

# LOS ANGELES FIRE DEPARTMENT



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BOARD OF FIRE COMMISSIONERS  
FILE NO. 12-147

TO: Board of Fire Commissioners

FROM: Brian Cummings, Fire Chief

SUBJECT: **EMERGENCY MEDICAL DISPATCH SYSTEM AND  
RECOMMENDATIONS FOR PERFORMANCE IMPROVEMENT**

FOR INFORMATION ONLY:	<input type="checkbox"/> Approved	<input type="checkbox"/> Approved w/Corrections	<input type="checkbox"/> Withdrawn
	<input type="checkbox"/> Denied	<input type="checkbox"/> Received & Filed	<input type="checkbox"/> Other

## **For Information Only**

The Department's Medical Director, Marc Eckstein, MD, MPH, has recently completed a comprehensive review of the Department's Emergency Medical Dispatching System. This review identified areas for performance improvement including: specific recommendations to expedite the delivery of pre-arrival instructions by dispatchers, enhancements to the quality improvement process, development of internal dispatch review groups, and proposed changes to expedite the dispatching of resources for time-critical medical emergencies.

The Department has initiated the implementation of a number of Dr Eckstein's recommendations for improvement and is working diligently towards ensuring all recommendations are integrated into our Emergency Medical Dispatch System. It should be noted, some of the recommendations will create a budgetary impact that may delay full plan implementation. Specifically, added personnel costs for four (4) new positions (\$675,975/year), purchase of improved computer hardware/software for case review and group training/evaluation sessions (\$117,699), and additional training costs (\$8,750).

The outline of the Department's Medical Director's performance improvement plan and the current status of implementation are as follows:

### **Improve delivery and compliance of Pre-Arrival Instructions (ongoing):**

Pre-Arrival Instructions (PAIs) are a set of instructions provided to callers by certified Emergency Medical Dispatchers. PAIs enable the caller to provide potentially life-saving aid to a patient *before* the arrival of trained rescuers.

Certain medical conditions, such as cardiac arrest, choking, and childbirth, all involve clinical conditions where failure to provide PAIs in a timely manner can literally mean the difference between life and death. Even if field resources arrive on scene within five minutes of the time of call receipt, PAIs are vital to keep the patient's heart and brain alive before help arrives. This is important as brain death begins within four minutes from time of collapse in victims of cardiac arrest.

The Dispatch Quality Improvement Unit (DQIU) is tasked with providing ongoing Continuing Dispatcher Education (CDE), reviewing random 9-1-1 calls and conducting targeted reviews. Staff assigned to DQIU perform structured reviews of these calls and are certified to use software provided by the National Academy of Emergency Dispatch (NAED). Other than confirming the correct address of the incident, providing timely and correct PAIs are the most vital part of processing a 9-1-1 call for medical assistance. Given this fact, the DQIU has been focused on performing targeted reviews of calls that require PAIs, providing feedback to the dispatchers involved (and their supervisors), and performing analysis and reports regarding recognition of patients in cardiac arrest and PAI compliance.

During the last several decades, standardization of the Emergency Medical Dispatcher (EMD) position has provided the opportunity for professional dispatch centers to be nationally recognized as centers of excellence. Many of the positive changes, which have occurred, are a result of efforts by the NAED, and other related organizations, to improve dispatch procedures.

Today, Department dispatchers are provided mandatory NAED training and certification, continuing education classes, and the benefits of continuous quality improvement efforts. Unfortunately, even with these improvements we have yet to achieve official recognition as an Accredited Center of Excellence (ACE) by the National/International Academy of Emergency Medical Dispatch.

Requirements for ACE Accreditation include: providing NAED training, certificated dispatchers, quality improvement processes, documentation and database maintenance, Medical Director oversight and involvement, and consistent, cumulative dispatcher case reviews as follows:

- 95% - Case Entry protocol compliance
- 95% - Chief Complaint selection accuracy
- 90% - Key Question protocol compliance
- 90% - Post-Dispatch Instruction protocol compliance
- 95% - Pre-Arrival Instruction protocol compliance
- 90% - Final Code selection accuracy
- 90% - Cumulative overall score

\*Our current standard used for Department dispatchers is 75%

**Provide four (4) additional staff members to support quality improvement and dispatcher education (proposed):**

Existing DQIU staffing includes one Captain I/Paramedic and five Firefighter III/Paramedics. This staffing configuration has remained unchanged for many years and is not capable of completing the number of case reviews required for ACE Accreditation. Currently, DQIU staff members perform approximately 300 incident audits per month. The NAED requires ACE applicants to complete case reviews of 1.78% of all dispatched calls – this would require the review of approximately 476 cases per month. Additional studies required by our Medical Director and others (e.g., focused cardiac arrest reviews) would increase the number of monthly reviews required of DQIU staff to approximately 765/month.

