

Utah Pandemic Influenza Response Plan

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Executive Summary

An influenza pandemic is a worldwide outbreak or epidemic caused by a strain of 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. Many pandemics are believed to occur when a strain of influenza circulating among birds (avian influenza), acquires the ability to cause serious illness and to spread effectively among people. Beginning in 1997 and continuing through 2005, a widespread outbreak of avian influenza (H5N1) has affected birds in multiple Asian countries. 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 of the severity of the 1918 pandemic could cause over a million Utahns to become ill and result in over 500,000 outpatient doctor visits, 15,000 hospitalizations, and 4,000 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 and other supplies would occur, including antiviral medications; 4) capacity to provide medical care would be severely stressed or exceeded; and 5) absenteeism rates and fear would stress ability 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 U.S. Department of Health and Human Services (DHHS). It outlines responsibilities and activities in 5 areas (Planning and Coordination; Surveillance, Investigation and Containment; Vaccine and Antivirals; Communications; and Health Care and Emergency Response) for the three pandemic planning phases outlined by the WHO (Interpandemic, Pandemic Alert, and Pandemic Periods).

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. Nevertheless, a serious influenza pandemic would pose substantial challenges to existing capabilities. The next phase of planning should involve wider community efforts to address those challenges. We have identified six critical policy questions that should guide those efforts.

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 (H5N1) virus capable of directly infecting humans was first detected in Hong Kong in 1997. That virus strain has been circulating widely in several Asian countries since 2003. Avian influenza H5N1 has caused 122 human cases and 62 deaths (WHO as of October 24, 2005) 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 (H5N1) strains evolve 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) 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; 2) an overwhelming burden of ill persons requiring hospitalization or outpatient medical care; 3) shortages and delays in the availability of vaccines and antiviral medications; 4) disruption of national and community infrastructures including health care, transportation, commerce, utilities and public safety; and 5) global spread of infection with outbreaks throughout the world.

The Utah Department of Health 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, assess the need for and potential uses 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:

Assumptions

1. An influenza pandemic will cause simultaneous outbreaks across the United States limiting the ability to transfer assistance from one jurisdiction to another.
2. Utah may have no warning or as long as a three-month warning before the arrival of the pandemic influenza virus within the state's borders.
3. No vaccine will be available until 6-8 months after onset of the pandemic. The timing of vaccine availability for use in Utah will depend on the timing of arrival of the pandemic in Utah relative to onset elsewhere.
4. Two doses of vaccine (administered 30 days apart) will be needed to develop immunity to the pandemic virus.
5. Once the vaccine is available, it will take five months to produce an adequate supply of vaccine for the entire US population (approximately 20 percent of the vaccine will be produced per month).
6. The federal government will purchase the first 20% of vaccine produced and will distribute it directly to states. In Utah, 240,000 persons (based on 2005 population estimates) could receive two doses of vaccine from the initial federal supply.
7. In a given community, the influenza epidemic will last at least one month.
8. The first wave of pandemic influenza will be followed by a second wave arriving three to nine months after the first wave.
9. The "first wave" may have the following effects on the general population in Utah (est. 2005 population 2,400,000):
 - Clinically Ill (ILI attack rate=25%): 250,000-400,000

- Require Outpatient Care: 125,000-250,000
 - Require Hospitalization: 3,750-10,000
 - Fatalities: 1,000-4,000
- 10. The “second wave” may have the following affects on the general population in Utah assuming 1918 severity (est. 2005 population 2,400,000):
 - Clinically Ill (ILI attack rate of 5%): 50,000-80,000
 - Require Outpatient Care: 25,000-50,000
 - Require Hospitalization: 750-2,000
 - Fatalities: 250-1,000
- 11. Total persons affected in Utah for “1918-like” pandemic lasting one year:
 - Clinically ill: > 1,000,000
 - Require outpatient care: > 500,000
 - Require hospitalization: > 15,000
 - Deaths: > 4,000
- 12. 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. Attempts to meet the special needs of those populations needs to be addressed in planning.

Planning Phases and Response Areas

Utah’s Pandemic Influenza Response Plan is divided according to the three major pandemic periods described by the World Health Organization (1). The more detailed phases described in that plan are also described here for the reader’s information but activities are not specified according to the more detailed phases in this plan.

