



Colorado Department of Public Health and Environment

Pandemic Influenza Planning Guidelines for Hospitals

August 2009

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Executive Summary

The objective of these guidelines are to serve as a guide for hospitals as they create and modify their pandemic influenza annex of their Emergency Operations Plan. This document focuses on the hospitals and Health Care Facilities (HCF) planning needs for an extended event like a pandemic influenza that may last for 18 months or more. This is a fluid document and may be changed or amended as a pandemic event unfolds.

While we do not know the severity of the next pandemic or if the severity will change throughout a pandemic event, planning should be around a ‘worse-case’ scenario in order to assure a robust response. These guidelines are centered on higher severity influenza.

Hospitals and HCF should always work with State and Local public health in their planning to ensure community continuity between all plans.

These are guidelines and should be used for planning only. All items listed may not be applicable or feasible for all hospitals. Changes and updates to these guidelines should be expected.

Planning assumptions (General):

- A. Susceptibility to the pandemic influenza virus strain will be universal.
- B. The clinical disease attack rate will be about 30% in the overall population. Illness rates will be highest among school-age children (about 40%) and decline with age. Among working adults, an average of 20% will become ill during a community outbreak.
- C. Of those who become ill with the new strain of influenza, approximately 50% will seek outpatient medical care.
- D. In an infected community, a pandemic outbreak will last about six to eight weeks. At least two pandemic disease waves are likely. The seasonality of a pandemic cannot be predicted with certainty.
- E. The number of hospitalizations and deaths will depend on the virulence of the pandemic virus. Because the virulence of the influenza virus that causes the next pandemic cannot be predicted, two scenarios are presented based on extrapolation of past pandemics.

Estimates are based on extrapolation from past pandemics in the United States using Colorado-specific census data in the Centers for Disease Control and Prevention’s (CDC) FluAid program.

Estimated number of episodes of illness, healthcare utilization, and death associated with moderate and severe pandemic influenza scenarios in Colorado
2008 Estimated Colorado Population = 4,765,158

Characteristic	Severe		Assumptions
	Moderate (1958/68)	(1918)	
Illness	1,429,547	1,429,547	30% of CO population becomes ill
Outpatient medical care	714,774	714,774	50% of ill persons seek outpatient care
Hospitalization	1,4295	157,250	1-11% of ill persons require hospitalization
ICU Care	1,430	22,873	0.1-1.6% of ill persons require ICU care
Mechanical ventilation	1,001	11,436	0.07-0.8% of ill persons require ventilation
Deaths	2,859	30,320	0.2-2.1% of cases die

*Note that these estimates do not include the potential impact of interventions not available during the 20th century pandemics.

- F. Based on the above extrapolation for a severe pandemic, Colorado deaths are estimated to be approximately 30,320. It is assumed that a pandemic will occur in 2 waves lasting 6 – 8 weeks each. If the number of Colorado deaths is spread out over 2 waves of 8 weeks each, Colorado can expect to see approximately 350 deaths per day. This estimate includes 80 deaths per day that Colorado typically has. As a direct calculation, this estimate does not take into account traditional epidemiologic bell curves seen in disease outbreaks. Therefore, this number will likely be smaller at the onset of the wave, rise steeply at the peak and decrease at the end of the wave. This cycle will likely repeat with the second wave.
- G. Risk groups for severe and fatal infections cannot be predicted with certainty. During annual fall and winter influenza season, infants and the elderly, persons with chronic illnesses and pregnant women are usually at higher risk of complications from influenza infections. In contrast, in the 1918 pandemic, most deaths occurred among young, previously healthy adults.
- H. In a severe pandemic, it is expected that absenteeism may reach 40% due to illness, the need to care for ill family members, and fear of infection during the peak weeks of a community outbreak, with lower rates of absenteeism during the weeks before and after the peak. Certain public health measures (closing schools, quarantining household contacts of infected individuals, “snow days”) are likely to increase rates of absenteeism.
- I. The typical incubation period (interval between infection and onset of symptoms) for influenza is two days. It is assumed that this would be the same for a novel strain that is transmitted between people by respiratory secretions.
- J. Persons who become ill may shed virus and can transmit infection for up to one day before the onset of illness. Viral shedding and the risk of transmission will be greatest during the first two days of illness. Children usually shed the greatest amount of virus and therefore are likely to pose the greatest risk for transmission.
- K. On average, infected persons will transmit the infection to approximately two other people. Some estimates from past pandemics have been higher, with up to about three secondary infections per primary case.
- L. Outbreaks can be expected to occur simultaneously throughout much of the U.S., preventing shifts in human and material resources that usually occur in response to other disasters.

- M. Localities must be prepared to rely on their own resources to respond. The effect of influenza on individual communities will be relatively prolonged (weeks to months) in comparison to other types of disasters.
- N. Healthcare workers, public health workers, and other responders (i.e., law enforcement and firefighters) may be at higher risk of exposure and illness than the general population, further straining the pandemic response.
- O. Effective prevention and therapeutic measures, including vaccine and antiviral agents, may be delayed and, initially, in short supply or not available.
- P. Substantial public education regarding the need to target priority groups for vaccination and possibly for antiviral medication, and rationing of limited supplies is paramount to controlling public panic.
- Q. Adequate security measures must be in place while distributing limited supplies of vaccine or antiviral medication.
- R. All plans must plan for the uncertainty of the situation.

