EMS: The Path Forward

DC Fire/EMS Department
Progress Report

May 24, 2007

EMS Task Force

Draft Mission Statement:

The Mayor's Task Force on Emergency Medical Services will examine the system-wide delivery of Emergency Medical Services (EMS) in the District of Columbia. They will give practical, timely, and strategic guidance on how to improve this critical service. The Task Force will focus on how the Fire and EMS Department can improve management, training, operations, and culture to provide the highest quality of professional and compassionate pre-hospital medical care. The Task Force will conclude its work by submitting recommendations and an implementation plan with input, process, and output metrics, to the Mayor and Council.

Fire/EMS Chief and Medical Director's Pledge:

"To provide committed, focused leadership to enable the District of Columbia Fire and Emergency Medical Services Department to restore public trust and exceed community expectations. DCFEMS will strive to set new industry benchmarks for high-quality, responsive Emergency Medical Services."

Management Reform Process

"EMS: The Path Forward"

- Weekly management meeting at FEMS HQ chaired by the Chief and the Medical Director
- Every Tuesday from 0900-1200 hours
- Structured Agenda With Work Plan
- Systemic review of entire EMS System to identify and rapidly implement solutions

Management Reform Process

"EMS: The Path Forward" Participants:

- Fire/EMS Chief Dennis L. Rubin
- Medical Director Dr. Michael Williams
- AFC Operations Lawrence Schultz
- AFC Services Thomas Herlihy
- Deputy Chief EMS Operations Gregory Blalock
- Battalion Chief EMS Operations Jerome Stack
- Training Director DFC Alfred Jeffery
- Executive Officer DFC Kenneth Jackson
- Special Operations DFC Craig Baker
- Many veteran officers with EMS responsibilities

The Path Forward

1. Improve the Corporate Culture
2. Comprehensive Review of Performance Measurements
3. Focus on Medical Quality Management
4. System Resource Analysis

The Path Forward

5. Comprehensive review and revision of all EMS curriculums and training programs
6. Improve System Response to High Demand/High Risk Populations
7. Future Vision

