Utah Pandemic Influenza Response Plan

DRAFT

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Executive Summary

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

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

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

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

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

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

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

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

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

Planning Assumptions

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

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

1. An influenza pandemic will cause simultaneous outbreaks across the United States limiting the ability to transfer assistance from one jurisdiction to another.
2. An influenza pandemic will cause simultaneous outbreaks across the United States limiting the ability to transfer assistance from one jurisdiction to another.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.

9. 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.

10. A moderate or severe pandemic will exceed the capacity of the health care system as well as of other support services.

11. 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.

12. 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.

13. 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>
<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>D</td>
<td>Established epidemic(s) in Utah</td>
</tr>
<tr>
<td></td>
<td>D1</td>
<td>Increased health care demand</td>
</tr>
<tr>
<td></td>
<td>D2</td>
<td>Hospitals above capacity</td>
</tr>
<tr>
<td></td>
<td>D3</td>
<td>Severe hospital capacity stress req. altered standards of care</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Recovery/preparation for subsequent waves</td>
</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 US Federal Response Stages.
5. Upon learning of substantive information about the virus or preparations for the virus, UDOH will review the Pandemic Influenza Response Plan and adjust as appropriate.
6. An update regarding status of preparedness and critical areas that need to be addressed will be prepared and delivered to UDOH and local health department leadership and key community partners.
7. Convene a permanent pandemic advisory committee process.
8. Convene designated UDOH Incident Command and General Staff to assess readiness and effective implementation of National Incident Management System ICS if needed.

9. Assess readiness of UDOH and UDOH personnel, and public health emergency coordination center (name not determined at time of this version) to effectively implement a Multi-agency Coordination System during an influenza pandemic, if needed.

B. Surveillance, Investigation and Containment
   1. Assess existing surveillance for influenza and, based on national and international guidelines and information about the pandemic risk, implement enhancements to detect presence of the implicated strain in Utah.
      a. Consider enhanced surveillance of persons returning from travel to affected areas and potential for use of quarantine/isolation protocols.
   2. Assess system-wide information system capacity to respond to the need for timely surveillance and epidemiologic investigation data on a pandemic.
   3. Develop plans to limit spread of a novel influenza virus and for community mitigation during a pandemic.

C. Vaccines
   1. Monitor emerging information about vaccine development and about antiviral evaluation and supplies and disseminate as appropriate to response partners.
   2. Continue preparations for vaccine administration, including:
      a. Conduct vaccine administration training;
      b. Assess and exercise vaccine distribution system;
      c. Meet with response partners and review major elements of the vaccine distribution plans and modify as needed;
      d. Consider stockpiling critical vaccination supplies (e.g., syringes, alcohol wipes, gloves, gauze, etc.).
   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
Operational Communications and Coordination Plan

DRAFT
Revised January 2, 2008
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**Purpose**

The purpose of the Operational Communications and Coordination Plan (OCCP) is to clearly describe how communications and coordination among state and local health agencies, and other health-related partner agencies, will be handled in the case of a pandemic. It is also to identify communications and coordination responsibilities for the Utah Department of Health (UDOH) and the various partner agencies that will be involved in responding to a pandemic. The plan will:

- Identify how a coordinated approach to responding to a pandemic will be maintained across various agencies;
- Establish efficient mechanisms for decision-making during a pandemic that will support coordinated approaches, but allow for sufficient local flexibility; and
- Describe how partners will be notified of important events and how they will be kept informed of the current status of a pandemic and related response efforts.

**Situation Description**

During the development of a pandemic, it will be necessary to implement an effective approach to communications and coordination between the UDOH and partner agencies. This will assure that partners are kept informed of the status of events, and will enable decision-making to occur with all available information. The OCCP will outline an approach to communication between UDOH and partner health-related agencies, and will enable a mechanism for providing information in an Incident Command System structure from health agencies to a joint/unified command as necessary. Regular, frequent communication at different phases/stages/levels will be needed, and it is necessary to also define how ad-hoc messages and coordination may occur at different points as well. Effective communications and coordination will enable health-related agencies to work together to anticipate, characterize, contain, and mitigate a pandemic in Utah as quickly as possible.

**Planning Assumptions**

This plan is based on the following assumptions:

1. Communications and coordination needs will vary depending on the type of influenza activity occurring; for this reason, World Health Organization (WHO) phases/federal stages/Utah levels will be incorporated into the plan.
2. The OCCP will serve as a tool to operationalize communications sections of other Pandemic Influenza Plan functional annexes and plans (e.g. Surveillance Plan, Community Mitigation Plan, etc.).
3. Various communication tools will be addressed within the OCCP, and triggers for their use will be included (e.g. Utah Notification and Information System (UNIS), WebEOC, listserv messages, conference calls, etc).
4. Back-up mechanisms for communication and coordination are an important consideration and will be incorporated into the OCCP.
5. This plan is an inter-agency plan. Each agency/partner organization included within the scope of the OCCP has specific responsibilities outlined in the plan.
   a. Each listed agency/partner organization will have its own communications and coordination plan that should be consistent with, and fit within, the OCCP.
   b. Each agency/partner organization will assure internal communication with key personnel within that agency, unless other means of notifying those individuals is specifically included in this plan. In most cases, only one contact person is identified for each partner agency/organization in the OCCP. That person will be responsible for notifying others within that agency/organization, and should provide back-up persons and contact information to be included in the plan to assure someone can be reached for positive notifications.
   c. Each agency/partner organization will include documentation of internal notification procedures as an appendix to this plan.
   d. Each agency/partner organization will actively participate in notifications of other agencies as specified in this plan. (Note: the OCCP serves as an outline for when communication should take place, but is not comprehensive in identifying partners and agencies that should be contacted at the local level.)

6. Decision-making mechanisms will be addressed within the OCCP as they pertain to decisions that will/should be made by the UDOH and health-related agencies. For example, the OCCP describes the Unified Area Command, which will coordinate decision-making across jurisdictions for areas of response such as surveillance, community mitigation (e.g., school closure), administration of antiviral medications or vaccine according to priority groups, and application of triage protocols.

7. Communication and coordination outside of the health-related agencies listed are outside of the scope of the OCCP; they will be coordinated by the Utah Division of Homeland Security and/or through coordination by the joint/unified command once established.

8. The OCCP (including Appendix B: Agency Contact Points) should be periodically reviewed and updated; procedures for this are included within the OCCP under Plan Development and Maintenance.

### Concept of Operations

The concept of operations is intended to outline how communications and coordination will take place during the different phases of a pandemic. It is intended to clarify what should happen, when, and at whose direction as it pertains to communication and coordination.

### Governor’s Pandemic Advisory Committee

In their final report to the Governor, the Governor’s Taskforce for Pandemic Influenza Preparedness recommended a Governor’s Pandemic Advisory Committee be established. The purpose of this committee would be to guide ongoing preparedness efforts and decision-making during a pandemic. The committee would be composed of an Advisory Policy Group and technical advisory group(s) that may be permanent or ad hoc.
Governor’s Pandemic Advisory Policy Group
The group is to make recommendations to the Governor regarding high-level policy issues with serious implications and/or high visibility (e.g. recommendations on shifts in vaccine or antiviral distribution plans). Although vaccine and antiviral distribution plans are already being developed, there may be a need to alter these plans based on available epidemiological and scientific data regarding the particular pandemic influenza strain. They will focus on critical policy decisions, and their purpose should include a strong emphasis on communicating the decision-making process and decisions to the public. The group meeting frequency and mechanism is to be determined.

Pandemic Influenza Technical Advisory Groups
These will be ad hoc and composed of subject matter experts/consultants as needed. It is expected that membership will vary over time depending on the situation and need. These groups will be charged with reviewing information and developing recommendations to be reviewed by the Governor’s Pandemic Advisory Policy Group. The groups’ meeting frequencies, procedures, and mechanism are to be determined.

Incident Command
It is anticipated that an incident command system will be established in most or all communities in Utah. Utah’s local health departments, as lead agencies for 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 Incident Command System 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 North America).

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.
Communication Tools and Actions to Occur During Different Phases/Stages/Levels

The following table/matrix describes the type of communication tools that should be considered at each different phase/stage/level of a pandemic in Utah. It also outlines communications activities expected at different levels of severity during a pandemic, utilizing the 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>
<th>Communication tools to use</th>
<th>Back-up communication tools</th>
<th>Frequency of communication mechanism(s)</th>
<th>Specific responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inter-Pandemic Period</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase 1 – No new influenza viruses in humans</td>
<td>0</td>
<td>Use WHO Period</td>
<td>*Conference calls and in-person meetings among major partners to coordinate communication procedures Dissemination of surveillance information through website updates and list server messages</td>
<td>Not applicable</td>
<td>In-person meetings twice/month Biweekly website updates Biweekly list server messages</td>
<td>UDOH organizes pandemic influenza workgroup meetings twice/month; local health departments and other partners participate in meetings UDOH maintains and updates pandemic influenza website and sends out list server messages Local health departments establish communication mechanisms with local partners and disseminate information as needed UDOH establishes communication mechanisms with state and federal partners and disseminate information as needed</td>
</tr>
</tbody>
</table>

*NOTE: Conference calls are specified as a primary tool for communication. It is important to establish the conference call mechanism ahead of time if possible, because meetings upon short notice will not always be possible and effective conference calls require practice. A site for in-person meeting may also be established in addition to a conference call mechanism, allowing participants to choose the most effective means of participation.
<table>
<thead>
<tr>
<th>Inter-Pandemic Period</th>
<th>U.S. Federal Stages and Description</th>
<th>Utah Pandemic Response Levels and Description</th>
<th>Communication tools to use</th>
<th>Back-up communication tools</th>
<th>Frequency of communication mechanism(s)</th>
<th>Specific responsibilities</th>
</tr>
</thead>
</table>
| Phase 2 – Circulating animal virus poses human risk | 0 | Use WHO Period | *Conference calls and in-person meetings among major partners to coordinate communication procedures  
Inclusion of animal health partners  
Dissemination of surveillance information through website updates and list server messages | Not applicable | In-person meetings twice/month  
Biweekly website update  
Biweekly list server messages | UDOH organizes pandemic influenza workgroup meetings twice/month; local health departments and other partners participate in meetings  
UDOH maintains and updates pandemic influenza website and sends out list server messages  
Local health departments establish communication mechanisms with local partners and disseminate information as needed  
UDOH establishes communication mechanisms with state and federal partners and disseminate information as needed |
<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>
<th>Communication tools to use</th>
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<td>Pandemic Alert Period</td>
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<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>
<td>*Conference calls and in-person meetings among major partners to coordinate communication procedures</td>
<td>Not applicable</td>
<td>In-person meetings twice/month</td>
<td>UDOH organizes pandemic influenza workgroup meetings twice/month; local health departments and other partners participate in meetings</td>
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<td>Inclusion of animal health partners</td>
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<td>Weekly website updates</td>
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<td>Dissemination of surveillance information through website updates and list server messages</td>
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<tr>
<td>Phase 4 – Increased human-to-human transmission</td>
<td>1 Suspected human outbreak overseas</td>
<td>Use Federal Response Stages</td>
<td>*Conference calls and in-person meetings among major partners to coordinate communication procedures</td>
<td>Not applicable</td>
<td>UNIS alerts (e-mail) for major activity developments</td>
<td>UDOH organizes and conducts UNIS alerts</td>
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<td></td>
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<td></td>
<td>Dissemination of surveillance information through website updates and list server messages</td>
<td></td>
<td>In-person meetings twice/month and/or conference calls</td>
<td>UDOH organizes pandemic influenza workgroup meetings and/or conference calls; local health departments and other partners participate in meetings</td>
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<td>Specific media messaging</td>
<td></td>
<td>Weekly website updates</td>
<td>UDOH maintains and updates pandemic influenza website and sends out list server messages</td>
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<td>Weekly list server messages</td>
<td>Local health departments disseminate information to local partners as needed; UDOH disseminates information to state and federal partners as needed</td>
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<td>Media messages are released as needed</td>
<td>UDOH prepares media messages and conducts briefings</td>
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<td>U.S. Federal Stages and Description</td>
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<tr>
<td>Phase 5 – Significant human-to-human transmission</td>
<td>2</td>
<td>Confirmed human outbreak overseas</td>
<td>Use Federal Response Stages</td>
<td>*Conference calls and in-person meetings among major partners to coordinate communication procedures</td>
<td>Use of 800 MHz radios when applicable</td>
<td>UNIS alerts for major activity developments</td>
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<td>Mass faxing to physicians and public health providers</td>
<td>Weekly in-person meetings and/or conference calls</td>
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<td>Weekly website updates</td>
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<td>Weekly list server messages</td>
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<td>Media messages are released as needed</td>
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<td></td>
<td>UDOH, local health departments, and other agencies organize and conduct UNIS alerts</td>
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<td></td>
<td>UDOH organizes pandemic influenza workgroup meetings and/or conference calls; local health departments and other partners participate in meetings</td>
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<td></td>
<td>UDOH maintains and updates pandemic influenza website and send out list server messages</td>
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<td></td>
<td>Local health departments disseminate information to local partners as needed; UDOH disseminates information to state and federal partners as needed</td>
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<td>UDOH prepares media messages and conducts briefings</td>
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</tbody>
</table>

*NOTE: Radio frequency lists will be held at the Incident Command Center. Please refer to XXXXXXX plan for further details (follow-up with Lynette).
<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>
<th>Communication tools to use</th>
<th>Back-up communication tools</th>
<th>Frequency of communication mechanism(s)</th>
<th>Specific responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 6 - Increased and sustained transmission in general population</td>
<td>3</td>
<td>Widespread human outbreaks, multiple locations overseas</td>
<td>Conference calls and in-person meetings among major partners to coordinate communication procedures</td>
<td>Specific media releases with surveillance information</td>
<td>UNIS alerts for major activity developments</td>
<td>UDOH, local health departments, and other agencies organize and conduct UNIS alerts</td>
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<td></td>
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<td>A</td>
<td>Dissemination of surveillance information through website updates and list server messages</td>
<td>Use of 800 MHz radios when applicable</td>
<td>Weekly in-person meetings and/or conference calls</td>
<td>UDOH organizes pandemic influenza workgroup meetings and/or conference calls; local health departments and other partners participate in meetings</td>
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<td>Specific media messaging</td>
<td>Mass faxing to physicians and public health providers</td>
<td>Twice weekly website updates</td>
<td>UDOH maintains and updates pandemic influenza website and sends out list server messages</td>
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<td>Use of UNIS to convey major developments</td>
<td>UNIS and WebEOC to record status updates in a secure, web-based environment</td>
<td>Twice weekly list server messages</td>
<td>Local health departments disseminate information to local partners as needed; UDOH disseminates information to state and federal partners as needed</td>
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<td>UNIS and WebEOC to record status updates in a secure, web-based environment</td>
<td>Media messages are released weekly or as needed</td>
<td>Media messages are released weekly or as needed</td>
<td>UDOH prepares media messages and conducts briefings</td>
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<td></td>
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<td>♦ Use of 800 MHz radios when applicable</td>
<td>Status/situation updates are posted to a secure site for internal public-health partner use twice weekly or as needed</td>
<td>Status/situation updates are posted to a secure site for internal public-health partner use twice weekly or as needed</td>
<td>UDOH will implement a limited Unified Area Command</td>
</tr>
<tr>
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<tr>
<td>Phase 6 - Increased and sustained transmission in general population</td>
<td>4 First human case in N. America</td>
<td>B Human case(s) N. America, without detection in Utah</td>
<td>*Conference calls among major partners to coordinate communication procedures. Dissemination of surveillance information through website updates and list server messages Specific media messaging Use of UNIS to convey major developments UNIS and WebEOC to record status updates in a secure, web-based environment</td>
<td>Specific media releases with surveillance information ♦ Use of 800 MHz radios when applicable Mass faxing to physicians and public health providers</td>
<td>UNIS alerts for major activity developments ♦ Twice weekly conference calls ♦ Twice weekly website updates ♦ Twice weekly list server messages ♦ Media messages released weekly or as needed ♦ Status/situation updates are posted to a secure site for internal public-health partner use twice weekly or as needed</td>
<td>Same as Utah Level A, and: Local health departments prepare and disseminate information regarding surveillance, testing procedures, etc. to local providers UDOH will amplify Unified Area Command</td>
</tr>
</tbody>
</table>

♦NOTE: Frequency of conference calls, website updates, list server messages, and media briefings may vary and depend on demand and available resources to address these items.
<table>
<thead>
<tr>
<th>WHO Phases &amp; Descriptions</th>
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</thead>
<tbody>
<tr>
<td>Phase 6 - Increased and sustained transmission in general population</td>
<td>5 Spread throughout U.S.</td>
<td>C Detection of human cases in Utah</td>
<td>*Conference calls among major partners to coordinate communication procedures Dissemination of surveillance information through website updates list server messages, media briefings, and internal briefings. Specific media messaging Use of UNIS to convey major developments UNIS and WebEOC to record status updates in a secure, web-based environment</td>
<td>Specific media releases with surveillance information ♦ Use of 800 MHz radios when applicable Mass faxing to physicians and public health providers Use of HAM radios when applicable</td>
<td>UNIS alerts for major activity developments ♦ Three times weekly conference calls ♦ Twice weekly website updates ♦ Twice weekly list server messages ♦ Daily media briefings ♦ Status/situation updates are posted to a secure site for internal public-health partner daily or as needed</td>
<td>Same as Utah Level B, and: UDOH assesses backup communication needs and implements necessary mechanisms</td>
</tr>
<tr>
<td>Phases &amp; Descriptions</td>
<td>U.S. Federal Stages and Description</td>
<td>Utah Pandemic Response Levels and Description</td>
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<tr>
<td>Phase 6 - Increased and sustained transmission in general population</td>
<td>5 Spread throughout U.S.</td>
<td>D Established epidemic(s) in Utah</td>
<td>*Conference calls among major partners to coordinate communication procedures. Dissemination of surveillance information through website updates list server messages, media briefings, and internal briefings Specific media messaging Use of UNIS to convey major developments ♦ Use of 800 MHz radios when applicable Mass faxing to physicians and public health providers UNIS and WebEOC to record status updates in a secure, web-based environment</td>
<td>♦ Use of HAM radios when applicable UNIS alerts for major activity developments ♦ Daily conference calls ♦ Daily website updates ♦ Daily list server messages ♦ Daily media and internal governmental briefings Daily radio communication Daily mass faxing ♦ Status/situation updates are posted to a secure site for internal public-health partner daily or as needed</td>
<td>Same as Utah Level C, and: UDOH prepares and conducts daily internal governmental briefings UDOH organizes and conducts radio communication UDOH organizes and conducts mass faxing</td>
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<tr>
<td>WHO Phases &amp; Descriptions</td>
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<td>Utah Pandemic Response Levels and Description</td>
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<tr>
<td>Phase 6 - Increased and sustained transmission in general population</td>
<td>6 Recovery/preparation for subsequent waves</td>
<td>E After epidemic wave in Utah (prior to end of pandemic or a subsequent wave)</td>
<td>*Conference calls among major partners to coordinate communication procedures. Dissemination of surveillance information through website updates list server messages, media briefings, and internal briefings Specific media messaging Use of UNIS to convey major developments ♦Use of 800 MHz radios when applicable Mass faxing to physicians and public health providers UNIS and WebEOC to record status updates in a secure, web-based environment</td>
<td>Use of HAM radios when applicable</td>
<td>UNIS alerts for major activity developments ♦Daily conference calls ♦Daily website updates ♦Daily list server messages ♦Media and internal governmental briefings as needed Daily radio communication Daily mass faxing ♦Status/situation updates are posted to a secure site for internal public-health partner daily or as needed</td>
<td>Same as Utah Level D</td>
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**NOTE: PHIN compliance**

The UDOH has made significant progress in implementing PHIN-compliant public health information systems to support preparedness and response. All but two of the Functional Self Assessment Tests (FSATs) supplied by the CDC have been completed. Initial evaluations determined UDOH to be ~65% compliant; that number is now over 80% and rising. Though implementation is still in discussion, PHIN certification and compliance are a mandatory requirement of UDOH partners. UDOH is currently in the process of developing the Laboratory Information Management System (LIMS). UDOH is moving toward directing all messages to the CDC through Rhapsody and PHIN-MS. UDOH will continue working with the CDC until UDOH is fully PHIN-compliant with all systems.
Notification Procedures

**WHO Phase 1**
- Please refer to the previous matrix.

**WHO Phase 2**
- Please refer to the previous matrix.

**Federal Stage 0**
- Please refer to the previous matrix.

**Federal Stage 1**
- Please refer to the previous matrix.

**Federal Stage 2 (Confirmed human outbreak overseas)**
- UDOH Epidemiology sets up and convenes conference calls and/or meetings with all partners.
- UDOH Public Information Officer (PIO) works with UDOH Epidemiology to draft specific media messages; messages are sent to local health department PIOs for review/comment, and then disseminated.
- UDOH Epidemiology posts appropriate information to websites. Local health departments and other partner agencies are encouraged to do the same.

**Utah Level A (Widespread human outbreaks, multiple locations overseas)**
- UNIS alert sent to partner agencies.
- UNIS coordinator sets up a “folder” in UNIS to post information to. Appropriate permissions are given.
- UDOH Epidemiology sets up and convenes conference calls and/or meetings with all partners.
- UDOH PIO works with UDOH Epidemiology to draft specific media messages; messages are sent to local health department PIOs for review/comment, and then disseminated. UDOH Epidemiology will assist with drafting messages to include surveillance data as needed.
- UDOH Epidemiology posts appropriate information to websites. Local health departments and other partner agencies are encouraged to do the same.
- (Backup) – UDOH Bureau of Emergency Medical Services (BEMS) and/or the Executive Director’s Office (EDO) informs UDOH staff to activate 800 MHz radios. Local health departments and other partners may consider doing the same.
- (Backup) – UDOH Epidemiology coordinates with the UDOH Immunization Program and local health departments to use mass faxing to physicians.

**Utah Level B (Identification of first human case in North America)**
- UNIS alert sent to partner agencies and posted to the UNIS website.
- UDOH Epidemiology sets up and convenes conference calls and/or meetings with all partners.
- UDOH PIO works with UDOH Epidemiology to draft specific media messages; messages are sent to local health department PIOs for review/comment, and then
disseminated. UDOH Epidemiology will assist with drafting messages to include surveillance data as needed.

- UDOH Epidemiology posts appropriate information to websites. Local health departments and other partner agencies are encouraged to do the same.
- (Backup) – UDOH BEMS and/or EDO informs UDOH staff to activate 800 MHz radios. Local health departments and other partners may consider doing the same.
- (Backup) UDOH Epidemiology coordinates with the UDOH Immunization Program and local health departments to use mass faxing to physicians.

_Utah Level C (Identification of first human case in Utah)_

- Commercial laboratory or Utah Public Health Laboratory notifies UDOH Epidemiology of case.
- UDOH Epidemiology notifies local health departments (who notifies involved health care provider and does case investigation).
- UDOH Epidemiology sets up and convenes conference calls and/or meetings with all partners.
- Local health departments coordinates with UDOH Epidemiology and UNIS coordinator to prepare and send a UNIS alert to involved agencies and posts message to UNIS website.
- Local health department PIOs will coordinate a joint media release with UDOH Epidemiology, the UDOH PIO, and other agencies as needed. UDOH Epidemiology will draft specific media messages with the UDOH PIO to include surveillance data.
- The contact person at each agency is responsible for contacting others within the agency according to the communication plan of the agency.
- UDOH Epidemiology posts appropriate information to websites. Local health departments and other partner agencies are encouraged to do the same.
- (Backup) – UDOH BEMS and/or EDO informs UDOH staff to activate 800 MHz radios. Local health departments and other partners may consider doing the same.
- (Backup) – UDOH Epidemiology coordinates with the UDOH Immunization Program and local health departments to use mass faxing to physicians.
- (Backup) – UDOH works with Utah Department of Public Safety to activate HAM radio operators as needed.

_Utah Level D (Established epidemics in Utah)_

- UDOH Epidemiology sets up and convenes conference calls with all partners.
- Local health departments coordinate with UDOH Epidemiology and UNIS coordinator to prepare and send UNIS alerts to involved agencies as needed, and post messages to the UNIS website.
- Local health department PIOs will coordinate joint media releases with UDOH Epidemiology, the UDOH PIO, and other agencies as needed. UDOH Epidemiology will assist with surveillance data for specific media messages.
- The contact person at each agency is responsible for contacting others within the agency according to the communication plan of the agency.
- UDOH Epidemiology posts appropriate information to websites. Local health departments and other partner agencies are encouraged to do the same.
- UDOH BEMS and/or EDO informs UDOH staff to activate 800 MHz radios. Local health departments and other partners may consider doing the same.
• UDOH Epidemiology coordinates with the UDOH Immunization Program and local health departments to use mass faxing to physicians.
• (Backup) – UDOH works with Utah Department of Public Safety to activate HAM radio operators as needed.

_Utah Level E (Recovery/preparation for subsequent waves)_
• UDOH Epidemiology sets up and convenes conference calls and/or meetings with all partners.
• Local health departments coordinate with UDOH Epidemiology and UNIS coordinator to prepare and send UNIS alerts to involved as needed, and post messages to the UNIS website.
• Local health departments will coordinate media releases with UDOH and other agencies as needed. UDOH Epidemiology will assist with surveillance data for specific media messages.
• The contact person at each agency is responsible for contacting others within the agency according to the communication plan of the agency.
• UDOH Epidemiology posts appropriate information to websites. Local health departments and other partners may consider doing the same.
• UDOH BEMS and/or EDO informs UDOH staff to activate 800 MHz radios. Local health departments and other partners may consider doing the same.
• UDOH Epidemiology coordinates with the UDOH Immunization Program and local health departments to use mass faxing to physicians.
• (Backup) – UDOH works with Utah Department of Public Safety to activate HAM radio operators as needed.

**Key Partners and Responsibilities**

<table>
<thead>
<tr>
<th>Organization/Agency</th>
<th>Principal responsibilities</th>
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<tbody>
<tr>
<td><strong>National Agencies</strong></td>
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<tr>
<td>U.S. Department of Health and Human Services</td>
<td>Human health – national, consultation</td>
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<tr>
<td>Centers for Disease Control and Prevention</td>
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<tr>
<td>U.S. Department of Homeland Security</td>
<td>Emergency and disaster response (national level)</td>
</tr>
<tr>
<td>Federal Emergency Management Agency</td>
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<tr>
<td>U.S. Department of Defense</td>
<td>Security; special populations (Hill Air Force Base staff and residents)</td>
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<tr>
<td>Hill Air Force Base</td>
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<tr>
<td><strong>Multi-organization</strong></td>
<td>Advise on policy-level decisions</td>
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<td>Governor’s Pandemic Advisory Committee</td>
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<td>Governor’s Pandemic Advisory Policy Group</td>
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<tr>
<td>Pandemic Influenza Technical Advisory Group</td>
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<td>State Agencies</td>
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<tr>
<td>Governor’s Office</td>
<td>State governance, policy</td>
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<td>Utah Department of Health (UDOH)</td>
<td>Human health issues</td>
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<td>Executive Director’s Office</td>
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<td>State Epidemiologist</td>
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<td>Bureau of Epidemiology</td>
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<td>Immunization Program</td>
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<td>Utah Public Health Laboratory</td>
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<td>Office of Public Information and Marketing</td>
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<td>Preparedness Program</td>
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<td>Bureau of Emergency Medical Services</td>
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<td>State Nursing Director</td>
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<td>Bureau of Childcare Licensing</td>
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<td>Bureau of Facilities Licensing</td>
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<td>Center for Multicultural Health</td>
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<td>Ethnic Health Advisory Committee</td>
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<td>Office of the Medical Examiner</td>
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<tr>
<td>Utah Department of Public Safety</td>
<td>Emergency and disaster response (state level)</td>
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<td>Medical supply organization(s)</td>
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Identification of Responsibilities

National Partners
*U.S. Department of Health and Human Services, Centers for Disease Control and Prevention*
- Provide national and worldwide surveillance data.
- Provide guidance to UDOH and other state health departments for testing, mitigation measures, communication strategies, etc.

- Work with the Utah Department of Public Safety, Division of Homeland Security in the event that a federal disaster is declared.

*U.S. Department of Defense, Hill Air Force Base*
- Provide treatment to ill staff and residents.
- Assist with disease surveillance as resources allow.
- Assist with security as needed.

State Partners
*Governor’s Office*
Responsibilities include:
- Coordinate state preparedness efforts.
- Make decisions on high-level issues with serious implications and/or high visibility (e.g. recommendations on shifts in vaccine or antiviral distribution plans).

Partners include:
Governor’s Pandemic Advisory Committee
- Guide ongoing preparedness efforts and decision-making during a pandemic.
- Make recommendations on high-level issues with serious implications and/or high visibility (e.g. recommendations on shifts in vaccine or antiviral distribution plans).

*Utah Department of Health (UDOH)*
Responsibilities include:
- The UDOH is responsible for communications with all federal health-related partners, e.g. Centers for Disease Control and Prevention.
- Distribute a weekly announcement summarizing surveillance results.
- Notify health care providers (in collaboration with local health departments), including hospitals and laboratories, if evidence of viral activity is present; notifying bordering state health departments when warranted
- Communicate and coordinate with Centers for Disease Control and Prevention regarding surveillance, prevention, and other activities.
- Coordinate media contact regarding human disease and pandemic influenza activity with human health implications when the information has statewide implications.
- Coordinate with the Utah Division of Homeland Security if needed.
- Communicate with Governor and state level policymakers regarding human health aspects of avian and pandemic influenza, in cooperation with the Utah Department of Agriculture and Food and the Utah Division of Wildlife Resources.
Partners include:
Utah Department of Public Safety, Utah Highway Patrol
- Provide security to the National Guard during transportation of Strategic National Stockpile.
Utah National Guard
- Civil support team: Assist with emergency communications, laboratory testing, etc.
- Transport the Strategic National Stockpile.
- Coordinate with Utah Highway Patrol for security of the Strategic National Stockpile during transportation.
Utah Department of Transportation
- Coordinate with Utah Highway Patrol and the National Guard to ensure that roads are in working condition for transportation of the Strategic National Stockpile.
State of Utah Office of Education
- Coordinate with UDOH to develop standardized recommendations and guidelines for school pandemic influenza planning.
- Coordinate with UDOH to implement other recommendations as needed (e.g. assistance with administration of vaccines, etc.)
- Address teacher pay issues in the event of school closures.
- Address issues associated with schools receiving state funds for pupil services and reimbursements in the event of school closures.
Governor’s Office of Community and Culture
- UDOH will identify the appropriate contact in the organization.
- Assist with special population issues (i.e., ethnic, Indian, blind, and disabled populations).
Utah Department of Human Services
- Assist with mental health services, including crisis counselors.
- Assist with special population issues (i.e. disabled and aging populations).
- Provide for the healthcare needs of the offending juvenile population.
Utah Department of Workforce Services
- Augment personnel to increase workforce capacity.
- Assist with special population issues (i.e., unemployed, welfare, and food stamp populations).
Utah Department of Human Resource Management
- Assist with development of leave policies, flexible work schedules, etc. to support mitigation measures.
Utah Department of Corrections
- Coordinate a pandemic response with UDOH and local health departments to minimize community impact.
- Provide for the health care needs of our offender population.
- Ensure continued operations to protect public safety.
Utah Transportation Agency
- Assist with issues involving persons that rely on public transportation.
- Assist with mass evacuation plans, if necessary.
- Coordinate with local health departments and governments as needed.
Utah Funeral Director’s Association
- Work with UDOH and local health departments to plan for excess death capacity.
- Develop guidelines for mitigation of transmission at funerals.
Utah Board of Regents
- Coordinate with UDOH to develop standardized recommendations and guidelines for school pandemic influenza planning.
- Coordinate with UDOH to implement other recommendations as needed (e.g. assistance with administration of vaccines, etc.).

Utah Volunteer Organizations Active in Disasters
- Contact and activate local, state and national voluntary resources as needed.

Utah Health Care Association
- Assist with special population issues (i.e. persons living in long-term care and rehabilitation facilities).
- Assist with education and preparedness efforts among long-term care and rehabilitation facilities.

Utah Association for Home Care
- Assist with special population issues (i.e. persons receiving home health care).
- Assist with education and preparedness efforts among home health agencies, nurses, and therapists.

Utah Hospitals and Health Systems Association
- Assist with education and preparedness efforts among hospitals and healthcare systems.
- Assist in developing pandemic influenza healthcare policy.

Association of Utah Community Health
- Assist with special population issues (i.e. the medically underserved population).
- Provide treatment to ill patients.
- Assist with disease surveillance as resources allow.
- Assist with education and preparedness efforts among Community-Based Health Centers.

Utah Tribal Emergency Response Coordinators Committee
- Assist tribal entities with coordination of response efforts.
- Act as a liaison between UDOH and Utah tribes.

Utah Association of Counties
- Coordinate preparedness and response efforts among Utah counties.

Utah League of Cities and Towns
- Coordinate preparedness and response efforts among Utah municipal governments.
- Provide information, training and technical assistance to local officials.

Utah Department of Public Safety, Division of Homeland Security
Responsibilities include:
- Coordinate the local, regional, or statewide emergency response, in conjunction with UDOH, if required under epidemic conditions.
- Work with the Private Sector Coordinating Council to communicate and coordinate with business and industry/retailer partners
- Plan and respond to the need for stockpiling supplies based on
  - Recommendations/guidance for individuals and families, and/or
  - Information on symptoms people are experiencing, etc.
- Serve as a liaison with the Federal Emergency Management Agency in the event that a federal disaster has been declared.

Partners include:
Business and Industry/Retailers
• Work with the Private Sector Coordinating Council to communicate and coordinate with Homeland Security and other partners.
• Plan and respond to the need for stockpiling supplies based on
  o Recommendations/guidance for individuals and families, and/or
  o Information on symptoms people are experiencing, etc.

Utah Department of Agriculture and Food
Responsibilities include:
• Conduct surveillance for disease in animals as part of the statewide system to detect avian influenza.
• Conduct testing of animal specimens for diagnosis of avian influenza, as resources allow.
• Communicate with Governor and state level policymakers regarding domestic animal health aspects of avian influenza, in cooperation with UDOH and the Utah Division of Wildlife Resources.
• Notify UDOH of any cases, conduct associated epidemiological investigations, and share investigation findings with partners.

Partners include:
Veterinarians
• Respond to an avian influenza by providing healthcare to birds and animals.

Utah Department of Natural Resources, Division of Wildlife Resources
Responsibilities include:
• Notify UDOH of bird die-offs and intentional bird poisonings.
• Communicate with Governor and state level policymakers regarding wild bird health aspects of avian influenza, in cooperation with UDOH and the Utah Department of Agriculture and Food.
• Serve as a liaison with the US Fish and Wildlife Service.

Local Partners
Local Health Departments
Responsibilities include:
• Identify and communicate with special target groups and populations in their jurisdictions, for example groups that are religious in nature, private universities and trade schools, individual nursing homes and home health agencies, daycare centers, etc.
• Identify communities that may require translation of materials within the local health department and plan for translation.
• Immediately notify UDOH and other agencies if reports of cases of human disease are received.
• Immediately notify UDOH PIO of media requests.
• Coordinate media contact regarding human disease and pandemic influenza activity with human health implications when the information has local implications.
• Notify jurisdictional health care providers, including hospitals and laboratories, if evidence of viral activity is present.
• Conduct activities to prevent human exposure to avian and/or pandemic influenza infection within jurisdiction, in coordination with UDOH, as resources allow.
• Coordinate with the Utah Division of Homeland Security if needed.
• Identify facilities that can serve as temporary morgues.

Partners include:
The following organizations and groups exist on a local level, and are therefore out of the scope of the state Operational Communications and Coordination Plan. However, they will play a key role in pandemic planning and/or response, and local health departments are encouraged to include them in their individual county planning.
• School districts
• Private schools
• Daycare centers
• Free-standing ambulatory care centers
• Long-term care facilities
• Aging services agencies
• Residential living centers (e.g. JobCorps)
• Cultural/ethnic/faith-based organizations
• Correctional facilities
• Laboratories
• Hospitals and Urgent Care Centers
• Clinics
• Physicians and other medical providers

Authorities and References
Utah Pandemic Influenza Response Plan
Utah Pandemic Influenza Enhanced Surveillance Plan
Utah Pandemic Influenza Response Plan: Community Mitigation Plan

Glossary
BEMS Bureau of Emergency Management Services
EDO Executive Director’s Office
OCCP Operational Communications and Coordination Plan
PIO Public Information Officer
UDOH Utah Department of Health
UNIS Utah Notification and Information System
WHO World Health Organization
## Appendix A: WHO Pandemic Periods and Phases, U.S. Federal Response Stages, and Utah Pandemic Response Levels

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<th>Utah Pandemic Response Levels and Description</th>
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<td><strong>Inter-Pandemic Period</strong></td>
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<tr>
<td>Phase 1 – No new influenza viruses in humans</td>
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<td>Use WHO Period</td>
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<tr>
<td>Phase 2 – Circulating animal virus poses human risk</td>
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<td><strong>Pandemic Alert Period</strong></td>
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<td>Phase 3 – Human disease, no or limited human-to-human transmission</td>
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<td>New domestic animal outbreak in at-risk country</td>
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<td>Phase 4 – Increased human-to-human transmission</td>
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<td>Suspected human outbreak overseas</td>
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<tr>
<td>Phase 5 – Significant human-to-human transmission</td>
<td>2</td>
<td>Confirmed human outbreak overseas</td>
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<tr>
<td><strong>Pandemic Period</strong></td>
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<tr>
<td>Phase 6 - Increased and sustained transmission in general population</td>
<td>3</td>
<td>Widespread human outbreaks, multiple locations overseas</td>
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<td></td>
<td>4</td>
<td>First human case in N. America</td>
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<td></td>
<td>5</td>
<td>Spread throughout U.S.</td>
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<td></td>
<td>6</td>
<td>Recovery/preparation for subsequent waves</td>
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Note: If you are an emergency planner and would like access to the complete plan, please contact Hannah Gehman at hgehman@utah.gov.
Utah Pandemic Influenza Response Plan
Influenza Enhanced Surveillance Plan
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Glossary of Terms

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<td>Bureau of Emergency Medical Services</td>
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<td>CDC</td>
<td>Centers for Disease Control and Prevention</td>
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<td>DFA</td>
<td>Direct Fluorescent Antibody</td>
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<td>IAH</td>
<td>Influenza-Associated Hospitalization</td>
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<td>ICP</td>
<td>Infection Control Practitioner</td>
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<td>Influenza-Like Illness</td>
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<td>Over the Counter</td>
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<td>Pneumonia and Influenza</td>
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Introduction

The purpose of this document is to expand on the surveillance elements identified in the Utah Department of Health (UDOH) surveillance scenario document. Utah currently uses a robust surveillance system to monitor seasonal influenza activity and pandemic surveillance would build upon this preexisting system.

Pandemic influenza surveillance includes two primary surveillance systems: virologic surveillance in which rapid detection of novel influenza viruses serves as the primary goal, and general disease surveillance in which estimate and description of disease burden in the community is the primary goal (1).

Data collected from surveillance systems serves numerous purposes both for seasonal and pandemic influenza tracking. Data can assist in the following manners:

- Identify control strategies
- Identify high-risk groups
- Assist in the prioritization of groups for vaccination and antiviral therapy
- Provide description of temporal and severity trends

Surveillance activities will be led by the State Influenza Coordinator who will be the same individual as the seasonal influenza coordinator.

Sentinel Sites

Introduction

Utah sentinel healthcare providers sites are part of a 1,600-member nationwide network of sentinel surveillance sites sponsored by the Centers for Disease Control and Prevention (CDC). Influenza-like illness (ILI) is typically defined as the presence of fever (>100°F) and cough or sore throat in the absence of a known cause. Sites are asked to at a minimum report October through May, with year-round reporting being the ideal. Sites are asked to tally and report all patient visits for ILI weekly, classifying counts into four age groups: 0-4 years, 5-24 years, 25-64 years, and ≥ 65 years. A percentage of total visits due to ILI is then calculated using a total patient census also provided by sites. During the 2005-06 season, data collection was expanded for certain sites to include age-group specific patient census counts, allowing for age-specific ILI percentages to be calculated.

Influenza coordinators at each local health department (LHD) work directly with sites to initiate reporting. LHDs then send data to the UDOH for compilation and further analysis. Data are often not collected at the very start and end of the reporting period. ILI visits will typically peak at the height of influenza activity during a given season. There is strong correlation between reported ILI and lab-confirmed influenza in Utah and ILI reports are considered reliable indicators of influenza-like illness activity.
**Year-Round Reporting**

**Current:** Twelve sites representing three health-districts are year-round reporters as of present. These sites have implemented electronic reporting of data to the UDOH and involved LHDs. The UDOH has the ability currently to conduct year-round surveillance, including specimen collection/ testing at UPHL and ILI case counting.

**Expansion:** The demand for the number of year-round reporters will increase during a pandemic, as viral circulation will most likely occur outside the normal seasonal influenza time period. The expansion of electronic reporting will assist in efforts to implement year-round reporting. Sites currently not reporting year-round will be identified and health department personnel will assist in efforts to collect ILI and specimens for lab testing.

**Method:** Activation of sentinel clinician site network for year-round reporting would require LHDs to work closely with sites in their jurisdiction to initiate the data/ specimen collection process to extend the reporting timeline. Data collection requirements would remain the same at sites for year-round reporting (i.e. counting of visits for ILI unless and specimen collection on patients meeting ILI case definition unless otherwise noted.)

**Laboratory Testing**

**Current:** Sites enrolled in the sentinel network are also asked to submit nasopharyngeal swabs from suspect ILI cases for testing at the Utah Public Health Laboratory (UPHL). Typically, sites are provided with three testing kits and are asked to collect specimens during three staggered time periods during the season (beginning, middle, and end). A full respiratory panel using direct-fluorescent antibody (DFA) is conducted at UPHL. Positive specimens are then sent for culture.

**Expansion:** In order to provide accurate virologic characterization, swabs would need to be collected on a more frequent basis. Patients with specific risk factors such as poultry exposure or unusual travel history would especially warrant additional specimen collection.

**Method:** Expansion of this process would involve UPHL providing additional testing kits to the sites and LHDs working to ensure specimens are collected and then sent to UPHL.

**Geographic Representation**

**Current:** 6 counties and 6 health districts were represented from sites with consistent reporting during the 2005-06 season.

**Expansion:** Broadening of sentinel site network for improved geographic representation would involve both reactivation of dormant sites that have ceased to report regularly as well as the inclusion of additional sites. Additional sites in rural areas of the state may be of particular need.

**Method:** UDOH would work in coordination with LHDs to identify geographic areas needing site representation and then eligible facilities in these areas. Sites that are currently not reporting data, but have in the past, may serve as starting-points.
Additional Data Elements

**Current:** The only data point collected for identified ILI cases is age.  
**Expansion:** New data points could also be incorporated such as poultry exposures, laboratory employment, travel histories, particularly if the presentation of ILI is outside the normal influenza season. This would allow assessment of poultry to human transmission and out-of-country exposure in the case of influenza circulation outside the United States. Specimen collection would be a direct result of any reported unusual travel history or avian exposure.  
**Method:** Expanded data collection would occur via UDOH and LHDs working directly with sites to identify data collection and reporting.

Incorporation of specific sites

**Current:** The majority of reporting sites as of present are family practice, pediatric, and general urgent-care facilities.  
**Expansion:** ILI data from specific outpatient settings may be desired and new sites incorporated into the sentinel network:
- Travel clinics
- Poultry occupational settings
- Wildlife agents and hunters

**Method:** Collaboration between UDOH and LHDs would be needed to identify specific sites of interest. LHDs would take the lead in recruiting and establishing new sites. Consultation with the Utah Department of Agriculture and Food (UDAF) and the Utah Division of Wildlife Resources (UDWR) may also be needed if specific animal exposures are of interest.

Influenza-Associated Hospitalizations

Introduction

Laboratory-confirmed influenza-associated hospitalizations (IAHs) remain a reportable condition in the state. A laboratory-confirmed IAH is defined for surveillance purposes as a hospital admission associated with at least one laboratory or rapid diagnostic test result indicative of influenza. This surveillance system does not seek to definitely determine whether the hospitalization is due exclusively to influenza. However, it remains a reliable indicator of disease severity and influenza circulation levels. IAHs are primarily identified by Infection Control Practitioners (ICPs) through laboratory testing results. Typically, ICPs then work with LHDs to collect needed data.

IAHs are expected to occur in high-risk individuals each season. Individuals can be high risk due to age (< 2 years, ≥ 65 years) and/or comorbidities such as metabolic, cardiovascular, and respiratory diseases. Data points collected include demographics (age, sex, race, ethnicity, etc.) and high-risk factors, including travel histories. As frequency reporting varies by hospital, additional communication between UDOH, LHDs, and ICPs is needed to ensure consistent
reporting. In the situation that staffing is limited in hospitals, LHD and UDOH staff could provide in-house support for data collection.

**Hospital Discharge Data**

**Current:** The current IAH surveillance system does not directly utilize hospital discharge data. However, discharge data is available, but not on a real-time basis.  
**Expansion:** If influenza activity warrants utilization of this system, real-time data would be needed. Evaluation of hospital discharge data has indicated a wide variety of ICD-codes need to be utilized for influenza surveillance. These include codes associated with influenza, pneumonia, and general respiratory/ circulatory conditions.  
**Method:** Incorporation of discharge data would occur primarily at the state level with UDOH making data available to LHDs.

**Laboratory Testing**

**Current:** During the 2005-06 season, 70% of reported IAHs were identified using rapid tests. Less than 10% were identified using culture methods. Since rapid test reliability decreases proportionately to influenza circulation, rapid tests are not the preferred method for laboratory confirmation.  
**Expansion:** During circulation of novel influenza strains, proper identification of viruses would be essential. Increased use of confirmatory DFA and/or culture results would be warranted.  
**Method:** Increasing isolate submission would involve coordination between hospital laboratories, ICPs, LHDs, UDOH, and UPHL.

**Isolated and Quarantined Persons**

**Current:** The UDOH does not collect information on isolated and quarantined persons in relation to influenza.  
**Expansion:** During circulation of novel influenza strains, the ability to quantify persons being isolated and quarantined in the hospital setting would be needed.  
**Method:** Data collection would be similar to current collection for influenza-associated hospitalizations with ICPs and LHDs collaborating to quantify and investigate patients who are isolated or quarantined.

**Absenteeism**

**Introduction**

Since influenza often begins circulating among school-aged children, reports of student absenteeism are collected. Schools are asked to report October through May at a minimum. LHDs work directly with schools to initiate reporting. Data are then sent to UDOH for compilation and further analysis. The UDOH also receives data from the Utah State Office of Education (USOE).
Participating schools report total enrollment, number of days in the school week, and total numbers of students absent for any reason. Additionally, select schools also report absences identified due to any illness and ILI specifically. Total absences include absences due to illness, vacation, and other causes not necessarily related to influenza. Thus, absences due to illness provide a more specific measurement of influenza activity.

**School Absenteeism**

**Current:** The majority of schools collecting absenteeism data for influenza surveillance do so from October-May. This leaves absenteeism occurring at the very beginning and end of the school year unmeasured. Data collected during these months would assist in both developing baseline measurements and also identifying novel influenza strain circulation.

**Expansion:** Expansion of this system may include the incorporation of additional sites for increased geographical representation and/or refinements of data collection methods to better ascertain absenteeism due to illness. In the event of massive school absenteeism, surveillance could also shift from measuring individual absenteeism to counting the number of schools closed.

**Method:** The UDOH and LHDs would work to identify new sentinel schools to incorporate and/or refine existing data collection methods. The UDOH may also work directly with the USOE to expand data collection.

**Chief Complaint/Syndromic Data**

**Current:** Chief complaint data at select emergency departments and urgent care facilities are collected year-round on a real-time basis as part of the Real-time Outbreak and Disease Surveillance system (RODS). These visits are classified into syndromic categories. Two categories are of interest for seasonal influenza surveillance: respiratory and constitutional. Analyses have suggested both categories are strongly correlated with influenza transmission. The majority of facilities collecting data for this system are located in urban areas of Utah. LHDs and UDOH are able to access this data.

**Expansion:** Incorporation of additional reporting sites may be needed for better geographic representation and general morbidity characterization. Emergency rooms and urgent-care clinics would be of high interest since acutely ill individuals visit these facilities and chief complaint data is routinely collected. Although chief complaint data is electronically collected and processed in RODS, expansion of this system may include non-electronic methods similar to current ILI data collection at many sentinel sites.

**Method:** Expanded data collection would occur via UDOH and LHDs working directly with sites to initiate reporting. Reporting of syndromic data can be mandated by Utah’s Communicable Disease Rule R702-3(2). In the situation that staffing is limited in hospitals and urgent care facilities, LHD staff could provide in-house support for data collection. Syndromic data is also available through the BioSense surveillance program sponsored by CDC. This system collects data from governmental facilities and can be easily incorporated into surveillance efforts. Additionally, the Bureau of Emergency
Medical Services (BEMS) of the UDOH for collects syndromic-like data for emergency responses. These data would yield information related to severe cases requiring immediate attention.

**Laboratory Surveillance**

**Current:** UPHL provides respiratory panel testing, culture, and typing/subtyping of samples. This includes providing culture for DFA positive samples for Primary Children’s Medical Center (PCMC), the major pediatric hospital in Utah. PCMC DFA results from in-house testing are also made available to UDOH. During an influenza season, the Office of the Medical Examiner (OME) submits samples from all pediatric death investigations to the UPHL. UPHL reports the number and type of viral isolates to the CDC weekly and submits select viral isolates for subtyping. This is a system primarily driven by CDC requests. Typically, approximately six isolates are requested at three time points in an influenza season (early, middle, late). CDC analyzes the isolates to determine the specific circulating strain(s). CDC may request additional isolates if needed.

**Expansion:** The number of samples submitted to UPHL for typing would increase when a novel influenza strain is circulating. LHDs and the UDOH would work with local health care providers and hospital ICPs to collect and send samples. Enhanced laboratory surveillance would be warranted for patients with an increased risk of infection with a novel virus. Private laboratories would be strongly encouraged to forward samples from such patients to the UPHL. These patients would need to meet any existing created CDC/WHO case definitions and/or epidemiological criteria as follows:

1. Patients who are severely ill (i.e. hospitalized) with no identified high-risk factors and/or onset dates outside traditional seasonal influenza activity
2. Patients (hospitalized or ambulatory) with influenza-like illness returning from areas where novel influenza viruses are circulating
3. Patients with exposure risk factors specific to possible avian influenza viruses (i.e. poultry workers).

**Method:** Increasing isolate submission to CDC would depend on CDC demand. UPHL would need to be prepared to submit samples as needed. Similar to PCMC providing viral data to UDOH, additional hospitals, private laboratories, and urgent care facilities could be incorporated into a sentinel laboratory system where in-house testing results would be made available to UDOH. Clinicians would be encouraged to immediately contact public health authorities when they suspect a human case of infection with a novel human influenza strain. The use of rapid antigen tests would be discouraged during the initial beginnings of a pandemic due to the inability of these tests to identify a novel influenza virus.

**Mortality**

**Introduction**
Deaths in high-risk groups are expected and do occur each influenza season. However, only pediatric influenza-associated mortality is currently actively monitored. This is a nationally notifiable condition as of October 2004. This condition is defined as a death occurring in a person aged < 18 years resulting from a clinically compatible illness confirmed to be influenza by an appropriate laboratory test.

**Current:** All pediatric deaths investigated by the OME in Utah include submission of samples to UPHL for respiratory panel testing. Identification of influenza viruses will then accompany cause of death investigation. Only one pediatric influenza-associated death per season was reported to the UDOH both during the 2004-05 and 2005-06 influenza seasons.

Two Utah cities (Ogden and Salt Lake) currently participate in the national 122 Cities Mortality Reporting System. Vital statistics offices in 122 U.S. cities report pneumonia- and influenza- (P and I) related deaths on a weekly basis to CDC. Although data from this system remain available to state health departments, analytic methods to determine appropriate epidemic thresholds would need to be developed prior to state-level use in Utah. Specifically, epidemic thresholds would need to be created to determine the proportion of deaths considered attributable to influenza. As of the 2006-07 season, electronic death records have been made available to the Bureau of Epidemiology from Vital Statistics for simple quantification of P and I related deaths.

**Expansion:** During a pandemic influenza event, proper description of mortality would be needed to fully describe disease burden. Since mortality data collection is currently limited for seasonal influenza, expansion of collection would involve the identification of systems that do not currently exist or are not fully utilized.

**OME**

The existing surveillance system used for the identification of suspect pediatric-mortality could be expanded beyond the pediatric aged population. Automatic submission of samples for respiratory panel at UPHL could occur for all potential respiratory-related deaths. Depending on the circumstances, further data collection related to the actual cause of death may need to occur.

**Method:** This would require frequent and systematic communication between the UDOH, UPHL, OME, and involved LHDs.

**Vital statistics**

Quantifying excess influenza-related deaths as identified by creating an epidemic threshold specific to Utah would determine excess mortality. Electronic death records are already received and this system would require no further expansion.

**Method:** Coordination between the UDOH (Vital Statistics representatives included) and involved LHDs would be needed. Possible involvement of analytical consultants to better determine threshold may also need to occur.

**Hospitals**

The IAH surveillance system could be supplemented with a stronger mortality component. Although mortality is a data point currently collected, IAH surveillance is not
previously considered a system that serves to monitor mortality. However, influenza-associate
deads could be better enumerated using this system if investigatory
procedures were expanded.

**Method:** This would involve the same coordination between LHDs, ICPs, and UDOH. In
the situation that staffing is limited in hospitals, LHD and/or UDOH staff could provide
in-house support for data collection. A case definition for an influenza-associated death
in a hospitalized patient may include the following elements:
1. Laboratory-confirmation of influenza
2. Hospital admission
3. Death while hospitalized
4. Clinical presentation consistent with influenza-like illness

**Final Disposition Authorization**
Authorization for the disinterment or re-interment of a dead body is issued in Utah by the
local registrar of the district or by the State Registrar. This system could be used during a
pandemic as another quantifier of influenza-related deaths.

**Method:** Forms could be distributed to designated burial agents with instructions for
identifying deaths where influenza was an underlying or contributing cause. Data
collection would then occur with transmission of completed forms to the UDOH directly
or to the involved LHD.

**All Case Reporting**

**Current:** Non-hospitalized, lab-confirmed cases were reportable during seasons prior to
the 2005-06 season, but the reporting burden created by increasing use of rapid tests led
to removal of this condition from the reportable disease list. However, incidental case
reporting does currently occur and the data collected is used in analysis.

**Expansion:** Non-hospitalized, lab-confirmed influenza cases could again become a
reportable condition. This would provide a more systematic enumeration of influenza
cases in the community as well as a comparison population to hospitalized and other
severe cases. An alternative would be for numbers-only reporting to limit the reporting
burden. LHDs could be consulted in choosing reliable reporters of lab-confirmed cases in
their communities that could be a mixture of established sentinel sites and other health-
care facilities. Similar to influenza-associated hospitalizations, case investigation would
be initiated by LHDs.

**Method** Case reporting would occur in conjunction with UDOH, LHDs, and reporting
partners. Faxing or phone collection of numbers-only cases may be the most non-
burdensome method of data collection. Currently the UDOH does not have an electronic
disease reporting system, but is developing a NEDSS product. The UDOH would have
the responsibility of altering the Communicable Disease Rule.

**Medication Sales and Use**

**Introduction**
During the 2005-06 season, data for sales of antivirals were obtained from a national pharmacy chain. The data were supplied on a monthly basis and contained weekly sales totals for major antivirals. Data were available for a limited time period, however. Initiation of this data collection involved UDOH directly contacting major pharmacy chains serving Utah and requesting sales information. Collected data were only available on a statewide basis.

RODS also provides over-the-counter (OTC) medication sales data. Major retail pharmacies provide these data. The data are made available through general categories such as cough/cold on a real-time basis. Data are divided between un-promoted sales and all sales due to the possible confounding caused by price reduction. LHDs have access to OTC data through RODS.

Vaccination status is collected for IAHs. Data are specifically collected as to whether the individual received the vaccine for the current season. The type and date of vaccination are not collected.

**Antiviral Sales and Efficacy**

**Expansion:** More frequent collection of data (i.e. weekly versus monthly) may be needed. Data sources would be expanded to include the larger retail chains and small non-chain pharmacies. OTC medication sales would continue to be actively monitored using RODS. The antiviral surveillance system could also be expanded to measure items related to adverse events and overall efficacy of the products.

**Method:** If tracking of antiviral sales were desired reestablishing contact with major pharmaceutical chains would be the most likely starting point. If additional data collection beyond this were desired, then other data sources would need to be identified. LHDs could within their communities identify and then directly work with pharmacies of interest. Antiviral use for influenza-associated hospitalizations may be of particular interest for assessing efficacy. Other sources may include utilization of antiviral stockpiles. It is assumed that distributors of the antiviral stockpile would provide data to the UDOH and LHDs pertaining to the amounts distributed to various entities. Cohorts of individuals receiving antivirals could be followed to assess efficacy.

**Vaccine Data**

**Expansion:** Related to these efforts could be the expansion of vaccine data collection. More specific data points such as type, date, and presence of adverse effects could be collected to better describe general vaccination status and issues with efficacy/adverse effects. Additionally, collection could be expanded outside the IAH population into the non-hospitalized population. Vaccine efficacy measures in the case–control studies range from preventing hospitalizations due to pneumonia and/or influenza, to preventing hospital deaths from pneumonia and influenza, preventing hospital deaths from all respiratory conditions, and preventing deaths due to all causes.

**Method:** Due to present collection of data related to influenza-associated hospitalization, prevention of influenza-associated hospitalizations may be a logical starting point for evaluating vaccine efficacy. Age-and sex matched control groups could be created. However, hospital surge capacity issues would need to be considered due the impact on the actual availability of hospital beds.
Influenza-like Illness Outbreaks

**Current:** When influenza is introduced into contained, institutional settings, nosocomial outbreaks may result. These outbreaks may result in very high attack rates that lead to significant morbidity and mortality, especially among high-risk populations. These outbreak events, though reportable as per Utah’s Communicable Disease Rule R386-702, are significantly underreported in Utah and are not considered a consistent data-point for seasonal influenza monitoring. However, as of the 2006-2007 influenza season, efforts are being made to establish a reporting system for these events through a pilot project in four health districts, primarily focusing on nursing home facilities.

**Expansion:** Full utilization of this system would mandate the incorporation of more surveillance sites. These may include:
- Facilities catering to high-risk groups (i.e. the elderly and/or immunocompromised).
- Facilities catering to children such as schools and camps.
- General clustering of febrile respiratory illness in health-care facilities such as hospitals.

**Method:** Better reporting of influenza-associated outbreaks could occur via increased marketing of these events as reportable conditions. Likewise, LHDs could work within their jurisdictions to identify facilities meeting criteria and then establish outbreak-reporting mechanisms for identified sites. Once sites have been established and reporting mechanisms put into place, reported outbreaks would then be investigated (especially those occurring outside the normal October through May seasonal influenza timeline) by LHDs and the UDOH if need be. Specimen collection also would be of interest for laboratory testing.

Communication and Coordination Procedures

Surveillance for seasonal and pandemic influenza requires a coordinated approach by all involved partners. Frequent and systematic communication ensures the proper exchange of information and use of collection, analytic, and dissemination procedures. Primary surveillance partners include:
- UDOH Bureau of Epidemiology
- UDOH Immunization Program
- Vital Statistics
- UPHL
- LHDs
- Hospitals
- Sentinel sites
- Sentinel schools
- OME
- UDAF
- UDWR
- USOE
Systematic communication may utilize several mechanisms. Regularly scheduled conference calls have been established as effective mechanisms through their use during arboviral seasons in Utah. Use of scheduled calls has included establishing a site for in-person meetings, allowing participants to choose the most effective means of participation. The use of the Utah Notification Information System (UNIS) will also be used to ensure surveillance partners are regularly aware of any major surveillance activity developments. Health care providers and other surveillance partners reporting data will be provided with telephone, fax, and e-mail addresses in order to communicate with UDOH and local health departments. Communication and reporting to CDC from the UDOH would require phone, fax, or e-mail. Utah does not currently have the ability to report electronically besides the NETSS system, although a NEDSS system is being developed currently. If data fields of interest can be captured in NETSS and transmitted to CDC through that preexisting system, then transmission will occur through that method.

**Human influenza activity**

Increased collaboration and communication with public health partners for better implementation of all surveillance-related activities, including more frequent dissemination of data, articulation of specific activity levels, and recommendation for disease control and reporting measures. Specific items will involve communication with specific partners. For example, regular communication with the OME would be essential for mortality surveillance. General communication with all partners to highlight the heightened need for timely and complete surveillance data will be essential for operations. Further communication with neighboring states and national surveillance partners would also be warranted. Partners will also include public information officers (PIO) to interpret and release surveillance data.

**Non-human influenza activity**

Prevention and control of avian influenza requires that surveillance data be shared rapidly among participants to facilitate effective interventions, including public education and disease control. However, for that to occur, each agency needs to understand and adhere to the data release and confidentiality provisions that govern use of those data. Due to the implications for human health, detection of H5N1 in animals affects human disease surveillance. For instance, in this case, active ILI surveillance may need to be initiated in humans with close contact with affected animals, such as wildlife agents, hunters, and poultry farm workers.

