Pandemic INFLUENZA Preparedness Packet

for Colleges and Universities

New York State Department of Health

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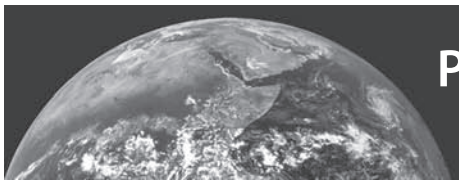
Important Information from the New York State Department of Health

As many are aware, the global health community is closely monitoring the occurrence of the H5N1 avian influenza virus prevalent throughout Asia, parts of Europe and now Africa. Although it primarily affects birds, there is significant concern that the virus could change to a type that spreads more easily from person to person, producing a worldwide influenza epidemic (referred to as a "pandemic"). Pandemics happen when a new influenza virus emerges to which people have little or no immunity. Although no one knows for sure when the next pandemic will occur, or what new influenza virus will cause a pandemic, the impact on society could be enormous. An influenza pandemic could circle the globe rapidly and over the course of 2-3 months cause millions to become ill, seriously straining healthcare systems and affecting the ability of government and the private sector to provide essential services. In a severe pandemic, schools and other businesses will experience a dramatic reduction in their work force as one-in-four employees becomes ill and other workers remain home to care for sick family members, or are absent due to child care issues. The New York State Department of Health's Pandemic Influenza Plan underscores the potential magnitude of a pandemic on New York State. Every local health department in the state is developing their own local plan to implement the strategies outlined in the state plan. You should reach out to your local public health agency for advice and help in getting prepared. The State Health Department is pleased to provide you with materials including the HHS **Pandemic Preparedness Checklist for Colleges and Universities**, Frequently Asked Questions and educational posters that promote behaviors to help reduce the spread of infectious diseases. You are strongly urged you to use them, because preparing for a pandemic response is not something the federal government, or the state government, or your local elected leaders can do alone. Pandemic planning must be everybody's business!



Pandemic Influenza Frequently Asked Questions

General Questions

Q. What is a pandemic?

A. An influenza pandemic is a global epidemic that results from the emergence of a new influenza virus that can cause serious illness in humans, and spreads easily from person to person.

Q. What's the difference between a pandemic and a seasonal outbreak of influenza?

A. Influenza pandemics are caused by the emergence of a virus that is "novel" (brand new) or radically different from flu viruses that circulated previously. Because people have no or little natural resistance to a new virus, and there is no readily-available vaccine, influenza pandemics often result in much more severe illness and death.

"Seasonal" influenza outbreaks are caused by small changes in the common influenza viruses. Even though these viruses may change slightly from one flu season to another, many people have developed some immunity. Because similar viruses have circulated previously, vaccine is more readily available.

Q. When will the next pandemic occur?

A. No one knows! Influenza pandemics have occurred several times each century since the Middle Ages. There were three influenza pandemics in the 20th century, in 1918, 1957 and 1968. Experts believe we are overdue for the next influenza pandemic.

Although no one can predict when a pandemic might occur, scientists from around the world are watching the H5N1 avian (bird) influenza situation in Asia, Africa and Europe very closely. They are preparing for the possibility that the virus in birds may change and become more easily transmissible among people.

H5N1 Avian (Bird) Influenza

Q. Why is there concern about the H5N1 avian influenza outbreak in Asia and elsewhere in the world?

A. Although it is unpredictable when the next pandemic will occur, and what strain of flu virus will cause it, the continued and expanded spread of a severe form of avian influenza in birds across Asia, Africa and into Europe represents a significant threat.

This bird flu virus, known as highly pathogenic "H5N1," has raised concerns about a potential human pandemic because:

- This H5N1 virus is widespread and persistent in poultry and wild birds in many countries in Asia and has spread to several countries in Africa and Europe;
- The virus has been transmitted from birds to a few species of mammals and in some limited circumstances to humans;

- Among humans known to have become infected with the avian H5N1 virus, many have developed serious illness and more than 50 percent have died;
- Wild birds and domestic ducks have been infected without showing symptoms and have become carriers of viral infection to other domestic poultry species;
- Although most humans who were infected with the H5N1 virus had close contact with infected birds, a few cases of limited person-to-person transmission have been reported;
- Genetic studies confirm that this H5N1 influenza virus, like other influenza viruses, is continuing to change; and
- This H5N1 influenza virus may change in a way that enables it to be easily transmitted from person-to-person.

Q. Is the influenza A (H5N1) virus the only avian influenza virus of concern regarding a pandemic?

A. Although H5N1 probably poses the greatest current pandemic threat, other avian influenzas have also infected people in recent years. For example, in 1999, human H9N2 infections were identified in Hong Kong; in 2002 and 2003, human H7N7 infections occurred in the Netherlands and human H7N3 infections occurred in Canada. These viruses also have the potential to give rise to the next pandemic.

Q. Will H5N1 cause the next influenza pandemic?

A. Scientists cannot predict whether the H5N1 avian influenza virus will cause a pandemic. But federal, state and local health officials are working with their counterparts across the world to track highly pathogenic H5N1 as it occurs in birds, and to watch for possible human cases.

Vaccine

Q. Is there a pandemic influenza vaccine?

A. No. Federal officials have contracted with a manufacturer to produce a small supply of human vaccine against H5N1 bird flu, and clinical trials are underway. The vaccine might not be effective if the H5N1 virus changes to a strain that more easily infects humans.

Q. Why isn't there a vaccine available?

A. Large amounts of vaccine cannot be made before knowing exactly which virus is causing a pandemic. Production of a new vaccine takes approximately six months.

Q. Why won't the annual influenza vaccine protect people against pandemic influenza?

A. Influenza vaccines are designed to protect against specific viruses that have already been identified, so a pandemic vaccine cannot be produced until a new influenza virus emerges and starts to cause a significant number of human illnesses. A virus that could cause a pandemic would be very different from the seasonal flu viruses for which there is already vaccine.

Q. Can I get the vaccine once it's developed?

A. Very few people would be able to get vaccinated at first. If a pandemic occurs, federal, state and local governments will work with partner groups to make specific recommendations on the early use of vaccine. Current recommendations are to target limited vaccine supplies to people at high risk and healthcare workers.

Antiviral Medications

Q. What are influenza antiviral medications?

A. These are prescription drugs that can reduce influenza symptoms and shorten the length of time people are sick. The drugs may also make a person less likely to spread influenza to others. To be effective, they must be taken within two days of becoming sick. Some antiviral medications may also be used to prevent influenza if they are taken over a long period of time.

Q. Which antiviral medications would be used in an avian flu pandemic?

A. At this time, Tamiflu® and Relenza® are the most likely antiviral medications to be used in a pandemic caused by the H5N1 virus. The effectiveness of these antivirals would vary depending on the level of resistance an influenza virus may have to one or more of these medications.

Q. Are there enough antiviral medications for everyone if a pandemic occurred now, and if not, who will get them?

A. No. Although the government is stockpiling antiviral medications, there are not enough now for everyone. The federal government has made recommendations about prioritizing who will be the first to receive antiviral medications based on their risk, role in fighting the pandemic, and severity of illness. Discussion continues on the best way to allocate these medications.

