

**FIRE DEPARTMENT  
OF  
MEMPHIS**



**PANDEMIC  
RESPONSE PLAN**

**MEMPHIS FIRE DEPARTMENT  
BUSINESS CONTINUITY OF OPERATIONS PLAN  
FOR EMERGENCY MEDICAL SERVICES- PANDEMIC FLU**

**LETTER OF AUTHORITY**

**These plans have been drafted by the City of Memphis Fire Department Emergency Medical Services (EMS) Consequence Management and Infection Control in accordance with Tennessee Department of Health Division of EMS Guidelines. The Memphis Fire Department Division Directors, Deputy Chief of EMS, and Medical Director, by their signature, have approved these protocols as recommendations, which will be applicable to patient care procedures and protocols.**

\_\_\_\_\_, M.D.  
**Medical Director**

\_\_\_\_\_  
**Deputy Chief of EMS**

\_\_\_\_\_  
**Director of Fire Services**

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**Deputy Director of Fire Services**

## **BACKGROUND**

International interest in the field of EMS infectious disease was accelerated by the U.S. Anthrax cases in October, 2001, concerns about Smallpox and bio-terrorism, and by the 2003 Severe Acute Respiratory Syndrome (SARS) outbreak in Toronto.

Any pathogen may achieve pandemic proportions and impact, not just influenza. During a pandemic, it may be necessary to make painful decisions regarding limited care in the face of increased demand and decreasing resources. These decisions will be difficult, but they must be made. Bluntly, we can not afford to use time, resources, or personnel to help those who are beyond survival. As in triage at a Mass Casualty Incident (MCI), the goal of our approach to a pandemic must be to maximize the use of available resources and provide reasonable help to the greatest number of people.

While compassion and caring are always appropriate, it is imperative that we do not allow these natural, human feelings to cloud our judgment in making treatment, transport, or resource decisions. If resources are limited, the decisions we make in the field have implications beyond that of the individual patient. Subverting these guidelines could potentially threaten the entire medical system.

We feel it is important that we give these topics some consideration now so that we will be better prepared not just operationally, but also emotionally if the pandemic or any other natural manmade “disaster” occurs.

## **DEFINITIONS**

- EMS Level 3: Human Pandemic exists somewhere in the world.
  - No cases identified in the region
- EMS Level 2: Human pandemic cases identified in the region.
  - No significant impact on EMS and medical systems.
- EMS Level 1: Human pandemic has achieved rapid, human-to-human transmission with increased morbidity and mortality
  - Overwhelming impact on EMS and medical systems.

### **Flu Terms Defined**

**Seasonal** (or common) flu is an annual, recurring respiratory illness that can be transmitted person to person. Most people have some immunity and a vaccine is usually available.

**Pandemic** flu is virulent human flu that causes a global outbreak (pandemic) of serious illness. Because there is little natural immunity, the disease can spread easily from person to person, against which humans have little historic immunity.

## **OBJECTIVE:**

A pandemic outbreak would cause a staffing shortage of employees as well as an increase in pre-hospital run volume for the Memphis Fire Department. The objective of this plan is to mobilize the resources of the Memphis Fire Department to an elevated level. This requires a commitment to pre-hospital care beyond normal daily EMS capabilities and operations.

The Command Staff and EMS Officers of the Memphis Fire Department will assemble to determine and facilitate the following during a pandemic outbreak that affects the delivery of EMS Services:

1. Analyze the emergency situation.
2. Determine what fire department and other department resources are needed for the emergency.
3. Place additional apparatus or alternative apparatus in service as deemed necessary.
4. Recall appropriate personnel as necessary.
5. Make fire department policy regarding the departments' response and resource management of the emergency.
6. Prioritize response and resources as necessary.
7. Select and provide EMS Officers to staff Emergency Support Function 8.1 (EMS) to represent the Memphis Fire Department during an activation of the Memphis/Shelby County Emergency Operations Center.

## **PANDEMIC PLAN**

### **EMS LEVEL 3**

**Human pandemic flu exists somewhere in the world. No cases are reported in the Region.**

- Continue with unfinished items in planning and preparations
- Continue daily surveillance of "Infectious Disease" patient calls for service.
- Callers will be asked on every "Breathing Difficulty" and "Unknown Sick"-Card 26- if the patient has a "fever" or "cough."
- Review plan and consider implementation of employee screening for symptoms and possible exposure.
- Implement mandatory personal protection guidelines when responding to possible pandemic patients.
- Prepare to manage increased volume of bio-hazard infectious waste.

## **EMS LEVEL 2**

**Human pandemic cases identified in Region. No significant impact on EMS and medical systems.**

Review implementation of Level 1 operational changes.

