risk Communications; Surveillance, Investigation and Containment; Vaccine Management and Administration, Antiviral Medication Stockpiling and Use; Laboratory Testing, and Health Care and Emergency Response). It uses the three pandemic planning phases outlined by WHO (Inter-Pandemic, Pandemic Alert, and Pandemic Periods), the U.S. Federal Stages, and introduces Utah Pandemic Response Levels.

This plan outlines activities and responsibilities for government public health agencies and builds upon preparedness assets developed at federal, state, and local levels of government and in the private sector. The Plan incorporates work by several advisory bodies, including a Pandemic Influenza Planning Committee (2005-2006), the Pandemic Influenza Workgroup (2006-ongoing), and the Governor’s Pandemic Influenza Taskforce, which met in 2006-2007 and developed recommendations that are included in and will set the stage for the next phase of this planning process.

## **Introduction**

An influenza pandemic has the potential to cause widespread illness and death. Planning and preparedness before the next pandemic strikes are critical for an effective response. Utah's Pandemic Influenza Response Plan describes a coordinated strategy to prepare for and respond to an influenza pandemic.

Influenza causes seasonal worldwide epidemics of disease that result in an average of 36,000 deaths each year in the United States. A pandemic – or global epidemic – occurs when there is a major change in the influenza virus so that most or all people in the world's population have no immunity against the virus. Three pandemics occurred during the 20th century; the most severe pandemic (1918) caused over 500,000 deaths in the U.S. and 20-100 million deaths worldwide. Recent outbreaks of human disease caused by avian influenza strains in Asia and Europe have highlighted the potential of new strains to be introduced into the population. An avian influenza A (H5N1) virus capable of directly infecting humans was first detected in Hong Kong in 1997. That virus has been circulating widely among birds since 2003, causing outbreaks in Asian, European, and African countries. Avian influenza A (H5N1) has caused 312 human cases and 190 deaths (WHO as of June 12, 2007) and has become enzootic in wild migratory birds. If these strains acquire the ability to be transmitted effectively from person to person a pandemic may occur. Regardless of whether the currently circulating avian influenza A (H5N1) virus evolves so as to cause a pandemic or not, history indicates that we will experience another pandemic of influenza sooner or later.

Characteristics of an influenza pandemic that must be considered in preparedness and response planning include: 1) Unpredictable time and place of onset; 2) global spread of infection within a few months; 3) outbreaks throughout the world including simultaneous impacts in communities across the state and the U.S., limiting the ability of any jurisdiction to provide support and assistance to other areas; 4) an overwhelming burden of ill persons requiring hospitalization or outpatient medical care; 5) shortages and delays in the availability of vaccines and antiviral medications; 6) disruption of national and community infrastructures including health care, transportation, commerce, utilities and public safety.

The Utah Department of Health (UDOH) is preparing to effectively respond to the issues mentioned above. This progress has been accomplished through programs specific for influenza as well as programs focused on increasing preparedness for bioterrorism and emerging infectious disease threats. In addition, resources have been allocated to improve statewide influenza surveillance, increase influenza testing capacity at the Utah Public Health Laboratory, develop and plan for use of an antiviral drug stockpile, develop means to deliver vaccine against the pandemic influenza strain once it becomes available, and improve health care system readiness at the community level.

## Goals

1. To minimize serious illness and deaths.
2. To minimize societal disruption and economic loss.

## Planning Assumptions

The Utah Pandemic Influenza Response Plan was based on a number of assumptions, including: how quickly an influenza pandemic will spread; how many people will be infected; how long it will take to develop a vaccine; mismatch between demand and a limited supply of vaccine; the availability of antiviral medications; and the impact a pandemic will have on health services (i.e., both the demand for services and the proportion of healthcare providers who are likely to become ill). These assumptions have shaped decisions about how resources should be used, and the steps Utah should take to prepare. These assumptions were based on available information about past pandemics, especially the 1918 pandemic. It is important to recognize that we cannot predict many aspects of a pandemic and the plan must include the flexibility to adjust to the characteristics of an actual pandemic.

This plan was also developed within the context of existing public health law. Specific planning assumptions are as follows:

1. An influenza pandemic will cause simultaneous outbreaks across the United States limiting the ability to transfer assistance from one jurisdiction to another.
2. Utah may have no warning or as long as a three-month warning before the arrival of the pandemic influenza virus within the state's borders.
3. In a given community, the influenza epidemic will last at least six to eight weeks. The pandemic may occur as waves of infection and illness separated by periods of months.
4. The severity of an influenza pandemic cannot be predicted. Based on the range of severity observed for the three pandemic in the 20<sup>th</sup> century, a pandemic in Utah might cause illness, death and impact on the health care system in the range of the two sets of estimates described in Figure 1.
  - a. Some response plans are staged according to the severity of human disease caused by the pandemic virus, based on measures such as attack rate and case fatality rate. See Figure 2.
5. A pandemic will result in substantial absenteeism from work with peak absenteeism rates of 25-40% due to illness or provision of care to family or friends.
6. As is true of most diseases, an influenza pandemic is likely to disproportionately affect vulnerable populations, such as the poor, uninsured, ethnic and racial minorities, and those with disabilities. Meeting the special needs of those populations needs to be addressed in planning.
7. An influenza pandemic will lead to intense media coverage and public interest in information. Effective communications prior to and during a pandemic will present a substantial challenge and how that communication is handled will substantially affect the community response to the pandemic.

