National Strategic Plan for Emergency Department Management of Outbreaks of Novel H1N1 Influenza

"No area of the United States would be spared from the spread of Novel H1N1"

American College of Emergency Physicians®

ADVANCING EMERGENCY CARE

National Strategic Plan for Emergency Department Management of Outbreaks of Novel H1N1 Influenza

" Even with the support of tools and policies, it will be incumbent on the hospital to have a plan or strategy for bringing together the appropriate personnel who can make the best decisions possible …."

AHRQ Providing Mass Medical Care with Scarce Resources: A Community Planning Guide

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H1N1 Panel

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Purpose

This plan informs health care personnel, public health, and government officials at all levels of the necessary capabilities that must be present for successful emergency department management of an outbreak of H1N1. It also enumerates the necessary actions that must be taken to attain these capabilities. The performance of the necessary actions will fall to parties including professional associations, government entities at the federal, state and local levels, public health officials and departments at the federal state and local levels, and hospitals – administrators, medical staff, nursing and support services. Those entities should undertake the necessary operational planning to assure their performance prior to, during and following an outbreak of novel H1N1 influenza. The plan serves as a guide for emergency departments to address the interdependencies that are necessary for successful management of such an incident. The goal of this guidance is to protect the health care infrastructure and ensure the delivery of emergency medical treatment during a large scale epidemic or pandemic.

Background

Novel influenza A (H1N1) is a new flu virus that was first detected in April, 2009. It is thought that novel influenza A (H1N1) flu spreads in the same way that regular seasonal influenza viruses spread; mainly through the coughs and sneezes of people who are sick with the virus.[1] It is uncertain at this time how severe subsequent waves of a novel H1N1 outbreak will be in terms of illness and death compared with other influenza viruses or the spring 2009 wave. Because this is a new virus, most people do not have immunity to it, and illness may be more severe and widespread as a result. In addition, the vaccine to protect against novel H1N1 virus is not expected to be available until after the onset of a fall 2009 wave. Therefore, health care institutions broadly, and emergency departments specifically, should prepare for high volumes of sick and contagious people seeking care.

Early indications are that pregnancy and other previously recognized medical conditions that increase the risk of influenza-related complications, like asthma and diabetes, appear to be associated with increased risk of complications from this novel H1N1 virus infection as well. Early reports indicate that no children and few adults younger than 60 years old have existing antibody to the novel H1N1 flu virus; however, about one-third of adults older than 60 may have antibodies against this virus.

So far, with novel H1N1 flu, the largest number confirmed and probable cases have occurred in people between the ages of 5 and 24-years-old. At this time, there are few cases in people 65 and older, which is unusual when compared with seasonal flu. However, pregnancy and other previously recognized high-risk medical conditions from seasonal influenza appear to be associated with increased risk of complications from this novel H1N1.

At the current time, CDC believes that this virus has the same properties in terms of spread as seasonal flu viruses. With seasonal flu, studies have shown that people may be contagious from one day before they develop symptoms to up to 7 days after they get sick. Children, especially younger children, might potentially be contagious for longer periods.[2]

Other pandemics in the 20th century have followed a consistent pattern with multiple waves. If the pattern holds true, the United States could see a second wave of the disease in the early fall of 2009 into the winter of 2010.

The virus exhibited significant transmissibility during the first wave of 2009. The severity was more difficult to estimate, because there was little disease surveillance in effect at the point of the outbreak in Mexico; thus, the prevalence of severe illness was unknown. As the disease spread to the United States, the case fatality rate was very low. After 20 weeks of the spring 2009 outbreak, there were 11,054 confirmed and probable cases with 54 deaths.[3]

Risk Awareness

Threat

If the virus follows the pandemic patterns of the 20th century, health care providers should prepare for the potential of higher level of virulence in the fall wave, which occurred in both 1918 and 1957. Patterns would suggest cases could appear in early fall and will be occurring well into the normal seasonal flu months. If this occurs, the population will not have had available vaccine, and similar patterns of infection are expected, with higher prevalence in children and young adults.

Should a second wave occur in the early fall, a vaccine is unlikely to be available. Without vaccine, the best defense the nation will have in reducing transmission would be community mitigation strategies. Since case rates are highest in school-aged children, school closures may be one of the first strategies employed. This would result in parents needing to remain home with their children and the consequent loss of workplace productivity. This would include healthcare workers, reducing the ability of emergency departments and hospitals to function at peak efficiency. An equally important community mitigation strategy is keeping people who are ill, even at the first sign, from entering the workplace and school. Encouraging social distancing and frequent hand washing policies are important parts of the strategy. The combination of the effects of the disease and employing these measures could affect the business practices of all the critical infrastructure operators, possibly impeding their ability to maintain normal operations.

At some critical point, operations of hospitals are affected, not only by the absence of its own workers, but by slowdowns in transportation of supplies and support

services, the summary of which is the inability to maintain normal operations, even for normal patient volumes.