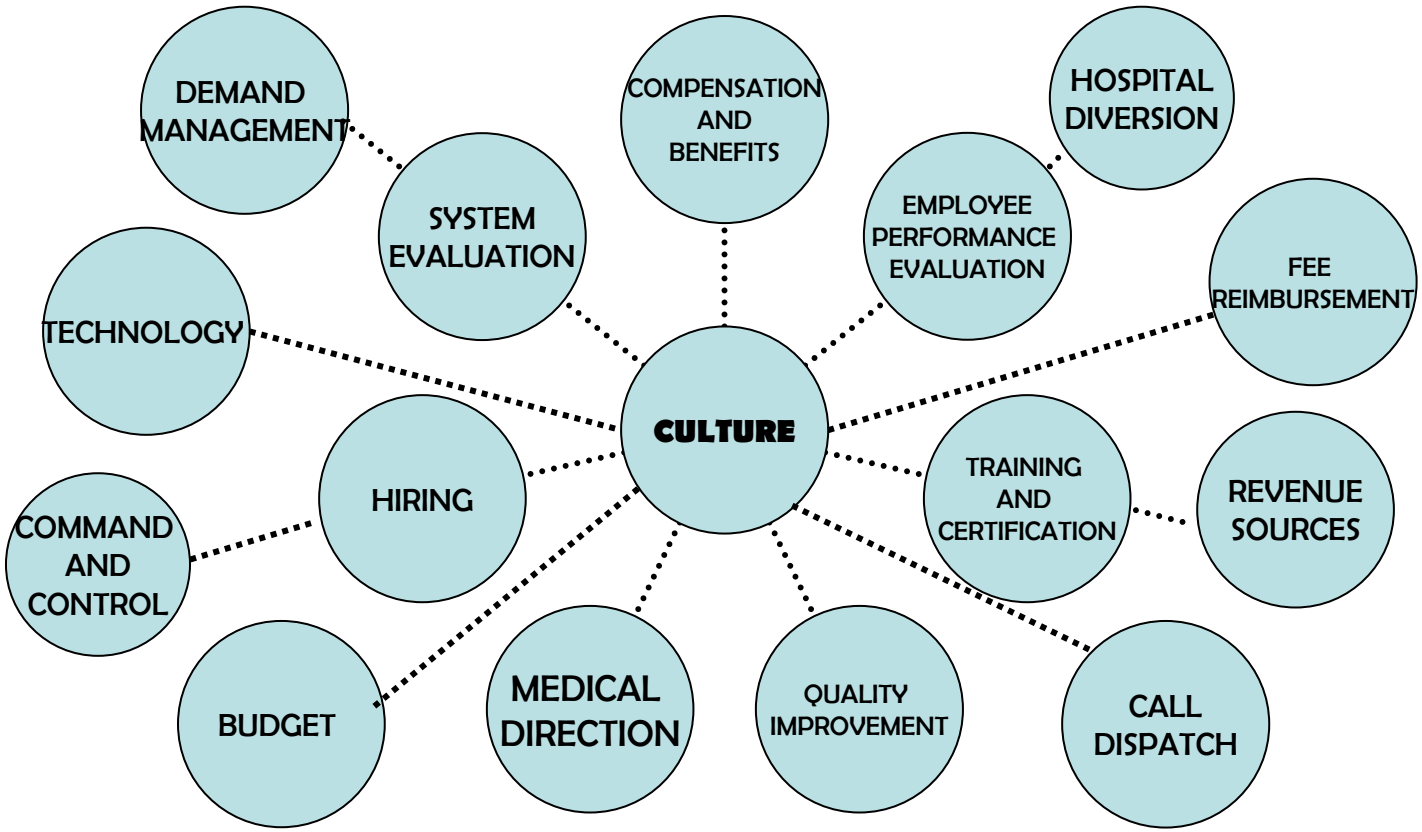
Issues of Culture

- "Multiple failures during a single event . . . suggest an **impaired work ethic** that must be addressed before it becomes pervasive. **Apathy, indifference, and complacency** . . . undermined the effective, efficient and high quality delivery of emergency services."
  -- Inspector General, June 2006

- "EMS personnel and cross-trained firefighters are **two cultures at odds with each other."**
  -- 1997 Tri-Data Report

- "Fulfilling the mission of EMS in an agency **where EMS is viewed as a function, not a mission**, cannot be accomplished."
  -- Kenneth Lyons, President, AFGE Local 3721

Addressing cultural issues will lead to fundamental and sustainable improvements in all areas of EMS:



1. Improve the "Corporate Culture"

- Ensure participation of single-role leadership in staff & planning meetings
- Ensure that all employees are trained to at least the EMT level, starting with senior staff
- Revise multi-role promotional requirements to emphasize EMS responsibilities
- Develop single-role promotional requirements
- Overhaul the recruitment process

