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Table of Contents

Executive Summary ................................................................. 1
Introduction ............................................................................. 2
Goals ..................................................................................... 3
Planning Assumptions ............................................................ 3
Relation to Other Preparedness Planning ................................. 7
Responsibilities and Response Activities by Pandemic Period .... 7
  Inter-pandemic Period ......................................................... 8
  Pandemic Alert Period ......................................................... 10
  Pandemic Period ................................................................. 12
Interaction between Pandemic Response Plan and the Incident Command System ........... 17
Next Steps for Pandemic Influenza Planning ............................. 19
References ............................................................................... 21

Attachments:
Attachment 1: Operational Communications and Coordination Plan
Attachment 2: Influenza Enhanced Surveillance Plan
Attachment 3: Community Mitigation Plan
Attachment 4: Vaccine Distribution and Administration Plan
Attachment 5: Antiviral Medication Stockpile and Use Plan
Attachment 6: State/Local/Health Care Coordination Plan
Attachment 7: Public and Risk Communications Plan
Attachment 8: Laboratory Response Plan
Attachment 9: Medical Care Triage Guidelines
Attachment 10: Public Health Legal Authorities

Tables:
Table 1: Projected impacts of a pandemic during one year period based on severity of the 20th
  century pandemics.
Table 2: U.S. Pandemic Severity Index.
Table 3: WHO Pandemic Periods and Phases, U.S. Federal Response Stages, and Utah Pandemic
  Response Levels.
Table 4: Approach to coordination of activities under ICS during a pandemic response.
Table 5: Utah Pandemic Influenza Response Levels.
Table 6: Internal UDOH Assignments and Responsibilities.
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 20th 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 20th century pandemics*

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

* 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.

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

* 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

<table>
<thead>
<tr>
<th>WHO Phases &amp; Descriptions</th>
<th>U.S. Federal Stages and Description</th>
<th>Utah Pandemic Response Levels and Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inter-Pandemic Period</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase 1 – No new influenza viruses in humans</td>
<td>0</td>
<td>Use WHO Periods</td>
</tr>
<tr>
<td>Phase 2 – Circulating animal virus poses human risk</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Pandemic Alert Period</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase 3 – Human disease, no or limited human-to-human transmission</td>
<td>0</td>
<td>New domestic animal outbreak in at-risk country</td>
</tr>
<tr>
<td>Phase 4 – Increased human-to-human transmission</td>
<td>1</td>
<td>Suspected human outbreak overseas</td>
</tr>
<tr>
<td>Phase 5 – Significant human-to-human transmission</td>
<td>2</td>
<td>Confirmed human outbreak overseas</td>
</tr>
<tr>
<td><strong>Pandemic Period</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase 6 – Increased and sustained transmission in general population</td>
<td>3</td>
<td>Widespread human outbreaks, multiple locations overseas</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>First human case in N. America</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Spread throughout U.S.</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Recovery/preparation for subsequent waves</td>
</tr>
<tr>
<td></td>
<td></td>
<td>D1 Increased health care demand</td>
</tr>
<tr>
<td></td>
<td></td>
<td>D2 Hospitals above capacity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>D3 Severe hospital capacity stress req. altered standards of care</td>
</tr>
<tr>
<td></td>
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</tr>
</tbody>
</table>
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.
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 ≥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 ≥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
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.

*Additional 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

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

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

<table>
<thead>
<tr>
<th>Pandemic Period</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Widespread transmission in humans outside of North America</td>
</tr>
<tr>
<td>B</td>
<td>Detection of human case(s) in N. America, but not in Utah</td>
</tr>
<tr>
<td>C</td>
<td>Human cases detected in Utah</td>
</tr>
<tr>
<td>D</td>
<td>Established epidemic in Utah</td>
</tr>
<tr>
<td>D1</td>
<td>Increased health care demand</td>
</tr>
<tr>
<td>D2</td>
<td>Hospitals above capacity</td>
</tr>
<tr>
<td>D3</td>
<td>Severe hospital capacity stress requiring altered standards of care</td>
</tr>
<tr>
<td>E</td>
<td>After the first epidemic wave in Utah, and prior to end of pandemic or a subsequent wave</td>
</tr>
</tbody>
</table>
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>
<thead>
<tr>
<th>Organizational Unit</th>
<th>Responsibility</th>
</tr>
</thead>
</table>
| Executive Director’s Office (EDO) | • Overall responsibility for public health preparedness for an influenza pandemic  
• Responsible for updating the Governor’s office about preparedness and events during an influenza pandemic. |
| State Epidemiologist | • Under direction of EDO, overall responsibility for preparedness for an influenza pandemic  
• Responsible for convening the Pandemic Influenza Coordinating Group |
| Bureau of Epidemiology (BOE) | • Lead entity in UDOH for pandemic planning and response in the event of a pandemic.  
• Surveillance for influenza prior to and during a pandemic.  
• Monitor surveillance reports – national and international – and disseminate to partners as appropriate.  
• 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.  
• Monitor information about antiviral medication development, distribution, stockpiling and distribution. |
| Immunization Program (IP) | • Lead entity for vaccine planning prior to and for implementation of vaccine delivery during a pandemic.  
• Monitor influenza vaccine coverage annually and during a pandemic.  
• 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. |
| Office of Public Information and Marketing (OPIM) | • Responsible for developing materials for public release (in cooperation with IP, BOE, and local health departments)  
• Responsible for coordinating media and public information about this issue prior to and during an influenza pandemic. |
| Utah Public Health Laboratory (UPHL) | • Responsible for laboratory surveillance for influenza and detection of novel virus strains as part of national/global network. |
| Strategic National Stockpile (SNS) Program | • Monitor plans for use and distribution of the antiviral stockpile  
• Establish plans for distribution in coordination with local health departments and health care providers according to policy decisions about distribution. |
| Bureau of Emergency Medical Services (BEMS) | • Responsible for assessing medical surge capacity to respond to an influenza pandemic.  
• Responsible for communication and coordination with hospitals regarding resources during a pandemic.  
• Responsible for operation of the UDOH Emergency Coordination Center. |
| State Nursing Director | • Responsible for assessing UDOH capacity for nursing support to local health departments. |
References


Utah Pandemic Influenza Response Plan
Community Mitigation Plan

DRAFT
Revised May 5, 2008

NOTE: This is a draft plan intended to provide interim guidance to agencies, businesses, community and faith-based organizations, and other entities regarding measures that will be implemented in an influenza pandemic in order to limit transmission. It is also a request for suggestions from the community on ways to strengthen the plan and comments regarding the ability to use it to lessen the impact of an influenza pandemic in Utah. It is based on the Interim Pre-pandemic Planning Guidance: Community Strategy for Pandemic Influenza Mitigation in the United States."
# Table of Contents