If the novel H1N1 strain returns in the Fall, even with no difference in infection rate from the spring 2009 wave, it will strike concurrently with seasonal influenza. In this case, the nation would face a higher than normal influenza prevalence, higher work loss, higher fatalities and the need for surge medical response. In a typical seasonal flu season, 7% of adults and 30% of children in an affected community may become infected with flu virus, and much higher percentage in households with a person who is ill. Each year, in the United States, on average 36,000 people die from flu-related complications and more than 200,000 people are hospitalized from flu-related causes. Significant increases in those numbers would be expected if the peak incidence of the two virus strains overlap. If patterns of earlier pandemics hold true, the second wave is more likely to exhibit higher virulence – and thus higher case fatality rate. There is also no assurance that antiviral medications will be effective for a virus that has undergone selection pressure in the interim.

Each year, flu season can stress an emergency department's ability to maintain normal operations because of the increase in both outpatient volume and admissions. It is therefore prudent to prepare for a worse than normal flu season. While the precise effects on emergency departments to function cannot be predicted with confidence, contingency plans should be made for a challenging scenario.

Vulnerability

Population. No area of the United States would be spared from the spread of novel H1N1. Although the weather may affect transmission rates, no emergency department is exempt from the risks of an outbreak. If the transmission rates double from the spring 2009, over 30,000 cases can be expected over the fall and early winter. Emergency departments could see 150% of normal volume of respiratory complaints. This may even be true in communities where the novel H1N1 virus is not yet widely present due to increased levels of concern by the public regarding any respiratory related illness.

Critical Infrastructure. The ability of some critical infrastructures to continue normal operations depends largely on the attendance of its workforce. Others may have plans and procedures in place for tele-work or social distancing. The nation's just-in-time supply chain could experience delays in supplying goods and services, and businesses who cannot survive operational interruptions may expand inventories of supplies.

Hospitals are no exception to this. Pharmacies may not be able to get additional supplies from distributors or sources higher in the chain, domestic and foreign. Supplies of personal protective equipment (PPE) and other supplies may require stockpiling, and food services could encounter supply problems due to production and delivery. The workforce may be depleted due to infection, fears of coming to work in an infectious environment, or the need to care for children out of school or other family members. Medical care is highly labor intensive; thus, service delivery is expected to be exquisitely sensitive to the ratio of service demand to workforce supply.

Consequence. The consequences to society will vary with the severity of the illness (transmission and virulence), the degree to which the population is prepared and resilient (vaccinated, compliant with community mitigation strategies, and educated about the threat), and whether business and industry can sustain productivity during a pandemic. An outbreak with the severity of the 1918 pandemic can be a nation-changing event with massive mortality in young people who are economically responsible for young families and, in large part, for our nation's defense.

Lesser-severity outbreaks can result in temporary disruptions in the flow of goods and services, and would likely cause further stresses on an over-burdened health care system. Certain medical services would be delayed or unavailable, potentially causing secondary morbidity and mortality to those unaffected by influenza.

A mild outbreak or no change from baseline seasonal influenza will result in charges of over-reaction and fear mongering, which could have detrimental effects on future compliance with public health measures, future influenza immunization initiatives and compliance with a response to public health emergencies.

There are consequences to planning, including financial investment and diversion of human resources, and consequences to the lack of planning should the threat become reality. In either case, a prudent assessment of risk is vital and prudent planning in response to that risk is necessary to avoid victimization.

Response to the Threat

The American College of Emergency Physicians (ACEP) supports comprehensive response planning by its members and their institutions. ACEP will work with its corresponding professional associations (e.g. nurses, prehospital professional, EMS medical directors, hospitals, public health associations) to implement the actions and satisfy the requirements of the planning process. ACEP will seek support as necessary on behalf of its members from federal government entities responsible for surge medical response capabilities.[4] ACEP state chapters should seek the involvement of their state health directors. Members should involve local emergency managers, political leaders and local health directors.

The national strategic plan planning process and the capabilities and actions herein should prompt a local process that defines how to operationalize these capabilities and to articulate the necessary requirements to perform them. Those requirements should result in the targeting of resources and the identification of gaps

that may exist in funding. Those unfunded requirements must be communicated to local emergency managers and political leaders to guide resource allocations and possible supplementary grant funding from federal entities.

Emergency physicians and their professional colleagues in nursing and prehospital care will be on the front line of any emergency requiring surge medical response capability. They will be the ones to answer the challenge of waves of patients presenting for care. They will also be the beneficiaries of good planning or the victims of the lack of it. ACEP will exercise all of its influence to ensure that patients can be cared for and that its members are sufficiently resourced, trained, equipped and exercised to fulfill their critical mission.

Triggers for various parts of a response plan are part of the planning process, and the authorities to take action must be clear. Likely, as cases are recognized and increasing strain is put on acute care facilities, the health care professionals and administrators in those facilities will be the first to know there is a crisis. Communications with local and state public health directors for situational awareness is of paramount importance. Clear communications protocols must be created and exercised on a regular basis prior to an event. Agreements on stepwise implementation of the relevant parts of the plan must be in place to avoid disruptions in services during the ramp-up phase and to allow for the necessary provision of resources.