Implement mandatory personal protection guidelines on all responses.

- Mask, goggles, gloves, gowns, etc.
- Minimize time spent in infectious environment
- Minimize number of people in close contact with patient.
- Increase efforts at personal hygiene and decontamination.
- Decontaminate EMS equipment.
- Social Distancing.

Prepare for the following- Implementation of alternative staffing plans. Personnel may be called to report to duty for an undefined period of time. Stations may be used as living quarters for extended shifts. Alternative human and physical resources may be utilized for transportation needs. Plan on increased usage of PPE, medical supplies, and other logistical items.

## **EMS LEVEL 1**

Human pandemic has achieved rapid human-to-human transmission with increased morbidity and mortality. Outbreak is causing an overwhelming impact on EMS and medical systems.

Direct activation of Plan P Standing Orders

## **PANDEMIC MEDICAL STANDING ORDERS – PLAN P**

### **Rational:**

In the case of a pandemic, demand for emergency medical services of all types may reach crisis proportions. In this event, significant adjustments may be necessary in the guidelines covering dispatch, response, treatment and transportation. Plan P provides guidance for the EMS system when and if the crisis point is reached.

**The decision to activate Plan P will be made jointly by the Director of Fire Services, the Deputy Director of Fire Services, the Medical Director, the Deputy Chief of EMS, and the Safety Chief in consultation with the Tennessee Department of**

**Health. In a public health crisis, the situation may evolve rapidly. Depending on the situation, Plan P in its entirety or any portion, may be activated and adjusted as the crisis warrants.**

It is assumed that Plan P will be activated only at the Pandemic EMS Level-1

Plan P offers directions, which may be helpful under these circumstances, in the following EMS activities:

### **COMMUNICATIONS/DISPATCH**

**Information:** Communications personnel may transfer callers requesting information or reporting infectious disease signs and symptoms to alternate electronic resources. These may include prepared scripts or recorded information lines established by public health, existing 211 or 311 lines, or other information resources set up during a pandemic. This information may include reporting a dead body or caring for a dead body until retrieval can be arranged. **The required call-processing time limits will be waived, along with response time requirement, ambulance staffing, and ambulance response times.**

In managing calls for EMS service, call receivers must be alert to signs and symptoms, which indicate the presence of an infectious disease or a potentially infectious condition. In addition to the usual EMS pre-arrival questions, when an infectious disease is reported or suspected, callers should be asked specifically:

**Are signs or symptoms of infectious disease present?**

- **Fever**
- **Cough**
- **Respiratory distress**
- **Unusual skin rash**
- **Gastro-intestinal symptoms (nausea, vomiting, diarrhea)**

### **PANDEMIC FLU TELEPHONE TRIAGE- EMD/PUBLIC HEALTH**

Pre-hospital EMS capability will play a critical role in responding to requests for assistance, providing treatment, and in triaging patients. Memphis Fire Department Communications will experience a significant surge in calls and will determine how and when EMS units are dispatched. Modifying dispatch protocols and developing pandemic-specific pre-hospital triage and treatment protocols will help maintain critical response resources during this time of crisis.

Given that most persons with pandemic influenza will experience typical influenza symptoms, most persons who seek care can be managed appropriately by outpatient








providers using a home-based approach. Appropriate management of outpatient pandemic influenza cases may reduce the risk of progression to severe disease and thereby reduce demand for inpatient care. A system of effective home-based care would decrease the burden on health care providers and lessen exposure of uninfected persons to persons who are infected with influenza.

During the waves of the pandemic outbreak it will be virtually impossible to make an ambulance response for every call with influenza like symptoms. Instead of a mobile response MFD Fire Communications could transfer non-emergent calls to public health call centers created by The Memphis/Shelby County Health Department to provide advice on whether to stay home or to seek care. This task could be accomplished by using the dispatch system we already have in place with modification to the 26-A-1 response for a sick person without any priority symptoms.


The Medical Priority Dispatch System would be utilized to give pre-arrival instructions and guide what resources are sent on emergency calls. If the chief complaint in the case entry is flu like symptoms then Card 26 would be the appropriate chief complaint card. Following and completing the case entry and chief complaint card questioning will help insure that the patient does not have any priority symptoms and would not need an immediate emergency response.

Pre-Hospital syndromic surveillance will also be achieved by mandating the use of ProQA (computerized version of the protocols) during a declared pandemic event. ProQA has a tab to click to check off flu like symptoms being reported by the callers and will be utilized during elevated threat levels. This data can be used to show trends and geographic locations.