1. Surveillance

1.1 General Information

During the pre-pandemic intervals, healthcare providers and healthcare facilities play an essential role in surveillance for suspected cases of infection with novel strains of influenza and should be on the alert for such cases. Novel strains may include avian or animal influenza strains that can infect humans such as avian influenza A H5N1 or novel influenza A H1N1 and new or re-emergent human viruses that cause cases or clusters of human disease. For detection of cases during the Pre-Pandemic and Pandemic Intervals, hospitals should have predetermined thresholds for activating pandemic influenza surveillance plans (Table 1).

1.2 Patient Surveillance

All patients, especially those whose primary presentation is not for influenza-like-illness (ILI), should be monitored closely for development of clinical signs of influenza during their hospital admission to detect illness and mitigate transmission of influenza throughout the hospital. Healthcare personnel who record patient vital signs should incorporate screening for the current available case definition of influenza. Patients meeting these criteria should be reported to the unit supervisor or charge nurse immediately. These patients should receive pandemic influenza evaluation and implementation of appropriate infection control strategies as outlined in this document.

1.3 Staff Surveillance

All healthcare employees should be able to recognize the signs, symptoms, and risk factors of pandemic influenza and understand protocols for self-exclusion and reporting their illness to the appropriate supervisor at the time of onset. Staff surveillance during a pandemic will be critical in maintaining appropriate levels of staffing in the hospital. Mechanisms for monitoring employee absenteeism for increases that might indicate early cases of pandemic influenza should be implemented during the early pandemic period.

Employees with symptoms consistent with influenza should report to their Employee Health/Occupational Health office or equivalent, hospital administrators should maintain a database of employees who are identified as ill and exposed from these screening programs to track staff and to direct treatment and prophylaxis.

1.4 Reporting and Testing Guidelines

See Appendix A (*Updated Guidelines for Emergency Departments & Healthcare Providers, June 12, 2006*). This document was created by CDPHE and provided to Emergency Departments and Health Care Facilities (HCF). Appendix A will be updated as appropriate.)

2. Communications

2.1 General Information

Each hospital should work with public health officials, other government officials, neighboring healthcare facilities, the lay public, and the media to ensure rapid and ongoing information-sharing during an influenza pandemic. Consistent and accurate information will be critical in a pandemic situation. Communication from the Hospital and HCF will be important during a pandemic. Determine the type of hospital specific communication that your facility may be responsible for providing. Develop procedures to keep hospital personnel and patients informed throughout the evolution of the pandemic. Each hospital should also be prepared to work with public health and other government officials, neighboring healthcare facilities, and the public and the press to ensure that rapid and ongoing information sharing will occur during influenza pandemic. Groups that should be considered for specific communication may include: Staff, Patients, Physicians, Visitors, Students, Volunteers, Health Partners, Public, and the Media.

2.2 External communications

2.2.1 Spokesperson(s)

Assign responsibility for external communication about pandemic influenza. Identify a person responsible for updating public health reporting (e.g., infection

control), a clinical spokesperson (e.g., medical director), and a media spokesperson (e.g., public information officer). Providing accurate and consistent information during a pandemic will be important to everyone.

2.2.2 Public Health Partners

Consult with local or state public health officials regarding the hospital's role in communicating with the media and the public. Determine how communications between local and regional healthcare facilities will be handled with guidance from state or local health departments, determine the methods, frequency, and scope of external communications that may be necessary. Consult with state or local health departments on plans for coordinating or facilitating communication among healthcare facilities.

HC Standard and or EMSsystem may want to be utilized to facilitate this process. During a pandemic, these systems are utilized amongst health care agencies across the state and are typically up and running in EOC's for communication and information sharing purposes.

EMSsystem is a real-time communication and patient transport system that enhances preparedness and response to medical emergencies, mass casualty events, and public health incidents. This system can provide the acute care hospital emergency department bed status, mass casualty incident support, and event alerting notifications with updates. *EMSsystem* is used statewide in Colorado amongst hospitals, 9-1-1 dispatch centers, emergency managers, EMS/Fire agencies and air medical resources.

HC standard is a web-based emergency response tool and database that can be used to track internal health care resources and equipment, and important ESF-8 contact information. The system has the capability to run various types of reports and GIS maps pertaining to resource availability during an emergency. *HC standard* also has a patient-tracking module used amongst first responders and hospitals to track patients during an emergency.

2.2.3 Media

Identify points of contact among local media (e.g., newspaper, radio, television) and assign staff to be the liaisons between the hospital and the media to ensure an accurate and consistent messaging during a pandemic event.

2.2.4 Public

Hospitals will likely also receive a surge of inquiries from the public during an influenza pandemic and should prepare to ramp up the ability to handle phone calls and post information on agency and partner websites.

Determine how public inquiries will be handled (e.g., refer callers to the health department; provide technical support for handling calls).

Identify the types of information that will be provided by the hospital and the types of inquiries that will be referred to state or local health departments.

2.3 Internal communications

Identify key topics for ongoing communication (e.g., staffing needs, bed capacity, durable and consumable medical equipment and device needs, supplies of influenza vaccine and antiviral drugs). Pandemic influenza information should be appropriate to the audience and be provided using a variety of methods, e.g., postings in elevators, at facility entrances, brochures, newsletters and web sites. For examples of audience targeted communication please visit the CDC pandemic influenza planning website at www.flu.gov.