Overview ..................................................................................... 3
Planning Assumptions .................................................................. 4
Pandemic Response Periods, Stages, and Levels ......................... 4
Pandemic Severity Index ............................................................ 5
Community Mitigation Measures ............................................... 5
  **Hygiene** ............................................................................. 5
  **Voluntary isolation** ............................................................. 6
  **Voluntary quarantine of household contacts** ....................... 6
  **Community social distancing (outside of the workplace)** ..... 7
  **Social distancing within the non-healthcare workplace** ...... 7
  **Dismissal of students from school** ...................................... 8
Matrix of Measures by Severity Level ....................................... 9
Implementation and Cessation of Mitigation Measures .................. 9
  **Decision-Making Structure** ............................................... 10
  **Implementation Triggers** ................................................... 10
  **Cessation Triggers** ........................................................... 10
  **General Use of Mitigation Measures** ................................ 10
Legal Authority .......................................................................... 11
  **Hygiene** ............................................................................. 13
  **Voluntary isolation** ............................................................. 13
  **Voluntary quarantine of household contacts** ....................... 15
  **Community social distancing (non-workplace)** .................. 16
  **Workplace social distancing** .............................................. 17
  **Dismissal of students** ........................................................ 18
Communication .......................................................................... 20
  **Minimizing Consequences of Community Mitigation Measures** 21
  **Planning Guidance for Other Entities** .............................. 21
References .................................................................................. 22

Appendix 1: WHO Pandemic Periods and Phases, U.S. Federal Response Stages, and Utah Pandemic Response Levels .................................................................................................................. 23
Appendix 2: Sequence of Mitigation Actions that will occur During a Pandemic .................................................. 24
Appendix 3: Protocol for Case-based Isolation and Quarantine ................................................................. 25
Overview

Influenza is caused by a virus that is spread from person-to-person primarily through respiratory droplets generated from coughing or sneezing. It may also be spread to a lesser extent by direct or indirect contact with respiratory secretions. Transmission is most efficient among crowded populations in enclosed spaces. The influenza virus may persist in the environment for several hours, particularly in the cold and in low humidity. Influenza spreads rapidly in a population because it has a short incubation period (period between infection and onset of symptoms) of 1-3 days and because persons are infectious (able to transmit it to others) during early illness or even before the onset of symptoms. Persons are most infectious during the first 1-2 days of illness.

An influenza pandemic occurs when a new, virulent strain of the influenza virus circulates globally. Because the virus is new, there is little to no immunity among the population, and the virus can be transmitted easily from person-to-person. Because the virus is virulent, it can cause serious disease and possibly death. Therefore, an influenza pandemic has the ability to make many people very sick in a relatively short period of time.

While an influenza pandemic probably cannot be prevented, measures can be taken to decrease its detrimental effect on society. The most effective tool to decrease the impact of pandemic influenza is vaccination. However, because the influenza virus will be new, no vaccine will be available, and the process to produce one will take several months. Therefore, other measures will need to be instituted if we are to limit transmission of the influenza virus.

Community mitigation measures are efforts designed to limit the impact of an influenza pandemic on the community at large by minimizing the transmission of influenza in order to:

1. Reduce morbidity (disease) and mortality (death).
2. Delay the outbreak peak (the point where the most cases will occur).
3. Decrease the number of cases occurring during the outbreak peak in order to lessen the impact on the health care system and other critical infrastructure.

This document:

- Defines and describes each of the recommended community mitigation measures.
- Describes the triggers for implementing each measure.
- Describes Utah plans for use of the measures in different pandemic scenarios based on predicted severity of the pandemic.
- Provides guidance for local health departments, schools, employers, day care centers and others to help prepare to implement these measures.
Planning Assumptions

- A pandemic can have varying severity, ranging from a moderate pandemic with <800 deaths to a severe pandemic with >16,000 deaths in Utah. Mitigation strategies should be proportionate to the projected severity of the pandemic.
- Mitigation strategies will not be able to stop spread of the novel influenza virus, but may be able to slow transmission.
- An effective vaccine will not be available at the start of a pandemic and supplies will be limited for at least the first year.
- Antiviral stockpiles will be insufficient to treat the majority of the population and their use will be limited to priority groups outlined in the Antiviral Drug Distribution Plan.
- Detection of a novel influenza virus in one jurisdiction in Utah will indicate that an outbreak is likely to be detected anywhere in Utah within the next 1-2 weeks.
- Consistent implementation of mitigation measures across Utah will increase public understanding and promote adherence to the recommendations.
- Regional planning should consider whether detection in a community in a neighboring state that is close to or has substantial interaction with a Utah community should prompt either earlier implementation in the Utah region nearest to that community (e.g., Grand Junction, Colorado; Las Vegas, Nevada; Evanston, Wyoming) or possibly earlier statewide Utah implementation.

Pandemic Response Periods, Stages, and Levels

The World Health Organization (WHO) has created Pandemic Alert Phases designed to reflect the global risk of a pandemic and to assist in global response strategies. The federal government has created Response Stages designed to reflect the risk of pandemic influenza to the US, in relation to pandemic influenza activities occurring throughout the world, and to assist in federal response strategies. Utah has created Utah Pandemic Response Levels to define the threat of pandemic influenza to Utah, in relation to pandemic influenza activities occurring outside of Utah, and to assist in Utah response measures. Appendix 1 shows how the global phases, the federal stages, and the state levels correlate.

Utah will use the WHO Periods and U.S. Federal Government Response Stages to guide response in Utah until the onset of the WHO Pandemic Period and U.S. Federal Government Response Stage 3. After that point, Utah will use the Utah Pandemic Response Levels described here to guide Utah-specific responses.

Level A: Widespread transmission in humans outside of North America.
Level B: Detection of human case(s) in North America, without detection in Utah.
Level C: Detection of human case(s) in Utah.
Level D: Established epidemic(s) in Utah.
Level E: Period after an initial wave in Utah.
Pandemic Severity Index

The federal government has created a Pandemic Severity Index 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 (the percentage of persons ill who die); however multiple parameters will most likely be employed to determine the pandemic severity. The Pandemic Severity Index will be invoked during the federal government Response Stages 3 to 5 and will be used to determine how community mitigation measures are employed in Utah when we reach Utah Pandemic Response Level C.

Table 1: The Federal Government Pandemic Severity Index

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

* 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.

Community Mitigation Measures

The measures included below were developed based on knowledge of influenza transmission, historical studies of past influenza pandemics and results of mathematical models of simulated pandemics. Results of the historical studies and simulation models suggest that each measure can be partially effective in reducing transmission of the influenza virus; but also that they have greater effectiveness when combined. Those results also suggested that early institution and sufficiently long duration of the measures are important to their effectiveness. Therefore, this plan proposes instituting these measures early and together (also called targeted, layered implementation). Evidence suggests that using all of the following measures together will have a greater impact on reducing disease transmission than the sum of the individual measures applied alone. While the evidence described above suggests that use of community mitigation measures can significantly reduce disease transmission in the community, it is important to acknowledge that their effectiveness is not based on actual trials of their use and substantial uncertainty remains as to their effectiveness. In addition, they can have unintended adverse effects and difficulties in their implementation. Therefore, planning to address implementation difficulties and take steps to limit adverse effects will be essential.