# Case Entry Protocol (Initial Assessment)

ENTRY QUESTIONS		 <b>THE NATIONAL ACADEMY™</b> <b>EMD</b> <b>PROTOCOL™</b> Medical Priority Dispatch System®	
1. What's the <b>address</b> of the emergency?		✓	
2. What's the <b>phone number</b> you're calling from?			
3. What's the <b>problem</b> , tell me <b>exactly</b> what happened?			
Hanging _____		9-E-3	
Underwater _____		9-E-6	
a. <b>(Not obvious)</b> Are you <b>with</b> the patient <b>now</b> ?			
b. <b>(Not obvious)</b> How <b>many</b> (other) people are <b>hurt</b> (sick)?			
Traffic/Transportation accident _____		29	
Multiple victims _____		CC	
c. <b>(Choking)</b> Is s/he <b>still</b> choking now? (You go check and tell me what you find.) _____		11-E-1	
4. How <b>old</b> is s/he?			
a. <b>(Unsure)</b> Tell me <b>approximately</b> , then.			
5. Is s/he <b>conscious</b> ?			
Yes			
No			
Unknown			
6. Is s/he <b>breathing</b> ? 			
a. <b>(Hasn't checked – 2<sup>nd</sup> party caller)</b> You go check and tell me what you find.		✓	
Yes			
No/NOT BREATHING _____		?-E-?	
Uncertain/INEFFECTIVE/AGONAL BREATHING (1 <sup>st</sup> or 2 <sup>nd</sup> pty caller) _____		?-E-?	
Unknown (3 <sup>rd</sup> or 4 <sup>th</sup> pty caller)			

**CRITICAL EMD INFORMATION**

\* For **NOT BREATHING** situations or **INEFFECTIVE BREATHING**, code as **ECHO** on Protocols 2, 6, 9, 11, 15, 31 **only**, initiate **dispatch**, give PDI's, and **return** to question sequence when directed by  symbol.

**POST-DISPATCH INSTRUCTIONS**

a. **(ECHO)** I'm sending the **paramedics** (ambulance) to help you now. **Stay on the line.**

b. **(Hanging and not OBVIOUS DEATH)** **Cut her/him down** immediately, **loosen** the noose, and see if s/he's **breathing.**

c. **(Underwater)** **Do not go in the water** unless it's **safe** to do so. ▼

d. **(Strangulation and not OBVIOUS DEATH)** **Loosen** anything around the **neck** and see if s/he's **breathing.**

e. **(Suffocation)** **Remove** anything **covering** the **face** or **in** the **mouth** and see if s/he's **breathing.**

f. **(Critical Caller Danger)** (If it's too **dangerous to stay** where you are, and you think you can leave safely,) **get away** and **call me** from somewhere **safe.** ▼

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In the Case Entry question #3, What's the problem, tell me exactly what happened? The caller's response dictates what chief complaint card will be used. Proper use of the case entry interrogation will allow use to continue to use the system for triage purposes.



# (Detailed Assessment)

**26 SICK PERSON (SPECIFIC DIAGNOSIS)**

**KEY QUESTIONS**

1. Is s/he **breathing normally**?  
No

2. (**Female ≥ 45, male ≥ 35**) Does s/he have **chest pain**?  
Yes

3. Is s/he **bleeding** or **vomiting blood**?  
Yes

4. Is s/he **completely awake** (alert)?

5. Does s/he have a **history of heart problems**?

↩

6

10

21

**POST-DISPATCH INSTRUCTIONS**

a. I'm sending the **paramedics** (ambulance) to help you now. **Stay on the line** and I'll tell you **exactly** what to do next.

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DLS \* [Link to X-1](#) ↩

LEVELS	#	DETERMINANT DESCRIPTORS	CODES	RESPONSES	MODES
<b>D</b>	1	Not alert	<b>26-D-1</b>		
<b>C</b>	1	Cardiac history (complaint conditions 2–28 <b>not</b> identified)	<b>26-C-1</b>		
<b>B</b>	1	Unknown status (3 <sup>rd</sup> party caller)	<b>26-B-1</b>		
<b>A</b>	1	No priority symptoms (complaint conditions 2–28 <b>not</b> identified)	<b>26-A-1</b>		
	2–28	<b>NON-PRIORITY Complaints</b>	<b>26-A-2–28</b>		

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Card 26 rules out the presence or absence of any priority symptoms so when the response determinant of 26-A-1 is reached the call will be transferred to the Health Department Call Center or Hotline for further Instructions.

