Chapter 60

Dispatch Activities

Learning Objectives

- Explain how the communications center fits into the overall EMS system
- List standard functions of the emergency medical dispatch center
- Explain the difference between the primary 9-1-1 center and the secondary 9-1-1 center

Learning Objectives (Cont'd)

- Describe common challenges of address verification
- List five elements of an effective emergency medical dispatch program
- Explain the role of states in an emergency medical dispatch program
Learning Objectives (Cont'd)

- Explain the basics of a continuing education program
- Describe the differences among protocols, guidelines, and telephone aid
- Describe conditions, benefits, public expectations, and legal implications of prearrival instructions

Learning Objectives (Cont'd)

- Describe how best practices are achieved in an emergency medical dispatch center
- Explain the basics of call triage and prioritization
- Identify patient conditions that would trigger a high-priority, intermediate-priority, and low-priority response

Learning Objectives (Cont'd)

- Identify the primary objectives of a response assignment plan
- Identify common response types in a response assignment plan
- Explain how a response assignment plan is consistently applied
Learning Objectives (Cont'd)

- Identify four goals of a quality improvement program
- Identify the importance of a physician medical director
- Explain the need for case evaluation and feedback
- Explain the role of a quality improvement unit

Learning Objectives (Cont'd)

- Describe factors in choosing a random sample for case audits
- Identify key clinical performance indicators and the significance of each
- Define call processing time

Learning Objectives (Cont'd)

- Identify some common controllable and uncontrollable factors that determine call processing time
- Identify the need for differentiated call processing times
- Identify different components of call processing
Learning Objectives (Cont’d)

- Describe the process of unit selection and incident tracking
- Identify the process of nonemergency call taking
- Describe a performance-based EMS response system

Learning Objectives (Cont’d)

- Explain the demand-based unit deployment process
- Describe the primary technology components of a state-of-the-art communications center
- Explain how dispatch agencies can obtain useful information for public health authorities on contagious disease outbreak

Introduction

- Communications center is the central nervous system of EMS
  - First point of contact for patients and callers
Introduction (Cont'd)

- Dispatcher highly trained
  - Determine correct response location
  - Complete prearrival patient assessment
  - Prearrival instructions and treatment
  - Assign and alert responding crews
  - Track progress of the case
  - Manage system’s mobile resources
  - Experts in patient care

Introduction (Cont'd)

- High-tech tools used
  - Computer-sided dispatch
  - Mobile devices
  - Electronic geographic information systems
  - Global positioning systems
  - Automated system status management

Roles and Responsibilities of EMD

- Standard functions
  - 9-1-1, emergency call receiving
  - Incident address verification
  - Patient assessment, call triage
  - Identification of scene hazards
  - Responder case assignment, unit alerting
Roles and Responsibilities of EMD (Cont’d)

- Standard functions
  - Prearrival instructions
  - Incident communication, coordination
  - Response time measurement
  - Unit status tracking
  - Critical staff notifications
  - Posting and deploying available units
  - Scheduling interfacility and nonemergency transports

- Address verification in EMD center
  - Correctly determine information
  - Critical first step
  - 9-1-1 calls
    - ANI
    - ALI
    - Mobile/cellular calls now have GPS locators

EMS Standards and Training

- NIH EMD document
  - Establishes protocols
    - Systematized caller interrogation questions that are primary complaint specific
    - Systematized prearrival instructions
    - Protocols that determine vehicle response mode and configuration based on dispatcher’s evaluation of injury/illness severity
    - Referenced information for dispatcher use
EMS Standards and Training (Cont'd)

- NIH recommended elements for an effective EMD program
  - Use medical dispatch protocols
  - Provide prearrival instructions
  - Dispatcher training
  - Dispatcher certification
  - QA/QI

EMS Standards and Training (Cont'd)

- State regulations
- Continuing education

Protocols as Standard of Care

- Predictable, reproducible process
- Specific, sequenced actions
- Definable, measurable result
Protocols as Standard of Care (Cont’d)

- Call-taking protocols
  - Accurate and orderly information gathering
  - Proper call triage and prioritization
  - Delivery of scripted prearrival instructions
- Protocols differ from guidelines and telephone aid

Provision of Prearrival Instruction as Standard of Care

- Public expectation
- Zero-minute response
- Legal risk, liability

Provision of Prearrival Instruction as Standard of Care (Cont’d)

- EMD medicolegal danger zones
  - Failure to verify address and callback number
  - No sending
  - Dispatch diagnosis
  - Significantly delayed responses
  - More than one call for help
  - No protocols to follow
  - Failure to follow protocol exactly
Provision of Prearrival Instruction as Standard of Care (Cont’d)

- EMD medicolegal danger zones
  - Requesting permission to give prearrival instructions
  - Asking to talk with the patient
  - Attitude problems or argumentative interrogation
  - Preconceived notions of caller’s motives and situation
  - Problems at shift changes
  - First party “gone on arrival” situations

Best Practices and Benchmarking

- Accreditation
  - Established, widely established, formal program
  - Proven to improve service quality
  - Performance standards

Best Practices and Benchmarking (Cont’d)

- Oversight processes
  - Steering and dispatch review committee
  - Implementation of dispatch prioritization procedures
  - Response assignment plans
Best Practices and Benchmarking (Cont’d)

