

Section 5 - Clinical Standards and Treatment Protocols

Guideline 5.1 – EMS Medical Direction

Each State, local, tribal, and territorial EMS system should have an EMS medical director to provide medical oversight of EMS pandemic influenza planning, mitigation and response.

Rationale

An EMS medical director provides medical leadership, oversight, coordination, system quality management, and research to ensure the safest and highest-quality care for patients.

Considerations

- EMS medical directors should play a lead role in pandemic influenza planning efforts in collaboration with public health officers.
- EMS medical directors should have knowledge and experience with the clinical and operational aspects of the EMS System.
- EMS medical directors should provide medical oversight of the EMS system, including 9-1-1, during an influenza pandemic.
- There should be a statewide system, coordinated with public health and emergency management officials, that ensures EMS medical directors are promptly notified of the latest disease information.
- Local EMS medical director oversight, including credentialing of additional EMS personnel skills, modification of treatment protocols should be consistent with State laws, rules and policies.

Background

Given the uncertainty of the disease, its treatment and progression, the ongoing role of EMS medical directors is critically important. The guidance provided in this document is based on current knowledge of routes of influenza transmission, the pathogenesis of influenza, and the effects of influenza control measures used during past pandemics and inter-pandemic periods. Given some uncertainty about the characteristics of a new pandemic strain, all aspects of preparedness planning for pandemic influenza must allow for flexibility and real-time decision-making that take new information into account as the situation unfolds.

The specific characteristics of a new pandemic virus—virulence, transmissibility, initial geographic distribution, clinical manifestation, risk to different age groups and subpopulations, and drug susceptibility—will remain unknown until the viral strain is identified. Therefore, the ongoing involvement of EMS medical directors is essential.

Appendix M contains suggested resources for EMS medical director training.

Guideline 5.2 – Modification of Treatment and Triage Protocols

State, local, tribal and territorial EMS pandemic influenza plans should define mechanisms for rapid development, adoption or modification of prehospital clinical standards and triage and treatment protocols before or during an influenza pandemic that are based upon the most recent scientific information.

Rationale

If a pandemic exceeds the healthcare capacity of a community, it may be necessary to modify the provision of emergency medical care during an influenza pandemic.

Considerations

- EMS and 9-1-1 planning efforts should include thresholds for modification of triage and treatment algorithms (e.g., trigger points).
- Local EMS plans should establish rapid mechanisms for modifying prehospital treatment and triage protocols taking into consideration current State and Federal guidance that are consistent with established “trigger points”.
- EMS medical directors should play a lead role in planning efforts that identifies areas for potential protocol modification related to dispatch, triage, and treatment concerns in advance of a pandemic.
- The prehospital triage protocols and 9-1-1 triage protocols should be coordinated to determine who receives emergency care or transport. (See sample Figure 2)
- The system should include points of referral for patients who need information but do not need emergency care or transport. [Refer to companion document *Preparing for Pandemic Influenza: Recommendations for Protocol Development for 9-1-1 Personnel and Public Safety Answering Points* for more information.]
- In support of community mitigation strategies, the appropriate care may be to have individuals stay at home and practice social distancing and quarantine measures rather than be transported to a healthcare facility.
- Local EMS plans should coordinate with receiving facilities (e.g., hospital emergency departments), other EMS and non-emergent (medical) transport organizations, and local planning groups to manage the transportation of large numbers of patients during an evolving pandemic.
- EMS should be involved in community-wide planning for establishing alternate-care sites.
- The process for allocating health and medical resources during an influenza pandemic should be fair, clinically sound, and include public input.

Background

The allocation of scarce resources⁵⁶ and the decision-making that allocates resources to the most viable patients is at the heart of existing EMS triage protocols. EMS planners are familiar with the difficult challenges of triaging multiple patients. Alternate Care Facilities may be established to function as primary triage sites, providing limited supportive care, offering alternative isolation locations to influenza patients, and serving as recovery clinics to assist in expediting the discharge of patients from hospitals.

Planning should therefore include thresholds for modifying triage algorithms and otherwise optimizing the allocation of scarce resources. In addition, the appropriate method of care for certain patients may involve social distancing and quarantine strategies rather than transport to a health care facility. These community mitigation strategies may help to ensure health care resources are best utilized. Additionally they may be the best method of managing a section of the population who would otherwise be exposed to additional illness at overwhelmed health care facilities. Where prospective and mature data are available, changes in clinical care algorithms should be evidence-based.