When animal influenza activity is of interest, regular coordination and communication with UDAF and the UDWR would be warranted. Similar to arboviral surveillance communication procedures, regularly scheduled conference calls would occur (at a minimum) between the UDOH, LHDs, UDAF, and the UDWR. This would ensure better dissemination of related surveillance data, articulation of specific activity levels, and recommendation for disease control and reporting measures (H5/H7 avian influenza is a disease reportable to the State Veterinarian’s office by all licensed or otherwise legally practicing veterinarians in the State and all laboratories). Participants may be expanded to include federal agencies such as the United States Department of Agriculture (USDA).
Conference calls will be warranted based on certain developments in animal surveillance in Utah, including the following:

- Unexplained die-offs in primary and secondary wild bird candidates for Asian H5N1 (2)
- Detection of H5N1 in wild bird populations (high-pathogenicity (HP) and low-pathogenicity (LP)) (2)
- Declaration of premise suspect-positive for H5N1 in domestic poultry settings (3)
- Declaration of a premise positive for HP/LP Asian H5N1 during a confirmed H5N1 outbreak (3)

**Data Dissemination**

Currently, seasonal influenza data is analyzed on a weekly basis. General temporal trends and characterization of season severity are the primary purposes. Data is disseminated in major ways during the week:

- Internal categorization of activity level (using both geographic and severity indexes)
- Public website postings
- Internal Audience Statistics

During a pandemic, data may need to be analyzed on a daily basis to best capture possible rapid changes in activity levels and respond to public demand for information. Analyses would focus primarily on severity measures once circulation begins in the state, as rapid geographic expansion would be expected. Furthermore, demand for information from the public and the media would warrant more frequent characterization of activity levels.

**Specific items may be of increased interest during a pandemic:**

- Summary categorization of disease severity
- Case counts of deaths
- Case counts of hospitalizations
- Monetary loss created by pandemic (i.e. loss of productivity)
- Demographic characteristics of deaths and hospitalizations
- Identification of high-risk groups
- Vaccine and antiviral efficacy
- Virologic characterization of circulating strands
- Unusual modes of transmission
- Geographic variation in morbidity (Utah vs. neighboring states, Utah vs. United States)
- General measures of non-hospitalized morbidity (i.e. absenteeism)

**Methods for data distribution:**
• Website postings
• Media briefings and press releases
• Internal briefings
• Internal statistics for public health audience
• Conference calls with partners
• Daily e-mails with summary information
References

Utah’s first potential signal of early pandemic/avian influenza activity cannot be known in advance. For example, the signal could follow isolation, from a single infected person, of an influenza virus with certain genetic and antigenic features (such as a virus with surface proteins derived from an avian influenza virus and internal genes derived from a human influenza virus), or detection of an expanding cluster of human cases of avian influenza closely related in time and place, or detection of a community outbreak of respiratory illness of unknown etiology. Because these and other scenarios are plausible signals that a pandemic virus may be emerging, maintaining vigilance, a high degree of suspicion, and a capacity for rapid expert assessment and reporting are the most reliable way to ensure that signals are not missed.

This plan, developed by the Utah Department of Health’s (UDOH) Communicable Disease Epidemiology Program (CDEP), describes both current influenza surveillance activities and proposed enhanced surveillance activities, which may be implemented during the following potential scenarios:

- **Scenario A**: Novel avian influenza virus subtype has been detected in animals and humans outside the U.S. (neither animals nor humans have become infected in the U.S.).
- **Scenario B**: Novel avian influenza virus subtype has been detected in wild birds in or around Utah (neither domestic poultry nor humans have become infected in the U.S.).
- **Scenario C**: Novel avian influenza virus subtype has been detected in poultry in or around Utah (humans have not become infected in the U.S.).
- **Scenario D (Level A)**: Widespread transmission of novel human pandemic influenza virus subtype in humans outside North America.
- **Scenario E (Level B)**: Human cases of novel pandemic influenza virus subtype have been detected in North America, but not Utah.
- **Scenario F (Level C)**: Human cases of novel pandemic influenza virus subtype have been detected in Utah.
- **Scenario G (Level D)**: Novel human pandemic influenza virus subtype is actively circulating in humans in Utah with established epidemics.
- **Scenario H (Level E)**: Initial wave of human pandemic activity has occurred in Utah.

**Current Surveillance Activities**

Seasonal influenza in Utah is measured using a multiple component system that includes surveillance of both influenza illness in the general community and viral characterization in the laboratory setting. Current surveillance activities include the following:

1) Sentinel healthcare sites report influenza-like illness (ILI) on a weekly basis to UDOH and submit samples for viral typing to the Utah Public Health Laboratory (UPHL)
2) Healthcare providers report influenza-associated hospitalizations to UDOH as laboratory-confirmed influenza-associated hospitalizations remain a reportable condition in the state.
3) Select schools report weekly absenteeism to UDOH
4) Constitutional and respiratory syndromes are actively monitored at select emergency departments and urgent care facilities by the Real-time Outbreak and Disease Surveillance System (RODS)

5) UPHL reports the number and type of viral isolates to the Centers for Disease Control and Prevention (CDC) weekly and submits select viral isolates to CDC for subtyping

6) Healthcare providers report pediatric influenza-associated deaths, as the deaths remain a nationally notifiable condition

7) Pneumonia and influenza death records are obtained from the state Office of Vital Statistics

8) Healthcare providers continue to incidentally report cases of non-hospitalized, laboratory-confirmed influenza, although this is not a notifiable condition in Utah

9) Over-the-counter medication sales from select retail drugstore chains are obtained by RODS

10) Select long-term care facilities are monitored for influenza-like illness outbreaks.

Additionally, UDOH has other potential data sources that exist for influenza surveillance that are not routinely utilized for analysis. These include the following:

11) Antiviral drug medication sales.

12) Reporting of influenza-associated outbreaks, particularly in institutional/long-term care facility settings (these outbreak events, though reportable as per Utah’s Communicable Disease Rule R386-702, are believed to be significantly underreported in the state)

**Enhanced Surveillance Activities**

In addition to standard influenza surveillance activities described above in the “Current Surveillance Activities” section, enhanced surveillance activities will be considered for implementation during any of the five potential scenarios (A-F) described below.

**Scenario A:** Novel avian influenza virus subtype has been detected in animals and humans outside the U.S. (neither animals nor humans have become infected in the U.S.). The surveillance objectives for this scenario include the following:

- Continue (or initiate) data collection regarding unusual influenza–associated morbidity in Utah.
- Continue information collection regarding worldwide developments in virus activity.

The following activities would occur during this scenario:

1) The UDOH Surveillance Program would closely monitor worldwide influenza activity

2) UDOH would ensure weekly statewide notification/update of worldwide disease activity via the UDOH listserv and Utah Notification and Information System (UNIS)

**Scenario B:** Novel avian influenza virus subtype has been detected in wild birds in or around Utah (neither domestic poultry nor humans have become infected in or around Utah). The surveillance objectives for this scenario include the following:

- Monitor for the emergence of novel virus in human populations
- Continue (or initiate) data collection regarding unusual influenza–associated morbidity in Utah
• Continue information collection and exchange regarding developments in Utah avian populations

In addition to the activities described in Scenario A, the following enhanced surveillance activities would occur during this scenario:

1) Increased collaboration and communication with the Utah Department of Agriculture and Food and Utah Division of Wildlife Resources for better dissemination of related surveillance data, articulation of specific activity levels, and recommendation for disease control and reporting measures (H5/H7 avian influenza is a disease reportable to the State Veterinarian’s office by all licensed or otherwise legally practicing veterinarians in the State and all laboratories)
2) Monitor avian disease spread in U.S. and Utah
3) Ensure weekly statewide notification/update of nationwide and local disease activity via the UDOH listserver and Utah Notification and Information System (UNIS)
4) Activation of sentinel clinician site network for year-round reporting with additional screening for bird exposures
5) Expansion (or initiation) of laboratory testing of suspect ILI cases at sentinel sites
6) Expansion of UPHL isolate submission to CDC

Scenario C: Novel avian influenza virus subtype has been detected in poultry in or around Utah (humans have not become infected in or around Utah.). The surveillance objectives for this scenario include the following:

• Monitor for the emergence of novel virus in human populations.
• Intensify data collection regarding unusual influenza-associated morbidity in Utah with emphasis on populations with close poultry contact.
• Increase frequency of information collection and exchange regarding developments in Utah avian populations.

In addition to the activities described in Scenarios A and B, the following enhanced surveillance activities would occur during this scenario:

1) Consider weekly communication with the Office of the Medical Examiner (OME) to follow up on all potential respiratory-related deaths
2) Collaboration with Local Health Departments (LHDs) to refine and implement screening techniques for respiratory illnesses in poultry occupational settings
3) Incorporation of employee absenteeism surveillance in Utah’s poultry industry workforce

Scenario D (Level A): Widespread transmission of novel human pandemic influenza virus subtype in humans outside North America. The surveillance objectives for this scenario include the following:

• Increase monitoring for the emergence of pandemic virus in Utah human population.
• Intensify data collection regarding unusual influenza-associated morbidity and mortality in Utah.
• Increase frequency of information collection and exchange regarding developments in human disease with emphasis on development of prevention and control measures.
The following enhanced surveillance activities would occur during this scenario/level:

1) Expansion of data elements collected at sentinel sites to include travel histories of patients.
2) Broadening of sentinel site network for year-round reporting, improved geographic representation, and incorporation of travel clinics
3) Expansion of laboratory testing of suspect ILI cases at sentinel sites, including further distribution of necessary materials to conduct sample collection
4) Expansion of isolate submission to CDC by UPHL
5) Weekly communication with OME to follow-up on all potential respiratory-related deaths.
6) Increased collaboration and communication with public health partners for better implementation of activities listed above, including more frequent dissemination of related surveillance data, articulation of specific activity levels, and recommendation for disease control and reporting measures
7) Identification and evaluation of potential vulnerable populations in local communities

**Scenario E (Level B):** Human cases of novel pandemic influenza virus subtype have been detected in North America, but not Utah. The surveillance objectives for this scenario include the following:

- Intensify monitoring for the emergence of pandemic virus in Utah human population.
- Intensify data collection regarding unusual influenza-associated morbidity and mortality in Utah.
- Increase frequency of information collection and exchange regarding developments in human disease with particular emphasis on implementation of prevention and control measures.

In addition to the activities described in **Scenario D (Level A)**, the following enhanced surveillance activities would occur during this scenario/level:

1) Further expansion of isolate submission for influenza-associated hospitalizations to UPHL, including further distribution of necessary materials to conduct sample collection
2) Further expansion of chief complaint data collection in additional primary care, urgent care and emergency department settings
3) Evaluation of influenza-associated hospitalizations including use of hospital admission/discharge data with assurance that data will be available at local level.
4) Evaluation of potential influenza-related outbreaks in institutional settings in those jurisdictions with preexistence of this surveillance system
5) Evaluation of student absenteeism
6) Increased communication with the OME to evaluate unusual respiratory-related deaths.
7) Increased collaboration and communication with public health partners for better implementation of activities listed above, including more frequent dissemination of related surveillance data, articulation of specific activity levels, and recommendation for disease control and reporting measures
**Scenario F (Level C):** Human cases of novel pandemic influenza virus subtype have been detected in Utah. The surveillance objectives for this scenario include the following:

- Intensify data collection regarding unusual influenza-associated morbidity and mortality in Utah.
- Increase frequency of information collection and exchange regarding developments in human disease with particular emphasis on implementation of prevention and control measures.

The following enhanced surveillance activities would occur during this scenario/level:

1) Evaluation of influenza-associated hospitalizations, including use of hospital admission/discharge data including creation of new investigation forms in accordance with pandemic activity
2) Evaluation of antiviral data
3) Evaluation of chief complaint data collection in additional primary care, urgent care and emergency department settings
4) Evaluation of influenza-related deaths in and outside of hospitals
5) Evaluation of influenza-related outbreaks in institutional settings
6) Evaluation of school absenteeism
7) Increased collaboration and communication with public health partners for better implementation of activities listed above, including more frequent dissemination of related surveillance data, articulation of specific activity levels, and recommendation for disease control and reporting measures

**Scenario G (Level D):** Novel human pandemic influenza virus subtype is actively circulating in humans in Utah with established epidemics. The surveillance objectives for this scenario include the following:

- Characterize community impact to refine prevention and control strategies.
- Maintain sustained frequency of information collection and exchange regarding developments in human disease.

The following enhanced surveillance activities would occur during this scenario:

1) Evaluation of influenza-related mortality, including final disposition authorizations
2) Evaluation of influenza-associated hospitalizations, including use of hospital admission/discharge data
3) Retention of surveillance systems for non-hospitalized morbidity only if system requires minimal data collection efforts (school absenteeism, chief complaint data, and influenza related outbreaks)
**Scenario H (Level E):** Initial wave of human pandemic activity has occurred in Utah. The surveillance objectives for this scenario/level include the following:
- Characterization of community impact to refine prevention and control strategies.
- Maintain sustained frequency of information collection and exchange regarding developments in human disease.

The following enhanced surveillance activities would occur during this scenario:

1) Evaluation of influenza-related mortality, including final disposition authorizations
2) Evaluation of influenza-associated hospitalizations, including use of hospital admission/discharge data
3) Retention of surveillance systems for non-hospitalized morbidity only if system requires minimal data collection efforts (school absenteeism, chief complaint data, and influenza related outbreaks)

**Note:** If you are an emergency planner and would like access to the complete plan, please contact Hannah Gehman at hgehman@utah.gov.
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\(^1\).
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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. 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 protracts.

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/Activate</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.

5. **Healthcare education.**
   - 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>
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</thead>
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<tr>
<td><strong>Inter-Pandemic Period</strong></td>
<td></td>
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<tr>
<td>Phase 1 – No new influenza viruses in humans</td>
<td>0</td>
<td></td>
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<tr>
<td>Phase 2 – Circulating animal virus poses human risk</td>
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<td>Use WHO Periods</td>
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<tr>
<td><strong>Pandemic Alert Period</strong></td>
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</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>
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<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>
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<tr>
<td></td>
<td>5</td>
<td>Spread throughout U.S.</td>
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<td></td>
<td>6</td>
<td>Recovery/preparation for subsequent waves</td>
</tr>
<tr>
<td></td>
<td>A</td>
<td>Widespread transmission in humans outside North America</td>
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<tr>
<td></td>
<td>B</td>
<td>Detection of human case(s) in North America, without detection in Utah</td>
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<tr>
<td></td>
<td>C</td>
<td>Detection of human case(s) in Utah</td>
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<tr>
<td></td>
<td>D</td>
<td>Established epidemic(s) in Utah</td>
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<td></td>
<td>E</td>
<td>Period after initial wave in Utah (prior to end of pandemic or a subsequent wave)</td>
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### Appendix 2: Sequence of Mitigation Actions that will occur During a Pandemic

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<thead>
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<th>Hygiene</th>
<th>Alert</th>
<th>Standby</th>
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<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>Distribute</td>
<td>Utilize</td>
</tr>
<tr>
<td>Stockpiled school supplies</td>
<td></td>
<td>Distrubit</td>
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</tr>
<tr>
<td>Hygiene efforts in schools</td>
<td></td>
<td>Begin</td>
<td></td>
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<tr>
<td>Hygiene efforts in public places</td>
<td></td>
<td>Begin</td>
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<tr>
<th>Voluntary isolation</th>
<th>Alert</th>
<th>Standby</th>
<th>Activate</th>
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<tbody>
<tr>
<td>Website posting and media messaging</td>
<td>Pre-pandemic messaging</td>
<td>Pre-pandemic messaging</td>
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</tr>
<tr>
<td>Posters</td>
<td>Print and distribute</td>
<td>Post</td>
<td></td>
</tr>
<tr>
<td>Hotline</td>
<td>Train staff</td>
<td>Open</td>
<td></td>
</tr>
<tr>
<td>Physician materials</td>
<td>Print and distribute</td>
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<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>Implement</td>
<td></td>
</tr>
<tr>
<td>Stockpiled subsistence items</td>
<td>Prepare for transport</td>
<td>Transport</td>
<td>Distribute</td>
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<tr>
<td>Hotline</td>
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<tr>
<td>Liberal policies in businesses</td>
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<td>Implement</td>
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<tr>
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<td>Prepare for transport</td>
<td>Transport</td>
<td>Distribute</td>
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<th>Standby</th>
<th>Activate</th>
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<td>Pre-pandemic messaging</td>
<td>Begin</td>
</tr>
<tr>
<td>Posters</td>
<td>Print and distribute</td>
<td>Post</td>
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<tr>
<td>Social distancing orders</td>
<td>Public health will discuss</td>
<td>Public health will announce</td>
<td>Issue</td>
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<tr>
<td>Closure and cancellation orders</td>
<td>Public health will discuss</td>
<td>Public health will announce</td>
<td>Issue</td>
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<td>Website posting and media messaging</td>
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<td>Posters</td>
<td>Print and distribute</td>
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<td>Listserv</td>
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<td>Business plans and policies</td>
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<th>Student dismissal from school</th>
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</tr>
<tr>
<td>Home mailings</td>
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<tr>
<td>Weekly messages</td>
<td>Begin</td>
<td></td>
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</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>
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</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
made, the decision to use involuntary restriction authority for an individual person should be made by the Local Health Officer or designee.

**Case Definition:**
The case definition to trigger implementation of these measures would be identification of at least one case of novel influenza virus infection using the CSTE/CDC case definition for [Novel Influenza A Virus Infections](https://www.cdc.gov/flu/pandemictools/h5n1/va.html) will be used to determine the case status of ill persons. An outbreak specific case definition will be developed based on the clinical characteristics of ill persons with the identified virus, epidemiologic characteristics (risk factors for infection) of that virus, and available laboratory capacity. For example, if the novel virus were H5N1, part of the case definition might be exposure to sick poultry. It is likely that the case definition will include a probable category which would be used to implement containment measures pending laboratory confirmation and procedures for removing the measures if laboratory testing failed to confirm the infection was caused by the novel virus.

**Isolation – Confirmed, Probable, and Suspected Cases**

**Isolation:**
The patient should be isolated for 10 days after symptom onset. Non-hospitalized patients should remain in their home and limit contact with others, including other household members, as much as possible. If hospitalized or otherwise institutionalized, standard, contact, droplet, and airborne precautions should be followed. In the event that the patient is non-hospitalized but in a living situation where substantial transmission may still occur and appropriate isolation may be difficult (ie college dormitory, shelter, etc) the local health department and UDOH will work together to try and identify an alternative location for isolation.

**Case Investigation:**
The purposes of case investigation may vary according to the specific situation, but a general purpose will be to collect risk factor and epidemiologic information about the case and to identify exposed contacts. The local health department will fill out a case investigation form and submit it to UDOH. Currently, two case investigation forms have been created by UDOH. One form is used for influenza-associated hospitalizations, a current component of seasonal influenza surveillance in Utah. The other form is to be used if a suspected influenza A H5N1 case were to appear in Utah. Both of these forms are currently available for local health department use, and can be easily modified in the event of a pandemic influenza virus that may require additional or different case investigation questions.

**Monitoring:**
Active contact with the patient, a family member or guardian, or hospital staff (if in the hospital) 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.

**Contact Management:**
Contacts of cases should be notified and managed as detailed in the following document.

**Treatment:**
Antiviral treatment of cases prior to community transmission will be dependent upon the effectiveness and availability of antivirals as well as the potential benefit to the individual case.
**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.
Utah Pandemic Influenza Response Plan

Vaccine Distribution and Administration Plan

Revised May 2008
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Goal

To increase and enhance Utah’s pandemic preparedness capacity to decrease health impacts including severe morbidity and death and minimize societal and economic impacts.

Objectives
1. Develop and implement the Utah Pandemic Influenza Vaccination Program for vaccine distribution and administration.
2. Provide guidance to local health departments as they prepare to respond to the different elements of a pandemic event, and as they collaborate with hospital, medical, emergency and public safety responders, and tribes in communities/jurisdictions throughout Utah related to vaccination.
3. Provide guidance to health care organizations as they prepare to respond to a pandemic event and as they work externally collaboratively with public health and community agencies.
4. Offer vaccination safely, efficiently, and with equitable distribution to priority groups and later the general populations.
5. Develop a plan following federal guidelines for providing ongoing and timely monitoring and accountability of vaccine coverage and safety.

Purpose

While influenza vaccine is the most effective tool for preventing complications of influenza, the distribution and use of pandemic influenza vaccine will differ from that of the annual vaccine in several ways. Pandemic influenza vaccine would not be available due to production lags for at least 4-6 months after the pandemic virus had been identified and the supply of vaccine from manufacturers would be insufficient for some time after that.

This plan contains recommendations on planning for the different elements of a pandemic vaccination program. It explains the processes involved with the acquisition, storage, distribution, accountability, and administration of pandemic influenza vaccine for Utah to assure optimal use of available vaccine.

This is a working document. Pandemic vaccine plans may be adapted to fit the scope of an actual event. The Utah Department of Health (UDOH) may use this plan as directed.

Other related plans developed for emergency management and response at the State and/or the local and or tribal level will be consulted in an actual emergency.
Situation Description

Influenza vaccination is the cornerstone for prevention and control of seasonal influenza and its complications. Planning for administration of a pandemic vaccine is an important component of pandemic preparation. An influenza pandemic would be a worldwide outbreak caused by a novel influenza virus to which humans have limited or no immunity.

Based on historical experience, the severity of illness caused by a pandemic could vary widely. Some pandemics have caused widespread, serious morbidity and mortality. The initial response to an influenza pandemic will include medical care, community containment and personal protective measures, and targeted use of antiviral drugs.

The best lifesaving protection against a pandemic influenza virus would be an effective vaccine. However, a pandemic vaccine can only be made after the pandemic virus has been identified and cannot be stockpiled in advance of an outbreak. The vaccine used for seasonal influenza would not be effective against a pandemic influenza virus.

Pre-pandemic vaccine from government stockpiles (if available for the pandemic subtype or partially cross-protective to the circulating virus) may be considered for persons in designated priority groups.

Consequently, a vaccine would probably not be available during the early stages of a pandemic and would be in limited supply thereafter under the control of the Centers for Disease Control and Prevention (CDC). Once a pandemic influenza vaccine specific to circulating pandemic virus strain is available, two doses administered at visits separated by a month or more will probably be needed to stimulate effective immunity. The distribution and administration of this vaccine would be an important and demanding component of pandemic response efforts.

Planning Assumptions

1. Under most scenarios, a vaccine would not be available during the early stages of a pandemic and would be in limited supply thereafter. Vaccine for a pandemic influenza strain would not be available until at least World Health Organization (WHO) pandemic Phase 6; widespread availability may not occur until many months after the onset of a pandemic. It would require two doses, separated over a period of time.

2. A pandemic influenza vaccine would be purchased and distributed by CDC to states primarily according to population size. The number of doses that are available once production begins will depend on manufacturing capacity and characteristics of the vaccine. Current information suggests that once
production begins, 12,500-112,500 doses per month might be available for Utah based on 2006 production capacity. Those estimates could increase to 50,000-450,000 doses per month based on planned 2008 production capacity. A recent estimate by CDC of Utah’s distribution from pre-pandemic stockpiles (non novel influenza subtypes) was estimated to be 50,000 initially. This would initially be delivered in incremental weekly distribution. State and local plans will need to consider and assure distribution of vaccine to Native American Tribes.

UDOH maintains a secure on-site central vaccine depot to store and distribute vaccine with capacity to store approximately 90,000 doses. During an emergency, UDOH would receive and distribute all vaccine initially available to Utah from CDC. As supplies stabilize from CDC or manufacturers, UDOH Immunization Program would redirect shipping to certified vaccine depots/sites through VACMAN/VODS (CDC vaccine distribution system). Shipments can be redirected as supplies stabilize to up to 100 optional certified sites (in the current system).

3. In a pandemic, priority recommendations would be established nationally by the Advisory Committee on Immunization Practice (ACIP)/National Vaccine Advisory Committee (NVAC)/CDC. The priorities for administration of available pandemic influenza vaccine would be different from those used for seasonal influenza vaccination. In particular, health care providers and other essential community responders would receive a higher priority and probably would be the first group to receive vaccine before members of the general public.

4. Priorities for vaccine use established in advance at a national or state level would need review for possible alterations due to specific circumstances of the vaccine, vaccine supply, or the health impact of the vaccine on different populations.

Eventually, sufficient vaccine should be available for mass vaccination of the population. Given the magnitude of the vaccination effort, detailed planning needs to occur at the local as well as at the state and national level. A central aspect of planning will be determining how public and private sectors will work together to manage this effort and accomplish the goal.

5. Statewide utilization of procedures and information systems to track vaccine inventory, administration, coverage of priority groups, adverse events, and effectiveness of distribution will be required by federal agencies and essential to an effective response. UDOH has established links to the CDC systems to which states must link which are VACMAN/VODS for vaccine distribution and accountability and the Countermeasure and Response Administration System (CRA) for vaccine administration tracking. The Emergency Immunization Management System (EIMS) will be evaluated to ensure compliance with the
Public Health Information Network (PHIN) and Countermeasure Reponse Administration (CRA).

6. In the absence of vaccine during the early phases of a pandemic, other health protection measures should be utilized. Pneumococcal polysaccharide vaccination should be utilized as a first line of defense for all people at risk, following general recommendations. Infection control practices can provide some protection against complications of influenza.

7. Space for vaccine storage, transportation/security and supplies for administration of vaccine could be in short supply.

Vaccine Distribution and Administration Plan Format and Content

The Utah Department of Health Immunization Program (UIP) will provide support to meet the goal of this plan through overall statewide leadership, coordination and feedback, regarding the implementation and achievement of all plan objectives and activities.

UIP will develop policies and procedures in consultation with partners to ensure that activities support community level planning and implementation based on agency and community needs and resources. UIP will work closely with local public health departments and partners to ensure optimal utilization of available resources.

Concept of Operations

The pandemic influenza vaccine allotted to Utah will be distributed and used according this plan. This plan will delineate information distribution for all pandemic vaccine – pre-pandemic federal stockpile and novel strain pandemic vaccine as developed. It provides recommendations to state and local partners and other stakeholders on planning for the different elements of a pandemic vaccination program. The recommendations for the Interpandemic and Pandemic Alert periods focus on planning for vaccine distribution, vaccination of priority groups, monitoring of adverse events, tracking of vaccine supply and administration, vaccine coverage and effectiveness studies, communications, legal preparedness, and training. The recommendations for the Pandemic Period focus on working with healthcare partners to implement plans for vaccination against pandemic influenza and initiative monitoring activities.

This plan would be activated by the approval of UDOH Executive Director’s Office upon determination that there is a novel strain of influenza that threatens
the public’s health in Utah. The implementation of this plan will be under the direction of the UDOH Executive Director or his designee(s).

**Pandemic Vaccine Distribution Planning Process**

The distribution of pandemic vaccine planning and administration process involves incorporation of planning guidance as directed by the CDC. This plan is reviewed and developed using a committee process. This portion will be reviewed as part of the Pandemic Influenza Workgroup conducted by the UDOH. Primary oversight of the Pandemic Influenza Workgroup is given to the State Epidemiologist. The Pandemic Influenza Workgroup is comprised of a broad cross-section of State and local public health, State Division of Homeland Security, healthcare organizations, and other related stakeholders.

Local pandemic vaccine distribution and administration plans will be incorporated into this plan by providing local health departments specific format pertaining to: planning for vaccine storage and redistribution/administration, vaccination of priority groups, monitoring of adverse events, tracking of vaccine supply and administration, vaccine coverage and effectiveness studies, communications, legal preparedness, and training.

The Utah Scientific Vaccine Advisory Committee will evaluate vaccine and vaccine policy issues on an ongoing basis and make recommendations for distribution and administration of vaccine as needed.

The Utah Adult Immunization Coalition (UAIC) will collaborate with and assist the State Immunization Program in the development and implementation of influenza contingency plans. Since the UAIC encompasses a broad spectrum of community services and organizations (public and private), it will allow grass-roots input and establish comprehensive support for plans developed.

Plans will be modified as exercise and real events indicate that changes are needed. Regular reviews of this plan will be included as part of the Pandemic Influenza Workgroup, or as needed by UDOH program staff.

**Pandemic Vaccine Distribution**

**Utah Allocation Process for Pandemic Vaccine**

The US Department of Health and Human Services (DHHS) is working to expand pandemic influenza vaccine production capacity and will signal manufacturers when to shift from annual to pandemic vaccine production and assure that pandemic vaccine is produced at the fullest capacity. There are currently 3
manufacturers of pre-pandemic influenza (H5N1) vaccine: sanofi Pasteur, Novartis, and GlaxoSmithKline (GSK).

At the onset of an influenza pandemic, DHHS, in concert with the Congress and in collaboration with the States, will work with the pharmaceutical industry to acquire vaccine directed against the pandemic strain. UDOH will work with federal agencies to receive available vaccine in proportion to the state population, starting with priority groups. Regardless of the production technology used, there will a production lag of 4-5 months from the time the pandemic virus is isolated until the time formulated and filled vaccine will be available from manufacturers for distribution.

In the future antigen sparing potential of adjuvants could substantially increase the number of doses of pre-pandemic and pandemic influenza vaccine, when it becomes available. Adjuvant and antigen would then be mixed and administered at the point of dispensing (POD) and require less rigorous storage and handling requirements. This will require planning for points of receiving, storing, allocating, repackaging, and redistributing adjuvant.

**UDOH Policies and Administration**

The UDOH under the direction of the Executive Director or designee will convene a policy group with identified leadership. The determination to use pandemic influenza (pre-pandemic federal stockpile and/or novel strain pandemic vaccine) vaccine as available will be made by UDOH Executive Director in consultation with the Governor’s Office, the State Epidemiologist, and Utah Immunization Program.

The Utah Scientific Vaccine Advisory Committee (USVAC) will evaluate vaccine and vaccine policy issues and Operating Procedures (SOPs) on an ongoing basis and make recommendations for distribution and administration of vaccine as needed to UDOH.

Utah may also receive additional vaccine allotments through other distribution streams example Homeland Security for predetermined priority groups. Use of this vaccine should be coordinated for regional distribution and storage and handling, security, safety monitoring and accountability.

**Notification and Information for Response**

UDOH will notify response agencies including all local health departments prior to receipt and distribution of pandemic influenza vaccine. Agencies or individuals needing information will receive automated messages through land line phones, cell phones, email, fax machines, and pagers. People notified are instructed to
log in to the Utah Notification and Information System (UNIS) website for additional information. The UNIS web address is http://health.utah.gov/unis

Documentation, plans, and related information may be posted in UNIS as a secure web-based area for response partners.

**Request Process for Pandemic Vaccine**

The request process for pandemic vaccine (pre-pandemic and novel pandemic) will be initiated by UDOH to CDC as novel influenza becomes pandemic following notification and protocols from DHHS and CDC. The federal request process will be established by CDC.

The vaccine will be requested and distributed by CDC to states including Utah through UIP utilizing the federal VACMAN/VODS system. The request process and distribution process could also be for federally stockpiled pre-pandemic vaccine. State allotments from CDC to Utah will be determined by the following: the amount of vaccine available nationally; determination of need for second doses; by priority population data; and by state disease surveillance data. UDOH will develop estimated allotments to determine the proportion of vaccine that will be allocated from UDOH to local health department jurisdictions determined by the amount of vaccine available to Utah; need for second doses reserves; by priority population data; and by state disease surveillance data. Allotments will be reviewed as vaccine availability becomes more stable.

Local health officers have authority to request from UDOH on behalf of their jurisdiction a quantity of initial and/or monthly allotments of pandemic influenza vaccine. Requests must be based on local pandemic plan data from predetermination estimates and identification of priority groups, population in their service area/jurisdiction including tribal governments, consideration of need for second doses, and current disease surveillance data.

Redistribution of state allotments from CDC to UDOH will be under the discretion/approval of the Executive Director or designee. The vaccine will be distributed by the UIP under the management of the UIP Vaccine Manager to local health departments and/or other pre-certified vaccine depot sites designated in local health department plans through VACMAN/VODS system. Backup for distribution will be provided by UIP staff who have been trained following job action sheets. Second dose allotments for each jurisdiction will be held in the central depot that the jurisdiction can draw against based on need and documentation in Emergency Immunization Management System (EIMS) and the Counter Measure Response Administration (CRA) report. As supplies increase and priority populations are covered, UDOH, in collaboration with local health departments, will determine release of second dose allotments.
The use of vaccine may initially be limited to pre-designated priority groups. Use and allocation of local health jurisdiction allotments will be determined by the local health officers, partners, and tribal leadership for their respective jurisdictions per priority protocol. Dispensing to the general public will only be performed as sufficient vaccine is available and authorized.

UDOH, UIP, will monitor unused vaccine from local health departments who have met their priority vaccination goals based on data collected for CRA weekly reports and VACMAN/VODS data. UDOH will have authority to collect and/or direct redistribution to local health department service areas who may have unmet needs or more prevalent disease from surveillance data.

Storage and Security of Pandemic Influenza Vaccine

Receipt of Pandemic Influenza Vaccine

Initial state allotments of pandemic influenza vaccine (pre-pandemic and novel pandemic) will be received by UIP Vaccine Management Coordinator and staff. It will be stored and distributed from the central UDOH vaccine depot. Storage will be coordinated by the UIP and overall inventories will be maintained by the UDOH. The UIP vaccine depot includes security, communication access, emergency power, accountability, supplies and staffing for distribution. Standard Operating Procedures (SOPs) are in place for the current vaccine program and will be modified to include pandemic needs. UIP staff members are very familiar with the VACMAN/VODS system as it is used for routine vaccine delivery for the Vaccine for Children program (VFC) and have standardized inventory accountability procedures.

As supplies and vaccine shipments stabilize from CDC or manufacturers, UDOH can redirect shipping sites to local health departments and other sub-recipient providers through VACMAN/VODS. CDC pandemic plans currently allow for redirection to up to 100 sub-recipient sites over time. Decisions for redirection would be done in consultation with local health departments.

Local facilities for event driven vaccine allotments will include local health departments who have submitted plans and whose vaccine depots have been pre-certified for vaccine storage and handling and security. Local health departments might decide to utilize allocations for some redistributed based on need and local plan by the local health district under the direction of a local distribution manager to local area hospitals, clinics, or administration sites. All sub-recipient sites would have to be pre-certified by UDOH for storage and handling and security.
Initial distribution of vaccine from UDOH to local facilities will be on a weekly basis to control distribution and adjustments to geographical areas, and minimize and address any storage problems identified at the vaccine provider depots.

Appendix A: Covers guidelines/resource for local estimates and enumeration of priority groups.

**Security Resources and Storage Capacity and Chain of Custody**

Security resources for vaccine in the UDOH central vaccine depot are maintained and tested including drills/tests to determine and address vulnerability areas including potential for riot control. Additional security is provided by secure card reader access allowing only access by designated UDOH staff holding certified UDOH identification badges and is supported by constant camera monitoring by security guards. The list for access to the vaccine depot is reviewed quarterly.

The UDOH depot has constant temperature monitoring of all mechanical refrigeration units by an offsite third party and the refrigeration units are connected to a backup generator which is tested weekly by the Division of Construction and Facilities Management (DFCM). A maintenance contract is in place for UDOH refrigeration units on an ongoing basis.

UDOH has capacity to store approximately 90,000 doses (estimated multidose vials) at any given time and has stockpile supplies for shipping. In addition, a dual temperature vaxi-cool is maintained for additional storage and transportation with a capacity of approximately 1,000 doses.

Chain of custody procedures must be followed at each level. DHS is the federal agency responsible for coordinating security when vaccine is under federal control. Once vaccine is distributed to state programs or local officials at ship to sites, local entities will assume responsibility for security and accountability. Local health department pandemic plans must document provision for security for pandemic influenza vaccine that be provided by staff and security resources. Delivery of vaccine if needed may be under the direct supervision of the Utah Highway Patrol and supporting facility and local law enforcement agencies. UDOH will develop state level agreements or Memorandum of Understanding (MOUs). Local security resources will be developed and coordinated by local authorities upon delivering vaccines to a local health department and security plans should be in place for vaccine administration sites also especially if that is at an offsite location. Local security resources could include county sheriffs, municipal police departments, and other local resources as identified and designated in local plans and local agreements/MOUs. The local plans will include incident response plans for potential riots or other security incidents.
Once on site at a local health department or redistribution site, the pandemic vaccine must be stored in a physically secure area at all times and only accessed by designated local health department staff that have local health department badges. It will be required to be stored with vaccine alarm and monitoring systems. All staff with vaccine related responsibility must complete storage and handling certification tests. A written emergency plan for vaccine storage and handling at all sites including back up generator must be in place to protect the integrity of the vaccine if a power or mechanical failure occurs. Drills of the local emergency plan must be held on a regular basis and documented to determine and address vulnerability areas. The central local health department receiving facility should have capacity to store approximately 10,000 doses (estimated multidose vials). To redistribute to sub-recipients, local health departments must maintain shipping supplies (shipping containers, jell packs, freeze indicators, warm marks, foam, packing tape, shipper warning labels).

Appendix B: Covers requirements for certification as vaccine storage/handling and security.

**Cold Chain Documentation for Pandemic Vaccine**

Appropriate cold chain must be maintained throughout the storage and distribution process. Cold chain requirements for pre-pandemic and pandemic vaccine are the same as for seasonal influenza vaccine.

UDOH will only distribute pandemic influenza vaccine to agencies (local health departments or sub-recipient sites) certified to store and handle pandemic influenza vaccine as previously outlined. This will be documented prior to an event and addressed in local plans. A standard form will be maintained within UIP for certification and updated annually.

UIP will provide all local health departments with appropriate cold chain documentation in shipping documentation for all vaccine received from the central depot. All shipments will have vaccine temperature shipping monitors. As distribution stabilizes and direct shipments are reestablished, CDC’s third party distributor or the manufacturers will be responsible for cold chain information and shipment monitoring.

Local health departments must utilize and provide documentation on cold chain to any sub-recipient site(s).
Administration of Pandemic Influenza Vaccine

Priority Groups and Public Administration

UDOH has adopted the National Vaccine Advisory Committee’s (NVAC) guidelines for priority groups to receive pre-pandemic and pandemic influenza medications. Information may be found at http://www.hhs.gov/pandemicflu/plan/appendixd.html These guidelines are being updated in light of vaccine technology advances and domestic capacity building. Draft recommendations are posted for public comment at: http://www.pandemicflu.gov/vaccine/prioritization.html

The Department of Homeland Security may have further occupationally defined priority groups that may need to be considered.

Priority groups may have changes based on the characteristics of the causative virus and on vaccine effectiveness and availability.

The administration of pandemic influenza to the public will be performed under the authority of the local health departments after state authority to go beyond the priority group vaccination is approved. This would be under the authority of the Executive Director of UDOH or designee.

Local health departments will focus initial distribution to pre-designated sites for priority distribution. Local health departments may or may not be required to open emergency vaccination centers as needs and circumstances change.

Administration Sites

Local health departments in collaboration with local stakeholder agencies and Tribes will develop local/regional plans for administration of pandemic vaccine including identification of the number and location of administration sites to reach target groups based on planning assumptions. This will be accomplished as needed with development of memoranda of agreements as applicable. Information on planned sites and locations will be included in local health department plans accepted and on file with UDOH.

Administration of Second Dose Vaccination

A vaccine against pandemic influenza will likely require two doses, administered at least a month apart, to provide a level of immunity comparable to that obtained with seasonal influenza vaccines. Recommendations on the number of required
doses and the timing of the second dose will be issued once immunogenicity trials have been completed.

If two doses are required to achieve immunity, local health department plans must have strategies to ensure that vaccinated persons return for the second dose and include plan to release dose if person doesn’t return or can’t receive a second dose.

In such a case, UDOH and local health departments will:

- Arrange for information about the need for a second dose to be disseminated through public service announcements and other methods, according to established communication plans, and at the time of first vaccination.
- Ensure that vaccine procurement and distribution to vaccination sites accounts for the need to use portions of future shipments for second doses, thus reducing the number of available first doses. In this case communication will include strong encouragement of methods for preventing the spread of the virus.
- Utilize the reminder/recall functionality of the Utah Statewide Immunization Information System (USIIS) and/or EIMS or local EMR systems for recall and reminder.

Administration Supplies

At present, the Federal government plans to provide state immunization projects with needles and syringes for administration of pre-pandemic influenza vaccine. At present the allocation amounts are undetermined as are availability of supplies for pandemic vaccine.

Contingency Planning for Investigational New Drug Use

If a pandemic spread is rapid and standard vaccine efficacy and safety tests have not been completed by the time of response, unlicensed vaccines might be needed. In such a case, UDOH and local health departments would distribute unlicensed vaccines under the Food and Drug Administration (FDA) Investigational New Drug provisions.

All parties administering vaccine need to have plans in place to distribute unlicensed vaccines (if needed) under FDA’s Investigational New Drug (IND) provisions or an alternative to IND Emergency Use Authorization (EUA) may be utilized.

**IND Definition:** IND means an investigational new drug application. "IND" is synonymous with "Notice of Claimed Investigational Exemption for a New Drug." Investigational new drug means a new drug or biological drug that is used in a clinical investigation. The term also includes a biological product that is used in
vitro for diagnostic purposes. The terms "investigational drug" and "investigational new drug" are deemed to be synonymous.

Unlicensed vaccines might be needed, for example, if pandemic spread is rapid and standard vaccine efficacy and safety tests are not completed in time. IND provisions require strict inventory control and record keeping, completion of a signed consent form from each vaccine, and mandatory reporting of specified types of adverse events.

Documentation for IND would be determined by the manufacturer and CDC at the time of the event based on the pandemic vaccine produced. IND provisions require strict inventory control and record keeping, completion of a signed consent form from each vaccine recipient, and mandatory reporting of specified types of adverse events. IND provisions also require approval from Institutional Review Boards (IRBs) in hospitals, health departments and other vaccine distribution venues. FDA regulations permit the use of a national or "central" IRB.

Accountability and Tracking Procedures

The National Pandemic Influenza Plan calls for monitoring of the appropriate use of pre-pandemic and a scarce new pandemic influenza vaccine. To accomplish this, CDC will require states and UIP to track vaccine doses administered and collect and aggregate minimum data elements and transmit weekly to CDC through CRA.

UDOH, local health departments and participating immunization providers must be prepared to collect data based on national established data standards to include vaccine effectiveness, vaccine supply and distribution, vaccine coverage, and vaccine safety monitoring and reporting. Mechanisms for tracking vaccine supply and distribution will depend on how the vaccine is produced and distributed.

UDOH will establish data standards based on CRA requirements. CRA requirements are evolving but currently include maintaining patient information for each pandemic vaccine dose administered including IND information if required. At minimum the information required will include: patient name, contact information, type of medication, lot number, and pertinent patient medical history and other information as required by CRA. Other specific information may be required for a specific pandemic event by CDC.

UDOH is responsible for data management systems needed to implement federal reporting requirements. Statewide utilization of procedures and information systems to track vaccine inventory, administration, coverage of priority groups, adverse events, and effectiveness of distribution will be required
by federal agencies and is essential to an effective response. UDOH electronic information systems link to required CDC systems which are VACMAN/VODS and CRA. The linkage is through the EIMS which is a part of USIIS and is prepared to provide all reports to CDC as required using XML and manual file update through the CRA application. This was successfully tested in December 2007. This will evolve in the future to HL7, using the PHIN MS (Public Health Information Network Messaging Service). UDOH will maintain PHIN compliant information systems for tracking vaccine distribution and administration.

The local health department will be required to certify that their electronic medical record system (EMR) will link to USIIS/EIMS or enter information directly into USIIS/EIMS to transfer information to document number and priority of vaccine recipients per data standards/policy. Federal requirements require that this reporting standard applies to all sub-recipient distribution sites that may be defined by the local health departments in their local plans and that a means of tracking the status of vaccinations by those sub-recipient sites.

**Vaccine Coverage Data**

DOH is responsible for state reports from VACMAN/VODS and EIMS to CRA to provide coverage and accountability data.

Additionally CDC will work with states to develop a system for monitoring vaccination rates at regular intervals, using a pre-existing population-based survey tool (Behavioral Risk Factor Surveillance System) that provides national and state level estimates and complements the vaccine tracking systems previously described.

CDC may also implement studies to access vaccine effectiveness by comparing rates of influenza related illness, hospitalization, and/or death among vaccinated and unvaccinated persons. The studies would be done in collaboration with healthcare and university partners and with state and local health departments that participate in influenza surveillance systems.

**Vaccine Safety**

Monitoring for vaccine adverse events will be necessary following immunization with a pandemic influenza vaccine. UDOH is responsible for state reporting through CRA and to plan for vaccine safety and the timely and complete reporting of pandemic influenza vaccine adverse events following immunization (AEFI). Follow-up information on vaccine safety through the Vaccine Adverse Event Reporting System (VAERS) will need to be collected and reported to the UDOH state reporting system in UIP. Additionally, providers will also report through the VAERS system as they do with any vaccine. State level coordination can also help minimize duplicate reporting of AEFI.
VAERS is an established system with which local health departments and providers are familiar. The Immunization Program Manager and/or the Vaccine Safety Coordinator (state VAERS contact in UIP) will serve as the point of contact for vaccine safety (reporting/surveillance) in planning for the use and monitoring of vaccines and follow-up and case management reports. The point of contact will serve as the primary educator for vaccine safety, building a network of vaccine safety contacts, and serve as a resource for vaccine safety related issues. Local health departments will appoint a local Vaccine Safety Coordinator to coordinate with healthcare organizations that may serve as points of vaccine distribution will be responsible for follow-up and case management at the local level.

**Communication Plan for Vaccine Distribution and Administration**

**Public Information**

UDOH has adopted the National Vaccine Advisory Committee (NVAC) guidelines for priority groups to receive pandemic influenza vaccine. That means the pandemic vaccines as with antivirals will initially only be available to certain groups of people. In order to minimize concern on the part of the public, information must be made available prior to the incident outlining the pertinent aspects of the guidelines and how and to whom the vaccines will be administered.

In order to counteract any undue alarm that may accompany this type of announcement, we need to provide information during the pandemic influenza outbreak that focuses on general measures to prevent illness and what the public can do to improve their situation rather than antiviral medication use. We must also stress that at the time of an outbreak, work will begin on a vaccine, but it won’t be ready for approximately six months.

As per emergency communication plans, information will be coordinated at a Joint Information Center. Local partners will be included to ensure consistent and accurate messages and to ensure that citizens are informed and know in advance where they will be vaccinated when vaccine to the public is available. UIP will coordinate with the Communication Committee to develop ideas for key points to consider in communication messages.

All pandemic level plans should include messages for routine seasonal immunization for flu and pneumococcal vaccine. Higher vaccination rates will foster increased familiarity with and public confidence in influenza vaccines and increased use of pneumococcal polysaccharide vaccine may decrease rates of secondary bacterial infections during a pandemic.
Key messages for dissemination will include:
- Rationale for prioritization and listing of priority groups to receive vaccine
- Established phasing and anticipated timeline of vaccination according to and after priority groups have been vaccinated
- Times and locations where vaccinations will be available
- Emphasis of the importance of vaccination in order to prevent future pandemic waves
- Information on risks, benefits, and contraindications.

Vulnerable and Hard to Reach Populations

UDOH has developed baseline information for most of the unique populations within the State. Local plans need to ensure event-specific strategies for vaccinating medically underserved, hard to reach populations, seasonal visitors, and migrant populations to improve equity in access within priority groups, and later the general population.

Information for pandemic vaccine distribution will follow recommendations as part of the public information outreach during a pandemic outbreak. Issues addressed include language barriers, trust, mentally and physically impaired, etc. Liaisons and resources for communication to the vulnerable and hard to reach populations will be utilized to the extent that they are available. Pre-event messaging for pandemic influenza is being developed and implemented as part of the comprehensive planning for preparedness.

Tribal Populations

At this time, Utah tribe’s contract with local hospitals and providers for services where hospitalization is required. Native American tribes can purchase annual influenza vaccine through the Veterans Administration Prime Vendor contract and through the private sector distribution markets as well.

Most of Utah’s tribes cross state boundaries and local health department jurisdictions. At this time pending a national decision they would receive access to pandemic influenza vaccine through their local health department service area following priority group designations.

All tribal issues will be coordinated with the UDOH Indian Health Liaison. Planning and real event policies must follow UDOH Tribal Consultation Policy and meet the approval of the Utah Indian Health Advisory Board.

Tribes will be provided access to UDOH pre-scripted messages, public messages, educational tools and support to assist in reaching their populations.
related to pandemic influenza vaccine messages. State Tribal leaders may assist
with or be responsible for translation of materials in their native language.

Training and Exercise for Pandemic Vaccine Distribution and
Administration

This plan and related response plans will be used as a tool in training and
exercise development by UDOH. Current training for pandemic influenza
response is coordinated by UDOH Training and Education Center. Training
curricula includes development emergency response teams for all UDOH staff,
volunteer training, and outreach efforts to all stakeholders. Exercise
development for influenza vaccine distribution has been done by local health
departments and includes clinic planning, administration, and documentation.
Local health departments have done mass clinic exercises since 2005 and after
action plan reports are available. Past training and after action exercise reports
are archived in UDOH shared drives for review.

Local health departments, most of Utah’s tribes, and local stakeholders have
developed or are coordinating training and exercise plans for related pandemic
influenza response. All training and exercise reports are encouraged to be
submitted to UDOH for review purposes. U-Train is also being highly promoted
as a means to provide training to isolated areas such as some of Utah’s tribes.
References

Appendices
Appendix A: Influenza Vaccine Estimate Worksheet

Instructions for Influenza Vaccine Estimations Worksheet

Purpose:
The ultimate goal of pandemic influenza vaccination will be to vaccinate the entire population of the United States. However, it will be necessary in the early part of an influenza pandemic to administer vaccine to individuals using a strategy that minimizes morbidity, mortality and social disruption. The purpose of the Influenza Vaccine Estimations Worksheet is to document the number of persons within specific tier groups in each county who will need to be prioritized to receive pandemic influenza vaccine.

Tier Groups
• ACIP and NVAC have drafted vaccine priority group recommendations which are outlined in the US DHHS Pandemic Influenza Plan, November 2005. The priority groups are arranged into tiers with persons in Tier 1 being targeted to receive vaccine sooner than persons in Tier 2. Persons in subtier 1A would be targeted to receive vaccine before persons in subtier 1 B.
• It may not be a feasible strategy to vaccinate all individuals in one tier before offering vaccine to individuals in another tier. It may be necessary to offer pandemic vaccine to a proportion of individuals in several tier or subtier groups simultaneously.
• These tier groups are only recommendations and may be updated as the pandemic unfolds. Members of the ACIP and NVAC realize that state and local circumstances may result in some modifications to the tier and subtier groupings.
• Rationales for each tier and subtier as well as more detailed descriptions of members of each group are discussed in the US DHHS Pandemic Influenza Plan, Part 1, Appendix D.

Public Health and Healthcare Personnel
• Persons directly involved with influenza vaccine and antiviral manufacturing and distribution
• Can include those involved with distribution, essential support services and suppliers (e.g., growers of pathogen-free eggs for growth of vaccine virus).
• Healthcare workers with direct patient contact and a proportion of persons working in essential healthcare support services needed to maintain healthcare services.
• Consider all healthcare facilities within the county: local health department, hospitals, long-term care facilities, home care, and physician offices. EMS personnel should be included in this category / tier group as well.
• Infection control practitioners and occupational health personnel at hospitals can serve as a resource for determining the number of healthcare personnel at their facility. Office managers can serve as a resource for estimating the number of personnel in physician offices.
• Public health workers with direct patient contact
• Should include vaccinators, individuals who would distribute antivirals, and public health workers who provide patient care
• Public health emergency response workers critical to pandemic response (should comprise approximately 1/3 of public health workforce in county)
• Include persons who do not have direct patient contact but who are essential for:
  • surveillance of influenza and its impact
  • allocation of public health resources
  • development and implementation of public health policy
• Other public health workers emergency response workers (should comprise the remaining 2/3 of your public health workforce)
• Use additional sheets as necessary for other healthcare and public health personnel not listed.
• Public safety personnel include firefighters, police, dispatchers, and correctional facility staff.
• Key government leaders are those individuals needed to make policy on pandemic influenza prevention and control efforts.
• Utility workers (water, power and sewage management)
• Transportation workers
  • who maintain a critical supply of food, water, fuel and medical equipment
  • who provide public transportation essential for provision of medical care, transportation of healthcare workers to work and transportation of ill persons seeking care
• Telecommunication and information technology service workers who are critical for maintenance and repairs of these systems
• Use additional sheets as necessary for other public safety and essential community personnel not listed. Local circumstances will likely vary.

Groups at High Risk of Influenza Complications
• Persons 65 years and older
• If possible, estimate which persons are at the highest risk of complications
• Persons with at least one medical condition for which influenza vaccine is recommended besides their age
• Persons 6 months - 64 years with a medical condition for which influenza vaccine is recommended
• If possible, estimate a proportion of persons at highest risk of complications
• Persons with at least two medical conditions for which influenza vaccine is recommended
• Persons hospitalized within the last year for influenza, pneumonia or other influenza high-risk condition
• Pregnant women
• Household contacts of severely immunocompromised persons (AIDS, transplant recipients, incident cancer cases)
• Household contacts of children < 6 months
• Healthy children 6-23 months

ACIP and NVAC are not currently recommending that nursing home residents and severely immunocompromised persons be prioritized to receive pandemic influenza vaccine; however, they do recommend these groups be prioritized for antiviral treatment and prophylaxis as well as a recommendation to vaccinate healthcare workers and household contacts of these individuals to reduce transmission of influenza to these high-risk groups. Further definitions and discussion of this decision can be found in the US DHHS Pandemic Influenza Plan, Part 1, Appendix D, pages D-17 and D-18.

**Worksheet Submission:** Mail to the Immunization Program, PO Box 142001, Salt Lake City, Utah 84114.

Include contact information; local health department submitting worksheet, date of completion, person completing and phone number. Local health departments would submit a separate worksheet for each county in their jurisdiction.

**Retention:** Maintain a completed copy, updated annually, in the local health department emergency preparedness plan.
Essential Personnel for Pandemic Response | Tier | County population | Vaccine Estimations
---|---|---|---
Public Health and Healthcare Personnel
Vaccine/antiviral manufacturers and essential support | 1A | | Single-Dose Packages
Healthcare workers with direct patient contact and essential support workers to maintain healthcare services | 1A | | Multi-Dose Packages
Public health workers with direct patient contact (including vaccinators) | 1A | |
Public health emergency response workers critical to pandemic response | ID | |
Other public health emergency responders | 2B | |
(list other Public Health/Healthcare Personnel on additional sheet— if needed)
Public Safety Personnel
Police | 2B | |
Firefighters | 2B | |
911 dispatchers | 2B | |
Correctional facility staff | 2B | |
(list other Public Safety Personnel on additional sheet — if needed)
Essential Community Service Personnel
Key government leaders | ID | |
Essential utility workers (power, water, sewage) | 2B | |
Transportation workers | 2B | |
Essential telecommunications/IT | 2B | |
Other key government health decision-makers | 3 | |
Funeral directors/embalmers | 3 | |
(list other Essential Community Personnel on additional sheet— if needed)

TOTALS

1 Tier groups are listed in order and further described in the *US DHHS Pandemic Influenza Plan*, November 2005 (Part 1, Appendix D, pages D-13 through D-18).
2 Estimate the total number of persons in each category for your county. Collaborate with appropriate healthcare facilities and public service personnel to obtain realistic numbers.
3 Document packaging preferences for Vaccine Estimations based on administration sites and storage facilities.
<table>
<thead>
<tr>
<th>Groups at High Risk of Influenza Complications</th>
<th>Tier(^1)</th>
<th>County population(^2)</th>
<th>Vaccine Estimations(^3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Single-Dose Packages</td>
</tr>
<tr>
<td>Persons 65 years and older(^4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 or more high-risk medical conditions</td>
<td>IB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthy (no high-risk medical conditions)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Persons 6 months to 64 years(^5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 or more high-risk medical conditions</td>
<td>IB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>History of hospitalization for influenza, pneumonia or other influenza high-risk condition in the past year</td>
<td>IB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pregnant women</td>
<td>1C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Household contacts of severely immunocompromised persons</td>
<td>1C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Household contacts of children &lt;6 month olds</td>
<td>1C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthy children 6-23 months</td>
<td>2A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 high-risk medical condition</td>
<td>2A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOTALS**

\(^1\) Tier groups are listed in order and further described in the US DHHS Pandemic Influenza Plan, November 2005 (Part 1, Appendix D, pages D-13 through D-18).

\(^2\) Estimate the total number of persons in each category for your county.

\(^3\) Document packaging preferences for Vaccine Estimations based on administration sites and storage facilities.

\(^4\) Excludes the elderly in nursing homes.

\(^5\) Excludes individuals who are immunocompromised.
Additional Essential Personnel for Pandemic Response not listed in previous categories

<table>
<thead>
<tr>
<th>Tier</th>
<th>County Population</th>
<th>Vaccine Estimations&lt;sup&gt;3&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Single-Dose Packages</td>
</tr>
</tbody>
</table>

**TOTALS**

<sup>1</sup>Tier groups are listed in order and further described in the *US DHHS Pandemic Influenza Plan*, November 2005 (Part 1, Appendix D, pages D-13 through D-18).

<sup>2</sup>Estimate the total number of persons in each category for a county. Collaborate with appropriate healthcare facilities and public service personnel to obtain realistic numbers.

<sup>3</sup>Document packaging preferences for Vaccine Estimations based on administration sites and certified storage facilities.
Table 1: Vaccine Priority Group Recommendations*

<table>
<thead>
<tr>
<th>Tier</th>
<th>Subtier</th>
<th>Population</th>
<th>Rationale</th>
</tr>
</thead>
</table>
| 1    | A       | • Vaccine and antiviral manufacturers and others essential to manufacturing and critical support (~40,000)  
                  • Medical workers and public health workers who are involved in direct patient contact, other support services essential for direct patient care, and vaccinators (8-9 million) | • Need to assure maximum production of vaccine and antiviral drugs  
                  • Healthcare workers are required for quality medical care (studies show outcome is associated with staff-to-patient ratios). There is little surge capacity among healthcare sector personnel to meet increased demand |
|      | B       | • Persons > 65 years with 1 or more influenza high-risk conditions, not including essential hypertension (approximately 18.2 million)  
                  • Persons 6 months to 64 years with 2 or more influenza high-risk conditions, not including essential hypertension (approximately 6.9 million)  
                  • Persons 6 months or older with history of hospitalization for pneumonia or influenza or other influenza high-risk condition in the past year (740,000) | • These groups are at high risk of hospitalization and death. Excludes elderly in nursing homes and those who are immunocompromised and would not likely be protected by vaccination |
|      | C       | • Pregnant women (approximately 3.0 million)  
                  • Household contacts of severely immunocompromised persons who would not be vaccinated due to likely poor response to vaccine (1.95 million with transplants, AIDS, and incident cancer x 1.4 household contacts per person = 2.7 million persons)  
                  • Household contacts of children <6 month olds (5.0 million) | • In past pandemics and for annual influenza, pregnant women have been at high risk; vaccination will also protect the infant who cannot receive vaccine.  
                  • Vaccination of household contacts of immunocompromised and young infants will decrease risk of exposure and infection among those who cannot be directly protected by vaccination |
|      | D       | • Public health emergency response workers critical to pandemic response (assumed one-third of estimated public health workforce = 150,000)  
                  • Key government leaders | • Critical to implement pandemic response such as providing vaccinations and managing/monitoring response activities  
                  • Preserving decision-making capacity also critical for managing and implementing a response |
<table>
<thead>
<tr>
<th>Tier</th>
<th>Subtier</th>
<th>Population</th>
<th>Rationale</th>
</tr>
</thead>
</table>
| 2    | A       | • Healthy 65 years and older (17.7 million) 6 months to 64 years with 1 high-risk condition (35.8 million)  
       • 6-23 months old, healthy (5.6 million) | • Groups that are also at increased risk but not as high risk as population in Tier IB |
|      | B       | • Other public health emergency responders (300,000 = remaining two-thirds of public health work force)  
       • Public safety workers including police, fire, 911 dispatchers, and correctional facility staff (2.99 million)  
       • Utility workers essential for maintenance of power, water, and sewage system functioning (364,000)  
       • Transportation workers transporting fuel, water, food, and medical supplies as well as public ground public transportation (3.8 million)  
       • Telecommunications/IT for essential network operations and maintenance (1.08 million) | • Includes critical infrastructure groups that have impact on maintaining health (e.g., public safety or transportation of medical supplies and food); implementing a pandemic response; and on maintaining societal functions |
| 3    |         | • Other key government health decision-makers (estimated number not yet determined)  
       • Funeral directors/embalmers (62,000) | • Other important societal groups for a pandemic response but of lower priority |
| 4    |         | • Healthy persons 2-64 years not included in above categories (179.3 million) | • All persons not included in other groups based on objective to vaccinate all those who want protection |

*The committee focused its deliberations on the U.S. civilian population. ACIP and NVAC recognize that the US Department of Defense needs should be highly prioritized. Department of Defense Health Affairs indicates that 1.5 million service members would require immunization to continue current combat operations and preserve critical components of the military medical system. Should the military be called upon to support civil authorities domestically, immunization of a greater proportion of the total force will become necessary. These factors should be considered in the designation of a proportion of the initial vaccine supply for the military.

Other groups also were not explicitly considered in these deliberations on prioritization. These included American citizens living overseas, non-citizens in the US, and other groups providing national security services such as the border patrol and customs service.
Appendix B: Vaccine Storage/Handling and Security Certification

Requirements

Documentation of local security resources that could include county sheriffs, municipal police departments, and other local resources as identified and designated in local plans and local agreements/MOUs.