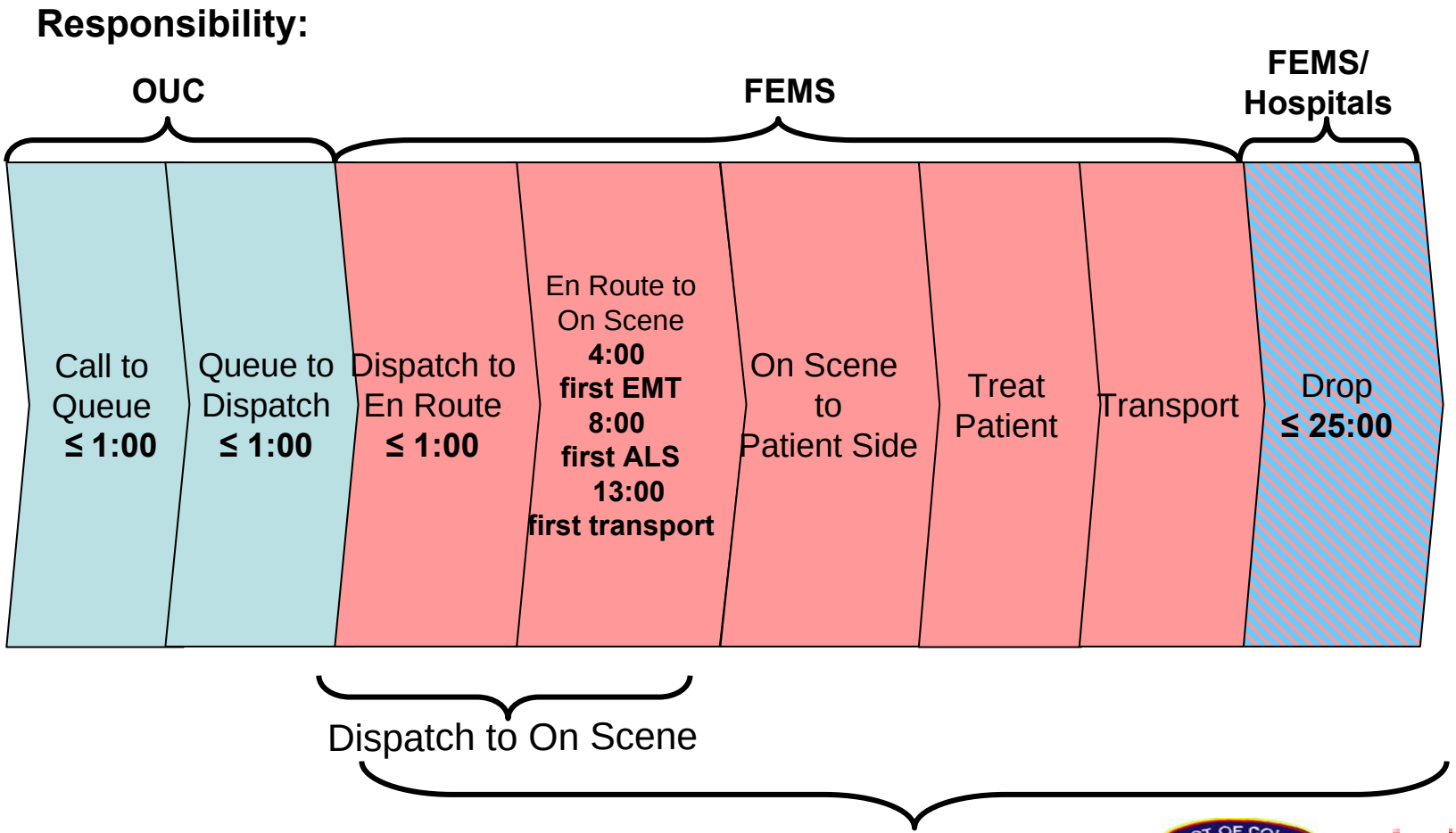
1. Improve the "Corporate Culture"

- Developed titles and ranks for new senior medical staff members
- Reviewing shift schedule options to unify the agency
- Improve working conditions for our single-role providers:
  - A. Improve pay plan for single-role EMS supervisors
  - B. Will recommend pay and benefits improvements for all single-role providers
  - C. Allow single-role providers bed hours for night shift
  - D. Uniform standards will be the same for all members

1. Improve the "Corporate Culture"

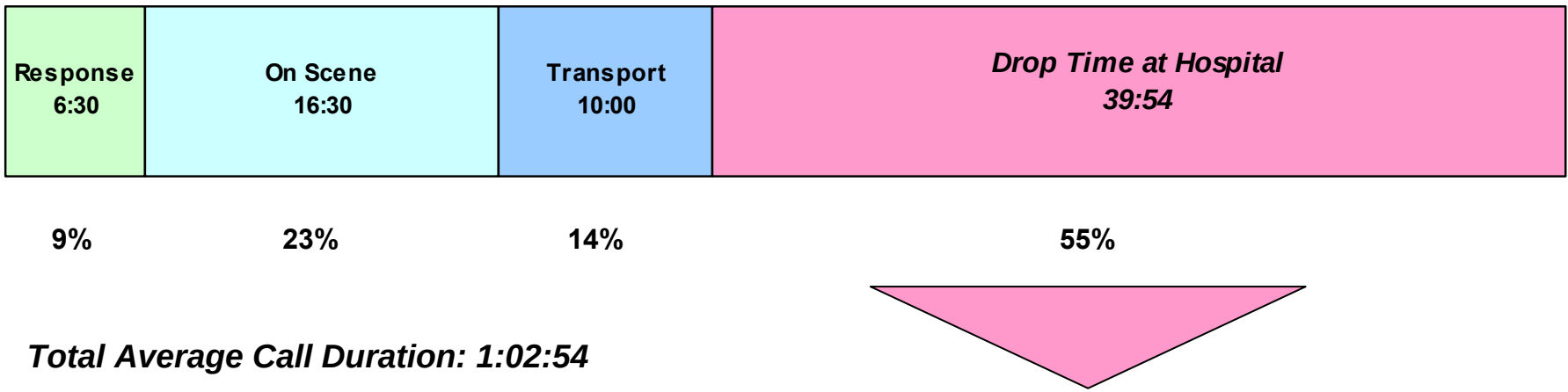
- Review and revision of supervisory training for EMS, including standardization of training for both multi-role and single-role supervisors