- Benchmarking
  - Comparison to other areas
    - Policies
    - Procedures
    - Protocols

Call Triage Processes: Patient Assessment and Case Prioritization

- Call triage
  - Classifying on basis of severity of illness/injury
  - After determining correct location, get basic case information
    - Description of problem
    - Age
    - Level of consciousness
    - Breathing status
    - Complaint-specific questions
  - Goal: identify high-priority conditions

Response Prioritization and Resource Assignment Plans

- Common dispatch priorities
  - Sudden cardiac arrest: 1
  - Chest pain with cardiac history: 2
  - Traffic accident with injury: 3
  - Unknown problem: 4
  - Diabetic patient with high blood sugar: 5
  - Minor trauma with injured ankle: 6
Response Prioritization and Resource Assignment Plans (Cont’d)

- Dispatcher assigns correct responders
  - Driven by call triage
  - Follows response assignment plan
- Objectives
  - Match EMS resource used to patient’s clinical need
  - Limit use of lights, sirens to most critical cases

Quality Improvement

- NIH goals
  - Dispatchers understand policy, protocol, practice
  - Dispatchers comply with policy, protocol, practice
  - Compliance deficiencies are corrected
  - Policies, protocol, practices are updated regularly

Quality Improvement (Cont’d)

- Physician oversight
  - Qualified medical control physician
  - Ensures protocol compliance
  - Provides ongoing education
Quality Improvement (Cont'd)

- Performance monitoring and feedback
  - Consistent case evaluation
  - Timely, objective feedback
  - Quality improvement unit (QIU)
  - Random case selection

Quality Improvement (Cont'd)

- Performance monitoring and feedback
  - Key clinical performance indicators
    - Correct primary complaint ID
    - Compliance with protocols
    - Correct call typing
    - Cardiac arrest interrogation compliance
    - Cardiac arrest prearrival instruction compliance
    - Near arrest and respiratory failure prearrival instruction compliance

Call Processing Time

- Elapsed time from moment emergency call is received until closest unit is notified
  - Factors—uncontrollable
    - Language barriers
    - Level of activity in system
    - Nature of call
    - Caller’s state of mind, knowledge of incident type, location
Call Processing Time (Cont’d)

• Elapsed time from moment emergency call is received until closest unit is notified
  ➢ Factors that are controllable
    • Emergency call center staffing
    • Type of telephone, call-processing technology used in communications center
    • Availability, reliability of geographic information database
    • Proper use of dispatch protocols

Call Processing Time (Cont’d)

• Components of EMD call processing
  ➢ Call received at EMD center
  ➢ Answered by dispatcher
  ➢ Address, phone number verification
  ➢ Dispatcher evaluation, scene conditions
  ➢ Case queued for dispatch
  ➢ Unit selected, EMS crew notified
  ➢ Typical elapsed time—120 seconds

Unit Selection and Incident Tracking

• Unit selection
  ➢ After incident address verified, recorded preliminary/final incident type coded
  ➢ Alerts closest available ambulance
Unit Selection and Incident Tracking (Cont'd)

- Tracking
  - Unit responding
  - Arrive at scene
  - Transporting to hospital
  - Arriving at hospital
  - Available at hospital
  - Returning to post
  - At post

- Must maintain current status and location of all units in system
- Nonemergency care in communications center
  - Often a secondary function
  - Facility to facility
  - Requires less detailed assessment
  - Requires careful documentation

Unit Deployment Practices

- Performance-based response systems
  - Typically private EMS services
  - Municipality sets required response times
  - Must have deployment plan that matches EMS responder resources to call demand
- Communications center
  - Executes plan
  - System status management
Technology

- Common state-of-the-art components
  - CAD systems
  - 800-MHz, two-way radio systems
  - DVD audio recording systems
  - Mobile data devices
  - Digital paging
  - GPS vehicle tracking
  - Real-time unit deployment, demand displays

Technology (Cont’d)

New Horizons in EMD: Biosurveillance, Public Health, and Early Warning Systems

- Better methods and practices of collecting and interpreting disease information
  - Use of 9-1-1 calls in real time
  - Comes from centralized, standardized database
New Horizons in EMD: Biosurveillance, Public Health, and Early Warning Systems (Cont’d)

- Early warning surveillance systems
  - Standardization
  - Speed
  - Sensitivity
  - Specificity
  - Ethical considerations
  - Data compared with historic records to look for significant anomalies, trigger alerts

Chapter Summary

- EMD communications centers have rapidly evolved into complex operations with sophisticated technology, requiring staffing by highly skilled emergency medical dispatchers
- Communications center is the starting point for EMS care in the community, serving as a critical link between patients in need and EMS responders, including paramedic crews

Chapter Summary (Cont’d)

- Dispatchers are now widely accepted as full EMS professionals with specific training, certification, quality improvement, and continuing education requirements
- Federal, state, and local governments and professional organizations have produced both binding and nonbinding standards that define the roles of the dispatcher and the EMS communications center
Chapter Summary (Cont’d)

- Included in those roles are the use of patient assessment protocols, call typing, response prioritization, and provision of prearrival instructions

Chapter Summary (Cont’d)

- New technologies
  - Automation of previously manual processes
  - Reliable and rapid geographic information
  - Better communication links with responders
  - Other public safety agencies have replaced less-efficient systems
  - Made the dispatch center the focal point of all information moving through the EMS system

Questions?