Just as the parts of the plan will be implemented with the situational awareness of the local leaders and public health officials, so will "standing down" of the pandemic plan. Agreements must be in place as to the triggers for the authorities to return to the prior steady state. This decision must be made with situational awareness of the epidemiology of the disease in the community and cannot be done, institutionally, in a vacuum.

Depending on the severity of the pandemic and its virulence, institutions may face a depleted workforce. In addition to those lost to illness, there may be those with concerns about being in an environment of higher risk from exposure to infectious disease. There may be personnel who have temporary reasons for not returning to the workplace, such as pregnancy or needing to care for family who remain ill.

ACEP will work with its counterpart professional associations and the federal government to dispense actionable information to its members so that they remain aware of current information on the changing situation and can make decisions accordingly.

Management Strategy

ACEP will use all means necessary to (1) ensure that our patients receive the best care possible, and (2) ensure that its members are able to fulfill their professional responsibilities. The National Strategic Plan for Emergency Department Management of Outbreaks of Novel H1N1 Influenza follows the federal template for management of biological threats, as outlined in Homeland Security Presidential Directive #10. The pillars of that strategy are: Threat Awareness, Protection and Prevention, Surveillance and Detection, and Response and Recovery.

This National Strategic Plan for ED Management of H1N1 outbreaks adapts this template to form its own pillars of prescribed capabilities:

- Situational awareness
- Protection of the emergency department infrastructure and personnel
- Prevention of disruptions in service delivery
- Organized, timely surge medical response
- Recovery to the previous steady state

Scenario

[This scenario is a notional planning scenario based on available information, within which are certain assumptions that may change as information becomes more precise. It is meant to be challenging and realistic, but is not predictive.]

The first cases of novel H1N1 reappear in an unspecified area of the nation in late September. Early cases are not recognized as influenza, and will be treated conservatively, affording the opportunity for transmission to schoolmates and family.

The vaccine for the novel H1N1 will not be ready for distribution in large volumes until late October. Vaccine for the novel H1N1 may require two injections, at least 21-28 days apart, to stimulate immunity. Immunity will not be sufficient to protect subjects from infection until two weeks after the second injection.

Local officials will be hesitant to implement community mitigation strategies early in an outbreak, especially school closure so close to the beginning of the school year. The media will continue to fuel the public sentiment that health officials over-reacted to the spring wave and are doing likewise to the fall cases. There will be political pressure to keep schools open because of large numbers of workers without "time off" benefits to care for their children. The Federal government will not have solutions in place, such as emergency wage replacement, to mitigate that pressure. Because of economic pressures and high value placed on jobs in a weakened economy, workers will continue to work when sick, exacerbating transmission in the most contagious stage of their illness.

After a few weeks of the fall wave, the prevalence in affected parts of the country will increase. The first few deaths will be reported, some in young individuals. Emergency departments will begin to see large volumes of people who are not ill with the flu but are concerned that they or their children "might have it." They are requesting screening and prescriptions for antivirals. Emergency departments will experience a 150% increase in chief complaints with respiratory symptoms.

By mid-October, 15,000 cases will be reported across the country, with hot spots in urban areas that have not

employed community mitigation strategies. The highest prevalence will be among children and young adults, but during this wave, there will be a 5-fold increase in mortality, with 250 deaths by late-October, mostly in school-age children and those in late teens.

The CDC will discover that the current wave of disease has a higher mortality rate, and some communities will begin to close schools. Health guidance will be provided encouraging those with fever, cold symptoms, sore throat or respiratory symptoms to remain at home and wear masks in public, and to go to their doctor or the emergency department if acutely ill. This will be concurrent with fall allergy season, when a large proportion of people report nasal symptoms in a normal year, and many of those will normally have sore throat and cough. The highest concentration of people who have no doctor or health coverage is the same population at greatest risk for becoming ill with novel H1N1: children and young adults.

Even though the prevalence of illness is less than 2%, some public officials may discourage the use of public transportation or participating in other close gatherings. There will be increased demand on emergency medical services for transport of patients to the hospital who would normally see a doctor via public transportation.

As the prevalence of disease increases, deaths of children will be in the news regardless of the case fatality rate, and concerned parents will want their children checked if they have any related symptoms. Primary care providers who may have the capacity to see only a few extra people per day, will be overbooked and will be referring patients to the emergency department.

Planning Assumptions

1. The behavior of the virus is not predictable but is likely to return in the fall of 2009 and persist into 2010, complicating usual seasonal flu management.
2. The fall 2009 wave will follow the pattern of pandemics of the 20th century by having greater virulence than the initial wave.
3. Children and young adults will experience the highest attack rates.
4. Adults over 65 will have lower attack rates due to previous influenza exposures.
5. The onset of the fall wave will not be detected until after it has begun.
6. A well-matched vaccine will not be available until mid-October 2009 at the earliest and will not be effective until weeks after the final doses.
7. Community mitigation measures can be effective to slow disease transmission and will be the only tool available for prevention.
8. Mass anti-viral chemoprophylaxis will not be recommended.
9. Continuing sensitivity of H1N1 to antiviral medications is unknown.
10. Emergency medical and hospital planning for an H1N1 pandemic will be successful only if it is interoperable with emergency management and public health.

