

Pandemic Flu And 9-1-1

GREG SCOTT

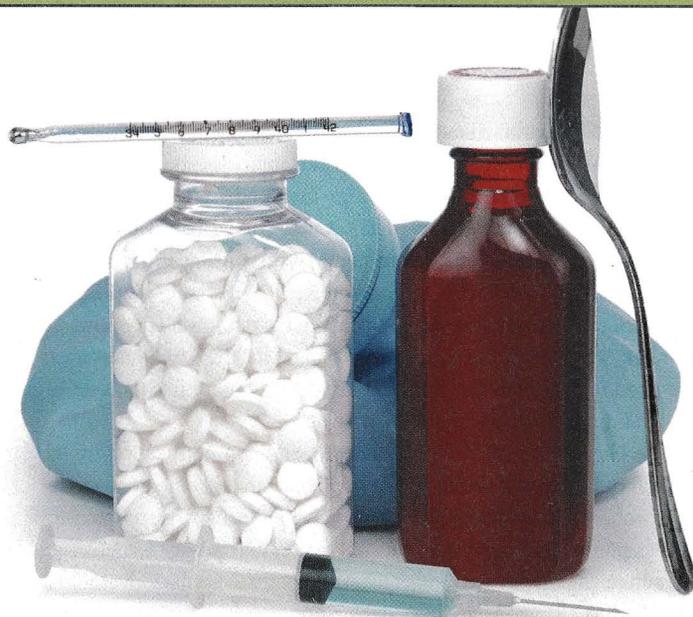
As a vital link to the public, and to local public safety entities, 9-1-1 centers will play a central role in any local or regional pandemic flu strategy.

In May 2006, President Bush announced his Implementation Plan for the National Strategy on Pandemic Flu. The plan defined more than 300 tasks to be accomplished over the following year by a multitude of federal agencies, in consultation with various public and private sector representatives, to develop a comprehensive framework for action in the event of a pandemic flu outbreak in the U.S. One of the overarching objectives of the federal plan is to communicate preparedness expectations to state and local governments, and to various private sector entities, as well as to promote coordinated planning by those groups at every stage of the process. Among the many tasks in the President's plan, is the development of model protocols for 9-1-1 centers that address "the provision of information to the public, facilitate caller screening and assist with priority dispatch of limited emergency medical services, within 12 months." In developing these model protocols, the National Highway Traffic Safety Administration (NHTSA), under the U.S. Department of Transportation, enlisted the help of a number of stakeholder groups in the 9-1-1 and EMS communities—including NENA, APCO, PowerPhone, state directors for 9-1-1 and emergency management, various EMS management and responder groups and the National Academies of Emergency Dispatch (NAED).

The final version of the plan was recently released earlier this year. It can be downloaded from the federal government Web site, at www.nhtsa.gov/people/injury/ems/PandemicInfluenza. Now PSAPs across the country are expected to make it work at the local level. So what are the major elements of the model protocols, and how can 9-1-1 directors, managers and supervisors develop an effective plan in the coming months? How does the local 9-1-1 center fit into the larger community, regional and statewide preparedness plans? To come to those answers, let's first look at what we do and do not know about a pandemic flu outbreak.

In the Event of an Outbreak

In the event of a widespread North American outbreak of a non-conventional flu virus, many things won't be known until the outbreak is in our midst—including the nature of the disease, where it will strike, the availability of vaccines and antiviral agents, and what measures



will be most effective. But there is little debate over at least one point: a full-blown outbreak will rapidly overwhelm the traditional emergency services resource capacity in any given community. Established mutual aid agreements may be of little use since adjoining jurisdictions will likely be in the same predicament. Federal assistance will likely be limited to dissemination of information, and distribution of vaccines and antivirals to the most affected regions. Local emergency response systems will, therefore, almost certainly have to resort to a contingency plan that includes using numerous non-traditional and alternative resources within the region.

9-1-1 centers' emphasis will be on call taking protocols that not only provide for accurate identification of specific signs and symptoms, but also include an orderly, pre-defined, triage process for all patients with medical complaints. Centers will need to determine a particular level of illness severity and quickly assign the correct response resource, or alternative (non-response) resource to each case. They will need to do this at a time when call volume may be extreme, response resources scarce or not available and the 9-1-1 center may be severely understaffed due to employee illness and infection. Even patients who receive a response from emergency medical responders may wait an extended period of time before receiving the help they need.