I. Inter-Pandemic Period

Phase 1: No new influenza subtypes detected in humans. Human risk from known viruses circulating in animals believed to be low.

Phase 2: A circulating animal virus poses substantial risk of human disease.

II. Pandemic alert period

Phase 3: Human infection(s) with new subtype, but no human-to-human spread, or at most rare instances of spread to a close contact.

Phase 4: Small cluster with limited human-to-human spread but spread is highly localized suggesting the virus is not well adapted to humans.

Phase 5: Larger cluster(s) but human-to-human spread still localized.

IV. Pandemic period

Phase 6: Increased and sustained transmission in general population.

Activities in each pandemic period are organized into six components that were based on those described by the U.S. Department of Health and Human Services (DHHS)(2):

1. Planning and Coordination
2. Surveillance, Investigation and Containment
3. Vaccine and Antiviral Medications

4. Communications
5. Healthcare and Emergency Response

For each pandemic period, the plan provides background response information and lists the activities and responsibilities of response partners (e.g., Department of Health and Human Services, Centers for Disease Control and Prevention (CDC), Utah Department of Health (UDOH), Division of Emergency Services and Homeland Security (DESHS), Local Health Departments, hospitals and other health care agencies/organizations).

The appropriate response measures will be determined by the epidemiologic characteristics of the pandemic including: age-specific attack rates and severity, the overall severity of illness; variations in severity among different risk groups; and the efficiency of transmission from person to person. Utah's response plan for the health care system is based on best estimates at this time but will have to be modified if the epidemiology of the outbreak is significantly different from the planning assumptions.

Relation to Other Preparedness Planning

Planning for an influenza pandemic in Utah builds upon many 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, and SARS. 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 with hospitals and clinics. The media and many other entities will also be important partners in an effective response.

A brief, 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 and obtain agreement from elected officials and from key response partners for 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 an influenza pandemic response plan.
- 4.) Engage and educate key response partners about the threat of an influenza pandemic and about the pandemic influenza plan.
- 5.) Assist local health departments and tribal governments as needed in developing pandemic influenza plans for their jurisdictions.
- 6.) Conduct scenario-based exercises to assess and improve response capability and assist in identifying and clarifying roles and responsibilities for response to an influenza pandemic.
- 7.) Review and update 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.

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 thru established means.

C. Vaccines/Antiviral Medications:

- 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 pandemic vaccine/antiviral distribution plans and begin planning with private providers based on their roles in those plans.
- 5.) Assist local health departments to draft and exercise mass vaccination clinic protocols.
- 6.) Consider establishing a Utah stockpile of antiviral medications.

D. 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 plans for 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, provide care for dependents of ill adults, and maintain critical community services when $\geq 20\%$ of workers are absent due to illness.

E. Communications:

- 1.) Develop 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.

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.

Depending on the level of pandemic risk, surveillance systems and laboratory surveillance of viral isolates may be enhanced to increase the ability to detect the virus in Utah. As information becomes available about vaccine development, antiviral stockpiles, or other issues, the pandemic plan will be adjusted or enhanced to incorporate that new information.

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 a Pandemic Influenza Planning Group to review the overall plan and assess progress toward implementing key components of that plan.
- 2.) UDOH will actively monitor reports from the 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.) Upon learning of substantive information about the virus or preparations for the virus, UDOH will review the Pandemic Response Plan and adjust as appropriate.
- 5.) UDOH will disseminate key findings about the virus, and relevant international and national events to response partners in Utah.
- 6.) An update regarding status of preparedness and critical areas that need to be addressed will be prepared and delivered to UDOH leadership.

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.

C. Vaccines/Antiviral Medications:

- 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/medication distribution system;
 - c. Meet with response partners and review major elements of the vaccine and antiviral medication 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 supply and administration of vaccinations, occurrence of vaccine adverse effects, and vaccine coverage of target populations.

D. 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.

E. Communications:

- 1.) The State Epidemiologist 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.) 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 pandemic.
- 3.) Existing communication plans will be evaluated and exercised.
- 4.) Implement public communication strategies to prepare Utah citizens for the possibility and consequences of an influenza pandemic.