Capabilities for Emergency Department Response to a Severe H1N1 Outbreak

1. Trained Emergency Manager or Chief Preparedness Officer designated as lead for H1N1 preparedness and response, fully integrated with community emergency preparedness, public health and resource managers
2. Seamless connectivity with local/state governmental emergency management, public health, other hospital Chief Preparedness Officers, and any other support organizations
3. Emergency operations plan for H1N1
4. Surge staffing plan for the entire institution
5. Hospital Incident Command System and National Incident Management System training, knowledge and compliance
6. Functional Hospital Command Center
7. Training and exercise program for all involved personnel
8. Appropriate PPE for health care staff
9. Capability to screen and test staff for illness
10. Enhanced facility security and crowd management
11. Administrative and legal support
12. Antiviral prophylaxis and vaccine availability for staff
13. Interoperable communications system (fire, law enforcement, EMS, emergency management, receiving hospitals, local/regional public health, local EOC)
14. Maintaining EMS operations during H1N1 outbreak
15. Laboratory testing protocols
16. Alternate locations and staffing for triage and medical screening exams
17. Off-Site vaccine administration
18. Health information call centers
19. Configuration of ED waiting rooms for distancing to the degree possible
20. Protocols for those visiting patients with fever and respiratory symptoms
21. Environmental decontamination capability
22. Off-site mass screening capability
23. Adequate inpatient surge capacity
24. Trained and credentialed volunteers
25. Awareness of strategic national stockpile (SNS) surge supplies and equipment and capability to receive those supplies
26. Accurate and coordinated public information dissemination
27. Augmented post-mortem and mortuary services

Critical Actions

Planners for surge medical response should consider the actions in Annex 1 to achieve the necessary capabilities.

The method for performance of the actions and the measures of performance will be determined locally. The resulting requirements list (including those currently present and funded, present and not funded, and not present) will guide resource allocations and requests for additional resources.

This plan defines roles and responsibilities that belong to national emergency medicine organizations, such as ACEP, and to each emergency department. It also suggests roles and responsibilities for those with whom interdependencies exist for surge medical response.[4] It is critical, working together locally, to define those roles, articulate the requirements – funded and unfunded, and to quantify and identify the resources required to accomplish them.

Endnotes

1. http://cdc.gov/h1n1flu/
2. http://cdc.gov/h1n1flu/qa.htm
3. http://cdc.gov/flu/weekly
4. Department of Health and Human Services (HHS), Emergency Care Coordination Center (ECCC), Centers for Disease Control and Prevention (CDC), and Center for Medicare and Medicaid Services (CMS); Department of Homeland Security (DHS), Office of Health Affairs (OHA) and the Federal Emergency Management Agency (FEMA); and the Department of Transportation (DOT), national Highway Traffic Safety Administration (NHTSA)
5. Responsibility for the actions in the plan are identified as belonging to National emergency medicine organizations, Federal government agencies, State and Local government agencies, State and local public health officials, emergency departments (medical staff and administration), and hospitals (administration, medical and nursing staff, ancillary and support services)

Annex 1 to the National Strategic Plan for Emergency Department Management of Outbreaks of Novel H1N1 Influenza

1. Trained Emergency Manager or Chief Preparedness Officer designated as lead for H1N1 preparedness and response, fully integrated with community emergency preparedness, public health and resource managers.	Emergency Medicine National	Federal Government	State & Local Government	State & Local Public Health	Emergency Department	Hospital
Actions:						
a) Designate an in-house position, or new hire (NIMS certified, HICS trained); National Incident Management System (NIMS); Hospital Incident Command System (HICS)						X
b) Establish authority to carry out responsibilities;						X
c) Execute/implement ACEP Influenza Surge Preparedness Assessment					X	X
d) Review CDC Hospital Pandemic Influenza Planning Checklist (http://www.pandemicflu.gov/plan/healthcare/hospitalchecklist.pdf)					X	X
e) Review/implement AHRQ Mass Medical Care with Scarce Resources: A Community Planning Guide as appropriate (http://www.ahrq.gov/research/mce)					X	X
f) Maintain awareness of status or threat of H1N1 in US, state, and region as reported by CDC and state, keeping hospital in posture of preparedness prior to initiation of any emergency operations	X	X	X	X	X	X

2. Seamless connectivity with local/state governmental emergency management, public health, other hospital Chief Preparedness Officers, and any other support organizations	Emergency Medicine National	Federal Government	State & Local Government	State & Local Public Health	Emergency Department	Hospital
Actions:						
a) Agree on modalities, nodes, thresholds and frequency for multi-directional information flow/communication during emergency operations			X	X	X	X
b) Agree on and establish common language and formats for data sharing during emergency operations		X	X	X	X	X
c) Agree on types, degrees (and limitations) of participation in regionalized response to the public health emergency			X	X	X	X
d) Confirm that emergency management/public health authorities have coordinated with clinics, private medical practices, extended care facilities re: response plan			X	X		
e) Subscribe to your state HAN network or other state department of health communication modality	X			X	X	X
f) Confirm connectivity of key subject matter experts (SMEs) and authorities within hospital with their outside counterparts (e.g. hospital laboratories with state labs and Laboratory Response Network facilities) and reporting relationships in-house for common operating picture						X