2.3.1 Staff/Staff Families

Determine how to keep administrators and personnel (including infection control staff and intake and triage staff), and visitors informed of the ongoing impact of pandemic influenza on the facility and on the community.

2.3.2 HR Issues

Develop policies for dealing with various Human Resources related issues during a pandemic (sick, vacation, FMLA). Ensure that all policies are clearly and appropriately explained to staff and are always available upon request. Staffing will be a large issue for hospitals during a pandemic and careful attention is needed when dealing with leave, compensation and benefits during a pandemic.

2.3.3 Status of Hospital

Each hospital should have a well-developed crisis communication plan. An organization's crisis communication plan should be fully integrated into the overall emergency response plan. Weekly updates/daily updates on hospital operations may also be an option to consider.

Hospitals should maintain contact lists for all facility personnel. Contact lists should be updated regularly, or at least annually, and include phone numbers, e-mail and home street address. Staff phone call-down trees and e-mail group lists are useful ways to notify employees during an emergency.

Determine the type of hospital-specific communications (e.g., press releases, community bulletin board) that might be needed, and develop templates for these materials.

2.3.4 Patient and family communication strategies

Develop strategies to communicate to patients and patients families about impact of the pandemic on the community and hospital operations as appropriate.

Communication should also include a discussion of altered standards of care if needed. State and local public health department will clearly communicate with

all hospitals and HCF is altered standards of care is necessary. Hospitals and HCF should not use altered standards of care without instruction from the state and local public health agency.

Hospitals should also prepare to ramp up the ability to handle phone calls and post information on agency and partner websites. Finally, the face-to-face communication that patients and families will have with hospital staff is an important way that they will receive information about a pandemic.

Hospital employees should be prepared to answer questions or refer patients and families to another appropriate source for information, such as CO-HELP or other public health information sources.

3.0 Education & Training

3.1 General Information

Hospitals should identify educational resources for hospital personnel regarding the challenges a pandemic may present and the ethical differences that may arise during a pandemic. Staff should be aware of the hospitals altered standards of care and alternate care facility protocols and procedures when necessary, as well as policies and procedures for the care of pandemic influenza patients, if care is different from normal care procedures.

3.2 Infection Control

The education and practice of basic infection control policies regarding respiratory hygiene/cough etiquette and hand hygiene will be essential to the mitigation of pandemic influenza in all healthcare institutions. Information on the importance and proper methods should be disseminated to employees, patients, and visitors during the winter when seasonal influenza is circulating and throughout all subsequent pandemic intervals as they occur.

3.2.1 Visitors

Signs and placards that may be applicable to infection control and general influenza information should be posted in various places within the hospital and

should be of varying education levels. Educational campaigns should include posted signage in common areas (elevators, waiting areas, cafeterias, lavatories, break rooms, etc.) in appropriate languages and literacy levels to assist with infection control. Universal public health measures such as hand washing and covering your cough should also be included in the messages.

3.3 Vaccine/Anti-Viral

Local and State Public health will lead communication regarding vaccine and antiviral distribution but all hospitals and healthcare facilities should be prepared to receive one or both during a pandemic influenza event. Hospitals and HCF should begin planning for their communication strategy for both internal and external communications regarding use and distribution.

3.4 PPE

Healthcare employees, visitors, and patients should learn and understand the importance of proper donning and doffing techniques of PPE through posted signage in common areas, fit testing activities, hands-on activities in small groups, and reading-level and language appropriate flyers. Employees should be repeatedly informed of the PPE protocols when on the influenza wards/floors when appropriate.

Staff should also be informed of the protocols for visitor and patient PPE requirements, if necessary, in both the influenza and non-influenza designated areas of the hospital. Suspect influenza patients and their visitors will also require education explaining use of PPE for themselves and the rationale for the designation of higher level PPE for healthcare workers providing care for them. Pre-made flyers describing the basics of disease transmission with the explanation for varying PPE among employees, patients, and visitors should be posted in patient treatment areas if possible.

3.4.1 Staff

The educational information prepared and provided for workers may include:

- An explanation that pandemic influenza is a novel strain of influenza and what a pandemic is;
- The facility-specific pandemic influenza plan;
- The difference between an upper respiratory infection and influenza;
- The mode of influenza transmission
- The criteria for determining, influenza-like-illness (ILI).
- The risk of infection and subsequent complications in high-risk groups;
- Information about the importance of hygienic measures (add appendices of hygiene measures) to minimize influenza transmission because influenza immunization and/or prophylaxis may not be available until later in the pandemic;
- Who will be given the highest priority for immunization when vaccine is available and why those designations were made;
- The importance of being immunized and safety of immunization;

Information about the importance of routine practices and additional precautions to prevent the transmission of infection during the delivery of health care in all health care settings during a pandemic will be important. This information should include the caveat that some routine practice and additional precaution recommendations may be achievable only in the early phases of the pandemic and other recommendations may not be achievable as the pandemic spreads and resources (equipment, supplies and workers) become scarce.

4.0 Triage

4.1 General Information

In all healthcare settings, patients with symptoms of influenza should be segregated from non-influenza patients as rapidly as possible. Whenever possible, different teams of staff should care for influenza and non-influenza patients may want to be considered. Careful deliberation should be given to flexible accommodation and

staffing arrangements. Patients with influenza may be managed separately until they are discharged depending on the hospital or health care facilities plans.