Pandemic Period

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

In the *pandemic period*, the *pandemic alert* activities will continue at an intensified level. Surveillance efforts will be increased to monitor both influenza illness and circulating influenza viruses. 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. Upon detection of the pandemic strain 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. Local coroners and funeral directors will be advised to prepare for increases in the number of dead 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 alternate treatment sites and home-care protocols will be needed.

A. Planning and Coordination:

- 1.) Activate Pandemic Response Plan and relevant components of all-hazard disaster planning, including emergency epidemiology response plan and if necessary the Emergency Coordination Center.
- 2.) Notify UDOH response personnel, Local Health Officers, and other response partners of the declaration of a Pandemic Period using Utah Notification and Information System (UNIS) and other appropriate means.
- 3.) The Pandemic Influenza Operations Group (PFOG) will meet to review known facts and prepare a situation report to EDO including recommendations for immediate actions and a request for any needed response resources.
- 4.) UDOH will assess available resources and advise response personnel of potential need to alter personal plans to meet the needs of a pandemic response.
- 5.) 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.
- 6.) A situation report on the pandemic will be prepared 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.
- 7.) State Epidemiologist/BEMS director may request delivery of Strategic National Stockpile assets.
- 8.) A process of regular conference calls will be established with response partners.
- 9.) Adjust response efforts based on analysis of effectiveness of response efforts, changes in national or global recommendations, or changes in available resources.

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 enhanced surveillance to monitor the impact, including both disease occurrence and affected populations.
- 3.) Upon detection of pandemic strain or evidence of its circulation in Utah, implement surveillance to monitor resource availability and use (e.g., hospital bed census and availability, urgent care visit volume, and absenteeism in critical workforce areas).
- 4.) Conduct regular analyses of surveillance data to monitor changes in epidemiology, assess effectiveness of response efforts, and identify need for containment efforts.
- 5.) Prepare regular surveillance reports and disseminate to response partners and general public.
- 6.) According to national/global recommendations or based on epidemiologic findings in Utah, initiate containment measures to limit spread of pandemic strain in Utah. Such restrictions may include:

- a. Travel restrictions (including air and ground transportation)
- b. Screening of persons arriving from affected areas
- c. Cancellation/closure of mass gatherings (e.g., concerts, sports events, schools)

C. Vaccines/Antiviral Medications:

- 1.) Review vaccination priority groups and vaccination distribution plans for appropriateness based on anticipated or actual supply and characteristics of the pandemic. Modify as appropriate.
- 2.) As vaccine becomes available, implement vaccination plan.
- 3.) Monitor vaccine administration and vaccine reactions.
- 4.) Review antiviral use recommendations based on supply and the characteristics of the pandemic and pandemic virus.
- 5.) Implement antiviral administration plan.
- 6.) Monitor use and if possible effectiveness of antiviral medications.
- 7.) Analyze effectiveness and use of vaccination/antiviral medications and adjust their use as appropriate based on results and supplies.
- 8.) Using “first wave” experience, analyze efficacy of vaccine/antiviral medication distribution system and make changes as appropriate.
- 9.) Review vaccine priority groups and modify as epidemiology of pandemic dictates

D. Healthcare and Emergency Response:

- 1.) All response partners will be notified of the pandemic via UNIS (Utah Notification and Information System) and other means as necessary.
- 2.) Establish means of coordination and communication with State and local emergency operation centers as they are activated.
- 3.) Guidelines for triage and treatment will be updated and distributed as information becomes available
- 4.) Pandemic inFluenza Operations Group (PFOG) will meet at least weekly to assess response as well as information from international and national response partners. PFOG will formulate recommendations for dissemination or for consideration by the policy decision-making group as indicated.
- 5.) Implement use of stockpiles of medical supplies and distribution systems.
- 6.) Implement emergency response procedures as required to maintain essential services.
- 7.) 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.
- 8.) Bureau of Emergency Medical Services (BEMS) will be the primary state agency assessing hospital/other medical facility response activities
- 9.) Division of Emergency Services and Homeland Security (DESHS) will be the primary state agency responsible for transport of equipment, supplies and personnel.