Hygiene entails measures that limit the transmission of influenza by reducing contact with infectious materials. These measures include appropriate hand washing, cough etiquette, and the use of facemasks and respirators. Additional research is needed to characterize the effectiveness of facemasks and respirators in controlling the spread of
pandemic influenza in community settings. However the Centers for Disease Control and Prevention (CDC) has released interim recommendations on the use of facemasks and respirators. Those interim recommendations emphasize that masks and respirators should not be primary methods of reducing exposure – the primary methods should be reducing interpersonal contact. However, they recommend that facemasks be considered for use by persons who need to enter crowded settings, both to protect their nose and mouth from other people's coughs and to reduce the wearers' likelihood of coughing on others. The CDC also recommends the use of respirators for persons for whom close contact with an infectious person is unavoidable.³ This can include selected persons who must take care of a sick person (e.g., family member with a respiratory infection) at home. Additional guidance is expected to be released as new research is conducted, and this document will continue to be updated with the appropriate information. The success of this measure will be based on the public receiving and understanding messaging from public health regarding appropriate hygienic practices. Challenges to accomplishing this will include addressing language barriers, providing simple, clear information based on established knowledge about behavior change, and assuring that the messages reach all populations.

**Voluntary isolation** applies to ill persons who do not require hospitalization and is intended to limit the transmission of influenza from infectious persons to healthy persons. Isolation requires the individual to stay home and avoid contact with other persons for 7-10 days.

There are many challenges to implementing this measure. Identifying cases in a rapid manner is important in order to recommend isolation in a timely manner. It will be impossible to identify all cases because mild or asymptomatic infections will most likely occur. However, isolation will not be based solely on public health or healthcare’s identification of cases. This measure will rely on persons self-identifying themselves as cases and taking action based on that recognition. It will be important to assure that employment and educational leave policies provide incentives and not barriers to people staying home when sick. Additionally, if the ill person(s) are not able to isolate themselves appropriately from other household members, household members may be placed at increased risk of disease. Another challenge will be people’s acceptance of isolation recommendations. Isolation will require a substantial change in behavior among ill person(s) and their contacts, and financial, social and household resources could cause a person to return to work or go to a local grocery store before the infectious period is over. A high rate of absenteeism from work among healthy household members staying home to care for the ill could impact society’s functioning. Requiring sick persons to isolate themselves will require mechanism to deliver antivirals to those who need them. Finally, there is a possibility for detrimental effects on those who may not receive needed clinical care (elderly and those living alone).

**Voluntary quarantine of household contacts** applies to exposed persons who are not ill and is intended to separate persons who may become infectious from those who are healthy. Household contacts of an ill person have a greater risk of becoming infectious themselves. Therefore, household contacts should quarantine themselves to prevent exposure to healthy persons during the pre-symptomatic period. Persons should remain in quarantine for 7 days after the onset of illness in the sick household member. In situations where multiple household members become ill, persons should remain quarantined until 7 days after the last onset of illness in a household member. Like voluntary isolation, this
measure will rely on persons self-identifying themselves as contacts of cases and taking action based on that recognition.

Many of the challenges for voluntary isolation will also be important for quarantine, including acceptance of recommendations, the change in behavior needed, the financial impacts, assuring appropriate workplace and school policies to support the intervention, social and household resources, and the effects of increased absenteeism. Because quarantine requires the separation of healthy persons, many may not understand the reason for quarantine because they are not sick, and may not be compliant. Additionally, quarantine time can last much longer than isolation time if additional household members develop symptoms. In order for the community to accept the measure, methods to supply essential services and provide compensation for absence from work will need to be developed.

Special Note:
In Toronto during the 2003 SARS epidemic, 99.9% of 23,103 contacts of patients with SARS complied voluntarily with household quarantine. Essential health care workers under quarantine were placed in a modified form, known as “work quarantine”, under which they were permitted to go to work (not via public transport), where they followed infection control practices required of all staff members. When not at work, they were quarantined at home. Unlike influenza, however, SARS has virtually no pre-symptomatic or asymptomatic transmission of virus, and infectivity is low early in illness (CDC, 2006).

As with voluntary isolation, effectively implementing voluntary household quarantine will require effective public communication, reinforced by appropriate policies, and support of those who are quarantined.

Community social distancing (outside of the workplace) is intended to decrease the frequency of contact between persons thereby limiting the possibility for susceptible individuals to be exposed to infectious ones. Public health may recommend cancelling large public gatherings (concerts, sporting events), worship services, and limiting the congregating of persons in public places (malls, parks). Reducing the public transportation density may be accomplished by either reducing the number of people who can use it at certain times or increasing off peak service to stagger shifts of people.

For this measure to be successful, it will require public support and political and business leadership in association with current public health information. Companies may be unwilling to close their businesses because of the loss of money that will likely ensue. The public may not be compliant, and even if they are, may suffer from decreased confidence and morale. With large gatherings cancelled, smaller gatherings may increase thereby increasing the risk of transmission. Additionally, which locations and events get closed will be dependent on the definition of what is considered a large public gathering or a public place, and may become very politically sensitive. Finally, consideration for funerals and management of the dead will and must occur throughout a pandemic, and methods to control transmission in this setting will be necessary.

Social distancing within the non-healthcare workplace is intended to limit exposure to influenza while maintaining infrastructure for essential services and promoting confidence in the workplace. It may take the form of excluding ill employees,
telecommuting, teleconferencing, staggered shifts, and cancelling large meetings and conferences.

Social distancing measures may be difficult to implement because of the financial difficulties that may occur. Employers may see decreased productivity, and employees may worry about not being paid. It is important that employer’s show a commitment to provide the necessary resources for employees to telecommute and make changes within the current environment (staggered shifts, etc.) in order for employees to feel confidence in adhering to the changes. However, work situations are significantly different, and many companies will face differing issues. For example, leave policies may be more difficult for smaller employers that large ones, policy implementation may be difficult in work places with high social contact; some employers may have to increase their services during a pandemic (food delivery, etc.), etc. Additionally, the general telecommunication infrastructure is limited at this time. Also, employees may become complacent as the pandemic prolongs.

Dismissal of students from school: Children play a critical role in the transmission of influenza, especially in school settings where high contact rates and close proximity coupled with limited hygiene contribute to effective transmission. Preventing them from congregating will reduce transmission among children, their household contacts, and the community at large. Studies suggest that early closures may reduce the peak attack rate and the cumulative attack rate. Additionally, dismissing students from school will allow school resources (buildings, kitchens, buses, staff, etc.) to be used in other ways.

However, the burden on the community of having school-age children no longer in school will be great. Without school, students may become bored from unproductive behavior. Additionally, students may simply re-congregate elsewhere. Also, students with special education requirements may be difficult to care for. Students’ education and mental health may be affected if schools are closed for a prolonged duration. A disruption in schooling may detrimentally affect future schooling and careers of older students. Preventing transmission in dormitories and other congregate settings will be difficult. Community and parental involvement will be necessary to help supervise students if both parents either work or are sick. Parents will need work-leave policies that will allow them to care for their children, and may have financial difficulties if they are required to stay home for long period of time. Contract and legal issues such as pay and job security for teachers and other employees, will need to be addressed. Additionally, programs offered at all educational levels within schools may feel impact (meals, low income children, etc.).