8. An effective vaccine against the pandemic influenza virus will not be available until 6-8 months after onset of the pandemic.
  - a. A non-specific vaccine (e.g., a vaccine against a pre-pandemic variant of the pandemic virus) that provides some protection against the pandemic virus may be available in limited amounts.
  - b. Two doses of vaccine (administered 30 days apart) will be needed to develop immunity to the pandemic virus.
  - c. Once the vaccine is available, it will take at least 6 months to produce an adequate supply of vaccine for the entire US population.
  - d. The federal government will purchase pandemic vaccine and will distribute it directly to states.
9. A moderate or severe pandemic will exceed the capacity of the health care system as well as of other support services.
10. Limiting the spread of the pandemic virus can moderate the severity of community impact. Limiting the spread of disease may require restricting public gathering, closing schools and other public places, and requiring or asking people to refrain from public contact when ill or after exposure to illness.
11. Essential services that are ordinarily available to most people will not be sufficient to meet all needs during a pandemic. Responding effectively to the community impact of a pandemic will require prioritization of access to essential services, such as vaccine or antiviral medications, or access to hospitalization and intensive medical care.
12. Response activities during any serious pandemic of influenza will need to incorporate concepts from and be consistent with the National Incident Management System and Incident Command System (ICS).

**Table 1.** Projected impact of a pandemic during a one year period based on severity of 20<sup>th</sup> century pandemics\*

Measure of severity	Moderate Pandemic (1957, 1968-like)	Severe Pandemic (1918-like)
Illness (30%)	759,000	759,000
Outpatient medical care (50% of ill)	379,000	379,000
Hospitalizations	7,280	83,550
Intensive Care Unit (ICU) care	1,090	12,520
Ventilator support required	550	6,360
Deaths	1,750	15,930

\* Projections based on US DHHS Pandemic Influenza Plan and Utah 2005 population estimates (2,529,000).

**Table 2.** U.S. Pandemic Severity Index

This table is designed to characterize the severity of an influenza pandemic on the US population. The key measurement in the Pandemic Severity Index is case fatality ratio; however multiple parameters will most likely be employed to determine the pandemic severity. The Pandemic Severity Index will be invoked during stages 3-5 of the Federal Government Response Stages and will be used to determine community mitigation measures.

<b>Category</b>	<b>Case Fatality Ratio</b>	<b>Projected Number of Deaths – U.S.</b>	<b>Utah Projections*</b>	<b>20<sup>th</sup> Century Comparison</b>
1	<0.1%	<90,000	< 800	Seasonal flu
2	0.1% - <0.5%	90,000 - <450,000	< 4,000	1957, 1968
3	0.5% - <1.0%	450,000 - <900,000	< 8,000	None
4	1.0% - <2.0%	900,000 - <1,800,000	< 16,000	None
5	>2.0%	>1,800,000	> 16,000	1918

\* Utah Projections are simple per capita projections that assume the same illness rate (30%) and case fatality rates for Utah’s 2007 population (2,642,042). Demographic differences such as Utah’s younger age distribution are not considered because of the inability to predict the age-specific impact of a future pandemic.

**Table 3.** WHO Pandemic Periods and Phases, U.S. Federal Response Stages, and Utah Pandemic Response Levels

WHO Phases & Descriptions	U.S. Federal Stages and Description		Utah Pandemic Response Levels and Description	
<b>Inter-Pandemic Period</b>				
Phase 1 – No new influenza viruses in humans	0		Use WHO Periods	
Phase 2 – Circulating animal virus poses human risk				
<b>Pandemic Alert Period</b>				
Phase 3 – Human disease, no or limited human-to-human transmission	0	New domestic animal outbreak in at-risk country	Use Federal Response Stages	
Phase 4 – Increased human-to-human transmission	1	Suspected human outbreak overseas		
Phase 5 – Significant human-to-human transmission	2	Confirmed human outbreak overseas		
<b>Pandemic Period</b>				
Phase 6 – Increased and sustained transmission in general population	3	Widespread human outbreaks, multiple locations overseas	A	Widespread transmission in humans outside North America
	4	First human case in N. America	B	Detection of human case(s) in North America, without detection in Utah
	5	Spread throughout U.S.	C	Detection of human case(s) in Utah
			D	Established epidemic(s) in Utah
			D1	Increased health care demand
			D2	Hospitals above capacity
			D3	Severe hospital capacity stress req. altered standards of care
6	Recovery/preparation for subsequent waves	E	Period after initial wave in Utah (prior to end of pandemic or a subsequent wave)	