When hospitals become full, patients may be treated by paramedics and left at home, or for sicker victims, they may be transported to designated patient collection points that will serve as makeshift treatment facilities. Other victims may be deliberately left at home because they are in a quarantined area or do not require advanced level care. 9-1-1 callers will call not only when they want an ambulance, but also for instructions on what to do. There may be a need to provide modified instructions to callers when a traditional response is not dispatched to the patient. Finally, 9-1-1 centers will increasingly be expected to be an integral part of the surveillance process that provides local, state and federal public health authorities with critical early warnings of a disease outbreak or a subsequent new wave of the pandemic in the area.

Coordinating 9-1-1

The key to preparedness for 9-1-1 centers will be planning a coordinated effort with numerous government, private sector and community

organizations that facilitate rapid communication, organized emergency response and easy public access to resources.

All levels of government will be involved in a pandemic flu response. At the federal level, The Centers for Disease Control and Prevention (CDC) is the primary agency responsible for pandemic flu monitoring, notification and response. It will track the different stages of an outbreak and communicate to the public and government officials when each stage begins and ends. The CDC will also assess the need for vaccines and antiviral drugs, and coordinate their delivery and distribution at the national level.

The Governor's office, at the state level, upon notification by the federal officials, will activate state public health and emergency management resources when a pandemic flu is imminent. Once a state pandemic plan is activated, a group of state officials may establish an executive emergency operations team that will advise the Governor on the need for specific actions, declarations and additional resource mobilization.

The local response will begin with the county or regional health authorities. They are typically responsible for maintaining current lists and locations of health care personnel, facilities, supplies and equipment in the region. They are also responsible for setting up non-traditional care centers, such as public schools, large office buildings, malls and entertainment centers that may be used as patient collection points and emergency treatment centers. During a pandemic alert or response, emergency medical services (EMS) providers will be taking guidance and direction from the local public health departments.

Developing a Plan

9-1-1 centers should develop a plan that puts them in constant communication with the local public health and EMS authorities. Locate a local emergency operations center (EOC) in the same building as the largest regional 9-1-1 center. This EOC would become the command center for local emergency services in the event of a flu emergency. Regional incident command will most likely be a complex operation that will require rapid coordination and control of a network of disparate organizations, resources and decision makers at various levels. A single, local central command is the best approach to addressing this scenario. It will coordinate with state and federal officials, and will be required to setup according to standards defined by the National Incident Management System (NIMS).

Early detection and early warning of widespread disease outbreaks is accomplished through a process known as surveillance, or as sometimes referred to in the public health environment, syndromic surveillance. While surveillance activities have been traditionally left up to public health authorities, increasingly 9-1-1 centers are playing a role. Syndromic surveillance systems are in place in a number of centers around the country that can poll, in near real-time, 9-1-1 center databases for specific signs and symptoms recorded by emergency medical dispatchers (EMDs) during a caller interrogation. The NAED, for example, has developed an automated protocol-based interrogation for the most common presenting flu symptoms, and has a committee of health experts, as well as EMS and 9-1-1 professionals, that are able to update the EMD pandemic flu symptom-set in a matter of days, if necessary, based on new information about a disease. Once this information is gathered by the call taker, it can be analyzed

ProQA EMD software captures specific flu-like symptoms. The screen will be dynamically updated by the NAED if new disease symptoms are confirmed by the CDC and World Health Organization (WHO).

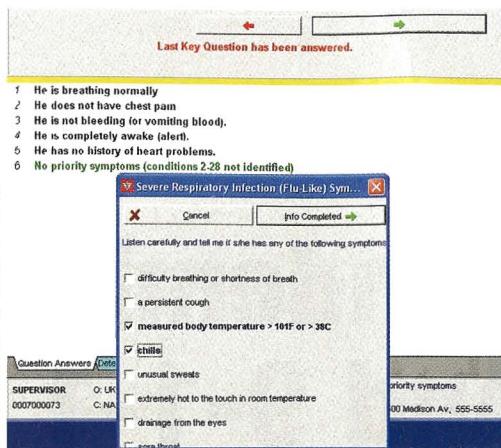


Image courtesy of Priority Dispatch Corp.

