

Pandemic Planning



What should EMS agencies do to be ready for bird flu and other major outbreaks?

By Tom Russo

The call comes from a private home, and the symptoms describe respiratory distress. The pandemic is underway, the vaccine has yet to arrive, and you're called to respond. What actions and precautions do you take?

Consider a municipality of, say, 216,000 people. The CDC flu surge model projects that a pandemic influenza will affect 15%-35% of a given population, with a likely scenario of 25%. This translates to an estimated 54,000 who will contract pandemic influenza in this particular jurisdiction. Of those, around 800 will require hospitalization, and about 161 will die. Is your agency prepared to manage the number of patients this scenario projects?

If EMS responds to each of these calls, your department's transport capabilities will quickly be exhausted, and local hospitals will soon be overwhelmed. Therefore, you must have an emergency response plan in place that can triage pandemic influenza patients from those with seasonal influenza or who simply believe they have pandemic influenza (the worried well).

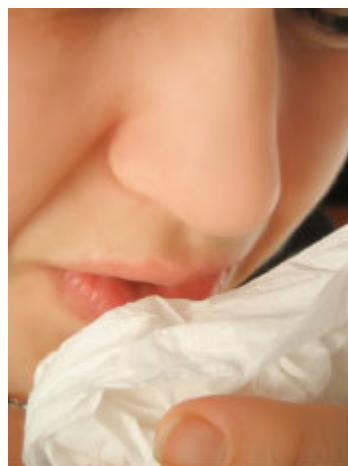
Preparing a pandemic influenza response plan should raise several critical questions among EMS leaders and field personnel. The process will not only prompt a review of existing emergency plans, but challenge your department's standard operating procedures as well.

1. Has your 9-1-1 call center set up a triage process to distinguish callers with pandemic influenza from those with seasonal influenza?
2. When EMS arrives on a call scene, can responders differentiate symptoms to confirm pandemic influenza vs. seasonal influenza or even the worried well?
3. Do your responders know proper infection control and PPE for both the patient and themselves?
4. Due to the projected volume of patients, has your service considered multiple patients per ambulance run?
5. What about alternative transport vehicles (vans, buses)?
6. Has your service established a liberal sick-leave policy and encouraged use of that sick leave for EMS responders exhibiting symptoms of, or documented illness with, pandemic influenza?
7. Finally, have you written your pandemic influenza response plan?

This article will take you through each of these steps and offer insights into the thinking of pandemic influenza



What should EMS agencies do to be ready for bird flu and other major outbreaks?



Some states plan media campaigns to encourage the public to adopt respiratory/cough etiquette behaviors.

planners on these topics.

Telephone Triage

Hospitals have limited bed capacities today, and while systems are attempting to increase their capacities, there may never be enough beds to handle the volume of patients a pandemic influenza could generate.

But if your community is like most, bed capacity will not be the only limited resource. Ambulances and personnel will also be in short supply, and this will compound the challenge to a community's medical system. This is all the more reason for call center personnel to gear up for the role of triage. Call centers can support the medical system by triaging callers reporting symptoms and distinguishing the most critical from those with seasonal influenza or the worried well. That plan should also include training nonessential personnel to take on the duties of call center triage should 9-1-1 personnel become unavailable.

Public-health officials throughout the country are working to prepare first responders to respond to pandemic influenza. Tap their expertise and take the time to train and exercise with your local department of health. They have the resources to bring your people up to speed, along with the expertise to help develop scripts needed for telephone triage.

Making House Calls

Once on the scene, EMS responders must confirm and extend the initial call center triage by quickly evaluating the caller's symptoms. Responders must familiarize themselves with the case definition that will be readily available through local public-health authorities and be ready to apply it to each reportable set of conditions. It's a given that EMS workers do not diagnose, but they will find themselves on scenes with questionable symptoms, and each system will be challenged by limited resources to resolve logistic issues.

Currently, public-health authorities conduct sentinel surveillance for seasonal influenza and use a case definition that casts a broad net to snare all influenza-like illnesses (a temperature of greater than 100.4°F and one or more of the following: sore throat, cough or shortness of breath).