## **Relation to Other Preparedness Planning**

Planning for an influenza pandemic in Utah builds upon strengths developed during preparations for the Olympic Winter Games of 2002, and strengthened by responses to events including the 2001 anthrax mail attacks, West Nile virus, SARS, and the Smallpox Vaccination program. Several elements of existing public health and emergency preparedness planning will play critical roles in the response to an influenza pandemic. These include:

1. Enhanced surveillance systems and epidemiologic capacity to rapidly detect, characterize, and provide information about a pandemic of influenza;
2. Implementation of 24x7 response capacity within state and local public health agencies;
3. Mass vaccination plans and experience exercising or using those plans;
4. Strategic National Stockpile and plans to deploy it in Utah;
5. Public information and risk communication plans;
6. Strengthened laboratory capacity;
7. Inter-agency coordination and communication, including incident command;
8. Medical care system surge capacity planning;
9. Community-wide all hazard disaster planning and preparation;
10. Strong partnerships and cooperation among state and local government agencies, hospitals and other parts of the health care system, law enforcement and emergency responders.

## **Responsibilities and Response Activities by Pandemic Period**

By definition, a pandemic is a global event. The World Health Organization (WHO) has primary responsibility for efforts to rapidly detect, monitor, and respond to an influenza pandemic internationally. Current information about WHO activities is available at: <http://www.who.int/csr/en/>. Within the United States, the Department of Health and Human Services is responsible for pandemic planning. In the event of a pandemic, the Centers for Disease Control and Prevention (CDC) will be responsible for surveillance and will take the lead in communicating with and coordinating federal and state public health activities.

At the state level, response to the pandemic will require strong coordination among UDOH, other state agencies, the 12 Utah local health departments, and hospitals and clinics. The media and many other entities will also be important partners in an effective response.

A general overview of activities by pandemic period is listed below. This list focuses primarily on state and local public health activities, but also includes some activities by key response partners.

### ***Inter-pandemic Period***

*No new influenza subtypes have been detected in humans.*

#### **A. Planning and Coordination**

1. Establish a planning process to prepare for an influenza pandemic.
2. Establish a process to make critical policy decisions including the allocation of scarce resources (e.g., vaccination and antiviral medication guidelines, and provision of medical care when resources have been exhausted).
3. Complete the Pandemic Influenza Response Plan.
4. Engage and educate key response partners about the threat of an influenza pandemic and about the Pandemic Influenza Response Plan.
5. Assist local health departments and tribal governments as needed in developing pandemic influenza response plans for their jurisdictions.
6. Conduct scenario-based exercises to assess and improve response capability and assist in identifying and clarifying roles and responsibilities for response to an influenza pandemic.
7. Review and update the Pandemic Influenza Response Plan annually with key response partners.
8. Assess legal authority to respond to an influenza pandemic, including authority for control measures as well as liability protection for response partners.
9. Develop and exercise plans for coordination and communication among partner agencies and entities during an influenza pandemic.
10. Assign and exercise activation of key Command and General Staff individuals who meet the requirements to fulfill the National Incident Management System ICS management structure which would be activated in the event of a disaster/emergency.

#### **B. Surveillance, Investigation and Containment**

1. Monitor international and national influenza surveillance results.
2. Conduct routine influenza surveillance.
3. Periodically evaluate and strengthen Utah's influenza surveillance system to prepare it to detect a pandemic strain and to meet information needs during a pandemic.
4. Disseminate reports of influenza activity through established means.

#### **C. Vaccines**

1. Measure vaccine coverage rate statewide annually.
2. Institute programs to enhance influenza vaccination rates in high-risk groups.
3. Enhance pneumococcal vaccine coverage rates in high-risk groups.
4. Develop a plan to manage, distribute, and administer a pandemic influenza vaccine.
5. Assist local health departments to draft and exercise mass vaccination clinic protocols.

#### **D. Antiviral Medications**

1. Establish a Utah stockpile of antiviral medications.
2. Develop a plan for management, distribution, and use of an antiviral stockpile.

#### E. Healthcare and Emergency Response

1. In coordination with local health departments, develop estimates of the impact on health care of an influenza pandemic, and of the resources and personnel required to care for the anticipated numbers of affected persons.
2. Assess existing surge capacity and surge capacity planning against the needs resulting from an influenza pandemic, and update as appropriate.
3. Engage with health care providers, community leaders, and other key partners to develop plans for providing care during an influenza pandemic. These will include triage guidelines and plans for providing care when existing capacity has been exhausted, such as alternative care facilities or home-based care.
4. Assess existing all-hazard emergency response plans against anticipated needs during an influenza pandemic, including:
  - a. Capacity to respond to a sustained epidemic (estimated 6-14 weeks, with possibility of a second wave);
  - b. Capacity to respond to an event when similar events elsewhere severely limit the availability of federal resources or sharing of resources across jurisdictions;
  - c. Ability to continue medical care, care for dependents of ill adults, and maintain critical community services when  $\geq 25\%$  of workers are absent due to illness.
  - d. Ability to continue medical care, care for dependents of ill adults, and maintain critical community services when  $\geq 25\%$  of workers are absent due to illness.
  - e. Ability of the state and local health departments to continuously staff and effectively uphold the structure of the National Incident Management System ICS for the duration of the epidemic.
5. In coordination with local health departments, establish and standardize the criteria, necessary tools and system capabilities needed in a public health emergency coordination center (name not finalized at time of this version) to effectively function and communicate with various public health partners during an emergency/disaster situation.

