

EMERGENCY MEDICAL SERVICES AUTHORITY

1930 9th STREET
SACRAMENTO, CA 95811-7043
(916) 322-4336 FAX (916) 324-2875



**Emergency Medical Services (EMS) Specific Guidance #3
Guidance and Recommendations for Local EMS Agencies and EMS
Providers for H1N1 Influenza A (Swine Flu) Response**

May 1, 2009

To date, the **H1N1 Influenza A (swine flu)** response remains fluid and subject to rapid change. Additionally, the EMS Authority recognizes that each local EMS agency (LEMSA) may have a different approach based upon the number of confirmed or suspected cases within their jurisdiction.

CURRENT STATUS

International: The World Health Organization (WHO) raised its pandemic alert for the H1N1 Influenza A to Phase 5. This means it is time to finalize the organization, communication, and implementation of planned mitigation measures. Further, it signals that efforts to produce a vaccine will be intensified.

National: The Centers for Disease Control and Prevention (CDC) reports additional confirmed human infections, hospitalizations, and the nation's first fatality from the H1N1 influenza A. If the virus continues to spread, more cases, hospitalizations, and deaths are expected in the coming days and weeks.

The CDC has issued a new interim guidance for clinicians on how to care for children and pregnant women who may be infected with this virus. Young children and pregnant women are two groups at higher risk of serious complications from seasonal influenza. In addition, CDC's Division of the Strategic National Stockpile (SNS) continues to send antiviral drugs [Tamiflu (oseltamivir) and Relenza (zanamivir)], personal protective equipment (PPE), and respiratory protection devices to all 50 states and U.S. territories to help with the H1N1 Influenza A response.

California: At the time of this guidance, California has 18 confirmed cases and an increasing number of probable cases. California now has the capability to test for the H1N1 Influenza A virus which previously had to occur at the CDC laboratories. This process will improve the efficiency of determining confirmed cases in California.

Each state has been sent a portion of the SNS anti-viral stockpile. Each county in California has a pre-determined allocation and are requesting portions of that allocation based on the current and projected needs.

RECOMMENDATIONS TO LOCAL EMS AGENCIES

This is a rapidly evolving situation and there continues to be additional information available to assist EMS in identifying potential patients, protecting EMS personnel, providing excellent patient care and participating in California's public health process. The EMS Authority has reviewed a recent CDC publication "*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.*"

This document addresses important EMS issues related to the current H1N1 Influenza A (swine flu) response. We encourage local EMS agencies to review this document for local system application. This document will be updated as needed by the CDC at <http://www.cdc.gov/h1n1flu/guidance/>. The information contained in this document is intended to complement existing guidance for healthcare personnel, “Interim Guidance for Infection Control for Care of Patients with Confirmed or Suspected Swine Influenza A (H1N1) Virus Infection in a Healthcare Setting” at http://www.cdc.gov/h1n1flu/guidelines_infection_control.htm. Both documents are attached to this guidance.

As the implementation of Phase 5 of a Pandemic Alert ensues, the following EMS related recommendations are provided to the LEMSA Administrator and Medical Director for consideration when addressing the needs of its EMS community during this public health emergency:

Dispatch: As part of a coordinated, community-wide strategy, Public Safety Answering Points (PSAPs) and other emergency call centers may consider using modified caller queries containing a specified influenza symptom set.

It is important for the PSAPs to question callers to ascertain if anyone is possibly inflicted with the H1N1 Influenza A virus, if there is a possible risk to EMS personnel prior to their arrival at the incident location, and ensure an appropriate level of EMS resource response. An Emergency Medical Dispatcher (EMD) should query callers for signs or symptoms of H1N1 Influenza A such as:

- Acute febrile illness
- Nasal congestion
- Sore throat
- Cough
- General flu like symptoms
- Or these same signs or symptoms with someone else in the same household

A data collection mechanism (preferably real-time) should be in place to obtain this information. Comparison of this data with actual EMS patient care record data and ultimately with hospital outcome data will result in a complete patient record. The development of this system should be developed under the direction of the LEMSA in collaboration with public health and EMS dispatch and provider agencies.

Patient Assessment: EMSA recommends that local LEMSAs utilize the CDC “*Interim Guidance for Infection Control for Care of Patients with Confirmed or Suspected Swine Influenza A (H1N1) Virus Infection in a Healthcare Setting*” for patient assessment. This new CDC guideline is consistent with our previous guidance but adds the use of a surgical mask for patients with acute febrile illness.

EMS Surveillance: The EMS Authority is currently working with select LEMSAs and select EMS providers with real-time electronic data systems to monitor EMS transports with suspected Influenza-like illness. Provider impression data for this surveillance includes: respiratory distress, fever, sick (nausea/vomiting/diarrhea), malaise, and other flu like impressions that may be collected. This data will provide us with current snapshots of how the EMS system may be affected by the current H1N1 Influenza A response.