4.2. In Patient Triage

Considerations of ILI symptomatic patients should be considered especially in triage areas to avoid exposing presenting patients without ILI symptoms.

4.2.1. Non Influenza Like Illness (Non-ILI)

Plans should be created for patients if they remain in the designated segregated area until discharged to the community and should not be transferred to other areas purely for bed management purposes. However, if there is extreme pressure on beds in the segregated area of the hospital, convalescing patients with residual, non-respiratory problems (i.e. those who are unlikely to be secreting virus in large quantities) but who require hospitalization for other reasons (e.g. because of poor mobility or non-respiratory complications) may need to be moved to another area of the hospital, an intermediate care facility, or a nursing or residential home.

4.2.2 Influenza Like Illness (ILI)

For patients that develop or current have ILI symptoms they should be moved to a co-horted area to avoid infection of non-ILI patients if possible.

4.3 New/Presenting Patient Triage

In acute care settings triage non ILI patients (but requiring acute care assessment) promptly to specific non ILI waiting and examining areas physically separate from the ILI assessment area to prevent their exposure to ILI if possible. Additionally separate entrances and exits should be established for those who believe they may have been exposed to ILI or those that are in need of other types of medical attention if feasible. Establish procedures and test a plan for pandemic triage and the rapid separation of patients with influenza from other patients to ensure functionality of the hospital or HCF.

Mechanisms should be created for tracking emergency department visits and hospital admissions and discharge of suspected or laboratory-confirmed pandemic influenza patients. This information will be needed to support local public health personnel in monitoring the progress and impact of the pandemic, assess bed capacity and staffing needs and detect resurgence in pandemic influenza that might follow the first wave of cases.

Admission policies should also be created for determining if a patient's needs to be admitted to the hospital or if an Alternate care facility may be more appropriate if altered standards of care are being used.

4.4 Phone Triage

If possible hospitals should work with local and state health departments to establish triage protocols for phone triage. It is anticipated that many individuals will call a health care hotline, such as CO-HELP for information on what to do with the symptoms they currently have. Health care workers should be trained on the general information on ILI and what to do if the public begins calling the hospital directly with questions on medical help. Information should be available to whomever is answering the phone on general hospital or HCF information as well as additional resources they can reach out to if necessary.

5.0 Special Populations

5.1 Intensive Care Units

5.1.1 Staffing & Resources

During a pandemic event staffing and patient care will be major concerns for the ICU and other special populations area of the hospital. Staffing for intensive care units should be planned out early in the pre-pandemic phases and should be planned for using general pandemic planning assumptions or specific assumptions if available.

5.1.2 Altered Standard of Care

The standard of patient care during a pandemic will likely be altered to enhance the successful response to a pandemic. Hospitals should ensure that their staffs are aware of the potential changes to the standard of care that may be implemented during a pandemic as recommended by the State Health Department. To assist staff with these changes mental health counselors and staff should be made available to assist with any issues or challenges that staff be asked to address. If altered standards of care are needed the State and local public health department will clearly communicate that message to hospitals and HCF.

5.2 Pediatrics

5.2.1 Staffing & Resources

During a pandemic staffing and patient care may be major concerns for the pediatric units. Staffing for pediatric units should be planned out early in the pre-pandemic phases and should be planned for using general pandemic planning assumptions.

5.2.2 Guardianship Issues

During a pandemic pediatrics patients present a unique issues of guardianship. Planning should include protecting visitors/guardians to pediatric patients as well as planning for pediatric patients that may lose their guardians in a pandemic. Hospitals should work with their local social service agency to determine the best course of action to be taken in the pre-pandemic period, remember that all government services may become be overwhelmed and understaffed.

5.2.3 Elder Care

Issues may present themselves similar to those surrounding pediatric care in regards to elder care. This may or may not present itself as an issue for hospital, but should be considered in the planning preparations.

6.0 Facility Issues

6.1 General Information

Facility planning will be critical to the pandemic plan of a hospital. Access restrictions, visitor restriction and rescheduling of elective surges may be necessary to assist in the response to a pandemic.

6.2 Access Restrictions

6.2.1 External Restrictions

Healthcare facilities may want to plan for additional security. This may be required given the increased demand for services and possibility of long wait times for care or their families, and because triage or treatment decisions may lead to people not receiving the care they think they require.

At the height of a pandemic event plans may be developed for limited access to visitors and non-essential staff. Hospitals may also consider developing triggers for varying degrees of access as appropriate, such as limitation of transfer patients, suspending admittance, etc. Each hospital and HCF should consider their unique needs and abilities.

6.2.2 Internal Restriction

Hospitals should develop procedures and policies for restricting patients and possible staff movement within the hospital to comply with in Influenza treatment zones and non-influenza treatment areas if appropriate. Limiting the movement/activities of patients including transfers within the hospital may be considered to help limit the spread of in the disease.

Other workers who provide ward-based services, such as catering staff or those who provide and maintain patient facilities such as personal television and telephones, should be organized in a way that work in segregated influenza areas do not also work in non-influenza areas of the hospital. They should be included in any hospital-wide education program with regard to pandemic influenza, droplet precautions and standard infection control

principles, including hand hygiene and PPE. Unless their help is essential, the number of volunteer workers should be kept to a minimum. All decisions made by Hospitals and LCF should work toward minimizing contact between ILI and non ILI patients.