The case definition gets much more definitive when a patient's illness could be avian influenza-related.¹ The reference case definition used by the World Health Organization (WHO) is the same as was used in Vietnam.² Patients under investigation are classified as possible, probable or confirmed, with each requiring increasingly definitive laboratory evidence. For example, the case definition for confirmed is a temperature greater than 100.4°F and either sore throat, cough or shortness of breath, and laboratory evidence such as a positive PCR for influenza A H5 (poly).

While it will not be possible to utilize laboratory evidence in the field, it is reasonable to triage prior to the dispatch of units to minimize noncritical transports. This calls for EMS to work out standard operating procedures in advance, and use the annual influenza season to test them.

Pandemic Flu PPE

The WHO has detailed proper PPE for healthcare providers treating and transporting patients with possible pandemic influenza.³ In the U.S., the CDC has established similar guidelines for healthcare workers.⁴ These respiratory/cough etiquette guidelines are basic, but the public has yet to grasp the preventive benefit of their habitual practice. Some states, such as South Carolina, will be using these guidelines in media campaigns to change people's behavior. South Carolina's campaign will target several key respiratory/cough etiquette

behaviors:

- Cover your cough using tissue or a sleeve.
- Wash your hands more often with soap and friction to remove germs.
- Stay home when you have specific symptoms (like fever) to prevent the spread of germs to others.
- Get a flu vaccine each year, especially if you're at high risk.

In addition, the guidelines recommend:

- Providing tissues and no-touch receptacles for used-tissue disposal;
- Providing dispensers of alcohol-based hand rubs;
- Where there are sinks, ensuring that supplies for hand washing are consistently available.

It's not too early to familiarize personnel with these guidelines. EMS responders must know proper PPE for both themselves and their patients, and be ready to apply these guidelines upon arrival at the scene.

The WHO infection control guidelines for H5N1 (avian influenza, or AI) recommend that responders "use full barrier precautions if prehospital care is being provided for a suspected or confirmed AI-infected patient or during transport of the patient." The Centers for Disease Control and Prevention further differentiate between the use of N95 or surgical masks for healthcare workers and recommend surgical masks. The WHO guidelines also recommend that the patient be offered a surgical mask for the ride-and, if this is not possible, that they "be instructed to cover the mouth/nose with tissue when coughing or use the most practical alternative (e.g., a non-rebreather) to contain respiratory secretions."

This calls for a supply of surgical masks, tissues and related items to meet the surge demands of a pandemic. Given the numbers generated by our flu surge model, we can estimate our supply needs and include those numbers in the pandemic influenza response plan.

Multiple-Patient Transports

We've projected that in an influenza pandemic, a community of 216,000 can expect around 800 hospitalizations. EMS will be critical to managing this volume. Services may have to consider transporting multiple patients per ambulance run, despite the potential complications of insurance billing.

Such a volume will be manageable in earlier stages, but as the pandemic approaches its crest, recommendations will increase for voluntary quarantines and sheltering in place. To increase efficiency, your unit may even consider a triage officer who will perform on-scene triage prior to ambulance arrival. The role is defined in your mass-casualty plan and in terrorism annexes, the difference being that the triage officer here will be mobile rather than static. This officer will make advance calls and confirm those most critical patients who must make the hospital trip. This will preserve scarce EMS transport units for the most critical patients.

Alternative Transport Vehicles

Most of us are accustomed to airport shuttles, in which we sacrifice some convenience for a reasonable fare to get to our destination. Convenience will be a much-sought-after commodity during a pandemic, and if ambulances are unavailable, EMS units may find medical vans and buses an efficient way of transporting triaged patients to hospital wards (or alternate care centers) set up to treat pandemic influenza patients. Planners should consider these substitute modes of transportation, along with infection-control procedures for them.

During the 1918 Spanish flu pandemic, San Francisco used police officers and their vehicles to expand transport capabilities. Officers assigned this duty in 1918 most likely did not practice the infection-control

procedures we have today, but they did go beyond the call of duty to serve their fellow citizens. The EMS AI response plan must consider alternative modes of transportation. For example, rental companies may have fleets of vans sidelined because tourism and recreation will be reduced. MOAs with rental companies can maximize use of this asset.

Sick-Leave Policies

The general public will not be the only population affected by a mutant strain of pandemic influenza; healthcare workers will be as well. Recent studies suggest that the attrition rate among healthcare workers might exceed that of the general public and negatively impact emergency response.

