

# *Medical Control Authority Seminar*

## **Module 2:**



## **EMS Systems**

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## **Module 2: EMS Systems**

**Objective: Describe the organizational structure and characteristics of EMS systems.**

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- **EMS Systems**

- **Components**
- **Organizational & design options**
- **System staffing & response configurations**
- **Communication & dispatch issues**
- **Regionalization of care & destination**
- **Differences in rural & urban systems**
- **Integration with community health care & public safety**
- **Interface with managed care organizations**
- **Utilization of air medical services**
- **Funding options available for EMS systems**

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- **EMS System Defined**

“Emergency medical services system” means a comprehensive and integrated arrangement of the personnel, facilities, equipment, services, communications, medical control, and organizations necessary to provide emergency medical services and trauma care within a particular geographic region.

MCL 333.20904

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- **EMS Systems Components**
  - **EMS Systems is not simply one person, one agency, one organization or one hospital. Multiple components must be present and interact well for the system to function effectively.**

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## **NHTSA Critical Components**

- **Regulation and policy**
- **Resource management**
- **Human resources and training**
- **Transportation**
- **Facilities**
- **Communications**
- **Public Information and Education**
- **Medical Direction**
- **Trauma Systems**
- **Evaluation**

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- **Additional components**
  - **Finance**
  - **Audit & Quality Assurance**
  - **Mutual Aid**
  - **Emergency Preparedness**

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- **May 2007 – NHTSA Reassessment**
  - **Regulation & Policy:**
    - **Obtain dedicated funding to support EMS Office and Trauma Systems**
    - **Increase staffing for EMS Office**
    - **Develop an evaluation process for MCAs to ensure compliance and uniformity across the state**
    - **Evaluate the feasibility of integrating MCAs into 8 regions**

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- **Resource Management**
  - **Staff the EMS office with sufficient employees to implement the provisions of PA 368**
  - **Develop and implement a process to review and update the State EMS plan at least once every 5 years**
  - **Develop and implement a comprehensive study/survey which identifies the overall needs of the EMS system**

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- **Human Resources & Training**
  - **Increase staffing to EMS Office**
  - **State Model protocols should be standard for all MCAs to ensure uniformity of care and to allow for movement between MCAs**
  - **Conduct criminal background checks for all individuals before licensure and relicensure**
  - **Evaluate the feasibility of linking data between patient care records, agency and provider licensure, and CE**
  - **Conduct a comprehensive education survey to review the needs of individuals and agencies**

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## ➤ **Facilities**

- **Inventory all medical care facilities as to the provision of ED services; staffing; clinical capabilities; and trauma center verification**

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## ➤ **Communications**

- **Modify the 911 legislation so the MCAs have the authority for direct medical oversight for EMS dispatching**
- **Establish administrative rules to support mandatory and uniform EMD certification**
- **Establish administrative rules which require dispatch centers to utilize medical priority dispatch**

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## ➤ **Medical Direction**

- **Create and fund the position of State EMS/Trauma Medical Director**
- **MCAAs should continue consolidation of protocols and requirements so the same protocols, standards, etc., exist across the state**
- **State should institute education and standards regarding the provision of on-line medical control**

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## ➤ **Trauma Systems**

- **Finalize dedicated funding to support the Trauma System**
- **Select a statewide trauma registry**
- **Institute a hospital designation process as described by the Administrative Rules**

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## ➤ **Evaluation**

- **Continue with implementation of the statewide EMS Information System**
- **MCAs should be evaluated regarding their ability to provide their statutory responsibilities**

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- **Options for EMS System Design**
  - **Single or Multiple Tier**
  - **First Responders**
    - **Basic or Advanced**
  - **Ambulance Service**
    - **Private vs. Public**
    - **For Profit vs. Not for Profit**
  - **Personnel**
    - **Volunteer vs. Career**

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## ***Tiered System***

### **Single Tier**

**All ambulances at same level  
All BLS or All ALS**

### **Two Tier**

**Both BLS and ALS ambulances  
Dispatch protocols determine  
response**

**Preserves limited ALS resources**

### **1st Response / Non-Transport EMS**

**Typically BLS/MFR  
ALS 1<sup>st</sup> Responders**

**-with or without ALS ambulance**

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## ***Ambulance Service Options***

- **Private, For Profit**
- **Private, Not For Profit**
- **Municipal**
  - **Fire Service**
    - **Dual Role vs. Dedicated EMS**
  - **3<sup>rd</sup> Service**
  - **Police**
- **Hospital Based**
- **Public Utility Model**

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- **EMS SYSTEM STAFFING AND RESPONSE CONFIGURATION**
  - Characteristics
  - Transporting Services
  - EMS System response
  - Vehicle Deployment
  - Time Sensitive Patient Issues
  - EMS Response Intervals

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- **Characteristics of initial responder programs**
  - **Availability**
  - **Ability**
  - **Tiered Response**
  - **Early Defibrillation**
  - **ALS Responders**
  - **Industrial EMS**

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- **Transporting Services**

- Ambulances**

- **Level of Care**

- **Basic Life Support (BLS)**
      - **Limited Advanced Life Support (LALS)**
      - **Advanced Life Support (ALS)**
      - **Air Medical**

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- **Vehicle Deployment**
  - **Fixed Stations**
  - **System Status Management**
    - Post
    - Predictions
    - Points
  - **Fixed Stations with Dynamic Redeployment**

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- **Time Sensitive Patient Issues**
  - **Response Time Standards**
  - **Factors**
  - **Fractile Response Times**

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## **EMS Response Intervals or Evolution of a 911 Call**

- **Event occurs and is recognized**
- **Access EMS**
- **Dispatch interval**
- **Activation Interval**
- **Response Interval**
- **Patient Access Interval**
- **On-scene interval**
- **Transport interval**
- **Back in service interval**

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- **Regionalization of Care -  
Implications & Destination Issues**
  - **General Considerations**
  - **Other Considerations**
  - **Specialty Considerations**
    - **Pediatrics**
    - **Trauma Care**
    - **STEMI/Cardiac Care**
    - **Stroke Care**
    - **Special Needs/Technology Dependence**
    - **Other Specialty Centers**

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## **IMPORTANT POTENTIAL DIFFERENCES BETWEEN RURAL AND URBAN SYSTEMS**

### **Potential factors**

- **Personnel**
- **Resources**
- **Response times**
- **Call volume**

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## **Expanded Role of EMS Personnel In the Future**

### **Based upon needs and resources:**

- **Emergency Department Technicians**
- **Health Screening/Blood Draws**
- **Public Health Services**
- **Community Healthcare Education**
- **Schools**
- **Physician's Offices**
- **Nursing Homes**
- **Public Safety**
- **Community Paramedicine**

## **Air Medical Considerations**

- Rapid Transport**
- Coverage Area**
- Additional Resources**

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## **EMS Funding**

- **Reimbursement**
- **Managed Care/Insurance**
- **Municipal Agencies**
- **Donations/Contributions**
- **Subscriptions**
- **Taxes**

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## **Reimbursement Issues**

- **Medicaid**
- **Medicare**
- **Private Insurance**
- **Capitation**

## **National & State Grants**

- **Homeland Security / ASPR**
- **OHSP**
- **MCHB**
- **EMSC**
- **Federal Block Grants**
- **Foundations**
- **RHI**