Annex 1 to the National Strategic Plan for Emergency Department Management of Outbreaks of Novel H1N1 Influenza (Continued)

3. Emergency operations plan for H1N1	Emergency Medicine National	Federal Government	State & Local Government	State & Local Public Health	Emergency Department	Hospital
Actions:						
a) Appoint a hospital pandemic influenza planning group						X
b) Review the hospital's emergency operation plan (EOP) for applicability to H1N1				X	X	X
c) Utilize Web resources to identify and disseminate model EOPs for H1N1	X	X	X	X		
d) Review the best plans and adapt to your institution					X	X
e) Assess your H1N1 EOP using a table top exercise with medical staff, administrators and logistics experts present to insure that the plan is workable and will maintain operations under anticipated circumstances.					X	X

4. Surge staffing plan for the entire institution	Emergency Medicine National	Federal Government	State & Local Government	State & Local Public Health	Emergency Department	Hospital
Actions:						
a) Estimate expected increases in patients (including those concerned but not ill) during an outbreak, based on the hospital catchment area and public health estimates of transmission and virulence using models available to CDC					X	X
b) Identify and mitigate special requirements of support personnel (central supply, dietary, housekeeping, pharmacy, radiology, respiratory) to maintain workforce during an outbreak, with attention to transportation, child care, risk education, etc.						X
c) Estimate requirements for additional supplies, food, linen, medical gases, pharmaceuticals, etc. during a pandemic event http://hospitalsurgemodel.ahrq.gov/						X

5. HICS and NIMS knowledge and compliance	Emergency Medicine National	Federal Government	State & Local Government	State & Local Public Health	Emergency Department	Hospital
Actions:						
a) Provide HICS/NIMS training for all hospital staff appropriate to their assigned positions HICS: http://www.emsa.ca.gov/HICS/default.asp						X
b) Ensure that those managing an incident have appropriate levels of NIMS certification: • Incident management leadership - NIMS IS 700 • Individuals responsible for the emergency plan - NIMS IS 800 • Personnel who have a direct role in middle management and/or emergency response - IS 100.HC and 200.HC. http://www.fema.gov/emergency/nims/NIMSTrainingCourses.shtm			X	X		X

Annex 1 to the National Strategic Plan for Emergency Department Management of Outbreaks of Novel H1N1 Influenza (Continued)

6. Functional Hospital Command Center	Emergency Medicine National	Federal Government	State & Local Government	State & Local Public Health	Emergency Department	Hospital
Actions:						
a) Review and customize hospital command centers (HCC) functions in HICS for your institution http://www.emsa.ca.gov/HICS/default.asp						X
b) Establish authority and criteria to activate the HCC						X

7. Training and exercise program for all involved personnel	Emergency Medicine National	Federal Government	State & Local Government	State & Local Public Health	Emergency Department	Hospital
Actions:						
a) Create and execute a training program based upon your emergency operations plan			X			X
b) Develop a template for a pandemic influenza exercise program	X	X				
c) Execute an exercise to test training and plan validity www.ahrq.gov/prep/drillelements			X	X		X
d) Use results of the exercise to further improve the emergency operation plan, and then re-exercise						X
e) Design and implement special training for public affairs in existence of plan to care for all who need it during flu emergency, changes to normal daily operations that could occur during pandemic, where and how they will get information						X
f) Discuss with hospital public affairs and public health authorities when and how to inform the public as to when and how to access information and care during an outbreak.				X		X

8. Appropriate PPE for health care staff	Emergency Medicine National	Federal Government	State & Local Government	State & Local Public Health	Emergency Department	Hospital
Actions:						
a) Consult national guidance for recommended PPE use during an influenza pandemic (http://www.cdc.gov)					X	X
b) Estimate PPE needs for multiple waves of pandemic influenza (based upon CDC estimates of epidemic duration) http://hospitalsurgemodel.ahrq.gov/					X	X
c) Stockpile appropriate quantities of PPE						X
d) Train/update medical personnel in use of PPE (including fit testing of N95 or other appropriate respirator)						X

9. Capability to screen staff for illness	Emergency Medicine National	Federal Government	State & Local Government	State & Local Public Health	Emergency Department	Hospital
Actions:						
a) Develop protocol for staff screening including criteria for dismissal from work when symptomatic.						X
b) Consider furlough or reassignment of staff at high-risk for influenza complications http://www.cdc.gov/h1n1flu/recommendations.htm						X
c) Develop criteria and process for return to work						X

Annex 1 to the National Strategic Plan for Emergency Department Management of Outbreaks of Novel H1N1 Influenza (Continued)

10. Enhanced facility security and crowd management	Emergency Medicine National	Federal Government	State & Local Government	State & Local Public Health	Emergency Department	Hospital
Actions:						
a) Develop plan and criteria for implementation for enhanced facility security and crowd management including facility lockdown					X	X
b) Develop plan and criteria for implementation of visitor limitation					X	X
c) Establish an memorandum of understanding (MOU) with law enforcement or other sources for increased institutional security						X