Special Note:
In 1918, school absenteeism rates in Chicago were high (30-45%) at the peak of the epidemic, even though schools were not closed. It is not known what percent of absenteeism was due to illness or parent’s keeping child home to prevent exposure. In most US communities today, schools would close if absenteeism rates were this high. This information suggests that high absenteeism will occur and schools may close once the epidemic is well established in the community.
Matrix of Measures by Severity Level

These mitigation measures can reduce spread of the influenza virus, but they also have social costs of their own against which those benefits must be balanced. Thus, this plan recommends implementing fewer of the mitigation measures in a mild pandemic and more measures in more severe pandemics. The severity of a pandemic will be graded using the Pandemic Severity Index based on attack rates and case-fatality rates in areas affected prior to the pandemic arriving in Utah. The planned uses of mitigation measures in pandemics of different severities are outlined in Table 1.

Table 1. Recommended mitigation measures according to pandemic severity index.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Pandemic Severity Index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Hygiene</td>
<td>Recommend</td>
</tr>
<tr>
<td>Voluntary isolation</td>
<td>Recommend</td>
</tr>
<tr>
<td>Voluntary quarantine of household contacts</td>
<td>Not recommend</td>
</tr>
<tr>
<td>Community social distancing (non-workplace)</td>
<td>Not recommend</td>
</tr>
<tr>
<td>Workplace social distancing</td>
<td>Not recommend</td>
</tr>
<tr>
<td>Dismissal of students</td>
<td>Not recommend</td>
</tr>
</tbody>
</table>

Implementation and Cessation of Mitigation Measures

In order for community mitigation measures to be effectively and quickly implemented, a method to prepare and warn partner agencies associated with community mitigation measures and the public who will be affected by them of their impending activation is necessary. Utah will use the three-tier terminology of Alert, Standby, and Activate proposed by CDC to reflect the steps associated with response action.

Alert – Partner agencies involved in community mitigation measures will be informed of their approaching activation.

Standby – Decision-making processes will be initiated, and resources and personnel mobilized.

Activate – The specified mitigation measures will be implemented.

Table 2. Recommended sequence of activating the mitigation plan according to Utah Pandemic Response Levels.

<table>
<thead>
<tr>
<th>Pandemic Severity Index</th>
<th>Utah Level A</th>
<th>Utah Level B</th>
<th>Utah Level C</th>
<th>Utah Level D</th>
<th>Utah Level E</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Alert</td>
<td>Standby</td>
<td>Activate</td>
<td>Activate</td>
<td>Activate</td>
</tr>
<tr>
<td>2/3</td>
<td>Alert</td>
<td>Standby/Activate</td>
<td>Activate</td>
<td>Activate</td>
<td>Activate</td>
</tr>
<tr>
<td>4/5</td>
<td>Alert/Standby</td>
<td>Standby/Activate</td>
<td>Activate</td>
<td>Activate</td>
<td>Activate</td>
</tr>
</tbody>
</table>
Decision-Making Structure
A Unified Area Command consisting of state and local public health representatives will decide which measures will be implemented on a state-wide basis. The state representative for the Unified Area Command will be the State Epidemiologist or designee. Local health department representatives will be the local health officers or designees. The Unified Area Command will most likely begin meeting when the world enters WHO Phase 6, US Stage 3, Utah Level A. This will allow for decisions to be made in advance so that the implementation system can be promptly executed once a trigger is reached.

Implementation Triggers
For planning purposes, one case of laboratory confirmed pandemic influenza in Utah will be the trigger for the initiation of community mitigation measures. However, the Unified Area Command holds the right to modify triggers in the future if epidemiological evidence suggests an alternative approach (ie implementation prior to the arrival of pandemic influenza in Utah) may be more beneficial.

While community mitigation measures are expected to occur on a state-wide basis, pandemic influenza activity in a community in a neighboring state that is close to or has substantial interaction with a Utah community should prompt either earlier implementation in the Utah region nearest to that community.

Areas where substantial community mixing occurs include:
- Washington County, Utah and Las Vegas, Nevada
- Summit County, Utah and Evanston, Wyoming
- Grand County, Utah and Grand Junction, Colorado

Planning to communicate regional activity with surrounding states will be essential in determining if regional implementation may be necessary in Utah. Regional implementation decisions will need to be made at the time cases or clusters are identified.

Cessation Triggers
CDC states that “mathematical models suggest that cessation of community mitigation measures are most effective when new cases are not occurring or occur very infrequently.” The Unified Area Command will routinely review laboratory, surveillance, and healthcare capacity data as detailed in the Influenza Enhanced Surveillance Plan to determine when all or some community mitigation measures can be repealed.

General Use of Mitigation Measures
Pandemic Severity 1
The more restrictive and intrusive community mitigation measures will not be invoked. The focus will be on hygiene messages and on encouraging ill persons to stay home and limit their contact with others while they are sick.

Pandemic Severity 2/3
Messages encouraging hygiene will begin to be distributed when pandemic influenza is recognized anywhere in the world. Messages will be enhanced once transmission has been documented in North America. Depending on the level of cooperation from
persons and organizations, legal authority may be necessary to enforce social distancing. The Unified Area Command will decide how long these measures should be in place by evaluating the current surveillance data. Measures may be initiated again with a second wave of disease.

Pandemic Severity 4/5
For a pandemic with a high severity, the Unified Area Command will most likely already have been convened once transmission has been documented somewhere in the world. Hygiene messages will begin to be produced at that time, and will be enhanced as transmission extends. Legal authority may be used to enforce social distancing. The Unified Area Command will decide when measures should be lifted by evaluating surveillance data. Measures may be initiated again with a second wave of disease.

Legal Authority
The Unified Area Command will make a recommendation to the appropriate legal authority when surveillance data indicate that a legal closure or enforcement is necessary. Title 26-1-5 of the Utah Code allows UDOH the “power to adopt, amend, or rescind rules” in order to “affect the security of health or the preservation and improvement of public health in the state.” Title 26-6-3 allows UDOH to “to investigate and control the causes of epidemic infections and communicable disease, and shall provide for the detection, reporting, prevention, and control of communicable diseases and epidemic infections.” Title 26a-1-114 of the Utah Code allows local health departments to “investigate infectious and other diseases of public health importance and implement measures to control the causes of epidemic and communicable diseases and other conditions significantly affecting the public health” and “enforce state laws, local ordinances, department rules, and local health department standards and regulations relating to public health.” Please refer to Attachment 8 of the Utah Pandemic Influenza Response Plan for full legal references.

Hygiene
No legal authority necessary.

Isolation and Quarantine
Title 26-6-4 and 26-6b-2 of the Utah Code allows UDOH to examine, treat, quarantine, or isolate a person under a verbal or written department order of restriction who:
- “is infected or suspected to be infected with a communicable disease that poses a threat to the public health and who does not take action as required by the department or the local health department to prevent spread of the disease”
- “is contaminated or suspected to be contaminated with an infectious agent that poses a threat to the public health and that could be spread to others if remedial action is not taken”
- “is in a condition or suspected condition which, if exposed to others, poses a threat to public health, or is in a condition which if treatment is not completed will pose a threat to public health”
Title 26-6b-6 allows UDOH and local health departments have the power to “order involuntary examination, treatment, quarantine, or isolation of the individual and may petition the district court to order involuntary examination, treatment, quarantine, or isolation” in order to enforce isolation and quarantine requirements.
Title 26a-1-114 of the Utah Code allows local health departments to “establish, maintain, and enforce isolation and quarantine, and exercise physical control over property and over individuals as the local health department finds necessary for the protection of the public health.”