Documentation by site visit and documentation on file:
• Documentation of ability to store vaccine in a physically secure area at all times only accessed by designated local health department staff holding local identification badges. Area must have capacity to securely store at minimum 10,000 doses (estimated to be in multi-dose vials)
• Documentation of vaccine alarm and monitoring systems including back up generator must be in place to protect the integrity of the vaccine if a power or mechanical failure occurs.
• Documentation that all staff with vaccine related responsibility including backup staff have completed storage and handling certification tests.
• Documentation of a written emergency plan for vaccine storage and handling for all sites
• Documentation of drills of the emergency plan held on a regular basis.

Sub-recipients of vaccine must meet the same certification standards.
Appendix C: Vaccine Distribution and Administration: State and Local Roles by Alert Period

State Roles by Pandemic Phase
The success of the pandemic influenza vaccination program will be determined in large part by the strength of the vaccination programs conducted and the plans developed during the Interpandemic Period. For example, higher vaccination rates will foster increased familiarity with and public confidence in influenza vaccines and increased use of pneumococcal polysaccharide vaccine may decrease rates of secondary bacterial infections during a pandemic. Personnel in UIP will provide technical assistance, as needed, on acquisition and distribution of vaccine in the event of a pandemic.

Interpandemic Phases 1 and 2 (State Level A, B)
1. Provide technical assistance, as needed, to local health departments for vaccine-related program planning and policy development including:
   • Assess vaccine storage capacity within county
   • Review vaccine storage and handling procedures
   • Estimate number people in each priority group
   • Discuss security provisions for vaccine supply
   • Provide information and tools for mass vaccination
   • Review adverse event reporting procedure
   • Clarify responsibilities of community partners in vaccination (e.g. hospitals, nursing homes)
   • Use of EIMS to record all doses of flu vaccine given regardless of source (public or private) and for reminder/recall for second doses of vaccine.
   • Provide information and/or vaccination to high-risk or vulnerable populations
2. Monitor pandemic influenza vaccine information provided by CDC.
3. Communicate CDC pandemic vaccine updates to local health departments.
4. Encourage seasonal influenza vaccination, particularly of health care workers and high-risk populations.
5. Encourage pneumococcal vaccination of high-risk populations.
6. Work to identify potential funding sources to support vaccine related activities during pandemic.

Pandemic Alert Phases 3-5 (State Level C, D)
1. Continue activities of Interpandemic Phases 1 & 2
2. Provide technical assistance, as needed, to local health departments and other agencies for continued program planning and policy development as well as exercising pandemic response plans, with particular emphasis on mass vaccination clinics.
3. Work with other stakeholders to develop pandemic-related educational programs for local health departments, such as the on-line pandemic influenza course available through U-Train.
4. Continue to research and communicate new pandemic developments. Modify existing plans as needed to reflect new recommendations.

5. Assist local health departments in identifying possible sources of additional vaccinators if needed for surge (e.g. retired nurses and doctors, EMS personnel, nursing students, etc).

6. Continue to assist local health departments with Pandemic Influenza Vaccine Estimations for Priority Groups (Appendix A) to assess vaccine quantities needed based on priority levels. Assist LHDs with estimating number of individuals who may need to receive pre-pandemic vaccine based on national guidance.

Pandemic Phase 6 (State Level C, D)
Prior to Vaccine Availability
1. Continue to research and communicate new pandemic developments. Modify existing internal plans as needed to reflect new recommendations.

2. Work with CDC and other federal partners, vaccine manufacturers and public health organizations (e.g. AIM, NACCHO, ASTHO) to establish plan for acquisition and distribution of initial vaccine supplies. It is likely that strategies utilized for acquisition and distribution will change as vaccine supplies increase in availability during the pandemic period. Per the CDC document "Pandemic Influenza Vaccination: A Guide for State, Local, Territorial and Tribal Planners (December 11, 2006) the following planning assumptions can be made regarding vaccine acquisition and distribution of vaccine in a pandemic situation:
   • If pre-pandemic vaccine is available it will be purchased by the federal government.
   • Pandemic vaccine will be purchased by the federal government through the first year.
   • Most pre-pandemic vaccine will be allocated in proportion to population, though exceptions will be made for critical infrastructure personnel who are not evenly distributed across the nation.
   • Pandemic vaccine will be allocated to project areas in proportion to their total population.

3. Determine expected timeline for vaccine distribution.

4. Keep healthcare providers and other stakeholders apprised of timeline for vaccine distribution through use of conference calls, established listserves (e.g. Public Health Leaders and Local Health Directors), blast faxing, NCIR announcement page, websites of state government and professional healthcare organizations (e.g. Utah Pediatric Society, Utah Academy of Family Physicians) and the Utah Medicaid Bulletin.

5. Work with Public Affairs Office to keep citizens informed about vaccine development and begin to craft messages about where, when and who will be vaccinated

6. Provide technical assistance for training of additional vaccinators, as needed, utilizing existing CDC resources.

7. Increase data storage capacity and number of support staff for USIS/EIMS.
8. If private providers are utilized for vaccine administration, those not registered on USIIS/EIMS will report vaccine doses administered/wasted by submitting monthly Vaccine Administration Logs (VALs) to the Immunization Program. They will utilize copies of these forms for reminder/recall. See Appendix A for template forms and instructions.

9. Update Public Affairs Office frequently on vaccine availability status and dosing schedule (probable need for two doses of vaccine administered one month apart).

**Vaccine Available for Distribution**

1. Assist in vaccine distribution according to established federal plan.
2. Assist in the redistribution of vaccine as needed to provide an equitable geographic distribution of supplies.
3. Maintain existing VAERS reporting procedures during pandemic. UIP will provide technical assistance on follow-up on adverse events.
4. Work with Public Affairs Office to continue providing accurate public messages regarding vaccine availability and location of vaccine administration sites.

**Post Pandemic Period (State Level E)**

1. Determine total amounts of vaccine distributed, administered and wasted from data contained in VACMAN, USIIS/EIMS and VALs.
2. Evaluate internal agency plan
g.
3. Solicit feedback from local partners and stakeholders regarding evaluation of plan.
4. Revise plan based on evaluation findings.

**Local Health Department Roles by Pandemic Phase**

**Interpandemic Phases 1 and 2 (State Level A, B)**

- Consider participation in the Sentinel Provider Network (SPN) to conduct disease-based surveillance for influenza-like illness (ILI)
- Consider recruiting healthcare providers in your county to participate in the SPN
- Investigate and report cases of pediatric mortality associated with influenza
- Investigate clusters of ILI
- Outside of the regular influenza season
- In nursing homes and healthcare facilities
- Develop strategies to increase uptake of seasonal influenza vaccine among all of your county's residents as well as specific groups:
  - High-risk individuals as described in the annual ACIP recommendations
  - Contacts of high-risk individuals
  - Healthcare workers (HCWs)
- Particular emphasis should be placed on improving rates among HCWs because of their potential role in transmitting influenza virus to patients. Less than 40% of HCWs receive seasonal influenza vaccine each year.
• Selected resources addressing strategies to improve HCW influenza vaccination rates
• the National Foundation for Infectious Diseases (NFID) publication on improving influenza vaccination rates among HCWs, available at http://www.nfid.org/pdf/publications/calltoaction.pdf
• the Association of Practitioners in Infection Control (APIC) toolkit for improving influenza vaccination rates among HCWs, available at http://66.11.193.197/Content.html#Anchor-APIC-23240
• Develop strategies to increase pneumococcal vaccination rates among the elderly and high-risk residents
• Consider performing a mass vaccination exercise using seasonal influenza vaccine

**Pandemic Alert Phase 3 (State Level A, B, C)**
• Educate health department staff about avian and pandemic influenza
• Educate healthcare providers about avian and pandemic influenza
• Consider performing a mass vaccination exercise using influenza vaccine
• Estimate number of people in priority groups for pandemic influenza vaccine and antiviral administration (see Appendix A)
• Review and modify guidelines for mass vaccination clinic
• Coordinate with local EMS personnel to identify sites for mass vaccination clinics

**Pandemic Alert Phase 4 (State Level C, D)**
• Update health department staff about avian and pandemic influenza
• Update healthcare providers about avian and pandemic influenza
• Submit forms to the Immunization branch of UDOH with estimates for priority groups to receive pandemic influenza vaccine (Appendix A)
• Continue to identify sites to be used for alternate care facilities, mass vaccination clinics and temporary morgues with EM personnel

**Pandemic Alert Phase 5 (State Level C, D)**
• Establish communication plan with Immunization program regarding vaccine acquisition
• Communicate with PHP&R regarding possible role of the SNS for distribution of antivirals and / or pandemic influenza vaccine
• Review guidelines for mass vaccination clinics with health department staff
• Identify additional vaccinators that could be called upon if needed
• Confirm locations of sites to be used for alternate care facilities, mass vaccination clinics and temporary morgues with EM personnel

**Pandemic Phase 6 (State Level D)**
• Before vaccine is available, discuss with Immunization branch approximate timeline for vaccine availability
• Prepare for mass vaccination clinics
• Set times and locations
• Determine which individuals will be vaccinated and how to contact them
• Administer pandemic influenza vaccine as it becomes available
• Track doses of pandemic influenza vaccine administered in EIMS (Appendices A)
• Assist state health department with obtaining data to determine age-specific attack rates, morbidity and mortality
• Work with state health department to determine vaccine efficacy
• Note that between the end of the first wave and the onset of the second wave, preparedness plans and surveillance activities need to remain at a heightened level

Post Pandemic Period (State Level E)
• Conduct an after-action review of mass vaccination efforts
• Determine the amount of vaccine administered
• Determine the population covered by vaccine
• One dose of vaccine
• Two doses of vaccine
• Assess the communication channels established during the pandemic
• Local and state health department communication
• Local health department and healthcare provider communication
• Local health department and the public
• Local health department and emergency management
Appendix D: Mass Vaccination Clinic Recommendations

Mass Vaccination Plan
I. Introduction
Preparation for a mass vaccination clinic requires the cooperation of all health providers in Utah to follow uniform guidelines to assure that available vaccine reaches the highest risk priority populations first. Routine advance preparation for mass vaccination clinics should be employed on an annual basis and will lay the groundwork for addressing adverse conditions created by any influenza outbreak.

Local health departments need to develop and submit a mass clinic vaccination plan, specific to the needs of their community. Following is a guideline as to the components needed in the plan. An appendix is also included which provides more detailed information and resources that may be needed when developing a mass vaccination plan. Additional information can also be found at the following website resources:

- http://www.slu.edu/colleges/sph/csbei/bioterrorism/products.htm
(Although addressing smallpox, many of the basic principles of mass vaccination would be the same no matter the agent).

II. Guidelines
Each local health department's mass vaccination plan should include a description of:

A. When and who will implement the mass vaccination clinic (under what conditions, determined by whom, etc). (This may be done by an overseeing committee that was addressed earlier in the overall plan). (REFER TO APPENDIX A)

B. How to mobilize the plan into action (steps to be taken when and by whom). (REFER TO APPENDIX B)

C. Clinic sites (such as schools, community centers, etc), including plans to accommodate increased number of traffic (parking space available, or transported via bus, etc). MOUs/MOAs to use these facilities should also be included. (REFER TO APPENDIX C)

D. Vaccine Management issues including coordination plans with UIP personnel regarding vaccine shipments; the storage of mass quantities of vaccine in a secure location; transportation of vaccine; identification of hospitals and other facilities that can securely store vaccine and implement vaccination programs. (REFER TO APPENDIX D)
E. Roles and responsibilities of vaccination team members (specific persons and his/her employer should be identified for the various roles, when appropriate) and others personnel needed to help run the clinic. When developing this keep in mind:
   i. All areas in which DOH can be of assistance or how other local health agencies, the state or federal workers could easily step in to assist.
   ii. The number of sites and personnel needed depend upon the demand and type of vaccination. (REFER TO APPENDIX E)
   iii. A system for identifying mass clinic personnel (ID badges, vests, etc)

F. A rapid vaccination plan for additional public health and hospital staff needing immediate vaccination. These plans should include detail such as to whom and where will vaccination occur.

G. The number and types of supplies and forms needed, including plans to ensure that clinics will have adequate supplies, equipment/computers, forms/VIS, and education and screening materials. (REFER TO APPENDIX G)

H. The process for ensuring adequate screening and education of potential voluntary vaccinees (this process may also be done by the referring local healthcare facility/hospital). This would include the requirements for who should be vaccinated and when. (REFER TO APPENDIX H)

I. An integrated clinic strategy and flow that will maximize the efficiency of the clinic to include but not be limited to: (REFER TO APPENDIX I)
   - How appointments and walk-in services will be integrated
   - Patient flow, obtaining consent, process for documenting take
   - Record keeping and data management.
   - Accommodations for disabled, non-English speaking persons, etc.
   - Description of security plans.
   - Description of emergency plans and available equipment, including the number of staff that are current on CPR certification.
   - Guidelines as to how to handle “worried well,” those who refuse to be vaccinated, and people from other communities (or states)

J. Other clinic support including, food, water, mental health workers, volunteers, etc. and how these will be addressed.

K. Clear means of communication with public regarding clinical operation,
among clinics, and between clinics and other related elements of pandemic response teams (signs for the public in pictures and words, two-way radio system, phone lines, media messages, and outreach regarding clinic locations, times, etc. (This section may be addressed in the overall communication plan)

L. Plans for debriefing after the event

M. An evaluation method for clinic efficiency and feasibility

N. Specific activities for certain types of clinics, such as smallpox or pandemic flu. For example:

**Smallpox specific:**
- Description of follow up procedures to read takes and conduct 21-day active surveillance.
- Tighter control over vaccine
- Staff needed may be different due to more in depth screening of the patient and possible contraindications and adverse events.

**Pandemic Flu specific:**
- Distribution of vaccine plan to agencies including health care providers and other agencies that works with the populations most at risk.
- Estimated number of doses to be administered per shift based on estimated vaccine availability.
- Priority of those to be vaccinated (high risk groups) first may differ than for other agents.

INFORMATION REQUIRED:

**Due: November or earlier based on schedule for mass clinic exercise**
- Mass Vaccination Clinic Plan, with all components as listed above.
- Recognition that LHD has reviewed the plan and identified other agencies that will be involved (police, fire, EMS, security, volunteers, etc); and ensured each agency clearly understands and accepts its roles and responsibilities. Secure MOAs/MOUas as needed.
- Identification of training needs, as identified by the plan
- Plan (timetable) for when clinic trainings/exercises will occur

**Legal Review:**
A legal review of the mass vaccination plan should be conducted by local legal consultants to identify issues of concern regarding public health authority and to ensure that laws and statutes concur with the stipulations of the plans.
INFORMATION REQUIRED:

Due: Following review of Local health department mass clinic plans
Written verification stating proper legal review of the plans was conducted, and identification of any concerns, conflicts or problems.
Appendix E: Clinic Planning, Roles/Responsibilities and Accountability

E.1. Suggested Clinic Overseeing Leadership:

- **The Local Health Officer:** Activates the mass clinic plan, in consultation with the CDC and State Health Department Officials. Keeps other agencies such as Board of Health, County Commissioners, UDOH up-to-date. Keeps in close contact with emergency services. Provides information to the media. Coordinates debriefing meeting after mass clinics are completed.

- **Consulting Team:** Attends and participates in the mass immunization emergency consultant team meeting. Helps decide when to activate a mass clinic plan, clinic locations, number of clinics needed, who will be responsible for each component.

- **Facilities/Security Coordinator:** Determines security needs, including entrances and exits (separate for employees), crowd control, adequate parking or coordination for alternative transportation. Maintains close contact with the nursing supervisor and health officer.

- **Staffing Coordinator/Nursing Supervisor:** Mobilizes staff and makes clinic assignments. Responsible for personnel issues and works closely with comfort coordinators to ensure staff and client needs are met. Determines supply needs during a clinic. Ensures all clinic personnel are appropriately identified with photo ID and “uniform.” Works closely with medical director, health officer, and UDOH.

- **Immunization Coordinators:** Set up facility equipment, tables, waste receptacles, chairs, signs, dividers, etc. Obtains and distributes vaccines, antibiotics, syringes, alcohol wipes, sharp containers, band-aids, etc. to clinic sites. Obtains and distributes anaphylactic emergency kits. Develops, prints and distributes needed forms for each clinic site, including follow-up forms. Ensures forms are in appropriate languages. Maintains close communication with Nursing Supervisor.

- **Medical Director:** Provides medical consultation to Nursing Supervisor and Nursing staff. Provides standing orders for clinics. Communicates with UDOH, Local Health Officer and Nursing Staff.

- **Client Comfort Coordinators:** Ensures adequate seating for clients. Keeps lines formed and moving smoothly. Determines and provides appropriate accommodations for disable clients, and translators for non-English speaking clients. Maintains close contact Staff Comfort Coordinator, Nursing Supervisor, and facilities coordinator.

- **Staff Comfort Coordinator:** Ensures adequate food and drinks for staff. Facilitates connections with staff families. Works closely to ensure adequate supplies are at clinic. Works closely with client comfort coordinator.

- **Volunteer Coordinator:** Ensures volunteers are in appropriate roles and responsibilities and thoroughly trained. Works closely with Nursing Supervisor to determine the best placements of volunteers.
Suggested organizational structure

**Organizational Chart**

Director

**Consulting Team**
(Director, Medical Director, Epidemiologist, Coordinators, Clinical Consultant, MDH, Legal Consultant, County PR, Emergency Services, Other i.e. Red Cross)

Decisions:
1. Activation of Mass Clinic
2. Area & Number of Clinics
3. Assign Responsibilities including designation of Mass Plan Coordinators and Clinic Site Supervisors

**Mass Plan Activated by Director**

- Facilities/Security Coordinator
- Staffing & Comfort Coordinator
- Internal Communication Coordinator
- Supplies/Vaccine Coordinator
- Medical Director EPI Consult
- County PR/Media Coordinator
- Outreach Coordinator

**Clinic Site Supervisors**

- Facilities/Set-up Assistant
- Staffing Assistant

**Security Site Leader**
- Traffic/parking Controller
- Authorized Personnel Controller
- Crowd/Usher Controllers

**Intake/Triage Site Leader**
- Intake-Non Nurses
- Triage Nurses/Flip Literature
- Clothas Prep

**Administration Site Leader**
- Cleansing Area Non Nurses
- Drawing Nurses
- Nurses Administ.
- Bandage Applic

**Supplies Site Leader**
- Nurse: Vaccines, Meds, Epinephrine
- Non-Nurse: Syringes, cotton balls, Antiseptics, Sharp Containers, Forms, Clerical Supplies

**Adverse Reaction/Site Leader**
- Exit Personnel
- Nurse Adverse Reaction Area

**Food Staff Comfort Site Leader**
- Food/Dinks
- Personal Belongings, Family Phone Rest Areas
E.2. Suggested Staff Activation/Mobilization Plan
Upon suspicion of smallpox (or other outbreak) requiring mass vaccination the following steps will be used to activate and mobilize the plan:

1. The Health Officer, in conjunction with CDC and UDOH, calls an emergency meeting with the Consulting Team that a Mass Clinic Plan may need to be activated. At the meeting decisions are made whether to activate the Mass Clinic Plan, which areas to locate clinics and number of clinics to hold.
2. The Health Officer, through the Nursing Supervisor or Staffing Coordinator, notifies Staff to become on alert (staff mobilization).
3. Each Mass Plan Coordinator will be responsible to the Health Officer and will be in close communication with the other coordinators.
4. A debriefing meeting will be held after completion of the mass clinic operations.

The Staff Mobilization Plan includes steps and/or components, which will guide the staffing and position assignments for the Mass Clinic.

1. Staffing Coordinators will be the Nursing Supervisor or someone identified by the Health Officer and Consulting Team.
2. The Staffing Coordinator activates the staff mobilization plan.
3. The Staffing Coordinator determines the number of staff and mass clinic positions that are needed based on the decisions that were made at the Consulting Team Meeting.
4. Once the preplanned clinic locations and number of clinics are determined, the staffing Coordinator and Facility Coordinator will work closely and a determination will be made which staff will go to which location.
5. Each staff will be notified by telephone of activation of the mass clinic plan and staff mobilization plan. Each staff will receive from their Supervisor a copy of their clinic assignment and position.

E.3. Clinic Site Selection
Local health departments are working with their communities to determine locations for mass vaccination clinics. Suggestions include schools, churches, senior citizen centers, and community gymnasium. Once sites have been selected local health departments will secure memorandums of agreement, as necessary. The following criteria will be used when selecting a site:

- Protected from weather; adequate climate control (heat, air)
- Multiple rooms that ensure adequate space for large crowds, intake, briefing, screening, vaccine or prophylaxis administration, and medical emergencies. Adequate space to contain long lines inside. The site
should be large enough to handle the target population with "room to spare." Additional rooms for screening, staff, data, communications, etc.

- Adequate power sources for equipment and hygiene for workers and public; access to water and electricity (and back up generator)
- Familiar and accessible to the public
- Adequate parking and/or easy access for public transportation
- Storage for large amounts of supplies and waste
- Adequate restrooms/space for portable restrooms, if necessary
- Accommodation available for special needs (wheelchairs)
- Communication including telephone and FAX
- Secure or can b made secure with adequate law enforcement personnel
- Equipment resources available on site (i.e. AV equipment, room dividers, cots, power strips, etc.)
- Tables and chairs on site
- Waste disposal
- Storage space

E.4. Vaccine Management
Information regarding the Strategic Pharmaceutical Stockpile (SPS) can be found at: http://www.bt.cdc.gov/stockpile/index.asp

In many cases the SNS has identified distribution sites in each local health department area. These sites are often public schools or other buildings with adequate space and parking. MOAs may already be in place with these schools. These schools could also be the clinic site, if deemed appropriate.

E.5. Roles and Responsibilities
Roles and responsibilities including coordinator (1/team), triage (1/team), medical screener (2/team), vaccinator (2/team), exit interviewer (1/team), data entry (1/team). Local health departments will determine how many teams they will need to vaccinate their community at different speeds required for the scenarios developed in the statewide template. Considerations will include lengths of shifts, numbers vaccinated per shift, hours of clinic operation, etc.

Roles and responsibilities of other personnel needed in a mass clinic, including law enforcement/security (30/ building), physician evaluator (1-2/ building), parking/transportation (2-5/building), primary media contact (1/building), supply manager (1-2/building), volunteers (20-30/building), translators (1-2 per language/building), etc. (As appropriate, memorandums of agreement should be included so that each agency clearly understands each other's role and responsibility).
When developing the plan, identify specific persons who will be assigned to the roles/responsibility. This is extremely important as many LHD employees wear many hats. During an emergency outbreak the person can not be conducting surveillance and administering vaccinations at the same time. Also determine which roles other LHD or UDOH employees could do in the event more personnel are needed.

**Suggested Staffing Positions per Clinic (for 8 stations)**

All clinic staff should follow the same procedures regarding:

- Designated employee doors to exit and enter
- Identification such as an official picture ID badge (or other appropriate picture ID), as well as other clothing/vests which have been identified previously.
- Check in process with the staffing assistant prior to going to a workstation, and prior to leaving the site.

**Nursing Clinic Supervisor**: 1/shift

Oversees individual clinic operations. Maintains close contact with coordinators. Carries a pager, cell phone (or 2 way radio). Deals with personnel issues. Checks in all clinic personnel.

**Forms distribution**: 9/shift

Distributes packets with information sheets/registration forms/informed consent/other IND forms (1 minute/person), clipboards, pencils, to allow people to begin filling in demographic information forms while in line waiting initial clinic entry.

**Triage**: 2/shift

Triage personnel to direct ill patients to other evaluation facilities and direct identified contacts, persons with contact to a rash in last 3 weeks, and their household family members to high priority evaluation location within the clinic (1 minute/person). Also utilizes signs explaining where people should go if they are ill, contacts, or neither if done at the clinic. Also helps facilitate translators for non-English speaking persons.

**Orientation Video Operator**: 8/shift

Operates the video orientation regarding clinic procedures, paperwork, IND consent information, reasons for vaccination, contraindications to vaccinate.

**Referral Personnel**: 8/shift

Reviews consent forms and sends persons with “yes” checked boxes who have signed form on to vaccination station and redirects people with
contact checked boxes or other “yes” or “maybe” checked boxes on to contact or medical screeners.

**Medical Screeners**: 8/shift
Medical screeners to review patient history for those with contraindications and answer questions for informed consent (est. 5-10 minutes person), numbers may need to be increased if too many people need further screening and start to get backed up at this point of the clinic.

**Physician Evaluators**: 2/shift
Physicians to evaluate/examine triaged ill persons and provide backup counseling if needed to contacts and non-contacts identified with possible contraindications by medical screeners, and evaluate any immediate problems following vaccination (fainting, anaphylaxis, etc.)

**Vaccinators/witness**: 16/shift
Educates client regarding site care, adverse event symptoms or non-taking reporting procedures/follow-up, etc. following vaccination. Alternate to vaccinate and witness vaccination of person.

**Exit Review**: 2/shift (should be medical or public health personnel).
Answers any final questions and instructs client regarding follow up take appointment.

**Medical Records/Data Entry**: 10/shift
Collects and retains records and enters registration/vaccination information into database. In order to maintain “real-time” record of number vaccinations it is important to have this person on-site.

**Primary Media Contact**: 1/shift
All media questions are referred to this person. This person may be the site administrator or may have other assigned responsibilities.

**Security Leader**: 30/shift
Maintains crowd control outside and security within clinic; assist with clinic and traffic control, etc. Non-public health resource, however arrangement must be made with appropriate agencies or organizations to provide security as part of coordinated planning.

**Contact Evaluation Unit Personnel**: 4/shift
For separate medical screening, education, and registering of identified contacts and their household contacts. Contacts will also be registered for surveillance for smallpox symptoms and given instructions on any travel restrictions and reporting requirements. Must be educated on contact surveillance process, smallpox signs/symptoms, etc.
Supply Manager: 1/shift  
Oversees all supply needs, tracks vaccine supply/lot numbers, distribution, and wastage re-supplies vaccination stations.

*Clinic flow: 8/shift  
Helps maintain clinic flow, assist with forms, quality assurance, retrieve clipboards and forms form VS and takes forms to Medical records entry personnel and clipboards back to form distribution, rotate through waiting areas to answer questions and talk with people to assure them as needed.

Translators: at least 1 for each major language spoken in community  
Provide translation for non-English speaking clinics in each clinic area.

*Traffic Flow/parking Lot: 2/shift  
Maintains traffic flow and order in parking area if parking onsite, if busing in form off site parking helps direct flow of traffic from bus to clinic.

*Float Staff/Volunteers: approximately 3/shift  
Answer telephones, assist clinic personnel as needed.

Vaccine Preparation for VS: 2/shift  
For preparation of vaccine vials to supply VS as needed. Should be trained personnel.

IT Personnel: 1/shift  
Provide support for computer programming, electronic equipment maintenance needs, etc.

*indicates non-medical personnel position, possible volunteer position

E.6. Determining the Number of “Teams” Needed  
The number of teams needed for a clinic depends upon the number of persons needing to be vaccinated. Each local health department will determine the number of teams needed to vaccinate: Entire population, ½ LHD population, and ¼ LHD population, etc.

<table>
<thead>
<tr>
<th>Type of administration</th>
<th>Number given by individual nurse/hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arm administration</td>
<td>20/hour</td>
</tr>
<tr>
<td>Hip administration</td>
<td>15/hour</td>
</tr>
<tr>
<td>Oral administration</td>
<td>50/hour</td>
</tr>
</tbody>
</table>
A tool has also been developed to help local health departments determine the numbers needed for their community. This tool specifically addresses smallpox and can be found at http://www.bt.cdc.gov/agent/smallpox/vaccination/maxi-vac/index.asp

Another downloadable program computerized staffing model can be found at: www.ahrq.gov/research/biomodel.htm

E.7. Recommended Supplies and Equipment
This section includes a list of supplies needed for a mass clinic. The actual quantities per item needed is not listed here, but should be determine by each local health department after careful evaluation of Phase I clinics.

Registration:
- Pens and pencils
- Forms (including consent forms)
- Fact sheets/handouts/instructions (in other languages as appropriate to the area)
- Clip boards
- File boxes
- Rubber bands
- Tape
- Post-it notes
- Pads of paper
- Paper clips
- TV with video capabilities

Pharmaceuticals:
- Vaccines/diluents
- Antibiotics/other
- Refrigeration containers
- Pill bottles/baggies
- Labels/instructions

Administration:
- Syringes
- Bifurcated needles
- Gauze/ rectangle bandages
- Wipes/alcohol/cotton balls
- Sharps containers
- Band-Aids
- Disposable Table cloths
- Disposable gloves
• Masks (if indicated)
• Hand-washing solutions
• Paper towels
• Waste containers
• Disposable liners
• Water
• Sanitation supplies - cleaning
• Tape
• Latex and non-latex gloves
• Red bags
• Spray bottle with bleach
• Acetone
• Paper cups
• Tissues
• Pens

Reaction/Sick Area:
• Cots
• Disposable coverings
• Disposable emesis containers
• Water
• Paper cups
• Disposable wipes
• Handwashing solutions
• Anaphylaxis Kits (Children and Adults)

Security Area:
• Badges/name tags colored shirts for security
• Parking-flashlights at night
• Parking cones
• Rope/barricades

Facilities:
• Signs (including picture signs, other languages if appropriate)
• Tables
• Chairs
• Dividers/partitions

Employee Comfort:
• Cots
• Handwashing solutions
• Food and Beverages
• Potable water
• Personal effects storage (coats, bags, etc.)
• Bathroom Facilities
• Table/Chairs
• Private Phone area

Exit:
• Paperwork forms (in many languages)
• Referrals
• Follow-up returns
• Handouts/patient education/instructions (in many languages)
• File boxes
• Pens
• Immunization cards
• Date stamp
• Cleaning supplies- mop, bucket, and broom

Clinic Staff Communication Supplies:
• Walkie Talkies
• Cell Phones
• Pagers
• Computers
• Portable generators
• Wireless modems

Misc.:
• Masks (if indicated)
• Transport vehicles for staff
• Portable toilets
• Signs/pictorial instructions
• Diapers
• Disposable ice packs
• Aprons/vests (clinic worker identifier)
• Disinfectant agents
• Wheelchair

Emergency Supplies:
• BP cuff
• Stethoscope
• O2 with tubing

Reminder: All clinic personnel should have name badges, and preferably colored vests, coats for easy ID purposes.
E.8. People Who Should Receive Vaccine (from CDC)

Two Priority guidelines:

I. **One time exposure (i.e. anthrax, botulism, tularemia)**

Persons exposed to a certain agent at a particular location and time range that are symptomatic. (no person to person transfer)

II. **One time event resulting in person to person transmission. (i.e. pneumonic plague, smallpox, eboli, cholera) or continual exposure (i.e. pandemic influenza).**

A. Ring vaccination of those persons immediately exposed to communicable disease (including family members of patient, hospital personnel caring for patient)

B. Persons necessary to maintain basic community infrastructure:
   - Currently licensed health care workers (physicians, physician’s assistants, licensed nurses)
   - Public health officials
   - Hospital Staff
   - Local public safety personnel
   - Laboratory workers,
   - EMS and emergency
   - National guard
   - Utility field workers
   - Communications personnel
   - Fuel suppliers, food suppliers

C. Persons providing essential community services:
   - Public transportation drivers
   - Air travel personnel
   - Morticians
   - Pharmacists,
   - Red Cross field workers
   - Correctional staff
   - Long-term care facility staff
   - US Postal service workers

D. Immediate family members to those in groups A & B

E. Persons determined to be at highest risk of developing complications

F. Rest of population
**SMALLPOX VACCINATION FOR AN ACTUAL SMALLPOX CASE SHOULD BEGIN, UNDER THE DIRECTION OF CDC AND STATE PUBLIC HEALTH OFFICIAL, UPON CONFIRMATION OF THE SMALLPOX DISEASE.**

1. Face-to-face close contacts (≤6.5 feet or household contacts to smallpox patients after the onset of the smallpox patient’s fever

2. Persons exposed to the initial release of the virus (if the release was discovered during the first generation of cases and vaccination may still provide benefit)

3. Household members (without contraindications to vaccination) of contacts to smallpox patients † (to protect household contacts should smallpox case contacts develop disease while under fever surveillance at home)

4. Persons involved in the direct medical care, public health investigation and response*, or transportation of confirmed or suspected smallpox patients (including designated initial smallpox response teams)

5. Laboratory personnel involved in the collection and/or processing of clinical specimens from suspected or confirmed smallpox patients

6. Other persons who have a high likelihood of exposure to infectious materials (e.g. personnel responsible for hospital waste disposal and disinfection)

7. Personnel involved in contact tracing and vaccination, or quarantine/isolation or enforcement, or law-enforcement interviews of suspected smallpox patients *

8. Persons permitted to enter any facilities designated for the evaluation, treatment, or isolation of confirmed or suspected smallpox patients ‡ (only essential personnel should be allowed to enter such facilities)

9. Persons present in a facility or conveyance with a smallpox case if fine-particle aerosol transmission was likely during the time the case was present (e.g. hemorrhagic smallpox case and/or case with active coughing)

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§ Although individuals with smallpox are not infectious until the onset of rash, vaccinating persons who had contact with the patient from the time of the onset of fever helps provide a buffer and assures that contacts who may have been exposed at the early onset of rash, when the rash may have been faint and unrecognized, have been vaccinated.

* Includes personnel whose public health activities involve direct patient contact such as case interviewing
† Household members of contacts who have contraindications to vaccination should be housed separately from the other vaccinated household members until the vaccination site scab has separated (~ 2 weeks) to prevent inadvertent transmission of vaccinia virus. They should be also housed separately from the contact until the incubation period for smallpox has passed and the contact is released from surveillance.

‡ Only personnel without contraindications to vaccination should be chosen for activities that would require vaccination for their protection. Personnel with contraindications should not perform duties that would place them at risk for smallpox exposure and should otherwise only be vaccinated if an exposure has already occurred.

§ Evaluation of the potential risk for aerosol transmission and initiation of vaccination for non-direct contacts will be done by CDC, state, and local public health personnel. The decision to offer vaccination to non-direct contacts of smallpox cases will be made jointly by Federal and the State health officials.
E.9. Suggested Clinic Organization

Figure 1 - Smallpox Clinic Setup

Class Rooms or Partitioned Areas

Briefing and Forms
Completion Room
for 25 Persons and
5 Registration Staff

Medical Screening
Room for 5
Persons and 5
Medical Staff

Supply Room and
Staff Rest Area

Vaccination Room
- 10 Patients, 2
Volunteer Aides,
and 2 Vaccinators

Gathering Area (e.g., cafeteria, waiting room)

Clinic Flow Staff

Clinic Flow Staff

Briefing and Forms
Completion Room
for 25 Persons and
5 Registration Staff

Medical Screening
Room for 5 Persons
and 5 Medical Staff

Vaccination Room
- 10 Patients, 2
Volunteer Aides, and 2 Vaccinators

Sick Room with EMT
and 5 Cots

Class Rooms or Partitioned Areas
Utah Department of Health

Antiviral Medication for Pandemic Influenza Plan

(Revised – January 29, 2008)
Purpose

This plan explains the processes involved with the acquisition, storage, and distribution of antiviral medications. This annex is a working document. Antiviral drug plans may be adapted to fit the scope of an actual event. The Utah Department of Health (UDOH) may use this plan as directed. Other related plans developed for emergency management and response at the State and/or the local and or tribal level will be consulted in an actual emergency.

Situations and Assumptions

Planning for antiviral medication use is predicated on CDC worst case scenarios using 1918 Spanish influenza model. Assumed infection rates are approximately 25% of the general population in Utah using this model.

Antiviral medications may be used to counter the effects of novel strains of pathogenic influenza. Utah is currently developing stockpiles for pandemic influenza to augment stockpiles purchased by the Department of Health and Human Services (DHHS). The DHHS has purchased antiviral medications as part of the Strategic National Stockpile (SNS) Program, and stands ready for immediate deployment. Federal guidance indicates that Utah has been allocated 350,518 courses under the SNS Program. See http://www.pandemicflu.gov/plan/states/antivirals.html for further information.

Utah also has purchased antiviral medications under U.S. Department of Health and Human Services contracts for a State/local stockpile. Currently Utah has approximately 50,000 courses of treatment with plans to collect additional funding for more purchases.

Concept of Operations

The antiviral stockpiles, including caches under Utah and SNS control, will be distributed and used according this plan. This plan will delineate information for a State purchased stockpile as well as a plan for distribution for all antiviral medications regardless of the stockpile implemented. This plan would be activated by the approval of the UDOH Executive Director’s Office upon determination that there is a novel strain of influenza that threatens the public’s health in Utah. The implementation of this plan will be under the direction of the UDOH Executive Director or his designee(s).

Antiviral Medication Distribution Planning Process

The distribution of antiviral medication planning process involves incorporation of planning guidance as directed by the Centers of Disease Control and Prevention. This plan as well as other response plans are reviewed and developed using a committee
process. This portion will be reviewed as part of the Pandemic Influenza Workgroup conducted by the UDOH. Primary oversight of the Pandemic Influenza Workgroup is given to the State Epidemiologist. The Pandemic Influenza Workgroup is comprised of a broad cross-section of State and local public health, State Division of Homeland Security, healthcare organizations, and other related stakeholders. Attendees and membership roles can be provided upon request.

Local distribution efforts have been incorporated into this plan by providing local health officers and local emergency response coordinators with specific questions pertaining to distribution of antiviral medications. Further guidance and coordination will be included both in written and discussion formats. Likely pandemic influenza scenarios may include dispensing primarily to acute care centers for the treatment of patients. Dispensing, therefore, will be administered by health care professionals with local health department oversight for allocation, distribution to facilities, and reporting.

Delivery locations and routes will be identified for each LHD. Each transportation operation will be provided hard copy map quest documentation from the RSS to the LHD final destination.

Load planning will be considered as needed. Multiple deliveries from the same transport vehicle will be loaded accordingly, so the furthest destination will have product loaded first and the closest destination will have product loaded last.

The delivery schedule/frequency will be addressed as priorities are identified, with the most affected areas delivered to first and re-supplied as necessary.

The communication plan with RSS/Drivers/recipient locations includes the use of cell phones, 800 MHz radios, and Omnilink, an interoperable software that provides cross spectrum linkage of our communications devises.

Plans will be modified as exercise and real events indicate that changes are needed. Regular reviews of this plan will be included as part of the Pandemic Influenza Workgroup, or as needed by the UDOH program staff.

**Key Issues to Support Antiviral Medication Distribution Planning**

The UDOH has identified several key issues for consideration in antiviral drug distribution and planning. Key issues were presented to a Governor’s Task Force for consideration. The Governor’s Task Force was comprised of a selected group of leaders throughout the State to provide recommendations for pandemic influenza planning issues. The Governor’s Task Force supported the following issues pertaining to antiviral drug distribution:
• The UDOH should pursue funding for the purchase of a State/local stockpile of antiviral drugs.
• The UDOH adopts and follows National Vaccine Advisory Committee guidance for establishing priority use for the antiviral medications.
• The UDOH would allow local governments to purchase antiviral drugs as part of the State allotment under DHHS contracts.
• The UDOH would allow health care and other organizations to purchase antiviral drugs as part of the State allotment under DHHS contracts.
• The State/local stockpile would be allocated using a formula of 60% based upon population in a health district, 20% based upon the bed count of hospitals in the health district, and 20% to be retained for the UDOH to be used as an event discretionary cache.

This plan reflects decisions from the Governor’s Task Force.

A Pandemic Influenza Workgroup is also involved in the development of planning concepts and related issues for pandemic influenza plans. The Pandemic Influenza Workgroup represents State and local public health, health care organizations, and related stakeholders. This plan has and will continue to receive input from the Workgroup.

**Purchase of Antiviral Medication Stockpiles**

The UDOH has requested funding for the purchase of antiviral stockpiles as described in the CDC Guidance for antiviral drug purchasing. The UDOH also is actively seeking local government and health care organization funding to meet the total allocation for subsidy under the existing DHHS contracts. Efforts include provision of information to respective association meetings and one-on-one contacting.

Initial State and local caches were purchased and delivered in January 2008. Additional purchases will be funded from non-State entities such as county, city, and healthcare organizations. Any additional purchases will be accomplished before August 2008.

All purchased courses of antiviral medications under the State agreement with DHHS will be used under State guidelines as established in this plan for storage, tracking, and in administration.

The Strategic National Stockpile Program Manager has been designated as the purchasing agent acting under the oversight of the Executive Director’s Office. Funding, cache management, and distribution coordination will be similarly directed.
The following table explains courses available and populations projected for coverage using the antiviral medications.

**Table 1. Projected federal antiviral stockpiling plans, including Utah allocation from federally purchased stockpile and the amount that can be purchased using federal/state matching funds under the federal contract.**

<table>
<thead>
<tr>
<th>Purchase mechanism</th>
<th>Federal stockpile (courses)</th>
<th>Anticipated Allocation to Utah (courses)</th>
<th>% of Utah population who could be treated</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY 2006 federal purchase</td>
<td>20 million</td>
<td>159,327</td>
<td>6.1%</td>
</tr>
<tr>
<td>FY 2007 federal purchase</td>
<td>24 million</td>
<td>191,192</td>
<td>7.4%</td>
</tr>
<tr>
<td>Federal Stockpile</td>
<td>44 million</td>
<td>350,518</td>
<td>13.6%</td>
</tr>
<tr>
<td>State Stockpile</td>
<td>31 million</td>
<td>246,956</td>
<td>9.6%</td>
</tr>
<tr>
<td>FY 2007 State funded purchase</td>
<td></td>
<td>50,669</td>
<td>2.0%</td>
</tr>
<tr>
<td>Currently available with State and Federal purchases</td>
<td></td>
<td>401,187</td>
<td>15.5%</td>
</tr>
<tr>
<td>Total stockpile possible</td>
<td>75 million</td>
<td>597,475</td>
<td>23.1%</td>
</tr>
</tbody>
</table>

**Table notes:**
1. A course is defined here as 10 capsules of oseltamivir and could be used either as a 5 day treatment course or as a 10 day post-exposure prophylaxis course; several courses would be needed for prophylaxis against infection for the duration of an influenza outbreak in a community during a pandemic.
2. **NOTE:** Federal allocations of courses to provide 25% coverage to Utah’s population appear to have been based on the 2002 population; Utah’s 2006 population = 2,582,371. The coverage percentages above are based on 2006 population.
3. Federal stockpile is currently being purchased with the total purchase to occur in two parts. 20 million courses will be purchased using FY 2006 funds and 24 million using FY 2007 funds.
4. State stockpile described here is the amount that can be purchased using state-federal matching funds under the federal contract. The match is 25% federal to 75% state. Additional courses can be purchased under the contract at the contract price but without federal matching funds.
5. The FY 2007 State funded purchase is based on the $750,000 approved by the State Legislature. It reflects $584,920 for oseltamivir (Tamiflu®), and $165,083 for zanamivir (Relenza®).
Request Process for Antiviral Drugs

The request process for antiviral drugs will be initiated at the local level as novel influenza becomes pandemic. Local health officers and tribal leaders have authority to request antiviral drugs from the UDOH. State procured stockpiles as well as SNS stockpiles will be allocated according to the predetermined split based on population (60%), hospital bed counts (20%), with a reserve of 20% allocated by the UDOH under the discretion of the Executive Director.

The initial cases of a novel strain of influenza identification would likely be part of an overall surveillance effort involving healthcare providers and laboratory testing. Specific information about the surveillance and detection of novel strains of influenza are addressed in surveillance and detection plans.

Once a novel strain of influenza is identified, the UDOH will be notified through existing channels including emergency hotlines such as 1-888-EPI-UTAH (1-888-374-8824) or 1-866-DOH-UTAH (1-866-364-8824). Reporting will result in notification of key responders as identified in emergency response plans and on-call rosters. The Utah Notification and Information System will be used to alert key responders and staff.

UDOH Policies and Administration

The UDOH under the direction of the Executive Director or designee will convene a policy group with identified leadership. The determination to use existing antiviral stockpiles and requesting SNS stockpiles will be made in consultation with the State Epidemiologist and the Governor’s Office.

General SNS plans will be implemented as needed for receiving, staging, storage, and distribution of antiviral stockpiles.

Emergency Operations Center

The onset of a pandemic influenza outbreak will result in the establishment of a UDOH State Health Operation Center (SHOC). The Emergency Operations Plan for the State and the UDOH will be implemented for coordination of requests, transportation of antiviral medications, and related tracking. Plans for establishment of the UDOH SHOC are contained in the Emergency Operations Plans for the UDOH.

The SHOC will coordinate UDOH response to include Policy Group guidance, Planning Section, Operations Section, Logistics Section, and Finance Section information. Overall coordination with the State is performed by UDOH representatives at the State Emergency Operations Center (EOC).
Command and Control

The antiviral stockpile distribution will use existing command and control policies for the UDOH, local health departments, and tribes. Compliance to the National Incident Management System will be maintained as part of any State incident response.

This plan will follow and adhere to existing UDOH titles and Incident Command System organizational command structures.

Notification and Information for Response

The UDOH will notify response agencies including all local health departments, tribes, healthcare providers, other State agencies, and other stakeholders prior to distribution of antiviral stockpiles. The Utah Notification and Information System (UNIS) and other notification channels may be used. Agencies or individuals needing information will receive automated messages through land line phones, cell phones, email, fax machines, or pagers. People notified may be instructed to log in to the UNIS web-site for additional information. The UNIS web address is http://health.utah.gov/unis Documentation, plans, and related information may be posted in UNIS as a secure web-based area for response partners. Emergency communications are also included as part of the UDOH Emergency Operations Plan. Redundant forms of communications including radio systems are also available as part of the UDOH all hazards preparedness planning.

Transportation and Logistical Support

Distribution of antiviral medications may be coordinated as designated under ESF #1 of the State Emergency Operations Plan through the Utah Department of Transportation. The Utah National Guard also serves as a support agency to the Utah Department of Transportation under ESF#1 and can provide both ground and air transportation assets and personnel. Primary support coordinated by the State will consist of executing contracts with several transportation partners. Old Dominion Freight, A-1 Pioneer Moving & Storage, Bailey’s Moving & Storage, DHL Express (USA), Federal Express Corporation, Bailey’s Moving & Storage (Allied Van Lines), and UPS Freight are currently under contract with the State and can be used for emergency supply shipments. Additional resources may also be coordinated by the Utah Department of Transportation through the State EOC including State Motor Pool resources, and the Utah Transit Authority fleet resources. Local resources may be provided including smaller vehicle transportation options from the RSS facility or between points of dispensing in their jurisdictions.

If transport crosses tribal land borders, the Bureau of Indian Affairs (BIA) will be notified by UDOH. Decisions for the transport of medications will be dependant upon the need for rapid transport, security, and available resources.
Shipments of antiviral medications will be secured under the direction of the Utah Department of Public Safety. The Bureau of Indian Affairs (BIA) will be involved if distribution crosses tribal borders. The Utah Highway Patrol (UHP) under the Utah Department of Public Safety has the authority to secure shipments throughout the State. Supporting security agencies will be coordinated under UHP direction. Once shipments are completed to designated local health or tribal sites, custody will be signed to the receiving agency. Security will then be coordinated at the local level with the county sheriff’s offices, or tribal police organizations.

Shipments of antiviral medications may be sent to the Utah RSS warehouse prior to the identification of novel strains of influenza in Utah. These shipments will be coordinated by UDOH staff, assigned local health department, or tribal staff as designated by the local or tribal health authority.

Distribution of State purchased, pre-staged caches will be performed under local and or tribal plans using local and or tribal resources.

Distribution of antiviral medication stockpiles will include logistical personnel support from the State as well as the local or tribal level as per our SNS Security Plan. Support includes UDOH staff trained and identified as part of the Logistics Support Team. Local health departments will be able to access volunteers through local Medical Reserve Corps. The Utah Division of Homeland Security coordinates volunteer resources throughout the State. Personnel used to support logistics of a distribution process would be coordinated as part of the UDOH Logistics Section in the Incident Command System.

Procurement of supplies related to the distribution of antiviral stockpiles will be coordinated by the Logistics Section with the Finance Section of the Incident Command System for the UDOH. Coordination for procurement will also be coordinated from the UDOH to the State Emergency Operation Center (EOC) and with the local EOCs as established.

**Receipt of Antiviral Medications**

Caches of SNS supplied antiviral medications, PPE, and ventilators will be received as outlined in current UDOH SNS Plans. Warehouse facilities for receipt, staging, and storage include enactment of MOAs as noted in the UDOH SNS Plans and in the attachment for this plan.

State purchased caches of antiviral medications will be stored in pre-designated facilities such as hospital pharmacies, State operated warehouses, or in facilities identified by local health jurisdictions and approved by the UDOH. Criteria for storage of caches will include standard recommendations for environmental control and security. Storage will be coordinated by the UDOH and initial inventories of caches will be maintained by the
UDOH. The stockpile will include pre-positioned caches in outlying areas to allow rapid response.

Event driven stockpiles delivered to Utah as part of the SNS Program will be received through existing SNS plans. SNS plans include the use of large warehouse facilities with loading/unloading capabilities, security, communication access, emergency power, and staffing facilities.

Local facilities will include sites designated as part of the local SNS dispensing plans. The use of antiviral medications may be limited to healthcare dispensing if the event is limited or effectively mitigated. Dispensing to the general public will only be performed if treatment facilities are overwhelmed by need. Local health departments will be responsible for establishment of emergency points of dispensing or protocols for dispensing to those in need that are not able to receive medicines from treatment facilities or physicians. Use and allocation of local health jurisdiction allotments will be determined by the local health officers or tribal leadership for their respective jurisdictions.

Allotments are based upon immediate need and anticipated capacity of the healthcare facilities. Allocations from the State would then be shipped by the local health district or tribe (if applicable) to the appropriate hospitals, clinics, or treatment centers. The use of alternate dispensing models may be considered if treatment centers exceed capacity to respond.

LHDs or tribes will transport medications from a distribution center or pre-positioned cache sites to healthcare providers as described in local health department or tribal response plans.

Security Resources

Security for antiviral medications at pre-event storage sites will be provided by existing staff and security resources. If SNS stockpiles are requested, primary security for the receiving warehouse will be under the direct supervision of the Utah Highway Patrol, supporting facility, and local law enforcement agencies. State resources for security are outlined in the State Emergency Operations Plan under the Emergency Support Function #13.

The Utah National Guard may also assist with site security, but will coordinate efforts with the UHP. State or local law enforcement presence is required, since National Guard personnel do not have arresting authority.

During ground transit, security will be provided by the UHP with possible National Guard assistance. Upon signing custody into local health, tribal, or healthcare custody, the primary security will be transferred to local law enforcement.
Air transportation resources also have been identified through the Utah National Guard as part of a Memorandum of Agreement (MOA) for SNS transport. If antiviral medications require rapid transport, security will be needed upon arrival at receiving sites. Security will be provided and coordinated at receiving sites by local or tribal authorities.

Security planning for air or ground transport will be communicated through local EOCs, LHDs, or tribes to the State EOC or SHOC. Shipments will not be sent if receiving sites can not assure proper security for personnel and supplies.

Additional security information is also included in the UDOH SNS Plan.

Local security resources will be coordinated by local authorities prior to signing medications into local custody. Local security resources will include county sheriff’s, municipal police departments, and other assets as identified and designated. Local authorities also are tasked to assist treatment centers for security, as needed.

Requests for additional security support will be conducted through existing law enforcement agency protocols.

**Chain of Custody**

The UDOH will provide all pre-event cache sites with appropriate chain of custody forms. Custody forms must be signed for all shipments of antiviral medications. SNS resources used will also be sent with chain of custody forms as part of the SNS plan.

Custody forms will be generated and signed by all parties storing, transporting, or dispensing antiviral medications. A standard form is maintained with the UDOH SNS Program. Forms may be modified or adopted as needed by the UDOH prior to or during an event. A sample copy is attached to this Antiviral Drug Distribution Plan. The CDC Resource and Inventory Tracking System (RITS) also is capable of producing forms that can be used as a chain of custody record and may be used to document chain of custody requirements for Utah.

Custody of antiviral drugs will be required to meet State and Federal regulations for prescription medications. Persons signing for custody will require appropriate credentials prior to signing for custody. Credentials will include State issued licenses, facility/organization identification, and State or Federal issued identity.

**Supply Tracking**

State and federal antiviral medications will be tracked by the Utah Department of Health through the Resource and Inventory Tracking System (RITS) as established by the Division of the Strategic National Stockpile under the Centers for Disease Control and Prevention. RITS may be augmented by the use of WebEOC by the UDOH for
monitoring resources. Supply information will be requested as needed by State, LHDs, or tribes to ensure proper tracking and need for re-supply. An inventory management system is managed by UDOH in house IT personnel as well.

**Patient Tracking Procedures**

The dispensing agency or organization is required to maintain a log of patient information for each course administered. The information required will include patient name, contact information, type of medication, lot number, and pertinent patient medical history. The administering agent or organization will also identify the priority group of patients or personnel receiving antiviral medications and a justification for the priority use.

Patient tracking information must be provided, upon request to the local health department, tribal health provider, or the UDOH. Patient information must follow existing State and Federal requirements as they apply for privacy and disease reporting. Tracking of antiviral medications may incorporate electronic reporting systems as approved by the UDOH.

**Public Information**

The UDOH has adopted the National Vaccine Advisory Committee’s guidelines for priority groups to receive antiviral medications. That means the medications will only be available to certain groups of people. In order to minimize concern on the part of the public, information must be made available prior to the incident outlining the pertinent aspects of the guidelines and how and to whom the medications will be administered. We will need to emphasize that there are antiviral drugs available only for treatment of patients with confirmed cases of novel influenza and healthcare workers with direct patient contact.

In order to counteract any undue alarm that may accompany this announcement, we need to provide information during the pandemic influenza outbreak that focuses on measures to prevent illness and what the public can do to improve their situation rather than antiviral medication use. We must also stress that at the time of an outbreak, work will begin on a vaccine, but it won’t be ready for approximately six months.

As per the UDOH EOP, emergency communication plans, and information will be coordinated at a Joint Information Center. All necessary stakeholders will be invited to participate. Local partners will be included to ensure consistent and accurate messages.
Apportionment Formula

The apportionment for health districts is based on the projected census data and current staffed hospital bed counts for each of the 12 local health jurisdictions. The Apportionment Formula is represented by the equation where \( A \) is the number of courses apportioned for a given health district.

\[
A = 0.6(\text{total courses available})(\text{area population}/\text{State population}) + 0.2(\text{total courses available})(\text{area hospital bed count}/\text{State total hospital bed count}).
\]

The factors of 0.6 and 0.2 represent the Task Force’s recommendation of 60% based on population and 20% based on hospital bed count respectively. Total courses available may represent the sum of State purchased and Strategic National Stockpile courses combined. This formula does not consider tribal or other special populations, since those data are in the aggregate for local health district populations. Tribal populations may be subtracted from local health populations and calculated separately. This may be done if (a) tribe(s) desire to receive allocations directly from the UDOH. The Apportionment Formula does not include stockpiles reserved for State discretionary use. This State reserve will be 0.2 multiplied by the total courses available.

Apportionment of personal protective equipment and patient support supplies may follow the same formula for initial distribution. Initial allocations may then be evaluated and changed as necessary.

Table 2. Projected census and hospital bed counts for Utah.

<table>
<thead>
<tr>
<th>Local health district</th>
<th>Population census estimate (2008)</th>
<th>Population as a percentage</th>
<th>Hospital bed counts (staffed) (^1)</th>
<th>Hospital bed counts as a percentage</th>
<th>Percentage of total courses available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bear River</td>
<td>161,865</td>
<td>6.128</td>
<td>199</td>
<td>3.67</td>
<td>4.41</td>
</tr>
<tr>
<td>Central</td>
<td>74,498</td>
<td>2.820</td>
<td>130</td>
<td>2.40</td>
<td>2.17</td>
</tr>
<tr>
<td>Davis</td>
<td>278,408</td>
<td>10.540</td>
<td>370</td>
<td>6.83</td>
<td>7.69</td>
</tr>
<tr>
<td>Salt Lake</td>
<td>1,026,646</td>
<td>38.866</td>
<td>2,890</td>
<td>53.36</td>
<td>33.99</td>
</tr>
<tr>
<td>Southeast</td>
<td>55,620</td>
<td>2.101</td>
<td>143</td>
<td>2.64</td>
<td>1.79</td>
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<tr>
<td>Southwest</td>
<td>180,515</td>
<td>6.834</td>
<td>392</td>
<td>7.24</td>
<td>5.55</td>
</tr>
<tr>
<td>Summit</td>
<td>38,959</td>
<td>1.475</td>
<td>0</td>
<td>0</td>
<td>0.89</td>
</tr>
<tr>
<td>Tooele</td>
<td>55,494</td>
<td>2.101</td>
<td>35</td>
<td>0.64</td>
<td>1.39</td>
</tr>
<tr>
<td>TriCounty</td>
<td>43,690</td>
<td>1.654</td>
<td>81</td>
<td>1.50</td>
<td>1.29</td>
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<tr>
<td>Utah</td>
<td>470,986</td>
<td>17.830</td>
<td>707</td>
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<td>13.31</td>
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<td>Wasatch</td>
<td>21,110</td>
<td>0.799</td>
<td>19</td>
<td>0.35</td>
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<tr>
<td>Weber</td>
<td>233,683</td>
<td>8.847</td>
<td>450</td>
<td>8.31</td>
<td>6.97</td>
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<tr>
<td>Morgan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State reserve</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>20</td>
</tr>
<tr>
<td>Totals</td>
<td>2,464,633</td>
<td>100%</td>
<td>5,416</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>
Note: \(^1\)Staffed hospital bed count data was provided by the Utah Hospital and Health Systems Association (updated February 1, 2007).

Table 3. Possible courses available by local health jurisdictions

<table>
<thead>
<tr>
<th>Local health district</th>
<th>Percentage of total courses</th>
<th>Total subsidized courses available</th>
<th>State funded courses (2008)</th>
<th>SNS course allotment for Utah</th>
<th>Total possible courses available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bear River</td>
<td>4.41</td>
<td>10,891</td>
<td>2,235</td>
<td>15,458</td>
<td>26,349</td>
</tr>
<tr>
<td>Central</td>
<td>2.17</td>
<td>5,359</td>
<td>1,100</td>
<td>7,606</td>
<td>12,965</td>
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<tr>
<td>Davis</td>
<td>7.69</td>
<td>18,991</td>
<td>3,896</td>
<td>26,955</td>
<td>45,946</td>
</tr>
<tr>
<td>Salt Lake</td>
<td>33.99</td>
<td>83,940</td>
<td>17,222</td>
<td>119,141</td>
<td>203,081</td>
</tr>
<tr>
<td>Southeast</td>
<td>1.79</td>
<td>4,421</td>
<td>907</td>
<td>6,274</td>
<td>10,695</td>
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<tr>
<td>Southwest</td>
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<td>13,706</td>
<td>2,812</td>
<td>19,454</td>
<td>33,160</td>
</tr>
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<td>450</td>
<td>3,120</td>
<td>5,318</td>
</tr>
<tr>
<td>Tooele</td>
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<td>3,433</td>
<td>704</td>
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<td>8,305</td>
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<td>TriCounty</td>
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<td>3,186</td>
<td>654</td>
<td>4,522</td>
<td>7,708</td>
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<td>32,870</td>
<td>6,744</td>
<td>46,654</td>
<td>79,524</td>
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<td>Wasatch</td>
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<td>1,358</td>
<td>279</td>
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<td>Weber</td>
<td>6.97</td>
<td>17,213</td>
<td>3,532</td>
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<td>Morgan</td>
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<tr>
<td>State reserve</td>
<td></td>
<td>49,390</td>
<td>10,134</td>
<td>70,104</td>
<td>119,494</td>
</tr>
<tr>
<td>Totals</td>
<td>100%</td>
<td>246,956</td>
<td>50,669</td>
<td>350,518</td>
<td>597,475</td>
</tr>
</tbody>
</table>

Administration of Antiviral Drugs to the Public

The UDOH has adopted the National Vaccine Advisory Committee’s guidelines for priority groups to receive antiviral medications. Information may be found at http://www.hhs.gov/pandemicflu/plan/appendixd.html

The administration of antiviral drugs to the public will be performed under the authority of the local health departments. It is recommended that local health departments develop plans that include the following:

- Apportionment protocols for treatment centers
- Apportionment protocols for tribal jurisdictions and military facilities (if applicable)
- Measures to ensure adherence to priority groups
• Policies for health care providers to follow standard case definitions as may be recommended by the UDOH or the CDC
• Policies for health care providers to follow standard treatment protocols as may be recommended by the UDOH or the CDC
• Who will have prescriptive authority in respective jurisdictions
• Strategies to dispense drugs to patients unable to visit treatment centers
• Security protocols for storage, transport, and during administration of medications
• Security plans and coordination for treatment centers
• Local law enforcement risk assessments for receiving and dispensing sites
• Security assistance assurances to provide additional resources beyond current existing local resources
• Mass reproduction of pertinent information
• Patient tracking to ensure individuals are not receiving multiple courses
• Supply tracking information and data for usage and re-supply
• Recipient information including priority group and administration justification
• Data collection
• Adverse event tracking

Local health departments will focus initial distribution to treatment centers as patients present. Local health departments may or may not be required to open emergency dispensing centers as needs and circumstances change.