# (Card 26 Additional Information)

Protected by U.S. Patents 5,857,966; 5,989,187; 6,004,266; 6,010,451; 6,053,864; 6,076,065; 6,078,894; 6,106,459; 6,607,481

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<p><b>NON-PRIORITY Complaints (ALPHA-level)</b></p> <ol style="list-style-type: none"> <li>2. Boils</li> <li>3. Bumps (non-traumatic)</li> <li>4. Can't sleep</li> <li>5. Can't urinate (without abdominal pain)</li> <li>6. Catheter (in/out without hemorrhaging)</li> <li>7. Constipation</li> <li>8. Cramps/spasms/joint pain (in extremities and non-traumatic)</li> <li>9. Cut-off ring request</li> <li>10. Deafness</li> <li>11. Defecation/diarrhea</li> <li>12. Earache</li> <li>13. Enema</li> <li>14. Gout</li> <li>15. Hemorrhoids/piles</li> <li>16. Hepatitis</li> <li>17. Hiccups</li> <li>18. Hungry</li> <li>19. Nervous</li> <li>20. Object stuck (nose, ear, vagina, rectum, penis)</li> <li>21. Object swallowed (without choking or difficulty breathing, can talk)</li> <li>22. Penis problems/pain</li> <li>23. Rash/skin disorder (without difficulty breathing or swallowing)</li> <li>24. Sexually transmitted disease (STD)</li> <li>25. Sore throat (without difficulty breathing or swallowing)</li> <li>26. Toothache (without jaw pain)</li> <li>27. Transportation only</li> <li>28. Wound infected (focal or surface)</li> </ol>	<p><b>Sick Person</b></p> <p>A patient with a non-categorizable Chief Complaint who does <b>not have an identifiable priority symptom.</b></p>	<p><b>Axioms</b></p> <ol style="list-style-type: none"> <li>1. When the caller gives dispatch a previous disease or a current diagnosis, it may be because the <b>caller does not know what is actually causing the patient's immediate problem.</b></li> <li>2. A complete interrogation obtains symptoms that can be <b>correctly prioritized.</b></li> <li>3. Complaints such as cancer, leukemia, chronic illness, stroke, dehydration, infection, meningitis, etc. may incorrectly elicit an emotional response from EMDs since these diagnosis-based terms sound serious. <b>The caller's "diagnosis" may have nothing to do with the actual reason the patient needs help now.</b></li> </ol>
	<p><b>Priority Symptoms</b></p> <p>The presence of:</p> <ul style="list-style-type: none"> <li>• <b>Abnormal breathing</b></li> <li>• <b>Chest pain (any)</b></li> <li>• <b>Decreased level of consciousness</b></li> <li>• <b>SERIOUS hemorrhage</b></li> </ul>	
	<p><b>Rules</b></p> <ol style="list-style-type: none"> <li>1. Find and <b>use the correct Chief Complaint</b> and <b>go to it</b> via the <b>SHUNT</b> pathway.</li> <li>2. This Chief Complaint should be used for patients with an "unknown problem" <b>who are with or near the caller</b> (2<sup>nd</sup> party).</li> </ol>	

**26 SICK PERSON (SPECIFIC DIAGNOSIS)**

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Depending on available resources there may be outside service options for callers who need instructions on how to deal with the ill, dying or deceased. If those services are not available the following procedures will be followed by the communications staff:

### **SCRIPT FOR REDUCTION OF SERVICE:**

**“Due to the recent declaration of a Level 1 Pandemic Emergency we are unable to provide an aid response to your location.**

#### **Instructions:**

- 1. Position patient for comfort. If seated, have the patient lean forward. If supine (lying down), place the patient on their side.**
- 2. Provide hydration with oral fluids and, if possible, Tylenol for fever and body aches.**

### **EMS LEVEL 1 PLAN P TREATMENT GUIDELINES**

The following guidelines apply to patients with symptoms related to the pandemic only as determined by the paramedic on the scene after appropriate screening and exam.

#### **BLS THERAPY GUIDELINES:**

- Apply surgical or procedure mask to identified symptomatic patients over oxygen appliances.
- HEPA filters will be used, when available on:
  - Bag-valve mask ventilators
  - Non-rebreather oxygen masks
  - Suction units
- Patients must be able to maintain their own airway:
  - Oropharyngeal and nasopharyngeal airways will not be placed
  - Mechanical ventilations will not be attempted.
- Decisions related to the use of comfort measures may only be required at the BLS level in consultation with medical control when medical resources and medical destinations are unavailable.
- Metered Dose Inhalers will be utilized instead of nebulized medication.

#### **ALS THERAPY GUIDELINES:**

- The use of Continuous Positive Airway Pressure (CPAP) for patients with flu like symptoms and experiencing respiratory compromise is appropriate.
- Support and continue BLS palliative care efforts as outlined above. Additional “care & comfort” measures may include: sedative and pain medications and IV hydration.
- Advanced airway maneuvers may not be helpful, including ventilation, intubation and surgical airway, and will not be performed.