#### F. Public and Risk Communications

1. Develop a comprehensive communications plan including messages in several formats and languages for communicating with the general public and with response partners, including:
  - a. Fact sheets on influenza, influenza vaccine, and antiviral medications;
  - b. Video clips; and
  - c. Training materials such as slide sets, posters, etc.
2. Assess existing public and operational communications plans and protocols for use during an influenza pandemic and identify key communication issues and the resources needed to adequately respond to an influenza pandemic.

#### G. Laboratory

1. Develop a laboratory surge capacity plan.

2. Conduct laboratory testing for seasonal influenza and to detect novel influenza strains in collaboration with CDC and the WHO Global Influenza Surveillance Network.
3. Establish and maintain communication with clinical and hospital laboratories and provide education and consultation to facilitate an effective clinical laboratory capability for influenza.

***Pandemic Alert Period***

*Human infection with a new subtype of influenza virus has occurred.*

During this period, UDOH will monitor events that indicate altered risk of a pandemic or that should prompt changes in our response plans. These might include emerging information about the novel virus, changes in vaccine or antiviral medication research or production, as well as any modifications in national or international pandemic plans. Efforts to complete activities outlined for the inter-pandemic period will be assessed and accelerated.

During Pandemic Phase 5/Federal Response Stage 2, surveillance systems and laboratory surveillance of viral isolates may be enhanced to increase the ability to detect the virus in Utah. UDOH will closely follow CDC and WHO guidelines regarding containment measures during this phase. The pandemic plan will be adjusted to incorporate new information about vaccine development, antiviral stockpiles, outbreak containment measures, and non-pharmaceutical interventions (community mitigation measures) as that information becomes available.

**A. Planning and Coordination**

1. Upon declaration of a Pandemic Alert Period or a change in phase within the Pandemic Alert Period, UDOH will convene the pandemic influenza workgroup to review the overall plan and assess progress toward implementing key components of that plan.
2. UDOH will actively monitor reports from WHO and CDC regarding spread of the novel virus and disseminate as appropriate to response partners.
3. UDOH will actively monitor information from CDC and DHHS, and recommendations from the National Vaccine Advisory Committee (NVAC) and Advisory Committee on Immunization Policy (ACIP) related to the novel virus and national preparations for response.
4. UDOH will prepare and disseminate a regular Pandemic Influenza Update, covering events related to the novel virus and key preparedness updates. The frequency of this update will be adjusted according to need and in relation to US Federal Response Stages.
5. Upon learning of substantive information about the virus or preparations for the virus, UDOH will review the Pandemic Influenza Response Plan and adjust as appropriate.
6. An update regarding status of preparedness and critical areas that need to be addressed will be prepared and delivered to UDOH and local health department leadership and key community partners.
7. Convene a permanent pandemic advisory committee process.

8. Convene designated UDOH Incident Command and General Staff to assess readiness and effective implementation of National Incident Management System ICS if needed.
  9. Assess readiness of UDOH and UDOH personnel, and public health emergency coordination center (name not determined at time of this version) to effectively implement a Multi-agency Coordination System during an influenza pandemic, if needed.
- B. Surveillance, Investigation and Containment
1. Assess existing surveillance for influenza and, based on national and international guidelines and information about the pandemic risk, implement enhancements to detect presence of the implicated strain in Utah.
    - a. Consider enhanced surveillance of persons returning from travel to affected areas and potential for use of quarantine/isolation protocols.
  2. Assess system-wide information system capacity to respond to the need for timely surveillance and epidemiologic investigation data on a pandemic.
  3. Develop plans to limit spread of a novel influenza virus and for community mitigation during a pandemic.
- C. Vaccines
1. Monitor emerging information about vaccine development and about antiviral evaluation and supplies and disseminate as appropriate to response partners.
  2. Continue preparations for vaccine administration, including:
    - a. Conduct vaccine administration training;
    - b. Assess and exercise vaccine distribution system;
    - c. Meet with response partners and review major elements of the vaccine distribution plans and modify as needed;
    - d. Consider stockpiling critical vaccination supplies (e.g., syringes, alcohol wipes, gloves, gauze, etc.);
    - e. Maintain inventory of stockpiled supplies.
  3. Assess capability of existing information systems to track the supply and administration of vaccinations, occurrence of vaccine adverse effects, and vaccine coverage of target populations.
  4. Develop and gather community input on vaccine priority groups for use when insufficient vaccine is available for the entire population.
- D. Antiviral Medications
1. Monitor emerging information about antiviral evaluation and supplies and disseminate as appropriate to response partners.
  2. Exercise and update antiviral management and use plans as appropriate.
  3. Develop and gather public input on priority groups for antiviral use when insufficient supplies are available for the entire population.
- E. Healthcare and Emergency Response
1. Convene public health and health care system leaders to evaluate capability of health care system to respond to a pandemic based on current information and to develop plans to improve that capability.