LEMSAs with electronic data systems may consider utilizing their system to provide Influenza-like illness response data. The National EMS Information System (NEMSIS) data dictionary provides data elements that may be modified to fit the need for EMS surveillance:

- E 23_08 *Required Reportable Conditions* – while this element is used for reporting federal and/or state regulated conditions, it may be modified to include a field value of “ILI”.

- E23_09 *Research Survey Field* – this element is designed to be modified to fit the needs of a system to collect additional documentation on any EMS issue.

For those EMS systems utilizing NEMSIS *Gold* compliant software, check with the vendor on the electronic availability of these data elements and potential modifications. If mechanisms exist, consider sharing EMS and 9-1-1 data with your local public health department as part of a comprehensive surveillance system.

Personnel Protective Equipment: LEMSAs should ensure that all emergency and non-emergency providers have sufficient types and quantities of Personal Protective Equipment (PPE) for their personnel to meet the needs of the H1N1 Influenza A response [PPE - EMSA #216 (June 2005): *PPE for Ambulance Personnel in California Guidelines*].

N95 Masks: It is recommended to have a well fitted N95 mask. Ideally, an N95 mask should be disposed of as infectious medical waste in any situation where an EMS responder feels the mask has potentially been contaminated. PPE, including N95 masks, should be removed in such a manner as to not have potentially contaminated material from the PPE come in contact with the rescuer or any other person surface. Refer to the specific manufacturers instructions for the proper application and removal N95 masks and all other PPE.

Patients with suspected H1N1 Influenza A should have N95 or surgical masks placed on them to tolerance.

A common question posed is “How do I determine the appropriate stock of N95 masks for my EMS personnel”? A proposed calculation is: Number of staffed ambulances/first responder units x # personnel per ambulance/unit x 2 N95 masks per personnel/day x # shifts per day. This number can change based on your Medical Director’s determination. If you want to calculate using number of ILI contacts (with one mask per contact) you would need an estimation of these calls per provider.

The EMS Authority will continue to monitor information as it becomes available and provide necessary information and guidance to its EMS partners by identifying trends, sharing best practices and disseminating information. LEMSAs are encouraged to share their experiences, policies, procedures and other relevant information as we work towards concluding this public health emergency. In addition, LEMSAs should communicate daily with hospitals and local county health departments and monitor news reports and government resources for developing situations. As well as maintain an open line of communication with the EMS Authority. Following are some recommended websites for additional information:

http://www.emsa.ca.gov/about/Swine_Flu_Guidance.asp

<http://ww2.cdph.ca.gov/Pages/default.aspx>

<http://www.cdc.gov/swineflu/>

http://www.cdc.gov/swineflu/guidance_ems.htm



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

Page last updated April 29, 9:15 PM ET

This document provides interim guidance for 9-1-1 Public Safety Answering Points (PSAPs), the EMS system and medical first-responders and will be updated as needed at <http://www.cdc.gov/swineflu/guidance/>. The information contained in this document is intended to complement existing guidance for healthcare personnel, “Interim Guidance for Infection Control for Care of Patients with Confirmed or Suspected Swine Influenza A (H1N1) Virus Infection in a Healthcare Setting” at http://www.cdc.gov/swineflu/guidelines_infection_control.htm.

Background

As a component of the Nation’s critical infrastructure, emergency medical services (along with other emergency services) play a vital role in responding to requests for assistance, triaging patients, and providing emergency treatment to influenza patients. However, unlike patient care in the controlled environment of a fixed medical facility, prehospital EMS patient care is provided in an uncontrolled environment, often confined to a very small space, and frequently requires rapid medical decision-making, and interventions with limited information. EMS personnel are frequently unable to determine the patient history before having to administer emergency care.

Interim Recommendations

Coordination among PSAPs, the EMS system, healthcare facilities (e.g. emergency departments), and the public health system is important for a coordinated response to swine-origin influenza A (H1N1). Each 9-1-1 and EMS system should seek the involvement of an EMS medical director to provide appropriate medical oversight. Given the uncertainty of the disease, its treatment, and its progression, the ongoing role of EMS medical directors is critically important. The guidance provided in this document is based on current knowledge of swine-origin influenza A (H1N1).

The U.S. Department of Transportation's *EMS Pandemic Influenza Guidelines for Statewide Adoption and Preparing for Pandemic Influenza: Recommendations for Protocol Development and 9-1-1 Personnel and Public Safety Answering Points (PSAPs)* are available online at www.ems.gov (Click on Pandemic News). State and local EMS agencies should review these documents for additional information. For instance, Guideline 6.1 addresses protection of the EMS and 9-1-1 workers and their families while Guideline 6.2 addresses vaccines and antiviral medications for EMS personnel. Also, EMS Agencies should work with their occupational health programs and/or local public health/public safety agencies to make sure that long term personal protective equipment (PPE) needs and antiviral medication needs are addressed.