Antiviral Use and Priority Groups

The antiviral medications contained in the Utah stockpile or distributed from the national stockpile will be used according to a priority group system that describes the characteristics of persons (e.g. severity of illness, preexisting conditions, role in response, etc.) in each priority group and the type of use (treatment, prophylaxis, or post-exposure prophylaxis for each priority group). The current priority group plan was approved by the Governor’s Taskforce on Pandemic Influenza Preparedness (<http://www.pandemicflu.utah.gov/docs/PandInfluTaskforceFinalReport.pdf>). Changes to that priority group system will be approved by the Governor’s Pandemic Advisory Committee. The current priority groups along with estimates of the numbers of courses of antiviral medications needed to cover each priority group are included in Table 4. The estimates for the number of courses needed for each priority group are based on the NVAC estimates projected to the Utah population.

Implementation of Antiviral Use and Priority Groups:

At the onset of Utah Pandemic Influenza Response Level B, a report of what is known about the pandemic will be prepared including epidemiologic patterns (i.e., overall and age specific case fatality ratios, attack rates, and hospitalization rates as available), the current status of the antiviral stockpile available for use in Utah, and an updated version
of Table 4 based on current population projections and any additional data on the size of priority groups that is available. That report will be reviewed by the Utah Pandemic Influenza Coordination Group. If the information suggests the need for alterations in the Antiviral Use and Priority Group plan, the Governor’s Pandemic Influenza Advisory Committee will be asked to review and make recommendations on that plan. In either case, a conference call will be convened with local health departments to review the plan and to identify local concerns that should be incorporated into that review.

Table 4: Utah Priority Groups for Antiviral Medication use during a Pandemic (Approved by the Governor’s Taskforce for pandemic Influenza Preparedness. Based on National Vaccine Advisory Committee (NVAC) priority group recommendations:

<table>
<thead>
<tr>
<th>Priority Group</th>
<th>Type of Use</th>
<th>US treatment courses</th>
<th>Utah courses</th>
<th>Cumulative</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients admitted to hospital 4</td>
<td>T</td>
<td>7,500,000</td>
<td>62,300</td>
<td>62,300</td>
<td>Federal stockpile will cover 350,500 treatment courses</td>
</tr>
<tr>
<td>Health care workers (HCW) and EMS responders with direct patient contact</td>
<td>T</td>
<td>2,400,000</td>
<td>19,900</td>
<td>82,200</td>
<td></td>
</tr>
<tr>
<td>Highest risk outpatients 3</td>
<td>T</td>
<td>700,000</td>
<td>5,800</td>
<td>88,000</td>
<td></td>
</tr>
<tr>
<td>Pandemic health responders 5</td>
<td>T</td>
<td>900,000</td>
<td>7,500</td>
<td>95,500</td>
<td></td>
</tr>
<tr>
<td>Increased risk outpatients 7</td>
<td>T</td>
<td>22,400,000</td>
<td>185,900</td>
<td>281,400</td>
<td></td>
</tr>
<tr>
<td>Outbreak response (nursing homes or other residential settings) 8</td>
<td>PEP</td>
<td>2,000,000</td>
<td>16,600</td>
<td>299,000</td>
<td></td>
</tr>
<tr>
<td>Critical health care workers 9</td>
<td>P</td>
<td>4,800,000</td>
<td>39,800</td>
<td>337,800</td>
<td>State stockpile would cover pandemic societal responders and about 236,900 (~60%) other outpatients</td>
</tr>
<tr>
<td>Pandemic societal responders 10</td>
<td>T</td>
<td>2,700,000</td>
<td>22,400</td>
<td>360,200</td>
<td></td>
</tr>
<tr>
<td>Other outpatients 11</td>
<td>T</td>
<td>47,300,000</td>
<td>392,600</td>
<td>752,800</td>
<td></td>
</tr>
<tr>
<td>Highest risk outpatients</td>
<td>P</td>
<td>10,000,000</td>
<td>83,000</td>
<td>835,800</td>
<td></td>
</tr>
<tr>
<td>Other HCW with direct patient contact</td>
<td>P</td>
<td>32,000,000</td>
<td>265,600</td>
<td>1,101,400</td>
<td></td>
</tr>
</tbody>
</table>

Notes on Table:

1 T = Treatment (requires a course of 2 capsules BID or 10 capsules and is defined as one course); P = Prophylaxis (requires 1 capsule each day for an assumed 40 days, or 40 capsules, i.e., 4 courses; more may be needed if the outbreak lasts longer than 40 days); PEP = Post-exposure prophylaxis (requires one capsule each day for 10 days, or 10 capsules, i.e., one course)


3 Projections of the number of Utah courses were based on an assumption that the number of people in each priority group in Utah would be proportionate in size to the Utah population compared to the US population. The population estimates were from 2005 US census. US population estimate is 296 million, UT population is 2.47 million. UT population is 0.83% of the
US total. Many of the population sizes used by the NVAC were rough estimates and differences are possible between national estimates and Utah population.

4 Patients admitted to hospital. This number would vary with the severity of the pandemic and capacity of the health care system. While not specified by NVAC, it is recommended in Utah that this group be considered to include those ill enough to be admitted to a hospital but for whom adequate hospital beds are not available as well as those actually admitted.

5 The subset of persons designated by ACIP as at higher risk of influenza complications who are at highest risk, including persons with underlying illnesses placing them at greatest risk of severe complications (hematopoetic stem cell or solid organ transplant patients, immunosuppression due to treatment for cancer, hematological malignancy, or other illnesses such as rheumatoid arthritis, persons with HIV infection and CD4 count < 200, persons on dialysis, and women in 2nd or 3rd trimester of pregnancy.

6 Public health workers involved in key pandemic response roles (e.g., vaccine administration, surveillance, antiviral distribution), public safety workers (police, fire and corrections personnel), and key government decision-makers (chief executives at federal, state, and local levels)

7 The remainder of those currently designated by ACIP as being at high risk for influenza complications, including persons 6-23 months or >65 years of age, or with underlying illnesses as defined by ACIP.

8 Treatment of cases and post-exposure prophylaxis to limit spread of influenza in settings where outbreaks pose substantial risk of serious morbidity, such as nursing homes.

9 This recommendation is for prophylaxis for the duration of the outbreak in a community for personnel who are needed for effective functioning of selected critical health care units, including ED, ICU, and dialysis, and EMS units.

10 This group includes persons who provide essential services that must be sustained during a pandemic to maintain public well-being, health and safety. It includes workers at health care facilities who have no direct patient contact, but are important to operation of those facilities, and utility (electricity, gas, water), waste management, mortuary, and some transportation workers.

11 Includes persons with influenza not in any of the previously described priority groups. Treatment of this group would help limit spread, limit time missed from work, and potentially reduce the burden on the health care system.

### Vulnerable and Hard to Reach Populations

The UDOH has developed baseline information for most of the unique populations within the State. Information for antiviral drug distribution will follow recommendations as part of the public information outreach during a pandemic outbreak. Issues addressed include language barriers, trust, mentally and physically impaired, etc. Liaisons and resources for communication to the vulnerable and hard to reach populations will be utilized to the extent that they are available.

Public messaging for the distribution of antiviral medications will be included to the extent that those who become ill should seek medical care as available. The antiviral medications will only be provided as part of treatment therapy, and not for mass prophylaxis. Pre-event messaging for pandemic influenza is being developed and implemented as part of the comprehensive planning for preparedness.
Tribal Populations

At this time, Utah tribes contract with local hospitals and providers for services where hospitalization is required. The protocol for distributing antiviral medication to any hospitalized recipient would be the same for Utah’s American Indian population. The American Indians Tribes of Utah will receive respective portions as part of the jurisdictional count based on population and hospital/clinical bed capacity.

Most of Utah’s tribes cross state boundaries and local health department jurisdictions. Tribes are sovereign nations and have the inherit option to receive allocation directly from the UDOH. At tribal discretion, shipments may be coordinated with the local health department(s). Pre-event planning and coordination will be offered by the UDOH to tribes or tribal health clinics.

All tribal issues concerning the UDOH will be coordinated by the Indian Health Liaison. Planning and real event policies must follow UDOH Tribal Consultation Policy and meet the approval of the Utah Indian Health Advisory Board.

Tribes will be provided access to UDOH pre-scripted messages, public messages, educational tools, and support to assist in reaching their populations. State Tribal leaders may assist with or be responsible for translation of materials in their native language. The State Indian Health Advisory Board Liaison or designee will assist in accessing traditional communications i.e., KRCL radio, that is a familiar communication conduit for many of Utah’s American Indians. Coordination for tribal response will be performed on a case-by-case basis as directed by the tribal officials, or tribal health care providers.

Military Installations

Military installations will receive respective allocations as part of the population and aggregate bed count for local health districts. Military bases not participating in the response operations will receive supplies as coordinated through local health departments. Military organizations involved in response operations will receive medications directly from the UDOH. Existing local health SNS dispensing plans provide bulk medications to installation medical staff for internal use and dispensing. Hill Air Force Base will receive medications from the Davis County Health Department in an event where treatment is required on the Base instead of surrounding civilian hospitals and treatment centers unless other formal agreements are enacted. The Utah National Guard may receive medications directly from the UDOH if they are providing direct treatment to personnel. Other military installations will receive medications from their respective local health departments, if treatment is needed.
Training and Exercise for Antiviral Supply Distribution

This plan and related response plans will be used as a tool in training and exercise development by the UDOH. Current training for pandemic influenza response is coordinated by the UDOH for staff, volunteers, and stakeholders. Exercise development for antiviral drug distribution includes the request, communication, and transportation for related products.

A Statewide Public Health Emergency Response Exercise (SPHERE) was completed by October 2007. Objectives and scenario were based upon a pandemic influenza response. Other agencies participated. Table top exercises prior to the September 2007 exercise and the evaluation were provided by the UCLA Center for Public Health Preparedness. After-action reports will be consulted to implement changes to this plan. Past training and exercise reports are archived in UDOH shared drives for review. A table top exercise for this plan was also offered to members of the Utah SNS Subcommittee. After action reports were used to modify this plan.

Local health departments, most of Utah’s tribes, and local stakeholders have developed or are coordinating training and exercise plans for related pandemic influenza response. All training and exercise reports were encouraged to be submitted to the UDOH for review purposes.

Just-in-time (JIT) for RSS and related SNS positions is contained in the UDOH SNS Plan. All positions used to request, receive, stage, store, and distribute are included.

LHD plans also contain JIT training for points of dispensing (POD) sites and dispensing functions.

Note: If you are an emergency planner and would like access to the complete plan, please contact Hannah Gehman at gehman@utah.gov.
Utah Pandemic Influenza Response Plan
State/Local/Health Care Coordination Plan

NOTE: This attachment is still in draft form undergoing review and will be added at a later date.
Utah Pandemic Influenza Response Plan
Public and Risk Communications Plan

DRAFT

Revised April 23, 2008
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Purpose

Communications during an influenza pandemic will be critical. Challenges include assuring unified and coordinated messages to the public as well as to responders and healthcare professionals. This plan will identify the entities that need to receive timely and accurate communications, describe the messages that will be developed, identify when these messages should be sent, and describe the process whereby communications will occur with the media. The sister communications plan “Operational Communications and Coordination Plan” will describe the process whereby communications will occur with partner agencies.

Situation description

As the events unfold toward a pandemic, communications will become more frequent and the messages will evolve. This plan outlines the categories of messages, the messages contained within the categories, and describes the release of messages as a function of the pandemic period phases. It also describes the two branches of communication recipients, namely the public and professional partners.

Planning assumptions

This plan is based on the following assumptions:
1. Each agency/partner organization has specific responsibilities as outlined in this plan.
2. Each agency/partner organization will be responsible for notifying other agencies/partner organizations of activities, plans, findings, and media contacts according to this plan.
3. Each agency/partner organization is responsible for assuring internal communication with key personnel within that agency, unless other means of notifying those individuals is specifically included in this plan.
4. Prevention and control of pandemic influenza requires that surveillance data be shared rapidly among participants to facilitate effective interventions, including public education and community mitigation. For that to occur, each agency needs to understand and adhere to the data release and confidentiality provisions that govern use of those data.
5. Effective communication with the media and public will require regular communication among the agencies/partner organizations to assure consistent messages. Each partner must be aware of activities and interventions planned and implemented by the other partners.
6. Coordinated activity during an outbreak will require planned regular communication mechanisms, in addition to ad hoc communications.
7. Public information activities are critical for effective health education, promotion of health behaviors and to maintain public trust. This will require ongoing attention to developing consistent messages, reciprocal notification of media contacts and other public information activities, and coordinated releases of information.
8. Communication messages will change as the pandemic phases progress.
9. Communication messages will likely change even within the phases, especially as the pandemic intensifies.
10. All agencies will have communications plans that are consistent with, and fit within, this communications plan.
11. Communications components of the other pandemic influenza plans within Utah will be consistent with, and fit within, this communications plan.

Concept of operations

The concept of operations outlines the messages that require development as well as the rollout of these messages during the pandemic phases. See Appendix 1 for the matrix of messaging by phase/stage/level.

Message Categories (All)
State and local health departments have agreed to classify messages into the following categories by severity of the public health message and risk. It would be helpful if our additional partners followed these guidelines:

- **News Advisory** - Announces an event such as an award ceremony, news conference, video opportunity, walk/run, etc. (The news release is generally handed out at the event.)
- **News Release/Announcement** - Announces new data, programs, issues, rankings, reports, awards, changes in leadership, position clarification, etc.
- **Health Update** – Provides an update to an issue or problem already discussed. This may provide advice but doesn’t carry an expectation of action.
- **Health Advisory** - Indicates something of importance to the public’s health but no immediate need to act – just proactive/preventive information, but advice or eventual need to act.
- **Health Alert** – Information about a specific health issue where immediate action is required to protect health. Alerts will be used cautiously.

Identification of responsibilities

See Appendix 2 for the matrix of identification of responsibilities by event.

Roles and responsibilities

A listing of key partner roles and responsibilities is found in Appendix 3.

UDOH emergency contacts can be found in Appendix 4.

*Utah Department of Health*

**Pandemic Alert Period**

Work with media to establish relationships and foster credibility.

See Appendix 5 for a list of media e-mails and phone numbers.
• Develop paid media campaign and negotiate for airtime in large markets. (See Appendix 6 for paid media campaign information and sample messages.)

• Develop primary messages for each of the message areas:
  o What Utah is doing to prepare
  o Hygiene
    ▪ Preventive health care including:
  o Hygiene in offices
  o Safety when cooking chicken
  o Safe practices for hunters/farmers
    ▪ Personal preparedness
    ▪ Situational awareness
    ▪ Non-pharmaceutical interventions
    ▪ Altered expectations
  • Develop press release templates for all anticipated “events”. (See Appendix 7 for press release templates).
  • Develop media “backgrounders” to be given out during key events. Appendix 8 has media backgrounders.
  • Work with local health departments (LHDs) to assure that all created messages have consensus approval
  • Coordinate media messages with key partners: LHD, Utah Department of Agriculture and Food (UDAF), Utah Division of Wildlife Resources (UDWR), and hospitals
  • Identify special needs populations and develop effective distribution methods. (Special needs populations and how to reach them are outlined in Appendix 9.) Utah’s Office of Public Information and Marketing has also produced a document entitled Crisis Communication Considerations for Utah’s Hard-to-Reach Populations that will be used by a specially formed workgroup that is being convened to address these populations. (Additional information can be found in the associated appendix.)
  • Translate all primary messages – a brochure about pandemic influenza has been translated into nine languages. The translations can be found at: http://pandemicflu.utah.gov/brochures/brochurelang.htm
  • Develop an expedited process for urgent message approval
  • Create handouts/flyers/brochure templates that can be easily modified at the LHD level
  • Assure that all printed materials can be easily modified or identified by LHDs
  • Maintain the state Pandemic Influenza Web site
  • Maintain the state Pandemic Influenza listserver
  • Develop coordinated messages for:
    ▪ Healthcare providers
    ▪ First responders
    ▪ Volunteer Organizations Active in Disasters (VOADs)
  • Develop a process to assure that external presentations to communities all have a uniform message
Serve as a conduit for information from federal agencies through to LHDs and other state agencies

**Pandemic Period**

- Create “situation reports” detailing the current status of a pandemic in a timely manner
- Coordinate media messages with key partners: LHD, UDAF, UDWR, and hospitals
- Develop FAQ sheets for Code Red volunteers
- Develop coordinated messages for:
  - Healthcare providers
  - First responders
  - VOADs
  - Utah’s large employers
    (See Appendix 10 for a list of Utah’s large employers and suggested contact information.)
- Maintain the state Pandemic Influenza Web site
- Maintain the state Pandemic Influenza listserver
- Work with LHDs to assure that all created messages have consensus approval
- Assure that all printed materials can be easily modified or identified by LHDs
- Distribute messages to state agencies and state elected officials
- Serve as a conduit for information from federal agencies through to LHDs and other state agencies
- Set up a Joint Information Center (JIC) with representation from all LHDs to coordinate release of information to the public and coordinated messages. (See Appendix 11 for Joint Information Center Operations.)

**Pandemic Alert Period**

**LHDs**

- Work to identify special needs populations and develop effective distribution methods
- Aid in UDOH messaging by reading and approving all preliminary messages developed by UDOH. Approve using an expedited approval process
- Work to inform UDOH within requested time frames of problems with messages and assist in developing a consensus replacement
- Agree to use approved messages (with non-essential modifications) for all communications
- Commit to submit all internally-produced flyers/pamphlets/brochures/Web site information/fact sheets to UDOH to assure uniformity of messages prior to final approval process
- Work to develop distribution processes to identify all healthcare workers, first responders, and VOADs within the LHD boundaries
• Make every attempt to assure that all external presentations conform to the state’s uniform message
• When necessary, work to distribute messages to local government officials

Pandemic Period
• Work to inform UDOH within requested time frames of problems with messages and assist in developing a consensus replacement
• Agree to use approved messages (with non-essential modifications) for all communications
• Commit to submit all internally-produced flyers/pamphlets/brochures/Web site information/fact sheets to UDOH to assure uniformity of messages prior to final approval process
• Work to develop distribution processes to identify all healthcare workers, first responders, and VOADs within the LHD boundaries
• Make every attempt to assure that all external presentations conform to the state’s uniform message
• When necessary, work to distribute messages to local government officials
• Assist with participation in the State Joint Information Center to assure coordinated messages as well as coordinated release of information to the public

ICS Process (UDOH)

Planning assumptions:
It is assumed that during an event of such magnitude that ICS structure will be implemented, that an expedited, coordinated process for creation, approval, and dissemination of all messages will be a critical element in the success of managing the event.

To assure a timely response, an expedited approval process should involve no more than one final reviewer, however that reviewer can request input in making the final decision.

Role of Public Information Officer
Pandemic Alert Period

Training
• Each PIO within the UDOH is responsible for completing Utah’s basic public information officer course.
• The UDOH PIOs office will be represented in annual NPHIC and preparedness conferences.
• Continue quarterly meetings with LHD PIO/RCCs to foster relationships and build cooperation.
• Tom Hudachko – Public Information Officer – UDOH – takes the lead in assignments
• Charla Haley – Public Information Specialist – UDOH – serves as backup and fills in where needed and as assigned
Cyndi Bemis – part-time Public information Specialist – UDOH – fills in where needed and as assigned
Janet Scarlet – Support Specialist – UDOH – fills in where needed and as assigned

- Coordinate press releases with LHDs to assure coordinated distribution
  - The Office of Public Information and Marketing (OPIM) will be responsible for verifying that all LHDs have an opportunity to review all press releases prior to media distribution
- Final approval on all written materials (e.g. speaking points, fact sheets, messages) (within 30 minutes)
- Press releases will be developed at the request of the PIO, Executive Director’s office or Epidemiology. Content will be approved by a designated epidemiologist and edited by the PIO.
- Daily review of all Web site materials
- Write all press releases
- Obtain approval for all press releases (approval process for press releases should take no longer than 1 hour) – using PIO communication liaison
- Field all press inquiries

**Pandemic Period**

- Write all press releases
- Coordinate press releases with LHDs to assure coordinated distribution
  - PIO’s office will be responsible for verifying that all LHDs have an opportunity to review all press releases prior to media distribution
The OPIM has gathered all LHD logos to ease the process in case of a situation requiring a joint news release
- Obtain approval for all press releases (approval process for press releases should take no longer than 1 hour) – using PIO communication liaison
- Final approval on all written materials (e.g. speaking points, fact sheets, messages) (within 30 minutes)
- Press releases will be developed at the request of the PIO, Executive Director’s office or Epidemiology. Content will be approved by a designated epidemiologist and edited by the PIO.
- Field all press inquiries
- Hold press conferences as necessary (when mass gatherings are suspended, press conferences will be suspended)

The list of UDOH spokespeople are as follows:
Dr. David Sundwall, Executive Director, UDOH
A. Richard Melton, Dr. P.H., Deputy Director, UDOH
Dr. Robert Rolfs, State Epidemiologist, UDOH
Teresa Garrett, RN, MS, Director, Division of Epidemiology and Laboratory Services, UDOH
Susan Mottice, PhD., Epidemiologist, UDOH
Rich Lakin, Epidemiology Manager, UDOH
Appendix 12 lists additional subject matter experts outside the UDOH.

- Hold conference calls in lieu of on-site press conferences (when necessary)
- Identify and log incorrect information being presented on TV, radio, and newspapers
  - Notify Communications Unit so that messages can be changed to address these rumors – using PIO communication liaison
- Coordinate JIC activities with all media partners
- Daily review of all Web site materials
- Work with Communications Unit to develop media backgrounder information (approved by State Epidemiologist or designee)
- Develop daily report detailing media contacts (number and whom), names and number of people working, number of shifts, hours worked, main issues, and copies of all released media
- Deliver this report daily to the Situation Unit in the Planning/Intelligence Section

Role of Planning/Intelligence Section

Role of Situation Unit

- Receive, store and catalog all daily reports from all sections
- Make all reports available in a shared drive to which all section chiefs (and other designated personnel) have read-only access
- Create a daily “situation report” or sit-rep

Role of Policy and Planning Unit

Role of Health Information and Public Education Branch
Create a daily “situation report” from all of the units and forward to the Planning/Intelligence Section, Situation Unit

Role of Code Red Unit

- Use information (fact sheets) on Web site for information
- Information may change within shifts, so only use Web site information
- Identify and log incorrect information raised by the public
- Notify Communications Unit so that messages can be changed to address these rumors – using Code Red liaison
- Develop daily situation report with number of workers, number of shifts, hours worked, main issues
- Deliver this report daily to the Branch Director

Role of Communications (Production) Unit
The main role of the writers in this unit is to assure that all messages to all audiences are unified.

- Develop all primary messages for the public, healthcare workers, first responders, VOADs
- Develop fact sheets for website and Code Red teams
- Assure that all messages are approved by State Epidemiologist (or designee) - through unit communication liaison
- Send messages to PIO office for final approval - through unit communication liaison
- Read technical advisories and other information from federal agencies to assure messages are tracking correctly
- Change messages as needed in response to inaccurate information or rumors that are circulating
- Messages will be translated as they are developed
- Read sit reps and other in-house information to assure that messages are consistent with Utah-specific data
- Develop daily situation report with number of workers, number of shifts, hours worked, main issues
- Deliver this report daily to the Branch Director

Role of Communications (Distribution) Unit

- Update web pages with messages from production unit
- Track and produce listserve messages
- Create brochures, flyers, documents
- Develop daily situation report with number of workers, number of shifts, hours worked, main issues
- Deliver this report daily to the Branch Director

Role of Public Health Operations Branch

Role of Epidemiology Unit

- Create daily “disease report” status which details disease and surveillance parameters of the outbreak
- Deliver this report daily to the Situation Unit in the Planning/Intelligence Section

Role of Disease and Investigation Management

Role of Surveillance

Role of Mass Prophylaxis and Immunization Unit

Role of Lab Services Unit

Role of State Epidemiologist (or designee)

- Approves all written messages (within 1 hour)
- Approves all press releases (within 1 hour)
- Identifies at least 2 spokespersons daily and notify PIO
  - Spokespersons will have access to the daily messages to assure unified messages
Communicate to all areas who will be functioning in this role each shift (since this person may not occupy a constant position in the Incident Command Structure)

Role of Emergency Operations Center

- Identify and log incorrect information or rumors
  - Notify Communications Unit so that messages can be changed to address these rumors – using Emergency Operations Center (EOC) liaison
- Manage fax machines, perform all fax blast procedures.
- Develop daily situation report with number of workers, number of shifts, hours worked, main issues
- Deliver this report daily to the Planning Section/Situation Unit
## Appendix 1

<table>
<thead>
<tr>
<th>WHO Phases &amp; Descriptions</th>
<th>US Federal Stages and Descriptions</th>
<th>Utah Pandemic Response Levels and Descriptions</th>
<th>Communication Methods</th>
<th>Message Categories</th>
<th>Messages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pandemic Alert Period</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase 3- Human disease, no or limited human-to-human transmission</td>
<td>Stage – 0 New domestic animal outbreak in at-risk country</td>
<td>No H5N1 high pathogenicity activity in the US</td>
<td>Passive, primarily website</td>
<td>Preventive health care</td>
<td>Develop media campaign</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Personal preparedness</td>
<td>Assemble backgrounder information</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Situational awareness</td>
<td>Develop messages and obtain translations</td>
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<td></td>
<td></td>
<td></td>
<td>Altered expectations</td>
<td>Develop robust webpage</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Include special needs information within each category</td>
<td>Develop draft news releases</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Prepare process to obtain expedited message approval</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Obtain consensus on unified messages with all partners</td>
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<tr>
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<td>Develop process to assure unified message dissemination</td>
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<td>Develop process to deliver message to all partners</td>
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<td>Develop uniform messages to be delivered through a speaker's bureau</td>
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<td>Identify special needs populations and mechanisms of delivery</td>
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<td>Assure all message partners have been identified and are participating in this process</td>
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<td>Phase 3/4/5</td>
<td>H5N1 high pathogenicity activity discovered in US birds</td>
<td>No H5N1 high pathogenicity activity in UT birds</td>
<td>Health advisory press release Media backgrounder</td>
<td>Personal preparedness</td>
<td>Personal food/medication stockpile</td>
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<tr>
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<td>Situational awareness and understanding</td>
<td>Avian influenza vs pandemic influenza</td>
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<td>Disease of birds not humans</td>
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<td>H5N1 high pathogenicity activity in US birds</td>
<td>H5N1 high pathogenicity activity in UT birds</td>
<td>Health advisory press release</td>
<td>Personal preparedness</td>
<td>Personal food/medication stockpile</td>
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<td>Situational awareness and understanding</td>
<td>Avian influenza vs pandemic influenza</td>
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<td>Information about limited transmission to at-risk individuals – how to protect yourself</td>
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<td>H5N1 human</td>
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<td>Health advisory</td>
<td>Personal preparedness</td>
<td>Personal food/medication stockpile</td>
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<tr>
<td>Phase 3/4/5</td>
<td>Disease in US – limited human-to-human transmission</td>
<td>Disease in UT – limited human-to-human transmission</td>
<td>Press release Media backgrounder</td>
<td>Situational awareness and understanding Actions for poultry workers, hunters, etc.</td>
<td>Avian influenza is not pandemic influenza Information about limited transmission to at-risk individuals – how to protect yourself. Risk to not-at-risk individuals</td>
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<td>Phase 4 – Increased human-to-human transmission</td>
<td>H5N1 human disease in UT – limited human-to-human transmission</td>
<td>H5N1 human disease in UT</td>
<td>Health alert press release</td>
<td>Personal preparedness Situational awareness and understanding Preventive health care</td>
<td>Get a flu shot Cover your cough Stay at home messages</td>
</tr>
<tr>
<td>Phase 5 – Significant human-to-human transmission</td>
<td>Stage 1 – Suspected human outbreak overseas</td>
<td>Health advisory press release</td>
<td>Personal preparedness Preventive health care</td>
<td>Strong preparedness messages Steps you should take Steps being taken overseas</td>
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<td>Pandemic Period</td>
<td>Stage 2 – Confirmed human outbreak overseas</td>
<td>Health advisory press release (unless step 4 and 5 occur within 48 hours)</td>
<td>Personal preparedness Preventive health care Community mitigation overseas Start travel advisories</td>
<td>Strong preparedness messages It is not here yet but will be soon Steps being taken overseas “that we may soon be taking”</td>
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<tr>
<td>Phase 6 – Increased and sustained transmission in the general population</td>
<td>Stage 3 – Widespread human outbreaks, multiple locations overseas</td>
<td>Level A -</td>
<td>Health alert press release</td>
<td>Personal preparedness Preventive health care Community mitigation measures Travel advisories</td>
<td>Start messages on what we DO have Explain how we are seeking to avoid widespread disease Explain how community mitigation measures will help</td>
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<tr>
<td>Phase 6</td>
<td>Stage 4 – First human case in North America</td>
<td>Level B – Human cases in North America, no detection in Utah</td>
<td>Health alert press release</td>
<td>Initiate some expectations Community mitigation measures and trigger points</td>
<td>Start messages on what we DON’T have Start altered expectations messages Reinforce the idea that community mitigation measures will work Last chance for preparedness</td>
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<tr>
<td>Phase 6</td>
<td>Stage 5 – Spread throughout US</td>
<td>Level C – Detection of human cases in Utah</td>
<td>Press conference with ground rules – different numbers</td>
<td>Start major rumor control messaging Main issues will be community mitigation</td>
<td>Provide lists of things to do Continue with messages on things we don’t have Major altered expectations messages</td>
</tr>
</tbody>
</table>
for media and public
Will NOT hold further press conferences if mass gatherings enacted – on air interviews on a case-by-case basis

| Phase 6 | Stage 5 | Level D – Established epidemic(s) in UT | Daily information release | Rumor control
Situation reports | Primary messages are on temporary fixes – How to know if you need healthcare and how to find it, etc. Major coordination of messaging with healthcare organizations, VOADs |
| Phase 6 | Stage 5 | Level E – After epidemic wave in UT (prior to end of pandemic or a subsequent wave) | Health advisory press release | Situation reports | Primary messages are on the possibility of secondary waves – it’s not over |
## Appendix 2
### Identification of Utah Media Responsibility by Event

<table>
<thead>
<tr>
<th>Event</th>
<th>Primary</th>
<th>Secondary</th>
<th>Other</th>
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<tr>
<td>H5N1 activity in birds in the US</td>
<td>USDA, US Fish and Wildlife, CDC</td>
<td>UDAF and UDWR</td>
<td>UDOH</td>
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<td>H5N1 activity in (localized) birds in UT</td>
<td>LHD</td>
<td>UDAF and UDWR</td>
<td>UDOH</td>
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<tr>
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<td>UDAF and UDWR</td>
<td>UDOH</td>
<td>LHDs</td>
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<tr>
<td>H5N1 activity in humans (ltd hu-hu transmission) in US</td>
<td>CDC</td>
<td>UDOH</td>
<td>UDAF, UDWR, LHD</td>
</tr>
<tr>
<td>H5N1 activity in humans (ltd hu-hu transmission) in UT (localized)</td>
<td>LHD</td>
<td>UDOH</td>
<td>UDAF and UDWR</td>
</tr>
<tr>
<td>H5N1 activity in humans (ltd hu-hu transmission) in UT (widespread)</td>
<td>UDOH</td>
<td>LHD</td>
<td>UDAF and UDWR</td>
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<td>Phase 4 and 5 (increased to significant human-human transmission overseas)</td>
<td>WHO</td>
<td>CDC</td>
<td>UDOH, LHD</td>
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<td>Phase 6, Level A</td>
<td>CDC</td>
<td>UDOH</td>
<td>LHD</td>
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<tr>
<td>Phase 6, Level B (US not UT)</td>
<td>CDC</td>
<td>UDOH</td>
<td>LHD</td>
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<tr>
<td>Phase 6, Level C (detection in UT - single county)</td>
<td>LHD, UDOH, DES, local hospitals</td>
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<tr>
<td>Phase 6, Level C/D (detection in UT - multiple counties)</td>
<td>UDOH, DES</td>
<td>LHD, UHA</td>
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<tr>
<td>Phase 6, Level E</td>
<td>UDOH, LHD</td>
<td>DES</td>
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Appendix 3

<table>
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<tr>
<th>Organization/ agency</th>
<th>Principle Roles and Responsibilities</th>
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</table>
| Utah Department of Health  
  Bureau of Epidemiology  
  Utah Public Health laboratory  
  Public Information Office | Human health |
| Utah Department of Agriculture and Food  
  State Veterinarian  
  Public Information Office  
  Veterinary Disease Laboratory | Domestic animal health |
| Utah Division of Wildlife Resources | Wild animal health |
| Utah Department of Emergency Services and Homeland Security | Emergency and disaster response |
| Local Health Departments | Human and environmental health (local) |
| Hospitals and healthcare providers | Human health |
| Centers for Disease Control and Prevention | Human health |
**Appendix 4**

Utah Department of Health Key Contact List

**September 2007**

801 Area codes unless otherwise noted. Whenever an area code is included, it is required for dialing from Salt Lake City.

<table>
<thead>
<tr>
<th>Name</th>
<th>Office</th>
<th>Cell</th>
<th>Pager</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Director's Office</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>David Sundwall</td>
<td>538-6111</td>
<td>414-4360</td>
<td>n/a</td>
<td><a href="mailto:dsundwall@utah.gov">dsundwall@utah.gov</a></td>
</tr>
<tr>
<td>Dick Melton</td>
<td>538-6111</td>
<td>580-1386</td>
<td>n/a</td>
<td><a href="mailto:dmelton@utah.gov">dmelton@utah.gov</a></td>
</tr>
<tr>
<td>Allen Korhonen</td>
<td>538-6111</td>
<td>208-440-4545</td>
<td>n/a</td>
<td><a href="mailto:akorhonen@utah.gov">akorhonen@utah.gov</a></td>
</tr>
<tr>
<td>Alayne Peterson</td>
<td>538-6111</td>
<td>520-2894</td>
<td>N/A</td>
<td><a href="mailto:alpeterson@utah.gov">alpeterson@utah.gov</a></td>
</tr>
<tr>
<td>Diane Kimmerle</td>
<td>538-6111</td>
<td>631-9339</td>
<td>n/a</td>
<td><a href="mailto:dkimmerle@utah.gov">dkimmerle@utah.gov</a></td>
</tr>
<tr>
<td>Public Information</td>
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<tr>
<td>Tom Hudachko</td>
<td>538-6232</td>
<td>560-4649</td>
<td></td>
<td><a href="mailto:thudachko@utah.gov">thudachko@utah.gov</a></td>
</tr>
<tr>
<td>Charla Haley</td>
<td>538-6710</td>
<td>230-5927</td>
<td>n/a</td>
<td><a href="mailto:chaley@utah.gov">chaley@utah.gov</a></td>
</tr>
<tr>
<td>Legal</td>
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<tr>
<td>Doug Springmeyer</td>
<td>538-6971</td>
<td>706-1574</td>
<td>n/a</td>
<td><a href="mailto:dspringm@utah.gov">dspringm@utah.gov</a></td>
</tr>
<tr>
<td>Lyle Odendahl</td>
<td>538-6878</td>
<td>560-9359</td>
<td>241-1303</td>
<td><a href="mailto:lyleodendahl@utah.gov">lyleodendahl@utah.gov</a></td>
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<tr>
<td>Divisions</td>
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<tr>
<td>Community &amp; Family Health Services</td>
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<tr>
<td>George W. Delavan</td>
<td>538-6901</td>
<td>558-8916</td>
<td>n/a</td>
<td><a href="mailto:gdelevan@utah.gov">gdelevan@utah.gov</a></td>
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<tr>
<td>Nan Streeter</td>
<td>538-6869 or 538-9963</td>
<td>231-8246</td>
<td>n/a</td>
<td><a href="mailto:nanstreeter@utah.gov">nanstreeter@utah.gov</a></td>
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<tr>
<td>LaDene Larsen</td>
<td>538-6220</td>
<td>671-1695</td>
<td>242-4838</td>
<td><a href="mailto:ladenelarsen@utah.gov">ladenelarsen@utah.gov</a></td>
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<tr>
<td>Holly Williams</td>
<td>584-8202</td>
<td>631-1895</td>
<td>n/a</td>
<td><a href="mailto:hollywilliams@utah.gov">hollywilliams@utah.gov</a></td>
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<tr>
<td>Epidemiology &amp; Laboratory Services</td>
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<tr>
<td>Teresa Garrett</td>
<td>538-6246</td>
<td>673-1201</td>
<td>n/a</td>
<td><a href="mailto:teresagarrett@utah.gov">teresagarrett@utah.gov</a></td>
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<td>Health Care Financing</td>
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<td>Michael Hales</td>
<td>538-6965</td>
<td>244-6107</td>
<td>n/a</td>
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<tr>
<td>Brenda Bryant</td>
<td>538-6136</td>
<td>558-1478</td>
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<td><strong>Health Systems Improvement</strong></td>
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<tr>
<td>Blaine Goff</td>
<td>538-6440</td>
<td>673-5793</td>
<td>n/a</td>
<td><a href="mailto:blainegoff@utah.gov">blainegoff@utah.gov</a></td>
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<tr>
<td>Marc Babitz</td>
<td>538-7024</td>
<td>558-7944</td>
<td>n/a</td>
<td><a href="mailto:mbabitz@utah.gov">mbabitz@utah.gov</a></td>
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<tr>
<td>Allan Elkins</td>
<td>538-6595</td>
<td>580-1794</td>
<td>n/a</td>
<td><a href="mailto:aelkins@utah.gov">aelkins@utah.gov</a></td>
</tr>
<tr>
<td>Teresa Whiting</td>
<td>538-6320</td>
<td>419-9739</td>
<td>n/a</td>
<td><a href="mailto:twhiting@utah.gov">twhiting@utah.gov</a></td>
</tr>
<tr>
<td>Steve Ipsen</td>
<td>538-6437 or 468-0354 ext.216</td>
<td>971-5806</td>
<td>249-6989</td>
<td><a href="mailto:sipsen@utah.gov">sipsen@utah.gov</a></td>
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<tr>
<td><strong>Bureaus/Programs</strong></td>
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<td><strong>EMS</strong></td>
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<tr>
<td>Paul Patrick</td>
<td>538-6291</td>
<td>550-5165</td>
<td>n/a</td>
<td><a href="mailto:paulpatrick@utah.gov">paulpatrick@utah.gov</a></td>
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<tr>
<td>Jolene Whitney</td>
<td>538-6290</td>
<td>560-2821</td>
<td>n/a</td>
<td><a href="mailto:jwhitney@utah.gov">jwhitney@utah.gov</a></td>
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<tr>
<td>Leslie Johnson</td>
<td>538-6292</td>
<td>580-0673</td>
<td>n/a</td>
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<tr>
<td>Scott Westbroek</td>
<td>538-9304</td>
<td>450-6643</td>
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<tr>
<td>Don Wood</td>
<td>538-9287</td>
<td>971-5851</td>
<td>n/a</td>
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<tr>
<td>Bob Fowler</td>
<td>538-6554</td>
<td>712-0248</td>
<td>n/a</td>
<td><a href="mailto:bobfowler@utah.gov">bobfowler@utah.gov</a></td>
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<tr>
<td>Lanette Sorensen</td>
<td>435-994-1277</td>
<td>435-994-1277</td>
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<tr>
<td>Dan Camp</td>
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<td>450-6687</td>
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<td>Robert Rolfs</td>
<td>538-6386</td>
<td>971-5481</td>
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<td><a href="mailto:rrolfs@utah.gov">rrolfs@utah.gov</a></td>
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<tr>
<td>Melissa Stevens-Dimond</td>
<td>538-6810</td>
<td>554-8330</td>
<td>202-7061</td>
<td><a href="mailto:melissastevens@utah.gov">melissastevens@utah.gov</a></td>
</tr>
<tr>
<td>Susan Mottice</td>
<td>538-6172</td>
<td>860-6806</td>
<td>n/a</td>
<td><a href="mailto:smottice@utah.gov">smottice@utah.gov</a></td>
</tr>
<tr>
<td>Rich Lakin</td>
<td>538-6191</td>
<td>243-7193</td>
<td>n/a</td>
<td><a href="mailto:rlakin@utah.gov">rlakin@utah.gov</a></td>
</tr>
<tr>
<td>David Jackson</td>
<td>538-7028</td>
<td>243-7198</td>
<td>n/a</td>
<td><a href="mailto:davidjackson@utah.gov">davidjackson@utah.gov</a></td>
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<tr>
<td>Lisa Wyman</td>
<td>538-6182</td>
<td>598-1757</td>
<td>n/a</td>
<td><a href="mailto:lwyman@utah.gov">lwyman@utah.gov</a></td>
</tr>
</tbody>
</table>

**Utah Department of Health Key Contact List**

**September 2007**

801 Area codes unless otherwise noted. Whenever an area code is included, it is required for dialing from Salt Lake City.
<table>
<thead>
<tr>
<th>Name</th>
<th>Phone 1</th>
<th>Extension 1</th>
<th>Phone 2</th>
<th>Extension 2</th>
<th>Email</th>
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<tr>
<td>Linda Abel</td>
<td>538-6905</td>
<td>652-4920</td>
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<td><a href="mailto:label@utah.gov">label@utah.gov</a></td>
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<tr>
<td>Phil Gresham</td>
<td>538-6708</td>
<td>230-0158</td>
<td>n/a</td>
<td></td>
<td><a href="mailto:pgresham@utah.gov">pgresham@utah.gov</a></td>
</tr>
<tr>
<td><strong>State Lab - Bioterrorism Response Team Lab Cell Phone:</strong> 801-560-6586</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Patrick Luedtke</td>
<td>584-8450</td>
<td>518-5734</td>
<td>202-7526</td>
<td><a href="mailto:pluedtke@utah.gov">pluedtke@utah.gov</a></td>
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</tr>
<tr>
<td>Barbara Jepson</td>
<td>584-8595</td>
<td>550-5162</td>
<td>241-0611</td>
<td><a href="mailto:bjepson@utah.gov">bjepson@utah.gov</a></td>
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</tr>
<tr>
<td>Sanwat Chaudhuri</td>
<td>584-8476</td>
<td>557-7295</td>
<td>n/a</td>
<td><a href="mailto:schauhdhu@utah.gov">schauhdhu@utah.gov</a></td>
<td></td>
</tr>
<tr>
<td>Rebecca Christiansen</td>
<td>584-8471</td>
<td>550-0491</td>
<td>n/a</td>
<td><a href="mailto:rchristiansen@utah.gov">rchristiansen@utah.gov</a></td>
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<tr>
<td><strong>Finance</strong></td>
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</tr>
<tr>
<td>Shari Watkins</td>
<td>538-6601</td>
<td>556-3191</td>
<td>n/a</td>
<td><a href="mailto:swatkins@utah.gov">swatkins@utah.gov</a></td>
<td></td>
</tr>
<tr>
<td>Cal Naluai</td>
<td>538-6611</td>
<td>201-4766</td>
<td>n/a</td>
<td><a href="mailto:calnaluai@utah.gov">calnaluai@utah.gov</a></td>
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</tr>
<tr>
<td>Chad Salvadore</td>
<td>538-6602</td>
<td>558-2697</td>
<td>n/a</td>
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<td>558-8401</td>
<td>241-0820</td>
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<td>558-8402</td>
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<td><a href="mailto:dpowen@utah.gov">dpowen@utah.gov</a></td>
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</tbody>
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Appendix 5 – Media e-mails

After hours AP - slce@ap.org – 801-322-3405 – Debby Hummel – dhummel@ap.org
Andy Teerlink – ABC - ateerlink@abc4.tv - 801-975-4444
Arlene Urias – Univision - aurias@ebcorp.net - 801-983-2381
Joe Pyrah - Provo Daily Herald jpyrah@heraldextra.com – 801-344-2559
Provo Daily Herald - arose@heraldextra.com - 801-344-2540
Associated Press in Salt Lake - apsaltlake@ap.org - 801-322-3405
Beaver Press - bpress@xmission.com - 435-438-2891
Blue Mountain Press - panorama@citlink.net – 435-678-3635
Bob Schildmeyer – Fox 13 - news@fox13.com - 801-532-1300
Box Elder News Journal - editor@benewsjournal.com - 435-723-3471
Brooke Adams - Salt Lake Tribune – brooke@sltrib.com – 801-257-8724
Caleb Warnock – Provo Daily Herald - cwarnock@heraldextra.com - 801-344-2540
Christina Flores – KUTV - cflores@kutv2.com - 801-973-3000
Claudia Redd – Telemundo - ceredd@comcast.net – 801-281-4847
Dan Bammes – KUER - dbammes@kuer.org – 801-581-5015
Daniel Carillo – Univision - dcarrillo@ebcorp.net - 801-983-2381
Dave Block – KSL-TV - dave.block@ksl.com – 801-575-5500
Dave Greibling – Ogden Standard Examiner - dgreiling@standard.net – 801-625-4224
Deborah Bulkley – Deseret Morning News - dbulkelevy@desnews.com – 801-237-2100
Diversity Times - utahdiversity@aol.com – 801-969-4681
Duane Cardall – KSL Editorial Board - duane.cardall@ksl.com – 801-575-5500
Ed Yeates – KSL-TV - ed.yeates@ksl.com - 801-575-5590
Elizabeth Southwell Terry – KUED - esouthwell@kued.org – 801-581-7777
Elyssa Andrus – Provo Daily Herald - eandrus@heraldextra.com - 801-344-2540
Emery County Progress - editor@ecprogress.com – 435-381-2431
Eureka Reporter - artcity@avpro.com -
Event - theevent@aol.com -
Tim Fitzpatrick – Salt Lake Tribune - fitz@sltrib.com – 801-257-8623
Fox 13 News - news@fox13.com - 801-532-1300
Gladys Gonzalez – Mundo Hispano - gladys@munhispano.com – 801-569-3338
Good Thing Utah – ABC 4 - GoodThings@abc4.tv – 801-975-4443
Health Reporter – Valley Times - purpleweed74@yahoo.com -
Heather May – Salt Lake Tribune - hmay@sltrib.com – 801-257-8723
Ingrid Quiroz – La Prensa - laprensa@quik.com -
Jesus Lopez – Ogden Standard Examiner - jlopez@standard.net – 801-625-4239
Jamie Lampros – Ogden Standard Examiner - jamielampros@comcast.net -
Jeff Barrus – Tooele Transcript - jbarrus@tooeletranscript.com - 435-882-0050
Jeff Demoss – Ogden Standard Examiner - jdemoss@standard.net – 801-625-4226
Jenny Brundin – KUER - jbrundin@kuer.org - 801-581-5015
Joe Baird – Salt Lake Tribune - jbaird@sltrib.com – 801-257-8753
John Wright - hjnews@hjnews.com -
Judy Fahys – Salt Lake Tribune - fahys@sltrib.com – 801-257-8792
Julie Rose – KCPW - news@kcpw.org – 801-359-5279
Kathy Wilets – KUTV - kwilets@kutv2.com – 801-973-3000
Utah Business - intern@utahbusiness.com – 801-568-0114
Vernal Express - editor@vernal.com - 435-789-3511
Vickie Nichols – Bluffdale Times - v nichols@bluffdale.com – 801-254-5974
West Jordan Journal - editor@valleyjournals.com – 801-254-5974
Appendix 6 – Paid Media Campaign

Pandemic Influenza Paid Media Campaign

I. Purpose

The Utah Department of Health (UDOH) will use paid media campaigns (as funds become available through annual grant monies) to prepare the public for a pandemic. These media campaigns are designed to help residents know ahead of time, how their life may change during the outbreak. These campaigns will utilize multiple mediums such as television, radio and print. One critical aspect of this effort is to make sure we are able to reach as many Utahns as possible including rural, ethnic and special needs groups. The first media campaign began in September 2007 with messaging focusing on normalizing preventive behavior.

II. Concept of Campaign

A. The campaign will be completely flexible to respond to any necessary changes occurring within the phases of a pandemic.

1. Pandemic Alert Period

   i. The primary message is the impact that a pandemic may have on a community and what Utah is doing to prepare. This spot began running in September 2007.

   ii. Secondary messages will promote the normalization of preventive behavior to reduce the spread of disease in advance of an influenza pandemic. When the fifth guy commercials were made available from the Florida Department of Health, the UDOH replaced the pandemic influenza spot and began rotating the fifth guy spots.

   iii. The contract for the 2007-2008 season was awarded to Letter23 Communications and they planned a television media campaign for pandemic influenza.

   iv. Proposed campaign components from Letter23 Communications include two potential approaches:

      • Informational. What is a pandemic, how to normalize preventive practices, etc. (The fifth guy spots meet this need.)

      • Emotional. This concept involves using emotion, such as fear, concern or interest to raise awareness. (What could/will happen, how your family will be affected, how society as a whole will be impacted, what you will go without, etc.) The pandemic influenza spots met this goal and ran from September 2007 to early November 2007.
v. Letter 23 Communications proposed a campaign, designed to generate additional statewide news stories. Their approach consists of bold content and execution designed to generate buzz.

Letter23 Communications has proposed 3 media campaign execution phases:
- Research
- Creative concepting
- Implementation

vi. These messages will be primarily in television. Additional resources may be made available through Florida’s fifth guy campaign including posters and sticky notes if the UDOH has funding available. (A bumper sticker is also being considered.) There is also the option of adapting the message during the season as needs change.

2. Pandemic Period

i. Once a pandemic occurs, the goal is to have a pre-drafted media campaign to assist the public on what to do as the pandemic nears Utah, through knowledge and education, will be introduced, replacing the previous campaign.

ii. This campaign will be continually modified as the message of the UDOH is modified and the pandemic moves closer and has a higher impact on the public.

iii. The message promoting preventive behavior will continue to be a priority, with a strong message of what the UDOH and the Governor’s office is doing to help in this pandemic.

III. Budget for Campaign

A. As federal grants continue to come for pandemic influenza preparedness the media campaign will continue. The campaign may increase/decrease in size, timeframe, and reach as money may increase/decrease in the period prior to an influenza pandemic.

IV. Functional Responsibilities

A. The Health Educator and the Public Information Officer (PIO) will work with state purchasing to award contracts and choose the best public relations/media marketing company for our needs.

B. The Health Educator will work with the contracted marketing company to design marketing materials that coincide with the needs of the UDOH and the specific periods associated with a pandemic.
C. The PIO will approve messages as changes occur.

1. The PIO may request input from PIO/RCC’s from the various Local Health Departments (LHD’s) and from the State Epidemiologist on messaging as new situations arise.

2. Final approval on all materials and messaging to be sent to the public will come from the UDOH PIO’s office.
APPENDIX 7
News advisory template
News release template
Sample press releases
Catchy or Informative Title: Don’t Give the Story Away!

What: Tease the event

Why: There must be a good reason why the media would want to cover this event. Make them care.

Who: Describe speakers using their role in the event, titles, place of employment. Don’t give names unless naming the speaker will improve attendance significantly. For example, you may list the Governor’s name.

When: Date and time

Where: Give location. Include directions or helpful hints on getting there, especially if it is hard to find

List any important notes to help the media arrive prepared. For example, video opps, lighting tips, scheduling notes.

-End-
Governor Launches Campaign to Connect Employers, Workers

What: Governor Walker will introduce Utah to a new program to connect employers with an untapped workforce. The Utah Department of Health’s new awareness campaign will be unveiled.

Who: Governor Olene Walker
Program Manager, Utah Department of Health
Marriott Management Employees

When: Friday, June 25, 2004
10:30 a.m.

Where: Marriott Call Center Complex
310 Bearcat Drive
Salt Lake City
(Directly west of R.C. Willey on 300 West approximately 2300 South)

Video and Photo opportunities available

-End-
For Immediate Release:
Day of week, month, day, year,

Media Contact:
Tom, Charla or Cyndi
Title
(***) Phone

Headline (<10 words)
Subhead if it adds to the interest value; italics <10 words

(Salt Lake City, UT) – Begin the release with a lead sentence that pulls in the reader. Put the conclusion first.

– MORE –
The mission of the Utah Department of Health is to protect the public’s health through preventing avoidable illness, injury, disability and premature death, assuring access to affordable, quality health care, and promoting healthy lifestyles.
Pandemic Influenza Confirmed In Europe
Public Should Plan Ahead

(Salt Lake City, UT) – According to the World Health Organization (WHO), it’s a safe bet that pandemic influenza is headed for the United States. To date, _______ people have died in __________ and the number and affected areas continue to grow. Currently, the Utah Department of Health is keeping a close eye on influenza activity in Utah and will make a public announcement once the virus is detected in the Beehive state.

In an attempt to reduce the spread of pandemic influenza, members of the public are advised to take the following preventive measures to prevent contracting or transmitting the flu virus:

- Wash hands thoroughly after using the bathroom, before eating, and after coughing, sneezing or blowing your nose.
- Use a tissue to cover your nose and mouth when coughing or sneezing.
- Regularly clean surfaces and objects that are frequently touched or handled.
- Try to limit your exposure to others who may be ill.
- If you’re sick, stay home.

The UDOH continues to follow the progression of pandemic influenza.

# # #

The mission of the Utah Department of Health is to protect the public’s health through preventing avoidable illness, injury, disability and premature death, assuring access to affordable, quality health care, and promoting healthy lifestyles.
First Case of Pandemic Influenza Confirmed in Utah

Public should seek treatment for flu-like symptoms

(Salt Lake City, UT) – According to the Utah Department of Health (UDOH), the first lab-confirmed human case of pandemic influenza in Utah has been positively identified. Do we/or will we – want to identify which county and the age of the victim? Currently, the UDOH is investigating to determine the source of transmission and identify any sources of public risk.

Members of the public are advised to contact a physician immediately if experiencing flu-like symptoms, such as: aches, fever, or chills. Individuals should also take the following preventive measures to prevent contracting or transmitting the flu virus:

• Wash hands thoroughly after using the bathroom, before eating, and after coughing, sneezing or blowing your nose.
• Use a tissue to cover your nose and mouth when coughing or sneezing.
• Regularly clean surfaces and objects that are frequently touched or handled.

The UDOH is keeping a close watch on progression of pandemic influenza in Utah and will likely make additional recommendations in the future aimed at reducing the number of Utahns impacted by the disease. At this point, voluntary isolation is recommended for any ill person who does not require isolation. In order to be effective, isolation requires the individual to stay home and avoid contact with others for seven to 10 days.

# # #
The mission of the Utah Department of Health is to protect the public's health through preventing avoidable illness, injury, disability and premature death, assuring access to affordable, quality health care, and promoting healthy lifestyles.
Utah Department of Health Confirms First Case of Pandemic Influenza in Salt Lake County

Public should seek immediate treatment for flu-like symptoms

(Salt Lake City, UT) - The first case of pandemic influenza in Salt Lake County was confirmed today in a ###-year-old resident, according to the Utah Department of Health (UDOH), which is currently investigating to determine the source of transmission and identify any sources of public risk. This is the ### case of pandemic influenza detected in the state of Utah. The first case was detected on (date) in a resident of ______ County.

The public is advised to contact a physician immediately if experiencing flu-like symptoms such as aches, fever or chills. Individuals should also take the following preventive measures to prevent contracting or transmitting the flu virus:

- Wash hands thoroughly after using the bathroom, before eating, and after coughing, sneezing or blowing your nose.
- Use a tissue to cover your nose and mouth when coughing or sneezing.
- Regularly clean surfaces and objects that are frequently touched or handled.

Pandemic influenza was first discovered in __________ in ___________. Since then it has spread to __________ and outbreaks are now being seen in __________ to ___________. Symptoms can range from typical flu-like symptoms such as fever, cough, sore throat and muscle aches, to eye infections, pneumonia, severe respiratory diseases and other severe health complications. At this point, voluntary isolation is recommended for any ill person who does not require isolation. In order to be effective,

- More -
isolation requires the individual to stay home and avoid contact with others for seven to 10 days.

In addition to asking those who are sick to stay home, the UDOH advises that anyone who has been exposed to the virus through a family member, but is not yet ill, voluntarily quarantine themselves to prevent exposure to healthy persons during the pre-symptomatic period. To make an impact on spread of pandemic influenza, it is recommended that you remain in quarantine for seven days after the onset of illness in the sick household member. In the case of multiple household members ill, persons should remain quarantined until seven days after the last household member’s became ill.

# # #

The mission of the Utah Department of Health is to protect the public’s health through preventing avoidable illness, injury, disability and premature death, assuring access to affordable, quality health care, and promoting healthy lifestyles.
Health Department Confirms First Death Due to Pandemic Influenza in Utah

A total of ### human cases of pandemic influenza reported in Utah

(Salt Lake City, UT) - The first death as a result of pandemic influenza in Utah was confirmed today. According to the Utah Department of Health, a ##-year-old _________ County resident has died from the virus. Utah’s state public health laboratory has confirmed a total of ### human cases of pandemic influenza in Utah since (date).

“The Department of Health is monitoring the outbreak of pandemic influenza in Utah very closely and is working with health care providers across the state to ensure patients receive antiviral medication and supportive therapy,” said Utah Department of Health Executive Director, Dr. David N. Sundwall. “Our primary goal is to identify cases so we can contain the outbreak and prevent more Utahns from being infected with the virus.”

The public is advised to contact a physician immediately if experiencing flu-like symptoms such as aches, fever or chills. However, individuals who believe they may be experiencing symptoms are urged not to report to emergency rooms in order to prevent transmission of the virus in the hospital setting. Emergency departments are being advised to divert patients presenting symptoms of pandemic influenza to the patient’s primary care physician or a separate treatment center.

Dr. Sundwall says, “If you are experiencing flu-like symptoms, it is critical that you contact your primary care physician right away so you can begin taking appropriate action as soon as possible.” Sundwall added, “However, the best defense against

-MORE-
spreading or becoming infected with pandemic influenza is for everyone to take simple preventive measures to improve hygiene and reduce transmission.”

Individuals should take the following preventive measures to prevent contracting or transmitting the virus.

- Wash hands thoroughly after using the bathroom, before eating, and after coughing, sneezing or blowing your nose.
- Use a tissue to cover your nose and mouth when coughing or sneezing.
- Regularly clean surfaces and objects that are frequently touched or handled.
- Stay home from work or school and avoid all non-essential visits to public places if you are sick.
- Employers and schools should encourage the appropriate use of sick leave for anyone who is ill.

Symptoms can range from typical flu-like symptoms such as fever, cough, sore throat and muscle aches, to eye infections, pneumonia, severe respiratory diseases and other severe health complications.

The mission of the Utah Department of Health is to protect the public's health through preventing avoidable illness, injury, disability and premature death, assuring access to affordable, quality health care, and promoting healthy lifestyles.
Pandemic Influenza Sparks Suggestions to Reduce the Threat of Deaths in Utah

(SALT LAKE CITY) – As influenza continues to spread, the Utah Department of Health (UDOH) is issuing some strong recommendations aimed at decreasing the number of deaths in Utah from the pandemic. The suggestions were the result of a year of study and debate in 2007.

“Communities that were most successful in warding off deaths during the 1918 pandemic quickly enacted a number of measures, according to Dr. Robert Rolfs, Utah State Epidemiologist. As a result, the UDOH is proposing the following recommendations for the public:

- Wash hands frequently with soap and water.
- Cough and sneeze into a tissue.
- Clean hands after coughing or sneezing with soap and water or an alcohol-based hand cleaner.
- Sick persons should stay home and avoid contact with others for 7-10 days after becoming sick.
- Sick persons should isolate themselves from other household members by staying at least 3 feet away, preferably in another room.
- Healthy persons who live in the same house as a sick person should remain at home for 7 days after their household member becomes sick to prevent other healthy persons from being exposed.
- In the event that more than one household member is sick, persons should remain at home until 7 days after the last household member became sick.
- Preventing children from gathering together will reduce the spread of influenza to everyone.

-MORE-
School is the biggest place where children are together.
Use technological advancements (telecommute, teleconference) whenever possible.
Work during non-traditional hours if possible.
Limit shopping to necessary items.
Plan on shopping during off-peak hours to prevent being in crowded situations.
Participate in alternative recreational activities with less risk of exposure.

Additional suggestions to protect you and your family can be found at the Utah Department of Health Web site at: www.health.utah.gov.

# # #

The mission of the Utah Department of Health is to protect the public's health through preventing avoidable illness, injury, disability and premature death, assuring access to affordable, quality health care, and promoting healthy lifestyles.
Appendix 8 – Media Backgrounders

This section includes information concerning a pandemic influenza that may be useful as media backgrounders.
Bird Flu
(Avian Influenza - H5N1)

H5N1 is a virus that is killing large numbers of birds and a few people in other parts of the world.
- H5N1 has been found in Europe, Africa, and Asia.

Bird flu is mainly a disease in birds.
- Bird flu has been found in wild birds.
- Bird flu has been found in domestic birds such as chickens and ducks.
- The birds can look normal and still be infected.

Bird flu is hard for people to catch.
- Very few people have ever caught bird flu.
- Most people who get bird flu have close contact with infected birds – usually their droppings and blood.
- Bird flu does not spread easily from one person to another.
- You can't get bird flu from eating cooked chicken or turkey.

There is no bird flu in the U.S.
- No people have bird flu.
- No birds have bird flu.

Pandemic Influenza

Pandemic influenza is not bird flu.
- Pandemic influenza is a disease in humans.
  - It would be a new disease.
  - It would spread easily from one person to another.
  - It could be mild, moderate, or very severe.
  - There is no pandemic vaccine (flu shot) at this time.
- If the disease is severe:
  - You may be asked to stay home if you are sick.
  - Schools, churches, and large gatherings (such as sporting events) may be cancelled.
  - Stores may be closed and food and water may be hard to find.
  - Healthcare will be different than it is now.

There is no pandemic influenza anywhere in the world at this time.

Preparing for a Pandemic

Be informed.
- Go to www.pandemicflu.utah.gov.
- Watch the news for regular updates.