Non-workplace social distancing (large public gathering, airport, and public transportation closure)
Title 26a-1-114 of the Utah Code allows local health departments to “close theaters, schools, and other public places and prohibit gatherings of people when necessary to protect the public health.”
An influenza pandemic may necessitate the quarantine of flights, the restriction of flights, or the closure of airports. The Federal Aviation Administration (FAA), UDOH, the local health department within which the airport resides, and the airport administration will decide when these measures are appropriate.

Workplace social distancing (business closure)
During a pandemic, businesses should continue to operate to provide the critical infrastructure and economic support that the community needs. The closure of businesses to reduce workplace transmission will not be recommended. However, some businesses also serve as places for large public gatherings (arenas, malls, theaters, etc.). Closures may be recommended for businesses that deal substantially with the community in order to reduce community transmission. Title 26a-1-114 of the Utah Code allows local health departments to “close theaters, schools, and other public places and prohibit gatherings of people when necessary to protect the public health.”

Student dismissal and childcare closure
Title 26a-1-114 of the Utah Code allows local health departments to “enforce all ordinances, standards, and regulations pertaining to the public health of persons attending public and private schools” which may include closing schools “when necessary to protect the public health.”
Title 53a-3-413 of the Utah Code specifies that “all public school buildings and grounds are civic centers and may be used by district residents for supervised recreational activities and meetings.”
Title 26-39-301 of the Utah Code allows the Utah Department of Health to “make and enforce rules to implement this chapter and, as necessary to protect qualifying children’s common needs for a safe and healthy environment.”
Rule R430-3-10 of the Utah Code specifies that the Utah Department of Health may “order the immediate closure of a facility if conditions create a clear and present danger to children in care and which require immediate action to protect their health or safety.”
Hygiene

Pre-pandemic planning:
1. Education campaign.
   • **Media campaign.** Several media campaigns have already been produced and are being used in Utah. These messages are general and focused on altering individual behavior now in advance of a pandemic.
   • **School and childcare education.** Educate school administrators, teachers, and childcare workers on recommended hygiene measures to implement in schools and childcare centers prior to student dismissal and closure.

2. Develop materials for workplaces.
   • Local health departments will identify “public places” within their jurisdiction based on the risk of disease transmission within those settings. Public places may include: malls, stores, parks, movie theaters, public transportation, etc. Local health departments will ensure that the identified “public places” receive appropriate education and materials either through Be Ready Utah or communications with the local health department.
   • UDOH will work with local health departments and Be Ready Utah to develop materials that can be distributed to businesses that deal substantially with the public.

3. Develop materials for schools.
   • The Utah Pandemic Influenza School Kit contains hygiene posters in Spanish and English, basic pandemic influenza education materials, and family preparedness documents designed for schools to use with students, staff and parents.

4. Guidelines for hygiene in the healthcare setting are being developed and will be addressed in detail elsewhere.

Alert:
   • The Unified Area Command will ensure that consistent and appropriate messages regarding hygiene are available and distributed to the appropriate public health officials.
   • Increased personal hygiene messages will be distributed through various media forms detailed in the **Public and Risk Communication Plan.**

Standby:
   • NA

Activate:
   • Schools will be notified by local health departments to begin increased hygiene efforts.
   • Public places will be notified by local health departments to begin increased hygiene efforts.

Voluntary isolation
Pre-pandemic planning:

1. Education campaign.
   - **Media campaign.** An amendment to the pandemic influenza media campaign is currently being developed to allow for more specific messages once the probability that a pandemic will occur soon escalates. The specific messages regarding student dismissal that will be disseminated at this point have already been created to provide for a timely response.
   - **School and childcare education.** Local health departments are responsible for educating school administrators, teachers, and childcare workers on recommended isolation measures to implement in schools and childcare centers prior to student dismissal and closure.
   - **Employer/workplace education.** Local health departments and Be Ready Utah are responsible for educating business owners and employers on the importance of flexible work-leave policies that will allow employees to follow isolation recommendations.

2. Develop materials for schools.
   - [Utah School Pandemic Influenza Guidelines](#) contains information on infection control within the school setting, including establishing the capability for isolating students that become ill at school.

3. Regional Community Call Center.
   - UDOH is currently working with several community partners to develop a comprehensive Regional Community Call Center (RCCC) model to provide unified information and education to the public, augment on-ground triage capabilities, and collect auxiliary surveillance data as to the implementation of mitigation measures and the communities' acceptance.

4. Assistance Coordination Center.
   - UDOH and local health departments have included VOAD's in the ICS structure through an Assistance Coordination Center (ACC) being organized by the Red Cross.
     - The ACC will serve as a coordinating location where requests for assistance can be tracked and monitored, and assigned to participating agencies with resources to assist with requests.
     - Requests will be submitted to the ACC via the RCCC.
   - The local health departments will serve as participating agencies, and are responsible for the distribution of antivirals to treatment facilities or other designated distribution centers, and should work with the state to ensure that mechanisms are established to deliver treatment to isolated persons.
   - Local health departments will develop ways to isolate ill persons living within their jurisdiction that can't stay at home because of substantial risk to a household member.

   - Healthcare facilities and healthcare workers will receive guidance on how to diagnose probable pandemic influenza illness and advise non-admitted patients about appropriate isolation procedures through communication methods detailed in the [Operational Communications and Coordination Plan](#).
Alert:
- The Unified Area Command will ensure that consistent and appropriate messages regarding isolation are available and distributed to the appropriate public health officials.
- Persons designated to staff the public health hotline will be trained, scripts and messages will be approved for use, and systems will be tested.
- The ACC representative will be contacted.

Standby:
- Local health departments will assist schools in stocking isolation rooms, if assistance is needed.

Activate:
- The public health hotline will begin operations.
- The ACC will begin operations.
- Local health departments will notify schools to begin isolation procedures.
- Local health departments, UDOH, and Be Ready Utah will notify businesses to begin altered absenteeism policies.

Voluntary quarantine of household contacts

Pre-pandemic planning:
1. Education campaign.
   - **Media campaign.** An amendment to the pandemic influenza media campaign is currently being developed to allow for more specific messages once the probability that a pandemic will occur soon escalates. The specific messages regarding student dismissal that will be disseminated at this point have already been created to provide for a timely response.
   - **School and childcare education.** Local health departments are responsible for educating school administrators, teachers, and childcare workers on public health recommendations for quarantine.
   - **Employer/workplace education.** Local health departments and Be Ready Utah are responsible for educating business owners and employers on the importance of flexible work-leave policies that will allow employees to follow quarantine recommendations.

2. Regional Community Call Center.
   - UDOH is currently working with several community partners to develop a comprehensive Regional Community Call Center (RCCC) model to provide unified information and education to the public, augment on-ground triage capabilities, and collect auxiliary surveillance data as to the implementation of mitigation measures and the communities' acceptance.