11. Administrative and legal support	Emergency Medicine National	Federal Government	State & Local Government	State & Local Public Health	Emergency Department	Hospital
Actions:						
a) Review and incorporate, as appropriate, guidelines from the American Health Lawyers Association http://www.healthlawyers.org/Resources/PI/InfoSeries/Documents/Pan-Flu%20Checklist.pdf				X	X	X
b) Incorporate provisions of anticipated or actual federal declarations of public health emergency into regional and hospital emergency operations: e.g. possible time-limited waiver of EMTALA, emergency use authorizations (EUAs) for pharmaceuticals			X	X	X	X
c) Establish protocols for rapid credentialing and pre-event credentialing of surge resource personnel						X
d) Incorporate provisions of anticipated or actual state declarations of public health emergency into regional and hospital emergency operations: e.g. possible suspension of destination and diversion policies for EMS providers					X	X
e) Establish legal protocols for human resources to manage attendance of designated mission-critical personnel						X
f) Work with labor and/or staff representatives to develop policies for maintaining staffing, morale, discipline, and safety during emergency operations						X
g) Discuss with legal and medical staff the implementation of "scarce resources allocation" procedures						X
h) Establishment and maintenance of Finance/Administration branch of HICS with assigned functions according to standard protocols and hospital EOPs						X
i) Review legislative authorities of relevance for panflu (e.g. HIPAA, EMTALA, Expanded Scope of Practice, Allocation of Scarce Resources, Medical Liability)	X		X		X	X

Annex 1 to the National Strategic Plan for Emergency Department Management of Outbreaks of Novel H1N1 Influenza (Continued)

12. Antiviral prophylaxis and vaccine availability for staff	Emergency Medicine National	Federal Government	State & Local Government	State & Local Public Health	Emergency Department	Hospital
Actions:						
a) Perform resource requirement assessment based on the size of your staff and CDC recommendations					X	X
b) Considering federal and state guidance, develop a plan for prioritization and administration of antiviral prophylaxis and vaccine to your staff					X	X
c) Do a resource assessment of what is available in hospital pharmacy, local retail pharmacies and state stockpiles.			X	X		X
d) Develop plans for addressing the gap between estimated requirement and what is expected to be available, including agreements with supply sources			X	X		X

13. Interoperable communications system (fire, law enforcement, EMS, emergency management, receiving hospitals, local/regional public health, local EOC)	Emergency Medicine National	Federal Government	State & Local Government	State & Local Public Health	Emergency Department	Hospital
Actions:						
a) Ensure effective two-way communication among these agencies during an emergency.			X	X	X	X
b) Ensure that communications are networked, tested, organized under Incident Command hierarchy, and overseen by a designated regional authority			X	X	X	X

14. Maintaining EMS operations during H1N1 outbreak	Emergency Medicine National	Federal Government	State & Local Government	State & Local Public Health	Emergency Department	Hospital
Actions:						
a) Review and incorporate, as appropriate, plans and protocols in NHTSA's guidelines for EMS in pandemic influenza (http://www.nhtsa.gov/people/injury/ems/PandemicInfluenza)			X		X	
b) Develop plan to provide for augmentation of staff during an influenza event using additional personnel (volunteer and paid)			X		X	
c) Develop plan for PPE (EMS personnel and patients) acquisition and training			X		X	
d) Following federal and state guidance, develop a plan for prioritization and administration of antiviral prophylaxis to EMS staff and their families			X	X		
e) Establish protocols for alternate patient transport and destinations for non-emergent patients (http://www.EMS.gov)			X	X	X	X
f) Develop protocols for pre-transport patient screening http://204.68.195.250/people/injury/ems/PandemicInfluenza/PDFs/Section3.pdf	X	X	X			
g) Develop policies and procedures for rapid ambulance decontamination	X	X	X			

Annex 1 to the National Strategic Plan for Emergency Department Management of Outbreaks of Novel H1N1 Influenza (Continued)

15. Laboratory testing protocols	Emergency Medicine National	Federal Government	State & Local Government	State & Local Public Health	Emergency Department	Hospital
Actions:						
a) Disseminate guidance to practitioners based on CDC and state health department recommendations and put a system in place to update this information as new data become available		X	X	X		X
b) Work with your clinical laboratory and public health officials to determine indications for and availability of H1N1 test kits				X	X	X

16. Alternate locations and staffing for triage and medical screening exams	Emergency Medicine National	Federal Government	State & Local Government	State & Local Public Health	Emergency Department	Hospital
Actions:						
a) Select one or more alternate locations for triage and/or medical screening exams during a pandemic event			X	X	X	X
b) Develop a staffing plan for the alternate location(s)			X	X	X	X
c) Develop criteria for initiation of use of the alternate location(s)				X	X	X
d) Ensure that any alternate site is designated by the hospital as the appropriate site for a medical screening exam						X
e) Consult Federal Alternate Site guidance a. http://www.ahrq.gov/research/altsites.htm (This has been revised – newer version is pending release)		X			X	X