Hopefully, your continuity-of-operations plan (COOP) has identified the most essential services you provide and includes measures to train other workers in the services your analysis has determined must continue throughout the pandemic. If it has not, address it now.

Equally important is taking care of EMS employees who contract the virus. Human-resource managers must consider now how the pandemic will impact their current sick-leave policies. If you follow the WHO recommendation for duration of infection control procedures, an employee who contracts pandemic influenza may be asked to not return to work for seven days following resolution of their fever.³ Does your current sick-leave policy cover the duration of an employee's illness?

A Pandemic Influenza Response Plan

Counties and states have been encouraged to develop pandemic influenza response plans. But healthcare entities must go the extra step and prepare agency-specific plans that detail the procedures their workers are expected to follow throughout the pandemic. This article has underscored several elements to consider as a jurisdiction writes its plan, which includes a continuity-of-operations component. The U.S. government's official pandemic influenza website, www.pandemicflu.gov, offers guidelines that include a state and local pandemic influenza planning checklist.⁵

The federal government requires its executive branch departments and agencies to have written COOPs in place, but equally encourages other governmental (state and local) bodies to develop such plans as well. The process is not unlike what jurisdictions went through during their Y2K drills. Developing such plans is time-consuming and costly, yet urgently needed to ensure the continuity of services throughout the pandemic. Through FEMA (www.fema.gov), planners can take online courses to familiarize themselves with the concepts of COOPs. Additional resources are available to assist with the development of such plans.

County and municipal EMS units are more than likely regulated by state government, in which case the suggested procedures may need to be reviewed and regulations changed and included in the state's emergency health powers act for a declared public health emergency such as pandemic influenza. Now is the time to conduct the planning essential for preparedness.

Summary

Recent trends of hospital ED overcrowding, ambulance diversion and the persistent "dire straits" of emergency medical systems can be expected to be exacerbated under the conditions a pandemic influenza will present.⁶ Partners of community healthcare systems must come together to solve these problems as they develop their pandemic influenza response plans. The solution must involve EMS, hospitals, public health and other healthcare partners, as well as local government. Limited surge capacity, overwhelming numbers of citizens

requiring and demanding care, and the worried well will simply compound the challenges EMS responders will face. EMS must get proactive and tap the preparedness resources being marshaled at federal, state and local levels.

These preparations will not be complete without an exercise that probes for weaknesses in the response plan. EMS agencies are encouraged to join up with other components of the healthcare system, such as hospitals, community health centers and public health, and conduct joint exercises. And we must not forget the coroners, whose plans must include a mass-fatality plan that details the management of what may become an overwhelming number of deceased.

References

1. *World Health Organization. WHO Guidelines for Global Surveillance of Influenza A/H5, Feb 6, 2004. www.who.int/csr/disease/avian_influenza/guide_lines/globalsurveillance.pdf.*
2. *Op cit, Annex 1, p. 9.*
3. *World Health Organization. Avian Influenza, Including Influenza A (H5N1) in Humans: WHO Interim Infection Control Guideline for Health Care Facilities. April 24, 2006.*
4. *Centers for Disease Control and Prevention. Respiratory Hygiene/Cough Etiquette in Healthcare Settings, Nov 4, 2004. www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm.*
5. *Department of Health and Human Services. Emergency Medical Services and Non-Emergent (Medical) Transport Organizations Pandemic Influenza Planning Checklist. www.pandemicflu.gov/plan/emgncymedical.html.*
6. *Erich J. EMS on the outside looking in. Emerg Med Serv 35(5):41-50, May 2006.*

Tom Russo is the emergency preparedness planner for Region 6 of the South Carolina Department of Health & Environmental Control. He works closely with first responder partners and area hospitals to coordinate the Health Resources and Services Administration's National Bioterrorism Hospital Preparedness Program.

Printable version may be for personal use only. Content may not be duplicated, re-used or otherwise replicated without expressed, written consent from **EMSResponder.com** and/or the original author/source.

Visit **EMSResponder.com** at <http://www.emsresponder.com> for the latest industry news, commentary, features and more.

Copyright © 2006 All rights reserved. Cygnus Interactive, a Division of Cygnus Business Media.