6.3 Visitors

During a pandemic, visitors to all areas of the hospital should be kept to a minimum, and restriction of visiting hours should be considered. Visitors with influenza symptoms should be strongly discouraged or prohibited from entering the clinical area and encouraged to return home. It is particularly important that every effort is made to ensure that people with influenza symptoms do not enter unnecessary wards or units.

6.3.1 Visitor restrictions

6.3.1.1 Patients Visitors.

Determine if any restrictions may be appropriate for visitors. Visitors should be informed when the hospital or HCF has influenza activity. Those who have not yet had the pandemic strain of influenza or who have not been immunized against the pandemic strain may be discouraged from visiting. Ensure that all visitors are aware of any accountability system that is in place (e.g sign in/sign out). Signage should be displayed informing visitors of the ward's current segregated status, if appropriate and the procedures that need to be undertaken before they can enter the ward/unit.

Visitors entering a cohorted area must be instructed on standard infection control principles, including hand hygiene practice and the wearing of protective equipment, as appropriate. Visitors' use of PPE should be determined by their level of interaction with the patients and staff. Surgical masks may be appropriate PPE for visitors who sit close to the patient but are not involved in their care. Other PPE such as gloves and

plastic aprons will be required if there is contact with the patient or the patient's environment. Determinations on uses of PPE should be made by each hospital.

6.3.1.2 Other Visitors

Commercial visitors such as medical sales representatives should not be allowed entry into segregated or cohorted influenza areas, including patient waiting or reception areas designated for patients with symptoms of influenza

Volunteers should report to and sign in at the reception area. Volunteers should not move between influenza cohorted and non influenza areas. Instruction in standard infection control principles and droplet precautions, including specific instruction on PPE and its use, may be necessary and should be determined at the facility level.

6.4 Transfers

6.4.1 Patient Transfers

Patient transfers procedures should be developed in the pre pandemic intervals. Coordination should include partner hospitals, local health care facility, assisted living centers, nursing homes, ambulatory services and other stakeholders. Transfers that involved influenza patients should be done strategically as to not expose other individuals.

6.4.2 Staff Transfers

During a pandemic event hospital staff may be moved from one hospital to another to assist in care and address staffing needs. Procedures for outgoing and incoming staff should be developed by each facility. This should include just-in-time training on hospital policies and procedures and other information as needed.

7.0 Infection Control

7.1 General Information

Strict adherence to hand washing recommendations and universal public health measures are the cornerstone of infection prevention and may be the only preventative measure available during a pandemic. Planning should include ensuring that adequate supplies of hand hygiene products are a priority for all health care settings as there may be an interruption to the supply or shortages of hand antiseptic products, soap and hand towels. Consideration should be given to establishing separate entrances and exits when a whole ward or unit is segregated for influenza patients, as this allows staff to put on PPE prior to entry to a cohorted area away from where they remove PPE after leaving the cohorted area.

7.2 PPE

Planning should include the priority of maintaining adequate resources for infection control in acute care hospitals (soap, antiseptic products, masks/eye protection/face shields, gloves, and gowns) due to the increased complexity and management issues of hospitalized patients. PPE planning may also include visitors. All staff should be aware of proper donning and doffing of PPE and uses for items.

7.3 CoHorting

Cohorting patients in segregated areas of the hospital should be carried out from the outset of the pandemic to help contain influenza infection within one part of the hospital and reduce the risk to other patients. To achieve the desired goal of separating patients with influenza from those without, a designated self-contained area or wing of the hospital should, whenever possible, be used for the treatment and care of patients with influenza. If possible this should be available at all entrances and exits to inhibit the spread from ILI symptomatic and non-ILI symptomatic persons.

As the pandemic event evolves hospitals may find it useful to change or modify cohorted areas as appropriate. For example for patient that have recovered from

their symptoms may be moved to a separate area, or patients that have been exposed may be located with those that are confirmed influenza cases.

7.3.1.Cleaning

Cohorted areas for influenza patients should be cleaned at least once a day, with a focus on frequently touched surfaces such as bed rails, tables, door handles and bathroom fixtures. Cleaning after patient discharge should be carried out as normal. Close liaison with housekeeping/domestic services will be required. Ensure that housekeeping/domestic service has appropriate PPE. Hospitals may already have this cleaning process as part of their everyday activities.

8.0 Human Resources /Occupational health

8.1 General Information

Develop plans and procedures to assess staff with ILI, supervise and monitor staff deployment, track and document staff sickness and absence, provide psychological and social support to staff. Careful planning should also include leave, compensation and benefits. Exposure to pandemic influenza should vary by staff assignment and duties, breach in infection control practices, and prevalence of virus in the community and healthcare institution. OSHA released guidance on preparing workplaces for an influenza pandemic that included a detailed exposure risk stratification scheme. Hospitals and HCF should use PSHA guidance if possible. Not all recommendations may be feasible for all hospital and HCF.

8.2 Policies for Ill Staff

Policies should be developed for allowing or not allowing ill staff to work in various capacities if they have ILI. Planning ideas may include: Notifying healthcare workers that they should not come to work if they suspect ILI, procedure for sending ill staff home if necessary, establishing and advertising a telephone line (staffed by an infection control or occupational health practitioner) for healthcare workers to call and report illness.

8.3 Returning to Work

Maintaining lists of recovered healthcare workers can facilitate staffing decisions. Hospitals should follow best practice guidelines for return to work that are based upon seasonal influenza recommendations.