17. Off-Site vaccine administration	Emergency Medicine National	Federal Government	State & Local Government	State & Local Public Health	Emergency Department	Hospital
Actions:						
a) Work with public health and emergency management to ensure adequate sites and staffing for vaccine administration to the public.			X	X		X

18. Health information call centers	Emergency Medicine National	Federal Government	State & Local Government	State & Local Public Health	Emergency Department	Hospital
Actions:						
a) Develop enhanced protocols for pandemic influenza telephone triage				X	X	X
b) Develop protocols for call screening and management at public service answering points (PSAP) http://204.68.195.250/people/injury/ems/PandemicInfluenza/PDFs/Section3.pdf				X	X	X
c) Work with local public health to establish a resource telephone center to dispense accurate and timely information regarding H1N1 flu treatment, home care, criteria for emergency care. www.ahrq.gov/prep/callcenters				X		X
d) Utilize existing resources such as poison centers or nurse help lines for this purpose				X		X

Annex 1 to the National Strategic Plan for Emergency Department Management of Outbreaks of Novel H1N1 Influenza (Continued)

19. Configuration of ED waiting rooms for distancing	Emergency Medicine National	Federal Government	State & Local Government	State & Local Public Health	Emergency Department	Hospital
Actions:						
a) Configure waiting areas to separate patients with respiratory symptoms from other patients					X	X
b) Maximize distance between individuals with respiratory symptoms up to six feet					X	X
c) Establish protocols for those accompanying patients in the waiting area					X	X

20. Protocols for those visiting patients with fever and respiratory symptoms	Emergency Medicine National	Federal Government	State & Local Government	State & Local Public Health	Emergency Department	Hospital
Actions:						
a) Establish protocols for visitors in treatment areas and inpatient areas					X	X

21. Environmental decontamination capability	Emergency Medicine National	Federal Government	State & Local Government	State & Local Public Health	Emergency Department	Hospital
Actions:						
a) Establish policies and procedures for rapid decontamination of patient treatment areas		X	X	X		X

22. Off –site mass screening capability	Emergency Medicine National	Federal Government	State & Local Government	State & Local Public Health	Emergency Department	Hospital
Actions:						
a) Establish local health department sponsorship and staffing plans for mass screening sites				X		
b) Use CDC sanctioned criteria for the self-assessment protocol		X		X		

23. Adequate inpatient surge capacity	Emergency Medicine National	Federal Government	State & Local Government	State & Local Public Health	Emergency Department	Hospital
Actions:						
a) Devise protocols for use of alternate care facilities to decompress inpatient units (http://www.ahrq.gov/research/mce; http://www.ahrq.gov/research/altsites.htm)						X
b) Establish requirements and investigate process to revise patient staffing ratios						X
c) Identify physical space requirements and capacity (opening unused areas, doubling up inpatient rooms, canceling elective admits and procedures, and using areas such as post-op recovery for extra critical care space.)						X
d) Develop alternate staffing and training protocols for ventilator management www.ahrq.gov/prep/projxtreme						X

Annex 1 to the National Strategic Plan for Emergency Department Management of Outbreaks of Novel H1N1 Influenza (Continued)

24. Trained and credentialed volunteers	Emergency Medicine National	Federal Government	State & Local Government	State & Local Public Health	Emergency Department	Hospital
Actions:						
a) Assess the requirements (type and quantity) of medical and non medical volunteers needed during an H1N1 outbreak				X	X	X
b) Develop a process for rapid credentialing and just in time training for provider volunteers						X

25. Awareness of SNS surge supplies and capability to receive those supplies	Emergency Medicine National	Federal Government	State & Local Government	State & Local Public Health	Emergency Department	Hospital
Actions:						
a) Work with state and local public health to establish type and quantity of supplies and resources available to mitigate shortages during a pandemic, for example: • Ventilators (including unique operational characteristics) • Antivirals • PPE • Antibiotic for secondary infection • Vaccine • Rapid influenza test kits			X	X	X	X
b) Establish agreements with suppliers to ensure availability						X

26. Accurate and coordinated public information dissemination	Emergency Medicine National	Federal Government	State & Local Government	State & Local Public Health	Emergency Department	Hospital
Actions:						
a) Establish protocols for the use of your local/regional/ state joint information center that utilizes coordinated health information dispensed by public health officials.			X	X		X
b) Ensure that all personnel adhere to the information dissemination protocols			X			X

26. Augmented post-mortem management and mortuary services	Emergency Medicine National	Federal Government	State & Local Government	State & Local Public Health	Emergency Department	Hospital
Actions:						
a) Establish plans and protocols to augment hospital morgue capacity						X
b) Work with local emergency management and local mortuary services providers to expedite handling of victims			X			X
c) Provide awareness and training of CDC protocols for post mortem care and safe autopsy procedures for novel H1N1 http://www.cdc.gov/h1n1flu/post_mortem.htm			X	X		X