Talk to people.
- Tell your family about this disease.
- Talk about ways to prevent disease such as:
  - Cover your coughs and sneezes.
  - Wash your hands often.
  - Stay away from others when you are sick.
- Talk about how you will stay in touch with families and friends.

Have a plan.
- Stock up on supplies for an emergency (see next page)
- Make a list for every member of your family of the following items:
  - Current medical problems.
  - Drugs that you take (how much and how often).
  - Allergies (especially to drugs).
What is a Pandemic?

The word pandemic is used to describe a disease that affects people worldwide. Flu pandemics have occurred approximately every 20 to 30 years throughout history, the most serious being the so-called “Spanish flu” of 1918, the “Asian flu” of 1957 and the “Hong Kong flue” of 1968.

These conditions result in a pandemic:

- The emergence of a new flu strain
- The strain infects humans and causes serious illness
- The strain is easily spread among humans

An Influenza Pandemic is Inevitable

Most experts agree that the question isn’t if, but when another pandemic will occur. Some scientists feel an outbreak is looming, still others doubt that there is any immediate danger.
Pandemics in the 20th century

Pandemic influenza occurs three to four times per century, can take place in any season, and may come in “waves” of flu activity that could be separated by months. Experts predict an infection rate of 25 percent to 50 percent of the U.S. population. All age groups are at risk, with a mortality rate determined by the severity of the flu strain.

Three pandemics swept the globe in the last century: “Spanish influenza” in 1918, “Asian influenza” in 1957, and “Hong Kong influenza” in 1968. The 1918 pandemic, one of the deadliest disease events in human history, killed an estimated 40-50 million persons worldwide.

The next pandemic threat

Experts predict that a moderately severe flu pandemic could kill more than a half a million Americans, hospitalize more than two million, and cost the U.S. economy $70 billion to $160 billion. Experts expect pandemic influenza will cause substantial economic and social disruptions. Some say during pandemic flu we could experience:

- Overwhelmed medical facilities
- Food shortages
- Power outages
- Workplace and school closures; cancellation of mass gathering places
- Breakdowns in transportation networks
- Travel restrictions
- Service disruptions at banks, government office and phone companies

In the 1900s, the pandemics circled the globe in six to nine months, even when most international travel was by ship. And experts predict, even with border closures and travel restrictions, the pandemic flu may be delayed but not stopped.
## Seasonal Flu vs. Pandemic Influenza

<table>
<thead>
<tr>
<th>Seasonal Flu</th>
<th>Pandemic Flu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outbreaks follow predictable seasonal patterns; occurs annually, generally in winter</td>
<td>Occurs rarely (only three times in the 20th century – most recently in 1968)</td>
</tr>
<tr>
<td>Most humans usually have some immunity built up from previous exposure</td>
<td>No previous exposure with little or no preexisting immunity</td>
</tr>
<tr>
<td>Healthy adults are usually not at risk for serious complications; the young, elderly and those with certain other health conditions are most at risk for serious complications</td>
<td>Otherwise healthy people may be at increased risk for serious complications</td>
</tr>
<tr>
<td>Health systems are usually able to keep up with public and patient needs</td>
<td>Health systems may be overwhelmed</td>
</tr>
<tr>
<td>Vaccine is developed based on known flu strains and is available for the annual flu season</td>
<td>Vaccine wouldn’t be available in the early stages of a pandemic</td>
</tr>
<tr>
<td>Adequate supplies of antivirals are usually available</td>
<td>Effective antivirals will likely be limited</td>
</tr>
<tr>
<td>U.S. deaths average approximately 36,000 per year</td>
<td>Number of deaths could be high</td>
</tr>
<tr>
<td>Symptoms include: fever, cough, runny nose, muscle aches. Death is often caused by complications, such as pneumonia</td>
<td>Symptoms may be more severe with complications occurring more often</td>
</tr>
<tr>
<td>Generally causes only a modest impact on society (e.g. random school closures, encouraging those who are sick to stay home)</td>
<td>May cause major impact on society (e.g. widespread travel restrictions, mandatory closure of schools, businesses, cancellation of large public gatherings)</td>
</tr>
<tr>
<td>Manageable impact on economy</td>
<td>Potential for severe impact on economy</td>
</tr>
</tbody>
</table>
Bird Flu and You

Many birds around the world are getting sick from H5N1 avian influenza, sometimes referred to as “bird flu.” Experts believe this disease will come to the United States, possibly sometime this year, but it’s not here now.

*If it does arrive, you should know:*

**Bird flu is not the same thing as “pandemic flu.”**

- Pandemic flu would make a lot of people sick all over the world.
- It would spread easily from one person to another.
- Bird flu doesn’t do that.
- Bird flu would have to change form to become pandemic flu. We don’t know if this will ever happen.

**Bird flu is hard for people to catch.**

- Most people who got sick with bird flu had touched sick chickens and ducks with bare hands.
- You could also get bird flu by touching things that had droppings from sick or dead birds on them.
- Meat that has been completely cooked cannot give you bird flu.

**Even though bird flu isn’t here right now, never touch wild birds with your BARE HANDS.**

- Birds carry many kinds of germs that can make us sick.
- A bird could look fine, but still be sick.
- If you **MUST** handle a sick or dead bird, wear gloves and wash your hands after.
What You Can Do

To Prevent the Spread of Influenza

- **Get a flu shot**
  To find a flu shot near you, visit [www.health.utah.gov](http://www.health.utah.gov), contact your healthcare provider, or call the Immunization Hotline at 1-800-275-0659.

- **Practice good “respiratory etiquette”**
  Stay home when you are sick. Cover your mouth and nose when you cough or sneeze. Wash your hands frequently with soap and hot water.

- **“Ask for a Mask”**
  Ask for a mask when visiting healthcare offices and hospitals if you have a fever with a cough or rash.

To Prepare for Pandemic Influenza

- **Prepare an emergency kit**
  Have emergency supplies and other essentials on hand to care for yourself or other family members. Consider including food, water, first-aid supplies, and medication you take on a regular basis. Plan to care for family members who may be sick.

- **Stay informed**
From the Centers for Disease Control and Prevention

How Germs Spread

The main way that illnesses like colds and flu are spread is from person to person in respiratory droplets of coughs and sneezes. This is called "droplet spread."

This can happen when droplets from a cough or sneeze of an infected person move through the air and are deposited on the mouth or nose of people nearby. Sometimes germs also can be spread when a person touches respiratory droplets from another person on a surface like a desk and then touches his or her own eyes, mouth or nose before washing their hands. We know that some viruses and bacteria can live 2 hours or longer on surfaces like cafeteria tables, doorknobs, and desks.

How to Stop the Spread of Germs

In a nutshell: take care to

- Cover your mouth and nose
- Clean your hands often
- Remind your children to practice healthy habits, too

Cover your mouth and nose when coughing or sneezing

Cough or sneeze into a tissue and then throw it away. Cover your cough or sneeze if you do not have a tissue. Then, clean your hands, and do so every time you cough or sneeze.

The "Happy Birthday" song helps keep your hands clean?

Not exactly. Yet we recommend that when you wash your hands -- with soap and warm water -- that you wash for 15 to 20 seconds. That's about the same time it takes to sing the “Happy Birthday” song twice!

Alcohol-Based Hand Wipes and Gel Sanitizers Work Too

When soap and water are not available, alcohol-based disposable hand wipes or gel sanitizers may be used. You can find them in most supermarkets and drugstores. If using gel, rub your hands until the gel is dry. The gel doesn't need water to work; the alcohol in it kills the germs on your hands.*

Remind children to practice healthy habits too, because germs spread, especially at school.

The flu has caused high rates of absenteeism among students and staff in our country's 119,000 schools. Influenza is not the only respiratory infection of concern in schools -- nearly 22 million schools days are lost each year to the common cold alone. However, when children practice healthy habits, they miss fewer days of school.

School administrators, teachers and staff: See Preventing the Spread of Influenza (the Flu) in Schools for CDC interim guidance.

More Facts, Figures, and How-Tos

CDC and its partner agencies and organizations offer a great deal of information about handwashing and other things you can do to stop the germs that cause flu, the common cold, and other illnesses. See Other Resources and Posters on this Stop the Spread of Germs site for a select listing of Web sites, materials, and contact information.

Isolation and Quarantine

To contain the spread of a contagious illness, public health authorities rely on many strategies. Two of these strategies are isolation and quarantine. Both are common practices in public health, and both aim to control exposure to infected or potentially infected persons. Both may be undertaken voluntarily or compelled by public health authorities. The two strategies differ in that isolation applies to persons who are known to have an illness, and quarantine applies to those who have been exposed to an illness but who may or may not become ill.

Isolation: For People Who Are Ill
Isolation refers to the separation of persons who have a specific infectious illness from those who are healthy and the restriction of their movement to stop the spread of that illness. Isolation allows for the focused delivery of specialized health care to people who are ill, and it protects healthy people from getting sick. People in isolation may be cared for in their homes, in hospitals, or in designated healthcare facilities. Isolation is a standard procedure used in hospitals today for patients with tuberculosis (TB) and certain other infectious diseases. In most cases, isolation is voluntary; however, many levels of government (federal, state, and local) have basic authority to compel isolation of sick people to protect the public.

Quarantine: For People Who Have Been Exposed But Are Not Ill
Quarantine refers to the separation and restriction of movement of persons who, while not yet ill, have been exposed to an infectious agent and therefore may become infectious. Quarantine of exposed persons is a public health strategy, like isolation, that is intended to stop the spread of infectious disease. Quarantine is medically very effective in protecting the public from disease.
States generally have authority to declare and enforce quarantine within their borders. This authority varies widely from state to state, depending on state laws. The Centers for Disease Control and Prevention (CDC), through its Division of Global Migration and Quarantine, also is empowered to detain, medically examine, or conditionally release persons suspected of carrying certain communicable diseases.

Recent Example of Effective Use of Isolation and Quarantine:
SARS and Isolation
During the 2003 global outbreak of severe acute respiratory syndrome (SARS), patients in the United States were isolated until they were no longer infectious. This practice allowed patients to receive appropriate care, and it helped contain the spread of the illness. Seriously ill patients were cared for in hospitals. Persons with mild illness were cared for at home. Persons being cared for at home were asked to avoid contact with other people and to remain at home until 10 days after the resolution of fever, provided respiratory symptoms were absent or improving.

SARS and Quarantine
In the United States, where there was limited transmission of SARS-CoV during the 2003 SARS outbreak, neither individual nor population-based quarantine of contacts was
recommended. CDC advised persons who were exposed but not symptomatic to monitor themselves for symptoms and advised home isolation and medical evaluation if symptoms appeared. Individual quarantine was an integral part of the control measures used in countries more severely affected by the 2003 SARS outbreak. Quarantine of large groups was used only in selected settings where extensive transmission was occurring.
Legal Authorities for Isolation and Quarantine

Introduction

• Isolation and quarantine are two common public health strategies designed to protect the public by preventing exposure to infected or potentially infected persons.
• In general, isolation refers to the separation of persons who have a specific infectious illness from those who are healthy and the restriction of their movement to stop the spread of that illness. Isolation is a standard procedure used in hospitals today for patients with tuberculosis and certain other infectious diseases.
• Quarantine, in contrast, generally refers to the separation and restriction of movement of persons who, while not yet ill, have been exposed to an infectious agent and therefore may become infectious. Quarantine of exposed persons is a public health strategy, like isolation, that is intended to stop the spread of infectious disease.
• Both isolation and quarantine may be conducted on a voluntary basis or compelled on a mandatory basis through legal authority.

State, Local, and Tribal Law

• A state's authority to compel isolation and quarantine within its borders is derived from its inherent "police power"—the authority of a state government to enact laws and promote regulations to safeguard the health, safety, and welfare of its citizens. As a result of this authority, the individual states are responsible for intrastate isolation and quarantine practices, and they conduct their activities in accordance with their respective statutes.
• Tribal laws and regulations are similar in promoting the health, safety, and welfare of tribal members. Tribal health authorities are responsible for isolation and quarantine practices within tribal lands, in accordance with their respective laws.
• State and local laws and regulations regarding the issues of compelled isolation and quarantine vary widely. Historically, some states have codified extensive procedural provisions related to the enforcement of these public health measures, whereas other states rely on older statutory provisions that can be very broad. In some jurisdictions, local health departments are governed by the provisions of state law; in other settings, local health authorities may be responsible for enforcing state or more stringent local measures. In many states, violation of a quarantine order constitutes a criminal misdemeanor.
• Examples of other public health actions that can be compelled by legal authorities include disease reporting, immunization for school attendance, and tuberculosis treatment.

Federal Law

• The HHS Secretary has statutory responsibility for preventing the introduction, transmission, and spread of communicable diseases from foreign countries into the United States, e.g., at international ports of arrival, and from one
state or possession into another.
• The communicable diseases for which federal isolation and quarantine are authorized are set forth through executive order of the President and include cholera, diphtheria, infectious tuberculosis, plague, smallpox, yellow fever, viral hemorrhagic fevers, and severe acute respiratory syndrome (SARS). On April 2005, the President added to this list Influenza caused by novel or reemergent influenza viruses that are causing, or have the potential to cause, a pandemic.
• By statute, U.S. Customs and Coast Guard officers are authorized to aid in the enforcement of quarantine rules and regulations. Violation of federal quarantine rules and regulations constitutes a criminal misdemeanor, punishable by fine and/or imprisonment.
• Federal quarantine authority includes the authority to release persons from quarantine on the condition that they comply with medical monitoring and surveillance.

Interplay between Federal and State, Local, and Tribal Laws
• State, local and tribal jurisdictions have primary responsibility for isolation and quarantine within their borders. The federal government has authority under the Commerce Clause of the U.S. Constitution to prevent the interstate spread of disease.
• The federal government has primary responsibility for preventing the introduction of communicable diseases from foreign countries into the United States.
• By statute, the HHS Secretary may accept state, local and tribal assistance in the enforcement of federal quarantine regulations and may assist state, local, and tribal officials in the control of communicable diseases.
• It is possible for federal, state, local, and tribal health authorities simultaneously to have separate but concurrent legal quarantine power in a particular situation (e.g., an arriving aircraft at a large city airport).
• Because isolation and quarantine are "police power" functions, public health officials at the federal, state, local, and tribal levels may occasionally seek the assistance of their respective law enforcement counterparts to enforce a public health order.
Mitigation Plan Key Messages

**General Messages (for all audiences)**

- Community mitigation measures will limit the impact of an influenza pandemic on the community at large by minimizing the spread of influenza.
- Community mitigation measures will start once one case of pandemic influenza is detected in Utah.
- A group of public health experts will decide what community mitigation measures will be necessary based on what is known about the specific influenza strain.

**Audience: Public**

- Wash hands frequently with soap and water.
- Cough and sneeze into a tissue.
- Dispose of tissues in an appropriate waste basket.
- Clean hands after coughing or sneezing with soap and water or an alcohol-based hand cleaner.
- Masks and respirators can be useful in preventing exposure, but reducing contact with other people is still best.
- Facemasks can be used by persons who need to enter crowded settings, to protect themselves from becoming sick from others and to protect others from becoming sick from the wearer.
- Respirators can be used by persons that have unavoidable contact with a sick person. This can include selected persons who must take care of a sick person (e.g., family member with a respiratory infection) at home.
- Sick persons should stay home and avoid contact with others for 7-10 days after becoming sick.
- Sick persons should isolate themselves from other household members by staying at least 3 feet away, preferably in another room.
- Healthy persons who live in the same house as a sick person should remain at home for 7 days after their household member becomes sick to prevent other healthy persons from being exposed.
- In the event that more than one household member is sick, persons should remain at home until 7 days after the last household member became sick.
- Limit shopping to necessary items.
- Plan on shopping during off-peak hours to prevent being in crowded situations.
- Participate in alternative recreational activities with less risk of exposure.
- Children are very efficient at spreading influenza, especially to other children
- Preventing children from gathering together will reduce the spread of influenza to everyone.
- School is the biggest place where children are together.
- Use technological advancements (telecommute, teleconference) whenever possible.
- Work during non-traditional hours if possible.
Audience: Schools/childcare

- Students, teachers and employees should have sufficient access to water, soap, alcohol-based sanitizers, tissues, and trash cans.
- Desktops, countertops, and other frequently handled surfaces should be appropriately and frequently sanitized by custodial staff.
- Schools should plan to have an isolation room on-site out of heavy traffic flow where sick persons can be isolated until they can go home.
- Known influenza cases should not be allowed at school until they are better.
- Persons who become sick should be removed from classrooms and sent home.

Audience: Business

- Businesses should provide appropriate access for employees and the public to tissues and trash cans
- Businesses should provide appropriate access for employees and the public to soap and water.
- Businesses should provide increased access for employees and the public to alcohol-based hand sanitizers.
- Appropriate and frequent sanitization of countertops and other frequently handled surfaces by custodial staff.
- Use technological advancements (telecommute, teleconference) whenever possible.
- Work during non-traditional hours if possible.
- Exclude sick employees from work until they are better.
- Encourage employees to telecommute or teleconference when possible.
- Stagger employee shifts.
- Cancel large meetings and conferences.

Audience: Locations/mass gatherings

- Employees and the public should have sufficient access to tissues and trash cans.
- Employees and the public should have sufficient access to soap and water.
- Employees and the public should have increased access to alcohol-based hand sanitizers.
- Countertops and other frequently handled surfaces should be appropriately and frequently sanitized by custodial staff.
- Gatherings during a pandemic should not exceed 20 persons.
- If closure or cancellation orders are necessary, they will be issued by the Utah Department of Health or local health departments.
Appendix 9 – Hard-to-Reach Populations

The Utah Department of Health has identified Utah populations considered hard-to-reach in a crisis situation due to barriers in communication and has the following recommendations concerning message dissemination.

In the document published in June 2006 by the Office of Public Information and Marketing, Utah Department of Health entitled Crisis Communication Considerations for Utah’s Hard-to-Reach Populations research identified eight populations as hard-to-reach. They include:

- Hispanic persons
- Asian persons
- American Indian persons
- Elderly persons
- Rural residents
- Homeless persons
- Persons who are deaf or hard of hearing
- Persons with physical disabilities

Office of Ethnic Affairs
Serafi Auva'a-Tavita
324 South State Street, Ste. 500
Salt Lake City, UT 84111
Ph. (801) 538-8691
sauvaa@utah.gov

An ethnic media directory for Utah can be found at: http://ethnicoffice.utah.gov/documents/updated.media.list060506.pdf

Hispanic Population
Individuals considered Hispanic (for the purposes of this document and the above referenced report), trace their ancestry to Mexico, Puerto Rico, Cuba, Spain, the Spanish-speaking countries of Central and South America, the Dominican Republic, and other Spanish cultures regardless of race.

The Utah Department of Health has several Hispanic local television stations and radio outlets that are on the distribution list for news releases and advisories. And we do have UDOH employees who have been identified to provide interviews in Spanish.

Message considerations
- Should be translated accurately
- Short, clear and simple, listing specific steps to follow
• Accommodate lack of literacy by making information visual

Spokespersons
• Spokespersons should be someone who is Hispanic and a native Spanish speaker. Local religious and community leaders are most trusted. Newscasters or Spanish television/radio personalities who are known by the population are also trusted.
• Avoid messengers who are government officials, police officers, other law enforcement representatives in uniform, non-Hispanic agency officials, and someone who is not a native Spanish speaker.

Communication channels
• Spanish radio stations – specifically AM, are the best medium
• Spanish-speaking television stations are also effective, during the evening hours
• Spanish newspapers, Internet, and local religious and community leaders could also be used

A list of Hispanic/Latino community based organizations is located: http://ethnicoffice.utah.gov/documents/Hispan.Latino.cbo3-09-07.pdf

An ethnic media directory for Utah can be found at: http://ethnicoffice.utah.gov/documents/updated.media.list060506.pdf

KRCL features culture-specific radio shows. For a list see: http://www.krcl.org/genres.htm. They are also on our distribution list.

• Utah Hispanic Chamber of Commerce – media and public relations
  Lorena Riffio-Jenson: lorena@dprcommunications.com

• Utah Office of Ethnic Affairs
  Jesse M. Soriano
  Hispanic / Latino Affairs Director
  (801) 538-8758
  jsoriano@utah.gov

• Hispanic/Latino Council Chair/Vice-Chair
  Carl Hernandez, Chair
  Hernandezc@lawgate.byu.edu

• Catalina Coriwn, Vice-Chair
  catalina@la-familia.org

• Centro de la Familia de Utah
  Graciela Italiano-Thomas
  (801) 521-4473
  Fax (801) 521-6242
  graciela@la-familia.org
Asian Population

Individuals who are Asian (for the purposes of this document and the above referenced report) have origins in any of the indigenous peoples of the Far East, Southeast Asia, or the Indian subcontinent, including Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.

The Utah Asian Advisory Council has been identified as a means of reaching the Asian population and it has established a communication network to create awareness of available resources and ethnic events within the community.

Message considerations

- Short, concise and convey a sense of urgency and trust
- Should be translated into each language to avoid misunderstanding and develop trust
- Accommodate lack of literacy by making information visual
- Urge them to communicate with friends and family

Spokespersons

- The Utah Asian Advisory Council serves as a liaison between the State Office of Ethnic Affairs and the Asian Community of Utah and represents each Asian community
- The various members of the council, would best facilitate the translation and communication of messages through proper channels
- The Asian Association of Utah also has numerous ties to various communities and works heavily with refugees relocated to Utah
- Religious and other organization leaders could also be used to reach individual ethnic groups with specific messages.

Communication channels

- Existing e-mail lists
- Telephone calling trees
- Posters or signed in grocery stores, restaurants, and cultural centers where Asians tend to congregate
- In addition to television, various ethnic newspapers are circulated, as well as culture-specific radio shows

Committee membership for the Utah Asian Advisory Council is found: http://ethnicoffice.utah.gov/ethnic_advisory_councils/asian_advisory_council/councilmemberdirectory.html
Asian Council Chair/Vice-Chair
Maung Maung, Chair
mmaun@utah.gov

Karie Minaga-Miya, Vice-Chair
Karie.minaga-miya@intermountainmail.org

A list of Asian community based organizations is located:

In addition, there are various newspapers and magazines targeting Utah’s Asian population.
An ethnic media directory for Utah can be found at:

KRCL features culture-specific radio shows. For a list see:
http://www.krcl.org/genres.htm. They are also on our distribution list.

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• Pacific Islander

Pacific Islander Advisory Council members can found:
http://ethnicoffice.utah.gov/ethnic_advisory_councils/pacific_islander_council/councilmembersdirectory.html

A list of Pacific Islander community based organizations is located:

An ethnic media directory for Utah can be found at:

KRCL features culture-specific radio shows. For a list see:
http://www.krcl.org/genres.htm. They are also on our distribution list.

An additional resource might be:

  o Utah Office of Ethnic Affairs
    Fotu Katoa
    Pacific Islander Affairs Director
    (801) 538-8791
    fkatoa@utah.gov

  o Pacific Islander Council Chair/Vice-Chair
    Bev Uipi, Chair
Black Advisory Council members can be found:  
http://ethnicoffice.utah.gov/ethnic_advisory_councils/black_advisory_council/councilmemberdirectory.html

**Black Council Chair/Vice-Chair**
Edward L. Tanner, Chair  
Ed.tanner@slcc.edu

B. Safiyyah Usman, Vice-Chair  
Safiyyah.usman@gmail.com

Black community based organizations are located:  
http://ethnicoffice.utah.gov/ethnic_website/documents/Black%20CBO%20list%20May%202031.%202007.pdf

An ethnic media directory for Utah can be found at:  

KRCL features culture-specific radio shows. For a list see:  
http://www.krcl.org/genres.htm. They are also on our distribution list.

American Indian Population
The practical definition of “American Indian” will be used (for the purposes of this report and the above referenced document), as an individual who has origins of the original peoples of North American and maintains tribal affiliation or community attachment.

Utah has seven Tribal governments and health programs in addition to one Indian Health Services Clinic. In addition to the Tribal contacts, the UDOH has access to the Urban Indian Health Program. The Indian Walk-In Center is a non-profit organization that offers a broad range of health education and referral services to urban American Indians and will be valuable asset in getting the word out. There is also a public radio program on Sunday mornings called “Living Circle” that will be of assistance. The UDOH has an Indian Health Liaison on staff. She will help us determine additional avenues to reach this population.

Message considerations
• Most American Indians living in urban setting speak English and have some access to daily newspapers, television, radio, telephones, cell phones, fax, mail and e-mail.
• Due to the diversity among the various tribes, massages will be most effective if originated at the individual tribe level.
• Individual tribal leaders are the best source for determining the proper method of delivering messages to those living on reservations and trust lands.
• Messages should be properly translated.
• Avoid culture-specific communications practices that may be offensive, such as too much eye contact, handshaking in certain ways, pointing and certain phrases that may be considered bad luck.
• Some American Indians avoid talking about emergencies due to a belief that discussing it might cause it to happen.

Spokespersons
• Individual tribal and community leaders, friends and American Indian-oriented media
• In the Navajo Nation, individual chapter coordinators and presidents would be most effective.
• Non-government sources tend to be more viewed as more credible than government sources.

Communication channels
• American Indians living in urban areas could receive messages through the same channels as the general population
• Messages should also come from American Indian sources
• Tribal leadership and organizations like the Indian Walk-In Center, a non-profit organization located in downtown Salt Lake City, offers a broad range of health services to American Indians
• Many American Indians listen to the Sunday morning public radio program “Living Circle”
  - Indian Walk-In Center
    Ella Daisy, Acting Director
    (801) 486-4877
    (FAX) (801) 486-994

An ethnic media directory for Utah can be found at: http://ethnicoffice.utah.gov/documents/updated.media.list060506.pdf

KRCL features culture-specific radio shows. For a list see: http://www.krcl.org/genres.htm. They are also on our distribution list.

Charlene Hamilton
Chief Executive Officer
U & O IHS Service Unit
PO Box 160  
Ft. Duchesne, UT 84026  
(435) 722-5122 ext. 6856  
Fax: (435) 722-9137  
Charlene.hamilton@mail.ihs.gov

**Utah Indian Tribal Leaders**

<table>
<thead>
<tr>
<th><strong>Goshute Indian Tribe</strong></th>
<th><strong>Paiute Indian Tribe</strong></th>
<th><strong>Utah Navajo Nation Representative</strong></th>
</tr>
</thead>
</table>
| (Confederate Tribes of Goshute Reservations) | Lora E. Tom, Chairwoman  
loratom@ihs.gov | Kenneth Maryboy, Councilman  
kenneth_maryboy@yahoo.com  
Utah Navajo Commission  
P.O. Box 570  
Montezuma Creek, UT 84354  
435-651-3508  
FAX: (435) 651-3511 |
| Rupert Steele, Chairman  
rupertsteele@yahoo.com  
P. O. Box 6104  
Ibapah, UT 84034-6036  
(435) 234-1138  
FAX: (435) 234-1162 | 440 North Paiute Drive  
Cedar City, UT 84720  
435-586-1112  
FAX: (435) 586-7388 |  |

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<thead>
<tr>
<th><strong>Navajo Nation</strong></th>
<th><strong>San Juan Southern Paiute Tribe</strong></th>
<th><strong>Utah Navajo Commission</strong></th>
</tr>
</thead>
</table>
| www.navajo.org  
President Joe Shirley, Jr.  
joeshirleyjr@yahoo.com  
P. O. Box 9000  
Highway 264, Tribal Hills Drive  
Window Rock, AZ 86515-9000  
(928) 871-6000 (Main Switchboard)  
FAX: (928) 871-7005 | President Evelyn James  
P. O. Box 1989  
Tuba City, AZ 86045-1989  
(928) 283-4587  
FAX: (928) 283-5761 | www.NavajoNationCouncil.org  
Clarence Rockwell,  
Executive Director  
navajoutcommemit@frontiernet.net  
P.O. Box 570  
Montezuma Creek, UT 84534  
(435) 651-3508  
FAX: (435) 651-3511 |

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<tr>
<th><strong>Northwestern Band of Shoshone Nation</strong></th>
<th><strong>Skull Valley Band of Goshute Indians</strong></th>
<th><strong>Utah Navajo Trust Fund</strong></th>
</tr>
</thead>
</table>
| www.nwbshoshone-nsn.gov  
Bruce Parry, Chairman  
wongan@earthlink.net  
Jon Warner, Executive  | www.skullvalleygoshute.org  
Lawrence Bear, Chairman  
3359 So. Main St., #808 | www.untf.uta.gov  
Tony Dayish, Director |

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Tuba City, AZ 86045-1989  
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FAX: (928) 283-5761 | Kenneth Maryboy, Councilman  
kenneth_maryboy@yahoo.com  
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</table>
| www.untf.uta.gov  
Tony Dayish, Director |
The Utah Indian Heath Advisory Board which follows might also provide dissemination methods and ideas.
Louise Bushead  
Paiute Indian Tribe of Utah Health Board, Kanosh Band  
440 North Paiute Dr.  
Cedar City, UT 84720  
(435) 586-1112  
Fax: (435) 586-7388

Amy Cesspooch  
Ute Tribe, Tribal Health Board Rep.  
PO Box 423  
Ft. Duchesne, UT 84026

Judy Cranford, RN  
Health Program Director  
Paiute Indian Tribe of Utah  
440 North Paiute Dr.  
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(435) 586-1112  
Fax: (435) 867-1514  
Judy.cranford@ihs.gov

Judy Charles  
Paiute Indian Tribe of Utah Health Board, Koosharem Band  
PO Box 374  
Cedar City, UT 84721  
(435) 327-2708  
Rudetrude58@yahoo.com

Patrick Charles, UIHAB Chairperson  
Paiute Indian Tribe of Utah Health Board, Shivwits Band  
440 North Paiute Dr.  
Cedar City, UT 84720  
(435) 586-1112 ext. 202  
Fax: (435) 586-7388  
Pcharles2000@yahoo.com

Roz Begay  
Navajo Nation Division of Health  
PO Drawer 1390  
Window Rock, AZ 86515  
(928) 871-6350 or 7581  
Fax: (928) 871-6255  
Roz.chapela@nndoh.org

Juanita Chavez  
Navajo Nation Division of Health  
PO Drawer 1390  
Window Rock, AZ 86515  
(928) 871-6257 or 6350  
Fax: (435) 678-1468  
Evonne.evening@ihs.gov

Forrest Cuch, Director  
Utah Division of Indian Affairs  
324 South State Street  
Suite 500  
Salt Lake City, UT 84114  
(801) 538-8808  
Fax: (801) 538-8803  
FSCuch@utah.gov

Tony Dayish, Administrator  
State of Utah - Navajo Trust Fund  
151 East 500 North  
Blanding, Utah 84511  
(435) 678-1468  
Fax:(435) 678-1464  
tdayish@utah.gov

Paul Ebbert, MD, Medical Director  
U & O IHS Service Unit  
P.O. Box 160  
Pt. Duchesne, UT 84026  
(435) 722-5122 ext. 6807  
Fax: (435) 722-9137  
Paul.ebbert@mail.ihs.gov

Evonne Evening, Health Director  
Confederated Tribes of Goshute Indians  
PO Box 6104  
Ibapah, UT 84034  
(435) 234-1157  
Fax: (435) 234-1162  
Evonne.evening@ihs.gov

Michael Joseph  
Deputy Director OSD, PAO IHS  
Two Renaissance Square  
40 North Central Avenue  
Suite 600  
Phoenix, AZ 85004-4424  
(602)364-5354  
Fax: (602) 364-5111  
Michael.joseph@na.ihs.gov

Marlinda Moon, Vice Chairwoman  
Skull Valley Band of Goshute Indians Health Representative  
3359 So. Main St., #808  
Salt Lake City, UT 84115-4443  
(801) 486-4073

F: (801) 484-5511  
Skullvalleybandofgoshutes@hotmail.com

Charlene Hamilton  
Chief Executive Officer  
U & O IHS Service Unit  
PO Box 160  
Pt. Duchesne, UT 84026  
(435) 722-5122 ext. 6856  
Fax: (435) 722-9137  
Charlene.hamilton@mail.ihs.gov

James R. Floyd, Director  
VA Salt Lake City Health Care System  
500 Foothill Drive  
Salt Lake City, UT 84148  
(801) 584-1211  
Fax: (801) 584-2523  
James.floyd@med.va.gov

Earnestine Lehi  
Paiute Indian Tribe of Utah Health Board, Indian Peaks Band  
440 North Paiute Dr.  
Cedar City, UT 84720  
(435) 586-1112

Michelle Little  
Paiute Indian Tribe of Utah Health Board, Cedar Band  
440 North Paiute Dr.  
Cedar City, UT 84720  
(435) 586-1112  
Fax: (435) 586-7388  
mishygondo@yahoo.com

Etta Mitchell  
Navajo Utah Commission  
PO Box 570  
Montezuma Creek, UT 84534  
(435) 651-3508 or 3510 (direct line)  
Fax: (435) 651-3511  
Nuc.emit@frontiernet.net
<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Position</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diane Murphy</td>
<td>Confederate Tribes of Goshute Indians</td>
<td>PO Box 6104, Ibapah, UT 84034, (435) 234-1170, Fax: (435) 234-1202, <a href="mailto:diamurphy@yahoo.com">diamurphy@yahoo.com</a></td>
</tr>
<tr>
<td>Ed Naranjo, Administrator</td>
<td>Goshute Indian Tribe</td>
<td>PO Box 6104, Ibapah, UT 84034, (435) 234-1138, Fax: (435) 234-1162, <a href="mailto:goshutetribe@yahoo.com">goshutetribe@yahoo.com</a></td>
</tr>
<tr>
<td>Vacant</td>
<td>Indian Walk-In Center</td>
<td>Administrative Office, Mill Square, Suite 407, Salt Lake City, UT 84115, (801) 740-4040, ext. 12, Fax: (801) 740-4041</td>
</tr>
<tr>
<td>Patricia Y. Olson, Assistant to the Office of the Area Director</td>
<td>Navajo Indian Health Service</td>
<td>PO Drawer 9020, Window Rock, AZ 86515, (928) 871-5811, Fax: (928) 871-5872, <a href="mailto:Patricia.Olson@ihs.gov">Patricia.Olson@ihs.gov</a></td>
</tr>
<tr>
<td>Joan Perank, MSW</td>
<td>U &amp; O IHS Service Unit</td>
<td>PO Box 160, Ft. Duchesne, UT 84026, (435) 722-5122 ext. 6861, Fax: (435) 722-9137, <a href="mailto:Joan.perank@mail.ihs.gov">Joan.perank@mail.ihs.gov</a></td>
</tr>
<tr>
<td>Anslem Roanhorse, Jr.,</td>
<td>Executive Director</td>
<td>Navajo Nation Division of Health, P.O. Drawer 1390, Window Rock, AZ 86515, (928) 871-6350, Fax: (928) 871-6255, <a href="mailto:a.roanhorse@nndoh.org">a.roanhorse@nndoh.org</a></td>
</tr>
<tr>
<td>Donna Singer, Chief Executive Officer</td>
<td>Utah Navajo Health Systems, Inc.</td>
<td>Highway East 262, PO Box 130, Montezuma Creek, UT 84534, (435) 651-3291, Fax: (435) 651-3642, <a href="mailto:dsinger@unhsinc.com">dsinger@unhsinc.com</a></td>
</tr>
<tr>
<td>Fern Kinsel</td>
<td>Health Program at Navajo Mountain</td>
<td>PO Box 10070, Ft. Duchesne, UT 84026, (928) 672-2915 or 2916, Fax: (928) 672-2917, <a href="mailto:Fernk2004@yahoo.com">Fernk2004@yahoo.com</a></td>
</tr>
<tr>
<td>Lawrence T. Oliver</td>
<td>Division Director</td>
<td>Navajo Nation Division of Human Resources, P.O. Box 9000, Window Rock, AZ 86515, (928) 871-6375, Fax: (928) 871-6377, <a href="mailto:uspk2meeh@yahoo.com">uspk2meeh@yahoo.com</a></td>
</tr>
<tr>
<td>Helen Steele, CHR</td>
<td>Confederate Tribes of Goshute Indians</td>
<td>PO Box 6104, Ibapah, UT 84034, (435) 234-1138, Fax: (435) 234-1162, *Alternate Mr. Naranjo</td>
</tr>
<tr>
<td>Gwen Tapoof</td>
<td>Ute Tribe, Tribal Health Board Rep.</td>
<td>P.O. Box 586, Ft. Duchesne, UT 84026, (435) 722-6026, Fax: (435) 724-0449, <a href="mailto:grizzact@yahoo.com">grizzact@yahoo.com</a></td>
</tr>
<tr>
<td>Robin Troxell</td>
<td>Health Director</td>
<td>Northwestern Band of Shoshone, 707 North Main, Brigham City, UT 84302, (435) 734-2286, Fax: (435) 734-0424, <a href="mailto:t_troxell@yahoo.com">t_troxell@yahoo.com</a></td>
</tr>
<tr>
<td>LeAnna Van Keuren, UIHAB Vice Chairperson</td>
<td>Health Manager</td>
<td>Indian Walk-In Center, 120 West 1300 South, Salt Lake City, UT 84115, (801) 486-4877 ext. 19, Fax: (801) 486-9943, <a href="mailto:iwankeuren@iwic.org">iwankeuren@iwic.org</a></td>
</tr>
<tr>
<td>Earl (David) Ward Jr., MS. RPh.</td>
<td>Health Center Director</td>
<td>Ute Mountain Ute Health Center, PO Box 49, Complex D Rustling Willow St., Towaoc, CO 81334, (970) 565-4441, Fax: (970) 565-3578, <a href="mailto:Edward@abq.ihs.gov">Edward@abq.ihs.gov</a></td>
</tr>
<tr>
<td>Selwyn Whiteskunk</td>
<td>Ute Mountain Ute Tribal Public Health Administrator</td>
<td>P.O.Box JJ, Towaoc, CO 81334, (970) 564-5384, Fax: (970) 564-5399, Cell: (970) 749-0024, <a href="mailto:SWhiteskunk@utemountain.org">SWhiteskunk@utemountain.org</a></td>
</tr>
<tr>
<td>Shana M. Wopsock</td>
<td>Ute Tribe, Tribal Health Board Chair</td>
<td>PO Box 738, Ft. Duchesne, UT 84026, (435) 724-5948, <a href="mailto:shanaw@ubate.edu">shanaw@ubate.edu</a></td>
</tr>
<tr>
<td>Wendy Penecoose</td>
<td>Ute Tribal Health Board Rep.</td>
<td></td>
</tr>
<tr>
<td>Everyett Derekson</td>
<td>Ute Tribal Health Board Rep.</td>
<td>PO Box 472, Roosevelt, UT 84066</td>
</tr>
<tr>
<td>Name</td>
<td>Title/Position</td>
<td>Contact Information</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-----------------------------------------------------</td>
<td>----------------------------------------------------------</td>
</tr>
<tr>
<td>Melissa Zito, MS, RN</td>
<td>Indian Health Liaison/Health Policy Consultant</td>
<td>288 North 1460 West, PO Box 142002, Salt Lake City, UT 84114-2002, (801) 538-7087 F: (801) 538-6808 <a href="mailto:mzito@utah.gov">mzito@utah.gov</a></td>
</tr>
<tr>
<td>Gayle Coombs</td>
<td>Executive Secretary</td>
<td>288 North 1460 West, PO Box 143101, Salt Lake City, UT 84114-3101, (801) 538-6406 F: (801) 538-6099 <a href="mailto:gcoombs@utah.gov">gcoombs@utah.gov</a></td>
</tr>
<tr>
<td>Brenda Bryant</td>
<td>Utah Health Information Network Liaison Division of</td>
<td>288 North 1460 West, PO Box 143101, Salt Lake City, UT 84114-3101, (801) 538-6136 <a href="mailto:bryant@utah.gov">bryant@utah.gov</a></td>
</tr>
<tr>
<td>David Sundwall, MD</td>
<td>Executive Director</td>
<td>288 North 1460 West, Salt Lake City, UT 84114, (801) 538-6111 F: (801) 538-6306 <a href="mailto:dsundwall@utah.gov">dsundwall@utah.gov</a></td>
</tr>
<tr>
<td>Marc E. Babitz, M.D.</td>
<td>Division Director Health Systems Improvement Directors Office</td>
<td>288 North 1460 West, P.O. Box 142002, Salt Lake City, UT 84114-2002, (801) 538-7024 F: (801)538-7053 <a href="mailto:mbabitz@utah.gov">mbabitz@utah.gov</a></td>
</tr>
</tbody>
</table>

**Additional resources might be:**

- **Utah State Division of Indian Affairs**
  
  Forrest Cuch, Director
  
  (801) 538-8808
  
  (FAX) (801) 538-8803
  
  fscuch@utah.gov

- **Ute Indian Tribe**
  
  [www.utetribe.com](http://www.utetribe.com)
  
  (435) 722-5141
  
  FAX: (435) 722-2374
  
  maxinen@utetribe.com

- **Indian Training & Education**
  
  Betty WindyBoy, Director
  
  (801) 973-6484
  
  (FAX) (801) 973-0877
  
  [www.indiantrainingcenter.com](http://www.indiantrainingcenter.com)

- **Catholic Indian Ministries**
  
  (801) 328-8641, Ex. 345
  
  (FAX) (801) 328-9680
Elderly Population
Elderly individuals, for the purpose of this document and the referenced report, are persons age 65 and older.

Message considerations
- Printed messages need to be in large, bold print
- If it’s in the form of a crawl on television, use a slow speed and a large type
- Open captioning should be used on television because it appears on the screen automatically without the need for special formatting
- Messages should be short, simple, to the point and repeated several times.
- Define the problem and outline steps that need to be taken
- Telephone messages may be less effective due to hearing impairment

Spokespersons
- Uniformed officials, local leaders, or family members are the best in-person messengers
- A media representative should be someone with a high profile that is recognized in the community, such as a mayor or news broadcaster that the elderly have trusted in the past

Communication channels
- Television, radio and print media
- Senior centers and services that assist the elderly in their homes could also distribute information

Local area agencies on aging:
http://www.hsdaas.utah.gov/pdf/utah_area_agencies_on_aging.pdf

Rural Population
Individuals who fall into the rural category, for the purpose of this document and the referenced report, are those living in areas with fewer than 2,500 residents.

Message considerations
- Use messages that are factual, concise and clearly express the seriousness of the situation
- Typed messages either through e-mail, text messages or pamphlets
**Spokespersons**
- Utah’s rural residents are fairly trusting of most officials sources
- Police and fire authorities could be used as well as public health agencies and officials
- Mayors, county officials and the governor would also be viable options
- Church leaders

**Communication channels**
- Television is the most common medium
- Radio would also be effective in reaching those in remote locations
- Land line telephones
- E-mail
- Door-to-door contact if communication lines are down
- Utilize schools, post offices, and churches
- Use written materials
- Translate into Spanish
- Home health agencies, food banks and those who work with the disabled

A list of rural radio stations can be found: [http://radiostationworld.com/locations/united_states_of_america/utah/radio.asp?m=moa](http://radiostationworld.com/locations/united_states_of_america/utah/radio.asp?m=moa)

**Homeless Population**
Individuals who are considered homeless (for the purpose of this document and the referenced report), do not have an adequate and/or stable place to sleep

**Message considerations**
- Use messages that are factual, concise and clearly express the seriousness of the situation
- Use visual materials
- Use direct language that relays the severity of the situation without causing panic
- Use verbal and written instructions in both English and Spanish
- Utilize homeless shelters and soup kitchens
- Use homeless organization directors and staff

**Spokespersons**
- Homeless organization directors and key staff
- Police and fire authorities

**Communication channels**
- “Word-of-mouth” communication is the most prevalent method of communication (misinformation must be tracked and managed)
- Homeless shelters and soup kitchens
- Non-profit organizations that serve the homeless have existing measures in place including, pre-meal announcements, bulletin boards, and trained medical staff
Catholic Community Services –

**Main Office**
Telephone: (801) 977-9119
FAX: (801) 977-8227
Resettlement/Immigration
FAX: (801) 977-9224

**Marillac House**
C/O Catholic Community Services
Telephone: (801) 977-9119
FAX: (801) 977-8227

**Northern Utah Office**
Telephone: (801) 394-5944
FAX: (801) 394-5948

**St. Mary's Home for Men**
Telephone: (801) 328-1894
FAX: (801) 328-1895

**St. Vincent de Paul Resource Center**
Telephone: (801) 363-7710
FAX: (801) 363-7710

- Salt Lake City Mission – Pastor Wayne C. Wilson
  Telephone: (801) 363-7710
  FAX: (801) 363-7710
  CEO@saltlakecitymission.org

- The Road Home
  (801) 359-4142

  Overflow Winter Shelter
  (801) 569-1201

  Family Shelter
  (801) 359-4142

  Men's Shelter
  (801) 359-1739

  Women's Shelter
  (801) 359-1807

  Development
(801) 355-1433
Shelter School
(801) 531-1507
Emergency Assistance
(801) 323-8996
www.theroadhome.org

- Volunteers of America Resources – see http://www.voaut.org/DesktopModules/Footer/AboutUs/ContactUs/tabid/1919/Default.aspx

Persons who are Deaf or Hard of Hearing
Individuals considered deaf or hard of hearing (for the purpose of this document and the referenced report), experience difficulty hearing without the use of a hearing device.

Message considerations
- Use simple and easy to follow instructions
- Use visual materials
- Use written instructions
- Use television open captioning or large crawl
- Use Internet, Utah Association for the Deaf (UAD)-Announce network, text messaging, pagers, and other mobile devices
- Use certified American Sign Language (ASL) interpreters
- Avoid radio, telephones (unless user has TTY or TDD capabilities), or other networks that require hearing
- Avoid using spokespersons that are hard to lip read (have mustaches or foreign accents, etc.)

Spokespersons
- A certified ASL interpreter is essential
- A person who is familiar with the frustrations of hearing loss would be a reliable source of information
- Many will lip read to gain information
- Choose a spokesperson who will be easy to understand

Communication channels
- Use television open captioning or large crawl
- Newspapers, text messaging, and e-mails
- UAD has a reliable e-mail system with access to over 750 names
• TTY or TTD phone communication
• The Sanderson Community Center of the Deaf and Hard of Hearing is a good location to congregate and distribute information

  o Utah Association for the Deaf e-mail group
    uad-announce-owner@yahoogroups.com

  o Robert G. Sanderson Community Center of the Deaf and Hard of Hearing
    (801) 263.4860 (v/vp/tty)
    (800) 860.4860 (toll free-in state only)
    801.263.4865 (fax)

---

**Persons with Physical Disabilities**

Individuals with a physical disability, for the purpose of this document and the referenced report, have a long lasting physical, mental, or emotional condition with makes it difficult to do activities such as dressing, bathing, walking, or climbing stairs. This section primarily focuses on persons who live at home.

**Message considerations**

• Be clear, simple and brief
• Use simple steps
• Distribute information in several formats such as written, verbal and visual
• Use visual symbols such as red light, sirens, or emergency symbols
• Use television, radio, newspaper and the Internet
• Use independent living centers and similar organizations to distribute information
• Use phone trees or reverse 911
• Include caregivers and family in messages
• Give extra time for them to follow instructions
• Use face-to-face communication when possible
• Include alternative transportation methods if evacuation is needed

**Spokespersons**

• If the message comes through mass media the message should be given by a person who is easily recognized as having authority.
• If the message is relayed in person, some familiar with the person’s needs, such as a family member, caregiver or caseworker
• Someone with authority such as uniformed law enforcement
• Work with institutional and industry-specific groups to get the word out

**Communication channels**

• Television is the most used medium
• Radio, newspapers and the Internet would also be effective
• Phone trees set up by independent living centers
• Person-to-person communication
- **The ARC of Utah**  
  (801) 364-5060  
  debowman@arcutah.org

- **Access Utah Network**  
  Phone: 801-533-4636  
  Fax: 801-533-3968  
  Toll Free Phone: 1-800-333-8824  
  Web Site: [www.accessut.org](http://www.accessut.org)  
  Relay Line: 711  
  Email: access@utah.gov

- **People First – Utah Development Disabilities Council**  
  Claire Mantonya, M.A.  
  clairmantony@utah.gov

- **MRAU**  
  mrau@utah.gov

Local liaisons can be found at: [http://www.hs.utah.gov/local_liaison.html](http://www.hs.utah.gov/local_liaison.html)

- **Salt Lake Act**  
  Cynthia Proctor  
  (801) 412-3798  
  Fax: (801) 493-0111  
  E-mail Address: slact@mwsbf.com

- **Brain Injury Association of Utah**  
  (801)484-2240

- **Utah Association of Community Services**  
  801-263-1246

- **Center for Persons with Disabilities**  
  Phone:(435) 797-1981  
  Toll-free 1-866-284-2821  
  Fax 435-797-3944

- **Disability Law Center**  
  1-800-662-9080 (Voice) or 1-800-550-4182 (TTY)

- **Utah Registry of Autism and Developmental Disabilities**  
  URADD@utah.gov  
  (801) 585-7576  
  Fax: (801) 585-5723
Appendix 10

List of Utah’s Largest Employers (Possible Contact Information)
Utah Department of Workforce Services – 2005

Responded with contact information
Requested information not received

Intermountain Healthcare – Daron Cowley - Intermountain Healthcare Communications
Dept. - 801-442-2834 - Daron.Cowley@intermountainmail.org

State of Utah – Lisa Roskelley - LROSKELLEY@utah.gov - (801) 538-1503 –
Governor’s Communication Coordinator

Brigham Young University – Carri Jenkins, Assistant to the President,
University Communications - carri_jenkins@byu.edu

University of Utah – Office of the Senior VP for Academic Affairs - 581-5057
Marty Shaub, Environmental Health & Safety - 585-9311 or
marty.shaub@ehs.utah.edu

University of Utah Medical Center – Colleen Connelly - U Hospital - 801/585-3134 or
colleen.connelly@hsc.utah.edu

Wal-Mart Stores – emergencyoperationscenter@wal-mart.com or (479) 277-1001 –
Emergency Operations Center line that is operated 24/7. Wal-mart is also working with
CDC to use their in store TV system to broadcast alerts for pandemic influenza

Hill Air Force Base – Marilu Trainor, Director, 75th Air Base Wing, Office of Public
Affairs, Hill AFB, UT - 801-777-2286 - marilu.trainor@hill.af.mil
Granite School District – Randy Ripplinger, Director of Public Relations - (801) 646-4529 - randyr@graniteschools.org and Keith Bradshaw, (801) 646-4596 or kieth.bradshaw@granite.k12.ut.us

Jordan School District – Utah Board of Education – Executive Director of Compliance Cal Evans – 801-567-8363 or 801-599-3200 – 801-571-3068 or cal.evans@jordan.k12.ut.us

Davis School District - Scott Zigich, the director of risk management and safety compliance, (801) 402-5307 - szigich@dsdmail.net. Chris Williams is the community relations director, (801) 402-5260 or 801-726-7626 (cell) - cwilliams@dsdmail.net Utah State University – John DeVilbiss, Executive Director, Office: 435-797-1358, Cell: 435-770-0511 - john.devilbiss@usu.edu

Convergys - Lana Smith, Sr Manager, Employee Relations, 801-629-6609 (office) 801-725-4035 (mobile) - lana.smith@convergys.com For other media issues - Lauri Roderick, Senior Manager, Public Relations Office: 513-723-3404 Mobile: 513-235-3447, lauri.roderick@convergys.com

Kroger Group - Marsha L. Gilford - Vice President Public Affairs - Smith's Food & Drug Stores, Inc. - marsha.gilford@sfdc.com – phone - 801-973-1700

Salt Lake County – office of the Mayor – Jim Braden – Public Information Officer, 801-468-3333 – (801) 557-6297 or jbraden@slco.org (Salt Lake Valley Health Department – Pam Davenport – Public Information Officer - 801-468-2757 - pdavenport@slco.org

Alpine School District - Utah Board of Education – sent e-mail

A Plus Benefits – Randall Barker - VP Human Resources - 801-443-1090 - Cell - 801-380-9789 - rbarker@aplusbenefits.com

Internal Revenue Service – Winon Hall – (801) 799-6881 or (801) 732-1425 - winon.h.hall@irs.gov - chad.a.hancey@irs.gov; neil.l.cox@irs.gov; pat.a.campbell@irs.gov; sally.a.pierce@irs.gov; tessa.s.evertsen@irs.gov

U.S. Postal Service – Brian Sperry - brian.s.sperry@usps.gov or Hak Kim - USPS Homeland Security Coordinator in Utah - hak.kim@usps.gov

Albertsons Inc. – Shawna Hanson, Pharmacy District Manager for Albertsons in Utah, Shawna.Hanson@albertsons.com or (801) 560-6270 or (801) 961-3379

Discover Financial Services – Michelle Jones at michellieiones@discover.com

ATK Thiokol Propulsion – Melodie DeGuibert is the Communications contact on this subject in Utah. melodie.degubert@atk.com – (435) 863 3169
Autoliv ASP (Morton Int’l) – Cindy McCollum - Cindy.McCollum@autoliv.com

SOS Temporary Services – Abigail Anderson – (801) 483-4248 or (801) 647-8082 – andersa@sosstaffing.com

Delta Airlines - 1-404-715-2554 (phone) called and sent e-mail – 8/1/07

Zions First National Bank - Brian Garrett - Vice President - Manager-Business Continuity – (801) 844-7552 - Cell: (801) 641-5175 - Brian.Garrett@zionsbank.com

Weber County School District –Nate Taggart - Community Relations and Safety Administrative Specialist, ntaggart@weber.k12.ut.ut - (801) 476-7821 - Cell (801) 721-9064 Or Bob Wood - Student Services Director - bwwood@weber.k12.ut.us - (801) 476-7873 Cell (801) 540-7887

Salt Lake City School District – Jason R. Olsen, Communications Officer - 801-578-8352 - jason.olsen@slc.k12.ut.us

Wells Fargo Bank NA – Mark G. Chapman - Corporate Communications - 801-246-2843 - mark.g.chapman@wellsfargo.com

Salt Lake City Corporation – Mike Stever, our Emergency Program Manager, is our best contact on pandemic flu. Number is 535-6030; email michael.stever@slcgov.com.

United Parcel Service – sent e-mail

Icon Health and Fitness – Doug Younker (HR office) dyounker@iconfitness.com or 435.786.5560

Kelly Services – Neal Summers, PHR, Regional Manager - (801) 262-2252 summein@kellyservices.com - Diane McCormick - Director, Business Continuity, Crisis Management and Information Security - (248) 244-5122 - mccordr@kellyservices.com

Nebo School District – Public Relations Officer, Lana Hiskey, 801-354-7410 or lana.hiskey@nebo.edu

Weber State University – John Kowalewski - Director of Media Relations - 801-626-7212 - jkowalewski@weber.edu or Mike Davies - University Emergency Planner - 801-626-7729 - mdavies@weber.edu

Skywest Airlines – Marissa Snow - Manager, Corporate Communications - 435.634.3548 - mmsnow@skywest.com

Teleperformance USA – Kelly Wadsworth - SVP Human Resources - 801-257-6034 - Kelly.Wadsworth@teleperformance.com -
Resource Management – sent e-mail

Home Depot

Salt Lake Community College – Nancy Sanchez – Risk Management – 801-957-4041 or nancy.sanchez@slcc.edu

ESG Administration – Eric Dyches - Safety Specialist - Eric@esghr.com.

Washington County School District – Craig Hammer (435) 673-3553, chammer@washk12.org - Safety Committee Chairman.

Utah Valley State College - Director Risk Management Health/Safety, Joe Marrott work- (801) 863-7977 cell (801) 420-7866 - marrotjo@uvsc.edu

Qwest Communications – Gary Younger - Gary.Younger@Qwest.com, 801-237-6902 (office) 801-608-4971 (wireless)

ACS Business Process Solutions – sent e-mail

L3 Communications – sent e-mail to Communications and Human Resources, Julianne Grant, (801) 594-7681 Julianne.Grant@L-3Com.com

Provo City School District – Greg Hudnall - Director of Student Services - (801) 374-4814 - gregh@provo.edu

Target Corporation – sent e-mail

Macey’s, Inc. – Dave Wirthlin - President of Associated Retail Stores - 801-978-8656 - DGWirthlin@afstores.com or Darin Peirce - Macey's Regional Vice President - 801-978-8424 - dlpeirce@afstores.com

Harmon’s Grocery Stores – Bill McGregor - Loss Prevention Director, Greg Jones - Director of Pharmacy, Laura Dykman - Director of Food Safety

Novell Inc. – David Barker - 801-861-8828, DBarker@novell.com. For other communications issues involving Novell - Kevan Barney Senior Manager, Public Relations - 801-861-2931, kbarney@novell.com

Union Pacific Railroad – railroad police dispatch toll free number - 888-877-7267. The two men who head up their pandemic effort are John Grogan: 402-544-5844 - JLGROGAN@up.com and Dan Morton: 402-544-5974 - DRMORTON@up.com
Teamworks Professional Services – sent e-mail

Wendy’s Old Fashioned Hamburgers – sent e-mail

Sinclair Oil – Steve Lackey, Corporate Health and Safety Manager - slackey@sinclairoil.com or at 801-526-3761.

ARUP – Tom Wachter at wachtete@arulab.com

RC Willey Home Furniture – (801) 461-3900

Utah Transit Authority – Chief Communications Officer Andrea Packer, 801-287-2288 - apacker@rideuta.com

Lifetime Products Inc. – Denise Wandling, VP of Human Resources - dwandling@lifetime.com

Cache County School District – sent e-mail.

Ogden City School District – Chad Carpenter: carpenterc@ogdensd.org or 801-737-7325. or Donna Corby - CORBYD@ogdensd.org

Northern Utah Health (St. Marks) – Lorie Gillette - Lorie.Gillette@Mountastarhealth.com- Infection Control coordinator for St. Mark's Hospital - 801-268-7790, pager 241-7764

VA Medical Center – Susan Huff – Public Affairs – 801-582-1565, ext. 4094 - Susan.Huff@va.gov

Kennecott Utah Copper/Kennecott Land/Rio Tinto – Jana Kettering - Senior Adviser Communications and Media Relations - jana.kettering@kennecott.com - Jana.Kettering@riotinto.com – 801-685-4539 - Jana.Kettering@riotinto.com - 801-685-4530
Appendix 11 – Joint Information Center

Pandemic Influenza
Joint Information Center (JIC) Operations

I. Purpose

During a pandemic influenza outbreak, the Utah Department of Health’s (UDOH) priority will be to provide maximum protection to public health. A Joint Information Center (JIC) would be activated when the state Emergency Operations Center (EOC) is activated or when the Public Information Officer (PIO) determines media calls are overwhelming the normal response system. The JIC will serve as the primary point of contact for the media for information regarding all pandemic influenza preparation and prevention issues, vaccine information and community mitigation measures. However, because of the nature of pandemic influenza, once the UDOH determines that community mitigation measures are necessary in an attempt to stop the spread of the disease, the JIC will become a virtual JIC.

II. Concept of Operations

A. Objectives

1. The objectives of a JIC are to fulfill all responsibilities of the Public Information Officer, which include:
   - Develop, recommend and execute public information plans and strategies on behalf of the Unified Command (UC)
   - Gain and maintain public trust and confidence
   - Be the first and best source of public health information
   - Gather information
   - Ensure the timely and coordinated release of accurate information to the public by providing a single release point of information
   - Capture images of the crisis in video and photos
   - Monitor and measure public perception
   - Inform the UC of public reaction, attitudes and needs
   - Determine how best to counteract misinformation and rumors
   - Advise the UC concerning public/community relations issues that could have an impact on response

B. Initial Response – First 24 Hours

The responsibility of disseminating updated information is assigned to the PIO immediately once it becomes apparent that a pandemic is imminent. The checklist
below includes the tasks that the PIO must accomplish prior to and in preparation for the establishment of a JIC.

**Establish Initial Response**

**Establish Initial Organization**

The initial Public Information Officer (PIO) should use the job aid below to prepare for media and other inquiries early in the incident.

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Establish a dedicated phone line for inquiries from the media. Code Red will handle calls from stakeholders, and general public</td>
</tr>
<tr>
<td>2.</td>
<td>Gather basic facts about the pandemic – who, what, where, when, why, and how</td>
</tr>
<tr>
<td>3.</td>
<td>Use this information to answer inquiries</td>
</tr>
</tbody>
</table>
| 4.   | Activate the following positions:  
|      | Assistant Information Officer for Internal Affairs (Information Gathering)  
|      | Information Products Officer  
|      | Assistant Information Officer for External Affairs (Media Relations) |
| 5.   | Select a location for the Joint Information Center (JIC). The location should meet the following criteria:  
|      | • Enough space for everyone to work, based on personnel resource requests  
|      | • Enough alternating current (AC) outlets and/or power strips, used within fire codes  
|      | • Access to a photocopier  
|      | • Access to a computer and/or access to the internet  
|      | • Access to phone lines  
|      | • Access to a fax machine  
|      | • Located at or near the Incident Command Post (ICP) |
| 6.   | Call for more assistance, preferably people trained in public information, JIC, and Incident Command System (ICS) operations. Make requests for additional resources via the Logistics Section |

B. **Staffing**

The **Public Information Officer** supports the information needs of the UC; establishes, maintains and deactivates the JIC; and represents and advises the **Incident Commander**. The **Public Information Officer** or his or her designee fills this role.

Depending on the public information needs of the response, the PIO may perform all public information-related functions or these functions may be subdivided among the following major position within the JIC:
Assistant Information Officer for External Affairs (Media Relations)
The first person assigned to assist the initial Public Information Officer (PIO) will respond to requests for information. The Assistant Information Officer for External Affairs should use the job aid below to prepare for duties.