8.4 Human Resources

Procedures should be developed and distributed regarding HR procedures during a pandemic. These may include but are not limited to policies regarding:

- Annual Leave
- Sick Leave
- Hiring
- Furlough
- Compensation
- Workers Compensation
- Family Medical Leave Act (FMLA)

8.5 Occupational Health

In the event of a pandemic, healthcare workers are likely to require various types of instrumental and psychosocial support in order to perform effectively; they may face stigma, long work hours under stressful conditions, dual obligations of caring for patients and family, and illness/ death of colleagues, among other challenges. For updated and current information on occupational safety during an influenza pandemic please visit www.osha.gov. and www.flu.gov

9.0 Vaccine/Anti-Viral

9.1 General Information

Once the characteristics of a new pandemic influenza virus are identified, the development of a pandemic vaccine will begin. Recognizing that there may be benefits to immunization with a vaccine prepared before the pandemic against an

influenza virus of the same subtype, efforts are underway to stockpile vaccines for subtypes with pandemic potential. In the interim, healthcare facilities should:

Monitor updated HHS information and recommendations on the development, distribution, and use of a pandemic influenza vaccine (<http://www.flu.gov>) as well as staying in contact with your local department for situational updates.

9.2 Vaccine Distribution

Hospitals should work closely with their local and state health department to create vaccine distribution plans. As part of these plans provide estimates of the quantities of vaccine needed for hospital staff and patients if appropriate.

Hospitals may consider developing an internal a stratification scheme for prioritizing vaccination of healthcare personnel who are most critical for patient care and essential personnel to maintain the day-to-day operation of the healthcare facility. Each Hospitals and HCF may have different internal prioritization and will be a facility dependent list. Colorado will use guidance provided by CDC on vaccine prioritization. See Appendix B.

10.0 Surge Capacity

10.1 General Information

Confirm availability of alternate facilities, if they are used during a pandemic event, such as long-term care, out patient surgical centers, non-traditional health care settings (e.g., school gymnasiums). Activate various medical response teams to assist in response as appropriate. Utilize the web-based hospital bed and resource availability system (EMSystem & HavBed) to enhance coordinated response and care.

10.2 Alternate Care Facilities

Develop alternate care site and facilitates plans to incorporate supplies and staffing. Also include triage methods and these sites and various other

hospital polices that may be applicable (e.g. visitors, PPE). During a pandemic, issue public notices through your appropriate communication channels advising affected populations of appropriate actions to be followed to reduce or limit the impact of surge on health care facilities. Communicate with state and local agencies to determine the appropriate guidance to be distributed. Depending on the pandemic event alternate care facilities may or may not be necessary.

10.3 Staffing

Identification of essential staff will be necessary in an alternate care site. Staffing shortages are expected and staff should be accurately tracked to avoid shortages in particular locations. Planning to track staff should be done in the intervals of a pandemic.

Cross Training and Reassignment of Staff may be useful in a pandemic event. Staff allocations to influenza or non-influenza areas will be important and many factors should go into the planning. Considering the skill mix and the likelihood of sickness and absence of staff, the possible use of family members and lay volunteers in an ancillary capacity, staff working outside their usual area of practice (eg medical and nursing students working as healthcare assistants), augmentation of staff tracking and coordination of staff movements (including agency staff) when an emergency staffing crisis might be declared. Each facility should plan for options that will assist the facility respond to the demand.

10.4 Bed Capacity

Bed capacity may need to be closely tracked during a pandemic. Identification of expanded bed space should be planned for and detailed in the hospitals medical surge plan. This may include transfers to other hospitals or alternate care facilities. Tracking of bed availability should occur on electronic systems as available. (eg. EMSsystems) and will be critical to all

health care organizations in the event of a pandemic. Bed capacity issues should also be considered when establishing admissions and discharge criteria.

10.5 Consumable and Durable Supplies

Hospital should review and develop procedures for ensure adequate supplies during a pandemic. Systems should be developed for tracking hospital supplies as well as working with vendors to ensure a continued supply of available resources. These plans should also include food services. During a pandemic event there may disruption of the supply chain for a short period of time. Planning to have extra supplies will be critical for hospitals to be able to maintain their operations.

Contingency plans for situations where medical supplies become limited should also be developed as a this is likely in a severe pandemic event. Hospitals should develop a strategy for ensuring uninterrupted provision of needed medication to patients.