According to the *National Strategy for Pandemic Influenza: Implementation Plan*⁵⁷, should pandemic influenza occur, preference should be given to “those patients whose medical condition suggests that they will obtain greatest benefit from them.” This rationale differs from approaches to care in which resources are provided on a first-come, first-served basis or to patients with the most severe illnesses or injuries.

*Altered Standards of Care in Mass Casualty Events*⁵⁸ offers a framework and guiding principles for planning for health and medical care in a mass casualty event. Excerpts from that document can be found in Appendix G.

In planning for a prolonged public health emergency, it must be recognized that persons with unrelated medical conditions will continue to require emergency, acute and chronic care. It is important to keep the healthcare system functioning as effectively as possible for these patients, as well as for influenza patients.

A sample of an EMS protocol, modified according to the Pandemic Influenza Severity Index, is included in the *PLANNING ASSUMPTIONS AND GUIDELINE OVERVIEW- A SUMMARY*. (Figure 3)

⁵⁶ Agency for Healthcare Research and Quality. ONLINE. 2006. *Providing Mass Medical Care with Scarce Resources: A Community Planning Guide*. AHRQ. Available: <http://www.ahrq.gov/research/mce/> [21 March 2007].

⁵⁷ Homeland Security Council. ONLINE. 2006. *National Strategy for Pandemic Influenza: Implementation Plan*. The White House. Available: <http://www.pandemicflu.gov/plan/federal/index.html> [20 March 2007].

⁵⁸ Agency for Healthcare Research and Quality. ONLINE. 2005. *Altered Standards of Care in Mass Casualty Events: Bioterrorism and Other Public Health Emergencies*. AHRQ. Available: www.ahrq.gov/research/altstand/ [21 March 2007].

Guideline 5.3 – Rapid Distribution of New Protocols

State, local, tribal, and territorial EMS pandemic influenza plans should define consistent, system-wide procedures for the rapid distribution of new or modified prehospital EMS treatment and triage protocols before or during an influenza pandemic

Rationale

EMS providers' practice should be based on the most up-to-date pandemic influenza clinical recommendations and treatment protocols/information from appropriate public health authorities and EMS medical direction.

Considerations

- EMS pandemic influenza plans must be sufficiently dynamic and flexible to allow EMS treatment protocols to be developed and distributed as soon as information about the viral strain and Federal and State treatment recommendations become available.
- EMS agencies should coordinate with local public health authorities to include a process to obtain and disseminate a “pandemic influenza symptom set” (case definition) that helps identify potential pandemic influenza patients as soon as the information becomes available.
- EMS pandemic influenza plans must include specific, time-sensitive processes for State, local, tribal, and territorial EMS agencies and EMS medical directors to coordinate with Federal, State, and local public health authorities to immediately obtain new information about emerging disease threats.
- There should be clearly defined procedures for rapid dissemination of pandemic influenza information among EMS, 9-1-1, public health, PSAPs and other officials. This should include coordination with the CDC’s Health Alert Network and/or PHIRE⁵⁹.
- Available technologies should be considered in distributing information in a timely fashion.

Background

Given the uncertainty about the characteristics of a new pandemic strain, all aspects of preparedness planning must allow for flexibility and real-time decision-making based on evolving information. The specific characteristics of a new pandemic virus—virulence, transmissibility, initial geographic distribution, clinical manifestation, risk to different

⁵⁹ Centers for Disease Control and Prevention. ONLINE. 2007. *Health Alert Network*. CDC. Available: <http://www.bt.cdc.gov/documentsapp/HAN/han.asp> [18 March 2007]

age groups and subpopulations, and drug susceptibility—will remain unknown until the viral strain is identified.

The Centers for Disease Control and Prevention is a trusted source of important, timely information concerning actual or potential public health emergencies. PHIRE, the CDC Public Health Information Rapid Exchange, is a system that sends important real-time health information to select subscribers based on their preferences. For example, the system enables CDC to rapidly disseminate alerts about evidence of suspected pandemic influenza in the United States.

PHIRE is a secure electronic communication system designed to keep health care providers informed to protect our Nation's health. The information is provided in real time during an emergency and also allows subscribers the ability to have scheduled moderated forums. The information registrants provide regarding their county and work setting enables the CDC to target relevant emergency health information specific to the registrants needs.