2. Develop plans and guidelines for triage and treatment of influenza patients in outpatient, inpatient and non-traditional healthcare settings and distribute those plans and guidelines for comment/review by appropriate agencies, entities and personnel.

F. Public and Risk Communications

1. The State Epidemiologist or designee will provide regular updates to UDOH leadership, local health officers, and other key community partners about developments related to the virus and its spread and of national and international preparations for response.
2. Local health officers will update local elected officials, members of the Boards of Health, and other community leaders and partners.
3. UDOH will update elected officials and response partners upon declaration of a novel virus alert or of a change in the Pandemic Phase indicating increased risk of a pandemic.
4. Existing communication plans will be evaluated and exercised.
5. Public communication strategies will be implemented to prepare Utah citizens for the possibility and consequences of an influenza pandemic.
6. According to the level of assessed risk, messages will be delivered to the public regarding the level of threat, individual preparedness activities, and plans for response when a pandemic occurs.

***Pandemic Period***

*Increased and sustained transmission in general population of a new subtype of influenza virus somewhere in the world.*

The Utah Pandemic Response Levels (See Figure 3 and 4) will be used to organize response activities during the Pandemic period. This section will highlight activities in each of eight response areas that are modified somewhat from the Inter-Pandemic and Pandemic Alert Periods to reflect needs during the Pandemic Period. These response areas include:

- Operational Communications and Coordination
- Surveillance, Investigation and Containment
- Community Mitigation
- Vaccine Distribution and Administration
- Antiviral Stockpile and Use
- Healthcare, Community and Emergency Response
- Public and Risk Communications
- Laboratory Response
- Medical Care and Triage

Surveillance efforts will be increased to detect the pandemic influenza virus and monitor community impact. If vaccine is available, distribution will be implemented according to appropriate recommendations and security measures will be put in place to ensure that vaccine will be given first to groups of highest priority. UDOH will augment information flow to local health departments, medical providers and other stakeholders, including materials in Spanish and the other major languages in Utah. UDOH will implement at

least a limited application of Unified Area Command including UDOH and the 12 local health departments to facilitate decision-making once widespread transmission in humans outside of North America has been detected (Utah Pandemic Response Level A). Upon detection of illness caused by the pandemic virus in Utah (or likelihood of its imminent arrival), state and local emergency management agencies and hospitals will be advised to consider activating their emergency response systems. The Medical Examiner and Vital Records systems and funeral directors will be advised to prepare for increases in the number of deaths and provided with any infection control guidelines specific to the pandemic virus.

During this period, available resources may be exhausted in a number of areas, including public health surveillance and investigation, medical care, and vaccine and antiviral supplies. When this occurs, prioritization will be needed to shift resources to meet highest priority needs. This is likely to be most critical for medical care; it is expected that triage protocols, expanded in-hospital capacity, alternate treatment sites, and home-care protocols will be needed.

#### A. Operational Communications and Coordination

1. Activate Pandemic Response Plan and relevant components of all-hazard disaster planning, including the Epidemiology Emergency Response Plan and if necessary the public health emergency coordination center.
2. Notify UDOH response personnel, local health officers, and other response partners of the declaration of a Pandemic Period using the Utah Notification and Information System (UNIS) and other appropriate means.
3. Convene a UDOH Pandemic Influenza Coordination Group (PICG), including the State Epidemiologist, Director of Public Health Preparedness, State Public Health Nursing Director, Immunization Program Manager, State Laboratory Director, and Assistant Attorney General, to review known facts and prepare a situation report for the Executive Director's Office (EDO) including recommendations for immediate actions and a request for any needed response resources.
4. Convene the Pandemic Influenza Workgroup to review current status of plans and to prioritize and assign any remaining planning tasks.
5. Assess available resources and advise response personnel of potential need to alter personal plans to meet the needs of a pandemic response.
6. An information management process will be implemented to monitor national and global events and changes in recommendations and to disseminate information to UDOH leadership, local health departments, and to other response partners.
7. A situation report on the pandemic will be prepared twice each week or more often if needed and distributed to response partners. Detection of the pandemic strain or evidence of its circulation in Utah will trigger a UNIS alert and conference call.
8. State Epidemiologist/Bureau of Emergency Medical Services director may request delivery of Strategic National Stockpile assets.
9. A process of regular conference calls will be established with response partners.