2. Performance Measures



2. Performance Measures

EMS Transport Unit Average Incident Times



Total Average Call Duration: 1:02:54

Drop Time at Hospital: 39:54

Is 55% of Total Call Duration

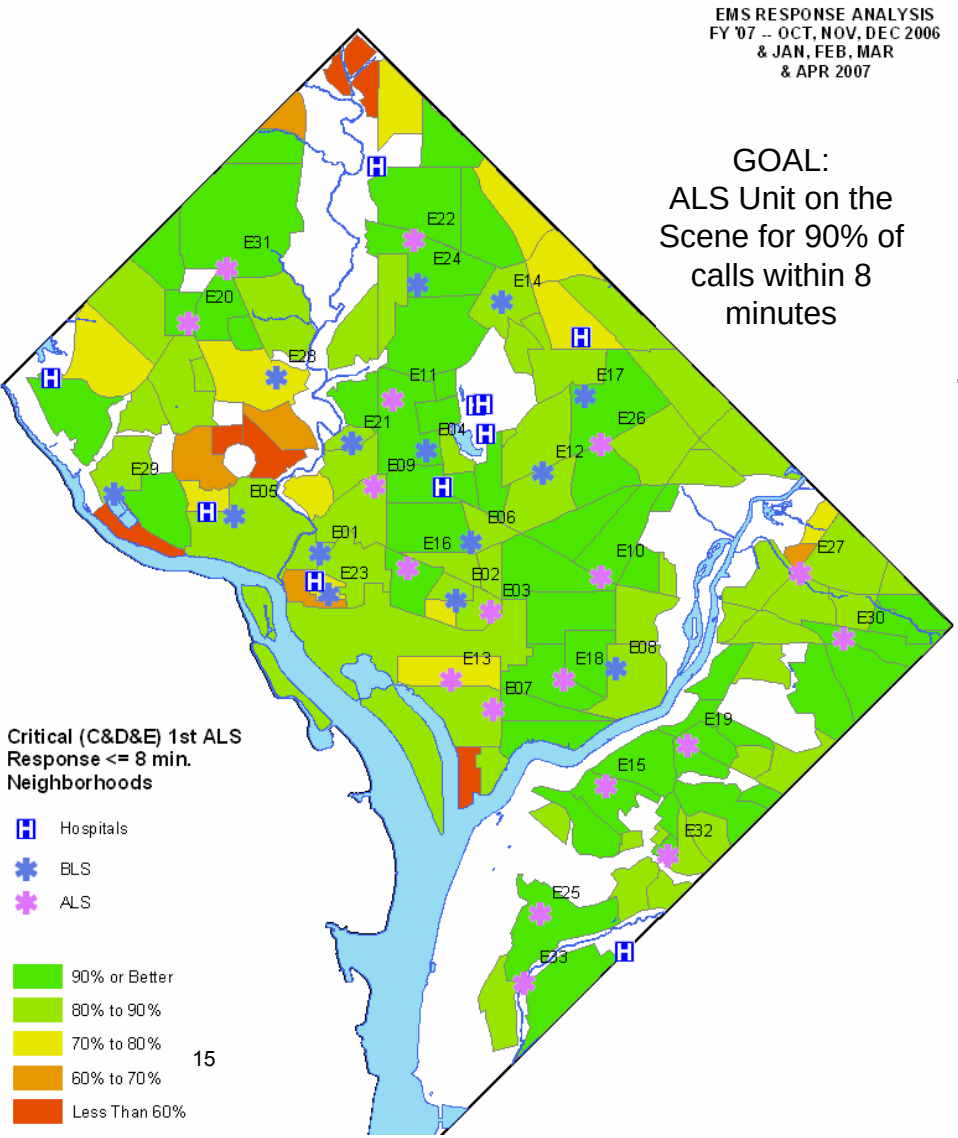
Hospital Drop Times – December 2006

Hospital	Number	Average	90th Pct
Greater Southeast	901	0:40:21	1:15:35
Howard U	807	0:48:12	1:13:56
GWU	1020	0:39:10	1:02:52
Providence	826	0:34:38	1:00:31
Washington Hosp Ctr	1212	0:33:45	0:54:11
Georgetown U	328	0:32:14	0:52:56
Sibley	305	0:25:07	0:46:54
Childrens	371	0:27:49	0:46:10