E. Communications:

- 1.) Implement public information and communication plan, including, as appropriate, 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 urgency of situation.
- 2) The State Epidemiologist will initiate telephone conference calls with response partners to discuss release of information to the news media. These conference calls will also determine which local or state agency will take the lead role in a news conference.
- 3) UDOH PIO will implement plan for regular communication of information to public, including measures that people can take to protect themselves and to limit spread.
- 4) The PIO will coordinate communication needs as regards media access, messaging, issue tracking, staff briefing and resource tracking throughout the public information response effort.

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 the WHO and the U.S. 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 stimulating community planning around the key policy questions identified in this document. Agencies and entities that will be more extensively involved in the next phase will include hospitals and medical care providers, other State agencies, and providers of essential community services (e.g., food service community, transportation industry, police and fire departments, etc.).

Key Policy Questions:

As part of this planning effort, we have identified these key policy questions that can guide the community planning phase of preparation for a possible influenza pandemic.

- 1) Assess adequacy of health care surge capacity. Despite existing surge capacity plans, an influenza pandemic could overwhelm the capacity of the health care system to deliver medical care.
 - a) The current capabilities (including personnel, facility and bed, and supplies) need to be assessed against pandemic scenarios. That assessment should recognize the variability of health care capability across Utah, especially between urban and rural areas.

- b) Decisions need to be made about how to augment that capacity and/or how to provide care when those resources have been exceeded and plans made and funding identified to implement those approaches.
 - i) An important aspect of surge capacity concerns decision(s) to stockpile critical medical and infection control supplies that will be in short supply and how to finance, store, and maintain those stockpiles.
 - ii) Special consideration should be given to the special burden placed on health care workers and to providing appropriate protection to those workers to help assure they are able to provide care during a pandemic.
 - c) Decisions need to be made about how and when to communicate to the public the expectation that a serious pandemic would exceed the capacity of the current health care system to deliver care and the consequences of that reality.
- 2) Determine whether to create a Utah antiviral stockpile. The National Vaccine Advisory Committee (NVAC) recommended that a national stockpile of antiviral drugs be established with optimally 133 million courses, and at a minimum 40 million courses. Currently, the national stockpile is only approximately 2 million courses of treatment. Utah should consider developing a state stockpile to meet the shortfall in U.S. preparations. NVAC also recommended that antiviral medications be used primarily for treatment and not for prophylaxis under most scenarios.
- 3) Determine how to deliver vaccine during a pandemic. During an ordinary influenza season in Utah, influenza vaccine is delivered by a hybrid public/private sector effort. A decision should be made on how to best deliver influenza vaccine during a pandemic and preparations made to implement that system rapidly and effectively.
- 4) Establish a credible decision-making mechanism. Response to an influenza pandemic will require difficult decisions about allocation of scarce resources, including triage decisions about health care in shortage situations, prioritization of antiviral medications and vaccine, and institution of measures to limit disease spread (e.g., travel restrictions, cancellation of public gatherings, and quarantine or isolation). A transparent and inclusive decision-making mechanism/body should be established to help elicit community support for difficult decisions.
- 5) Assess and develop plans to minimize community and economic disruption from an influenza pandemic. A pandemic could cause absenteeism rates of greater than 25% due both to illness of essential service workers and the need for those workers to provide care for family and friends. This would challenge the ability to maintain critical community services, such as police and fire, transportation, water and food, and basic sanitation. A critical assessment of existing emergency response plans to meet this challenge is needed. This should involve nearly all elements of the public and private sectors in Utah and substantial leadership will be needed to assure that this occurs.

- 6) Consideration is needed for systems to provide economic and social support and essential services for people who are confined to home or an alternate setting due to illness, or because of imposition of isolation or quarantine to limit spread of disease.

Table of Internal UDOH Assignments and Responsibilities:

Organizational Unit	Responsibility
Executive Director's Office (EDO)	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Under direction of EDO, overall responsibility for preparedness for an influenza pandemic
Bureau of Epidemiology (BOE)	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • Responsible for developing materials for public release (in cooperation with IP and BOE) • Responsible for coordinating media and public information about this issue prior to and during an influenza pandemic.
Utah Public Health Laboratory (UPHL)	<ul style="list-style-type: none"> • Responsible for laboratory surveillance for influenza and detection of novel virus strains as part of national/global network.
Strategic National Stockpile (SNS) Program	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Responsible for assessing UDOH capacity for nursing support to local health departments.

References

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