Preparing for an Influenza Pandemic

Q. What effect would an influenza pandemic have on our communities?

A. The effects of a pandemic could be severe. Many people could become sick at the same time and be unable to go to work. Many of us might have to stay at home to care for sick family members. Schools might close for as long as 12 weeks to try to reduce the spread of disease. Large group gatherings might be canceled. These are examples of challenges that are being considered as we plan for a pandemic response.

Q. What can I do right now to prepare for a possible pandemic?

A. One of the most important things you can do is to help prevent spread of the disease. Begin now to practice simple but important habits that reduce the spread of germs:

- Cover your mouth and nose with a tissue when coughing and sneezing. Throw out the tissue in the nearest waste basket and wash your hands.
- If you don't have a tissue, don't cough or sneeze into your hand. Instead, cough or sneeze into your sleeve so you won't get germs on your hands and spread them to others.
- Wash your hands often with soap and water. When hand washing is not possible, use antiseptic hand gels that contain alcohol.

- Stay at least three feet from people who are coughing or sneezing.
- Always practice good hand washing after contact with an ill person or soiled materials, such as tissues.
- Stay at home when you are sick.
- Keep your children home from school or daycare when they are sick.
- If you go to the doctor's office or emergency department when you are sick, ask for a mask.
- Keep a 2-3 week supply of non-perishable food and other essential household items on hand so you can minimize trips to stores and other crowded places in the event of a pandemic.
- Learn more about the importance of a good home preparedness plan. You can visit the American Red Cross Web site for guidance in preparing one, or visit the federal government's Pandemic Influenza Web site for planning tools.
- Stay informed.

New York State Department of Health's Pandemic Influenza Plan

A **pandemic** is a worldwide epidemic of influenza. Pandemics happen when a **novel influenza** virus emerges to which people have little or no immunity. Although no one knows for sure when the next pandemic will occur, or what new influenza virus will cause a pandemic, experts agree that the potential impact could be enormous.

At present, the World Health Organization and federal health officials are closely watching the **H5N1** highly pathogenic avian influenza **(HPAI)** virus that is prevalent throughout Asia and parts of Europe. Even though it primarily affects birds, there is significant concern that the virus could change to a type that spreads more easily from person-to-person, producing a pandemic.

An influenza pandemic could circle the globe in as little as four days, potentially causing millions to become ill and die, seriously straining healthcare systems and affecting the ability of government and the private sector to provide essential services. *In light of that possibility, health officials at every level—international, national, state and local—are making plans to respond vigorously on all fronts, including here in New York*.

The New York State Department of Health Pandemic Influenza Plan parallels the recently announced national strategy for pandemic influenza, while also addressing New York State's unique characteristics such as our diverse population, our position as an international border state, and the fact that we welcome so many international visitors. It is important to note that this version of the plan reflects the currently available scientific knowledge and data regarding the potential for an influenza pandemic, the expected ramifications on New Yorkers, and the most effective strategies and tactics to support our response. The plan will continually evolve as the pandemic threat unfolds, and as the State and its partners enhance their preparedness.

Potential Magnitude of a Pandemic and the Public's Role

The plan underscores the potential magnitude of a pandemic on New York State. According to the plan's assumptions, a pandemic producing widespread serious illness could severely impact all sectors of society. The health care system would be overburdened; businesses could experience a dramatic reduction in their work force as employees become ill, remain home to care for sick family members, or are absent due to child care issues if schools close for pandemic-induced **snow days**.

One of the most important parts of the plan is educating members of the public about their own critical role. ***It cannot be stressed strongly enough that in a severe pandemic, actions of individuals, businesses and community organizations, as much as those of government, will greatly determine the outcome.*** In the event of a pandemic, people would be urged to help reduce influenza transmission by being diligent about hygiene (washing hands frequently, covering their cough, disinfecting telephones, desktops and other surfaces that people frequently touch). It would also be crucial for individuals with flu-like symptoms to refrain from going to work, school or anywhere else they might spread germs. New Yorkers would be advised to stockpile at least a week's supply of non-perishable food, water, medications and essential household items to avoid having to go out in public if **social distancing** is recommended.

Some Commonly Used "Pandemic Planning" Terms

Pandemic: A worldwide influenza (flu) epidemic.

Antiviral medications: Medicines that can help to lessen the symptoms of diseases that are caused by viruses, such as influenza.

Contact tracing: Looking for people who have been exposed to someone with symptoms of a contagious disease.

H5N1: a severe strain of avian influenza (bird flu) that has killed millions of birds, especially poultry, in dozens of countries—primarily in Asia—and has resulted in some human illness and death. Right now, almost everyone who became ill with H5N1 avian influenza has had close contact with infected birds, but experts are worried that the virus could change so that it spreads more easily from person-to-person, producing a pandemic.

HPAI: Highly pathogenic avian influenza—bird flu that causes severe infection and has a high death rate in birds.

Isolation: Keeping people who are sick with influenza or who have influenza symptoms separate from healthy people.

Novel influenza: A brand new type of influenza virus to which few or no people are immune.

Personal protective equipment (PPE): Gear such as masks and gloves used by healthcare workers to avoid infection when treating patients who have a contagious disease.

Points of Dispensing (PODs): Locations at which mass vaccinations or mass distribution of medicine would be carried out if vaccine and/or antivirals became available.

Quarantine: Keeping people who are not yet ill but who have been exposed to influenza virus separate from people who have not been exposed.

Snow days: In the context of an influenza pandemic, days when schools and other public places will be closed to limit person to person contact and reduce the spread of germs.

Social distancing: In the context of an influenza pandemic, the strategy of limiting person-to-person contact to reduce the spread of germs—for instance, by staying home from work or avoiding public places such as stores.

Social marketing: Employing persuasive tactics such as those used in the advertising and marketing of products to "sell" people on ways to protect their health.

Surge capacity: the ability to handle a much greater than usual amount of work in a very short period of time — for example, if a large number of patients go to a hospital or many laboratory specimens are submitted for testing, all at the same time.

Worried well: Individuals who are experiencing symptoms of a disease because they are anxious or stressed.

Colleges and Universities Pandemic Influenza Planning Checklist

In the event of an influenza pandemic, colleges and universities will play an integral role in protecting the health and safety of students, employees and their families. The Department of Health and Human Services (HHS) and the Centers for Disease Control and Prevention (CDC) have developed the following checklist as a framework to assist colleges and universities to develop and/or improve plans to prepare for and respond to an influenza pandemic. Further information on pandemic influenza can be found at www.pandemicflu.gov.