More information, including the ability to register can be done at www.cdc.gov/phire.

Guideline 5.4 – Just-in-Time Training

State, local, tribal, and territorial EMS pandemic influenza plans should define a process for providing just-in-time training for EMS agencies, EMS providers, EMS medical directors and PSAPs.

Rationale

Just-in-time training (information) will ensure that EMS providers and PSAPs receive information and education to support the rapid adoption of new or modified clinical algorithms, treatment protocols or other pertinent information.

Considerations

- There should be clearly defined procedures for rapid dissemination of pandemic influenza information (clinical and non-clinical) among EMS, 9-1-1, public health, PSAPs and other officials.
- The adoption of modified triage and treatment protocols will require sufficient information related to the emerging viral strain, as well as medical oversight to ensure quality of care.
- Drills and exercises, coordinated with public health and emergency management officials, should be used to validate pandemic influenza response plans and training programs.
- Various technologies may be useful in assuring just-in-time training.

Background

“Just-in-time” training and education refers to the timely provision of information and instructions as they become available, and when users need them.

As an example of just-in-time training, the Centers for Disease Control and Prevention (CDC), National Center for Injury Prevention and Control (NCIPC), Division of Injury Response (DIR) has been working with seven communities as best practice models for how emergency medical services (EMS) can work with other safety and public health agencies in times of disaster.

Constructed around the interrelated activities of partnership building, learning lessons from terrorist events, and disseminating information, the Terrorism Injuries Information, Dissemination and Exchange (TIIDE) Project⁶⁰ was established through a cooperative agreement in response to the urgent, ongoing need to develop, disseminate and exchange information about injuries from

⁶⁰ Centers for Disease Control and Prevention. ONLINE. 2006. *Terrorism Injuries Information, Dissemination and Exchange (TIIDE) Project*. CDC. Available: <http://www.bt.cdc.gov/masscasualties/tiidefacts.asp> [21 March 2007]

terrorism. As part of CDC's TIIDE Project, Model Communities identify where relationships between the emergency care community and public health officials are established and operate at levels that effectively respond to events that may cause large numbers of injuries. Fact sheets⁶¹ will be developed for health care audiences such as EMS providers and a variety of prehospital care professionals, in-hospital clinicians and others. (A sample is included as Appendix D.) Such models could be used by local planners to enhance HAN notices and to disseminate case definitions, fact sheets, and other important information to EMS medical directors, PSAPs, and EMS providers during an influenza pandemic.

Guidance regarding just-in-time pandemic influenza training is incorporated in the *CDC EMS and Non-Emergent (Medical) Transport Organizations Pandemic Influenza Planning Checklist*⁶².

⁶¹ Sample fact sheet available at <http://www.bt.cdc.gov/masscasualties/pdf/blastinjuries.pdf>

⁶² US Department of Health and Human Services. ONLINE. 2006. *Emergency Medical Services and Non-Emergent (Medical) Transport Organizations Pandemic Influenza Planning Checklist*. Department of Health and Human Services. Available: <http://www.pandemicflu.gov/plan/healthcare/emgncymedical.html> [18 March 2007].

Guideline 5.5 – Fatality Management

State, local, tribal, and territorial EMS pandemic influenza plans should coordinate with public health and 9-1-1 officials and the local medical examiner/coroner to define protocols and processes for fatality management during pandemic influenza.

Rationale

While not traditionally part of their day-to-day duties, EMS personnel may be called upon to assist with fatality management during an influenza pandemic or other public health emergency.

Considerations

- EMS planners should collaborate with appropriate State authorities to identify roles, policies, and procedures for handling fatalities during a pandemic.
- EMS plans for pandemic influenza should coordinate with the State and local medical examiner/coroner to determine legal authority and appropriate protocols for the presumption or pronouncement of death including documentation requirements and proper handling of human remains during an influenza pandemic.

Background

An influenza pandemic is expected to result in an increased number of deaths both in and out of medical facilities. Existing fatality management systems in communities will require an increased capacity and capability to manage deaths resulting from a pandemic.