It is evident the current staffing configuration at DQIU is not sufficient to perform the NAED mandated case reviews for the Department to pursue ACE Accreditation. The addition of three (3) NAED certified Firefighter III/Paramedics as analysts (to the existing DQIU staff) would provide the necessary staffing to complete the necessary case reviews.

The Metropolitan Fire Communications Center (MFC) is recognized as the busiest fire communications center on the West Coast and the ever-increasing dispatch floor activity continues to outpace the Department's ability to effectively manage it. As a result, the addition of one (1) NAED certified Captain II at MFC would improve productivity, dispatcher education and reduce critical dispatch errors and the associated personnel stress that result from these types of errors.

Existing staff at MFC includes: one (1) Battalion Chief, three (3) Captain I's, and twenty-six (26) Firefighter Dispatchers on each platoon. Due to the high demands of this assignment, vital activities such as planning, training, mandatory call reviews and disciplinary control have at times suffered. While managing the dispatch floor, the "Floor Captain" is responsible for supervising 13 or more members. The addition of a new administrative duty Captain II to MFC will reduce the weekday workload of the Captain I's by assuming direct oversight for compliance with NAED requirements. The new Captain II would enhance consistency, improve management of the dispatch floor, provide training and supervision and improve PAI compliance.

**Upgrade the existing medical priority dispatch system software (in development):**

Currently, MFC utilizes NAED Version 12.0 software to support our medical priority dispatch system. The newest NAED software (Version 12.2) includes several changes, which facilitate rapid dispatch and assist dispatchers by supporting the rapid provision of PAIs on time-critical calls.

In order to implement the use of the new NAED software all assigned MFC dispatchers (and supervisors) will be required to attend a four-hour training session. DQIU staff is currently developing the required training course curriculum in advance of the required training.

**Approve and initiate two dispatch policy changes for Echo and Delta calls (in development):**

The following Emergency Medical Dispatcher (EMD) policy changes were recommended by the Medical Director and are intended to expedite the dispatching of resources and may help to further reduce response times on most time-critical emergencies.

- **EMD Policy Change: Echo Calls:** Upon case entry when the answer to the Breathing question is “No”, is uncertain, or agonal the EMD shall immediately pen the call to dispatch the closest BLS and ALS units without delay. The EMD shall then inform the caller the following:

*“I have dispatched an ambulance to help you. Paramedics are already on their way. I need to ask you some additional questions so that I can provide you with instructions on how to perform CPR. Stay on the line.”*

- **EMD Policy Change: Delta Calls:** Upon case entry if the caller informs the EMD that the nature of the call is consistent with a time-critical medical emergency, then the EMD shall immediately pen the call to dispatch the closest BLS and ALS units without delay. The EMD shall then inform the caller the following:

*“I have dispatched an ambulance to help you. Paramedics are already on their way. I need to ask you some additional questions so that I can provide you with instructions on how to help this person. Stay on the line.”*

Examples of time-critical medical emergencies include, but are not limited to, major trauma (i.e., shooting, stabbing, long falls), patients who are reportedly unconscious, actively seizing, experiencing severe shortness of breath or chest pain, drowning, etc. To incorporate the above policy changes into MFC’s standard operating procedures dispatchers shall use their judgment in determining whether the chief complaint warrants an immediate dispatch (of the closest BLS resource plus the closest ALS resource) or if further questions are warranted so that a lower level of response may be sent.

**Initiate informational meetings to be held by the Medical Director and MFC Division Commander with all assigned MFC supervisors (proposed):**

The MFC supervisor meetings will describe the Department’s action plan for performance improvement, the importance of compliance with the NAED system, reaffirm recognition of ineffective/agonal breathing, rapid dispatch, and rapid provision of PAIs by dispatchers.