- The use of comfort measures only, may be pre-authorized or obtained from Medical Control hospitals.
- Permission to continue or cease cardiac arrest resuscitation efforts will not require Medical Control consultation.

### **SUSPENSION OF NON-EMERGENCY ACTIVITY**

If this condition occurs, all non-emergency activity will be suspended until resources are returned to normal operational status. Alpha/or non-emergent calls and calls for first responder companies due to extended response time of an Emergency Unit will be suspended. In addition, calls for assistance will be handled on a case by case basis after appropriate screening process related to the pandemic.

- “Reserve units” may be placed in service, staffed with 2 firefighter/EMT’s, as BLS “Flu Response Units”. These units may be responsible solely for the treatment and transport of patients that are determined to have signs and symptoms of flu as determined by the Fire Communications screening process. It is possible that these units will transport patients to alternative care sites as the situation dictates.
- By a mutual decision of the Deputy Chief of EMS, the MFD Medical Director, and the Shelby County Health Department, routine transport of patients with pandemic signs and symptoms may be suspended because of over-taxed EMS and acute care resources. This may be done by the following methods:
- If, after evaluation of a patient on scene and by using the Health Department Influenza Screening questionnaire, it is determined that the patient likely has influenza without other complications they will be advised to shelter in place.

### **RECALL OF OFF-DUTY PERSONNEL**

The Deputy Chief of EMS and the Deputy Chief of Emergency Operations will determine when the situation requires the recall of off-duty personnel due to increased EMS call volume or shortage in EMS staffing. Personnel may be recalled for filling of vacancies caused by the incident, to place reserve companies in service, or to respond to the scene of an incident. The recalling of off-duty firefighting personnel will be accomplished by existing policies.

### **EMERGENCY OPERATIONS**

Emergency Operations has the direct responsibility for the delivery of all emergency services. All service centers will respond as necessary to support this primary mission of the fire department.

The Operations Division's responsibilities under this plan include:

1. Provide and manage emergency services.

2. Emergency Operations Deputy Chief will coordinate with the EMS Deputy Chief to implement the emergency medical response plan to best suit the needs of the community and the personnel of the Memphis Fire Department.

### **PUBLIC INFORMATION OFFICER**

The Public Information Officer will be responsible for establishing and maintaining media contact by providing timely information, regarding factual current situation, scope of incident and resource management issues as related to the Division of Fire Services. The Fire Communications Office will direct all media requests to the Public Information Officer.

### **FIRE COMMUNICATIONS**

Fire Communications is responsible for managing the short term deployment of fire department resources during both normal and unusual conditions.

Fire Communications responsibilities under this plan include:

1. Assist in the call back of personnel if necessary.
2. Aid in the reconfiguration of current EMS response system in reference to dispatch and deployment of medical assistance to emergency and non-emergency calls as necessary to best serve the community and the response capabilities of the Memphis Fire Department.
3. Pre-arrival instructions to callers must include directions to provide scene security, limit number of individuals exposed, and reduce the infection risk.

### **LOGISTICAL SERVICES & APPARATUS MAINTENANCE**

The Logistical Services and Apparatus Maintenance responsibilities under this plan include:

Maintaining the following capabilities at all times:

1. Prepare reserve apparatus to be placed in service without delay.
2. Prepare reserve ambulances to be placed in service.
3. Staff the warehouse and provide for the delivery of needed supplies and equipment in emergent times.
4. Provide personnel to make emergency purchases or obtain emergency supplies and equipment from other sources and vendors.
5. Assistance in the Rehab functions at major incidents.
6. Assist in management of Mass Casualty Vehicles.
7. The manager of logistical services will keep a pre-determined number of N95 masks (to be utilized as a surgical mask), eye protection, gowns and gloves in stock for employee use.

## **ADMINISTRATIVE DIVISION CHIEF**

The Administration Chief responsibilities under this plan include:

Assist with situation analysis, policy making and support activities as necessary during pandemic conditions. Assist in ensuring proper utilization of personnel and resources appropriate for the efficient emergency response to the citizens of Memphis. Assist in ensuring the safety of employees of the fire department.

## **INFECTION CONTROL OFFICER**

Infection Control Officer Responsibilities' under this plan include:

1. Assist and coordinate with local and State of Tennessee Department of Health Officials to provide health and safety measures during pandemic conditions.
2. Disseminate information to department and employees regarding health and safety measures as current information is received and advise the Memphis Fire Department of local health department measures.
3. Enforce all pandemic wellness measures outlined in pandemic wellness plan including personnel surveillance when reporting to work.