10. Adjust response efforts based on analysis of effectiveness of response efforts, changes in national or global recommendations, or changes in available resources.
11. Upon detection of cases caused by the pandemic virus in North America (Utah pandemic response level B), implement Unified Area Command structure to facilitate decision-making among UDOH and the 12 local health departments. Decisions that will be reviewed at this time will include:
  - a. Pandemic mitigation strategy based on plan and predicted pandemic severity.
  - b. Need to review and modify antiviral medication priorities and antiviral use strategies
  - c. Need to review and modify vaccine priorities
  - d. Plans and responsibilities for public and risk communications
  - e. Plans for pandemic surveillance and personnel needed to accomplish surveillance.
  - f. Plans for operational communications and coordination, such as conference call frequency, information systems to be used and frequency and content of postings.
12. Upon detection of cases caused by the pandemic virus in North America (Utah pandemic response level B), activate a public health emergency coordination center to implement a multi-agency coordination system to facilitate coordination and support of personnel and resources to the 12 local health departments.

*See Operational Communications and Coordination attachment for additional detail on these activities, including plans according to response level.*

#### B. Surveillance, Investigation and Containment

1. Implement enhanced surveillance plan to monitor both influenza cases and circulating influenza virus types until the pandemic strain has been detected in Utah.
2. Upon detection of pandemic strain or evidence of its circulation in Utah, implement surveillance to characterize community (including economic) impact. This would include surveillance of resource use such as urgent care visits, hospitalization utilization, and absenteeism.
3. Conduct regular analyses of surveillance data to monitor changes in epidemiology, assess effectiveness of response efforts, and identify need for containment efforts.
4. Prepare regular surveillance reports and disseminate to response partners and general public.
5. During Response Levels A and B (detection of pandemic influenza cases outside of Utah), containment measures intended to prevent entry of the virus into the U.S./Utah or to contain spread upon introduction may be initiated according to national/global recommendations or based on epidemiologic findings in Utah. Such restrictions may include:
  - a. Travel restrictions (including air and ground transportation)
  - b. Screening of persons arriving from affected areas

6. Measures to contain spread of an established outbreak in Utah are described under Community Mitigation.

*Additional detail about surveillance activities, including how those activities will change with Pandemic Response Levels is described in the Influenza Enhanced Surveillance Plan attachment.*

#### C. Community Mitigation

1. Assess pandemic severity (see Figure 2, U.S. Government Pandemic Index).
2. Convene Governor's Pandemic Advisory Committee process to review mitigation plan based on available information about the virus and its epidemiologic characteristics and make any appropriate modifications.
3. Convene conference call(s) with local health departments, Utah Volunteer Organizations Active in Disasters, school representatives, and other response partners to facilitate implementation of planned mitigation activities.
4. Initiate communications campaign specific to planned mitigation actions.
5. Trigger mitigation measures according to the plan.

*Addition details about community mitigation plan activities can be found in the Community Mitigation Plan attachment.*

#### D. Vaccine Distribution and Administration

1. Convene Governor's Pandemic Advisory Committee process to review vaccination priority groups and vaccine distribution plans for appropriateness based on anticipated or actual supply and characteristics of the pandemic. Modify plans as appropriate.
2. As vaccine becomes available, implement vaccination plan.
3. Monitor vaccine administration and vaccine reactions.
4. Analyze effectiveness and use of vaccination and adjust their use as appropriate based on results and supplies.

*Additional details can be found in the Pandemic Influenza Vaccine Distribution and Administration Plan attachment.*

#### E. Antiviral Medication Stockpile and Use

1. Convene Governor's Pandemic Advisory Committee process to review priority groups and plans for use of antiviral medications based on characteristics of the pandemic virus and other available information.
2. Prepare status report on the antiviral stockpile, intended uses, and priority groups.
3. According to the plan, request federal allocation from Strategic National Stockpile of antiviral medications.
4. Initiate communications activities explaining availability, planned use, and priority groups to response partners and the public.
5. Implement antiviral distribution and administration plans.
6. Monitor use and if possible effectiveness of antiviral medications.

*Additional details can be found in the Antiviral Stockpile and Use Plan attachment.*

#### F. Healthcare, Community and Emergency Response

1. Convene Governor's Pandemic Advisory Committee process to review health care surge capacity plans and triage criteria.
2. Establish means of coordination and communication, based on Multi-agency Coordination System concepts with state and local emergency operation centers as they are activated.
3. Implement surge capacity plans as needed, including triage criteria.
4. Implement use of stockpiles of medical supplies and distribution systems.
5. Implement emergency response procedures as required to maintain essential services.
6. Implement plans to provide care and establish alternative care sites as required, monitor the capacity of the local system to provide care, and work with other state and national response agencies as required.
7. Bureau of Emergency Medical Services will be the primary state agency assessing hospital/other medical facility response activities.
8. Division of Emergency Services and Homeland Security (DESHS) will be the primary state agency responsible for transport of equipment, supplies and personnel.