1. Planning and Coordination:

Completed	In Progress	Not Started	
❑	❑	❑	Identify a pandemic coordinator and response team (including campus health services and mental health staff, student housing personnel, security, communications staff, physical plant staff, food services director, academic staff and student representatives) with defined roles and responsibilities for preparedness, response, and recovery planning.
❑	❑	❑	Delineate accountability and responsibility as well as resources for key stakeholders engaged in planning and executing specific components of the operational plan. Assure that the plan includes timelines, deliverables, and performance measures.
❑	❑	❑	Incorporate into the pandemic plan scenarios that address college/university functioning based upon having various levels of illness in students and employees and different types of community containment interventions. Plan for different outbreak scenarios including variations in severity of illness, mode of transmission, and rates of infection in the community. Issues to consider include: ■ cancellation of classes, sporting events and/or other public events; ■ closure of campus, student housing, and/or public transportation; ■ assessment of the suitability of student housing for quarantine of exposed and/or ill students (See www.hhs.gov/pandemicflu/plan/sup8.html); ■ contingency plans for students who depend on student housing and food services (e.g., international students or students who live too far away to travel home); ■ contingency plans for maintaining research laboratories, particularly those using animals; and ■ stockpiling non-perishable food and equipment that may be needed in the case of an influenza pandemic.
❑	❑	❑	Work with state and local public health and other local authorities to identify legal authority, decision makers, trigger points, and thresholds to institute community containment measures such as closing (and re-opening) the college/university. Identify and review the college/university's legal responsibilities and authorities for executing infection control measures, including case identification, reporting information about ill students and employees, isolation, movement restriction, and provision of healthcare on campus.
❑	❑	❑	Ensure that pandemic influenza planning is consistent with any existing college/university emergency operations plan, and is coordinated with the pandemic plan of the community and of the state higher education agency.
❑	❑	❑	Work with the local health department to discuss an operational plan for surge capacity for healthcare and other mental health and social services to meet the needs of the college/university and community during and after a pandemic.
❑	❑	❑	Establish an emergency communication plan and revise regularly. This plan should identify key contacts with local and state public health officials as well as the state's higher education officials (including back-ups) and the chain of communications, including alternate mechanisms.
❑	❑	❑	Test the linkages between the college/university's Incident Command System and the Incident Command Systems of the local and/or state health department and the state's higher education agency.

1. Planning and Coordination: *(continued)*

Completed	In Progress	Not Started	
❑	❑	❑	Implement an exercise/drill to test your plan, and revise it regularly.
❑	❑	❑	Participate in exercises of the community's pandemic plan.
❑	❑	❑	Develop a recovery plan to deal with consequences of the pandemic (e.g., loss of students, loss of staff, financial and operational disruption).
❑	❑	❑	Share what you have learned from developing your preparedness and response plan with other colleges/ universities to improve community response efforts.

2. Continuity of Student Learning and Operations:

Completed	In Progress	Not Started	
❑	❑	❑	Develop and disseminate alternative procedures to assure continuity of instruction (e.g., web-based distance instruction, telephone trees, mailed lessons and assignments, instruction via local radio or television stations) in the event of college/university closures.
❑	❑	❑	Develop a continuity of operations plan for maintaining the essential operations of the college/university including payroll; ongoing communication with employees, students and families; security; maintenance; as well as housekeeping and food service for student housing.

3. Infection Control Policies and Procedures:

Completed	In Progress	Not Started	
❑	❑	❑	Implement infection control policies and procedures that help limit the spread of influenza on campus (e.g. promotion of hand hygiene, cough/sneeze etiquette). (See Infection Control www.cdc.gov/flu/pandemic/healthprofessional.htm). Make good hygiene a habit now in order to help protect employees and students from many infectious diseases such as influenza. Encourage students and staff to get annual influenza vaccine (www.cdc.gov/flu/protect/preventing.htm).
❑	❑	❑	Procure, store and provide sufficient and accessible infection prevention supplies (e.g., soap, alcohol-based hand hygiene products, tissues and receptacles for their disposal).
❑	❑	❑	Establish policies for employee and student sick leave absences unique to pandemic influenza (e.g., non-punitive, liberal leave).
❑	❑	❑	Establish sick leave policies for employees and students suspected to be ill or who become ill on campus. Employees and students with known or suspected pandemic influenza should not remain on campus and should return only after their symptoms resolve and they are physically ready to return to campus.
❑	❑	❑	Establish a pandemic plan for campus-based healthcare facilities that addresses issues unique to healthcare settings (See www.cdc.gov/flu/pandemic/healthprofessional.htm). Ensure health services and clinics have identified critical supplies needed to support a surge in demand and take steps to have those supplies on hand.
❑	❑	❑	Adopt CDC travel recommendations (www.cdc.gov/travel/) during an influenza pandemic and be able to support voluntary and mandatory movement restrictions. Recommendations may include restricting travel to and from affected domestic and international areas, recalling nonessential employees working in or near an affected area when an outbreak begins, and distributing health information to persons who are returning from affected areas.

4. Communications Planning:

Completed	In Progress	Not Started	
❑	❑	❑	Assess readiness to meet communications needs in preparation for an influenza pandemic, including regular review, testing, and updating of communications plans that link with public health authorities and other key stakeholders (See www.hhs.gov/pandemicflu/plan/sup10.html).

4. Communications Planning: *(continued)*

Completed	In Progress	Not Started	
❑	❑	❑	Develop a dissemination plan for communication with employees, students, and families, including lead spokespersons and links to other communication networks. Ensure language, culture and reading level appropriateness in communications.
❑	❑	❑	Develop and test platforms (e.g., hotlines, telephone trees, dedicated websites, local radio or television) for communicating college/university response and actions to employees, students, and families.
❑	❑	❑	Assure the provision of redundant communication systems/channels that allow for the expedited transmission and receipt of information.
❑	❑	❑	Advise employees and students where to find up-to-date and reliable pandemic information from federal, state and local public health sources.
❑	❑	❑	Disseminate information about the college/university's pandemic preparedness and response plan. This should include the potential impact of a pandemic on student housing closure, and the contingency plans for students who depend on student housing and campus food service, including how student safety will be maintained for those who remain in student housing.
❑	❑	❑	Disseminate information from public health sources covering routine infection control (e.g., hand hygiene, coughing /sneezing etiquette), pandemic influenza fundamentals (e.g., signs and symptoms of influenza, modes of transmission), personal and family protection and response strategies (including the HHS Pandemic Influenza Planning Guide for Individuals and Families at **www.pandemicflu.gov/plan/tab3.html**), and the at-home care of ill students or employees and their family members.
❑	❑	❑	Anticipate and plan communications to address the potential fear and anxiety of employees, students and families that may result from rumors or misinformation.

Guidelines for Pandemic Planning

July 7, 2006
ACHA Task Force for Pandemic Planning

I. Purpose

The purpose of these guidelines is to prompt college health professionals to action in either leading or assisting in the development of pandemic preparedness plans on their campus. Whether H5N1 evolves into the next pandemic virus or not, emergency preparedness planning is essential because it affords organizations and institutions an opportunity to respond more effectively to a number of emergency situations including a future pandemic. This document is not intended to offer detailed information about the nature of viruses or H5N1. Rather, it is to assist college health professionals in engaging in thoughtful discourse with partners on their campus in the formulation of a flexible, adaptive response plan that is tailored to the needs and resources of the individual institution.

The first part of this document will offer an overview of the pandemic threat, the importance of pandemic preparedness planning, and how to get started. The second part will outline the specific areas that should be included in planning, starting first with planning to meet the health care needs of students, and then, addressing planning for the broader campuswide response.

II. Introduction

Pandemics are a part of human history. There were three pandemics in the last century, in 1918, 1957, and 1968. The most deadly of the three was the pandemic of 1918, which was caused by H1N1 and killed approximately 50 million people worldwide. A pandemic will occur again although it is not known exactly when, or which strain of a novel virus will rise to the occasion.