## **EMERGENCY MEDICAL SERVICES**

The Deputy Chief of EMS or designee will coordinate with the Deputy Chief of Emergency Operations and assist with situation analysis, policy making, and support activities as necessary.

With assistance from the Deputy Chief of Emergency Operations, additional responsibilities of the EMS Deputy Chief and EMS Officers include:

1. Ensure additional ambulances are being placed in service as needed.
2. Ensure that the appropriate EMS Level Plan has been activated.
3. Ensure that hospitals, the public health department, private ambulances, and helicopter services are notified and prepared to assist as the situation dictates.
4. Ensure the Memphis/Shelby County Emergency Management Agency activates ESF-8 as the situation dictates.
5. Ensure that Material Services has deployed EMS Logistics/Mass Casualty Response Unit to Staging at incident(s).
6. Ensure that all other EMS Specialty equipment is deployed to staging
7. Ensure that Metropolitan Medical Response System Plan is activated as needed.
8. Ensure that all EMS Support Staff are contacted or recalled. Personnel may be recalled for filling of vacancies caused by the incident, to place reserve companies in service, or to respond to the scene of an incident in a support role.
9. Coordinate with the MFD Communications and ensure that non-emergency incidents are redirected.

10. Coordinate with the MFD Communications and ensure that non-emergency responses are reinstated after a situation has been stabilized.
11. Determine the need and availability for reserve ALS equipment to be used to place additional ALS companies in service.
12. Determine the need for redirection of Memphis Fire Department resources for staffing requirements of reserve ambulances.
13. Ensure preventive medical measures and proper rehab for all personnel involved in a natural or manmade incident.
14. Ensure Coordination with Memphis Shelby County Health Department in the event of a public health emergency.
15. Enforce all pandemic wellness measures outlined in pandemic wellness plan.

### **EMS RESPONSE**

During the response, EMS providers must pay close attention to the dispatch information provided, either verbally or via Mobile Data Terminal (MDT), for details indicating a possible infectious condition. Every member of the responding crews must be informed and PPE readied for use. Units may consider staging until the scene is secured and PPE donned. **Remember that the patient(s) may have been advised by dispatch to move outside.**

During the response, units may consider the need for, and request, additional resources:

- Command Officers
- Law enforcement
- Additional Units
- Other infectious disease resources that may exist

### **PATIENT DISPOSITION AND TRANSPORT**

The Regional Medical Communication Center (RMCC) located at The Regional Medical Center at Memphis, will assist in determining patient transport destination. Individual patient transport destinations will be determined in conjunction with the RMCC based on:

- The patient's medical needs
- Infections disease status, suspected or known
- Regional hospital status—(bed availability)
- Pre-designated hospital(s), if any, for known or suspected infectious disease patients
- Availability of transport vehicles
- Alternate care facilities, (if indicated by Tennessee Department of Health)

Communications with the receiving hospital will include the known or suspected infectious disease status of the patient and plans for transferring the patient at the receiving facility. This will be accomplished with information sharing and

interoperability software tools like EMSystems and Hospital Resource Tracking System (HRTS).

Transport vehicles will be utilized depending on:

- Medical needs of the patient
- Ability to protect and de-con transport units
- Availability of specialized transport resources

Aero-medical transport units should not be utilized.

During transport, ventilation within the patient compartment will be increased by opening windows and turning on mechanical ventilation. A positive-pressure environment in the driver's cab will be achieved by turning on mechanical ventilation and leaving windows closed. If possible, any entry or opening between the patient compartment and cab will be closed and sealed.

On arrival at the hospital, PPE will be worn until patient transfer has occurred and the EMS equipment and vehicle have been decontaminated.

Decontamination of vehicle, equipment and all potentially contaminated surfaces will take place using recommended disinfectant approved by the safety officer and the infection control officer of the department.

Removal and disposal of contaminated PPE will take place in accordance with Memphis Fire Department Policy related to bio-waste.

### **MEDICAL DIRECTOR**

1. The MFD Medical Director will provide medical advice, assist with medical issues, and provide additional skill sets as needed.
2. The MFD Medical Director will be the liaison between the Memphis Fire Department, local health community, and the local and State Health Department to ensure proper prevention and treatment in the case of pandemic conditions.
3. In conjunction with the Memphis Fire Department OSHA Office coordinate efforts for proper preventive measures.
4. Ensure Memphis Fire Department inclusion with Memphis/Shelby County Health Department Mass Prophylaxis plan for employees and families.
5. Enforce all pandemic wellness measures outlined the State of Tennessee Health Department Plan for pandemics.