Infectious Period

Persons with swine-origin influenza A (H1N1) virus infection should be considered potentially infectious from one day before to 7 days following illness onset. Persons who continue to be ill longer than 7 days after illness onset should be considered potentially contagious until symptoms have resolved. Children, especially younger children, might potentially be contagious for longer periods.

Non-hospitalized ill persons who are a confirmed or suspected case of swine-origin influenza A (H1N1) virus infection are recommended to stay at home (voluntary isolation) for at least the first 7 days after checking with their health care provider about any special care they might need if they are pregnant or have a health condition such as diabetes, heart disease, asthma, or emphysema. CDC guidance on care of patients at home can be found at http://www.cdc.gov/swineflu/guidance_homecare.htm)

Case Definitions for Infection with Swine-origin Influenza A (H1N1) Virus (S-OIV)

A *confirmed case* of S-OIV infection is defined as a person with an acute febrile respiratory illness with laboratory confirmed S-OIV infection at CDC by one or more of the following tests:

1. real-time RT-PCR
2. viral culture

A *probable case* of S-OIV infection is defined as a person with an acute febrile respiratory illness who is positive for influenza A, but negative for H1 and H3 by influenza RT-PCR

A *suspected case* of S-OIV infection is defined as a person with acute febrile respiratory illness with onset

- within 7 days of close contact with a person who is a confirmed case of S-OIV infection, or
- within 7 days of travel to community either within the United States or internationally where there are one or more confirmed cases of S-OIV infection, or
- resides in a community where there are one or more confirmed cases of S-OIV infection.

Recommendations for 9-1-1 Public Safety Answering Points (PSAP)

It is important for the PSAPs to question callers to ascertain if there is anyone at the incident location who is possibly afflicted by the swine-origin influenza A (H1N1) virus, to communicate the possible risk to EMS personnel prior to arrival, and to assign the appropriate EMS resources. PSAPs should review existing medical dispatch procedures and coordinate any modifications with their EMS medical director and in coordination with their local department of public health.

Interim recommendations:

- PSAP call takers should screen all callers for any symptoms of acute febrile respiratory illness. Callers should be asked if they, or someone at the incident location, has had nasal congestion, cough, fever or other flu-like symptoms.
 - If the PSAP call taker suspects a caller is noting symptoms of acute febrile respiratory illness, they should make sure any first responders and EMS personnel are aware

of the potential for “acute febrile respiratory illness” before the responders arrive on scene.

Recommendations for EMS and Medical First Responder Personnel Including Firefighter and Law Enforcement First Responders

For purposes of this section, “EMS providers” means prehospital EMS, Law Enforcement and Fire Service First Responders.” EMS providers' practice should be based on the most up-to-date swine-origin influenza clinical recommendations and information from appropriate public health authorities and EMS medical direction.

Patient assessment:

Interim recommendations:

If there HAS NOT been swine-origin influenza reported in the geographic area (<http://www.cdc.gov/swineflu/>), EMS providers should assess all patients as follows:

- Step 1: EMS personnel should stay more than 6 feet away from patients and bystanders with symptoms and exercise appropriate routine respiratory droplet precautions while assessing all patients for suspected cases of swine-origin influenza.
- Step 2: Assess all patients for symptoms of acute febrile respiratory illness (fever plus one or more of the following: nasal congestion/ rhinorrhea, sore throat, or cough).
 - If no acute febrile respiratory illness, proceed with normal EMS care.
 - If symptoms of acute febrile respiratory illness, then assess all patients for travel to a geographic area with confirmed cases of swine-origin influenza within the last 7 days or close contact with someone with travel to these areas.
 - If travel exposure, don appropriate PPE for suspected case of swine-origin influenza.
 - If no travel exposure, place a standard surgical mask on the patient (if tolerated) and use appropriate PPE for cases of acute febrile respiratory illness without suspicion of swine-origin influenza (as described in PPE section).

If the CDC confirmed swine-origin influenza in the geographic area (<http://www.cdc.gov/swineflu/>)

- Step 1: Address scene safety:
 - If PSAP advises potential for acute febrile respiratory illness symptoms on scene, EMS personnel should don PPE for suspected cases of swine-origin influenza prior to entering scene.
 - If PSAP has not identified individuals with symptoms of acute febrile respiratory illness on scene, EMS personnel should stay more than 6 feet away from patient and bystanders with symptoms and exercise appropriate routine respiratory droplet precautions while assessing all patients for suspected cases of swine-origin influenza.
- Step 2: Assess all patients for symptoms of acute febrile respiratory illness (fever plus one or more of the following: nasal congestion/ rhinorrhea, sore throat, or cough).