Currently, there is heightened concern about H5N1, a highly pathogenic avian viral strain that first appeared in Hong Kong in 1997. There are striking similarities between the H1N1, the virus responsible for the 1918 pandemic, and H5N1. Despite the fact that millions of birds, domestic and wild, have been culled, the infection has been persistent in the bird population and is spreading along the flight paths of migratory birds.

In addition to the persistence of infection in the bird population, the virus has crossed species and infected humans, tigers, leopards, cats, and pigs. Although it has crossed species, it has done so in a very limited number of cases given the millions of birds that are infected with the virus. There have been a few cases in which human-to-human transmission is believed to have occurred. However, it has not spread beyond one contact.

Three conditions must be met for a pandemic to occur: a new influenza virus subtype emerges; the virus infects humans; and the virus gains efficient and sustainable transmission from human to human. Two of the three conditions have been met in regard to H5N1. The third condition can be met either through mutation or a reassortment event, in which the bird virus exchanges genetic material with a human virus during co-infection of a human or pig, thereby gaining the ability to be passed efficiently from human-to-human. It is now known that the 1918 virus was not a reassortment event.

For the first time in history, we have an opportunity to track the activity of a virus that has the potential to cause a pandemic and to prepare for such an event. While many strategies are underway, including the development of antivirals and vaccines, most experts agree that we are inadequately prepared to respond to a pandemic.

If a virus would gain sustainable, efficient transmissibility, the public health strategy would focus on slowing the spread because it would be virtually impossible to stop it.

Slowing the spread of disease would allow for better allocation and a more even use of limited resources by flattening the surge of cases.

A. Characteristics of a Pandemic Influenza

Seasonal influenza generally peaks between December and March in North America. It causes approximately 36,000 deaths a year and 200,000 hospitalizations a year in the United States. A pandemic influenza can occur at any time of the year and resurges in waves that can last from 18 months to two years. The 1918 pandemic had four such waves; the most lethal was the second wave that swept through the United States between August and December. Therefore, planning should include recovery and response to more than one wave.

The normal influenza attack rate is 5-10%. In a pandemic, an attack rate of 25% is appropriate for planning purposes; some organizations are using rates as high as 50%. Approximately 4-12% of the work force could be ill at any point in time and absent from work for 1-14 days. The sickness rate for seasonal flu is in the range of 2-6%. In addition to work force absences due to personal illness, persons may call off to take care of ill family members.

High absenteeism will affect the delivery of services and goods, nationally and internationally, as transportation and manufacturing staff call off due to illness.

High absenteeism will present challenges to campus leadership and delivery of services as human resources are strained in all aspects of the operation. Campus leaders will not be spared the possibility of succumbing to illness. Plans need to consider issues of depth charting for leadership positions, cross training personnel, and teleconnectivity that allows employees to work from home.

B. Vaccines and Antivirals

Because a vaccine needs to closely match an influenza virus, it is unlikely that a vaccine would be available early in a pandemic and, due to current production techniques, quantities would be limited once the vaccine was developed. An effective vaccine may be available to more adequately address second or third waves but, even then, there may not be enough to vaccinate everyone. Research is underway to develop improved vaccine technologies that would allow for more rapid production of vaccine.

Oseltamivir and zanavir are effective in reducing the severity and duration of illness in seasonal influenza and are believed to be effective against H5N1. Clinical data on use in H5N1 are limited and dosing for optimal benefit is uncertain. These drugs are expensive and production capacity is limited. Amantadine and rimantadine could offer some benefit but because resistance to these drugs develops quickly, their use may be limited.

If vaccine and/or antivirals become available, it is unlikely there will be sufficient quantities to cover the entire population. Therefore, schools should discuss how decisions would be made for determining who would be on the priority list for receiving immunization/prophylaxis first. For example, should essential personnel, including health care workers and police, receive priority consideration? Should key campus leaders (i.e., chancellor, president, provost) be included? These are difficult ethical decisions that campus leadership will be required to make in a time of crisis with limited resources. Discussions with local and state health authorities regarding the distribution of stockpiled antivirals and manufactured vaccine should be conducted in advance to ensure that campus protocols are consistent with government guidelines.

C. Nonpharmaceutical Interventions (NPIs)

Social distancing, isolation, quarantine, protective sequestration, and public health education that include practices employed to reduce individual risk of contracting the disease (i.e., hand washing, cough etiquette) comprise the list of NPIs that could be employed in a pandemic situation. While the effectiveness of any of these strategies for preventing the spread of illness is unknown, employment of a combination of NPIs, as deemed appropriate for the individual college or university setting, may slow the spread of disease. As mentioned above, the advantage to

slowing the spread is important as it relates to the surge capacity of health care resources.

Social distancing refers to actions taken to discourage close social contact between individuals, including cancellation of classes, sporting events, worship services, and other social events. This intervention would be most effective when instituted early in the pandemic and before infection takes hold in a community. Given that the 1918 pandemic swept across the country in 3-4 weeks at a time when fewer people traveled and modes of transportation were more limited and slower, the window for taking action may be limited to a few days in light of today's highly mobile society and the frequency of international air travel.

Isolation refers to separating individuals with illness from the general population and restricting their movement within the general population until they are no longer contagious. Plans for isolating ill students and providing care for them by either utilizing campus resources or partnering with community resources will be necessary for most schools, in that, some students may not be able to go home. Hospital resources will be strained and decisions for admission will be made based on assessment of those most in need. *Provisions should be made to care for students who are not ill enough to require hospital care but are too ill to take care of themselves.* The composition of the student body in terms of the number of international and out-of-state students, the number of commuters, and the number of students residing in residence halls, factored against the resources of the institution, will affect the plans for isolation and infirmary care.

Quarantine is the separation and restriction of movement of those who are not ill but believed to have been exposed. The duration of quarantine will be dependent upon the length of the incubation period and period of contagion prior to onset of symptoms. Both the incubation period and period of viral shedding are difficult to know prior to the actual emergence of the pandemic virus. Currently, it appears that the incubation period for H5N1 is between 2-8 days. Persons are contagious for 1-3 days prior to onset of symptoms and can shed H5N1 for up to 16 days. Planning for quarantine must take into account some of the same factors as isolation, such as, composition of the student body and residential demographics. Enforcement of quarantine is an issue that must be discussed with local government authorities and campus security.

Protective sequestration involves efforts taken to protect a healthy population from infection by isolating the community from the outside world. Restricting entry of outsiders into the community and restricting reentry of those community members who choose to leave during the period of time when protective sequestration is in place are measures utilized in this intervention. It requires the community to stockpile resources and become self-sufficient for some period of time — in the case of a pandemic, a minimum of 8-12 weeks. Geographical location (i.e., island or remote mountain region) may make this easier for some communities to consider than others. Protective sequestration has high costs associated with it. For more information on the use of protective sequestration during the 1918 pandemic, see the study by Markel, et al. at https://beta.saic.com/workshop/report.