#### G. Public and Risk Communications

1. Implement Public and Risk Communications Plan, including, as appropriate, establishing a joint information system and establishing a joint information center (JIC), convening regular Public Information Officer (PIO) conference calls among response partners, and establishing a plan for regular public/media communications as appropriate to the urgency of the situation.
2. Implement a plan for regular communication of information to public, including actions that people should take to prepare and to protect themselves, and informing them about planned community mitigation measures, changes in health care access, access to antiviral medications and vaccine, availability of support services, any travel advisories or restrictions, and other information as needed.
3. UDOH PIO will coordinate communication needs for UDOH as regards media access, messaging, issue tracking, staff briefing and resource tracking throughout the public information response effort.

*Additional details including communications activities according to Response Level can be found in the Public and Risk Communications Plan attachment.*

#### H. Laboratory Response

1. Perform laboratory testing in collaboration with surveillance plan to detect pandemic influenza virus in Utah.
2. Review laboratory testing plan based on characteristics of the pandemic influenza virus and other information.
3. Implement laboratory surge capacity plans.

*Additional details can be found in the Utah Pandemic Influenza Laboratory Response Plan attachment.*

## **Interaction between Pandemic Response Plan and the Incident Command System**

The National Incident Management System was developed by the Department of Homeland Security to provide a standardized approach to incident management and response. It establishes a uniform set of processes and procedures that emergency responders at all levels of government will use to conduct response operations. The ICS is a combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure, designed to aid in domestic incident management activities. Much of the planning and preparations for an influenza pandemic, and potentially early response especially during a mild or moderate pandemic will occur within the context of usual public health activities and organizational structures. However, a severe pandemic will almost certainly result in implementation of emergency response structures as federal, state, and local levels. Once that has occurred, response activities will occur with the context of incident command. This plan was developed to be consistent with National Incident Management System and with Utah's plans for disaster response using incident command. This section provides a brief outline of how these activities will be integrated into ICS plans.

**Incident Command** – It is anticipated that ICS will be established in most or all communities in Utah. Utah's local health departments, as the lead agencies for the health response will have key roles or be the lead agency in those structures. Most response activities will be directed at the local level using those ICS structures.

**Unified Area Command** – Area command was developed to oversee management of multiple incidents or a very large incident with multiple incident management systems. By definition, a pandemic is a global event that to some extent will affect all communities in Utah. As outlined elsewhere in this plan, certain aspects of response should be conducted in a uniform and coordinated way across all 12 local health jurisdictions in Utah. These activities include surveillance, community mitigation (e.g., school closure), administration of antiviral medications or vaccine according to priority groups, and application of triage protocols. To facilitate coordinated decision-making for these areas of response, UDOH will implement a Unified Area Command upon declaration of Utah Pandemic Response Level A (Widespread transmission in humans outside of North America). Under Unified Area Command, UDOH and the 12 local health departments' command staff would form a command group. Using conference calls and other mechanisms, that group would develop guidance to facilitate develop of local incident action plans that are consistent and coordinated for key concepts where that consistency is important to an effective response (see table below). It is anticipated that in most cases, this process would not require development of new policies or guidance, but might require review and approval of guidance developed in the then current Pandemic Response Plan. Refer to Annex U for the Incident Command System organizational chart.

Multi-agency Coordination System – UDOH will utilize its Multi-agency Coordination System plan to facilitate communications and coordination among the many entities that will be responding in different ways to an influenza pandemic. The Multi-agency Coordination System will be supported by the public health emergency coordination center. The Multi-agency Coordination System will be utilized to help coordinate activities that can be most appropriately be locally directed without input from a Unified Command structure. It will also assist UDOH in providing assistance to local health department for activities such as distribution/administration of the Strategic National Stockpile and surge capacity items, health care response, social support as well as other critical services. Refer to Annex U for the Multi-agency Coordination System organizational chart.

Details on how pandemic influenza response will be integrated into ICS in Utah can be found in *Attachment 1: Operational Communications and Coordination Plan* and in the *UDOH Emergency Operations Plan Annex U: Direction and Control*.