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Use the dedicated phone to answer calls from the media.</td>
</tr>
<tr>
<td>2.</td>
<td>Record names, phone numbers, and organizations of the callers; also note dates/times of calls, the nature of the inquiries, and the callers’ deadlines for receiving additional information</td>
</tr>
<tr>
<td>3.</td>
<td>Use approved news releases and information from the Information Products Officer to answer media calls</td>
</tr>
</tbody>
</table>

Assistant Information Officer for Internal Affairs (Information Gathering)
The second person assigned to assist the initial PIO will gather data. The Assistant Information Officer for Internal Affairs should use the job aid below to prepare for duties.

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Gather verified information about the incident from sources throughout the response organization, particularly the Situation Unit Leader and Code Red</td>
</tr>
<tr>
<td>2.</td>
<td>Provide this information to the assistants handling inquiries and writing news releases</td>
</tr>
</tbody>
</table>

Information Products Officer
The third person assigned to assist the initial PIO will prepare written news releases. The Information Products Officer should use the job aid below to prepare for duties.

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Assemble the facts into two or three sentences that answer who, what, when, where, why, and how</td>
</tr>
<tr>
<td>2.</td>
<td>List the remaining facts and information in bullet form Example: List responding agencies, type and amount of equipment, etc. NOTE: The news release should ideally be only one page in length</td>
</tr>
<tr>
<td>3.</td>
<td>Spell check and edit the release and give it to the PIO for editing, approval, and routing to the Incident Commander for final approval</td>
</tr>
<tr>
<td>4.</td>
<td>Give approved news releases to the Assistant Information Officer for External Affairs</td>
</tr>
<tr>
<td>5.</td>
<td>Distribute the news release to the news media and other partners</td>
</tr>
</tbody>
</table>

III. Functional Responsibilities

A. The PIO will decide when to open a JIC. However, this decision may be driven by requests from other State agencies.
1. The JIC will coordinate information for message continuity and provide regular/continual availability to the media.

2. The number of JIC staff may be increased to accommodate an increased workload during a pandemic influenza. The PIO can secure additional JIC staff by activating UDOH media liaisons.

See Appendix 13 for a list of UDOH media liaisons. The following staff numbers may be needed in addition to regular OPIM staff:

<table>
<thead>
<tr>
<th>Staff Type</th>
<th>Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Media Call Takers</td>
<td>3</td>
</tr>
<tr>
<td>Public Call Takers</td>
<td>2</td>
</tr>
<tr>
<td>Administrative Support</td>
<td>1</td>
</tr>
<tr>
<td>Status Board Operator</td>
<td>1</td>
</tr>
<tr>
<td>Media Analyst</td>
<td>1</td>
</tr>
<tr>
<td>News Writers</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total Staff</strong></td>
<td><strong>9</strong></td>
</tr>
</tbody>
</table>

B. The PIO may also request additional assistance by sending out a notification to the State PIO Association, state agency PIOs or even the PIO/RCC’s from the various Local Health Departments (LHD’s).

See Appendix 14 for a list of State PIO Association members.

See Appendix 15 for a list of State PIOs.

See Appendix 16 for a list of PIO/RCCs from LHDs.

1. These individuals may either be PIO’s or Risk Communication Coordinators (RCC’s).

2. Again, because of the nature of pandemic influenza, it is likely that a virtual JIC will be instituted to replace the physical JIC. If/when that occurs, the PIOs who have been asked to help out will work from whatever remote location makes the most sense.

3. If it becomes necessary for the LHD staff to concentrate on working with their agencies, extending the length of shifts may become necessary.
4. If there is an urgent issue, acting JIC staff should continue working until management of the issue has been successfully passed to the incoming PIO.

IV. Direction and Control

A. The Public Information Officer (PIO) may decide to open a JIC. The PIO will manage operations in the JIC.

B. The JIC will coordinate information for message continuity.

C. The PIO can secure additional JIC staff by requesting assistance from various trained PIOs through the state.

D. When cross-cutting/cross jurisdictional issues arise, coordinated news releases will be issued from the JIC. The release will be issued on the lead agency’s news release letterhead. Coordinated news releases must be distributed to all affected agencies for approval prior to release to the media. Expedited approval steps will be required.

As far as media coordination is concerned, the UDOH communicates and coordinates with the mainstream and ethnic media via an extensive e-mail list. During any type of public health event, that list would be used for news advisories, releases and even health alerts. The UDOH has a strong working relationship with all media within the state of Utah and most, if not all, would aid in getting the information out to the public.

1. While the JIC may only need to be used during regular business hours, the PIO may determine that in the best interest of the public’s health, hours of operation need to be extended. If the decision is made to move to extended hours shifts should overlap for a minimum of one hour to ensure a smooth transfer of information and events between staff.

2. Staff may be asked to perform a variety of job functions outside their normal assignments, crossing into other areas and job functions. Staff may frequently be required to work outside of their regular scope and should remain flexible, performing any assignments when asked.

E. Location

1. Currently the UDOH JIC consists of the Office of Public Information and Marketing offices. No other room has been designated as the emergency JIC in the UDOH Cannon Building.

2. Media Briefings and conferences may be scheduled in Room 125 on the first floor of the Cannon Building. However, in the case of
pandemic influenza – following the initial news conference outlining the outbreak and potential community mitigation steps, the PIO may decide it is in the best interest of public health to resort to virtual news conferences and briefings.

3. A JIC may be established in other locations outside of the OPIM offices utilizing mobile JIC kits.

4. UDOH News Conference Facilities: (See the Utah Public Health Network (UPHN) CERC Plan in the attachments for locations across the state.)

Martha Hughes Cannon Building
288 North 1460 West
Salt Lake City, UT
Room 125

No key or badge is needed to access this room. A multi-plexer is available to handle 6 different microphones from the media. These are not for multiple microphones for more than one spokesperson. The room houses a projection system and extensive seating and tables. A podium is also available if needed.

The Clinic for Children with Special Health Care Needs
44 Medical Drive
Conference Room, 1st Floor (Or other space nearby)

No key or badge is needed to access this room.

D. Equipment and Supplies

1. JIC Kits

   a. Three JIC kits exist within the UDOH. Each local health department as well as the Department of Environmental Quality (DEQ) and the Department of Agriculture and Food (UDAF) have JIC kits.

JIC Kit Contents
Three JIC kits are available at UDOH through the representatives of the OPIM namely, Tom Hudachko, Charla Haley and Cyndi Bemis. Each LHD RCC also has a JIC kit. Kits contain the following resources:

- **Laptops**: Acer TravelMate 800XCl 1.3GHz Mobile Intel Pentium M processor w/Centrino, 512MB RAM, 30GB hard drive, 10X8X24 CD-RW/8X DVD-ROM, 56K, 10/100 Ethernet, Intel WiFi 802.11b, Windows XP Pro and a 14.1" XGA active-matrix display
- **Portable printers**: HP 450s with cable. They have the capability of cable, USB, or IR connection.
- **Portable scanners**: Visionier Strobe single sheet color scanners
- **Digital Cameras**: Canon Powershot, S230, ELPH
- **Microcassette Recorders**: Panasonic tape recorders with 9 extra tapes
- **Power Inverters**: 400 Watt power inverters to convert AC power from 12 Volt outlets
- **Pelican Case 1620 Dimensions are 22x17x12** These are foam filled cases and you can configure them anyway you want.
- **We are still assessing PDA’s at this point. This is dependant upon the demos that are here now.**
- **12 volt power battery eliminators for 800MHz radios** (for those who have 800 MHz radios both EF Johnson and Motorola)
- **Public Affairs Officer identifier vests**
- **Crowd control items**: e.g., Identification tape, delineators to attach the tape to
- **Portable sound system**
- **2 - four foot tables**
- **EZ up canopy**
- **USB attachable laptop lights**
- **Office supplies including**: paper, envelopes, sticky notes, clipboard, stapler, ruler, scissors, rubber bands, binder/paper clips, pushpins, glue stick, tape dispenser, pens, highlighters, mechanical, pencils, markers, calendar, hole punch and video tapes.

b. General office supplies for short-term off-site operation are included with the JIC kits.

2. Three kits of office supplies exist in the OPIM.
Appendix 12
Pandemic Influenza Content Experts Outside the UDOH

Andrew Pavia, MD
University of Utah
50 N Medical Dr Ste 1a,
University Of Utah Hospital Inf
Salt Lake City, UT
(801) 581-6791
Cell (801) 560-4607
Pager (801) 339-6729.
andy.pavia@hsc.utah.edu

Adi Gundlapalli, MD, PhD, MS
Assistant Professor
Departments of Internal Medicine and Pathology
University of Utah School of Medicine
Room 5B114D SOM
Salt Lake City, UT 84132
Phone: 801-585-7500
Pager: 801-339-9780
Cell: 801-473-6628
Adi.Gundlapalli@hsc.utah.edu

Spotswood L. Spruance M.D.
Infectious Disease, Clinic 1A
University Hospitals and Clinics
50 North Medical Drive
Salt Lake City, UT 84132
(801) 585-2031

Rocky Mountain Regional Center of Excellence for Biodefense and Emerging Infectious Diseases Research
Campus Delivery 1690
Fort Collins, CO 80525
970-491-8765
rmrce_admin@mail.colostate.edu

Gary Edwards
Executive Director / Health Officer
SLVHD
2001 South State Street
S-2500
SLC, Utah  84190
(801) 468-2747
Dagmar Vitek, M.D.
Deputy Director
SLVHD
2001 South State Street
S-2400
SLC, Utah 84190
(801) 468-2805
Cell (801) 541-6516
DVitek@slco.org

Brian Finlayson
Public Health Manager
Sanofi Pasteur
2437 N. 650 E.
North Ogden, Utah 84414
(801) 737-3831
Cell (801) 781-0554
brianfinlayson@sanofipasteur.com

Dr. David Blodgett, M.D., M.P.H.
Executive Director
Southwest Utah Public Health Department
620 S. 400 East Suite #400
St. George, Utah 84770
dblodgett@utah.gov
435-986-2587
# Appendix 13 – Media Liaisons

## 2007 Public Information Office - Program Liaisons - PRIMO Group 11/28/07

**DO NOT Distribute**

### Office of Public Information

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Program Liaison to:</th>
<th>Supervisor:</th>
<th>PIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tom Hudachko</td>
<td>Public Information Officer</td>
<td>Office of Public Info. &amp; Marketing</td>
<td>Allen Korhonen</td>
<td>N/A</td>
</tr>
<tr>
<td>Charla Haley</td>
<td>Public Information Specialist</td>
<td>Office of Public Info. &amp; Marketing</td>
<td>Tom Hudachko</td>
<td>N/A</td>
</tr>
<tr>
<td>Cyndi Bemis</td>
<td>Public Information Specialist</td>
<td>Office of Public Info. &amp; Marketing</td>
<td>Tom Hudachko</td>
<td>N/A</td>
</tr>
<tr>
<td>Janet Scarlet</td>
<td>Support Specialist</td>
<td>Office of Public Info. &amp; Marketing</td>
<td>Tom Hudachko</td>
<td>N/A</td>
</tr>
<tr>
<td>Paul Wightman</td>
<td>Internet Coordinator</td>
<td>Office of Public Info. &amp; Marketing</td>
<td>Tom Hudachko</td>
<td>N/A</td>
</tr>
<tr>
<td>Mimi Pedersen</td>
<td>Intranet Coordinator</td>
<td>Office of Public Info. &amp; Marketing</td>
<td>Paul Wightman</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Community and Family Health Services

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Program Liaison to:</th>
<th>Supervisor:</th>
<th>PIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amy Nance</td>
<td>Study Coordinator</td>
<td>Birth Defects Network</td>
<td>Marcia Feldkamp</td>
<td>Cyndi</td>
</tr>
<tr>
<td>Angie Livingston</td>
<td>Program Nurse</td>
<td>Newborn Screening Prgm</td>
<td>Fay Keune</td>
<td>Cyndi</td>
</tr>
<tr>
<td>Becky Ward</td>
<td>Ed/Outreach Coord.</td>
<td>Utah Immunization Prgm</td>
<td>Linda Abel</td>
<td>Cyndi</td>
</tr>
<tr>
<td>Catherine Hoelscher</td>
<td>Project Manager</td>
<td>Baby Watch Early Intv.</td>
<td>Susan Ord</td>
<td>Cyndi</td>
</tr>
<tr>
<td>Chris Chytraus</td>
<td>Program Manager</td>
<td>Fostering Healthy Children</td>
<td>Holly Balken</td>
<td>Cyndi</td>
</tr>
<tr>
<td>Christine Perfili</td>
<td>Mkgt and Comm. Coord.</td>
<td>CHARM</td>
<td>Rich Harward</td>
<td>Cyndi</td>
</tr>
<tr>
<td>Janae Duncan</td>
<td>Health Program Spec.</td>
<td>Diabetes Control</td>
<td>Richard Bullough</td>
<td>Cyndi</td>
</tr>
<tr>
<td>Jennifer Mayfield</td>
<td>Program Manager</td>
<td>CASH/SDS/Teen Prgncy</td>
<td>Nan Streeter</td>
<td>Cyndi</td>
</tr>
<tr>
<td>Jenny Johnson</td>
<td>Health Program Specialist</td>
<td>Chronic Disease Genomics Prgm</td>
<td>Rebecca Giles</td>
<td>Cyndi</td>
</tr>
<tr>
<td>Jim Taliaferro</td>
<td>Program Manager</td>
<td>Autism Program</td>
<td>Harper Randall</td>
<td>Cyndi</td>
</tr>
<tr>
<td>Kalynn Filion</td>
<td>Health Program Spec.</td>
<td>Breast &amp; Cervical Cancer</td>
<td>Lynne Nilson</td>
<td>Cyndi</td>
</tr>
<tr>
<td><strong>vacant</strong></td>
<td>Health Program Spec.</td>
<td>Healthy Utah</td>
<td>Kathy Paras</td>
<td>Cyndi</td>
</tr>
<tr>
<td>Nita Jensen</td>
<td>Community Hlth Tech</td>
<td>Hearing, Spch &amp; Vision Svc</td>
<td>Rich Harward</td>
<td>Cyndi</td>
</tr>
<tr>
<td>Name</td>
<td>Title</td>
<td>Phone</td>
<td>Cell or Pager</td>
<td>Program Liaison to:</td>
</tr>
<tr>
<td>---------------------------</td>
<td>----------------------------</td>
<td>-------------</td>
<td>---------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>Kevin Condra</td>
<td>Media &amp; Education Coordinator</td>
<td>538-6183</td>
<td>N/A</td>
<td>Asthma/Genomics Program</td>
</tr>
<tr>
<td>Kevin Condra</td>
<td>Media &amp; Education Coordinator</td>
<td>538-6183</td>
<td>N/A</td>
<td>Violence &amp; Injury Prevention</td>
</tr>
<tr>
<td>Lena Dibble</td>
<td>Media Coordinator</td>
<td>538-6917</td>
<td>971-6581</td>
<td>Tobacco Prev &amp; Control</td>
</tr>
<tr>
<td>Lois Bloebaum</td>
<td>Program Manager</td>
<td>538-6792</td>
<td>557-0035</td>
<td>Reproductive Health</td>
</tr>
<tr>
<td>Lynn Martinez</td>
<td>Health Program Mngr</td>
<td>538-9308</td>
<td>435-720-3314</td>
<td>Pregnancy Risk Line</td>
</tr>
<tr>
<td>Marie Nagata</td>
<td>Health Program Mngr</td>
<td>538-6519</td>
<td>865-9545</td>
<td>Hlth Rec. Line/BYB/CYH</td>
</tr>
<tr>
<td>Natalie Smith</td>
<td>Health Program Spec.</td>
<td>538-9340</td>
<td></td>
<td>Arthritis</td>
</tr>
<tr>
<td>Owen Quinonez</td>
<td>Health Program Spec.</td>
<td>538-9457</td>
<td>560-5935</td>
<td>Multi-Cultural Health</td>
</tr>
<tr>
<td>Peggy Bowman</td>
<td>Health Program Spec.</td>
<td>538-6026</td>
<td>554-4959</td>
<td>Oral Health</td>
</tr>
</tbody>
</table>

**Epidemiology and Laboratory Services/Medical Examiner's Office**

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Phone</th>
<th>Cell or Pager</th>
<th>Program Liaison to:</th>
<th>Supervisor:</th>
</tr>
</thead>
<tbody>
<tr>
<td>vacant</td>
<td>Health Educator</td>
<td>538-6783</td>
<td>N/A</td>
<td>Epidemiology</td>
<td>Rich Lakin</td>
</tr>
<tr>
<td>Dave Mendenhall</td>
<td>Director of Lab Improvmt</td>
<td>584-8470</td>
<td>913-4030</td>
<td>Laboratory Services</td>
<td>Patrick Leudtke</td>
</tr>
<tr>
<td>Louise Saw</td>
<td>Health Program Specialist</td>
<td>538-6023</td>
<td></td>
<td>Environmental Epi</td>
<td>Sam LeFevre</td>
</tr>
<tr>
<td>Lynn Meinor</td>
<td>Program Manager</td>
<td>538-6198</td>
<td>557-1785</td>
<td>Bureau of CDC</td>
<td>Jennifer Brown</td>
</tr>
<tr>
<td>Susan Mottice</td>
<td>Epidemiologist</td>
<td>538-6191</td>
<td>860-6806</td>
<td>Epidemiology</td>
<td>Rich Lakin</td>
</tr>
<tr>
<td>Todd Grey</td>
<td>Chief Medical Examiner</td>
<td>584-8410</td>
<td>558-8401</td>
<td>Office of Medical Examiner</td>
<td>Dick Melton</td>
</tr>
</tbody>
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**Health Care Financing**

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Phone</th>
<th>Cell or Pager</th>
<th>Program Liaison to:</th>
<th>Supervisor:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kolbi Young</td>
<td>PR &amp; Marketing Coord.</td>
<td>538-6847</td>
<td>231-6350</td>
<td>PCN / CHIP / UPP / Medicaid</td>
<td>Nate Checketts</td>
</tr>
<tr>
<td>Randa Pickle</td>
<td>Constituent Svcs Rep</td>
<td>538-6417</td>
<td>968-0550</td>
<td>Medicaid/Rx Connect</td>
<td>Brenda Bryant</td>
</tr>
<tr>
<td>Name</td>
<td>Title</td>
<td>Phone</td>
<td>Cell or Pager</td>
<td>Program Liaison to:</td>
<td>Supervisor:</td>
</tr>
<tr>
<td>---------------------</td>
<td>-------------------------------</td>
<td>---------</td>
<td>---------------</td>
<td>----------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Teresa Banks*</td>
<td>Health Program Rep</td>
<td>(435) 688-0489</td>
<td>n/a</td>
<td>Bureau of Eligibility Srvc</td>
<td>Mike Dunlavy</td>
</tr>
<tr>
<td>(*Located in Cedar City)</td>
<td></td>
<td></td>
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**Health Data Assessment**

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Phone</th>
<th>Cell or Pager</th>
<th>Program Liaison to:</th>
<th>Supervisor:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cynthia Robison</td>
<td>Research Assistant</td>
<td>538-6843</td>
<td>N/A</td>
<td>Vital Records &amp; Statistics</td>
<td>Jeff Duncan</td>
</tr>
<tr>
<td>Kim Neerings</td>
<td>Research Analyst</td>
<td>538-6465</td>
<td>688-8848</td>
<td>Office of Public Health Assessment</td>
<td>Lois Haggard</td>
</tr>
<tr>
<td>Mike Martin</td>
<td>Research Consultant</td>
<td>538-9205</td>
<td>859-8538</td>
<td>Office of Health Care Statistics</td>
<td>Keely Cofrin</td>
</tr>
<tr>
<td>Mylitta Barrett</td>
<td>IT Analyst</td>
<td>538-9339</td>
<td>698-2951</td>
<td>Vital Records &amp; Statistics</td>
<td>Jeff Duncan</td>
</tr>
</tbody>
</table>

**Health Systems Improvement**

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Phone</th>
<th>Cell or Pager</th>
<th>Program Liaison to:</th>
<th>Supervisor:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Christine Warren</td>
<td>QA Regional Consultant</td>
<td>538-6285</td>
<td>550-5166</td>
<td>Bureau of EMS</td>
<td>Paul Patrick</td>
</tr>
<tr>
<td>Don Beckwith</td>
<td>Program Manager</td>
<td>538-6818</td>
<td>554-4691</td>
<td>Primary Care &amp; Rural Hlth</td>
<td>Marc Babitz</td>
</tr>
<tr>
<td><strong>vacant</strong></td>
<td>Program Manager</td>
<td>538-6165</td>
<td>243-5540</td>
<td>Health Facility Lic.</td>
<td>Allan Elkins</td>
</tr>
<tr>
<td>Teresa Whiting</td>
<td>Bureau Director</td>
<td>538-6320</td>
<td>414-9739</td>
<td>Child Care Licensing</td>
<td>Marc Babitz</td>
</tr>
</tbody>
</table>

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<tr>
<th>DEPARTMENT</th>
<th>NAME</th>
<th>EMAIL</th>
<th>OFFICE</th>
<th>CELL</th>
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<td></td>
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<td>486-0824</td>
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<td>Agency</td>
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<td>Office Phone</td>
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Main PIOs are in bold/others are considered Back-Up - PLEASE DO NOT RELEASE LIST
Provide all updates to Janet at jscarlet@utah.gov or 538-6654
Utah Influenza Pandemic Response Plan

Laboratory Role:

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I. Rationale

The goals of diagnostic and surveillance laboratory testing during a pandemic are to:

- Identify the earliest U.S. cases of pandemic influenza (whether the pandemic begins in the United States or elsewhere).
- Support disease surveillance to monitor the pandemic's geographic spread and impact of interventions.
- Facilitate clinical treatment by distinguishing patients with influenza from those with other respiratory illnesses.
- Monitor circulating viruses for vaccine and antiviral efficacy.

During the earliest stages of a pandemic, public health, hospital, and clinical laboratories might receive a large and potentially overwhelming volume of clinical specimens. Pre-pandemic planning is essential to assure timeliness of diagnostic testing and the availability of supplies and reagents, address staffing issues, and disseminate protocols for safe handling and shipping of specimens. Once a pandemic is underway, the need for laboratory confirmation of clinical diagnoses may decrease as the virus becomes widespread. Diagnostic testing for pandemic influenza virus may involve a range of laboratory assays (see Table 1. and Appendix 1.)

II. Overview

The public health laboratory is a critical component of the overall public health response to pandemic influenza. The capability of differentiating common influenza from pandemic influenza depends upon the rapid detection and characterization that is available at the Utah Public Health Laboratories (UPHL) and the Centers for Disease Control and Prevention (CDC).

- UPHL contributes to national laboratory-based surveillance efforts on a year-round basis.
- Only through laboratory testing can the signs and symptoms of influenza-like illness (ILI) be attributed to a definitive pathogen.
- By identifying the pathogen best practices for appropriate treatment and control measures can be taken to limit/prevent the spread of disease.
- Standardized Laboratory Response Network (LRN) protocols assist CDC in understanding the significance of test results across the nation.

UPHL plays a key role in laboratory preparedness and response efforts. Federal funding has been used by UPHL to enhance technological capacity and capability for responding to public health emergencies in an all hazards approach, which includes pandemic influenza. Specifically UPHL:

- Provides accurate and rapid state-of-the-art testing for detection and identification of influenza subtypes such as H5N1.
- Coordinates year-round laboratory-based surveillance efforts within the state and contributes to the World Health Organization (WHO) data thru CDC.

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• Provides viral sample to CDC for ongoing characterization of viruses to select for upcoming vaccines and antiviral susceptibility testing.

UPHL works closely with state and local epidemiology, partner laboratories and other health care entities to support and assist in coordinating the diagnostic testing response for influenza by:

• Providing education, training, and guidance on safe use and interpretation of rapid influenza tests or other point-of-care testing technologies.
• Maintaining a close working relationship with veterinary diagnostic labs to monitor influenza activity within animal populations that may impact humans and human activity that may impact animals.
• Participate in the preparedness planning for the state's Pandemic Influenza Plan

III. The Interpandemic and Pandemic Alert Periods

Global and US Surveillance
The WHO has a worldwide network of surveillance laboratories providing information on influenza. In the United States they work in cooperation with CDC. UPHL is a participant in this WHO surveillance network (see Table 2).

Routine Surveillance Activities
• Information about year round influenza testing at UPHL is sent on a routine basis to CDC. Virus subtypes, patient ages and geographical information are reported on the “WHO Surveillance Form” and sent via fax. UPHL is currently building a new Laboratory Information Management System (LIMS) that is moving to be PHIN (Public Health Information Network) compliant and data will be shared electronically with public health partners and CDC.
• A random sample of influenza isolates are selected by UPHL and submitted to CDC three times during the influenza season. The samples are chosen to reflect early, middle, and late season isolates. Other samples of interest, outside the regular influenza season are also sent to CDC for surveillance purposes to monitor what is circulating in the population. All specimens that CDC requests for monitoring sporadic outbreaks and clusters of influenza in the state of Utah are sent by UPHL to CDC.

A. Roles and Responsibilities

Clinical and Hospital Laboratories
• Work within hospital system and parent corporations to address laboratory surge capacity issues. It will be the responsibility of hospital and clinical laboratories to maintain capacity for testing to support preliminary diagnosis of patients as being infected with Influenza A.
  * Make sure laboratory has plans to keep sufficient reagents, kits and supplies on hand for surge testing.
  * Ensure a means of tracking reagents and supplies
* Have plans for work coverage as some employees will be sick.
  - Train personnel in the safe handling and management of respiratory specimens during an influenza pandemic.
  - Do influenza A testing under appropriate biosafety level if a novel strain is not suspected and the patient has no travel history to an area with known novel influenza strain.
  - Refer specimens from patients with suspected novel influenza to UPHL.
  - Institute surveillance for influenza-like-illness among laboratory personnel working with influenza virus.
  - Maintain contact lists and participate with information communication channels
  - Report positive test results to state or local epidemiology as appropriate.

**Utah Public Health Laboratories**

- Perform LRN (Laboratory Response Network) & public health testing to support pathogen identification and subtype characterization as it pertains to surveillance and basic functions of public health illness tracking. It is not intended that the public health laboratory do basic diagnostic testing or act as surge capacity for hospital and clinical laboratories. UPHL may participate in surge capacity testing to support hospital and clinical laboratories if resources permit and public health needs allow the shift in resources. This decision will be made by UPHL and consultation with state Epidemiology.
- Support public health surveillance activities by participation in the WHO network and submitting samples to CDC for further characterization.
- Participate in pandemic influenza planning and exercises
- Institute surveillance for ILI among UPHL personnel.
- Develop and assist in reviewing response plans, brochures, checklists and other educational materials that aid healthcare personnel to work safely with viral specimens.
- Take the lead in maintaining communication channels to all participatory laboratories.
- UPHL facilities and staff may be used as surge capacity for Utah Veterinary Diagnostic Laboratory (UVDL) if human testing needs have been met or as animal testing provides critical public health surveillance information.
- Assist in educating laboratory scientists and other healthcare workers in the safe handling, packing, and shipping of respiratory specimens for testing (see Appendices 3 and 4).

**Utah Veterinary Diagnostic Laboratory**

- Perform diagnostic testing for influenza virus in animal populations as appropriate
- Help in pandemic planning
- Maintain contact lists and participate with information communication channels
- May act as surge capacity facility for UPHL should need arise.

**Indian Health Clinics and Military Associated Laboratories**

- Participate in pandemic influenza planning and exercises
• Train personnel in the safe handling and management of respiratory specimens during an influenza pandemic.
• Maintain contact lists and participate with information communication channels
• Assist in training staff for safe handling, packaging and shipping of respiratory specimens for diagnostic testing to UPHL or reference laboratory.
• If rapid testing methods are used for diagnostic work, ensure that healthcare personnel and lab testing staff have adequate PPE and work using proper biosafety measures.

B. Laboratory Testing

Clinical Laboratories (to include Military and Tribal entities that test)
• Test clinical samples for influenza or influenza A when the patient is not suspected of a novel strain of influenza and does not have a travel history or exposure to a novel strain.
• Forward specimens to UPHL for virus characterization or if a novel strain of influenza virus is suspected for identification.

Utah Veterinary Diagnostic Laboratory (UVDL)
• Test animal samples as is appropriate to their role in supporting surveillance in the animal population and/or diagnostic work as they define.

Utah Public Health Laboratories (UPHL)
• UPHL will provide influenza testing on a year-round basis to support public health surveillance, viral characterization for vaccine development, and supporting WHO and CDC collecting of viral agents for further characterization and archiving.

• PREFERRED SPECIMENS for UPHL Testing
  • For seasonal influenza: 2 nasopharyngeal swabs collected on a Rayon or Dacron swab with plastic or aluminum shaft. (cotton or calcium alginate swabs and wood shafts interfere with the PCR testing methodology and should NOT be used).
  • For Avian Influenza H5N1: 1 oropharyngeal swab and one nasopharyngeal swab collected on a Rayon or Dacron swab with a plastic or aluminum shaft.
  • Transport the swabs in viral transport medium (preferred) or in sterile saline.
  • If shipping of specimen is delayed, keep the specimens refrigerated.
  • Keep the specimens cool during shipping by using a cool pack. (wet ice may be used but be sure to keep paperwork and tubes separate from the ice).

• Routine specimens for influenza testing will first be screened by DFA. Positive specimens and all negative specimens will be
inoculated to cell culture for virus isolation.

- **Suspected novel strains** will first be tested using RT-PCR
  - The LRN protocol for H5N1 Asian strain will be done on a stat basis after a patient screening done by state office of epidemiology (assisted by local health personnel).
  - Subsequent characterization may be done using the APHL protocol for influenza A and subtypes-H1, H3, H5, H7 and influenza B.
  - Negative respiratory samples by these RT-PCR methods may be submitted to further testing by DFA & cell culture to determine the pathogen when a dangerous novel strain has **not** been detected by PCR.
  - Hemagglutination Inhibition (HI) testing is done from cell culture to determine H1 or H3 subtype of influenza A.
  - **Positive samples**, meeting CDC requirements for a novel strain, are sent to CDC. It is not recommended that novel strains be taken to viral culture unless the lab is BSL3+ and the scientists are experienced in working with highly pathogenic influenza virus. UPHL currently does not have this capacity and will ship specimens to CDC as they direct.

C. **Laboratory Safety - Biocontainment**

During the Pandemic Alert Period, specimens from suspected cases of human infection with novel influenza strains should be sent to UPHL for testing. The following guidelines should be used for handling and testing of samples suspected of containing a novel influenza virus:

- Commercial antigen detection testing - conduct all specimen manipulation and assays in a biosafety cabinet under BSL-II conditions.
- RT-PCR - conduct specimen manipulation and assay using a biosafety cabinet and BSL-II conditions (BSL-III is desirable if a novel strain is suspected).
- Virus Isolation/Culture - it is not recommended that virus culture be attempted if a novel influenza strain is suspected. These should be sent to CDC. If a lab has BSL - III enhanced lab space and is experienced in working with highly pathogenic influenza culture may be feasible. (see Appendix 4 for additional laboratory biosafety guidelines).

D. **Collection, Handling, Packing & Shipping of Viral Specimens**

1. **Key Messages**
   - Appropriate specimens for influenza testing vary by type of test.
   - Please call UPHL if assistance is needed for any phase of specimen collection, handling and/or shipping.

2. **Respiratory Specimens**
Eight types of respiratory specimens may be collected for viral and/or bacterial diagnostics: 1) nasopharyngeal wash/aspirates, 2) nasopharyngeal swabs, 3) oropharyngeal swabs, 4) bronchoalveolar lavage, 5) tracheal aspirate, 6) pleural fluid tap, 7) sputum, and 8) autopsy specimens.

- Nasopharyngeal wash/aspirates or swabs are the specimen of choice for seasonal influenza testing.
- Oropharyngeal swabs are the specimen of choice for the currently circulating strain of Avian Influenza H5.
- Respiratory specimens for detection of most respiratory pathogens, and influenza in particular, are optimally collected within the first 3 days of the onset of illness.
- Before collecting specimens, review the infection control precautions for your institution.

### a. Collecting specimens from the upper respiratory tract

#### 1. Nasopharyngeal wash/aspirate
- Have the patient sit with head tilted slightly backward.
- Instill 1 ml–1.5 ml of nonbacteriostatic saline (pH 7.0) into one nostril. Flush a plastic catheter or tubing with 2 ml–3 ml of saline. Insert the tubing into the nostril parallel to the palate. Aspirate nasopharyngeal secretions. Repeat this procedure for the other nostril.
- Collect the specimens in sterile vials. Label each specimen container with the patient’s ID number and the date collected.
- If shipping domestically, use cold packs to keep the sample at 4°C. If shipping internationally, pack in dry ice (see shipping instructions below).

#### 2. Nasopharyngeal or oropharyngeal swabs
- Use only sterile Dacron or rayon swabs with plastic shafts. Do not use calcium alginate swabs or swabs with wooden sticks, as they may contain substances that inactivate some viruses and inhibit PCR testing.
- To obtain a nasopharyngeal swab, insert a swab into the nostril parallel to the palate. Leave the swab in place for a few seconds to absorb secretions. Swab both nostrils.
- To obtain an oropharyngeal swab, swab the posterior pharynx and tonsillar areas, avoiding the tongue.
- Place the swabs immediately into sterile vials containing 2 ml of viral transport media. Break the applicator sticks off near the tip to permit tightening of the cap. Label each specimen container with the patient’s ID number and the date the sample was collected.
b). Collecting specimens from the lower respiratory tract

1. Bronchoalveolar lavage, tracheal aspirate, or pleural fluid tap
   • During bronchoalveolar lavage or tracheal aspirate, use a double-tube system to maximum shielding from oropharyngeal secretions.
   • Centrifuge half of the specimen, and fix the cell pellet in formalin. Place the remaining unspun fluid in sterile vials with external caps and internal O-ring seals. If there is no internal O-ring seal, then seal tightly with the available cap and secure with Parafilm®. Label each specimen container with the patient’s ID number and the date the sample was collected.
   • If shipping domestically, use cold packs to keep the sample at 4°C. If shipping internationally, ship fixed cells at room temperature and unfixed cells frozen (see shipping instructions below).

2. Sputum
   • Educate the patient about the difference between sputum and oral secretions.
   • Have the patient rinse the mouth with water and then expectorate deep cough sputum directly into a sterile screw-cap sputum collection cup or sterile dry container.
   • If shipping domestically, use cold packs to keep the sample at 4°C. If shipping internationally, pack in dry ice (see shipping instructions below).

c). Blood Components
   • Both acute and convalescent serum specimens should be collected for antibody testing. Collect convalescent serum specimens 2–4 weeks after the onset of illness. To collect serum for antibody testing:
     • Collect 5 ml–10 ml of whole blood in a serum separator tube. Allow the blood to clot, centrifuge briefly, and collect all resulting sera in vials with external caps and internal O-ring seals. If there is no internal O-ring seal, then seal tightly with the available cap and secure with Parafilm®.
     • The minimum amount of serum preferred for each test is 200 microliters, which can easily be obtained from 5 ml of
whole blood. A minimum of 1 cc of whole blood is needed for testing of pediatric patients. If possible, collect 1 cc in an EDTA tube and in a clotting tube. If only 1cc can be obtained, use a clotting tube.

- Label each specimen container with the patient’s ID number and the date the specimen was collected.
- If unfrozen and transported domestically, ship with cold packs to keep the sample at 4°C. If frozen or transported internationally, ship on dry ice.

3. Shipping of Specimens

- All IATA and UDOT regulations for shipping of clinical specimens should be followed.

**Summary of Pertinent Shipping Requirements:**

The packaging should consist of three components:

(i) a leak-proof primary receptacle(s);
(ii) a leak-proof secondary packaging; and
(iii) an outer packaging of adequate strength for its capacity, mass and intended use, and with at least one surface having minimum dimensions of 100 mm × 100 mm;

For liquids, absorbent material in sufficient quantity to absorb the entire contents should be placed between the primary receptacle(s) and the secondary packaging so that, during transport, any release or leak of a liquid substance will not reach the outer packaging and will not compromise the integrity of the cushioning material;

When multiple fragile primary receptacles are placed in a single secondary packaging, they should be either individually wrapped or separated to prevent contact between them.

E. Communication & Reporting

1. UPHL currently reports results by phone, fax and/or email per the client's request. Electronic line reports go out to the Office of Epidemiology on a daily basis. New or novel strains of influenza and/or Avian Influenza would be reported by a positive phone contact to the Office of Epidemiology 24/7 and CDC.

2. UPHL is building a Laboratory Information Management System and will move toward PHIN compliance for electronic reporting as the system is ready. UPHL is working with the vendor to
implement PHLIP. In the interim, Electronic data exchange reporting is currently done via email & fax and via the PHIN compliant LRN Messenger.

3. UPHL lab results for H5N1 are currently reported to CDC via LRN Messenger which is an electronic data exchange system. CDC would be notified by the Office of Epidemiology by positive phone contact and UPHL would also notify their contacts in the LRN at CDC by positive phone contact.

4. More extensive communication information is located in Appendix 8, which addresses communication within the public health and laboratory communities.

5. UPHL Communication Algorithm

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F. Surge Capacity Planning

1. UPHL Testing Capacity and Testing Cut-Off Triggers
   - UPHL has the priority for confirmation testing during a pandemic event and must reserve lab capacity to ensure public health surveillance needs are met. Priority for testing will emphasize hospitalized patients.
   - UPHL will work closely with the Office of Epidemiology since needs may shift during an actual pandemic. The following are
guidelines to decide when testing is sufficient and specimens no longer need to be sent to UPHL for confirmation testing and also are guidelines for triage of specimens:

- Specimens sent to UPHL for confirmation testing should already be screened for influenza A and determined to be positive.
- Testing based on clinical symptoms of a patient may be done at UPHL if an influenza screen is negative after a case screening is done by the office of epidemiology.
- UPHL will test appropriate submissions until 80% of for reagents have been used. Twenty percent of reagents will be held in reserve for special circumstances, preparation for a second wave, and case by case evaluation where it is determined testing should be done.
- Each Utah health district will be able to send in 10 specimens (screened positive for influenza A) for every 100,000 people in their district, reserving at least one test per county in their district. More testing may be allotted after consultation with UPHL and based on case screenings by the Office of Epidemiology.
- In addition, each hospital in the state will be able to send in 5 specimens/100 beds in their total bed capacity. The Veteran's Hospital in Salt Lake City will be counted with the other hospitals.
- Each Military or Indian Tribal Clinic will be allowed to send 2 samples.
- The hospital, military and Indian samples will not count against the health district’s quota of samples.
- UPHL will work with the Office of Epidemiology to see where other testing is appropriate for public health surveillance purposes.

2. Staffing and Training

- Cross-train personnel in the use of testing protocols and reporting of results using the existing surveillance systems for public health.
- Establish back up plans for hiring temporary laboratory staff
- Consider credentialing and licensing issues for workers in lab

3. Supplies and Equipment

- Establish inventory system to determine current level of diagnostic supplies, including personal protective equipment.
- Determine mechanism to monitor consumption of supplies during the pandemic.
- Assess anticipated equipment and supply needs.
4. **Alternate Testing Sites**  
   - For surge capacity or if UPHL facilities should become unusable for some reason, alternate test sites, with BSL3 capability are available for use.

G. **Partnerships**

UPHL will build partnerships with clinical and hospital laboratories and keep them apprised of updated information. UPHL will also keep communication channels with CDC, local health districts, state office of epidemiology, the Utah Veterinary Diagnostic Laboratory, and the public information officer for UDOH. Indian tribe medical entities and military associated laboratories will also be included in the communication loop.

IV. **The Pandemic Period**

A. **Roles and Responsibilities**

Public health, hospital and clinical laboratories, and physician sentinel sites will continue to support surveillance for pandemic influenza through the same mechanisms that support laboratory-based surveillance for seasonal influenza.

It should be understood that resources, both material and personnel, will be stressed during the pandemic period.

1. **Clinical Laboratories**
   - Perform diagnostic testing for influenza as technology and safety levels permit.
   - Scale up to manage increased numbers of requests for influenza testing.
   - Support surveillance activities- refer selected specimens from possible pandemic influenza patients to UPHL.
   - Maintain other diagnostic services.
   - If feasible, assist other laboratories in the state, which may need surge capacity help.
   - Maintain communication with UPHL so laboratory services may be coordinated.
   - Report results of positive tests as mandated by the Communicable Disease Rule to state or local epidemiology.

2. **Utah Public Health Laboratories (UPHL)**
   - Maintain surveillance activities.
   - Scale up to manage increased number of requests for influenza testing.
   - Work with federal partners to supply healthcare providers and clinical laboratories with guidelines on all aspects of specimen management and diagnostic testing.

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• Work with federal partners to monitor the pandemic virus and conduct special studies with CDC related to vaccine development or other aspects of the emergency response.
• Maintain reference testing capability for influenza.
• Continue education of clinicians, healthcare workers & laboratorians.
• Share data/information in "real time".
• Maintain other diagnostic services or establish priorities of what may be put on hold.

3. Utah Veterinary Diagnostic Laboratory
• Maintain surveillance activity for the animal population
• Scale up to manage increased numbers of requests for influenza testing in the animal population.
• Share information with the lab groups
• Maintain regular services or establish priorities of what may be put on hold.

4. Indian Health Clinics and Military Associated Laboratories
• Maintain reporting activities to public health as stipulated in the Communicable Disease Rule
• Assure staff is trained in how to collect, package, & ship specimens for testing to reference labs or UPHL.
• Share information with the lab groups.
• Maintain regular services or establish priorities of what may be put on hold.

B. Laboratory Support For Healthcare Providers
• All laboratory groups should establish communication channels with their respective healthcare provider population to answer questions when needed, advise on specimen collection and shipping, and appropriate testing algorithms.

C. Laboratory Safety Biocontainment
• Commercial antigen detection testing - conduct all assays in a Biosafety Cabinet (BSC) under BSL-II conditions.
• RT-PCR - conduct all assays in a BSC under BSL-II conditions.
• Virus Isolation - all assays should be conducted under BSL-III with enhancements. (See Appendix 4).

D. Occupational Health Issues for Laboratory Workers
To protect the health of laboratory workers during a pandemic, laboratories should maintain the safety practices used during the Interpandemic and Pandemic Alert Periods.
• Conduct laboratory procedures under appropriate biocontainment conditions.
• Encourage routine vaccination of laboratory employees exposed to specimens with respiratory infections. (See Appendix 7).
• Maintain a fever watch protocol for all laboratory workers that manipulate or test from respiratory specimens in the lab.

E. Use of Diagnostic Assays During an Influenza Pandemic

All testing of respiratory specimens should be done using appropriate biosafety measures and with staff using proper personal protective equipment.

1. Rapid Diagnostic Tests

Rapid diagnostic tests based on antigen detection are commercially available for influenza. Laboratories in outpatient settings and hospitals can use these tests to detect viruses in 30 minutes. Some tests can detect Influenza A viruses, including avian strains. Testing, as it currently exists, is not capable of distinguishing between the subtypes of influenza. Rapid tests may not have the sensitivity and specificity of higher genre testing. Test results must be interpreted in light of known epidemiological information such as current status of influenza circulating in the community, travel history, known contact with another influenza patient. (see Appendix 6).

2. RT-PCR Subtyping

Influenza specimens may be typed and subtyped using RT-PCR. This method does not require the growth or isolation of virus.

3. Virus Isolation

This method requires growth of virus in culture. Identification of the virus is usually confirmed through the use of IFA (indirect fluorescent antibody) staining or hemagglutination inhibition (HAI) or RT-PCR to monitor circulating seasonal strains. If clinical or epidemiological data suggests that the human case of influenza might be due to infection with avian influenza (or other highly pathogenic strains), the virus should not be cultured except under BSL-3 conditions with enhancements. Laboratories that lack BSL-3 conditions with enhancements should immediately contact UPHL, who will coordinate the shipping of the specimen to CDC for isolation and characterization.

4. Immunofluorescent Antibody Staining

Some laboratories may use IFA staining following virus isolation to identify influenza types (A & B) and some influenza subtypes using a panel of specific antisera.
5. Serologic Tests

Tests based on the detection of antibodies in the patient's sera can be used retrospectively to confirm influenza. Acute and convalescent (paired) sera are used to detect rising antibody titers in patient's sera. This type of test cannot differentiate Influenza A subtypes. This method is of limited value in the monitoring of an ongoing influenza pandemic. Its greatest use is to provide historical population data for epidemiological analysis of prevalence of infection during the pandemic.

V. Appendices

Reference Testing Guidelines

UPHL and other local certified laboratories may conduct initial testing on patient specimens for Influenza A or potential highly pathogenic strains, if laboratory capacity is available and proper biosafety protocols are addressed. Due to the spread of avian influenza A (H5N1) in poultry in Asia and other countries, laboratories should be alert for avian and human H5 viruses or any other new and potentially highly pathogenic strain of influenza viruses. Procedures for diagnosis of human cases of Influenza A (H5N1) are provided in Appendix 2. Influenza A viruses other than currently circulating H1 and H3 subtypes should be considered as potentially pandemic if detected in humans (see Appendix 3).

**TABLE 1: Use of diagnostic assays during an influenza pandemic**

Public health, veterinary and clinical laboratories will use different types of diagnostic tests for influenza at different states of a pandemic. Each of the tests discussed below is described in detail in Appendix 1.

**Virus Isolation**

Virus isolation, growing the viral strain in culture, is the "gold standard" for influenza diagnostics because it confirms the virus is infectious. During a pandemic, virus isolation, followed by antigenic and genetic (sequencing) analysis will be used to characterize the earliest pandemic isolates, as well as monitor their evolution during the pandemic. Laboratories that participate in the WHO Global Influenza Surveillance Network, such as UPHL, typically use virus isolation followed by hemagglutination inhibition (HAI), IFA staining, or RT-PCR to monitor circulating seasonal strains of influenza virus. If clinical and epidemiological data suggest that a human case of influenza might be due to infection with avian influenza A (H5N1) or another highly pathogenic avian influenza strain (see Table 3), the virus should not be cultured except under BSL3 conditions with enhancements. Laboratories that lack BSL3 enhanced facilities may either perform RT-PCR subtyping using BSL2 procedures...
containment procedures or coordinate with UPHL to send the specimen to CDC for isolation and characterization.

**Immunofluorescent Antibody Staining**

IFA staining following virus isolation can be used to identify influenza types (A & B) and influenza A HA subtypes using a panel of specific antisera. In some cases, IFA can be used for direct testing of cells pelleted from original clinical samples. CDC's Influenza Branch produces and distributes a reagent kit to WHO collaborating laboratories that includes monoclonal antibodies for typing and subtyping currently circulating influenza viruses by IFA. Many laboratories use commercially available reagents to type influenza viruses by direct immunofluorescence tests (DFA).

**RT-PCR**

Influenza specimens may also be typed and subtyped using RT-PCR, which does not require *in vitro* growth or isolation of the virus. UPHL scientists are capable of using RT-PCR to identify human and avian HA (hemagglutinin) subtypes of public health concern. Association of Public Health Laboratories (APHL) members may access protocols and sequences of primers and probes used for influenza subtyping from the APHL website. UPHL is the Utah member to the national Laboratory Response Network (LRN) and has access to CDC's influenza RT-PCR subtyping protocols from the secured LRN website. Other RT-PCR protocols for avian influenza subtypes are available from the Utah Veterinary Diagnostic Laboratory in Logan.

**Serologic Tests**

Tests base on detection of antibodies in patient sera—e.g. enzyme-linked immunosorbent assays (ELISA), HAI, and microneutralization assay—can be used to retrospectively confirm influenza infection. Although microneutralization assay is the most comprehensive test for detection in humans of antibodies to avian influenza viruses, it is currently not available at UPHL.

**Rapid Diagnostic Tests**

Several rapid diagnostic test kits base on antigen detection are commercially available for influenza. Laboratories in outpatient settings and hospitals can use these tests to detect influenza sometimes within 30 minutes. Some test kits can detect Influenza A viruses (including avian strains); others can detect Influenza A & B without distinguishing between them; and some can distinguish between A & B viruses but not the avian subtypes. The type of specimen used for any particular rapid test kit (e.g. nasopharyngeal wash/aspirate, nasopharyngeal swab, or throat swab) must be followed as per the kit vendor's instructions for testing to be valid.

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Substituting another specimen type may produce less than desirable results to even erroneous results. Rapid diagnostic tests do not require the *in vitro* growth or isolation of the virus. During a pandemic rapid test kits will be widely used to distinguish Influenza A from other respiratory illnesses (See Appendix 6 for additional information).

**TABLE 2: Laboratory support for seasonal influenza surveillance**

**U.S. Collaborating Laboratories of the WHO Global Influenza Surveillance Network.**

All state public health laboratories, including UPHL, as well as some tertiary-care hospital and academic center laboratories, participate in providing through CDC to the network specimen testing and laboratory data about currently circulating influenza strains. These data are used to develop recommendations for the formulation of each year's influenza vaccines, as well as to detect new human influenza viruses that might have pandemic potential. CDC's Influenza Branch Laboratory serves as the WHO Collaborating Center for Surveillance, Epidemiology, and Control of Influenza, along with the WHO Collaborating Centers for Reference and Research on Influenza in Australia, Japan, and the United Kingdom. The U.S.-based center provides CDC with weekly reports of laboratory-confirmed cases of Influenza A & B viruses by age group. These laboratories typically use virus isolation followed by antigenic testing with IFA or HAI staining or RT-PCR, to identify known subtypes of human influenza virus. If unusual subtypes are detected, or if the specimens cannot be subtyped using available techniques, the specimens are sent to CDC for further testing. UPHEL sends several Influenza A & B specimens to CDC on a year round basis to assist in monitoring the circulating virus. UDOH Epidemiology and Local Health Districts also assist in setting up sentinel clinic sights, where participants from representative areas throughout the state collect specimens from patients with influenza-like illness to be sent to UPHEL for influenza testing.

**TABLE 3: Avian influenza strains with high and low pathogenicity**

The U.S. Department of Agriculture (USDA) classifies avian influenza viruses as low pathogenic avian influenza (LPAI) viruses or highly pathogenic avian influenza (HPAI) viruses, based on characteristics of a virus' hemagglutinin cleavage site or its virulence to birds, as determined by laboratory testing. LPAI strains are endemic in wild birds worldwide and are responsible for most avian influenza outbreaks in poultry. LPAI strains with H5 and H7 subtypes sometimes evolve into highly pathogenic forms. HPAI strains are extremely contagious and cause severe illness and high mortality rates in poultry.

LPAI strains include:
- H5N2, the cause of poultry outbreaks in New York, Maine, and California in 2002.
- H7N2, the cause of poultry outbreaks in Delaware, Maryland, and New Jersey in 2004.

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HPAI strains include:
- H5N1, the cause of major poultry outbreaks in Southeast Asia and elsewhere.
- H7N7, the cause of a 2003 outbreak in the Netherlands
- H7N3, the cause of a 2004 outbreak in British Columbia
- H5N2, the cause of a 2004 outbreak in poultry in Texas

The 2004 outbreak in Texas was the first HPAI outbreak in the United States since a previous outbreak of H5N2 in 1983-84 in the northeastern United States. The 1983-1984-disease control effort involved the destruction of approximately 17 million birds and cost more than $70 million.

Although avian influenza A viruses do not usually infect humans, several instances of human infections of avian influenza have been reported since 1997. Cases of avian influenza infection in humans are apparently caused by contact with infected poultry, or with surfaces contaminated with avian influenza virus. The few instances of apparent human-to-human transmission have been associated with very close contact to the sick person such as seen in patient care.

LPAI strains associated with human infection include:
- H9N2, which caused three cases of human illness in Hong Kong between 1999 and 2003 and other cases in China in 1998-1999.
- H7N2, which was detected serologically in one person involved in culling chickens during the response to a poultry outbreak in Virginia in 2002, and also was isolated from a New York resident in 2003 (exposure unknown).

HPAI strains associated with human infection include:
- H5N1, which has caused several hundred deaths in Southeast Asia and elsewhere and is still causing sporadic human illness in certain countries.
- H7N7, which caused the death of a veterinarian as well as 83 cases of mild human disease (including conjunctivitis) during the 2003 poultry outbreak in the Netherlands.
- H7N3, which caused 2 cases of very mild human disease (conjunctivitis, headache) in persons culling sick poultry in British Columbia in 2004.

LPAI and HPAI viruses are illnesses of birds and their pathogenicity status is based on the ability of the virus to infect and kill birds and is not related to human infection (even if the virus can infect humans on a sporadic basis).

Appendix 1
Influenza diagnostic assays

Among the several types of assays used to detect influenza, rapid antigen tests, reverse-transcription polymerase chain reaction (RT-PCR), viral isolation, immunofluorescence assays (IFA), and serology are the most commonly used. The sensitivity and specificity of any test for influenza will vary by the laboratory that performs the test, the type of test used, the type and manner of specimen collected, and the shipping and storage of specimens before testing. The World
Health Organization has a comprehensive list of many FDA approved rapid influenza test kits at
When using a laboratory report to determine if a patient has influenza, it is important to know what methodology was used in the testing and what exactly was looked for in the test (e.g. was a rapid kit used that only detected current circulating subtypes of influenza A virus H1 and H3 and is not able to detect novel strains such as H5).

**Virus Isolation**

*Biocontainment level: BSL-3 with enhancements during the Interpandemic and Pandemic Alert periods; Pandemic period- BSL-2 may be used.*

Virus isolation is a highly sensitive and very useful technique when the clinical specimens are of good quality and have been collected in a timely manner (optimally 3 days from within the start of illness). Isolation of a virus in cell culture along with the subsequent identification of the virus by immunologic or genetic techniques are standard methods for virus diagnosis. Virus isolation amplifies the amount of virus from the original specimen, making a sufficient quantity of virus available for further antigenic and genetic characterization and for drug-susceptibility testing if required. Virus isolation is considered the "gold standard" for diagnosis of influenza virus infections.

Highly pathogenic avian influenza (HPAI) viruses are BSL-3 agents. During the Interpandemic and Pandemic Alert Periods, laboratories should only attempt to isolate the virus under BSL-3 enhanced conditions to optimally reduce the risk of novel influenza virus subtypes spreading to persons or animals. During the Pandemic Period, BSL-2 is appropriate to prevent laboratory-acquired infection and the virus is already widespread.

In recent years, the use of cell lines has surpassed the use of embryonated eggs for culturing of influenza viruses, although only viruses grown in embryonated eggs are used as seed viruses are used as seed viruses for vaccine production (this may be changing as genetic engineering techniques become useful for mass production). Because standard isolation procedures require several days to yield results, these assays should be used in combination with the spin-amplification shell-vial method. The results of these assays can be obtained in 24-72 hours, compared to an average of 4-5 days using standard culture techniques. Spin-amplification should not be performed using 24-well plates because of increased risk of cross-contamination. The most effective combination of cell lines recommended for public health laboratories is primary rhesus monkey for standard culture, along with Madin Darby Canine Kidney (MDCK) in shell vial. The use of these two cell lines in combination has demonstrated maximum sensitivity over time for recovery of evolving influenza strains. Some clinical laboratories have recently reported good isolation rates using commercially
available cell-line mixed-cell combinations, however data is lacking on performance of these mixed cells with new subtypes of Influenza A viruses. Appropriate clinical specimens for virus isolation include nasal washes, nasopharyngeal aspirates, nasopharyngeal swabs, oropharyngeal swabs, tracheal aspirates and bronchoalveolar lavage. Throat swabs may be appropriate depending on the pathophysiology of the pandemic strain virus (e.g. the current H5N1 seems to have a high viral load in the throat and oropharyngeal specimens are the preferred specimen but throat swabs may also be used). Consideration as to specimen collection method should include thought to infection control if collection techniques are invasive and likely to generate aerosols. Ideally, specimens should be collected within 72 hours of the onset of illness. Viral culture isolates are used to provide specific information regarding circulating influenza subtypes and strains. This information is needed to compare current circulating influenza strains with vaccine strains for the coming year. Virus isolates are also needed to monitor the emergence of antiviral resistance and of novel influenza A subtypes that might pose a pandemic threat. During outbreaks of influenza-like illness, viral culture may help identify other causes of illness when influenza is not the etiology (except when using MDCK cells or the MDCK shell-vial technique).

**Immunofluorescence Assays**

*Biocontainment level: BSL-2 when performed directly on clinical specimens; if used on cultures for earlier detection of virus, biocontainment levels for viral culture apply.*

Direct (DFA) or indirect (IFA) immunofluorescence antibody staining of virus-infected cells is a rapid and sensitive method for diagnosis of influenza and other viral infections. DFA and IFA can also be used to type and subtype influenza viruses using commercially available monoclonal antibodies specific for the influenza virus HA. The sensitivity of these methods is greatly influenced by the quality of the isolate, the specificity of the reagents used, and the experience of the person(s) performing, reading, and interpreting the test.

Although IFA can be used to stain smears of clinical specimens directly, when rapid diagnosis is needed, it is preferable to first increase the amount of virus through growth in cell culture. For HPAI isolates, attempts to culture the virus should be made only under BSL-3 enhanced conditions.

**Reverse-Transcription Polymerase Chain Reaction (RT-PCR)**

*Biocontainment level: BSL-2*

PCR can be used for rapid detection and subtyping of influenza viruses in respiratory specimens. Because the influenza genome consists of single-stranded RNA, a complementary DNA (cDNA) copy of the viral RNA must be synthesized using the reverse-transcriptase (RT) enzyme prior to the PCR reaction.
APHL and LRN members (including UPHL) can obtain CDC protocols and sequences of primers and probes for rapid RT-PCR detection of human and avian influenza subtypes of current concern. These protocols use real-time RT-PCR methods with fluorescent-labeled primers that allow automatic, semi-quantitative estimation of the input template. The RT-PCR results are analyzed and archived electronically, without the need for gel electrophoresis and photographic recording. A large number of samples may be analyzed at the same time, reducing the risk of carry-over contamination. As with all PCR assays, interpretation of test results must account for the possibility of false-negative and false-positive results. False-negative results can arise from poor sample collection or degradation of the viral RNA during shipping or storage. Application of appropriate assay controls that identify poor-quality samples (e.g. an extraction control and an inhibition control) can help avoid most false-negative results. The most common cause of false-positive results is contamination with previously amplified DNA. The use of real-time RT-PCR helps mitigate this problem by operating as a contained system. A more difficult problem is the cross-contamination that can occur between specimens during collection, shipping, and aliquating in the laboratory. Use of multiple negative control samples in each assay and a well-designed plan for confirmatory testing can help ensure that laboratory contamination is detected and the negative specimens are not inappropriately identified as influenza-positive.

Specimens that test positive for a novel subtype of influenza virus should be forwarded to CDC for confirmatory testing and further characterization of the virus. (Because of the possibility of contamination, it is important to provide original clinical material). All laboratory results should be interpreted in the context of the clinical and epidemiological information available on the patient.

**Rapid Diagnostic Tests**

**Biocontainment level: BSL-2**

Commercial rapid diagnostic tests can be used in outpatient settings to detect influenza viruses, sometimes within 30 minutes. These rapid tests differ in the types of influenza viruses they can detect and in their ability to distinguish among influenza types. Different tests can 1) detect influenza A viruses only (including avian strains); 2) detect both influenza A and B viruses, without distinguishing between them; or 3) detect both influenza A and B viruses and distinguish between them.

The types of specimens acceptable for use (i.e. nasal wash/aspirate, nasopharyngeal swab, or throat swab) also vary by test kit used. The specificity and, in particular, the sensitivity of rapid tests are lower than for viral culture and vary by test and specimen tested. The majority of rapid tests are >70% sensitive and >90% specific. Thus, as many as 30% of samples that would be positive for influenza by viral culture may give a negative rapid test result with these kits. When interpreting results of a rapid influenza test, physicians should consider the level of influenza activity in the community. When influenza prevalence is low,
positive rapid test results should be independently confirmed by culture or RT-PCR. When influenza is known to be circulating, clinicians should consider confirming negative tests with viral culture or other means because of the lower sensitivity of the rapid tests. Package inserts and the laboratory performing the test should be consulted for more details regarding use of rapid diagnostic tests. (see Appendix 6 for more information on rapid testing).

**Serologic Tests**

**Hemagglutination Inhibition (HAI)**

*Biocontainment level: BSL-2*

Serologic testing can be used to identify recent infections with influenza viruses. It can be used when the direct identification of influenza viruses is not feasible or possible (e.g., because clinical specimens for virus isolation cannot be obtained, cases are identified after shedding of virus has stopped, or the laboratory does not have the resources or staff to perform virus isolation). Since most human sera contain antibodies to influenza viruses, serologic diagnosis requires demonstration of a four-fold or greater increase in antibody titer using paired acute and convalescent serum samples. HAI is the preferred diagnostic test for determining antibody rises. In general, acute-phase sera should be collected within one week of illness onset, and convalescent sera should be collected 2-3 weeks later.

There are two exceptions in which the collection of single serum samples can be helpful in the diagnosis of influenza. In investigations of outbreaks due to novel viruses, testing of single serum samples has been used to identify antibody to the novel virus. In other outbreak investigations, antibody test results from single specimens collected from persons in the convalescent phase of illness have been compared with results either from age-matched persons in the acute phase of illness or from non-ill controls. In such situations, the geometric mean titers between the two groups to a single influenza virus type or subtype can be compared. In general, these approaches are not optimal, and paired sera should be collected whenever possible.

Because HAI titers of antibodies in humans infected with avian influenza viruses are usually very low or even undetectable, more sensitive serologic tests, such as microneutralization, may be needed.