Public health education that communicates accurate, clear information regarding reducing personal risk, the role of quarantine, transmission, symptoms, treatment, when to seek care, and community efforts to assist those in need, is critical to empowering the public and decreasing panic and despair. The messages should be consistent with those being issued by other public health authorities and crafted in advance to meet the needs/concerns of various campus audiences, including students, staff, faculty, parents, and members of the surrounding community. Given the anticipated increase in communication needs, all available means of communicating with the campus public must be assessed and tested to determine the capacity for managing the surge.

D. Business Continuity

While the first thrust of planning should address health and safety issues, business continuity must

follow closely on its heels. Identifying key business functions and key players in charge of those functions is the first step in addressing this area. The role of the student health professional in the area of business continuity planning is to act as a public health consultant for those responsible for key business functions and identify challenges posed by a pandemic in terms of the impact of illness on the community.

People, including health care workers, counseling center personnel, and residence life personnel, will not come to work if they don't get a paycheck. Purchase of supplies will need to be expedited. Building maintenance will need to continue and computer infrastructure must be maintained.

It is anticipated that a pandemic will result in interruption of services and a shortage of supplies and fuel. Identifying contingency plans for sustaining basic functions in case of loss of telecommunications, utilities, and IT capability needs to be included.

Colleges and universities are in the business of education. Do academic departments and faculty have contingency plans for completion of courses if classes must be cancelled for some period of time?

E. Planning in the Face of Uncertainty and Unknowns

Planning for a pandemic can be a daunting task given that there are a number of factors that are unknown. We do not have a case definition or an identified viral organism and are unlikely to have this information far in advance. Furthermore, we are hampered by gaps in our scientific understanding of influenza viruses; what makes them more or less lethal and how to best protect ourselves from an organism that can adapt to and change in ways that makes vaccination against them so difficult. A gap also exists in our understanding of which NPIs, if any, are most effective in slowing the spread.

This deficit in knowledge makes it challenging to develop specific protocols and treatment plans. Any planning that is done at this time is based on what we currently understand about seasonal influenza and past pandemics as described in historical documents. Therefore, any planning, protocols, and policies developed to fashion a response must be flexible, resilient, and adaptable in a way that allows the planning to evolve in step with the evolution of science and situation.

Planning is not enough; the plan must be tested and rehearsed. Rehearsing various scenarios offers individuals an opportunity to act out their roles and identify the types of information and communication that is critical for them to function effectively in the situation. It also allows the participants to identify gaps or weaknesses in the plan that need to be worked on.

III. Getting Started

Determining the general state of emergency planning on your campus is a good first step. Does your school have a structure or template currently used to respond to emergencies? If so, can that template be adapted to develop a pandemic response plan? Who is responsible for emergency preparedness planning on your campus? Who do you need to engage in the conversation to get pandemic planning on the agenda? Has your school participated in National Incident Management System (NIMS) training/certification?

Identify key members of the pandemic planning committee. The planning committee membership should include representation from executive leadership, as well as leaders of key functional units who would constitute the response team. If your school has a template for emergency response already in place, review the membership for pandemic planning purposes and tweak accordingly. For a list of suggested planning committee members see Appendix B.

Identify essential functions and personnel. The key elements in any plan are based on understanding and defining the essential functions that would be critical to the response and the essential personnel responsible for that function. Some of these critical functions and personnel will vary according to the nature of the emergency. For example, response to a fire in an academic building will involve a somewhat different set of functions and personnel than a pandemic. Student services typically housed under student affairs will be

critical and personnel supporting those services are likely to be the most taxed in a pandemic. Depth charting of essential personnel becomes critical given that individuals who are typically in charge of various operations may become ill or die. Who takes over in their stead?

Identify appropriate channels of communication and chain of command. The plan should identify a chain of command and who the decision makers are at various levels of operation. An incident commander who is primarily responsible for coordinating and directing a response and advising the executive team (president, provost, CFO) should be identified. Who will be the key spokespersons for the institution? Again, leaders will not necessarily be spared illness. How is the leadership depth charted? How do all of the related essential groups work together?

There will be many ethical and legal issues to consider in department planning. Legal counsel and risk management should be consulted when policies and guidelines are being discussed and written, especially in the areas of human resource management, safety and security, and rationing of scarce resources.

Identify the role of student health services. Determining the role that student health is expected to play in the campus plan is essential to planning a response and will differ from campus to campus. The size and location (urban or rural) of the campus, the available resources, both human and financial, affiliation with a medical school and hospital system, and the demographics of the student body will factor into the nature and definition of the role. On some campuses the administration will look to college health professionals to act in a lead role with the director of the health service designated as incident commander; on other campuses it may be more of an advisory role to the incident commander. Regardless of the nature of the role that is ultimately defined as appropriate on any given campus, college health professionals have a responsibility to actively participate in and lead, if appropriate, pandemic planning efforts.

One or two individuals on a campus cannot accomplish effective pandemic planning in a few weeks. It requires a broader effort that involves key individuals responsible for key functions and areas of responsibility. It is an interdepartmental project involving input from all of the various constituencies working on a plan over time with realistic deadlines.

IV. Triggers for Moving Plans to Action

As stated earlier, there will likely be a very short window for critical decision making especially in regard to social distancing measures. Using the 1918 pandemic as a basis for determining timing, it appears that implementing social distancing measures early, before infection enters the community, might be a better strategy for educational institutions. Once closed, the decision of when to reopen must be addressed. It appears that to avoid a resurgence of infection, an institution would need to close for a minimum of 8-12 weeks, with 12 weeks being optimal.

Discussing triggers for taking actions based on certain key events are important to identify in advance and will differ from school to school. The economic and social ramifications of canceling classes and social and athletic events and closing research operations are not insignificant, and may delay the decision making process in a way that has major consequences for the school.

Reducing the number of students remaining on campus by canceling classes and sending students home early in the pandemic may be the best strategy given the limited resources schools will have available to support those who remain. **For example, if the decision is delayed to the point that many students fall ill, the institution would be expected to provide the resources to care for those students throughout the pandemic, which might be an unreasonable expectation given available resources.** Even if the administration does not make the decision to cancel major aspects of the academic operation, the perception of risk and/or the presence of disease will result in high absenteeism from work and classes such that the decision is forced. What percentage of absenteeism makes continuing an operation virtually impossible?

One aspect of these discussions should include what is meant by closing the school and/or conversely staying open. There may be gradations or stages to closing that would be useful to determine in advance. Does closing mean cancellation of classes and all social gatherings while research continues and students who cannot go home continue to receive dining, housing, and health

services? Does closing mean a lockdown of all buildings? Which essential functions are necessary to maintain in each of these situations? Who are the essential personnel needed to carry out these functions?

V. Pre-event Planning for a Campuswide Response

A. Student Health Services

Below is a list of key considerations that student health services need to address in pre-event planning. Some items will apply to some services and not to others. Community colleges may not need to address isolation, infirmary care, and supply issues, but would need to address sections dealing with public health education, communication with local governmental and health agencies, and identification of community resources to assist students. Other schools, because of a high international student population or high number of out-of-state students residing on campus, will need to address every topic on the list. Again, the purpose of the guidelines is to present the menu of topics to assist you and your institution in determining what is applicable for your particular circumstances.