### **REDIRECTION OF RESOURCES**

In the event of a major emergency situation, such as a pandemic, the primary function of the Division of Fire Services is to provide personnel, resources and transportation to



support emergency operations. Certain actions must be taken into consideration such as the following:

1. Support bureaus such as Fire Prevention, Air Mask, Training, Logistics, etc... must be utilized for assistance in treatment and transportation efforts of citizens and to compensate for staffing shortages and heavy patient loads.
2. The use of non-emergency medical services personnel in a crisis like a pandemic is essential for operations. Personnel can be utilized for driving ambulances or other vehicles during the transport of patients or personnel.
3. Redirection of shift configurations to accommodate staffing and rest periods.

### **VACCINE/ANTIVIRAL**

The Tennessee Department of Health (TDH) is the responsible agency that will coordinate the influenza pandemic response in Tennessee. The city of Memphis Division of Fire Services EMS will coordinate with the Tennessee Department of Health for the treatment of its employees and their immediate family members with both influenza vaccine and any antiviral medications found to be of benefit.

To increase the well-being of employees and reduce elements that could create staffing difficulties it is suggested that employees and their immediate family members be vaccinated against seasonal influenza. It is the intent of the city of Memphis Division of Fire Services to work in conjunction with the Memphis Shelby County Health Department to insure all employees receive this vaccine and mass vaccination clinics will be established by the city of Memphis Division of Fire Services in conjunction with the Memphis Shelby County Health Department to facilitate this need. The times, dates, and locations will be determined as the plan is placed into action.

Qualified members of the Division of Fire Services will also be utilized in the administration of medications to employees and their families at designated mass prophylaxis clinic sites. This will be in accordance to TCA, Title 68, Chapter 140, Part 5 relative to Emergency Medical Services and personnel ability to administer immunizations.

### **SECURITY**

The Memphis Police Department will be in charge of security for healthcare facilities, movement of medical supplies and equipment. Forced Protection of Memphis Fire Department activities will be instituted as the situation warrants. Please refer to The Division of Fire Services Operations Manual and Rule and Regulations as it pertains to employee safety. Also refer to Appendix B of this plan.

### **SYMPTOMS IN HUMANS**

Early identification of an influenza pandemic is essential to responding appropriately and successfully to the influenza virus. The reported symptoms of influenza in humans have ranged from typical influenza-like symptoms (e.g., fever, cough, sore throat and muscle

aches) to eye infections, pneumonia, acute respiratory distress, viral pneumonia, and other severe and life-threatening complications.

## **STANDARD PRECAUTIONS**

In addition, the Memphis Fire Department Division of Fire Services must plan for the event with increased awareness with use of proper hygiene, appropriate acquisition and use of proper PPE, in addition to the efficient distribution of medications for the employees and their immediate family members.

The World Health Organization currently recommends strict adherence to Standard Precautions and additional precautions to minimize droplet contact and airborne transmission of the disease in the care of patients with known or suspected influenza. It is paramount that strict body substance isolation practices are followed. As stated, it is known that the primary route of transmission of the influenza virus is droplet infection. Focus should be given to protection of respiratory routes of exposure as well as protection of mucous membranes. The following are Universal Precautions to be utilized for body substance isolation:

- Gloves
- Eye Protection
- Mask N-95
- Gown - appropriate for conditions

In addition, the following are precautions know to reduce to instance of influenza and the spread of infection and must be stressed to employees:

- Hand washing and antisepsis (hand hygiene)- Wash before and after touching your face, after touching doorknobs, handrails, ATM machines, and before and after patient contact. - Wash your hands thoroughly with soap and running water for at least 20 seconds and dry them completely with a disposable paper towel. Hand sanitizers which are 70% alcohol based also kill viruses.
- Use of personal protective equipment when handling blood, body substances, excretions and secretions. The utilization of appropriate Body Substance Isolation is a must.
- Wear a face mask to protect yourself in public. Any face mask will help to prevent you from touching your nose and mouth. The World Health Organization recommends N95 type mask as personal protective equipment.
- Surgical mask for patients with suspected symptoms.
- Prevention of needle stick/sharp injuries.

- Get a seasonal flu vaccination. It will not protect you from other influenzas but it will prevent them from adapting to spread more easily.
- Appropriate handling of waste- Consider all waste as hazardous that has come into contact with patient.
- Avoid touching your eyes, nose and mouth. This is how a virus enters your body. Learn to cough into the crook of your arm rather than your hands to prevent spreading infection.
- Stay healthy by eating a balanced diet, drink at least 6 glasses of water per day, get at least 15 minutes of exercise each day, and sleep at least 7 hours per night. Remember the flu can be spread 1-3 days before symptoms appear. Avoid close contact and shaking hands with people.
- Appropriate handling of patient care equipment and supplies -Items contaminated with bodily fluids should be disinfected with a 1% bleach solution (1 part bleach to 5 parts water) or 70% alcohol with a contact time of 10-15 minutes. Use a trigger pump sprayer instead of aerosols because they may spread the virus.