11.0 Post Mortem Care/Mortuary

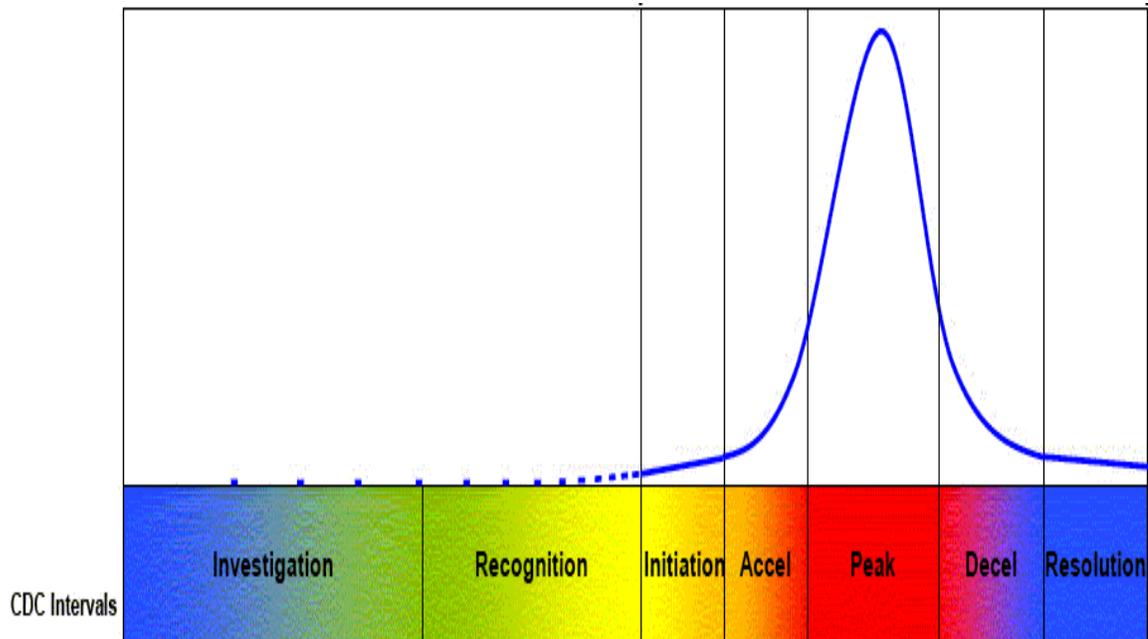
11.1 General Information

Hospitals should develop plans for an increase in post mortem care. It is suggested that hospitals:

- Assess current capacity for refrigeration of deceased persons.
- Discuss mass fatality plans with the department of coroner or equivalent.
- Work with the department of coroner to identify temporary morgue sites.
- Determine the scope and volume of supplies needed to handle and increased number of deceased persons. ‘

Hospitals and HCF should work with their Local Public Health Agencies on fatality planning.

Table 1



Pre- Pandemic Intervals

- Investigation
- Recognition

Pandemic Intervals

- Initiation
- Acceleration
- Peak Transmission
- Deceleration
- Resolution

**CDPHE is moving away from planning around specific pandemic preparedness stages or phases. We are moving toward the Pandemic Interval approach as shown above. All response to a pandemic will be based on the severity of the disease. Intervals allow a flexible approach in our response needs. For additional information on the Pandemic Intervals please visit <http://www.pandemicflu.gov/news/guidance031108.pdf> pages 12-19.*

Appendix A

Surveillance for Pandemic Influenza Hospitalizations and Hospital Deaths (also known as attachment 6b to CDPHE Pandemic Influenza Plan)

Purpose

Surveillance for influenza-associated hospitalizations and deaths during an influenza pandemic will be essential to help monitor the pandemic's impact on morbidity and mortality, including the identification of populations most severely affected.

Background

- During the 2003-04 “moderately severe” (“Fujian strain”) influenza season in Colorado, approximately 13,000 positive tests for influenza were reported by hospitals; these numbers overwhelmed some parts of the disease-reporting network.
- The 2004-05 “mild” influenza season in Colorado was the first season for which influenza-associated hospitalization (rather than all positive tests) was a reportable condition. Approximately 1,000 hospitalizations were reported (peak of 140 per week and ≥ 100 per week x 4 weeks); the reporting system was very capable of handling this reporting volume.
- Based on federal projections (HHS Pandemic Influenza Plan, November 2005; Part 1, Strategic Plan, p.18), a “moderate” influenza pandemic similar to 1957-58 and 1968-69 could result in 13,000 hospitalizations in Colorado; whereas, a severe pandemic similar to 1918 could result in 153,000 hospitalizations in Colorado.

Assumptions

- The disease-reporting system (hospitals and public health agencies), based on individual case reporting to Colorado Electronic Disease Reporting System (CEDRS), could adequately handle a volume of hospitalized influenza cases up to 300-400 per week; therefore, current case reporting methods would be adequate during the “early” stage of a pandemic.
- Individual case-based reporting of hospitalized influenza cases would not be feasible during the “full-blown” stage of a pandemic; therefore, alternatives to individual case reporting are needed for this phase based on “aggregate” reporting and the minimum “necessary” information.
- The Colorado Department of Public Health and Environment (CDPHE) and organized local health departments have staff that could be assigned to large and medium size hospitals to perform surveillance and reporting of influenza cases and deaths during the most active phase of a pandemic.
- Due to the expected limited laboratory testing capability for the pandemic strain during the pandemic phase, it is assumed that most pandemic-related hospitalizations will not be lab-confirmed. Hospitalized case ascertainment, therefore, will need to be based primarily on syndromic criteria (i.e., admitting diagnosis) rather than lab criteria.

- Hospital admissions offices can provide daily lists of admitting complaints/admitting diagnoses during a pandemic.

“Early Phase” Surveillance Methods

- Hospitals should report individual cases of influenza-associated hospitalization similar to regular flu season reporting, by CEDRS (preferred), or by fax or phone the state or local health dept.
- CEDRS will be modified as needed to add additional data fields.
- Hospitals should determine methods for identifying deaths among persons admitted for influenza-associated illness and update CEDRS reports or hard-copy reports accordingly.
- Hospitals should determine methods for obtaining and using “admissions” data (e.g., admissions for “influenza” or “pneumonia”) to assist with identifying influenza-associated hospitalizations.
- Based on the availability and performance characteristics of testing resources (rapid and confirmatory) to identify illness associated with the pandemic strain, the State Health Department will provide guidance on whether to report only test-positive cases or all suspect cases (based on admitting complaints/diagnosis).