Health Service Staff Education and Preparedness

1. Engage staff in pandemic planning and provide exercises and drills to rehearse the plan and revise as necessary.
2. Provide regular updates for staff regarding avian influenza, recommendations for treatment protocols, appropriate infection control procedures, and status of antiviral and vaccine development. Encourage participation in webcasts, seminars, and other continuing education programs as they become available.
3. Monitor CDC, WHO, and ACHA websites for the latest developments and updates on planning recommendations.
4. Encourage staff to make personal emergency preparedness plans with their families.
5. Engage staff in discussions regarding their psychological and emotional support needs in preparation for dealing with a pandemic event.
6. Vaccinate all staff against seasonal influenza.
7. Fit test staff with direct patient care responsibilities with N95 respiratory protection annually and provide an in-service on proper use of personal protective equipment. If you have a Department of Environmental Health and Safety on your campus they may be able to assist you in this area.
8. Identify resources for food and on-campus lodging for health service staff in the event staff cannot or do not wish to commute home.

Supplies/Equipment/Services

Once a pandemic starts, it will be difficult, if not impossible, to obtain medical supplies. Purchasing ahead and storing nonperishable goods is a prudent strategy. Quantities should be based on a best estimate of the number of students who may not be able to leave campus and the attack rate discussed earlier.

1. Compile a list of supplies that would be needed, such as respiratory protection equipment, gloves, gowns, protective eyewear, medications (antibiotics), disinfectants, and IV fluids. (See Appendix A.)
2. Identify supply sources and a storage area.
3. Provide administration with a cost estimate for securing supplies.
4. Maintain a stock supply of necessary medications and equipment; inventory and rotate supplies as appropriate.
5. Investigate the feasibility of establishing negative pressure rooms in the clinic, equipment necessary, and cost/benefit. Consult with Department of Environmental Health and Safety on your campus for assistance in this area.
6. Establish a plan for continuation of cleaning services and waste removal services including triggers to increase the frequency of the scheduling of these services.

Clinical Issues

Expect that hospital systems and 911 will be overwhelmed. Only persons in acute respiratory distress will be considered for admission, leaving the majority of ill students to be cared for by

university staff, particularly those in health services and student affairs.

1. Consult with Human Resources regarding the recruitment of volunteers campuswide willing to be trained to assist in providing care for the ill. Risk management and university legal counsel should be included in these discussions as well.
   a. Develop a list of duties that volunteers could assist with, including answering phones, moving supplies, and providing bedside assistance to the ill.
   b. Develop a training plan that includes use of personal protective equipment.
   c. Develop telephone triage protocols.
   d. Develop a clinic schedule based on 24/7 operations to determine staffing needs.
2. Develop a protocol for transport of students to the hospital if 911 is not available.
3. Develop a plan for setting up an infirmary and expanding clinical space, including identification of alternate locations and equipment and supply and staffing needs.
   a. Develop a contingency plan for managing health care needs in the event that you exhaust human resources and supplies.
4. If unable to provide infirmary care due to limited resources, identify community resources that students could access.
   a. Engage in discussions with community resources in advance so that they understand the needs of the student population and you understand their pandemic operating protocols.
5. Develop a triage and treatment protocol that can be easily adapted once a case definition is established.
6. Develop clinic signage and voice messages that would give ill students directions about how to access services.
7. Develop a protocol for monitoring cases residing in on and off campus apartments/residences.
8. Develop a protocol for care of the deceased that addresses storage until transfer and notification of the family.
9. Develop a plan for conducting mass immunization clinics.

B. Counseling Services

1. Develop a plan for providing 24/7 counseling services for students, staff, and faculty.
   a. Include protocols for providing services via telephone and Internet.

C. Communication

Identify which departments on your campus are in charge of communication functions, including public, media, and government relations, and communication infrastructure (phone and Internet), and include them in the pandemic planning committee membership. Determine which department has primary responsibility for each of the areas listed below and the types of interdepartmental collaboration required to effectively carry out the required activities.

Internal

1. Identify who will be in charge of communications, as well as one or two persons in backup positions in case the key person(s) falls ill.
2. Establish a central reporting plan for daily monitoring of the prevalence of illness on campus, including: employee absences, number of students in isolation and quarantine, number of lab confirmed cases, and number of student transports to the hospital.
3. Establish a calling tree for notification/alerts to essential personnel.
4. Identify all possible means of communicating with students, staff, faculty, parents, and outside consistencies (recruiters, vendors, community business owners) including Internet, landlines and cell phones, postering, and hand radios.
   a. Collaborate with communication and technology departments on campus to discuss communication capabilities, limitations, and systems testing.

5. Provide information to the campus community on: the status of disease on campus; travel advice; self-care; personal preparedness planning; proper hand washing techniques and cough etiquette; federal, state, and local public health resources; and how/when to access services in case of illness.
   a. Communicate early and often. Share pandemic planning status with the campus community.
   b. Collaborate with media relations for assistance with crafting messages and disseminating them to on campus and off campus constituencies.
   c. Craft messages in advance that can be easily revised if necessary.
   d. Ensure materials are easy to understand and culturally appropriate.
   e. Identify individuals who can act as translators and consider translating materials into different languages as appropriate for student population.

External

1. Establish and maintain communications with the local public health authorities, emergency preparedness groups, and hospital system(s) regarding surveillance, case identification and reporting, control measures, and health care provision.
   a. Identify key contacts within each system and revise regularly.
   b. Participate in community drills/plans.
2. Benchmark the activities/planning of other colleges and universities, including student health services.

D. Housing Services

1. Identify rooms and buildings that could be used for quarantine, isolation, and residence for students who cannot go home. Public health authorities may suggest utilizing residential space that does not have a centralized ventilation system to avoid spread of aerosolized pathogens. Residential space with self-contained heating and cooling in individual rooms or suites may be more desirable settings in which to isolate or quarantine persons.
2. Develop a procedure for closure and evacuation of campus residence halls and houses not in use.
3. Develop procedures for notifying and relocating students.
4. Develop plans for continuation of housekeeping services and stockpiling items such as cleaning and disinfecting supplies, facial tissues and toilet paper, disposable towels.
5. Ensure that housekeeping personnel receive training regarding personal protection and proper cleaning procedures.
6. Identify communication protocols between housing services and residence life staff.

E. Residence Life

1. Establish communication protocols with student health for surveillance and reporting illness in the residence halls.
2. Establish protocols with housing to assist with the relocation of students and in closure and evacuation of residence halls.
3. Formulate and rehearse plans to address anticipated student needs ranging from delivery of food and medication to providing emotional support.

F. Dining Services

1. Compile a list of non-perishable foodstuffs and drinks, including water that can be stockpiled and stored.
   a. Quantities can be estimated by determining the percentage of students who may not be able to go home and will be dependent on campus dining services for food for a 5-8 week period.
   b. Include the need to provide food for health care staff, facilities staff, or other key personnel who may need to be provided with shelter-in-place.

2. Develop a procedure for delivery of foodstuffs to residential areas, quarantined students, and the infirmary.
3. Enlist Human Resources assistance to identify volunteers to supplement food services staff.