3. Assistance Coordination Center.
   - UDOH and local health departments have included VOAD's in the ICS structure through an Assistance Coordination Center (ACC) being organized by the Red Cross.
The ACC will serve as a coordinating location where requests for assistance can be tracked and monitored, and assigned to participating agencies with resources to assist with requests. Requests will be submitted to the ACC via the RCCC.

Alert:
- The Unified Area Command will ensure that consistent and appropriate messages regarding quarantine are available and distributed to the appropriate public health officials.
- Persons designated to staff the public health hotline will be trained, scripts and messages will be approved for use, and systems will be tested.
- The ACC representative will be contacted.

Standby:
- NA

Activate:
- The public health hotline will begin operations.
- The ACC will begin operations.
- Local health departments, UDOH, and Be Ready Utah will notify businesses to begin altered absenteeism policies.

Community social distancing (non-workplace)

Pre-pandemic planning:
1. Education campaign.
   - **Media campaign.** An amendment to the pandemic influenza media campaign is currently being developed to allow for more specific messages once the probability that a pandemic will occur soon escalates. The specific messages regarding community social distancing that will be disseminated at this point have already been created to provide for a timely response.
   - **“Public places” education.** Local health departments will ensure that the identified “public places” receive appropriate education and materials either through Be Ready Utah or communications with the local health department.

2. Identification of public places.
   - Local health departments will identify “public places” within their jurisdiction based on the risk of disease transmission within those settings. Public places may include: malls, stores, parks, movie theaters, public transportation, etc.
   - Local health departments will identify organizations that conduct regular meetings that could be cancelled without major economical consequences.

3. Develop education materials for public places.
   - UDOH will work with local health departments and Be Ready Utah to develop materials that can be distributed to businesses that deal substantially with the public.

4. Altered faith-based organization practices
• Local health departments will work with faith-based organizations to develop alternative ways for them to meet their mission during a pandemic while cancelling or reducing gatherings.

**Closure/Re-opening Process:**
UDOH and local health departments will issue closure and cancellation orders to public places and public events that are likely to be a significant source of transmission. Legal authority to close or cancel events will only be used when necessary.

**Alert:**
• The Unified Area Command will discuss the extent of community social distancing measures to be enacted at the activate stage.

**Standby:**
• The Unified Area Command will ensure that social distancing messages are distributed to the appropriate public health officials.
• The public health officials designated for communicating with public places will describe what is expected to happen at the activate stage to public places.

**Activate:**
• Local health departments will issue social distancing orders within their jurisdiction.
• Local health departments will issue closure and cancellation orders within their jurisdiction.

**Workplace social distancing**

**Pre-pandemic planning:**
1. Education campaign.
• **Media campaign.** An amendment to the pandemic influenza media campaign is currently being developed to allow for more specific messages once the probability that a pandemic will occur soon escalates. The specific messages regarding workplace social distancing that will be disseminated at this point have already been created to provide for a timely response.
• **Employee/employer education.** Local health departments and Be Ready Utah are responsible for educating business owners and employers on the importance of altered working conditions.

2. Develop materials for business education.
• UDOH created Small Business Planning for Pandemics, a document designed to specifically assist small businesses in pandemic planning.

• A needs-based assessment will be conducted by the Utah Division of Homeland Security to determine the level of businesses’ preparedness in Utah.

**Alert:**
• The Unified Area Command will discuss the extent of workplace social distancing measures to be enacted at the activate stage.

Standby:
• The Unified Area Command will ensure that social distancing messages are distributed to the appropriate government and public health officials.

Activate:
• Local health departments will issue social distancing orders within their jurisdiction.

Dismissal of students

Pre-pandemic planning:
1. Education campaign.
   • **Media campaign.** An amendment to the pandemic influenza media campaign is currently being developed to allow for more specific messages once the probability that a pandemic will occur soon escalates. The specific messages regarding student dismissal that will be disseminated at this point have already been created to provide for a timely response.
   • **Parent and student education.** UDOH will work with local health departments and the Utah State Office of Education to educate students and parents on plans for student dismissal and provide students and parents with guidelines for preparing to care for themselves and/or their children. Schools will be encouraged to hold open meetings with students and parents to discuss the school’s plans for dealing with an influenza pandemic and what the school expects students and parents to do to prepare themselves and/or their children.
   • **Childcare facility education.** UDOH Bureau of Epidemiology will work with the UDOH Bureau of Childcare Licensing to educate childcare workers and facilities on plans for childcare closures and provide parents with guidelines for preparing to care for themselves and/or their children.

2. Develop materials for schools.
   • **Utah School Pandemic Influenza Recommendations** describes how public health will communicate with schools regarding childcare closures.
   • UDOH and local health departments will work with schools to create materials specifically for schools to educate students and parents.

3. Assist education agencies in developing their influenza plans.
   • **Utah School Pandemic Influenza Guidelines** describes what schools should be doing now to prepare for a pandemic.
   • UDOH will ensure that all pandemic influenza documents relating to student dismissal are available on all appropriate websites.
   • Local health departments will work with the schools within their jurisdiction to determine how communications will occur prior to and during a pandemic.

4. Plan to minimize student dismissal and childcare closure consequences.
• Utah State Office of Education will develop guidelines for local education agencies to assist in preparing for continuing education and essential programs.
• Local health departments will work with local government, education agencies and the communities within their jurisdiction to develop programs and methods for keeping students occupied when dismissed from school and preventing them from congregating elsewhere.

5. Develop a plan for the closure of childcare facilities.
• UDOH Bureau of Epidemiology and UDOH Bureau of Childcare Licensing will collaborate to identify means to communicate with all childcare providers.
• UDOH Bureau of Epidemiology and UDOH Bureau of Childcare Licensing will collaborate to determine the best way to communicate to childcare workers and facilities, and develop a plan that can be effectively executed to close childcare centers.

6. Develop materials for childcare facilities.
• UDOH Bureau of Epidemiology will develop materials that can be distributed to childcare workers and facilities throughout the state.

Closure/Re-opening Process:
Closure orders for public and private elementary, intermediate, secondary, and post-secondary schools will be issued by local health departments, but will be coordinated through UDOH for state-wide consistency. UDOH will be responsible for issuing closure orders for childcare facilities through the Bureau of Childcare Licensing. The reopening of schools and childcare facilities will follow the same communication model as closings.

Alert:
• The Unified Area Command will discuss the extent of student dismissal and childcare closure to be enacted at the activate stage.
• The decision will be communicated to public health officials at UDOH and the local health departments responsible for communicating with schools and childcare facilities.

Standby:
• The public health officials designated for school and childcare facility communication will describe what is expected to happen at the activate stage to schools and childcare facilities.
• Schools and childcare facilities will communicate with students, parents, and staff what is expected to happen at the activate stage.

Activate:
• Local health departments will issue student dismissal orders within their jurisdiction.
• UDOH will issue childcare closure orders throughout the state.
• Students, parents, and staff will be notified when a dismissal of students or childcare facility closure is expected by means previously determined by the school or childcare facility.
• Public health will issue weekly messages to schools and childcare facilities detailing the status of the pandemic and school/childcare closures. Schools and
childcare facilities will communicate these messages to their students, parents, and staff.