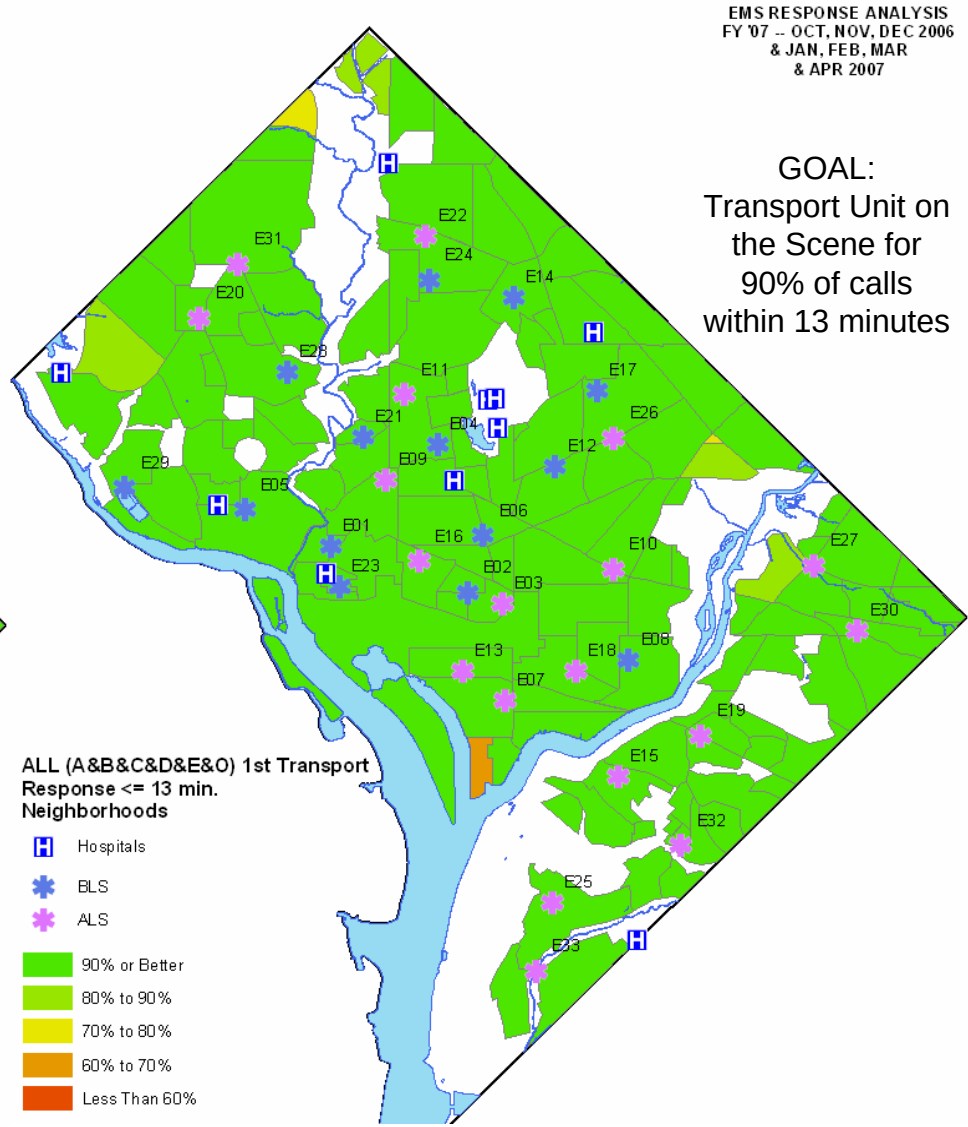
Source: Intergraph CAD, FEMS analysis

2. Performance Measures

Continuing to meet response time goals – city-wide and in each neighborhood



GOAL:
ALS Unit on the Scene for 90% of calls within 8 minutes



GOAL:
Transport Unit on the Scene for 90% of calls within 13 minutes

3. Medical Quality Management

- Hired Ms. Patricia White, RN, as Medical Quality Manager
- Continuing implementation of electronic patient care reporting system (ePCR)

4: System Resource Analysis

- Creation of new Hospital Coordinator Positions to begin operation in FY 2008

Hours Saved per Transport x Transports per Hour = extra units

$$\frac{0.333 \text{ Hours}}{\text{Transport}} \times \frac{14.5 \text{ unit transports}}{\text{Hour}} = 4.8 \text{ units}$$

4: System Resource Analysis

- Complete Overhaul of Recruitment Process
- Development of Medical Internship Opportunities with Local Universities

5. EMS Curriculum Review

- Hired John Dudte as Assistant EMS Director for Training, Education, and Research
- Development of Academic and Research Partnerships with Local Universities

6. High Risk Populations

- Research trip to San Francisco to study best practices program in demand reduction for high-risk populations.
- DC FEMS providers will gain specialized training from DMH/DOH/DHS Psychiatric Services at local/regional hospitals. Pending MOU's to establish information and service sharing agreements.
- "Street Calls" Program. Specialized EMS providers will develop a "beat", based on data from DMH/DHS.

7. Future Vision

Public Health Components:

Mental Health and Homelessness

- EMS providers gain specialized training from DMH/DOH/DHS Psychiatric Services at local/regional hospitals. Pending MOU's to establish information and service sharing agreements.

7. Future Vision

Mental Health and Homelessness

- "Street Calls" Program. Specialized EMS providers will develop a "beat," based on data from DMH/DHS. Specialists will self-deploy daily to field-assess the physical/mental health of their panel of patients and identify new patients in their area. Patients with acute, but not emergent needs will be directed to appropriate outpatient facilities (clinics, Crisis Centers, etc.) via alternative transportation means. (Taxi, vans, etc.) Patients with emergent needs will be transported to the closest appropriate hospital, via FEMS transport vehicle.