### **DISTRIBUTION OF PLAN**

All personnel are required to familiarize themselves with this plan and to comply with its guidance. It is the responsibility of the Firefighter Paramedic and the Firefighter EMT to ensure guidelines of a medical nature are followed. The ultimate responsibility of scene safety rests with company officers.

*Sources:*

*World Health Organization;*

*Centers for Disease Control*

*Science Daily*

*Tennessee Department of Health Influenza Response Plan*

*Tennessee Department of Health Division of Emergency Medical Services Infectious Disease/Pandemic Response Plan – EMS Providers*

*The National Influenza Pandemic Response Plan*

## APPENDIX A

### AIRPORT PANDEMIC PLAN

#### PURPOSE

To inform all EMT's and Paramedics assigned to the Memphis International Airport of the current guidelines for screening, detainment, and isolation procedures of any passengers suspected of having influenza.

#### ACTION

The following provides interim guidance on surveillance for novel influenza strains among humans in Tennessee:

1. If a patient or crew presents with **one** of the three below scenarios after exam contacting to the Memphis Shelby County Health Department Investigative Team is mandatory. The numbers are:

Epidemiology  
Office: 901-544-6980  
Cell: 901-601-0669  
Home: 901-754-5563

Department of Emergency Preparedness  
Office: 901-544-7564  
Cell: 901-601-0665  
Home: 901-755-6663

The Memphis Shelby County Emergency Management Agency will also be advised at (901) 458-1515 - (24/7).

2. Quarantine of the aircraft and isolation of infected patients will be pursuant by the authority of the Federal Health and Human Services Department, recommendations from the Centers for Disease Control, The World Health Organization, and the Memphis Shelby County Public Health Department.
3. The Memphis Fire Department and the Memphis Shelby County Health Department are the jurisdictions having authority. The quarantine procedures are not an airline or airport decision; however, the Transportation Security Administration (TSA) and the Airport Authority shall be notified.
4. Quarantine and isolation of patients will be initiated by Memphis Fire Department EMS Personnel and supported by the incident commander after consultation with the Memphis Shelby County Health Department. The Transportation Security Administration (TSA) and the Airport Authority shall be notified.

5. Once on scene, an epidemiologist with the Memphis Shelby County Health Department will assume responsibility of quarantine procedures and coordinate with Airport and Memphis Fire Department EMS personnel and Officials.

### **CURRENT SURVEILLANCE FOR NOVEL INFLUENZA STRAINS:**

- (1) Recently Hospitalized patient  
+  
Chest X-ray confirmed pneumonia or Acute Respiratory Distress Syndrome  
+  
TRAVEL to an affected area in 10 days before symptom onset
- (2) Fever ( $>100.4^{\circ}\text{F}$ ,  $>38^{\circ}\text{C}$ )  
+  
Cough and/or sore throat and/or shortness of breath with influenza symptoms  
+  
CONTACT WITH Pandemic Source or suspected HUMAN case of disease in AFFECTED AREA in 10 days before onset of symptoms
- (3) Fever ( $>100.4^{\circ}\text{F}$ ,  $>38^{\circ}\text{C}$ )  
+  
Cough and/or sore throat and/or shortness of breath with influenza symptoms  
+  
Works in a LABORATORY with influenza virus

#### **If YES to one of the above 3 scenarios:**

1. CONTACT THE LOCAL HEALTH DEPARTMENT INVESTIGATIVE TEAM (24/7)
2. CONTACT INFECTION CONTROL OFFICER AND OSHA.
3. FILL OUT MFD EXPOSURE FORM

### **INFECTION CONTROL**

#### **IMMEDIATELY ENSURE:**

- **Ensure separation** (at least 6 feet) from other patients/ visitors/ staff
- **Place mask** (surgical or procedure) on patient and staff

- Provide tissues for respiratory secretions (“cover your cough”/ “respiratory etiquette”)
- **Mask**
  - Surgical mask on staff/any visitors upon room entry (change when moist)
  - N95 respirator or higher if performing aerosol generating procedures
- **Eye protection**
  - Face shield or goggles (use goggles if aerosol generating procedures)
- **Gloves**
  - If contact with body fluids/ respiratory secretions
- **Gown**
  - If anticipate getting splashed
- **Hand Hygiene**
- **Environmental cleaning of equipment with any EPA registered disinfectant**
- **Proper bio-waste disposal**