Transition from Early Phase to “Full-Blown” Phase Reporting

- CDPHE will monitor the frequency and rate of increase in early phase pandemic influenza hospitalization reports, as well as survey hospitals as to their ability to keep up with early phase reporting.
- Based on these parameters, and in conjunction with local public health agencies, the state health dept. will determine when it is necessary and appropriate to switch to “aggregate” reporting.
- This decision will be announced via Health Alert Network (HAN) communication.

“Full-Blown Phase” Surveillance Methods

- Hospitals should report aggregate numbers of influenza-associated hospitalizations based primarily on admitting diagnosis, stratified by specified demographic characteristics (e.g. age group)
- Hospitals should report numbers of deaths among persons admitted for influenza-associated hospitalization.
- An “aggregate data-reporting screen” will be available in CEDRS (see next page) to accommodate aggregate reporting of hospitalization and mortality data; reports may be entered directly into CEDRS or faxed to the state or local health department.
- Large and medium size hospitals should request as needed a state or local health department person to perform the surveillance and reporting function when this can no longer be adequately be performed by hospital staff.
- Large and medium size hospitals should report hospitalizations and deaths on a daily basis.

- Small hospitals should report hospitalizations and deaths on a daily basis to the extent possible; however, less frequent reporting (e.g., weekly or twice weekly) may be necessary and acceptable.
- Regional Epidemiologists should develop a plan in conjunction with each small hospital for surveillance and reporting; Regional Epidemiologists should assist small hospitals with surveillance and reporting to the extent necessary and possible.
- Hospitals should determine methods for obtaining and using “admissions” data (e.g., admissions for “influenza” or “pneumonia”) to assist with identifying influenza-associated hospitalizations.
- Hospitals should determine methods for insuring reporting of unduplicated numbers of influenza-associated hospitalizations and deaths (e.g., by maintaining line lists on-site).

CEDRS Aggregate Reporting Screen



Colorado Department of Public Health and Environment

[Main Menu](#)
[Find a Case](#)
[Report a Case](#)
[Line List](#)
[Messages](#)
[Help](#)
[Logout](#)

[Click here to submit CEDRS problems or suggestions](#)

CEDRS : Aggregate Reporting:

Enter the numbers of new cases and new deaths since the last report for: **Pandemic Influenza**

Facility	[Please Select]				
Age Group:	< 5	5-17	18-55	55+	Total
New Cases:	<input type="text" value="0"/>				
New Deaths:	<input type="text" value="0"/>				
<input type="button" value="Calculate Totals"/>					
<input type="button" value="Report Aggregate Numbers"/>					

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Appendix B

CDC Advisors Make Recommendations for Use of Vaccine Against Novel H1N1

The Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices (ACIP) met today to make recommendations for use of vaccine against novel influenza A (H1N1).

The committee met to develop recommendations on who should receive vaccine against novel influenza A (H1N1) when it becomes available, and to determine which groups of the population should be prioritized if the vaccine is initially available in extremely limited quantities.

The committee recommended the vaccination efforts focus on five key populations. Vaccination efforts are designed to help reduce the impact and spread of novel H1N1. The key populations include those who are at higher risk of disease or complications, those who are likely to come in contact with novel H1N1, and those who could infect young infants. When vaccine is first available, the committee recommended that programs and providers try to vaccinate:

- pregnant women,
- people who live with or care for children younger than 6 months of age,
- health care and emergency medical services personnel,
- persons between the ages of 6 months through 24 years of age, and
- people from ages 25 through 64 years who are at higher risk for novel H1N1 because of chronic health disorders or compromised immune systems.

The groups listed above total approximately 159 million people in the United States.

The committee does not expect that there will be a shortage of novel H1N1 vaccine, but availability and demand can be unpredictable. There is some possibility that initially the vaccine will be available in limited quantities. In this setting, the committee recommended that the following groups receive the vaccine before others:

- pregnant women,
- people who live with or care for children younger than 6 months of age,
- health care and emergency medical services personnel with direct patient contact,
- children 6 months through 4 years of age, and
- children 5 through 18 years of age who have chronic medical conditions.

The committee recognized the need to assess supply and demand issues at the local level. The committee further recommended that once the demand for vaccine for these prioritized groups has been met at the local level, programs and providers should begin vaccinating everyone from ages 25 through 64 years. Current studies indicate the risk for infection among persons age 65 or older is less than the risk for younger age groups. Therefore, as vaccine supply and demand for vaccine among younger age groups is being met, programs and providers should offer vaccination to people over the age of 65.

The committee also stressed that people over the age of 65 receive the seasonal vaccine as soon as it is available. Even if novel H1N1 vaccine is initially only available in limited quantities, supply and availability will continue, so the committee stressed that programs and providers continue to vaccinate unimmunized patients and not keep vaccine in reserve for later administration of the second dose.

The novel H1N1 vaccine is not intended to replace the seasonal flu vaccine. It is intended to be used alongside seasonal flu vaccine to protect people. Seasonal flu and novel H1N1 vaccines may be administered on the same day.

Courtesy of [U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES](#)