7. Future Vision

Mental Health and Homelessness

- Specialists will undergo training to become Agents of the Court and be authorized to administer an FD-12.
- Specialists will have telecommunication-based access to Crisis Intervention team members to be able to offer on-scene therapy and interventions.
- Specialists will use ePCR's to collect run data for subsequent analysis. Information to be shared between all involved Agencies.

7. Future Vision

“House Calls” Program:

– EMT’s/ Paramedics will respond as in current practice.

- Online Medical Control (telemedicine-based with audiovisual feed from scene to base command) from base command will be consulted and authorize a non-transport when appropriate (based on low-priority dispatch and on-scene assessment).
- Link to RN/PA/NP program below for follow-up.

7. Future Vision

Nurse/Nurse Practitioner/Physician Assistant Program (FEMS/DOH)

- Staff will be deployed during peak hours on priority 3 calls in high-volume areas of the City in non-response vehicles.
- Referrals to clinics/ school-based health center/ community health centers after face-to-face encounter once EMS first responder has determined no emergency exists. (Non-emergent response model)
- Follow up phone calls to ensure loop closure.

7. Future Vision

Nurse/Nurse Practitioner/Physician Assistant Program (FEMS/DOH)

- First Responder Providers will contact Med Control for triage decisions to allow non-transport of priority 3 patients.
- Second cadre of NP/PA's serves as advanced-level call screeners at the OUC. (OUC/FEMS) Will determine the appropriate level of response and dispatch the field nurses/personnel on low-priority calls. Also will provide the follow-up phone call services. All cases reviewed using the same Medical Quality, peer-review process as all other FEMS-based care. Supporting documentation using ePCR. Billable.