Real-Time Analysis of 911 Data for Pandemic & Early Event Detection

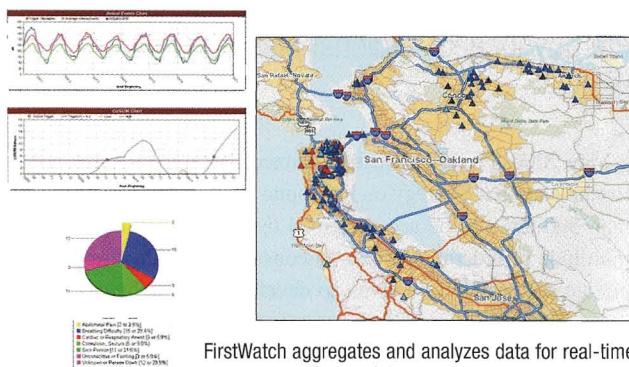


Image courtesy of FirstWatch Solutions.

FirstWatch aggregates and analyzes data for real-time surveillance of potential outbreaks.

by a software program know as FirstWatch®, that will detect any unusual trends or patterns indicative of an outbreak. Finally, 9-1-1 information can be fed flu-related information into larger regional networks of data that receive patient complaints from disparate sources. In the future, it may become an expectation that all 9-1-1 systems be an integral part of such an early detection, early warning system for pandemic flu. At a minimum, your 9-1-1 center plan will include the following:

- EMD call taking protocols for caller interrogation used by trained and certified EMDs that prioritize cases by level of severity. Most centers already require certification for telecommunicators taking medical calls. During a pandemic flu outbreak, this established process of caller questioning, case prioritization for response and caller instructions, will be the foundation of any effective pandemic flu strategy. A sound quality assurance and quality improvement program that ensures compliance to EMD protocols is clearly a necessity.
- New or modified protocols for surveillance of flu-like symptoms. EMD call taking protocols will need to be enhanced or modified by a qualified EMD authority to poll callers for signs and symptoms that can be used by public health officials to help identify how many people in the region are sick, and the specifics of the disease profile. If the disease evolves, changes in virility—or new symptoms are discovered—your EMD questioning will need to reflect these new changes.
- Modified EMS response plans that can accommodate a several fold increase in patients. When patient load is high and EMS responders are scarce, not everyone will get an ambulance. A modified response plan will translate the EMD prioritization of the case to who gets an ambulance and how fast.

- Secondary triage and clinical advice for those not getting an ambulance. Patients that don't get an EMS response will need home-care advice, information on how to get to a patient collection point or treatment location and other care alternatives. This can be accomplished by one or more 24/7 nurse-advice, or clinical advice services. Some localities may be able to set up Web-based care systems to augment person-to-person services. 9-1-1 centers must have the ability to transfer callers to these types of services, or modify their centers to provide this service in-house.

- Non-emergency information services and aggressive queue management. Many 9-1-1 callers will not be sick or have an emergency. Instead, they will call for information about non-emergent services and community announcements such as school closures, quarantine information or food, water, gas and electricity needs. 3-1-1 and 2-1-1 services will play a major role where they exist. 9-1-1 centers must manage the call queue to quickly and safely identify these non-emergencies and connect the calls to the correct resource.

- Staffing strategy for dealing with illness of 9-1-1 staff. Many of the staff in your own center will become sick and incapable of reporting to work. Modified shift schedules with alternate and backup staff options will be a necessity.

- Infection control and protection policies for well staff. Staff who are not sick should be protected, using standard infection control procedures, including masks, disinfectants and aggressive hand-washing.

A Central Role

State, regional and local authorities must check and modify their existing plans to fit more closely with the new federal protocol recommendations. As a vital link to the public, and to local public safety entities, 9-1-1 centers will play a central role in any local or regional pandemic flu strategy. Every center should have a plan in place—built upon preparedness and communications with public health, EMS and other key stakeholders in the community. 9-1-1 directors and managers should participate in planning and preparedness meetings to firmly establish its roles and responsibilities well in advance.

Finally, test your plan. Exercises and drills

carried out in conjunction with EMS, first responders, hospitals and other critical emergency services personnel, are a necessary part of any effective strategy. When testing, drills should simulate actual scenarios, and measure the center's ability to respond and react to changing circumstances both inside and outside the walls of the 9-1-1 center. **ENPM**

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lyst and researcher for the National Academies of Emergency Dispatch (Salt Lake City, UT). He can be reached at greg.scott@prioritydispatch.net.

For more information, visit www.pandemicflu.gov or download the 9-1-1 Pandemic Flu preparedness document at www.nhtsa.gov/people/injury/ems/PandemicInfluenza.