H1N1 and Pandemic Flu Hyperlink – Resource List

CDC Guidance – for clinicians on care of patients with H1N1 . . . . . http://www.cdc.gov/h1n1flu/guidance_HIV.htm
Recommendations for chemoprophylaxis for H1N1 . . . . . http://www.cdc.gov/h1n1flu/recommendations.htm
Facemask and Respirator Use http://www.cdc.gov/h1n1flu/masks.htm
Infection control – H1N1 . . . . . http://www.cdc.gov/h1n1flu/guidelines_infection_control.htm
Information for pregnant workers. http://www.cdc.gov/h1n1flu/guidance/pregnant-hcw-educators.htm
Clinical description and diagnosis of influenza. . . . . http://www.cdc.gov/flu/professionals/diagnosis/
Influenza vaccination . . . . . http://www.cdc.gov/flu/professionals/vaccination/
Free flu materials . . . . . http://www.cdc.gov/flu/professionals/flugallery/index.htm
Influenza vaccine for healthcare professionals . . . . . http://www.cdc.gov/ncidod/dhqp/id_influenza_vaccine.html
Find your state and local health department . . . . . http://www.cdc.gov/mmwr/international/relres.html
Global access to flu information – data query . . . . . http://gamapserver.who.int/GlobalAtlas/home.asp
Guidance for EMS and 9-1-1 Call Centers –
Confirmed or suspected Cases of H1N1 . . . . . http://www.cdc.gov/h1n1flu/guidance_ems.htm
EMS Pandemic Influenza guidelines for EMS . . . . http://www.nhtsa.gov/people/injury/ems/PandemicInfluenzaGuidelines/
EMS Preparing for a Pandemic . . . . . http://www.nhtsa.gov/people/injury/ems/PandemicInfluenza/
EMS Guidance for transporting patients with H1N1. . . . . http://www.cdc.gov/h1n1flu/guidance_ems.htm
Lessons learned from SARS. . . . . http://www.acep.org/ACEPmembership.aspx?id=38658
List of SARS resources . . . . . http://www.acep.org/practres.aspx?id=30154
CDC Conference Call archive – H1N1 . . . . . http://emergency.cdc.gov/coca/confcall_archive.asp
CDC and Red Cross FAQ's for public. . . . . http://emergency.cdc.gov/preparedness/
Recent emergency preparedness information . . . . . http://emergency.cdc.gov/whatsnew.asp
Legal issues surrounding H1N1 . . . . . http://emergency.cdc.gov/coca/callinfo.asp
Public Readiness and Emergency Preparedness Act . . . . . http://www.hhs.gov/disasters/discussion/planners/prepact/
Lessons learned from the field of emergency preparedness. . . . . http://www.ahrq.gov/prep/fieldemprep/
Do Emergency Use Authorizations override state laws
regarding antivirals http://www.pandemicflu.gov/faq/antivirals/1159.html
Planning and practice for a disaster. . . . . http://www.ahrq.gov/prep/planningprep/
FEMA rules for reimbursement during a pandemic –
hospital finances . . . . . http://www.hhs.gov/disasters/discussion/planners/playbook/panflu/subtask.html
HIPAA Emergency Planning . . . . . http://www.hhs.gov/ocr/privacy/hipaa/understanding/special/emergency/
HIPAA Emergency Planning Tool –
Algorithm . . . . . http://www.hhs.gov/ocr/privacy/hipaa/understanding/special/emergency/decisiontoolintro.html
Mass Medical Care with Scarce Resources . . . . . http://www.ahrq.gov/research/mce/
Community Pan-Flu Preparedness: A checklist of Key Legal Issues for
Healthcare Providers http://www.healthlawyers.org/Resources/PI/InfoSeries/Documents/Pan-Flu%20Checklist.pdf
Tabletop Exercises for Pandemic Influenza Preparedness in
Local Public Health Agencies http://www.pandemicflu.gov/plan/states/tr319.html
Preparedness Resources for Hospitals . . . . . http://www.bt.cdc.gov/healthcare/hospitals.asp
Crowding and Surge Capacity Resources for EDs . . . . . http://www.acep.org/workarea/downloadasset.aspx?id=28624
FAQ's for Emergency Departments in Epidemic or
Pandemic Influenza Outbreaks. . . . . http://www.acep.org/practres.aspx?id=45423
H1N1 (ACEP) Resources and Updates . . . . . http://www.acep.org/practres.aspx?id=45347
Information on N95 respirators http://www.cdc.gov/h1n1flu/eua/n95.htm
World Health Organization . . . . . http://www.who.int/csr/disease/swineflu/en/index.html
At-Risk Populations and Pandemic Influenza: Planning Guidance for State, Territorial, Tribal,
and Local Health Departments" . . . . . http://www.astho.org/pubs/ASTHO_ARPP_Guidance_June2008.pdf
Targeting and Allocation for Pandemic Influenza Vaccine. . . . http://www.pandemicflu.gov/vaccine/allocationguidance.pdf
International Academies of Emergency Dispatch: Protocol 36:Pandemic Information:
Flu Card. . . . . http://www.emergencydispatch.org/downloads/flu/NAE%20CC%2036_Pan%20Flu.pdf