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Swift, High-Tech Response Keeps EMS On Top of Swine Flu Outbreak

By Lauren Simon

A lot has changed since 8,098 people became sick with SARS during the 2003 worldwide outbreak. Today, information travels at supersonic speeds via email, the Web, Twitter, Wikis, GIS maps, and social networks. Instead of having too little information when a crisis occurs, some people think there is too much.

An analysis of the flow of information during the recent swine/H1N1 influenza pandemic found that it was better to have as much information as possible, as soon as possible—as long as long as the information was clear and reliable.

One of the first people in emergency services to become aware of swine flu was Wayne Johnson, who is Chief Operating Officer of San Diego Medical Services Enterprise (SDMSE). San Diego was one of the first places in the United States to report an incidence of swine flu. On April 21, Johnson received an email alert from the San Diego County Health Department (SDCHD) about two confirmed cases. That same day, SDMSE used its internal Internet-based messaging program to alert its emergency crews about the situation and remind them to use universal precautions.

In the meantime, SDCHD issued a press release about swine flu, noting that, “Confirmation for the San Diego case was received from the Centers for Disease Control and Prevention (CDC) on April 15th and Imperial County

received confirmation on April 17th.” No specific guidance for prehospital treatment of swine flu patients had yet been issued by local, state, or federal authorities. In fact, most people around the United States were not yet even aware of the outbreak.

SARS Experts

About the same time as word about swine flu went public in San Diego, the Public Health Agency of Canada (PHAC) issued an alert regarding travelers returning from Mexico, after a number of severe respiratory illnesses

(SRI) were reported there. PHAC, in an April 20 report, said Mexican officials had informed the Canadian health agency that the “case-fatality rate was relatively high” and that a number of healthcare workers had been affected by the disease.

Toronto EMS was one of the first agencies to react. David Lyons, Manager of System Performance, called Todd Stout, president of the FirstWatch biosurveillance systems, to brainstorm ways to modify the triggers that alert them to possible disease outbreaks. “Toronto had been

Facemask Challenges

As was the case with SARS, the swine flu outbreak focused attention once again on N95 facemasks to prevent droplet-spread infectious diseases. On one hand, many agencies seemed to have learned from SARS to order sufficient quantities of masks as soon as management became aware of the potential for a pandemic. “We were able to obtain N95 masks in bulk before the supply became short by acting immediately,” said a representative of Nature Coast EMS in Citrus County, Florida.

Not all EMS agencies had it so easy. “The N95s issued to us from the regional health department were a different manufacturer and model than we have on hand,” reported a manager with North Country EMS in Yacolt, Washington. “This requires us to re-fit test all personnel if we have to use these masks.”

St. Charles County in Missouri reported similar problems. “We realized that our supply of N95 or surgical masks would not have been sufficient had the situation escalated quickly,” a manager there said. “We realized that our partners in fire were very unprepared and had virtually no supplies of N95 or surgical masks nor any way to fit-test.”

The best practice lesson? Plan ahead to have sufficient quantities of N95 masks on hand or rapidly available and make sure all personnel are fitted ahead of time.

monitoring for words like ‘fever’ and ‘febrile’ since SARS,” Stout explained. He noted that EMS agencies that use FirstWatch set threshold levels which, when reached, send an automated page that a certain number or type of case has entered the system. “They wanted to catch people who were traveling from Mexico, so they added the criteria ‘Mexico’ into their triggers.” As soon as FirstWatch added the new trigger, the system identified the first two callers with fever symptoms in Toronto, who had recently returned from Mexico. This experience gave FirstWatch the ability to assist its other clients around the U.S. and Canada in tracking swine flu in their communities.

The EMS Chiefs of Canada (EMSCC), many members of which had dealt with SARS in 2003, held an emergency meeting on April 24 to share information about swine flu and discuss possible best practice approaches to protecting emergency workers from contracting the disease. Michael McKeage, Chairman of the EMSCC’s Membership Service Committee, initiated and moderated a series of cross-Canada swine flu conference calls, after receiving information from Ontario due to his long-standing involvement with the National Academy of Emergency Dispatch’s (NAED) CBRN committee. Stout was on that call, as was National EMS Management Association (NEMSMA) President, Gary Wingrove, and Greg Scott, Chairman of NAED’s CBRN

committee. That meeting resulted in a flurry of activity, including the identification of administrative, operational and communications center best practices to handle swine flu. Those best practices were subsequently disseminated via email by NEMSMA, in conjunction with EMSCC, FirstWatch and NAED, on April 25.

“As the event was just getting started, the first information from the EMSCC was in my mailbox,” reported Schertz EMS Director Dudley Wait. Schertz EMS is located near San Antonio, Texas, where many of the early swine flu cases were identified. “EMS, unlike many others in the public health realm, really seemed to keep its head on straight and level,” Wait said. “I didn’t see or hear of too many examples of overreacting or under-reacting. From my contacts, it seemed we, as an industry, maintained our composure—probably due to our daily experience with emergencies—examined the science and data, and made rational decisions in how to operate and respond to the flu threat.”

Operational Changes

Back in San Diego, Johnson continued to take his cues from county health officials as well as from SDMSE

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Medical Director Jim Dunford, MD. He added N95 masks on April 24, and the anti-emetic Zofran on April 26, about 10 weeks prior to the time it was scheduled to be added to the SDMSE drug box. On April 28, San Diego dispatchers also began adding flu-related questions to their call intake protocol, a move that was made elsewhere, as well, after NAED added Protocol 36 for pandemic flu on April 29.

Acknowledging the proactive approach taken by so many in EMS in the earliest stages of swine flu, the federal government incorporated much of the EMSCC-derived best practices into its Interim Guidance for Emergency Medical Services (EMS) Systems and 9-1-1 Public Safety Answering Points (PSAPs) for Management of Patients with Confirmed or Suspected Swine-Origin Influenza A (H1N1) Infection, which it posted to the Web on April 29. But by this time, the benefits of the latest in mobile communications had already proved themselves to be effective. 

Additional Resources

EMS-Specific

Centers for Disease Control: cdc.gov/h1n1flu/guidance_ems.htm

EMS Chiefs of Canada: emsc.ca/blog/

FirstWatch: firstwatch.net

National EMS Management Association: nemsma.org/FluResources/tabid/80/Default.aspx

National Highway Safety Traffic Administration: nhtsa.gov/people/injury/ems/PandemicInfluenza/

National Academies of Emergency Dispatch: emergencydispatch.org/flu.php

Other Resources

Center for Infectious Disease Research & Policy: cidrap.umn.edu/cidrap/content/influenza/swineflu

U.S. Government: pandemicflu.gov

World Health Organization: who.int/csr/disease/swineflu/en/

(Links to all these sites are also available at www.emergencybestpractices.com)