G. Campus Security

1. Develop procedures for securing building, protecting stored supplies, and restricting access to campus.
2. Establish ongoing communication with local police, fire, and emergency response personnel in order to coordinate efforts for managing safety issues.
3. Develop triage protocols for responding to students in distress either due to illness or illness of others or requesting transport for medical care.
4. Establish a communication plan with student health and counseling services, residence life, and student affairs for reporting calls and transports.
5. Participate in training regarding influenza.
6. If campus police will be involved in student transport because other emergency transport is not available:
   a. Train in use of personal protective equipment and fit for N95s.
   b. Equip cars with disinfectants, surgical masks for persons being transported, gloves, and hazard waste bags.

H. International Student and Study Abroad Student Services

1. Develop procedures for monitoring student travelers entering the campus from affected regions and providing information to health services.
2. Develop a plan for communicating with international students and their families regarding travel restrictions and re-entry.
3. Develop a plan for communicating with students who are studying abroad or plan to study abroad.
4. Develop guidelines for temporary closure of study abroad programs.
5. Communicate with study abroad program leaders about planning procedures for shelter-in-place, closure decisions, and resources for assisting students who cannot get home.

I. Physical Plant and Maintenance

1. Discuss contingency plans in case of fuel, water, and energy shortages including the availability of emergency generators.
2. Identify building ventilation systems especially in those areas considered for quarantine, isolation, and health care delivery.

J. Human Resources

1. Coordinate the identification of essential personnel and ensure that departments are depth charted.
2. Encourage staff and faculty to update emergency contact information.
3. Prepare call-off guidelines and review vacation/sick leave guidelines for applicability in a pandemic event.
   a. Employees who have been exposed or are suspected of having the illness should not come to work. Therefore, liberal, non-punitive policies should be established in order to ensure compliance with public health recommendations.
4. Establish return-to-work guidelines consistent with the case definition.
5. Prepare communications for supervisors and the campus work force addressing guidelines related to reporting of ill, business travel procedures, information to persons returning from affected areas, and access to mental health resources (i.e., Employee Assistance Programs).
6. Prepare work-at-home guidelines that address telecommuting issues.
7. Assist in the recruitment of a volunteer work force and identification of cross-training needs.

K. Academic Affairs

1. Develop a policy or guidelines to address academic concerns of students absent from classes due to illness or quarantine.

2. Develop a procedure for students who are in isolation or quarantine to obtain class notes.
3. Develop and disseminate alternative procedures for completing course work (i.e., web-based instruction, lessons and assignments delivered via snail mail).

L. Research

Some researchers may be able to continue working during a pandemic, especially if they are working alone or in small groups in spacious labs. The ability to continue research will to some extent be dependent upon safety issues and the availability of other support services such as Environmental Health and Safety and Physical Plant.

1. Determine campus buildings that may remain open for research.
2. Establish a plan for maintaining security in laboratory spaces.
3. Establish a plan for care of laboratory animals if research ceases due to safety issues or high absenteeism among the animal handlers.
4. Establish a plan for specimen storage and managing experiments in process.

M. Business and Finance

1. Discuss the potential financial ramifications of a pandemic and estimate the impact and identify emergency funding to cover purchases and business continuation.
   a. Collect information from departments (i.e., student health, dining, housing) related to costs for stockpiling supplies.
2. Develop procedures for rapid procurement and payment for supplies, equipment, and services.
3. Develop a plan for ensuring the continuation of payroll and accounting operations in the face of high employee absenteeism.

N. Admissions/Financial Aid

1. Develop a plan for reviewing applications and recruiting in the absence of face-to-face interviewing or campus visits.
2. Discuss contingency plans for issues dealing with financial aid, withdrawal from school due to illness, and other factors related to tuition and registration.

VI. Recovery

1. Establish the criteria for calling an end to the pandemic event and resuming campus business and activities.
2. Develop a communication plan for advising employees, students, and other partners and constituencies of the resumption of business.
3. Develop the sequence and timeline for restoration of operations and essential services/activities.
4. Develop a plan to debrief faculty, staff, and students post-event, and provide resources for assisting those in need of psychological, financial, and social support.
5. Establish a structure for recording and reporting key activities, events, and decisions made during the crisis and a method for evaluating the effectiveness of the execution of the emergency response once in recovery.

Additional References and Resources

www.pandemicflu.gov/plan/pdf/colleges universities.pdf

www.cdc.gov/flu/pandemic/checklists.htm

www.hhs.gov/pandemicflu/plan

www.who.int

www.chancellor.mnscu.edu/avianflu

www.ajg.com/highereducation

www.cshema.org/resource/pandemic0306.htm

www.nimsonline.com

www.apic.org

Appendices

A. Pandemic Supply List
B. Pandemic Planning Committee Membership
C. Sample communications

Appendix A

Pandemic Supply List

Once a pandemic starts, it will be difficult, if not impossible, to secure needed supplies due to increased demand coupled with delays in shipments because of fuel shortages and illness and absenteeism in the transportation industry. Given the just-in-time purchasing practices of most organizations and the fact that most medical supplies and medications are manufactured overseas, it is anticipated that current medical supplies in the United States will be exhausted quickly under pandemic circumstances. Therefore, schools should determine whether stockpiling of critical supplies would be prudent and, if so, the amount of funding necessary to establish and store supplies.

Below is a general list of supplies that student health services might consider stockpiling. The list is intended to be helpful but not prescriptive, recognizing that the services that student health may provide will vary from campus to campus.

- Adhesive tape (1 inch and 1/2 inch)
- Angio caths (#20 and #22 needles)
- Bedpans
- Biohazard bags
- Blankets
- Blood pressure cuffs
- Disposable thermometers
- Disinfectant cleaning agents
- Emesis basins
- Gauze bandages
- Gloves (latex and vinyl)
- Hand washing solutions
- IV administration kits
- IV fluids
- Oral fluids (Gatorade, apple juice, bottled water, Coke)
- Paper products
  - Drapes
  - Pillowcases
  - Exam table paper
  - Gowns
- Peak flow meters
- Pillows
- Pretzels, crackers
- Pulse Oximeters
- Surgical masks
- Thermometer probe covers
- Urinals

Medications

- Acetaminophen (suppositories and oral tabs)
- Antibiotics
- Antiemetics (suppositories and injection)
- Cough suppressants (liquid syrups, lozenges)
- Decongestants
- NSAIDs

Personal Protective Equipment

- US NIOSH-certified N95 or equivalent respirator
- Face shield, visor, or goggles
- Non-sterile long-sleeved gowns - disposable and fluid resistant

See www.who.int/csr/disease/avian_influenza/guidelines/infectioncontrol1/en

Appendix B

Pandemic Planning Committee Membership

Below is a list of key areas that should be considered for representation on a pandemic planning committee. Because pandemic planning committee membership will reflect the organizational structure of the individual college or university, it may include additional or different areas than those listed.

- Executive Management (President, Provost, Chancellor)
- Vice President or Dean of Student Affairs
- Student Health Service
- Public Safety
- Environmental Health and Safety
- Public Affairs
- Government Relations
- Facilities Management
- Operations and Finance
- Information Technology
- International Student Services
- Residence Life
- Housing
- Dining
- Human Resources
- Student Representation
- Risk Management
- Telecommunications

Appendix C

Sample Communication #1

Dear Members of the Campus Community:

If you're planning to travel abroad, the Student Health Service encourages you to take precautions against seasonal influenza by getting the flu vaccine. Vaccines can be administered by injection or by an intranasal spray called FluMist. If you are interested in receiving the vaccine please send an email to……

More travel advice can be found online at Centers for Disease Control and Prevention (www.cdc.gov) and the World Health Organization (www.who.int).