Additionally, all supervisors shall be informed that PAI compliance and comparison of the time to dispatch and time to PAI metrics will be provided to each officer to compare performance for each officers’ command and for each shift, stressing the importance of dispatcher and supervisor accountability.

**Initiate additional training sessions during daily MFC “line-ups” with all dispatchers (in development):**

These training sessions will include cardiac arrest audiotape reviews that stress the need for rapid dispatch and timely and efficient delivery of PAIs.

**Initiate an ongoing cardiac arrest incident review (implemented October 2, 2012):**

This study will entail reviewing 100% of all treatable cardiac arrests (identified through retrospective electronic patient care report [ePCR] analysis). The key metrics of this study include:

- Time of receipt of call to dispatch (call receipt to WRS).
- Time of receipt of call to provision of PAIs (call receipt to chest compressions).

The two above metrics will be measured, are clinically relevant and are perhaps the most important steps in the “chain of survival” to maximize survival from out of hospital cardiac arrest. Distinction will be made of 9-1-1 calls received via landlines versus those received via cell phone (additional time is usually required to obtain a proper address for cell phone calls). The goal of this study is to improve dispatcher compliance with PAIs for treatable cardiac arrest patients so that PAI compliance consistently exceeds the 95% threshold. Once this has been accomplished for a period of six months, this review effort can be scaled back so that only a statistically significant percentage of these calls are reviewed, rather than 100% of these types of calls.

Consistent PAI compliance of over 95% will enable the Department to pursue NAED accreditation as an Accredited Center of Excellence. Trending efforts during the study will be tabulated monthly by DQIU staff and provided to the Medical Director and MFC supervisors. It is anticipated that approximately 150 calls/month will meet the inclusion criteria for targeted review.

**Initiate consistent standards for PAI compliance and follow-up (proposed):**

To improve PAI compliance it is recommended that the following uniform standards for performance be approved and implemented for all MFC dispatchers:

- A PAI score of  $\leq 95\%$  or a total compliance score of  $\leq 90\%$  will automatically result in additional non-punitive training provided to the dispatcher. Each training session would include as many dispatchers as possible to maximize the efficiency and effectiveness of training time (and a limited number of instructors).
- A PAI score of  $\leq 80\%$  or a total compliance score of  $\leq 80\%$  would automatically result in remediation of that dispatcher. The involved dispatcher would be required to successfully complete the remediation session with a “qualified instructor” (i.e., any MFC officer or DQIU staff member having successfully completed the NAED’s EMD-Q training course) prior to taking additional 9-1-1 calls.

**Creation of Dispatch Review and Dispatch Steering Committees (in development):**

Creation and initiation of two committees, the Dispatch Review Committee (DRC) and the Dispatch Steering Committee (DSC), would enable multiple stakeholders in the Department's dispatch system to review issues, training, performance, and PAI compliance on a regular basis. Furthermore, the committees would facilitate the Department's goal of pursuing ACE accreditation for MFC in the future. Committee description, meeting frequency and recommended membership include:

- **Dispatch Review Committee (DRC) – Bi-monthly Meetings**  
Chairperson: DQIU Commander, Captain I/Paramedic  
One (1) MFC Battalion Chief  
MFC Captain II (proposed new position – see page 3)  
One (1) MFC Firefighter/Dispatcher  
One (1) MFC Captain I  
One (1) EMS Division Captain/Paramedic
- **Dispatch Steering Committee (DSC) – Bi-monthly Meetings**  
Co-Chairperson: MFC Division Commander, Assistant Chief  
Co-Chairperson: Department Medical Director  
EMS Division Commander, Assistant Chief  
MFC Captain II (proposed new position - see page 3)  
DQIU Commander, Captain I/Paramedic  
One (1) MFC Captain I

**Conclusion:**

Patients with time-critical medical emergencies must be provided the prompt dispatch of resources and timely and correct pre-arrival instructions. To ensure optimal patient care and dispatch, various elements of the Medical Director's plan for improved dispatcher performance have already been implemented or are in development. Completing the implementation of all of the recommendations may further reduce patient suffering and potentially save additional lives.

Board report prepared by A.N. Norman, Battalion Chief/Paramedic, Office of the Chief of Staff.