- If no symptoms of acute febrile respiratory illness, provide routine EMS care.
- If symptoms of acute febrile respiratory illness, don appropriate PPE for suspected case of swine-origin influenza if not already on.

Personal protective equipment (PPE):

Interim recommendations:

- When treating a patient with a suspected case of swine-origin influenza as defined above, the following PPE should be worn:
 - Fit-tested disposable N95 respirator and eye protection (e.g., goggles; eye shield), disposable non-sterile gloves, and gown, when coming into close contact with the patient.
- When treating a patient that is not a suspected case of swine-origin influenza but who has symptoms of acute febrile respiratory illness, the following precautions should be taken:
 - Place a standard surgical mask on the patient, if tolerated. If not tolerated, EMS personnel may wear a standard surgical mask.
 - Use good respiratory hygiene – use non-sterile gloves for contact with patient, patient secretions, or surfaces that may have been contaminated. Follow hand hygiene including hand washing or cleansing with alcohol based hand disinfectant after contact.
- Encourage good patient compartment vehicle airflow/ ventilation to reduce the concentration of aerosol accumulation when possible.

Infection Control:

EMS agencies should always practice basic infection control procedures including vehicle/equipment decontamination, hand hygiene, cough and respiratory hygiene, and proper use of FDA cleared or authorized medical personal protective equipment (PPE).

Interim recommendations:

- Pending clarification of transmission patterns for this virus, EMS personnel who are in close contact with patients with suspected or confirmed swine-origin influenza A (H1N1) cases should wear a fit-tested disposable N95 respirator, disposable non-sterile gloves, eye protection (e.g., goggles; eye shields), and gown, when coming into close contact with the patient.
- All EMS personnel engaged in aerosol generating activities (e.g. endotracheal intubation, nebulizer treatment, and resuscitation involving emergency intubation or cardiac pulmonary resuscitation) should wear a fit-tested disposable N95 respirator, disposable non-sterile gloves, eye protection (e.g., goggles; eye shields), and gown, unless EMS personnel are able to rule out acute febrile respiratory illness or travel to an endemic area in the patient being treated.
- All patients with acute febrile respiratory illness should wear a surgical mask, if tolerated by the patient.

Interfacility Transport

EMS personnel involved in the interfacility transfer of patients with suspected or confirmed swine-origin influenza should use standard, droplet and contact precautions for all patient care activities. This

should include wearing a fit-tested disposable N95 respirator, wearing disposable non-sterile gloves, eye protection (e.g., goggles, eyeshield), and gown, to prevent conjunctival exposure. If the transported patient can tolerate a facemask (e.g., a surgical mask), its use can help to minimize the spread of infectious droplets in the patient care compartment. Encourage good patient compartment vehicle airflow/ ventilation to reduce the concentration of aerosol accumulation when possible.

Interim Guidance for Cleaning EMS Transport Vehicles After Transporting a Suspected or Confirmed Swine-origin Influenza Patient

The following are general guidelines for cleaning or maintaining EMS transport vehicles and equipment after transporting a suspected or confirmed swine-origin influenza patient. This guidance may be modified or additional procedures may be recommended by the Centers for Disease Control and Prevention (CDC) as new information becomes available.

Routine cleaning with soap or detergent and water to remove soil and organic matter, followed by the proper use of disinfectants, are the basic components of effective environmental management of influenza. Reducing the number of influenza virus particles on a surface through these steps can reduce the chances of hand transfer of virus. Influenza viruses are susceptible to inactivation by a number of chemical disinfectants readily available from consumer and commercial sources.

After the patient has been removed and prior to cleaning, the air within the vehicle may be exhausted by opening the doors and windows of the vehicle while the ventilation system is running. This should be done outdoors and away from pedestrian traffic. Routine cleaning methods should be employed throughout the vehicle and on non-disposable equipment.

For additional detailed guidance on ambulance decontamination EMS personnel may refer to "Interim Guidance for Cleaning Emergency Medical Service Transport Vehicles during an Influenza Pandemic" available at: http://www.pandemicflu.gov/plan/healthcare/cleaning_ems.html .

EMS Transfer of Patient Care to a Healthcare Facility

When transporting a patient with symptoms of acute febrile respiratory illness, EMS personnel should notify the receiving healthcare facility so that appropriate infection control precautions may be taken prior to patient arrival. Patients with acute febrile respiratory illness should wear a surgical mask, if tolerated. Small facemasks are available that can be worn by children, but it may be problematic for children to wear them correctly and consistently. Moreover, no facemasks (or respirators) have been cleared by the FDA specifically for use by children.

- Links to non-federal organizations are provided solely as a service to our users. These links do not constitute an endorsement of these organizations or their programs by CDC or the federal government, and none should be inferred. CDC is not responsible for the content of the individual organization Web pages found at these links.