**Table 4.** Approach to coordination of activities under the Incident Command System during a pandemic response

Activities that will be included in Unified Area Command	Activities that will be directed by local ICS with coordination and assistance supported by a Multi-Agency Coordination System
Public health surveillance for influenza	Antiviral distribution and administration
Revision of antiviral approach (i.e., treatment/prophylaxis, containment) and priority groups	Health care response
Vaccine distribution and priority groups	Provision of support to those who need it
Approach to mitigation (i.e., strategies to include for severity of pandemic, timing)	Activities to support essential services
Public and risk communications	Implementation of mitigation measures (e.g., school closure, event cancellation)
Medical triage protocol	Mass casualty management

**Table 5.** Utah Pandemic Influenza Response Levels

Pandemic Period	
A	Widespread transmission in humans outside of North America
B	Detection of human case(s) in N. America, but not in Utah
C	Human cases detected in Utah
D	Established epidemic in Utah
D1	Increased health care demand
D2	Hospitals above capacity
D3	Severe hospital capacity stress requiring altered standards of care
E	After the first epidemic wave in Utah, and prior to end of pandemic or a subsequent wave

## Next Steps for Pandemic Influenza Planning

This plan describes both existing capabilities and those that must be developed for an effective response to a pandemic of influenza. Ongoing work will provide additional detail on relevant components of the plan in order to provide additional guidance to the public health community and other partners. Modifications may also be needed as information becomes available, such as through global events or as plans developed by organizations such as WHO and DHHS are modified.

An influenza pandemic will reach into every sector of Utah and can have an impact that substantially exceeds the resources and capabilities of public health agencies and of other response partners. The next phase of preparation for an influenza pandemic will focus on updating and enhancing the plans and plan attachments included here based on results of exercises and additional information from WHO, DHHS, or CDC, and on implementing recommendations from the Governor's Taskforce on Pandemic Influenza Preparedness. The final report of that Taskforce containing its recommendations can be found at: <http://www.pandemicflu.utah.gov/docs/PandInfluTaskforceFinalReport.pdf>.

Specific areas that need to be addressed in a next revision include:

- Assess existing mass fatality and mortuary planning for its adequacy for an influenza pandemic and adjust as needed.
- Establishing and disseminating medical care triage protocols, protocols for expanding surge capacity and establishing alternate care sites, and systems to guide home and out of facility care.
- Establish plans for issuing death certificates during a pandemic.
- Establish plans for an assistance coordination center function and identify how it will be integrated into emergency response plans.
- Complete state-local-health care coordination matrix.
- Finalize Community Mitigation Plan based on input received upon release of this Draft Version for Public Comment.
- Revise vaccine plan based on additional input from stakeholders.

**Table 6. Internal UDOH Assignments and Responsibilities**

<b>Organizational Unit</b>	<b>Responsibility</b>
Executive Director's Office (EDO)	<ul style="list-style-type: none"> <li>• Overall responsibility for public health preparedness for an influenza pandemic</li> <li>• Responsible for updating the Governor's office about preparedness and events during an influenza pandemic.</li> </ul>
State Epidemiologist	<ul style="list-style-type: none"> <li>• Under direction of EDO, overall responsibility for preparedness for an influenza pandemic</li> <li>• Responsible for convening the Pandemic Influenza Coordinating Group</li> </ul>
Bureau of Epidemiology (BOE)	<ul style="list-style-type: none"> <li>• Lead entity in UDOH for pandemic planning and response in the event of a pandemic.</li> <li>• Surveillance for influenza prior to and during a pandemic.</li> <li>• Monitor surveillance reports – national and international – and disseminate to partners as appropriate.</li> <li>• Monitor WHO and CDC bulletins and other information about the virus (e.g., attack rates, transmission potential, severity of illness, antiviral susceptibility) and assess to determine if that information affects the Utah plan.</li> <li>• Monitor information about antiviral medication development, distribution, stockpiling and distribution.</li> </ul>
Immunization Program (IP)	<ul style="list-style-type: none"> <li>• Lead entity for vaccine planning prior to and for implementation of vaccine delivery during a pandemic.</li> <li>• Monitor influenza vaccine coverage annually and during a pandemic.</li> <li>• Monitor recommendations related to vaccine preparation, evaluation, and distribution from national sources including NVAC, ACIP, CDC, FDA, DHHS; assess for significance and disseminate as appropriate.</li> </ul>
Office of Public Information and Marketing (OPIM)	<ul style="list-style-type: none"> <li>• Responsible for developing materials for public release (in cooperation with IP, BOE, and local health departments)</li> <li>• Responsible for coordinating media and public information about this issue prior to and during an influenza pandemic.</li> </ul>
Utah Public Health Laboratory (UPHL)	<ul style="list-style-type: none"> <li>• Responsible for laboratory surveillance for influenza and detection of novel virus strains as part of national/global network.</li> </ul>
Strategic National Stockpile (SNS) Program	<ul style="list-style-type: none"> <li>• Monitor plans for use and distribution of the antiviral stockpile</li> <li>• Establish plans for distribution in coordination with local health departments and health care providers according to policy decisions about distribution.</li> </ul>
Bureau of Emergency Medical Services (BEMS)	<ul style="list-style-type: none"> <li>• Responsible for assessing medical surge capacity to respond to an influenza pandemic.</li> <li>• Responsible for communication and coordination with hospitals regarding resources during a pandemic.</li> <li>• Responsible for operation of the UDOH Emergency Coordination Center.</li> </ul>
State Nursing Director	<ul style="list-style-type: none"> <li>• Responsible for assessing UDOH capacity for nursing support to local health departments.</li> </ul>

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