In addition to flu vaccine, it is always prudent to follow good hygiene practices to protect yourself from viral infections. These practices include:

- Washing your hands frequently and not touching your eyes, nose, or mouth after coming in contact with objects such as keyboards and door knobs.
- Encouraging others to cover their mouths when sneezing and coughing, to use tissues, and dispose of them properly.

Given the heightened awareness of the avian influenza Type H5N1, also known as the "bird flu," the Student Health Service offers the following tips for those who may be traveling to areas where cases of the avian flu have been reported. Confirmed cases of bird-to-human transmission have been reported in several countries, including China, Cambodia, Indonesia, Thailand, and Vietnam.

- Avoid contact with poultry (chickens, ducks, geese, pigeons, turkeys, and quail) or any wild birds.
- Avoid settings where H5N1-infected poultry may be present, such as commercial or backyard poultry farms and live poultry markets.
- Do not eat uncooked or undercooked poultry or poultry products.
- Discuss antiviral medication with your health care provider before departing the United States.

Finally, if you believe you may have been exposed during your travel to influenza, including avian influenza, during your travel, please follow these important steps:

- Monitor your health for at least 10 days.
- If, at any point during this period, you become ill with fever and develop a cough, sore throat, or difficulty breathing, or if you develop any illness with fever, consult a health care provider.
- ***Before you visit the Student Health Service or any health care provider, call the provider's office and tell the provider the following: your symptoms, where you traveled, and if you have had direct contact with poultry.***
- Travel only if you are seeking medical care. Limiting contact with others as much as possible can help prevent the spread of an infectious illness.

If you have any questions, please contact the Student Health Service at ……

Sincerely,
Director, Student Health Service

Appendix C

Sample Communication #2

Dear Members of the Campus Community:

As you know, avian influenza (subtype H5N1), also known as the "bird flu," is a hot topic in the media these days. Despite the fact that millions of birds, domestic and wild, have been culled (picked out), the infection has been persistent in the bird population and continues to spread along the flight paths of migratory birds. Most of the laboratory confirmed cases in humans have resulted from direct contact with infected birds with only a few cases occurring from human-to-human contact.

Scientists, public health authorities, and government officials have expressed concern that a pandemic could be sparked by the virus if it mutates in a way that allows for sustainable transmission from person to person. The World Health Organization and U.S. health authorities are making preparations in the event a pandemic occurs and has urged all communities to do so. We are following this recommendation and are making plans to prepare our campus community as well.

Our Environmental Health and Safety Department and the Student Health Service are developing an emergency response plan in collaboration with many other departments on campus. We are working to ensure that on-campus health care providers and first responders are prepared to respond by providing ongoing education about avian influenza, rehearsing emergency drills, and having medical supplies and equipment readily available.

We are also following the latest developments by monitoring the World Health Organization and Centers for Disease Control and Prevention websites, following the guidelines of the American College Health Association, maintaining an open line of communication with our local health department and hospitals, and benchmarking the activities of other colleges and universities.

Finally, we realize that you may have many questions about avian influenza. To help answer some of those questions, we have prepared the following frequently asked questions and answers.

You can also learn more about avian influenza and the pandemic threat at the following websites:

World Health Organization
www.who.int/csr/disease/avian_influenza

Centers for Disease Control
www.cdc.gov/flu/avian

Department of Health and Human Services
http://pandemicflu.gov

If necessary, important updates and announcements will be distributed via email from "Official Communications" and the subject line will read "AVIAN FLU UPDATE." All updates will also be posted to the university website, the official university news and electronic bulletin boards, and the main university phone line at ……

Rest assured that we are taking proactive measures to be prepared in case the avian flu affects our campus community. Thank you for your attention.

Sincerely,
Director, Student Health Service

Frequently Asked Questions About Influenza

What is avian influenza?

Avian influenza, or "bird flu," is a contagious viral disease that normally infects only birds and on occasion, pigs. A highly pathogenic strain, H5N1, has been persistent and tenacious. Despite the fact that an estimated 150 million birds have died or been destroyed, the virus has become endemic in some areas and is being spread by migratory birds.

Which countries have been affected?

Outbreaks in wild and domestic birds have been reported in more than 40 countries including: the Republic of Korea, Vietnam, Japan, Thailand, Cambodia, Loa Peoples Democratic Republic, Indonesia, China, Malaysia, Mongolia, Russia, Kazakhstan, Turkey, and Romania.

What are the implications for human health?

Widespread persistence of H5N1 in poultry populations poses two main risks for human health. The first is the direct infection from poultry to humans. The second threat is the emergence of a mutant strain that spreads easily from person to person.

How is the virus transmitted?

The bird to human transmission occurs from direct contact with infected poultry or surfaces and objects contaminated by their feces. Exposure to the virus is most likely during slaughter, de-feathering, butchering, and preparing poultry for cooking. Currently, there is no evidence that properly cooked poultry or eggs are a source of infection.

What changes are needed for the H5N1 virus to affect humans and become pandemic?

The virus can become transmissible among humans by either a "reassortment" event or by a more gradual process of adaptive mutation.

In "reassortment" genetic material is exchanged between human and avian viruses when there is co-infection in a human or pig. This results in a new potent strain that is fully transmissible to humans. The process of adaptive mutation is a more gradual process by which the virus becomes more efficient at binding to human cells.

A pandemic can start when three conditions have been met: a new virus subtype emerges; it infects humans; and it spreads easily and is sustained among humans.

The first two conditions have been met in that a new subtype has emerged and humans have been infected through contact with infected birds.

Are vaccines and antivirals available for prevention and treatment?

Some vaccine clinical trials are currently underway. Because the antigen needs to closely match the pandemic virus, large-scale production will not start until the virus has emerged. Current vaccine production capacity cannot meet demand.

Tamiflu and Relenza are oral antivirals that are currently available and are effective for reducing the severity and duration of the illness. These medications can also be used prophylactically to decrease the number of new cases when an exposure has occurred.

References:

World Health Organization
www.who.int/csr/disease/avian_influenza

Centers for Disease Control
www.cdc.gov/flu/avian

American College Health Association
P.O. Box 28937
Baltimore, MD 21240-8937
(410) 859-1500 / (410) 859-1510 fax
7/06

KEEP YOUR GERMS TO YOURSELF

Wash your hands with soap and hot water, or use a waterless hand cleanser after:

- Blowing your nose or coughing
- Using the bathroom
- Being near someone who is ill.

We'll all feel better!

www.nyhealth.gov
www.pandemicflu.gov

7096

07/06

KEEP YOUR GERMS TO YOURSELF

Use a tissue or cough and sneeze into your upper arm.

We'll all feel better!

www.nyhealth.gov
www.pandemicflu.gov

7095

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Keep your germs to yourself.

STAY HOME

and avoid close contact with others.

Think you have the flu?
Think you should try to go
to work or school, anyway?
THINK AGAIN!

www.nyhealth.gov
www.pandemicflu.gov

7131

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