**Microneutralization Assay**

*Biocontainment level: Interpandemic and Pandemic Alert periods-BSL-3 with enhancements; Pandemic period-BSL-2.*

The virus neutralization test is a highly sensitive and specific assay for detecting virus-specific antibody in animals and humans. The neutralization test is performed in two steps: 1) a virus-antibody reaction step, in which the virus is
mixed with antibody reagents, and 2) an inoculation step, in which the mixture is inoculated into a host system (e.g. cell cultures, embryonated eggs, or animals). The absence of infectivity constitutes a positive neutralization reaction and indicates the presence of virus-specific antibodies in human or animal sera. The virus neutralization test gives the most precise answer to the question of whether or not a person has antibodies that can neutralize the infectivity of a given virus strain. The neutralization test has several additional advantages for detecting antibody to influenza virus. First, the assay primarily detects antibodies to the influenza virus HA and thus can identify functional, strain-specific antibodies. Second, since infectious virus is used, the assay can be developed quickly upon recognition of a novel virus and before suitable purified viral proteins become available for use in other assays.

The microneutralization test is a sensitive and specific assay for detecting virus-specific antibody to avian influenza A (H5N1) in human serum and potentially for detecting other avian subtypes. Microneutralization can detect H5-specific antibody in human serum at titers that cannot be detected by HAI. Because antibody to avian influenza subtypes is presumably low or absent in most human populations, single serum samples can be used to screen for the prevalence of antibody to avian viruses. However, if infection of humans with avian viruses is suspected, the testing of paired acute and convalescent sera in the microneutralization test would provide a more definitive answer regarding the occurrence of infection. Conventional neutralization tests for influenza viruses based on the inhibition of cytopathogenic effect (CPE)-formation in MDCK cell cultures are laborious and slow, but in combination with rapid culture assay principles the neutralization test can yield results within 2 days. For HPAI viruses, neutralization tests should be performed at BSL-3 enhanced conditions. (This test is not available at UPHL but is available at CDC).
Appendix 2
Interim CDC recommendations: enhanced U.S. surveillance and diagnostic evaluation to identify cases of human infection with avian influenza A (H5N1).

NOTE: This guidance pertains to the avian influenza A (H5N1) situation in October 2005. CDC will provide updated guidance for new situations as needed through the Health Alert Network (HAN).

Enhanced surveillance efforts by state and local health departments, hospitals, clinicians and other partners are needed to identify patients at increased risk for influenza A (H5N1). Interim recommendations include the following:

Testing for avian influenza A (H5N1) is indicated in hospitalized patients with:

Radiographically confirmed pneumonia, acute respiratory distress syndrome (ARDS), or other severe respiratory illness for which an alternative diagnosis has not been established AND history of travel within 10 days of symptoms onset to a country with documented avian influenza A (H5N1) infections in poultry and/or humans.

or

Testing should be considered on a case-by-case basis in consultation with state and local health departments for hospitalized or ambulatory patients with:

- Documented temperature of >100.4° F (>38° C), AND
- One or more of the following: cough, sore throat, or shortness of breath, AND
- History of close contact either with poultry (e.g. visited a poultry farm, a household raising poultry, or a bird market, or associated with cock fighting venues) in an H5N1-infected country, or with a known or suspected human case of influenza A (H5N1) within 10 days prior to onset of symptoms or a laboratory worker known to have worked in a lab where H5N1 viruses were actively being researched.
Appendix 3
Reference testing guidelines for potential pandemic strains of influenza

State and local laboratories may conduct initial testing on patient specimens for influenza A or potential highly pathogenic strains, if laboratory capacity is available. Due to the spread of avian influenza A (H5N1) in poultry in Asia and other countries, laboratories should be on the alert for avian and human H5 viruses. Procedures for diagnosis of human cases are provided in Appendix 2. Influenza A viruses other than currently circulating H1 and H3 subtypes should also be considered as potentially pandemic if detected in humans.

UPHL will send or coordinate sending specimens to CDC if a sample tested is positive for H5 or another novel subtype.

Note: A laboratory should test for influenza A (H5) only if it is able to do so by PCR or has a BSL-3 enhanced facility. (UPHL is able to test by PCR).

or

A sample from a patient who meets the clinical and epidemiologic criteria for possible infection with a potentially pandemic virus is positive for influenza A by RT-PCR or rapid antigen detection, is negative for influenza A (H1) and (H3), and the referring jurisdiction is not equipped to test for the specific strain.

Shipping procedures for potential pandemic strains of influenza are provided in Appendix 5.
Appendix 4
Laboratory biosafety guidelines for handling and processing specimens or isolates of novel influenza strains

Key Messages:

- Commercial antigen detection testing for influenza may be conducted under BSL-2 containment conditions if a Class II biological safety cabinet is used.
- Clinical specimens from suspected novel influenza cases may be tested by RT-PCR using standard BSL-2 work practices in a Class II biological safety cabinet for initial processing of patient specimens. If a specimen is confirmed positive for influenza A (H5N1) by RT-PCR, additional testing should be performed only under BSL-3 enhanced conditions.
- CDC's Influenza Branch should be informed immediately by contacting the CDC director's Emergency Operations Center (DEOC) at 1-770-488-7100.
- Other partners should be notified as outlined in Appendix 8.
- A detailed description of recommended facilities, practices, and protective equipment for the various laboratory biosafety levels can be found in the CDC/NIH Biosafety in Microbiological and Biomedical Laboratories (MBML) manual (5th Ed.) at: http://www.cdc.gov/od/ohs/biosfty/bmbl5/bmbl5toc.htm
- BSL-3 with enhancements and Animal Biosafety Level 3 include: all BSL-3 practices and facilities, plus the use of negative-pressure, HEPA-filtered respirators or positive air-purifying (PAPR) respirators, and clothing change with personal showering protocols. Additional practices and/or restrictions may be added as conditions of USDA-APHIS permits.
- Registration of personnel and facilities with the Select Agent Program is required for work with HPAI viruses, which are classified as agricultural select agents.
- UPHL will test clinical specimens from suspected novel influenza cases by RT-PCR using standard BSL-2 work practices in a Class II biological safety cabinet. DFA testing will also be performed at UPHL using BSL-2 conditions.
- HPAI (H5) and (H7) viruses are classified as select agents. USDA regulations require these viruses (as well as exotic LPAI viruses) be handled under BSL3 laboratory containment conditions, with enhancements (i.e. controlled-access double-door entry, change room and shower, use of respirators, decontamination of all wastes and showering of all personnel). Laboratories that work with these viruses must be certified by USDA.
• Laboratories should not perform virus isolation on respiratory specimens from patients who may be infected with avian influenza unless stringent BSL-3 enhanced containment conditions can be met and diagnostic work can be kept separate from studies with other human influenza A viruses (i.e. H3 & H1). Therefore, respiratory virus cultures should not be performed in most clinical laboratories.

• Cultures for patients suspected of having influenza A (H5N1) infection should be sent only to state laboratories that have enhance BSL-3 facilities. UPHL does not have such facilities and will coordinate the transfer of specimens to CDC if viral culture is needed.
Appendix 5

Key Messages

- Appropriate specimens for influenza testing vary by type and test.
- Check with the laboratory, which will do the actual testing, before specimens are collected to ensure the correct ones are collected using the appropriate materials (e.g. do not use calcium alginate or swabs with wooden sticks if RT-PCR testing is desired. These swabs have substances that inhibit the PCR reaction.
- Use Dacron or Rayon swabs or whichever material is recommended by the testing laboratory).
- Before collecting specimens, review infection control precautions to minimize the spread of virus.

I. RESPIRATORY SPECIMENS

At least nine types of respiratory specimens may be collected for viral and/or bacterial diagnostics: 1) nasopharyngeal wash/aspirates, 2) nasopharyngeal swabs, 3) oropharyngeal swabs, 4) broncheoalveolar lavage, 5) tracheal aspirate, 6) pleural fluid tap, 7) sputum, 8) autopsy specimens, and 9) throat swabs. Nasopharyngeal wash/aspirates are the specimen of choice for detection of most respiratory viruses and are the preferred specimen type for children aged<2 years. For the current H5N1 virus, an oropharyngeal swab is the preferred specimen. Respiratory specimens for the detection of most respiratory pathogens, and influenza in particular, are optimally collected within the first 3 days from the onset of illness.

A. Collecting specimens from the upper respiratory tract

1. Nasopharyngeal wash/aspirate
   - Have the patient sit with head tilted slightly backward
   - Instill 1-1.5 mls. of nonbacteriostatic saline (pH 7.0) into one nostril.
   - Flush a plastic catheter or tubing with 2-3 mls. of saline. Insert the tubing into the nostril parallel to the palate. Aspirate nasopharyngeal secretions. Repeat this procedure for the other nostril. Collect the specimen in sterile vials. Label each specimen container with the patient's name and date collected.
   - If shipping domestically, use cold packs to keep the sample at 4º C. If shipping internationally, pack in dry ice (see shipping instructions below).

2. Nasopharyngeal or Oropharyngeal swabs
   - Use only sterile Dacron or Rayon swabs with plastic shafts. Do not use calcium alginate swabs or swabs with wooden sticks, as they may contain...
substances that inactivate some viruses and inhibit PCR testing.
- To obtain a nasopharyngeal swab, insert a swab into the nostril parallel to the palate (roof of the mouth). Leave the swab in place for several seconds so absorb secretions (swab may also be twirled). Swab both nostrils. For testing purposes it may be advantageous to have two swabs, one for each nostril.
- To obtain an oropharyngeal swab, swab the posterior pharynx and tonsillar areas avoiding the tongue.
- Place the swabs immediately into sterile vials containing viral transport media (there should be enough media to cover the swab - about 2 mls.). Break the applicator sticks off near the tip to permit the tightening of the cap. Make sure the cap is on tight to prevent leakage or contamination. Label each individual tube with the patient's name and date of collection.
- If shipping domestically, use cold packs to keep the sample at 4º C. If shipping internationally, pack in dry ice.

(Fresh frozen unfixed tissue specimens may be submitted for RT-PCR)

B. Collecting specimens from the lower respiratory tract

1. Bronchoalveolar lavage, tracheal aspirate, or pleural fluid tap
   - During bronchoalveolar lavage or tracheal aspirate, use a double-tube system to maximize shielding from oropharyngeal secretions.
   - Centrifuge half of the specimen, and fix the cell pellet in formalin. Place the remaining unspun fluid in sterile vials with external caps and internal O-ring seals. If there is no internal O-ring seal, then seal tightly with the available cap and secure with Parafilm. Label each specimen container with the patient's name and specimen collection date.
   - If shipping domestically, use cold packs to keep the sample at 4º C. If shipping internationally, ship fixed cells at room temperature and unfixed cells frozen (see shipping instructions below).

2. Sputum
   - Educate the patient about the difference between sputum and oral secretions.
   - Have the patient rinse the mouth with water and then expectorate deep cough sputum directly into a sterile, screw-cap sputum collection cup or sterile, dry container.
   - If shipping domestically, use cold packs to keep the sample at 4º C. If shipping internationally, pack in dry ice (see shipping instructions below).

II. BLOOD COMPONENTS

Both acute and convalescent serum specimens should be collected for antibody testing. Collect the convalescent serum specimen 2-4 weeks after the onset of illness. To collect serum for antibody testing:
   - Collect 5-10 mls. of whole blood in a serum separator tube (SST). Allow the
blood to clot, centrifuge and collect the serum in vials with external caps and internal O-ring seals. If there is not internal O-ring seal, then secure the available cap on tightly and wrap with Parafilm.

- The minimum amount of serum preferred for each test is 200 microliters, which can easily be obtained from 5 mls. of whole blood. A minimum of 1 cc of whole blood is needed for testing pediatric patients. If possible, collect 1 cc in an EDTA tube and also one cc in a clotting tube. If only 1 cc can be obtained, use a clotting tube.

- Label each specimen container with the patient's name and specimen collection date.

- If unfrozen and shipped domestically, ship with cold packs to keep the sample at 4º C.

- If frozen or transported internationally, ship on dry ice.

### III. AUTOPSY SPECIMENS

CDC can perform immunohistochemical (IHC) staining for influenza A (H5) viruses on autopsy specimens. Viral antigens may be focal and sparsely distributed in patients with influenza and are most frequently detected in respiratory epithelium of large airways. Larger airways (particularly primary and segmental bronchi) have the highest yield for detection of influenza viruses by IHC staining. Collection of the appropriate tissues ensures the best chance of detecting the virus by IHC stains.

- If influenza is suspected, a minimum total of 8 blocks or fixed-tissue specimens representing samples from each of the following sites should be obtained and submitted for evaluation:
  - Central (hilar) lung with segmental bronchi
  - Right and left primary bronchi
  - Trachea (proximal and distal)
  - Representative pulmonary parenchyma from right and left lung

In addition, representative tissues from major organs should be submitted for evaluation. In particular, for patients with suspected myocarditis or encephalitis - specimens should include myocardium (right and left ventricle) and CNS (cerebral cortex, basal ganglia, pons, medulla, and cerebellum). Specimens should be included from any other organ showing significant gross or microscopic pathology. Specimens may be submitted as:

- Fixed, unprocessed tissue in 10% buffered formalin, or
- Tissue blocks containing formalin-fixed, paraffin-embedded specimens, or
- Unstained sections cut at 3 microns placed on charged glass slides (10 slides per specimen).

- Specimens should be sent at room temperature (NOT FROZEN).
- Fresh-frozen unfixed tissue specimens may be submitted for RT-PCR.
- Include a copy of the autopsy report (preliminary, or final if available), and cover letter outlining a brief clinical history and the submitter's full name, title, complete mailing address, phone, and fax numbers, in the event that CDC pathologists require further information. Referring pathologists may direct specific questions to CDC pathologists.

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IV. SHIPPING INSTRUCTIONS

Local health departments, pathologists, or medical examiners should call UPHL, who will coordinate with CDC before sending specimens for influenza A reference testing. CDC hotline staff will notify a member of the Influenza Branch, who will contact UDOH- Epidemiology/UPHL to answer questions and provide guidance. In some cases, UPHL may arrange for a clinical laboratory to send samples directly to CDC.

Specimens should be sent by Priority Overnight Shipping for receipt within 24 hours. Samples (such as fresh-frozen autopsy samples for RT-PCR or other clinical materials) may be frozen at -70º C. if the package cannot be shipped within the specified time (e.g. if the specimen is collected on a Friday but cannot be shipped until Monday).

When sending clinical specimens, include the specimen inventory sheet (see below), include the assigned CDC case ID number, and note "Influenza surveillance" on all materials and specimens sent.

Include the CDC case ID number on all materials forwarded to CDC. Protocols for standard interstate shipment of etiologic agents should be followed, and are available at [http://www.cdc.gov/od/ohs/biosfty/shipregs.htm](http://www.cdc.gov/od/ohs/biosfty/shipregs.htm). All shipments must comply with current Department of Transportation (DOT) and International Air Transport Association (IATA) shipping regulations.
Influenza Specimen Inventory Sheet

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Carrier:  Tracking #:  

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Appendix 6
Rapid diagnostic testing for influenza

The following information in this appendix is designed to assist clinicians and clinical laboratory directors in the use of rapid diagnostic tests during interpandemic influenza seasons. During an influenza pandemic, one or more of these tests may be sensitive and specific enough to be used by clinicians to supplement clinical diagnoses of pandemic influenza. However, clinicians should be reminded that a negative test result might not rule out pandemic influenza and should not affect patient management or infection control decisions.

I. INFORMATION FOR CLINICIANS

A. Background

Rapid diagnostic tests for influenza can help in the diagnosis and management of patients who present with signs and symptoms compatible with influenza. They also are useful for helping to determine whether institutional outbreaks of respiratory disease might be due to influenza. In general, rapid diagnostic testing for influenza should be done when the results will affect a clinical decision. Rapid diagnostic tests can provide results in as little as 30 minutes.

B. Reliability and interpretation of rapid test results

The reliability of rapid diagnostic tests depends largely on the conditions under which they are used. Understanding some basic considerations can minimize being misled by false-positives or false-negative results.

Median sensitivities of rapid diagnostic tests are generally ~70%-75% when compared with viral culture, but median specificities of rapid diagnostic tests for influenza are approximately 90%-95%. False-positive (and true negative) results are more likely to occur when disease prevalence in the community is low, which is generally at the beginning and end of the influenza season. False-negative (and true positive) results are more likely to occur when disease prevalence is high in the community, which is typically at the height of the influenza season.

C. Minimizing the occurrence of false results

- Use rapid diagnostic tests that have high sensitivity and specificity.
- Collect specimens as early in the illness as possible (within 4-5 days of symptoms onset).
- Follow the manufacturer's instructions, including those for handling of specimens.
- Consider sending specimens for viral culture when:
- Community prevalence of influenza is low and the rapid diagnostic test result is positive, or
• Disease prevalence is high but the rapid diagnostic test result is negative.
• Contact your local health department or Utah Department of Health for information about influenza activity.

II. INFORMATION FOR CLINICAL LABORATORY DIRECTORS

A. Background

Rapid diagnostic tests for influenza are screening tests for influenza virus infection; they can provide results within 30 minutes. These are to be distinguished from more complex test done by DFA or PCR, which yield results in 2-4 hours. The use of commercial influenza rapid diagnostic tests by laboratories and clinics has increased substantially in recent years. The World Health Organization has a comprehensive list of FDA approved rapid influenza test kits, and a comparison of features at http://www.who.int/csr/disease/avian_influenza/guidelines/RapidTestInfluenza_web.pdf

Rapid tests differ in some important aspects. Some can identify influenza A and B viruses and distinguish between them; some can identify influenza A and B viruses but cannot distinguish between them. Some tests are waived from requirements under the Clinical Laboratory Improvement Amendments of 1988 (CLIA). Most tests can be used with a variety of specimen types, but sensitivity and specificity can vary with specimen type. Rapid tests vary in terms of sensitivity and specificity when compared with viral culture. Product insert information and research publications indicate that median sensitivities are approximately 70-75% and median specificities are 90-95%. Specimens to be used with rapid tests generally should be collected as close as possible to the start of symptoms and usually no more than 4-5 days later in adults. In very young children, influenza viruses can be shed for longer periods; therefore, in some instances, testing for a few days after this period may still be useful. Test sensitivity will be greatest in children, who generally have higher viral titers, if the specimen is obtained during the first 2 days of illness, and if the clinician or laboratory has more experience performing the test. The quality of the specimen tested also is critical for test sensitivity.

B. Accuracy depends on disease prevalence

The positive and negative predictive values of rapid tests vary considerably depending on the prevalence of influenza in the community. False-positive (and true negative) influenza test results are more likely to occur when disease prevalence is low, which is generally at the beginning and end of the influenza season. False-negative (and true positive) influenza test results are more likely to occur when disease prevalence is high, which is typically at the height of the influenza season.

1. Clinical considerations when influenza prevalence is low

When disease prevalence is low, the positive-predictive value (PPV) is low and false-positive test results are more likely. By contrast, the negative-predictive value (NPV) is high when disease prevalence is low, and negative results are likely to be truly negative.
If flu prevalence is... and specificity is... then PPV is...     false-positive rate is...

VERY LOW (2.5%)      POOR (80%)        VERY POOR (6-12%)     VERY HIGH (88-94%)
VERY LOW (2.5%)      GOOD (98%)       POOR (39-56%)        HIGH (44-61%)
MODERATE (20%)       POOR (80%)       POOR (38-56%)        HIGH (44-62%)
MODERATE (20%)       GOOD (98%)       GOOD (86-93%)        LOW (7-14%)

Interpretation of positive results should take into account the clinical characteristics of the case-patient. If an important clinical decision is affected by the test result, the rapid test result should be confirmed by another test such as viral culture or PCR.

2. Clinical considerations when influenza prevalence is high

When disease prevalence is relatively high, the NPV is low and false-negative results are more likely. By contrast, when disease prevalence is high, the PPV is high and positive results are more likely to be true.

If flu prevalence is... and sensitivity is... then NPV is...     false-negative rate is...

MODERATE (20%)      POOR (50%)       MODERATE (86-89%)     MODERATE (88-94%)
MODERATE (20%)      HIGH (90%)       VERY GOOD (97-99%)    VERY LOW (2-3%)
HIGH (40%)          POOR (50%)       MODERATE (70-75%)     MODERATE (25-30%)
HIGH (40%)          HIGH (90%)       VERY GOOD (93-94%)    LOW (6-7%)

Interpretation of negative results should take into account the clinical characteristics of the case-patient. If an important clinical decision is affected by the test result, the rapid test result should be confirmed by another test such as viral culture or PCR.

C. Selecting tests

Selection of a test should take into consideration several factors, such as the types of specimens that are considered optimal for that test, storage conditions and expiration date of kits. Also, tests with high sensitivity and specificity will provide better positive and negative predictive values. Information about test characteristics is provided in product inserts, scientific articles and by the manufacturer.

D. Changes in recommended procedures can affect test results

Modification by the user can affect test performance and increase false-positive and/or false-negative rates. Such modifications include using specimen types for which the test is not optimized or using swabs that did not come with the rapid test kit (unless allowed by the manufacturer). Temperature requirements for storage of the kit and the specimen, as well as running the test should be followed.

E. Conditions for when rapid diagnostic test may be beneficial

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Uses of rapid diagnostic tests are beneficial in situations such as the following:

- To test cases during an outbreak of acute respiratory disease to determine if influenza is the cause, or
- To test selected patients during the influenza season, or
- In the fall or winter, to test selected patients presenting with respiratory illnesses compatible with influenza to help establish whether influenza is present in a specific population and to guide healthcare providers in diagnosing and treating respiratory illness.

In general, the exclusive use of rapid tests does not address the public health need for obtaining viral isolates so that influenza virus strain subtyping and characterization can be conducted to monitor antigenic and genetic changes.

During an influenza pandemic, some rapid diagnostic tests may be able to detect the pandemic strain with adequate sensitivity and specificity. Rapid tests can be used by physicians to supplement clinical diagnoses of pandemic influenza.

Physicians should be reminded that a negative test result might not rule out influenza and should not affect patient management or infection control decisions.
Appendix 7
Guidelines for medical surveillance of laboratory/research personnel working with novel strains of influenza, including avian strains and other strains with pandemic potential.

Key Messages
- Laboratory workers should receive training on the appropriate biosafety level for the type of work being performed.
- Before working with avian influenza A viruses, including highly pathogenic strains, laboratory workers should have a baseline serum sample obtained and stored for future reference.
- Workers in laboratories that contain avian influenza A viruses should report any fever or lower respiratory symptoms to their supervisors. Workers should be evaluated for possible exposures, and the clinical features and course of the illness should be closely monitored.
- Laboratory workers who are believed to have had a laboratory exposure to an avian influenza A virus or other highly pathogenic strain should be evaluated, counseled about the risk of transmission to others, and monitored for fever or lower respiratory symptoms as well as any of the following: sore throat, rhinorrhea, chills, rigors, myalgia, headache, and diarrhea.
- UDOH and/or local health districts should be notified promptly of laboratory exposures and illnesses in exposed laboratory workers. Medical surveillance of laboratory personnel can help to ensure that workers who are at risk of occupational exposure to avian influenza viruses or other novel animal or human influenza strains and who develop symptoms of illness receive appropriate medical evaluation and treatment, both for the benefit of their health and to prevent further transmission for the public's health.

I. PREREQUISITES FOR WORKING WITH NOVEL AVIAN OR HUMAN INFLUENZA VIRUSES

A. Baseline serum samples

Before working with novel avian or human (animal) influenza viruses, laboratory workers should have a baseline serum sample obtained and stored for future reference.

B. Influenza vaccine

Laboratories should offer the current inactivated influenza vaccine to laboratory personnel. Its use is especially encouraged for personnel working with avian viruses in BSL-3 enhanced laboratory conditions and for those who may be exposed to these viruses in the field. Immunization might reduce the chance of illness from exposure to human influenza viruses currently circulating in the community that could lead to confusion in monitoring for avian influenza A virus.
infection. Vaccines against novel influenza A viruses (e.g. H5N1) are undergoing clinical trials and might be available in the future.

C. Oseltamivir prophylaxis

- It is not necessary to require oseltamivir for laboratory research personnel working with highly pathogenic influenza strains. It is encouraged for those doing animal experiments only for the time they are working with animals, especially ferrets.
- When considering oseltamivir prophylaxis, be sure to evaluate appropriate candidates for contraindications, answer their questions, review adverse effects, and explain the benefits.
- Maintain a log of persons on oseltamivir, persons evaluated and not on oseltamivir, doses dispensed, and other adverse effects.
- Periodically evaluate and update oseltamivir policies and procedures.

D. Post-exposure prophylaxis

Conditions for use of oseltamivir for post-exposure prophylaxis include a known or suspected laboratory exposure to live avian influenza virus, including highly pathogenic strains, for a person not on oseltamivir. Appropriate healthcare personnel should be available to evaluate immediately and dispense oseltamivir if the exposure occurs during working hours. If exposure occurs after working hours, an exposed laboratory person should present to the Emergency Department and, after evaluation, communicate with UDOH or CDC for recommendations.

II. MANAGEMENT OF INFLUENZA-LIKE ILLNESS IN PERSONNEL WITH POSSIBLE EXPOSURE TO NOVEL AVIAN OR HUMAN INFLUENZA VIRUSES.

A. General procedures

- Maintain a daily sign-in/out sheet to record name, date, time in/out, use of oseltamivir, and brief description of job tasks. This record will facilitate retrospective documentation if an illness occurs.
- Workers should report any influenza-like illness and any potential laboratory exposures to the supervisor.

B. Evaluation and treatment

1. During regular working hours

- The affected employee should notify the supervisor. The supervisor should immediately contact the appropriate healthcare personnel and facility contacts (e.g. occupational health, infection control or designee).

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Upon arrival at the designated clinic, the employee should be placed in a private room for isolation where a healthcare provider can provide consultation and evaluation.

The healthcare provider should obtain respiratory specimens (e.g. nasopharyngeal swab or aspirate) for viral culture. A rapid antigen test, with the ability to differentiate between influenza A and B, should be used for initial diagnosis, followed by virus isolation.

Based on: 1) the rapid test results (if influenza A positive), 2) the status of oseltamivir prophylaxis, and 3) the clinical evaluation, the healthcare provider should determine whether the patient will return to work, be sent home, or be sent to an infectious disease consultant.

2. During working hours when the employee calls from home

- The employee should notify the supervisor. The supervisor should discuss the situation with the appropriate healthcare personnel and determine where and by whom the employee will be evaluated and specimens for viral culture will be obtained.
- The employee may come to an on-site clinic for evaluation or may elect to see a personal physician. If the employee chooses to see a personal physician, the on-site clinician should discuss with the personal physician the likelihood of a laboratory-acquired infection. The personal physician should be asked to collect specimens for antigen detection and viral culture.
- An employee who is not sick enough to be admitted to a hospital should remain at home under the care of a personal physician, pending results from the viral culture. If influenza A (H3N2) or A (H1N1) is identified, the employee should be advised and can resume normal activities as soon as symptoms subside.
- If avian influenza A (e.g. H5, H7, H9) is identified, the family and other contacts should be monitored for illness.
- Local public health officials should be notified about any confirmed avian influenza infections.

3. After working hours

- The employee should notify the supervisor. The supervisor should inform other persons as the situation dictates.
- If the employee is acutely ill with symptoms consistent with influenza, the employee and/or supervisor should contact the appropriate healthcare provider for instructions. The healthcare provider should conduct the initial evaluation and patient management.
- The supervisor should immediately ask the healthcare provider to collect specimens for rapid testing and viral culture.
- The employee should follow the advice of the healthcare provider with regards to further evaluation/treatment.
- Public health officials should be notified as appropriate by the situation.

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Appendix 8

Contact Information and Resources

I. NOTIFICATION AND COMMUNICATION ALGORITHM FOR AVIAN OR NOVEL PANDEMIC STRAIN OF INFLUENZA VIRUS DETECTION IN A LABORATORY

For pandemic surveillance purposes it is essential the proper risk communication and notification be done for public health response and intervention when a novel strain of influenza virus is detected. Laboratories should be familiar with and adhere to all regulatory requirements addressing disease reporting and/or specimen submission for influenza. UDOH currently has no means of electronic laboratory reporting by transfer of medical records or lab test results. Work is moving forward to develop an electronic reporting system starting with an exchange between Intermountain Health Care Institutions and UDOH. Until that system is complete and expanded to other hospital chains, reporting is done by phone, email, fax or mailed report.

A. Clinical Laboratories
   • Clinical laboratories should develop their own internal notification and communication protocols that ensure proper notice is given to management, infection control personnel, safety officers and public information officers (if appropriate).
   • Local health departments and/or the Utah Department of Health Epidemiologists should receive notification as soon as a novel strain of influenza is detected (or if available to the lab, a medical history/investigation implicates a suspect novel or avian influenza A).
   • Appropriate specimens should be sent to UPHL as soon as a novel influenza virus is detected. UPHL should be notified (24/7) that a specimen is being sent, by what means (e.g. courier, Fed Ex) and what time it is expected to arrive.
   • Local health departments and/or UDOH Epidemiology may assist in coordinating notification of UPHL staff and specimen shipping.
   • It is desirable that any communications with outside media/press be coordinated with partner laboratories and parent agencies.

B. Veterinary Laboratories
   • Veterinary laboratories should develop their own internal notification and communication protocols that ensure proper notice is given to management, infection control personnel, safety officers and public information officers (if appropriate).
   • The Department of Agriculture and the Veterinary Laboratory will take the lead in notifying partner laboratories and parent agencies in a timely manner of any novel influenza A viruses detected in the laboratory that poses a threat to human, domestic animal or wildlife.
- Veterinary laboratories should report to local health districts and/or UDOH Epidemiology any influenza A viruses detected that was involved in a mass poultry die-off and/or culling event.
- UPHL may be notified as a courtesy to a partner lab that could be impacted by the detection of a novel influenza virus.
- It is desirable that any communications with outside media/press be coordinated with partner laboratories and parent agencies.

C. Utah Public Health Laboratories
- UPHL staff will follow all internal policies for notification and communication when a novel or avian strain of influenza A is detected. This includes communication with UDOH Epidemiology (who will notify local health and CDC).
- UPHL will work with UDOH Epidemiology and UDOH Public Information to coordinate notification to all laboratory partners.
- Notification may be done by phone, email, fax or incorporate all these means of communication through the Utah Notification Information System (UNIS).
- UPHL will notify appropriate laboratory personnel at CDC, such as the Laboratory Response Network (LRN). Use of LRN Messenger will be used until the appropriate, corresponding module [PHLIP & NEDSS] is built into UPHL's Lab LIMS (estimated completion 2008).
- UPHL will assist in coordinating reports to all partner laboratories as appropriate so that clinical labs and veterinary labs are informed of any novel influenza virus detections. Clinical labs may use UPHL to notify the vet lab and the veterinary lab may use UPHL to notify the clinical labs.

Note: If you are an emergency planner and would like access to the complete plan, please contact Hannah Gehman at hgehman@utah.gov.
I. EXECUTIVE SUMMARY

COOP’s are federally mandated (FCP-65) plans and procedures to assure that services required by law or considered essential are provided in the event that the current facilities housing those services becomes inoperable. A COOP plan is part of an All Hazards Response Plan. Traditional COOP planning assumes that a hazard will occur during a relatively brief period, then the reconstitution period will begin. Typical hazards include earthquakes, hurricanes, fire, terrorist attacks, etc.

In 2002, the federal government recognized that preparations for a pandemic would differ from traditional all hazards planning. The elements surrounding a pandemic which would differ from other hazards include:

- Pandemics will last longer than other hazards;
- Absenteeism is likely to be higher and last longer than with other hazards;
- The highest impact will not be at the beginning of the event, rather the event will start low, then build to a maximum impact, and then recede;
- Essential resources, such as materials, transportation, medical care, are likely to be in short supply; and
- Social distancing issues will need to be considered when performing essential services.

Additionally, it is useful to consider the Utah Department of Health (UDOH) response to a pandemic as a dual-function approach. First, UDOH will have significant responsibilities and activities to play in detecting, monitoring, and mitigating the actual outbreak. These responsibilities and activities are detailed in the Utah Pandemic Response Plan, which is attached to this annex. The second approach however is one that can get lost in traditional pandemic response planning, and that details how UDOH will maintain essential services (including response activities) during a pandemic setting.

This document seeks to address the management of UDOH essential services during a pandemic period. It does not, per se, address the response activities, as they have been well defined in a separate set of documents.

II. INTRODUCTION

The Utah Department of Health (UDOH) performs essential functions and services that may be adversely impacted during a pandemic. Therefore, this is a plan to continue to operate the core mission of UDOH in the event of a threat to the normal continuity of operations. Maintaining these essential functions and services is a vital element in UDOH’s ability to continue operations.

Continuity of operations for various state and local agencies, businesses, and governmental jurisdictions may be disrupted during a pandemic; therefore, it is important for these entities, in particular, the UDOH, to ensure it can execute its essential missions in the event of a threat to its normal continuity of operations.
Federal Preparedness Circular (FPC) 65, Federal Executive Branch Continuity of Operations (COOP), provides guidance to Federal Executive Branch Departments and Agencies for use in developing contingency plans and programs for COOP. COOP planning is intended to ensure the performance of UDOH essential functions across a wide range of all-hazards emergencies.

The Federal Implementation Plan for the National Strategy for Pandemic Influenza acknowledges that an influenza pandemic will require specialized planning beyond that addressed in FPC 65. To address this, FEMA issued a memorandum on March 1, 2006, “Continuity of Operations (COOP) Pandemic Influenza Guidance”. The memorandum provides guidance to Departments and Agencies for incorporating pandemic influenza considerations into their COOP planning.

III. PURPOSE
This Annex provides guidance to UDOH components and serves as the UDOH plan for maintaining essential functions and services during an influenza pandemic. This annex neither replaces nor supersedes the current approved UDOH COOP Plan; rather it supplements it, bridging the gap between the traditional, all-hazards COOP planning of FPC 65 and the specialized COOP planning required for a pandemic by addressing those considerations, challenges, and elements specific to the dynamic nature of a pandemic.

This Annex emphasizes that maintaining essential functions in a pandemic environment may not entail an official “COOP” declaration, that maintaining essential functions may be accomplished through contact intervention (social distancing) strategies, and may not require the relocation of the entire UDOH Emergency Relocation Group. The annex recognizes that relocation may be necessary due to a separate or concurrent event. Since these requirements apply across all levels of the Department, the term “UDOHI”, for the purposes of this Annex, refers to the entire UDOH organization, including all personnel, components, and operating elements.

IV. CONCEPT OF OPERATIONS
This Annex is built upon the assumption that the Utah Response Levels (Appendix A) will serve as the Pandemic COOP Plan activation criteria or “triggers” for UDOH actions. As such, worksheets aligning specific responses in each of the 11 traditional areas of COOP are included in Appendix J.

In addition, the UDOH COOP Manager may choose to add additional Pandemic COOP Plan activation criteria and responses to reflect the unique nature of the UDOH. These may be pre-identified in Appendix J or may be communicated as needed during implementation of the UDOH Pandemic Influenza COOP Plan.

V. PANDEMIC PLANNING ASSUMPTIONS
A. GENERAL ASSUMPTIONS
   • Susceptibility to the pandemic influenza virus will be universal.
Efficient and sustained person-to-person transmission signals an imminent pandemic.

The clinical disease attack rate will likely be 30% or higher in the overall population during the pandemic. Illness rates will be highest among school-aged children (about 40%) and decline with age. Among working adults, an average of 20% will become ill during a community outbreak. Some persons will become infected but not develop clinically significant symptoms. Asymptomatic or minimally symptomatic individuals can transmit infection and develop immunity to subsequent infection.

Of those who become ill with influenza, 50% will seek outpatient medical care. With the availability of effective antiviral drugs for treatment, this proportion may be higher in the next pandemic.

The severity of an influenza pandemic cannot be predicted. The number of hospitalizations and deaths will depend on the virulence of the pandemic virus. Estimates differ about 10-fold between more and less severe scenarios. Two scenarios are presented based on extrapolation of past pandemic experience (Table 1). Planning should include the more severe scenario. Risk groups for severe and fatal infection cannot be predicted with certainty but are likely to include infants, the elderly, pregnant women, and persons with chronic medical conditions.

Rates of absenteeism will depend on the severity of the pandemic. In a severe pandemic, absenteeism attributable to illness, the need to care for ill family members and fear of infection may reach 40 percent during the peak weeks of a community outbreak, with lower rates of absenteeism during the weeks before and after the peak. Certain public health measures (closing schools, quarantining household contacts of infected individuals, “snow days”) are likely to increase rates of absenteeism.

The typical incubation period (interval between infection and onset of symptoms) for influenza is approximately two days.

Persons who become ill may shed virus and can transmit infection for up to one day before the onset of symptoms. Viral shedding and the risk of transmission will be greatest during the first two days of illness. Children usually shed the greatest amount of virus and therefore are likely to post the greatest risk for transmission.

On average, infected persons will transmit infection to approximately two other people.

A pandemic outbreak in any given community will last about six to eight weeks for each wave of the pandemic.
Multiple waves of illness could occur with each wave lasting 2-3 months. Historically, the largest waves have occurred in the fall and winter, but the seasonality of the pandemic cannot be predicted with certainty.

The stages of the pandemic should occur sequentially, thought they may overlap or occur so rapidly as to appear to be occurring simultaneously or being skipped. Various response stages may be activated simultaneously or some stages may be skipped altogether.

An influenza pandemic will cause simultaneous outbreaks across the United States limiting the ability to transfer assistance from one jurisdiction to another.

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.

An effective vaccine against the pandemic influenza virus will not be available until 6-8 months after onset of the pandemic.
- 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.
- Two doses of vaccine (administered 30 days apart) will be needed to develop immunity to the pandemic virus.
- Once the vaccine is available, it will take at least 6 months to produce an adequate supply of vaccine for the entire US population.
- The federal government will purchase pandemic vaccine and will distribute it directly to states.

A moderate or severe pandemic will exceed the capacity of the health care system as well as of other support services.

The community may lack resources and essential services that make basic necessities such as food, water, and transportation, along with required work resources such as paper and personal protective equipment scarce.

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*

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<th>Severe Pandemic (1918-like)</th>
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<td>759,000</td>
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<td>Outpatient medical care (50% of ill)</td>
<td>379,000</td>
<td>379,000</td>
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<tr>
<td>Hospitalizations</td>
<td>7,280</td>
<td>83,550</td>
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</table>
B. UDOH ASSUMPTIONS

- Essential services (as identified in the UDOH COOP plan) will be operational during a pandemic influenza outbreak.
- The UDOH COOP plan is actionable and contains capabilities in accordance with FPC 65.
- Alternate facilities may be activated for use during a pandemic. UDOH may make its alternate facilities, along with other locations, available to be used as a precaution to separate staff (i.e. implement social distancing protocols). A pandemic influenza event does not necessarily require the use of alternate facilities.
- Essential functions, UDOH operations and support requirements will continue to be people-dependent. These activities require human interactions to be carried out, however many interactions may not require face-to-face contact or can be conducted with precautionary measures.
- Travel restrictions, such as limitations on the Utah Department of Transportation (UDOT), implemented at the State or local levels, may affect the ability of staff to get to work.

VI. ELEMENTS OF A VIABLE COOP CAPABILITY

A. PLANS AND PROCEDURES

UDOH pandemic influenza COOP planning and response actions shall be appropriately linked to the Federal Government Response Phases (and supplemental Utah Response Phases – See Appendix A). A change from one Federal Government Response Phase to another automatically activates certain readiness measures and procedures.

1. Pandemic Coordinators and Pandemic Response Teams

The UDOH Director has designated UDOH Pandemic Coordinator and an Alternate Pandemic Coordinator. UDOH will establish a Department Pandemic Response Team (PRT) to anticipate the impacts of a pandemic on UDOH and to assist with developing strategies to manage the effects of a pandemic outbreak. Each Division (within UDOH) shall establish and designate a Division Pandemic Coordinator and identify and designate a Division PRT to support the Division Pandemic Coordinator, with representatives of all relevant stakeholders. The
Division Pandemic Coordinators and Division PRTs will report to the Department Pandemic Coordinator.

The UDOH Pandemic Coordinator shall work closely with the UDOH COOP Program Manager. The COOP Program Manager shall also serve as a member of the Department PRT.

2. **Sustaining Operations**

Sustaining operations will be performed until normal business activity can be reconstituted; this may take longer than 30 days. The principal focus in making this determination will be the minimization of the effects of a pandemic on staff and operations. UDOH will emphasize and implement procedures such as social distancing, infection control and personal hygiene, requiring sick workers to stay home, cross-training, and telework to sustain operations.

3. **Risk Communications**

UDOH shall develop a Risk Communications Plan for communicating with internal and external stakeholders. A change from one Response Level to another automatically triggers certain readiness measures.

When conditions change from one Response Level to another, or as directed by the UDOH Pandemic Coordinator, all staff will receive pre-recorded (and customized based upon their role as staff who perform essential or non-essential activities) messages from UDOH leadership. In a pandemic influenza environment, UDOH pandemic COOP planning and response actions shall be linked to the Federal Government Response Phases (see Appendix A for a mapping of WHO, Federal, and Utah Response Stages). A change from one Federal Government Response Phase to another will automatically trigger certain readiness measures and procedures.

This Risk Communications Plan is part of the Pandemic Response Plan, located in ANNEX 1.

4. **UDOH Response Phases**

The Secretary of Homeland Security, in coordination with Department of Health and Human Services, the White House Homeland Security Council, and other Federal partners as required, shall set the Federal Government Response Stages as a pandemic evolves.

UDOH has developed Utah Response Stages (internal customized phases) to supplement the Federal Government Response Phases in order to achieve a higher state of readiness. The Director of the UDOH will need to assure the implementation of corresponding actions associated with each change in the Response Phase and then communicate that action to their organization and the UDOH Pandemic Coordinator. UDOH response phases are located in Appendix A.

B. **ESSENTIAL FUNCTIONS**
According to the Implementation Plan for the National Strategy for Pandemic Influenza, during a pandemic or any other emergency, essential functions must be continued to facilitate emergency management and overall national recovery. Given the expected duration (worst case scenario of 12 week duration – see Planning Assumptions above) and potential multiple waves of a pandemic, UDOH Divisions must review their essential functions and services to take into account the need to perform essential functions beyond the traditional 30-day COOP requirement.

1. Essential Functions

UDOH must include definitions and identification of essential functions and services needed to sustain agency mission and operations for several months. For pandemic planning purposes, essential services and functions will be broader than the traditional COOP essential functions.

As part of the UDOH Pandemic Influenza Annex Plan, Appendix C is the prioritized list of essential functions of UDOH with supporting information for Vital Records and Databases, and Mission Critical Systems and Equipment required to perform each of the essential functions.

In order to minimize the effects of a pandemic on staff and operations and continue essential functions and services, UDOH will emphasize and implement procedures such as social distancing, infection control and personal hygiene, requiring sick workers to stay home, cross-training, and telework. More information on this can be found in Appendix K.

2. Identification of Essential Positions and Skills

UDOH shall identify positions, skills, and personnel needed to continue the essential functions and services listed above. Divisions will also identify backup personnel, by position, and ensure that all personnel needed to perform those essential functions shall also receive COOP and specific pandemic influenza training.

The personnel needed to support continuity of operations in pandemic influenza scenarios can be found in Appendix C. With the assumption of a 40% absenteeism rate, UDOH has increased the size of the ERGs responsible for performing the essential services, to account for increased absences.

3. Alternate Work Arrangements

UDOH shall assess which essential functions and services can be conducted through the use of alternative work arrangements. Alternative work arrangements may include:

- Telework/audio- and video-conferencing
- Use of flex time
- Staggered work hours
• Social distancing at work.

All division leadership is encouraged to review the essential functions with their pandemic coordinator to determine how to best continue these functions using alternative work arrangements. More information on this is listed in Appendix K.

4. Essential Contract and Support Services and Other Interdependencies

Contractual Staff –

UDOH shall initiate pre-solicited, signed, and standing agreements with contractors and other third parties to ensure fulfillment of mission requirements. These need to be started for HR, DTS, and DFCM.

Other Interdependencies –

UDOH shall identify the contractors, suppliers, shippers, resources and other businesses that it interacts with on a daily basis. UDOH shall develop relationships with more than one supplier should a primary contractor be unable to provide the required service. UDOH is currently in the process of developing contracts and MOAs for the UDOH. For a listing of contractors refer to Appendix O.

5. Impact Analysis on Operations

UDOH shall conduct an impact analysis of an influenza outbreak on all operations, using multiple scenarios, including:

• Workforce reductions (up to 40 percent absenteeism for 1, 2, and 3 months)
• Limited access to facilities (social distancing, staffing, or security concerns)
• Impact of telework and social distancing policies

For example, the Panflu Annex Emergency Response Groups will be 5 people deep, rather than 3 deep (as for the COOP plan) to account for increased absenteeism. In addition, a matrix of social distancing policies has been created and correlated with essential services. These assumptions are managed in Appendix K.

C. DELEGATIONS OF AUTHORITY

At the height of a pandemic wave, absenteeism may reach a peak of 40 percent. As such, delegations of authority are critical. The UDOH Delegations of Authority can be found in the UDOH COOP plan.

1. Three Deep per Responsibility

UDOH shall plan for delegations of authority that are at least three deep per responsibility to take into account the expected rate of absenteeism to help assure continuity of operations over an extended time period, i.e. 30-90 days. The UDOH Delegations of Authority can be found in Appendix L.
2. Geographic Dispersion
UDOH shall, to the best of their ability, plan for geographical dispersion of delegations of authority, taking into account the regional nature of an outbreak.

D. ORDERS OF SUCCESSION
Since an influenza pandemic may affect regions of the United States differently in terms of timing, severity, and duration, UDOH, as a Department with moderately geographically dispersed assets and personnel, should consider dispersing the order of succession. The Orders of Succession for UDOH Headquarters can be found in the UDOH COOP plan.

1. Three Deep per Responsibility
UDOH shall plan for orders of succession that are at least three deep per position to take into account the expected rate of absenteeism. The UDOH Orders of Succession can be found in Appendix M.

2. Geographic Dispersion
UDOH shall plan for geographical dispersion of orders of succession, taking into account the regional nature and possibility of different orders of succession depending on the spread of the pandemic.

E. ALTERNATE OPERATING FACILITY(IES)
The traditional use of alternate operating facilities to maintain essential functions and services may not be a viable option during a pandemic. Rather, safe work practices, which include contact interventions and transmission interventions, reduce the likelihood of contacts with other people that could lead to disease transmission. Strategies for maintaining essential functions and services will largely rely on social distancing and dispersion of the workforce including telework, preventative health practices, and other efforts to reduce the chance of infection.

UDOH may choose to make its alternate facilities, along with other locations, available to be used as a means of implementing social distancing.

A separate incident concurrent to a pandemic outbreak could necessitate the use of an alternate operating facility for the UDOH ERG members. All planning requirements listed in FPC 65 referencing alternate operating facility(ies) or existing field infrastructure should be understood to be viable only in the event of an incident concurrent with a pandemic in which their use is vital. If the ERG members must be brought together in one location, increased use of PPE and other infection control measures must be implemented.

1. Essential Function by Remote Location
UDOH shall determine which essential functions and services can be conducted from a remote location (e.g., employees’ homes or other geographically dispersed work locations) and those that must be performed at a designated department facility. See Appendix N for identification of temporary alternate worksites.
2. **Mission Critical Systems and Equipment**

A complete listing of mission critical systems and equipment, as each pertains to the essential functions, is listed in [Appendix B](#).

3. **Facilities Support**

UDOH shall consider the need for reliable logistical support, services, and infrastructure systems at facilities that remain open (for greater than 30 days), to include alternate operating facilities in the event of an incident concurrent with a pandemic influenza outbreak. This support includes:

- Prioritization/determination of accessible facilities/buildings (as alternative to relocating to remote facility)
- Necessary support staff
- Social distancing techniques
- Medical screening of employees
- Health/medical units
- Sanitation
- Essential Services
- Food and water

4. **Restriction of Movement**

UDOH Divisions shall consider the impact of restriction of movement (Federal, State, Local, and Tribal) on open/accessible facilities and operating plans.

F. **INTEROPERABLE COMMUNICATIONS**

According to the National Strategy Implementation Guidance, workplace risk can be minimized through implementation of systems and technologies that facilitate communication without person-to-person contact.

1. **Telework – Analysis and Development of Capability**

UDOH shall analyze its current telework capability and identify its personnel performing essential functions who anticipate a need to telework, and the IT requirements, tools, and resources necessary to support telework during a pandemic. The use of laptops, high-speed telecommunications links, Personal Digital Assistants (PDAs), flash drives, and other systems that enable employees performing mission essential functions and services to communicate and maintain connectivity with internal organizations, external partners, critical customers, and other key stakeholders shall be considered when performing analysis.

2. **Telework – Plan**

UDOH shall develop a telework plan, which identifies personnel performing essential functions who anticipate a need to telework, a description of their responsibilities while teleworking, the infrastructure needed to support this work and how technological assistance will be provided to teleworkers.
The UDOH telework plan is located in Appendix D.

3. Telework – Test, Training, and Exercises

UDOH shall evaluate telework plans, procedures, and capabilities through reviews, testing, post-incident reports, lessons learned, performance evaluations, and exercises. Procedures shall be established to ensure that corrective action is taken on any deficiency identified in the evaluation process.

The UDOH is currently in the process of developing a telework testing, training, and exercise plan which will be located in Appendix E.

4. Communications to Stakeholders

UDOH has a Pandemic Influenza Risk Communications Plan which details mechanisms to provide relevant information to internal and external stakeholders, including but not limited to instructions for determining the status of agency operations and possible changes in working conditions and operational hours.

The UDOH Pandemic Influenza Risk Communications Plan is located in Annex 1.

G. VITAL RECORDS AND DATABASES

1. Identification, Protection, and Availability

UDOH shall identify, protect, and ensure the ready availability of electronic and hardcopy documents, references, records, and information systems needed to support essential functions for up to several months.

The UDOH COOP plan identifies vital records and databases needed to sustain essential functions and services (see Table 6). For a complete listing of vital systems/database, records and resources refer to Appendix B.
### Table 6

<table>
<thead>
<tr>
<th>Vital System/Database Record or Resource</th>
<th>Form of Record (e.g., hardcopy, electronic)</th>
<th>Pre-positioned at Alternate Facility?</th>
<th>Current Location</th>
<th>Backed up or located at alternate Location</th>
</tr>
</thead>
</table>

2. **Access from Remote Location(s)**

UDOH shall determine whether systems, databases, and files can be accessed electronically from a remote location (e.g., an employee’s home or alternate workplaces) and establish reliable access and security protocols for them.

3. **Periodic Maintenance**

UDOH shall identify and plan for the maintenance of those vital systems and databases that require periodic maintenance or other direct physical intervention by employees.

### H. HUMAN CAPITAL

Although an influenza pandemic will not directly affect the physical infrastructure of an organization, a pandemic will ultimately threaten all operations by its impact UDOH’s human resources. The health threat to personnel is the primary threat to maintaining essential missions and services during a pandemic. UDOH will review the policies on:

- Leave
- Pay
- Hiring
- Alternative work arrangements

and update, exercise, and implement comprehensive Human Capital plans to protect its workforce. UDOH is currently in the process of developing the Human Capital plan which will be located in Appendix F.

1. **Telework Policy**

Teleworking is an integral part of plans and procedures to maintain essential functions and services in an influenza pandemic. The UDOH telework policy is located in Appendix G.

### I. TEST, TRAINING, AND EXERCISES

Testing, training, and exercising are essential to assessing, demonstrating, and improving the ability of UDOH to maintain essential functions and services.

1. **Social Distancing**
UDOH shall conduct annual tests, training, and exercises to ensure sustainable social distancing techniques, including telework capabilities, and to assess the impacts of reduced staff on the performance of essential functions.

2. **Tabletop, Functional, and Full-Scale Exercises**

UDOH shall conduct annual pandemic exercises (tabletop, functional, or full scale) to examine the impacts of pandemic influenza on agency essential functions, to familiarize agency personnel with their responsibilities, and to validate the effectiveness of pandemic influenza COOP planning by senior leadership. The Test, Training, and Exercise plan is located in Appendix H.

3. **Annual Awareness Training**

UDOH shall conduct annual awareness briefings specific to pandemic influenza. The Annual Training Plan is located in Appendix I.

4. **Cross-Training Successors and Back-up Personnel**

UDOH shall identify and train personnel, by position, needed to perform essential functions, including backups in different geographic locations.

The Emergency Relocation Group (ERG) personnel roster, located in Appendix C, identifies the personnel required to support continuity of operations.

**J. DEVOLUTION OF CONTROL AND DIRECTION**

Pandemic outbreaks will occur at different times, have variable durations, and may vary in their severity; therefore, full or partial devolution of essential functions may be necessary to execute essential functions and services. Devolution planning may need to include rotating operations among Local Health Departments as the pandemic wave moves throughout Utah.

1. **Devolution and Essential Functions**

UDOH shall take into account how an organization will conduct essential functions if pandemic influenza renders leadership and essential staff incapable or unavailable to execute those functions. Full or partial devolution of essential functions may be necessary to ensure continuation of these essential functions and services.

UDOH will ensure that devolution plans and procedures are consistent with the three-deep rule and geographic dispersion.

2. **Devolution Guidelines**

UDOH shall develop guidance for those organization elements receiving the devolution of control and direction, including:

- Essential functions and services;
- Rotating operations geographically, as available;
- Supporting tasks;
• Points of contacts; and,
• Resources and phone numbers.

K. RECONSTITUTION

Reconstitution embodies the ability of an organization to recover from a catastrophic event and consolidate the necessary resources that allow it to return to a fully-functional entity of the Federal government. The objective during the recovery and reconstitution phase during a pandemic is to expedite the return of normal services to the nation.

1. Replacement of Employees

UDOH shall develop plans for replacement of employees unable to return to work and prioritize hiring efforts, including but not limited to retired federal employees and emergency use of contractor services.

2. Facility/Building Habitability

UDOH shall develop plans and procedures, in conjunction with public health authorities, to ensure the facilities/buildings are safe for employees to return to normal operations.

VII. CONCLUSION

Maintaining essential functions and services in the event of an influenza pandemic requires additional considerations beyond traditional COOP planning as outlined in FPC 65. Unlike other hazards that necessitate the relocation of UDOH staff performing essential functions to an alternate operating facility, an influenza pandemic will not directly affect the physical infrastructure of an organization. As such, a traditional “COOP activation” may not be required under a pandemic influenza scenario. However, a pandemic threatens an organization’s human resources by removing essential personnel from the workplace for extended periods of time. Accordingly, the COOP plan has been modified by this annex to achieve pandemic influenza capability. Plans for maintaining essential functions and services techniques, infection control and personal hygiene, cross-training, and telework. Protecting the health and safety of employees must be the focus of planning in order to ensure the continuity of essential functions and continuity of government.
## APPENDIX A – Utah 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>
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<tr>
<td>Phase 1 – No new influenza viruses in humans</td>
<td>0</td>
<td>Inter-Pandemic Period (Corresponds to WHO Period)</td>
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<tr>
<td>Phase 2 – Circulating animal virus poses human risk</td>
<td></td>
<td></td>
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<tr>
<td>Pandemic Alert Period</td>
<td></td>
<td></td>
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<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>
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<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>
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<tr>
<td>Pandemic Period</td>
<td></td>
<td></td>
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<tr>
<td>Phase 6 - Increased and sustained transmission in general population</td>
<td>3</td>
<td>Widespread human outbreaks, multiple locations overseas</td>
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</table>

## APPENDIX B – UDOH Mission Critical Systems/Databases and Records

<table>
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<tr>
<th>Vital System/Database Record or Resource</th>
<th>Form of Record (e.g., hardcopy, electronic)</th>
<th>Pre-positioned at Alternate Facility?</th>
<th>Current Location</th>
<th>Backed up or located at alternate Location</th>
</tr>
</thead>
</table>

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APPENDIX C – Template of Essential functions and responsibilities

NOTE: This appendix is in 2 parts. The first part lists the essential functions identified for a response in a typical COOP all-hazards response setting. The second part lists the essential functions identified for a response in a typical Pandemic Influenza (or Communicable Disease all-hazards) response setting.

PART 1: (on next page)
Priority | Essential Functions | Division Responsible
--- | --- | ---
Utah Department of Health | All Hazards (Point Source) COOP | 
All Hazards:  
Priority I: 12 Hours  
Priority II: 72 Hours  
Priority III: 7 Days |

PART TWO:

Priority | Essential Functions | Division Responsible
--- | --- | ---
Utah Department of Health | All Hazards Communicable Disease COOP | 

| Essential Function: | Primary | Alternate | Second Alternate |
| | | | |
| People Responsible | (Title)/Name | (Title)/Name | (Title)/Name |
| Phone Numbers | Phone number | Phone number | Phone number |

APPENDIX D – UDOH Telework Plan

TELECOMMUTING FEASIBILITY REQUEST

In the event that an employee must telecom the employee must work with his/her supervisor to complete this telework request. This request is designed to assist the employee and supervisor in determining the appropriateness of telecommuting for a specific employee. The employee and supervisor must review the Department's Telecommuting Policy prior to completion of this request. Section I should be completed by the employee. Section II should be completed by the supervisor.

Section I (TO BE COMPLETED BY EMPLOYEE)

1. Attach current performance plan. Briefly describe any revisions that might be necessary to accommodate telecommuting.
2. What are the specific assignments/duties to be completed utilizing the telecommuting arrangement?
3. Describe the equipment/software, if any, needed at the alternative work site necessary for your telecommuting arrangement. (E.g. personal computer, terminal, telephone line, modem, etc.)
4. Describe the proposed office arrangement at your alternative work site. (location, furniture, etc.)
5. What is your proposed work schedule at the alternative work site? If different from work schedule, identify hours available for telephone contact.
6. What is the anticipated duration of the telecommuting arrangement?
7. Describe plans for ensuring confidentiality/security.
8. Other information not specified above:

Section II (TO BE COMPLETED BY SUPERVISOR)

1. Does the employee meet the eligibility requirements?
2. What are the benefits (direct and indirect) expected to be derived from the telecommuting arrangement.
3. How do you expect to evaluate/monitor work completed at the alternative work site? What are your plans for supervising the telecommuting employee?
4. Please list estimated costs of equipment, hardware, software etc. to be used and identify funding source or payor.

This Agreement specifies the provisions of the telecommuting arrangement for a specific employee and time period for Telecommuting arrangement. Information that must also be contained within the agreement includes such things as:

- effective date and end date
- Specific assignments/duties to be completed at the alternative work site
- The employee agrees to complete work as specified in the attached Performance Plan
- Alternative work site (the employee agrees to abide by the following work schedule at the alternative work site, hours available for contact and address/location of alternative work site)
- Cost coverage (specification of costs covered by State and costs covered by employer)
- If problems with equipment/software, etc. occur that prevent the telecommuter from completing their work at the alternative work site, the telecommuter must
contact their supervisor immediately. Agreement to comply with applicable statues, policies must be signed by both employee and supervisor on the agreed date.

APPENDIX G – UDOH Telework Policy

UTAH DEPARTMENT OF HEALTH
TELECOMMUTING POLICY AND PROCEDURES

A. PURPOSE

This policy defines the limitations and procedures for telecommuting in the Department of Health. It outlines the responsibilities of the Department and the telecommuter, and establishes the basis for all telecommuting agreements. The purpose of this policy is to provide a program whereby employees can perform their assigned work outside of the traditional office environment. The concept of telecommuting is to move the work to the worker, with or without the help of computers, rather than requiring the worker to go to the work.
B. POLICY

It is the Department's policy to allow employees to accomplish their assignments outside of the traditional office environment, as established by a written agreement.

C. DEFINITION

Telecommuting is work done on a routine basis at an alternative work site pursuant to a preapproved cooperative written agreement between the employee and supervisor.

D. ELIGIBILITY AND TERMINATION

1. Telecommuting is a management option in the Department of Health. Department management approves who will be eligible for telecommuting.
2. After a trial period specified in the written agreement, a telecommuting arrangement may be terminated by either the employee or supervisor unless the written agreement requires otherwise.

E. PROCEDURES

1. An employee interested in participating in telecommuting must complete a Telecommuting Feasibility Request and submit it to his/her supervisor for consideration and approval.
2. Prior to beginning to telecommute, the division/office director or designee must approve the formal written agreement. The written agreement must be on the approved departmental form and must include a description of the work/tasks to be performed through the telecommuting arrangement.
3. The Department shall provide an orientation to telecommuting to supervisors and the telecommuting employee.
4. All approved telecommuting feasibility requests, written agreements and other pertinent telecommuting documents shall be filed in the employee's official personnel file.

F. USE OF EQUIPMENT AND SOFTWARE

1. Any hardware or software purchased or supplied by the State shall remain the property of the State and be returned to the Department at the conclusion of telecommuting.
2. The employee shall use all reasonable means to maintain and protect State property at the alternative work site and promptly report any damage or loss of equipment.
3. State-owned software may not be duplicated except as permitted by the licensing agreement with the software manufacturer.
4. State equipment/software at an alternative work site may not be used for personal purposes, except as allowed by State policy.

G. TELECOMMUTING EXPENSES
1. Any cost incurred from a telecommunication agreement, other than that which the employee has voluntarily agreed to meet, shall be paid by the Department as specified in the written agreement.
2. Supplies required to accomplish assignments at an alternative work site shall be obtained during one of the telecommuter's in-office visits, whenever feasible.
3. The State is responsible for the cost of maintaining state-owned equipment and software.
4. Existing State regulations and policies apply to reimbursement for work-related travel.
5. Work related telephone charges or line charges relating to a telecommute assignment, as specified in the written agreement, will be paid by the Department. Documentation may be requested of employees for all reimbursable charges.
6. Except as specified in the written agreement, the employee is responsible for home operating costs, home maintenance, or any other costs associated with the use of a home as an alternative work site.