7. Future Vision

Violence Reduction Program

- Child Development-Community Policing Intervention (CDCP) Program, with FEMS specialists as the Second-Responders
- Specialists respond to scene of violence after typical first responders (MPD, FEMS) and provide scene based mental health intervention for witnesses/loved ones, particularly children/youth.

7. Future Vision

Violence Reduction Program

- Wrap-around services with community-based partners (ROOT, WHC, GW, etc.) with placement of peer advocates in ER's and peer counselors on the wards of the receiving facilities. (DOH, CFSA, DYRS, etc.)
- Outpatient case management and mental/substance abuse services (SAMHSA, DMH).

7. Future Vision

Community Education Strategies:

- Public Service Announcements featuring Fire Chief and or Medical Director explaining the scope of the problem: “when our neighbors call 911 for non-emergencies, it might keep us from responding to actual emergencies.”
- Closure/Diversion times, when local hospitals are less able to handle new emergencies are an increasing problem not only here in the District, but also nationwide…” Message would also be coupled with a clinic hotline and or local hospital information.

7. Future Vision

Community Education Strategies:

- Webpage posts periodically reminding citizens to make the right call. Add banner on DC FEMS homepage/ City's homepage.
- Firehouse-based community health meetings on a periodic basis.
- Firehouses to host regular, community health outreach meetings with FEMS RN/PA and EMT/Paramedics providing BP, Glucose, Obesity, Nutrition screenings with clinic referral when appropriate. Specific message to be based on Health Database analysis. (FEMS/DOH/Alliance/Unity).

7. Future Vision

Improve and Enhance Public Access Defibrillation:

- Deploying AED's city-wide, including in MPD vehicles, sports venues, schools, all DC government and Federal buildings.

7. Future Vision

Operations:

Communications/Dispatch/Scene Process

- Appropriate matching of need and resource deployment (OUC).
- Community-based response model with relatively static BLS corps and a redundant, highly mobile, flexibly deployed Advanced provider corps.
- Data-driven community-based resource deployment. (i.e. in neighborhoods with high incidence of cardiac disease have a high concentration of AED's, areas with high incidence of diabetes have a high number of Diabetic screening outreaches at firehouses, etc.)

7. Future Vision

Communications/Dispatch/Scene Process

- Employ latest technology for reduction of response time; GPS stamp from Cellular signals. Linking CAD to commercial systems to locate crashes (OnStar, etc.)
- Uncouple response and transports.
- Arrive in a timely manner
- Compassionate, Professional, Clinically competent response and scene care.

7. Future Vision

Communications/Dispatch/Scene Process

- Dispatch basic resources from geographically-based fixed assets with a redundant, flexibly deployed Advanced-Life Support force. (Rapid vehicles, Segways™, bicycles, small-sized vehicles, other Fire vehicles)
- Prompt transport to appropriate receiving facility (hospital, clinic, community health center, school-based health center), with active system guidance (FEMS officers at OUC and proactive online Medical Control, see below).
- Regionalize all transport plans to allow for day-to-day surges as well as MCI's.

7. Future Vision

Clinic/Hospital Component

- Pre-alert receiving facility for all priority 1+2 transports (all priorities?)
- Standardized reporting language. (scripted text)
- Active system management, especially during high-volume periods (EMS 6/FEMS).
- Prompt transfer of care (<25 minutes).

7. Future Vision

Clinic/Hospital Component

- Adequate exchange of documentation. Electronic run sheet plus hospital records become one dataset for bidirectional viewing and process improvement.
- When hospital resources are over-extended, FEMS resources employed to continue system flow and return transport units to service more quickly. (hospital-based RN/PA employees of FEMS).

7. Future Vision

Clinic/Hospital Component

- Transports to specialty centers when screening and Medical Control indicate. (Trauma Centers, Stroke Centers, Cardiovascular Centers based on National standards.
- Transport of low-priority patients to clinics, urgent care centers, school-based care centers community health centers, etc.