Communication

The Unified Area Command will decide when to issue an Alert, Standby, or Activate response. Local health departments will be primarily responsible for notifying the partner agencies and key audiences within their jurisdictions; however, some notifications may be done through UDOH. Each partner agency is expected to have a plan for how they will notify their employees. Below the partner agencies required for the success of each community mitigation measure are listed.

Hygiene
Partner agencies and key audiences:
- Infection control practitioners
- Utah Hospital Association
- Long-term care facilities

Isolation and Quarantine
Partner agencies and key audiences:
- Infection control practitioners
- Utah Hospital Association
- Long-term care facilities
- Emergency medical services
- Urgent care facilities
- Utah Medical Association

Non-workplace social distancing
Partner agencies and key audiences:
- Business owners
- Utah Transportation Authority
- Faith-based organizations
- Voluntary organizations active in disasters (VOADs)

Workplace social distancing
Partner agencies and key audiences:
- Employers
- Employees

Student dismissal
Partner agencies and key audiences:
- Utah Office of Education
- School districts
- Parents
- Students
In order for notifications to occur in a timely manner, the appropriate infrastructure for communication within and between partner agencies should be developed. Below is a list of preparations that should occur:

- Dialogue should be initiated to determine whether UDOH or local health departments are the appropriate contact for each partner agency.
- Partner agencies should be contacted and told of their expected participation.
- Contact information should be gathered for the appropriate person/department responsible for pandemic influenza communications in each partner agency.
- Messages should be created for each response (Alert, Standby, Activate).
- The communication tools that will be used for each notification should be developed and tested.
- Partner agencies should be encouraged to plan the appropriate infrastructure for the notification of their employees.

Additional communication information can be found in the *Operational Communications and Coordination Plan*.

**Minimizing Consequences of Community Mitigation Measures**

Individuals, families, employers, and communities will all experience difficulties dealing with community mitigation measures. Most problems will come from having children dismissed from school and childcare programs. There are 546,000 children less than 18 years old currently in school in Utah, which makes up 21.8% of the population. Additionally, 205,000 Utah residents (8.2%) are currently in college or graduate school. Dismissing students from school would directly disrupt the schedule of 30% of the population. Secondary disruptions would occur for parents who would need to balance working with tending for their children. 412,000 working adults 16 years of age and older (33%) have children less than 18 years of age with both parents working. Tertiary disruptions would occur for employers with absent employees that must stay home to care for their children and could potentially result in workplaces closing or reducing operations and limiting the availability of essential services. Additionally, 156,000 Utah residents live alone (17.9% of all households); 30.1% are 65 years of age and older. Persons who live alone may be unable to follow isolation requirements if they need to acquire medications or go grocery shopping.

*The above statistics were calculated from the 2005 American Community Survey conducted by the U.S. Census Bureau.*

**Planning Guidance for Other Entities**

In order to prevent or cope with the above difficulties, CDC has developed several resources for the community to assist in individual and organizational preparation for an influenza pandemic. These resources include advice and recommendations for:

- Businesses and Other Employers
- School and Childcare Facilities
- Faith-Based and Community Organizations
- Individuals and Families
- Healthcare Entities
Utah strongly suggests that all persons familiarize themselves with the appropriate documents and begin discussions and preparations for how they can assist in reducing transmission while ensuring that essential services are not disrupted and reducing personal hardships.

References


Appendix 1: WHO Pandemic Periods and Phases, U.S. Federal Response Stages, and Utah Pandemic Response Levels

<table>
<thead>
<tr>
<th>WHO Phases &amp; Descriptions</th>
<th>U.S. Federal Stages and Description</th>
<th>Utah Pandemic Response Levels and Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inter-Pandemic Period</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase 1 – No new influenza viruses in humans</td>
<td>0</td>
<td>Use WHO Periods</td>
</tr>
<tr>
<td>Phase 2 – Circulating animal virus poses human risk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pandemic Alert Period</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase 3 – Human disease, no or limited human-to-human transmission</td>
<td>0 New domestic animal outbreak in at-risk country</td>
<td>Use Federal Response Stages</td>
</tr>
<tr>
<td>Phase 4 – Increased human-to-human transmission</td>
<td>1 Suspected human outbreak overseas</td>
<td></td>
</tr>
<tr>
<td>Phase 5 – Significant human-to-human transmission</td>
<td>2 Confirmed human outbreak overseas</td>
<td></td>
</tr>
<tr>
<td>Pandemic Period</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase 6 – Increased and sustained transmission in general population</td>
<td>3 Widespread human outbreaks, multiple locations overseas</td>
<td>A Widespread transmission in humans outside North America</td>
</tr>
<tr>
<td></td>
<td>4 First human case in N. America</td>
<td>B Detection of human case(s) in North America, without detection in Utah</td>
</tr>
<tr>
<td></td>
<td>5 Spread throughout U.S.</td>
<td>C Detection of human case(s) in Utah</td>
</tr>
<tr>
<td></td>
<td>6 Recovery/preparation for subsequent waves</td>
<td>D Established epidemic(s) in Utah</td>
</tr>
<tr>
<td></td>
<td></td>
<td>E Period after initial wave in Utah (prior to end of pandemic or a subsequent wave)</td>
</tr>
</tbody>
</table>
### Appendix 2: Sequence of Mitigation Actions that will occur During a Pandemic

<table>
<thead>
<tr>
<th>Hygiene</th>
<th>Alert</th>
<th>Standby</th>
<th>Activate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Website posting and media messaging</td>
<td>Pre-pandemic messaging</td>
<td>Pre-pandemic messaging</td>
<td>Begin</td>
</tr>
<tr>
<td>Posters</td>
<td>Print and distribute</td>
<td></td>
<td>Post</td>
</tr>
<tr>
<td>Stockpiled school supplies</td>
<td></td>
<td>Distribute</td>
<td>Utilize</td>
</tr>
<tr>
<td>Hygiene efforts in schools</td>
<td></td>
<td></td>
<td>Begin</td>
</tr>
<tr>
<td>Hygiene efforts in public places</td>
<td></td>
<td></td>
<td>Begin</td>
</tr>
</tbody>
</table>

### Voluntary isolation

<table>
<thead>
<tr>
<th>Voluntary isolation</th>
<th>Alert</th>
<th>Standby</th>
<th>Activate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Website posting and media messaging</td>
<td>Pre-pandemic messaging</td>
<td>Pre-pandemic messaging</td>
<td>Begin</td>
</tr>
<tr>
<td>Posters</td>
<td>Print and distribute</td>
<td></td>
<td>Post</td>
</tr>
<tr>
<td>Hotline</td>
<td>Train staff</td>
<td></td>
<td>Open</td>
</tr>
<tr>
<td>Physician materials</td>
<td>Print and distribute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isolation procedures in schools</td>
<td></td>
<td>Stockpile isolation room</td>
<td>Implement</td>
</tr>
<tr>
<td>Liberal policies in businesses</td>
<td></td>
<td></td>
<td>Implement</td>
</tr>
<tr>
<td>Stockpiled subsistence items</td>
<td>Prepare for transport</td>
<td>Transport</td>
<td>Distribute</td>
</tr>
</tbody>
</table>