H. BENEFITS AND OTHER COVERAGE

As telecommuters, employees have the same benefits, status, salary and insurance and liability coverage as other employees in an office setting.

I. CONFIDENTIALITY AND SECURITY OF INFORMATION

1. All standards (e.g., locked files, passwords for software) for confidentiality of information, records, etc. which apply at the office also apply at the alternative work site.
2. All access to Department computers and networks shall be in accordance with State and Department standards.

J. ON SITE VISITS

The telecommuter must provide access to the alternative work site upon request by the Department.

K. COMPLIANCE WITH APPLICABLE LOCAL CODES

The employee is responsible for ensuring compliance with applicable zoning ordinances, home association rules and, when required, for obtaining necessary business and or user permits.
APPENDIX H – UDOH Test, Training, and Exercise Policy

Testing, training, and exercises familiarize staff members with their roles and responsibilities during an emergency, ensure that systems and equipment are maintained in a constant state of readiness, and validate certain aspect of the COOP Plan. The Utah Department of Health, with the assistance of the Public Health and Hospital Preparedness Training and Education Center, will coordinate testing, training, and exercises for UDOH staff following a multi-year strategy.

COOP TT&E should provide:

- Individual and team training of agency personnel
- Internal agency testing and exercising of COOP plans and procedures
- Testing of alert and notification procedures
- Refresher orientation for COOP personnel
- Join interagency exercising of COOP plans, if appropriate

1. The Utah Department of Health executive staff has the responsibility to ensure that members of the response organization and all agency employees have received training relative to their position and function during an emergency. Agency Executives have delegated the responsibility to COOP Planning Team in conjunction with the UDOH Training and Education Center.

2. Training will be provided to employees to support agency emergency preparedness and continuity of operations. The training will be coordinated with the appropriate section/department head to ensure a minimal interruption of normal work duties.

3. The training will be conducted at least annually and will include:
   - Information on the characteristics of hazards and their consequences on the agency as a whole.
   - An overview of the planning efforts that have been done by the agency and familiarizing staff with the kind of protective measures the agency has developed to respond to any emergency, including identifying how the employees will be directed/warned in an emergency.
   - Include Incident Command System (ICS) training, focusing on individual roles.
   - The policies and mechanisms that will be employed in maintaining the operations of the agency, including utilizing an alternate facility.
   - Include periodic exercises and drills to evaluate capabilities and the level of agency preparedness.
   - What is expected of each employee and provide references on emergency preparedness for them and their families.
Appendix I- Training and Exercise Schedule

Multi-Year Exercise Strategy: Utah Department of Health FY 2008-9

Exercise Work Plan - Level 2

1. Identify priorities and goals
2. Identify associated capabilities relevant to priorities
3. Schedule training and exercises that support identified priorities and capabilities

Action Steps

A cycle of planning, training, exercising and evaluating for plan revisions will occur to ensure priority areas are addressed appropriately. The attached exercise schedule matrix details state and local plans for exercises and related activities.

Planning

Adjustments to Utah’s written plans in the areas of COOP, communications, surveillance/lab and community mitigation as recommended by the results of assessments. The establishment of a multi-agency “Preparedness Planning Committee” with bi-weekly meetings will assist in coordinating state and local plans, finalizing interagency EOPs, and ensure NIMS compliance. (Please see the Utah Department of Health’s Priority Project on planning coordination and approval process).

Training

Conduction of seminars and trainings on the plan improvements for both state and local public health staff and applicable partners. Statewide training efforts will be coordinated with the Utah Department of Health and the Utah Department of Public Safety, Division of Homeland Security. Training will focus on familiarization of plans and plan improvements, NIMS/ICS, and other needs as identified through previous exercises and assessments.

Exercise

A series of incremental drills, tabletop exercises and smaller functional exercises will be conducted in preparation for a statewide functional exercise in 2009. Quarterly communication drills will be conducted at the statewide level. The exercise schedule matrix provides more exercise details.

Evaluating/Plan Revising

After action reports, prepared with the documentation of external evaluators, will guide revisions to plans and future actions for improvement. After action conferences, workshops and seminars will ensure planning improvements are implemented.
## Federal Response Stage 0/WHO Pandemic Stage 1

<table>
<thead>
<tr>
<th>COOP Element</th>
<th>Actions To Be Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plans and Procedures</td>
<td>Review UDOH plans and procedures for pandemic influenza</td>
</tr>
<tr>
<td>Essential Functions</td>
<td>Review UDOH essential functions and services; ensure all have been identified</td>
</tr>
<tr>
<td></td>
<td>Review contractors, suppliers, shippers, resources, and other businesses that support essential functions, and as necessary, implement standing agreements for back-up.</td>
</tr>
<tr>
<td>Delegations of Authority</td>
<td>Review and update Delegations of Authority with respect to three-deep rule and geographic dispersion (as available).</td>
</tr>
<tr>
<td>Orders of Succession</td>
<td>Review and update Order of Succession with respect to three-deep rule and geographic dispersion (as available)</td>
</tr>
<tr>
<td>Alternate Operating Facility(ies)</td>
<td>Ensure readiness of primary and alternate operating facilities, telework locations, and other designated work sites in the event of an incident concurrent to a pandemic that would necessitate relocation of Emergency Relocation Groups.</td>
</tr>
<tr>
<td></td>
<td>Ensure readiness of staff telework and/or devolution arrangements to include readiness of required communications equipment.</td>
</tr>
<tr>
<td>Interoperable Communications</td>
<td>Review and test communications mechanisms (i.e., laptops, high-speed telecommunications links, PDA’s to provide relevant information to internal and external stakeholders, including but not limited to instructions for determining the status of agency operations and possible changes in working conditions and operational hours.</td>
</tr>
<tr>
<td>Vital Records and Databases</td>
<td>Test, review, and update vital records, databases, and systems, in particular those that will need to be accessed electronically from a remote location.</td>
</tr>
<tr>
<td>Human Capital</td>
<td>Implement workforce guidelines (contact and transmission</td>
</tr>
</tbody>
</table>
interventions) to include Personal Protective Equipment (PPE) to prevent or minimize workplace exposure to contagious disease for those employees in high-risk occupations that come in contact with potentially diseased animals or people. Review workforce guidelines for other employees.

Discuss the effect of pandemic related human capital issues with co-located contract workers.

Review and update pay and leave policies as necessary.

Review and update hiring policies as necessary.

Test telework capability for people, processes, and technology.

Review and update technology support (i.e., help desk) sufficient to meet telework needs.

Review and update policies on:

- Restriction of travel to geographic areas affected by animal or human disease;
- Employees who become ill or are suspected of becoming ill while at their normal worksite;
- Returning previously ill, non-infectious, employees to work;
- Social distancing;
- The dissemination and posting of educational and training materials to raise awareness about pandemic and workplace related policies (i.e., cough etiquette, hand hygiene, and social distancing strategies);
- The performance and regular updating of risk assessments based on occupational exposures and objective medical evidence, and procurement of appropriate types and quantities of infection control related supplies (e.g., PPE, hand sanitizers, surface wipes, cleansers, and tissues);
- The implementation of infection control measures, including (if applicable) the appropriate selection and use of personal protection equipment;
- Vaccine and anti-viral prioritization information and
distribution; and

- Psychological and social needs of employees.

<table>
<thead>
<tr>
<th>Test, Training, and Exercises</th>
<th>Test, train, and exercise UDOH capability to maintain essential functions and services.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Devolution of Control</td>
<td>Review plan against current condition</td>
</tr>
<tr>
<td>Reconstitution</td>
<td>Review plan against current condition</td>
</tr>
</tbody>
</table>

Federal Response Stage 1-3/WHO Pandemic Stage 3-6
(These elements are IN ADDITION to those for Federal Stage 0 listed above)

<table>
<thead>
<tr>
<th>COOP Element</th>
<th>Actions To Be Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plans and Procedures</td>
<td>Review pandemic plans and identify parts of the plan that should be implemented.</td>
</tr>
<tr>
<td>Interoperable Communications</td>
<td>Realign and re-issue communications resources</td>
</tr>
<tr>
<td>Human Capital</td>
<td>Implement workforce guidelines (contact and transmission interventions) to prevent or minimize workplace exposure to contagious disease for affected areas.</td>
</tr>
<tr>
<td></td>
<td>Implement alternative work arrangements (e.g., job sharing, flexible work schedules) available for use in the case of a pandemic health crisis as necessary for affected areas.</td>
</tr>
<tr>
<td></td>
<td>Implement infection control measures.</td>
</tr>
<tr>
<td></td>
<td>Administer and execute pay and leave policies as necessary.</td>
</tr>
<tr>
<td></td>
<td>Administer and execute hiring policies as necessary.</td>
</tr>
<tr>
<td></td>
<td>Test, and as necessary, implement telework capability.</td>
</tr>
<tr>
<td>Test, Training, and Exercises</td>
<td>Test, train, and exercise UDOH capability to maintain essential functions and services. Incorporate Lessons Learned from previous Response Phases and implementing corrective actions.</td>
</tr>
<tr>
<td>Devolution of Control</td>
<td>Review plan against current condition</td>
</tr>
<tr>
<td>Reconstitution</td>
<td>Review plan against current condition</td>
</tr>
</tbody>
</table>

Federal Response Stage 4-5/WHO Pandemic Stage 6
**COOP Element** | **Actions To Be Taken**
--- | ---
**Essential Functions** | Review UDOH essential functions and services that will continue and non-essential functions that will be suspended temporarily.
| Review essential positions, skills, and personnel and continue to train, identify, and as necessary, augment with back-up personnel.
| Review contractors, suppliers, shippers, resources, and other businesses that support essential functions, and as necessary, implement standing agreements for back-up.

**Interoperable Communications** | Realign and re-issue communications resources

**Human Capital** | Implement all workforce guidelines (contact and transmission interventions) to prevent or minimize workplace exposure to contagious disease for affected areas.
| Collect and report employee status (i.e. assignment to ERG, work status) on a routine basis.

**Reconstitution** | Assess sufficiency of resources to commence reconstitution efforts, including but not limited to replacement of employees unable to return to work, habitability of facilities and buildings, and availability of equipment.

---

**Federal Response Stage 6/WHO Pandemic Stage 6**

(These elements are IN ADDITION to those for Federal Stage 0-5 listed above)

**COOP Element** | **Actions To Be Taken**
--- | ---
**Plans and Procedures** | Review plans and procedures for pandemic influenza for lessons learned and update in preparation for next wave.

**Test, Training, and Exercises** | Note suggestions for improvements to TT&E plans for future modifications.

**Reconstitution** | Assess sufficiency of resources to commence reconstitution efforts, including but not limited to replacement of employees unable to return to work, habitability of facilities and buildings, and availability of equipment.
APPENDIX K – UDOH Response to Workforce Reduction and Social Distancing

The UDOH assumptions are that there will be:

- Up to 40% reduction in workforce
- Limited access to facilities (due to social distancing, staffing, security, transportation concerns)
- Broad-based implementation of social distancing policies.

As such UDOH has identified work processes that can be used in response to the above situations. Each essential service will identify one or more work processes that they will use in response.

<table>
<thead>
<tr>
<th>Response</th>
<th>Actions/Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Limit Activities</td>
<td>In this situation, programs will reduce the number of activities that they currently perform. This will assist with a possible reduction in the workforce.</td>
</tr>
<tr>
<td>2. Expand Work Hours</td>
<td>Expanding the hours of work will increase social distancing by having fewer workers present at any one time. One example would be to work 2 shifts and spread workers between the 2 shifts.</td>
</tr>
<tr>
<td>3. Reduce Work Hours</td>
<td>Programs may need to reduce some work hours depending upon issues with building security and transportation. If programs determine that essential services can be accomplished by a reduced work schedule, this can assist with reduced building resources.</td>
</tr>
<tr>
<td>4. Telework</td>
<td>Employees will be urged to work remotely from home. This assists with social distancing and possible lack of access to facilities.</td>
</tr>
<tr>
<td>5. Cross-train Employees</td>
<td>Since essential activities are being identified in advance, programs should cross-train employees in non-essential activities to assure a full workforce in the essential activities. This will assist with a possible reduction in the workforce.</td>
</tr>
<tr>
<td>6. Recall and Retrain Retired Workers</td>
<td>Programs with a large number of essential services, that may not be able to rely upon their workforce for the ability to overcome a substantial reduction in workers, may choose to recall and retrain retired workers.</td>
</tr>
</tbody>
</table>
7. **Assure Availability of Vital Records**

Programs should have all of their vital operating records (such as databases, accounts, etc.) on servers so that the information can be accessed remotely. This assures that telework will be functional.

8. **Limit Workers**

Some programs may choose to reduce the number of workers in conjunction with limiting activities. These programs should keep lists of workers and use UNIS or other notification processes to communicate expectations with workers. Programs may furlough some employees, or work all individuals on reduced schedules.

9. **Use PPE**

Some programs, especially those that provide direct face-to-face medical services, may need to change their process for doing business. Those that choose to continue with face-to-face service will need to stockpile personal protective equipment (PPE) and/or purchase reusable respirators in sufficient numbers to allow for a 12 week period of social distancing.

10. **Mandatory Exclusion of Sick Workers**

Social distancing does not allow for individuals who are ill with a febrile illness to continue to work (other than telework). To be responsive to the health of other workers at UDOH, all febrile individuals will be excluded from work.

11. **Engineering Controls**

Some programs have requirements for face-to-face contact with customers. Engineering controls, such as plexiglass panels separating workers from customers, can assist with social distancing.

12. **Webconferencing, Videoconferencing, and Teleconferencing**

One of the elements of business practice, meetings, are difficult to hold under social distancing restrictions. The use of webconferencing, videoconferencing, and teleconferencing can assist with social distancing. Webconferencing in particular will be useful to teleworkers.

13. **Limit Congregation**

The UDOH can adopt additional processes that will assist with social distancing. Examples are closure of the cafeteria, limiting riders on the elevator, closing
14. **Disinfection of Shared Surfaces**
   It is good practice to disinfect all surfaces on shared equipment, such as phones, desks, keyboards, etc., in between shifts.

15. **Internal Communications**
   UDOH can communicate with internal staff members through UNIS, email, and DOHNET. Staff members should be familiar with these communications techniques.

16. **External Communications**
   UDOH can communicate with external customers through UNIS, email, and WebEOC. Staff members and customers should be familiar with these communications techniques.
APPENDIX L – UDOH Delegations of Authority Template

The scope of authority is determined by the position as delineated by the performance plan for that position.

<table>
<thead>
<tr>
<th>MANAGEMENT AUTHORIZATION LEVEL FOR IMPLEMENTATION DECLARATION: (IN ORDER)</th>
<th>CONDITIONS FOR AUTHORIZING</th>
<th>AUTHORIZING MANAGEMENT SIGNATURE</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>
## APPENDIX M – UDOH Orders of Succession Template

<table>
<thead>
<tr>
<th>Division of Epidemiology and Laboratory Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Division of Community and Family Health Services</td>
</tr>
<tr>
<td>Division of Health Care Financing</td>
</tr>
<tr>
<td>Center for Health Data</td>
</tr>
<tr>
<td>Division of Health Systems Improvement</td>
</tr>
<tr>
<td>Office of Fiscal Operations</td>
</tr>
<tr>
<td>Office of Human Resource Management DHRM/UDOH</td>
</tr>
<tr>
<td>Office of Employee Support</td>
</tr>
<tr>
<td>Office of Information Technology DTS/UDOH</td>
</tr>
<tr>
<td>Office of Public Information and Marketing</td>
</tr>
<tr>
<td>Office of Medical Examiner</td>
</tr>
</tbody>
</table>
APPENDIX N – UDOH Alternate Worksites

The Utah Department of Health (UDOH) recognizes that normal operations may be disrupted and that there may be a need to perform critical business functions at alternate facilities.

Depending on the emergency conditions, the UDOH, through cooperative agreements and mutual aid agreements, has access to a primary and secondary facility that could support critical business functions.

Alternative Facility Locations should provide:

- Sufficient space and equipment
- Capability to perform essential functions within 12 hours, up to 30 days.
- Reliable logistical support, services, and infrastructure systems
- Consideration for health, safety, and emotional well-being of personnel
- Interoperable Communications
- Computer equipment and software

In conjunction with the Division of Facilities Construction and Management (DFCM), the UDOH will establish a memorandum of agreement (MOA) with alternate facilities. The MOA will enable the continuity of mission critical services provided by UDOH in the event that the building is inoperable and must be evacuated.

The UDOH Executive staff will make the decision to relocate to the alternate facility. The Executive Directors Office will disseminate the information to division or bureau leaders. Agency staff will receive notice to report to the alternate facility via their individual division or section supervisor.

The below primary and secondary addresses for the UDOH have been identified as temporary facilities where UDOH command and control staff will be able to relocate immediately following an emergency, during the evacuation phase, to determine the appropriate next steps.
<table>
<thead>
<tr>
<th>Essential Service or Function</th>
<th>Primary Contractor</th>
<th>Back up Contractor</th>
<th>Manager</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cleaning Staff</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Security</td>
<td></td>
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<tr>
<td>Waste Management</td>
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<tr>
<td>Building Maintenance</td>
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<tr>
<td>Locksmith</td>
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<tr>
<td>Transportation</td>
<td></td>
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<td></td>
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<tr>
<td>Food/Water/Shelter</td>
<td></td>
<td></td>
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<tr>
<td>Technology</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Vendors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office Supplies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Records</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preservation &amp; Salvage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phone Services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State Buildings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temporary Staffing Agencies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Agencies</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ANNEX 2 – LEGAL AUTHORITIES

Authorities
The Executive Director’s office of the Utah Department of Health has the authority to activate any and all emergency plans.

The following decision making criteria may be used as a guide for the Service Continuity Team to provide direction in a potentially high stress environment where specific direction from senior state officials may not be available. The Department acknowledges the fact that each situation is unique and impossible to predict. These criteria are general principles that can be applied across the broad spectrum of all service interruptions.

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>CRITERIA AND PRIORITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Safety</td>
<td>The first priority is the safety of the staff, volunteers and visitors or others who may be affected by an impact situation at the Department’s facility. The Executive Management Team is directed to act before, during, and after a service interruption to protect and preserve the life and safety of these individuals.</td>
</tr>
<tr>
<td>Long Term Recovery</td>
<td>Next in priority is the long-term survival of the agency. Decisions made concerning immediate recovery, reconstruction, or restoration of service must always be made in the context of the agency’s long-term recovery. Immediate results must not be achieved at the expense of the long-term capability of the agency.</td>
</tr>
<tr>
<td>Meeting Customer and Dependent Agency Needs</td>
<td>Third in priority is to meet the needs of those customers and those agencies that rely on the department’s services. Once human safety concerns and the department’s long term survival is ensured the department should do whatever it can to meet the needs those relying on DOH services. For an internal service interruption such as a fire, this may mean applying all available resources to quickly restore vital services. In a larger regional service interruption such as an earthquake or tornado, this may mean providing assistance in the form of special government loan programs and national resources.</td>
</tr>
<tr>
<td>Prudence</td>
<td>In all actions during a service interruption, the Executive Director, the Service Continuity Team, the staff, and volunteers must act with prudence. Every effort should be made to understand the long-term ramifications of decisions. Individual needs must be balanced with the needs of the Department and DTS members.</td>
</tr>
</tbody>
</table>
ANNEX 3 – REFERENCES

References

References used to develop the UDOH COOP are shown below.

- Continuity of Operations (COOP) Plan Template Instructions, Federal Emergency Management Agency
- The Commonwealth of Pennsylvania Continuity of Operations (COOP) Template, August 2007
- Guidelines for Developing an All Hazards COOP, Florida Department of Community Affairs Division of Emergency Management, December 2003.
- Federal Preparedness Circular 65
- FEMA IS-00546
- FEMA IS-00547
- The Office of the Governor’s Emergency Operation Directive
- The Robert T. Stafford Disaster Relief and Emergency Assistance Act, amendments to Public Law 93-288, as amended.
- Disaster Response Recovery Act, 63-5A.
- Emergency Interim Succession Act, 63-5B.

Note: If you are an emergency planner and would like access to the complete plan, please contact Hannah Gehman at hgehman@utah.gov.
Purpose:
These guidelines were developed by the Utah Hospitals and Health Systems Association (UHHSA) Triage Guidelines Workgroup. The purpose is to direct the allocation of patient care during an influenza pandemic or other public health emergency, when demand for services dramatically exceeds supply.

Basic premises:
- **Graded guidelines** should be used to control resources more tightly as the severity of a pandemic increases.
- **Priority should be given to patients for whom treatment would most likely be lifesaving** and whose functional outcome would most likely improve with treatment. Such patients should be given priority over those who would likely die even with treatment and those who would likely survive without treatment.

Scope:
- These triage guidelines apply to all healthcare professionals, clinics, and facilities in the state of Utah.
- The Guidelines apply to all patients ages 2 and over. Until guidelines are developed for infants, physician judgment determines treatment of pediatric patients.

When activated:
Guidelines should be activated in the event of pandemic influenza or other public health emergency declared by the governor of the state of Utah.

Hospital and medical staff planning:
- Each hospital should:
  - Establish a peer-based structure for the review of hospital admission, admission to ICU, and termination of care. Consider a team of at least 3 individuals, including an Intensivist and 2 or more of the following: hospital Medical Director, nursing supervisor, board member, ethicist, pastoral care representative, and independent physician(s).
  - Institute an action team to provide counseling and care coordination and to work with the families of loved ones who have been denied care.
- Facility medical staff should establish a method of providing peer support and expert consultation to physicians making these decisions.
OVERVIEW OF TRIAGE LEVELS

Triage Level 1
Early in the pandemic

- Hospitals recognize the need to surge bed capacities.
- Emergency departments (EDs) are experiencing increased numbers.
- Note: Skip this level in the event of a severe and rapidly progressing pandemic.

Triage Level 2
Worsening pandemic

- Emergency departments (EDs) are overwhelmed and hospitals have surged to maximum bed capacity.
- There are not enough beds to accommodate all patients needing hospital admission, and not enough ventilators to accommodate all patients with respiratory failure.
- Hospital absenteeism is 20-30%.

Triage Level 3
Worst-case scenario

- Hospitals have already implemented altered standards of care regarding nurse/patient ratios and have already expanded capacity by adding patients to already occupied hospital rooms.
- Hospital absenteeism is 30-40%.

PRE-HOSPITAL SETTINGS

Telephone Triage

Applies to: Patients who call for guidance for where to go or how to care for ill family members;
Implemented by: Primary care staff, hospital help lines, community help lines, and health department help lines

All Triage Levels: Use TELEPHONE TRIAGE TOOL (not yet developed) to provide initial triage screening, patient instructions and directions for those who need additional care or medical screening

Physician’s Offices and Clinics

Applies to: Patients who call for guidance for where to go or how to care for ill family members;
Implemented by: Primary care staff, hospital help lines, community help lines, and health department help lines

Triage Level 1:
- Use PRE-HOSPITAL TRIAGE TOOL (not yet developed) to evaluate patients before sending to hospital ED.

Triage Levels 2 and 3:
- Continue to use PRE-HOSPITAL TRIAGE TOOL (not yet developed).
- Initiate EXCLUSION CRITERIA (page 5) for hospital admission to evaluate patients. Do not send patients meeting EXCLUSION CRITERIA to the hospital for treatment. Send home with instructions for care.

Long-term Care and other Institutional Facilities
(e.g., mental health, correctional, handicapped, etc.)

Applies to: Patients in institutional facilities; Implemented by: Institutional facility staff

Triage Level 1:
- Ensure that all liquid oxygen tanks are at full capacity.
- Limit visitation to control infection.

Triage Levels 2 and 3:
- Use EXCLUSION CRITERIA for hospital admission (page 5) to evaluate patients. Do not transfer patients meeting exclusion criteria to the hospital for treatment.
- Give palliative and supportive care in place.
HOSPITAL SETTINGS

Hospital Administrative Roles - General

Triage Level 1:
1) Preserve bed capacity by:
   • Canceling all category 2 and 3 elective surgeries, and advising all category 1 elective surgery patients of the risk of infection
   • Canceling any elective surgery that would require post-operative hospitalization
   
   Note: Use standard operation and triage decision for admission to ICU since there are still adequate resources to accommodate the most critically ill patients

2) Preserve oxygen capacity by:
   • Phasing out all hyperbaric medicine treatments
   • Ensuring that all liquid oxygen tanks are at full capacity.

3) Improve patient care capacity by transitioning space in ICUs to accommodate more patients with respiratory failure.

4) Control infection by limiting visitation (follow hospital infection control plan)

Triage Level 2:
1) Preserve bed capacity by:
   • Canceling all elective surgeries unless necessary to facilitate hospital discharge
   • Evaluating hospitalized category 1 elective surgery patients for discharge using same criteria as medical patients.

2) Preserve oxygen capacity by stopping all hyperbaric treatments.

3) Improve patient care capacity by implementing altered standards of care regarding nurse/patient ratios and expanding capacity by adding patients to already occupied hospital rooms.

4) Provide emotional support by initiating pre-established ACTION TEAM to provide counseling and care coordination and to work with the families of loved ones who have been denied care.

Triage Level 3:
1) Preserve bed capacity by limiting surgeries to patients whose clinical conditions are a serious threat to life or limb, or to patients for whom surgery may be needed to facilitate discharge from the hospital.

Emergency Department, Hospital, and ICU - Clinical Triage

Use HOSPITAL AND ICU/VENTILATOR ADMISSION TRIAGE TOOLS (pages 4 and 5) to determine who to send home for palliative care or medical management and who to admit or keep in hospital or ICU. Note that the LOWEST priority for admission is given to patients with the lowest chance of survival with or without treatment, and to patients with the highest chance of survival without treatment.

Physician judgment should be used in applying these guidelines. Other factors to consider when apply triage guidelines include:
• Whether the patient is homeless and/or has someone to care for them at home
• Whether the patient is in the 2nd or 3rd trimester of a pregnancy

Triage Level 2:
• Initiate HOSPITAL AND ICU/VENTILATOR TRIAGE MODEL (pages 4 and 5) to determine priority for ICU admission, intubation, and/or mechanical ventilation.
• Reassess need for ICU/Ventilator treatment daily.

Triage Level 3:
• Continue to use HOSPITAL AND ICU/VENTILATOR TRIAGE MODEL (pages 4 and 5) to determine priority for ICU, intubation, and/or mechanical ventilation.
• Triage more YELLOW patients to floor on oxygen or CPAP.
• Triage more RED patients who are intubated and on CPAP to floor

See pages 4 and 5 for triage algorithm and supporting tools.
ALGORITHM: HOSPITAL AND ICU/VENTILATOR ADMISSION TRIAGE MODEL
Applies at Triage Levels 2 and 3

Patient arrival and initial stabilization

1 or more

EXCLUSION CRITERIA
(a)

none

MSOFA score (b)

MSOFA >11

LOW PRIORITY
- Lowest chance of survival even with treatment
- Manage medically
- Provide palliative care as needed
- Send home

DISCHARGE TO HOME OR FOR PALLIATIVE CARE

MSOFA 8 TO 11

INTERMEDIATE PRIORITY
- Intermediate priority for hospital admission
- For severe pandemic, highest priority for admission is given to patients triaged to RED

ADMIT to HOSPITAL

MSOFA 1 TO 8

HIGHEST PRIORITY
- Highest chance of survival with treatment
- Highest priority for hospital admission

ADMIT to ICU/VENTILATOR

Discharge from critical care. Use hospital admission triage to determine continued need for hospitalization

ADMIT to FLOOR

Lowest chance of survival even with treatment

Manage medically

Provide palliative care as needed

Send home

MSOFA = 0

LOW PRIORITY
- Highest chance of survival without treatment
- Defers or discharge to home with instructions
- Reassess as needed

DISCHARGE OR DO NOT ADMIT

MSOFA <8 or <11 and decreasing

HIGHEST PRIORITY
- Triage Level 2: Continue ICU/Ventilator
- Triage Level 3: Consider moving patients to floor bed on O2 or CPAP

DISCHARGE TO HOME OR FOR PALLIATIVE CARE

Reassess daily to determine continued priority for hospitalization

EXCLUSION CRITERIA
(a)

yes

no

MSOFA score (b)*

*Interpret MSOFA results along with physician judgment about patient condition

MSOFA increasing or 8 to 11 unchanged

INTERMEDIATE PRIORITY
- Triage Level 2: Continue ICU/Ventilator
- Triage Level 3: Consider moving patients to floor bed on O2 or CPAP

DISCHARGE

Reassess daily to determine continued priority for ICU/VENTILATOR

Still meet ICU INCLUSION CRITERIA (c)

no

extubated and no significant organ failure

ADMIT to ICU/VENTILATOR

Discharge from critical care. Use hospital admission triage to determine continued need for hospitalization

ADMIT to HOSPITAL

Inclusion Criteria (c)

EXCLUSION CRITERIA
(a)

yes

no

Interpret MSOFA results along with physician judgment about patient condition

MSOFA increasing or 8 to 11 unchanged
### (a) EXCLUSION CRITERIA for Hospital Admission:

The patient is excluded from hospital admission or transfer to critical care if ANY of the following is present:

1. Known “Do Not Resuscitate” (DNR) status
2. Severe trauma with a Revised Trauma Score <2 (d).
3. Severe and irreversible neurologic event or persistent coma and Glasgow Coma Score (GCS) <6 (e).
4. Known severe and irreversible neurologic event or requiring assistance with activities of daily living or requiring chronic ventilatory support.
5. Known severe and irreversible neurologic event or requiring assistance with activities of daily living or requiring chronic ventilatory support.
6. Known severe and irreversible neurologic event or requiring assistance with activities of daily living or requiring chronic ventilatory support.
7. Known severe and irreversible neurologic event or requiring assistance with activities of daily living or requiring chronic ventilatory support.
8. Known severe and irreversible neurologic event or requiring assistance with activities of daily living or requiring chronic ventilatory support.
9. Known severe and irreversible neurologic event or requiring assistance with activities of daily living or requiring chronic ventilatory support.
10. Known severe and irreversible neurologic event or requiring assistance with activities of daily living or requiring chronic ventilatory support.

### (b) Modified Sequential Organ Failure Assessment (MSOFA)

The MSOFA requires only one lab value that can be obtained using bedside point-of-care testing (creatinine obtained through ISTAT).

**MSOFA scoring guidelines**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Score 0</th>
<th>Score 1</th>
<th>Score 2</th>
<th>Score 3</th>
<th>Score 4</th>
<th>Score for each row</th>
</tr>
</thead>
<tbody>
<tr>
<td>SpO₂/FIO₂ ratio* or Nasal cannula or mask 0 required to keep SpO₂ &gt;90%</td>
<td>SpO₂/ FIO₂ &gt;400 or Room air SpO₂ &gt;90%</td>
<td>SpO₂/ FIO₂ 316-400 or SpO₂ &gt;90% at 1-3 L/min</td>
<td>SpO₂/ FIO₂ 231-315 or SpO₂ &gt;90% at 4-6 L/min</td>
<td>SpO₂/ FIO₂ 151-230 or SpO₂ &gt;90% at 7-10 L/min</td>
<td>SpO₂/ FIO₂ ≤150 or SpO₂ &gt;90% at &gt;10 L/min</td>
<td></td>
</tr>
<tr>
<td>Bilirubin (mg/dL)</td>
<td>&lt;1.2 or no scleral icterus</td>
<td>1.2-1.9</td>
<td>2.0-5.0 or scleral icterus</td>
<td>6.0-11.9 or clinical jaundice</td>
<td>≥12</td>
<td></td>
</tr>
<tr>
<td>Hypotension†</td>
<td>None</td>
<td>MABP &lt;70</td>
<td>DOP &lt;5</td>
<td>DOP 5-15 or EPI ≥0.1 or NOR-EPI ≥0.1</td>
<td>DOP &gt;15 or EPI &gt;0.1 or NOR-EPI &gt;0.1</td>
<td></td>
</tr>
<tr>
<td>Glasgow Coma Score</td>
<td>15</td>
<td>13-14</td>
<td>10-12</td>
<td>6-9</td>
<td>&lt;6</td>
<td></td>
</tr>
<tr>
<td>Creatinine level, mg/dl (use ISTAT)</td>
<td>≤1.2</td>
<td>1.2-1.9</td>
<td>2.0-3.4</td>
<td>3.5-4.9 or urine output &lt;500 mL in 24 hours</td>
<td>&gt;5 or urine output &lt;200 mL in 24 hours</td>
<td></td>
</tr>
</tbody>
</table>

MSOFA score = total scores from all rows:

* SpO₂/FIO₂ ratio:
  - SpO₂ = Percent saturation of hemoglobin with oxygen as measured by a pulse oximeter and expressed as % (e.g., 95%).
  - FIO₂ = Fraction of inspired oxygen; e.g., ambient air is 0.21.
  - Example: if SpO₂=95% and FIO₂=0.21, the SpO₂/FIO₂ ratio is calculated as 95/0.21=452

† Hypotension:
  - MABP = mean arterial blood pressure in mm Hg (diastolic + 1/3[systolic - diastolic])
  - DOP = dopamine in micrograms/kg/min
  - EPI = epinephrine in micrograms/kg/min
  - NOR-EPI = norepinephrine in micrograms/kg/min

### (c) ICU/Ventilator INCLUSION CRITERIA

Patient must have NO exclusion criteria (a) AND at least one of the following INCLUSION CRITERIA:

1. Requirement for invasive ventilatory support
   - Refractory hypoxemia (SpO₂ <90% on non-rebreather mask or FIO₂ >0.85)
   - Respiratory acidosis (pH <7.2)
   - Clinical evidence of impending respiratory failure
   - Inability to protect or maintain airway

2. Hypotension* with clinical evidence of shock* refractory to volume resuscitation, and requiring vasopressor or inotrope support that cannot be managed in a ward setting.

* Hypotension = Systolic BP <90 mm Hg for patients age >10 years old, or <70 + (2 x age in years) for patients ages 1-10, or relative hypotension; Clinical evidence of shock = altered level of consciousness, decreased urine output, or other evidence of end-organ failure
### (d) Revised Trauma Score (RTS)

Values for the Revised Trauma Score (RTS) range from 0 to 7.8408. The RTS is heavily weighted towards the Glasgow Coma Score (GCS) to compensate for major head injury without multisystem injury or major physiological changes. The RTS correlates well with the probability of survival. A Revised Trauma Score of <2 is an EXCLUSION CRITERIA for hospital admission during a pandemic flu at triage levels 2 and 3.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Score</th>
<th>Coded value</th>
<th>Weighting</th>
<th>Adjusted Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glasgow Coma Score</td>
<td>3</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 to 5</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 to 8</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 to 12</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 to 16</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Systolic Blood Pressure (SBP)</td>
<td>0</td>
<td>0</td>
<td>x 0.7326</td>
<td></td>
</tr>
<tr>
<td>1 to 49</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50 to 75</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>76 to 89</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;89</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respiratory Rate (RR) in breaths per minute (BPM)</td>
<td>0</td>
<td>0</td>
<td>x 0.2908</td>
<td></td>
</tr>
<tr>
<td>1 to 5</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 to 9</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;29</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 to 29</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Survival Probability based on Revised Trauma Score**

![Graph showing survival probability based on Revised Trauma Score]

### (e) Glasgow Coma Score

A Glasgow Coma Score (GCS) of <6 is an EXCLUSION CRITERIA for hospital admission in the case of pandemic flu at triage levels 2 and 3.

#### Glasgow Coma Scoring Criteria

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Adults and Children</th>
<th>Infants and Young Toddlers</th>
<th>Score</th>
<th>Criteria Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Best Eye Response</td>
<td>No eye opening</td>
<td>No eye opening</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>(4 possible points)</td>
<td>Eye opens to pain</td>
<td>Eye opens to pain</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eye opens to verbal command</td>
<td>Eye opens to speech</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eyes open spontaneously</td>
<td>Eyes open spontaneously</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Best Verbal Response</td>
<td>No verbal response</td>
<td>No verbal response</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>(5 possible points)</td>
<td>Incomprehensible sounds</td>
<td>Infant moans to pain</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inappropriate words</td>
<td>Infant cries to pain</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Confused</td>
<td>Infant is irritable and continually cries</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Oriented</td>
<td>Infant coos or babbles (normal activity)</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Best Motor Response</td>
<td>No motor response</td>
<td>No motor response</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>(6 possible points)</td>
<td>Extension to pain</td>
<td>Extension to pain</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Flexion to pain</td>
<td>Abnormal flexion to pain</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Withdraws from pain</td>
<td>Withdraws from pain</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Localizes to pain</td>
<td>Withdraws from touch</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Obey commands</td>
<td>Moves spontaneously or purposefully</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

**Total Score** (add 3 subscores; range 3 to 15):
(f) Triage Decision for Burn Victims

A burn score of “Low” or worse on this table is an EXCLUSION CRITERIA for hospital admission in the case of pandemic flu at triage levels 2 and 3.

<table>
<thead>
<tr>
<th>Age (yrs)</th>
<th>Burn Size (%TBSA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1.9</td>
<td>Very high</td>
</tr>
<tr>
<td>2.0-4.9</td>
<td>Outpatient</td>
</tr>
<tr>
<td>5.0-19.9</td>
<td>Outpatient</td>
</tr>
<tr>
<td>20.0-29.9</td>
<td>Outpatient</td>
</tr>
<tr>
<td>30.0-39.9</td>
<td>Outpatient</td>
</tr>
<tr>
<td>40.0-49.9</td>
<td>Outpatient</td>
</tr>
<tr>
<td>50.0-59.9</td>
<td>Outpatient</td>
</tr>
<tr>
<td>60.0-69.9</td>
<td>Very high</td>
</tr>
<tr>
<td>70.0+</td>
<td>Very high</td>
</tr>
</tbody>
</table>

Outpatient: Survival and good outcome expected, without requiring initial admission; Very high: Survival and good outcome expected with limited/short-term admission and resource allocation (straightforward resuscitation, LOS <14-21 days, 1-2 surgical procedures); High: Survival and good outcome expected (survival ≥90%) and with aggressive and comprehensive resource allocation, including aggressive fluid resuscitation, admission ≥14-21 days, multiple surgeries, prolonged rehabilitation.; Medium: Survival 50-90% and/or aggressive care and comprehensive resource allocation required, including aggressive resuscitation, initial admission ≥14-21 days, multiple surgeries and prolonged rehabilitation.; Low: Survival <50% even with long-term aggressive treatment and resource allocation; Expectant: Predicted survival ≤10% even with unlimited aggressive treatment.

(g) New York Heart Association (NYSA) Stages of Heart Failure

The NYHA functional classification system relates symptoms to everyday activities and the patient’s quality of life. NYHA Class III or IV heart failure are EXCLUSION CRITERIA for hospital admission in the case of pandemic flu at triage levels 2 and 3.

<table>
<thead>
<tr>
<th>NYSA Classes</th>
<th>Patient Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class I (Mild)</td>
<td>No limitation of physical activity. Ordinary physical activity does not cause undue fatigue, palpitations, or dyspnea.</td>
</tr>
<tr>
<td>Class II (Mild)</td>
<td>Slight limitation of physical activity. Comfortable at rest, but ordinary physical activity results in fatigue, palpitations, or dyspnea.</td>
</tr>
<tr>
<td>Class III (Moderate)</td>
<td>Marked limitation of physical activity. Comfortable at rest, but less than ordinary activity causes fatigue, palpitations, or dyspnea.</td>
</tr>
<tr>
<td>Class IV (Severe)</td>
<td>Unable to carry out physical activity without discomfort. Symptoms of cardiac insufficiency at rest. If any physical activity is undertaken, discomfort is increased.</td>
</tr>
</tbody>
</table>

(h) Pugh Score

A Total Pugh Score >7 is an EXCLUSION CRITERIA for hospital admission in the case of pandemic flu at triage levels 2 and 3.

<table>
<thead>
<tr>
<th>Scoring criteria</th>
<th>Value</th>
<th>Points</th>
<th>Total for criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Serum Bilirubin</td>
<td>&lt;2 mg/dL</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2-3 mg/dL</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;3 mg/dL</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Serum Albumin</td>
<td>&gt;3.5 g/dL</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.8-3.5 g/dL</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;2.8 g/dL</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>INR</td>
<td>&lt;1.70</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.71-2.20</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;2.20</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Ascites</td>
<td>None</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Controlled medically</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Poorly controlled</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Encephalopathy</td>
<td>None</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Controlled medically</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Poorly controlled</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Total Pugh Score

<table>
<thead>
<tr>
<th>Score interpretation</th>
<th>Total Pugh Score</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-6</td>
<td>A</td>
<td>Life expectancy 15-20 years Abdominal surgery peri-operative mortality 10%</td>
</tr>
<tr>
<td>7 to 9</td>
<td>B</td>
<td>Liver transplant evaluation indicated Abdominal surgery peri-operative mortality 30%</td>
</tr>
<tr>
<td>10 to 15</td>
<td>C</td>
<td>Life expectancy 1-3 years Abdominal surgery peri-operative mortality 82%</td>
</tr>
</tbody>
</table>

Used with permission from www.abouthf.org.
DEFINITIONS

- **Emergency Patients:** Those patients whose clinical conditions indicate that they require admission to the hospital and/or surgery within 24 hours.

- **Elective Surgery:**
  - **Category One:** Urgent patients who require surgery within 30 days.
  - **Category Two:** Semi-urgent patients who require surgery within 90 days.
  - **Category Three:** Non-urgent patients who need surgery at some time in the future.

- **Long Term Care Facilities:** A residential program providing 24-hour care, to include: Nursing Homes, Skilled Nursing Facilities, Assisted Living 1 and 2, Residential Care Facilities, and Intermediate Care for the Mentally Retarded (ICFMR) facilities.

- **Palliative Care:** To make a patient comfortable by treating symptoms from an illness and by addressing issues causing physical or emotional pain or suffering.

REFERENCES AND RESOURCES

This document was developed following review and partial adaptation of the following articles:


Utah Pandemic Influenza Response Plan
Public Health-Related Legal Authorities
Revised August 24, 2007
<table>
<thead>
<tr>
<th>TITLE</th>
<th>REFERENCE/ CODE</th>
<th>BRIEF DESCRIPTION</th>
<th>PARTNERS/ AGENCIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definition of a Disaster</td>
<td>Title 63-5-2</td>
<td>&quot;Disaster&quot; means a situation causing, or threatening to cause, widespread damage, social disruption, or injury or loss of life or property resulting from attack, internal disturbance, natural phenomena or technological hazard.</td>
<td></td>
</tr>
<tr>
<td>Period in which Authority may be Exercised</td>
<td>Title 63-5b-502</td>
<td>Persons authorized to act as governor, emergency interim successors, and special emergency judges shall exercise the powers and duties of the office to which they succeed only when a disaster has occurred. Emergency interim successors serve for 30 days after the governor or governor’s successor calls the Legislature into special session unless the unavailability of the elected official ends or an emergency interim successor earlier in the order of succession becomes available. In the event a legislator is killed or resigns, the emergency interim successor shall serve until the legal replacement is sworn in. The Legislature has the ability to terminate the authority of any emergency interim successor(s) or special emergency judges and also to extend the time during which any or all emergency interim successors or judges may exercise their powers.</td>
<td>• Governor&lt;br&gt;• Legislature&lt;br&gt;• Emergency Interim Successors&lt;br&gt;• Emergency Judges</td>
</tr>
<tr>
<td>UDOH General Powers</td>
<td>Title 26-1</td>
<td>Outlines the health functions for which the state is responsible for through the Utah Department of Health (UDOH). The department is responsible for establishing health policy for the state and to promote health, the quality of life, and contain costs in the health field.</td>
<td>• Local health departments (LHDs)&lt;br&gt;• US Department of Health and Human Services (DHHS)</td>
</tr>
<tr>
<td>Communicable Disease Control Act</td>
<td>Title 26-6</td>
<td>Delegates to UDOH the authority to investigate and control the causes of epidemic infections and communicable disease within the state. UDOH shall provide for the detection, reporting, prevention, and control of communicable diseases, epidemic infections or any other health hazard which may affect public health.</td>
<td>• LHDs</td>
</tr>
<tr>
<td>TITLE</td>
<td>REFERENCE/ CODE</td>
<td>BRIEF DESCRIPTION</td>
<td>PARTNERS/ AGENCIES</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>----------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td>Detection of Public Health Emergencies</td>
<td>Title 26-23b</td>
<td>Legal statute mandates that all health care providers shall report any cases of any persons known or believed to have been infected due to: bioterrorism, epidemic/pandemic disease, or novel and highly fatal infections or toxins.</td>
<td>- Health care providers including primary care physicians, pharmacies and medical laboratories.</td>
</tr>
<tr>
<td>LHD General Powers</td>
<td>Title 26A-1</td>
<td>Statute authorizing the governing body of each county to create and maintain a local health department which includes and serves all incorporated and unincorporated areas in the county. LHDs will be responsible for: public health administration and supportive services, maternal and child health, surveillance and epidemiology of communicable disease, food protection, solid and water waste management, and safe drinking water management. Allows for monitoring of performance by UDOH and approval of a corrective action plan created by the local health department if necessary.</td>
<td>- Utah Department of Environmental Quality - LHDs</td>
</tr>
<tr>
<td>LHD Minimum Performance Standards</td>
<td>R 380-40</td>
<td>Administrative code that allows LHDs and UDOH to negotiate specific measurable levels of performance not inconsistent with corresponding general performance standards, and record them in a negotiated standards document. Outlines qualifications and responsibilities for each local health officer.</td>
<td>- LHDs</td>
</tr>
<tr>
<td>Isolation &amp; Quarantine</td>
<td>Title 26-6b</td>
<td>Outlines how involuntary examination, treatment, isolation, and quarantine actions can be applied to individuals or groups of individuals determined by UDOH or a local health department who have been determined to be a risk or potential risk to public health. Individuals or groups may be quarantined or isolated if they pose a risk to public health after failing to take actions required to prevent the spread of disease or if they have been infected or contaminated with a biological or chemical agent that poses a threat to public health without remedial action. The quarantine and/or isolation must be for the shortest amount of time necessary and in the least intrusive manner.</td>
<td></td>
</tr>
<tr>
<td>Declaration of a Public Health Emergency</td>
<td>Title 26-23b-104(3)</td>
<td>This section of the code allows for the declaration of a public health emergency to trigger mandatory reporting requirements.</td>
<td></td>
</tr>
<tr>
<td>TITLE</td>
<td>REFERENCE/ CODE</td>
<td>BRIEF DESCRIPTION</td>
<td>PARTNERS/AGENCIES</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------------------------------------</td>
</tr>
<tr>
<td>Mutual Aid Compact</td>
<td>Title 53-2-202</td>
<td>The compact provides for mutual assistance between the states, districts, commonwealths, and territories that implement the compact in the event of an emergency or disaster as declared by the governor of the state or territory. The compact also provides for cooperation between states during emergency-related trainings and exercises. In the event of a declared emergency or disaster the legally designated state official who is assigned responsibility for emergency management will be responsible for formulation of the appropriate interstate mutual aid plans. States may withhold assistance to the extent necessary to provide reasonable protection of their own state.</td>
<td>Compact Signatories, Governor’s Office, National Guard</td>
</tr>
<tr>
<td>Mutual Aid Compact (continued)</td>
<td>Title 39-5-2</td>
<td>One state’s civil defense forces operating within the boundaries of another state as part of the compact shall have the same powers as the forces of the state in which they are operating except for that of arrest, unless specifically authorized by the receiving state. Forces are granted the same rights, privileges and immunities as if they were operating within their home state. Civil defense forces will continue under their traditional control and command structure, but the organizational units will come under operational control of the receiving state. Any state delivering aid to another is entitled to be reimbursed in full for all services rendered and all equipment or supplies used.</td>
<td>Compact Signatories, Governor’s Office, National Guard</td>
</tr>
<tr>
<td>School Closure</td>
<td>Title 26a-1-114 Subsections (3), (4), (5)</td>
<td>Allows LHDs to establish control of property or persons necessary to protect public health, including the ability to close theatres, schools and to prohibit public gatherings. LHDs must conduct regular inspections of the health-related conditions of all public and private schools. LHDs are to report back the findings of these investigations to UDOH, and to provide instructions for correction of any conditions that impair or endanger the health or life of those attending the schools. If those responsible for the school buildings do not carry out the instructions, LHDs may exercise incidental authority necessary to do so.</td>
<td>UDOH, LHDs</td>
</tr>
<tr>
<td>TITLE</td>
<td>REFERENCE/ CODE</td>
<td>BRIEF DESCRIPTION</td>
<td>PARTNERS/ AGENCIES</td>
</tr>
<tr>
<td>------------------------------</td>
<td>-----------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Mass Gathering Closure</td>
<td>Title 26-1-12</td>
<td>If the executive director finds that a condition of filth, sanitation, or other health hazard exists which creates a clear present hazard to the public health and which requires immediate action to protect human health or safety, the executive director with the concurrence of the governor may order persons causing or contributing to the condition to reduce, discontinue, or ameliorate it to the extent that the public health hazard is eliminated.</td>
<td>LHDs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Department of Environmental Quality</td>
</tr>
<tr>
<td></td>
<td><strong>Title 26-1-30 Subsection (2)</strong></td>
<td>The department shall exercise its authority to close theaters, schools, and other public places and forbid gatherings of people when necessary to protect the public health.</td>
<td></td>
</tr>
<tr>
<td>Medical Reserve Corps</td>
<td>Title 26A-1-126</td>
<td>A medical reserve corps may be established by LHDs to enable the local health authority to respond with appropriate health care professionals to a national, state or local emergency or to a declaration by the President of the United States or other federal official requesting public health related activities. The reserve corps can be made of current and former health care professionals whose licenses are or were in good standing.</td>
<td>Division of Occupational and Professional Licensing</td>
</tr>
<tr>
<td></td>
<td>Title 58-1-307(4)</td>
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<td>LHDs</td>
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<td>Volunteer Protection</td>
<td>Title 67-20</td>
<td>The act covers approved volunteers for a government agency, including volunteer safety officers, and compensatory service workers, defined as youth and adults who are performing public services for an agency as a condition of a sentence, diversion, probation or parole. Any volunteer or compensatory service worker is considered a government employee for purposes of receiving workers’ compensation medical benefits, which is the exclusive remedy for all injuries and occupational diseases as provided under the Workers’ Compensation Act and the Utah Occupational Disease Act.</td>
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| Volunteer Protection  
• Private Organizations | Title 78-19 | Volunteers providing services for nonprofit organizations cannot incur legal liability for any act of omission if the volunteer was acting in good faith within the scope of his/her official responsibilities and the damage or injury was not caused by an intentional act which constitutes illegal conduct. The protection does not apply if the volunteer was operating a motor vehicle for which an operator’s license is required, when a suit is brought by an officer of a state or local government to enforce a federal, state or local law or when the nonprofit organization fails to provide a financially secure source of recovery for individuals who suffer injuries as a result of an action by a volunteer. | DHHS  
Private Organizations  
Division of Occupational Licensure |
| Emergency System for Advanced Registration of Volunteer Health Professionals (ESAR-VHP) | PL 107-188 Title I Sec 107 | Establishes guidelines and funding at the federal level for the implementation of a state-based electronic database of health care personnel who volunteer to provide aid in an emergency. Each state’s ESAR-VHP System must (1) register health volunteers, (2) apply emergency credentialing standards to registered volunteers, and (3) allow for the verification of the identity, credentials, and qualifications of registered volunteers in an emergency. A Health volunteer is a medical or healthcare professional that renders aid or performs health services, voluntarily, without pay. Each state’s ESAR-VHP system will contain certain standards, allowing for information to be shared across states simply. Upon the completion of each state’s system, they will be joined to create a nationwide ESAR-VHP system. | DHHS  
Other States  
Private health care system  
Division of Occupational Licensure |
| American Red Cross | ESF 6 | Promotes the delivery of services and the implementation of programs to assist individuals, households and families impacted by potential or actual Incidents of National Significance in the areas of mass care (non-medical, emergency relief), housing, and human services. The American Red Cross functions as a primary organization in coordinating the use of Federal mass care resources in support of state and local efforts. | Department of Homeland Security, Federal Emergency Management Agency (FEMA)  
State and Local government response organizations |
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<td>Health Care Facility Licensing and Inspection Act</td>
<td>Title 26-21</td>
<td>Outlines the licensing of health-care facilities including abortion clinics, ambulatory health-care clinics, assisted living facilities, home health agencies, hospitals and freestanding clinics such as maternal health clinics and dialysis centers. Licensing is governed by the Health Facility Committee, comprised of 13 individuals knowledgeable about health care facilities and issues. The committee members must be approved by the senate, and no more than seven members can be of the same political party. UDOH must authorize an agent to conduct inspections of health-care facilities and must also collect information authorized by the committee that may be necessary to ensure that adequate healthcare facilities are available to the public.</td>
<td>Bureau of Licensing</td>
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<tr>
<td>Health Facility Licensing</td>
<td>R 432</td>
<td>Defines the standards that health-care facilities and agencies must follow in order to obtain a license. Allows for inspections of all facilities to determine compliance with standards, regardless of accreditation. UDOH has the authority to approve or deny a Plan of Correction for the facility if deemed to be in violation of regulations. UDOH may revoke or refuse to renew a license in cases or chronic noncompliance. The Bureau of Licensing may review all complaint investigation findings.</td>
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<td>Public Health and Medical Services Annex</td>
<td>ESF 8</td>
<td>Outlines how the federal government, lead by DHHS, provides supplemental assistance to state, local and tribal governments in identifying and meeting public health needs during potential or actual Incidents of National Significance. Support can be provided in one of four areas: assessment of public health/medical needs, public health surveillance, medical care personnel and medical equipment and supplies. The American Red Cross is a support agency to DHHS under ESF 8, with specific responsibilities to provide support when requested.</td>
<td>DHHS, Department of Homeland Security, Department of Defense, Department of Veterans Affairs, American Red Cross</td>
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<td>Disaster Response and Recovery Act</td>
<td>Title 63-5a</td>
<td>Assists the governor of Utah and its political subdivisions in effectively providing emergency disaster response and recovery assistance. Authorizes the governor to utilize all necessary resources to cope with a state of emergency, and allows the governor to direct state and local officers and agencies as needed. Empowers the governor to recommend and direct evacuations of any threatened or stricken area, as necessary. Limits the length of any state of emergency to 30 days, unless authorized by the Legislature. Also allows chief executive officers of political subdivisions of the state to declare local states of emergency. The act gives the governor and other chief executive officers’ declarations the force of law when not in conflict with existing laws, except as specifically provided, mainly to allow for the suspension of housing code for temporary housing.</td>
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<td>Disaster Emergency Advisory Council</td>
<td>Title 63-5-4</td>
<td>Establishes a council that meets at the call of the governor in order to provide advice and assistance during any emergency or disaster. The council is to be comprised of: lieutenant governor, attorney general, president of the Senate, speaker of the House of Representatives, representative of the National Guard appointed by the governor with the consent of the Senate, commissioner of agriculture and food, state planning coordinator, representatives from two statewide, nongovernmental service organizations appointed by the governor with the consent of the Senate, the executive directors of the Departments of Transportation, Human Services, Health, Environmental Quality, Community and Economic Development, and Natural Resources, and the heads of the following state agencies: Public Safety; Division of Emergency Services and Homeland Security, Building Board, and the Governor's Office of Planning and Budget.</td>
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<td>Disaster Assistance for Crisis Counselors</td>
<td>42 CFR 38</td>
<td>During a declared disaster, a governor or state administrator may request from the Secretary of DHHS crisis counselors to provide counseling to disaster victims. The governor should identify the local organizations and agencies capable of providing such assistance, and also provide an estimate of the number of people needing counseling and the duration, location, and the total necessary funds to provide counseling. The Secretary may then provide the counselors, either through direct assistance or contract with local/national agencies.</td>
<td>• Secretary, DHHS&lt;br&gt;• National Institute of Mental Health&lt;br&gt;• Federal Disaster Assistance Administration&lt;br&gt;• State Governor</td>
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<td>Continuity of Management in Emergencies</td>
<td>Title 31A-5-411</td>
<td>Facilitates the continuation of a domestic insurance corporation in the event of an attack on the United States or nuclear or other disaster which makes continued operation in strict accordance with applicable laws, regulations or bylaws impractical. The board of any corporation may institute emergency bylaws during the national emergency which are necessary for operation during the emergency, notwithstanding any different provisions in the regular bylaws.</td>
<td>• Board of Directors for any Utah-based Insurance Corporation</td>
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<td>Emergency Medical Services System</td>
<td>Title 26-8a</td>
<td>With the assistance of the Emergency Medical Services Committee, UDOH shall coordinate all emergency medical services and establish rules pursuant to it, including licensing and permitting.</td>
<td>• Communications&lt;br&gt;• Data Collection</td>
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<td>• Communications</td>
<td>Title 26-8a-202</td>
<td>The Department is the lead agency for coordinating the statewide emergency medical service communication systems under which emergency medical personnel, dispatch centers, and treatment facilities provide medical control and coordination between emergency medical service providers.</td>
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<td>• Data Collection</td>
<td>Title 26-8a-203</td>
<td>The Department must establish a data collection system to provide for the collection of information related to the treatment and care of those using emergency medical services, as defined by the EMS Committee. All emergency medical providers must report back all required information to the database.</td>
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<td>Emergency Medical Services System (continued)</td>
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<td>Disaster Coordination Plan</td>
<td>Title 26-8a-204</td>
<td>The Department shall develop plans to provide emergency medical services during times of disaster or emergency, in coordination with all federal, state and local disaster response agencies.</td>
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<td>Persons and Activities Exempt from Civil Liabilities</td>
<td>Title 26-8a-601</td>
<td>Any certified paramedic, medical director, emergency medical service instructor or other types of emergency personnel as the EMS Committee deems necessary as well as licensed physicians, physician’s assistants, and registered nurses acting in good faith are exempt from civil liabilities in the event they provide emergency medical care or instruction, except in the case of willful neglect or gross negligence.</td>
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<td>Disaster Preparedness for Clinics, Rehab Agencies, and Public Health Agencies as Providers of Outpatient Physical Therapy and Speech-Pathology Services</td>
<td>42 CFR 485 Sec 727</td>
<td>In order to be certified as a comprehensive outpatient rehabilitation facility, all facilities must have a written disaster plan which is regularly rehearsed. The plan must account for the following in the event of an emergency: the transfer of casualties and records, the location and use of an alarm system and signals, the methods of containing fire and the proper channels for notification of appropriate persons relevant to the facility.</td>
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<td>Major Disaster Assistance Programs</td>
<td>42 USC 68 Sec 5170a</td>
<td>In any major disaster the President may direct any federal agency, with or without reimbursement, to utilize its authorities and resources in support of state and local efforts. The President may coordinate all disaster relief assistance, including voluntary assistance, and provide any technical and advisory assistance to affected state and local governments for the provision of services, warnings and information. The President may direct any federal agency to assist state and local governments in the distribution of medicine, food, other consumable supplies and emergency assistance.</td>
<td>President of the United States, Any necessary federal agency, Governor, Local governments</td>
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| Requests for Major Disaster Declarations | 44 CFR 206.36 | When a catastrophe occurs, the Governor/Acting Governor may request a major disaster declaration by submitting a request to the President within 30 days of the disaster, through the appropriate channels. The request must show the disaster is beyond the scope of state capabilities and that federal assistance is needed. The request must indicate the Governor has taken all appropriate steps, an estimate of damages, a description of state resources used or planned to be used, estimates of the types and amounts of assistance needed and certification of cost-sharing requirements. | • President of the United States  
• Federal Emergency Management Agency  
• Regional Director, FEMA  
• Governor/Acting Governor |
| Community Disaster Loans | 42 USC 68 IV Sec 5184 | The President is authorized to dispense loans to any local government which may suffer a substantial loss of tax or other revenue as a result of a major disaster, based on need. The loan may not exceed more than 25% of annual operating budget, or $5,000,000, whichever is smaller. | • President of the United States  
• Local governments |
<p>| General Hospital Standards—Emergency and Disaster Plan | R432-100-38 | Hospital administrator or designee is responsible for developing a disaster plan, coordinated with state and local disaster response personnel in order to assure the safety of hospital staff and patients during an emergency. The plan shall outline an evacuation plan, deliver of essential care and services to hospital occupants regardless of setting, deliver of essential care and services when additional persons are house in the hospital during an emergency, deliver of essential care and services when staff is reduced by an emergency, and maintenance of safe ambient air temperatures within the hospital. The plan shall delineate the persons with decision making authority for fiscal, medical and personnel management, how to acquire additional equipment and help after a disaster, the assignment of personnel to specific tasks, methods of communicating with local emergency agencies, telephone numbers of individuals to be notified and order of priority, methods of transporting and evacuating patients and conversion of the hospital for emergency use. A hospital may exceed its licensed capacity by up to 20% in the event of an emergency, assuming it notifies UDOH by fax or telephone. | • Local emergency and fire agencies |</p>
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<td>Nursing Care Facilities Emergency Response and Preparedness Plan</td>
<td>R432-150-29</td>
<td>Nursing care facilities are responsible for the safety and well-being of their residents during a disaster or emergency. The facility must develop an emergency and disaster plan that is approved by the governing board. The plan shall delineate the persons with decision-making authority for fiscal, medical and personnel management, how to acquire additional equipment and help after a disaster, the assignment of personnel to specific tasks, methods of communicating with local emergency agencies, telephone numbers of individuals to be notified and order of priority and methods of transporting and evacuating patients.</td>
<td>• Local emergency and fire agencies</td>
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