7. Future Vision

Online Medical Control

- Real-time communications with field providers.
- Intimate knowledge of State Medical Protocols
- Additional responsibilities include serving as core reviewers of State Protocols so that they remain up to date.
- Serve as physician field supervisors from a remote location

7. Future Vision

Online Medical Control

- Quality review of all Med Control interventions
- Fully-staffed Base Command position will allow remote screening of low priority calls and triage of those patients to clinics/community health centers.
- Fully staffed Base Command position will allow for controlled declaration of death in the field.

7. Future Vision

Online Medical Control

- Future considerations include audiovisual telemedicine connection with live video feed from field. This will allow for remote examination of patients by physicians who will be able to direct providers “firsthand” as part of a comprehensive strategy for diversion of patients to more appropriate destinations than hospitals.

7. Future Vision

Medical Quality Management

- Quality Assurance Program
- Peer Review analysis of **all** care given by FEMS providers.
- Peer Review audit of **all** Cardiac Arrests, Heart Attacks, Strokes, Heart Failure, Severe Diabetes, Trauma codes.

7. Future Vision

Medical Quality Management

- Data collection concerning the “Golden Triangle” (Dispatch diagnosis, Transport Impression/Diagnosis and Hospital Diagnosis).
- Continuous System data analysis; closure data, response time, drop time, transport statistics (no patient found, patients refusing transport and or service, etc).

7. Future Vision

Medical Quality Management

- Medical Quality Officers for evaluation of all providers.
- Nurse Quality Coordinator to manage day to day aspects of quality improvement. (Hired 5/07)
- Assistant Medical Director for Quality to manage Program.
- Standardized reporting process for all clinical complaints.

7. Future Vision

Medical Quality Management

- Firsthand information from witnesses, especially involved patient when possible.
- Quality indicators drive future individual and system-wide training to address specific educational needs.
- Education uncoupled from discipline whenever possible.

7. Future Vision

Training and Education

- Training and education must be continuous.
- Based on National standards, (NHTSA, AHA, ADA, etc.)
- Dedicated training staff of educators.

7. Future Vision

Training and Education

- Day to day EMS training occurring in a decentralized manner with Company-based structure. (Company Training Officer)
- Each CTO will have responsibility for a relatively small number of personnel (20-30) and will be responsible for ensuring that their cadre is up to date and that all certifications and training remain current. No additional need for extensions is anticipated.

7. Future Vision

Training and Education

- Bricks and mortar educational solutions as well as maximizing remote solutions (distance learning).
- Specialized Training Unit to pilot new technologies and techniques. (Preceptor Unit).
- Close formal affiliation and partnership with academic medical centers. (Medical Director and his/her Executive staff to hold academic appointments).

7. Future Vision

Disaster Readiness

- Prepare for daily disaster/crisis situations; multi-vehicle car crash, building collapse, multiple trauma victims.
- Best readiness for MCI is daily preparedness.

7. Future Vision

Disaster Readiness

- Re-focus on daily small-scale events as preparation for once-in-a-lifetime large scale events.
- Prepare for all aspects of small and large scale events, physical injuries, mental health needs, needs of the providers, stress response.
- Train for bio-threats, chemical, etc.

7. Future Vision

Data Collection and Analysis

- Continuous collection of response time data
- Completion of the “Golden Triangle” (continuous analysis of dispatch type, transport priority and impression and Hospital and or ED discharge diagnoses).

7. Future Vision

Data Collection and Analysis

- GIS mapping of community to characterize health needs of the community; e.g. identifying areas with high incidence of stroke, diabetes, injury etc. do develop specific prevention programs (FEMS/DOH/DMH, clinics)
- Continuous analysis of electronic runsheet (ePCR) data to identify patterns of illness, as well as syndromic surveillance (FEMS/DOH).

7. Future Vision

Data Collection and Analysis

- Information sharing with appropriate partners (FEMS/DOH). (RHIO, registries, etc.)
- Continuous quality assessment of ePCR documentation of FEMS care.
- Patient satisfaction surveys
- Provider satisfactions surveys

7. Future Vision

Data Collection and Analysis

- Data-sharing agreements with regional partners (FRED, CHATS) to facilitate regional approach to response and transports as well as real-time awareness of hospital resource availability.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