### Voluntary quarantine

<table>
<thead>
<tr>
<th>Voluntary quarantine</th>
<th>Alert</th>
<th>Standby</th>
<th>Activate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Website posting and media messaging</td>
<td>Pre-pandemic messaging</td>
<td>Pre-pandemic messaging</td>
<td>Begin</td>
</tr>
<tr>
<td>Posters</td>
<td>Print and distribute</td>
<td></td>
<td>Post</td>
</tr>
<tr>
<td>Hotline</td>
<td>Train staff</td>
<td></td>
<td>Open</td>
</tr>
<tr>
<td>Liberal policies in businesses</td>
<td></td>
<td></td>
<td>Implement</td>
</tr>
<tr>
<td>Stockpiled subsistence items</td>
<td>Prepare for transport</td>
<td>Transport</td>
<td>Distribute</td>
</tr>
</tbody>
</table>

### Non-workplace social distancing

<table>
<thead>
<tr>
<th>Non-workplace social distancing</th>
<th>Alert</th>
<th>Standby</th>
<th>Activate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Website posting and media messaging</td>
<td>Pre-pandemic messaging</td>
<td>Pre-pandemic messaging</td>
<td>Begin</td>
</tr>
<tr>
<td>Posters</td>
<td>Print and distribute</td>
<td></td>
<td>Post</td>
</tr>
<tr>
<td>Social distancing orders</td>
<td>Public health will discuss</td>
<td>Public health will announce</td>
<td>Issue</td>
</tr>
<tr>
<td>Closure and cancellation orders</td>
<td>Public health will discuss</td>
<td>Public health will announce</td>
<td>Issue</td>
</tr>
</tbody>
</table>

### Workplace social distancing

<table>
<thead>
<tr>
<th>Workplace social distancing</th>
<th>Alert</th>
<th>Standby</th>
<th>Activate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Website posting and media messaging</td>
<td>Pre-pandemic messaging</td>
<td>Pre-pandemic messaging</td>
<td>Begin</td>
</tr>
<tr>
<td>Posters</td>
<td>Print and distribute</td>
<td></td>
<td>Post</td>
</tr>
<tr>
<td>Listserv</td>
<td></td>
<td>Implement</td>
<td>Continue</td>
</tr>
<tr>
<td>Business plans and policies</td>
<td></td>
<td>Review with employees</td>
<td>Implement</td>
</tr>
<tr>
<td>Social distancing orders</td>
<td>Public health will discuss</td>
<td>Public health will announce</td>
<td>Issue</td>
</tr>
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</table>

### Student dismissal from school

<table>
<thead>
<tr>
<th>Student dismissal from school</th>
<th>Alert</th>
<th>Standby</th>
<th>Activate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Website posting and media messaging</td>
<td>Pre-pandemic messaging</td>
<td>Pre-pandemic messaging</td>
<td>Begin</td>
</tr>
<tr>
<td>Hotline</td>
<td>Train staff</td>
<td></td>
<td>Open</td>
</tr>
<tr>
<td>Home mailings</td>
<td></td>
<td>Begin</td>
<td>Continue</td>
</tr>
<tr>
<td>Weekly messages</td>
<td></td>
<td>Begin</td>
<td></td>
</tr>
<tr>
<td>Student dismissal and childcare closure orders</td>
<td>Public health will discuss</td>
<td>Public health will announce</td>
<td>Issue</td>
</tr>
</tbody>
</table>
Appendix 3: Protocol for Case-based Isolation and Quarantine

Background:
A pandemic is caused by a novel strain of influenza A to which most or all of the population has no effective immunity. During the early phases of a pandemic, it is highly likely that no vaccine will be available. The most effective way to prevent transmission is to prevent contact between infected and uninfected (susceptible) persons through community mitigation measures.

The Utah community mitigation plan assumes that in most circumstances during a pandemic, it will be impractical to implement traditional public health directed disease intervention measures, such as identifying and isolating individual cases and using contact tracing to identify and quarantine their contacts. However, there are circumstances where such measures might be practical and useful. These circumstances include:
1. The first detection of a novel influenza virus in Utah that has substantial pandemic potential, but which has not yet started a pandemic.
2. The detection in a Utah community of a pandemic virus before it had spread sufficiently to make individual isolation and quarantine measures impractical. In this case, it is possible that experience with attempts to contain the virus elsewhere would inform actions in Utah.

Objectives
1. Prevent transmission from ill (infectious) persons to susceptible (uninfected) persons.
2. Prevent infected or exposed persons from becoming ill and/or infectious.
3. Prevent uninfected persons from becoming infected.

Strategies:
1. Isolation of cases (ill persons).
2. Monitoring and/or quarantine of contacts (persons exposed to cases).
3. Antiviral treatment of cases.
4. Antiviral prophylaxis of contacts.

Concept of Operations:
When the decision to apply case-based containment measures upon detection of a novel influenza virus is made, several decisions about the approach to containment must be made.
1. Determine specific case definitions (for surveillance and for interventions) and definitions to be used to identify contacts for purposes of interventions.
2. Determine if involuntary (based on public health legal authority) isolation and quarantine orders will be used as part of the containment strategy and indications for their use.
3. Modify investigation forms to support purposes of the investigation and containment strategy.
4. Determine whether and how antiviral medications will be utilized in containment, including their use for treatment of cases, post-exposure prophylaxis of contacts, prophylaxis of contacts or secondary contacts of cases.

Decision-Making:
Upon detection of a novel virus, a general decision as to the value of using involuntary isolation or quarantine for purposes of containment should be made by the Local Health Officer in consultation with the State Epidemiologist. It is anticipated that consultation will be sought from Centers for Disease Control and Prevention (CDC) unless guidelines specific to the detected novel virus have already been issued. If a general decision to use involuntary measures as part of the containment strategy has been
**UDOH Notification:**
The local health department should notify UDOH once a case is initially identified, and any time additional information is available (ie confirmatory testing, death of the patient, etc.) as well as submit the surveillance log at the end of the isolation period.

**CDC Notification:**
UDOH is responsible for notifying CDC of a case when it is initially identified, and any time additional information is available (ie confirmatory testing, death of the patient, etc.) or otherwise requested by CDC.

**Quarantine – Household Contacts, Close Contacts, and Healthcare Workers**

**Definition:**
A household contact is anyone who resides at the same location as the case. Close contacts are defined as persons who have been within 6 feet of the case for a prolonged period of time. Only healthcare workers that have not followed the suggested infection control guidelines for all contact with the case during the infectious period need to be monitored.

**Quarantine:**
Contacts should be quarantined for 10 days after symptom onset in their last contact. Contacts should remain in their home and limit contact with others as much as possible.

**Monitoring:**
Active contact with the contact or a family member or guardian should be made on a daily basis for 10 days after the first symptoms appeared. The method for contact (phone calls, visits, etc.) should be determined by the individual local health department. However, all efforts should be made to make daily contact, and may require multiple contact methods to be tried. UDOH suggests that local health departments work with the designated contact person to establish a daily time and contact method to assist in daily updates.

**Prophylaxis:**
Antiviral prophylaxis of contacts prior to community transmission will be dependent upon the effectiveness and availability of antivirals as well as the potential benefit to the individual contact.

**UDOH Notification:**
Local health departments should submit the surveillance log to UDOH at the end of the quarantine period.