Deaths of persons at home or away from healthcare facilities fall under the jurisdiction and surveillance of medicolegal death investigators. Medical Examiners/Coroners have State statutory authority to investigate deaths that are sudden, suspicious, violent, unattended, or unexplained; therefore, these investigators have a role in recognizing and reporting fatal outbreaks as part of the larger public health system and can be instrumental in developing relevant local protocols that help mitigate the burden that case fatalities can place on the system⁶³.

⁶³ Centers for Disease Control and Prevention.. ONLINE. 2004. *Medical examiners, coroners, and biologic terrorism: a guidebook for surveillance and case management*. MMWR 2004;53(No. RR-8):[inclusive page numbers]. CDC. Available: <http://www.cdc.gov/mmwr/PDF/RR/RR5308.pdf> [21 March 2007]

Additional information on the role of EMS in fatality management⁶⁴ may be found in Appendix H as excerpted from the *White Paper: The Provision of Family Assistance and Behavioral Health Services in the Management of Mass Fatalities Resulting from a Pandemic Influenza in the United States*.

⁶⁴ Excerpted from US Northern Command and Department of Health and Human Services Fatality Management Pandemic Influenza Working Group Conference. ONLINE. 2006. *White Paper: The Provision of Family Assistance and Behavioral Health Services in the Management of Mass Fatalities Resulting from a Pandemic Influenza in the United States*. Joint Task Force Civil Support. Available [www.jtfc.northcom.mil/pages/WP_SceneOps\(FINAL\).pdf](http://www.jtfc.northcom.mil/pages/WP_SceneOps(FINAL).pdf) [21 March 2007].

Guideline 5.6 – EMS Treat and Release

EMS pandemic influenza plans should consider the role EMS providers could serve in “treating and releasing” patients without transporting them to a healthcare facility.

Rationale

Community containment strategies designed to limit the spread of the influenza virus may require patients be treated and released without transport. Additionally, healthcare facilities may become overwhelmed with patients, making it necessary to consider alternative options for patients who can be safely treated without transport.

Considerations

- If a treatment without transport role is deemed appropriate for EMS providers, the EMS medical director, in coordination with local public health authorities, should establish criteria and reporting requirements.
- “Treat and release” and “treatment without transport” protocols require oversight by EMS medical directors.
- EMS agencies and EMS medical directors should coordinate with the local public health authorities to pre-determine the destination of both suspected influenza and non-influenza patients.
- EMS provider credentialing and Scope of Practice issues should be addressed, as appropriate. In many cases (e.g., treatment of hypoglycemia Type I diabetics with IV D50, listening to lung sounds, providing IVs for hydration, and assessment of oxygen saturation levels) may fall within existing Scopes of Practice.
- Appropriate education programs for EMS personnel, physicians, and the public should be established before the implementation of non-transport policies.
- Educational materials and referral services should be established and provided to patients who are not transported to medical facilities, including instructional material for follow-up care and other services.

Background

The concept of “treat and release” is familiar to EMS providers. During an influenza pandemic the “treat and release” concept is vital to maintain community mitigation strategies, such as social distancing and voluntary quarantine. Additionally “treat and release” may be the best method of managing a section of the population who would otherwise be exposed to additional illness at overwhelmed health care facilities.

Several studies have been reported regarding successful in-home EMS treatment of patients such as IV hydration and limited pharmacologic intervention (i.e., hypoglycemia) that does not include patient transport to a healthcare facility. According to the 2005 JEMS 200-City Survey, 71.3% of U.S. EMS systems allow providers to treat patients without transporting them, and 35.7% have a policy that allows EMS to refuse transport⁶⁵.

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SEE RELATED APPENDICES

- 1. Appendix B—EMS and Non-Emergent Medical Transport Organizations
Pandemic Influenza Planning Checklist from the Centers of Disease Control and Prevention**
- 2. Appendix D—Sample TIIDE Fact Sheet**
- 3. Appendix G—Excerpt from Altered Standards of Care in Mass Casualty Events**
- 4. Appendix H—Excerpt from the: White Paper on Scene Operations, to Include Identification, Medico-legal Investigation Protocols and Command and Control of Mass Fatalities Resulting from a Pandemic Influenza (PI) in the United States**
- 5. Appendix M—Pandemic Influenza Resources**

65 Maggiore WA. ONLINE. 2006. *To Transport or Not to Transport? Part 1 of 2*. Journal of Emergency Medical Services. Available: <http://www.jems.com/columnists/Maggiore/articles/15830/> [21 March 2007]