Chapter 1: EMS Systems Roles and Responsibilities

EMS System Development

• Pre-20th Century
  • Biblical
  • Edwin Smith papyrus
  • Code of Hammurabi
  • Jean Larrey - Napoleonic Wars
  • American Civil War
    • Clara Barton, nurse

• 20th Century
  • WWI and WWII developments
    • Battlefield ambulance corps developed
  • 1950s and 1960s
    • Urban, hospital-based systems develop into municipal services
    • Rural funeral homes develop into volunteer fire and freestanding services
1966

- National Academy of Sciences - National Research Council report
  - Accidental Death and Disability: The Neglected Disease of Modern Society (the White Paper)
    - Defined 10 critical points

1966

- Highway Safety Act of 1966
  - Created USDOT as a cabinet-level department
  - Provided legislative authority and finance to improve EMS
    - More than $142 million between 1966 and 1979
    - Early advanced life support pilot programs

Mortality Comparisons

- WWI to Vietnam
  - Advances in field care emerged for trauma patients
  - Reduced deaths from similar trauma
1970s
- 1973 Emergency Medical Service Systems Act
  - Defined 15 required components
  - Regional approach, trauma focus
- Regional system development 1974 – 1981
- 1977 national educational standards for paramedics first developed

1980s-90s
- Consolidated Omnibus Budget Reconciliation Act (COBRA) of 1981
  - Preventive Health and Health Services Block Grant consolidation
  - NHTSA effort to sustain the DHHS effort with reduced funding and staff
  - NHTSA's 10 system elements

Health Care Reform
- Managed care
- Expanded scope of practice
**Current EMS System**

- Network of coordinated services that provide aid and medical care to the community
  - Work as a unified whole, to meet emergency care needs of a community

**NHTSA EMS System Components**

- Regulation and policy
- Evaluation
- Public information and education
- Medical oversight
- Trauma systems
- Facilities
- Transportation
- Communication
- Human resources and training
- Resource management

**EMS System Operation**

- Citizen activation
- Dispatch
- Prehospital care
- Hospital care
- Rehabilitation
EMS Provider Levels

- Dispatchers
- First Responder
- EMT-Basic
- EMT-Intermediate
- Paramedic

National EMS Group Involvement

- Involved in development, education, and implementation of EMS
  - National organizations
  - State organizations
  - Regional organizations
  - Local organizations

Benefits of Involvement

- National associations
  - Information sharing
  - Promotes the profession
  - Enhances the status of the profession
  - Provides a means for a unified voice
National Registry of EMTs

- Contributes to the development of professional standards
- Verifies competency by preparing and conducting examinations
- Vehicle for simplifying the process of state-to-state mobility (reciprocity)
- Spreads costs of exam development, validation, across large user base

Roles of EMS Standard Setting Groups

- Establish standards with input from the profession and the public
- Ensure public interest is served in standards development and implementation
- Protect the public
- Prevent individuals who do not meet professional standards from licensure/certification

Paramedic Education

- Initial education
  - National standard curriculum
    - Competencies
    - Pre- or co-requisites
    - Provided minimum content for a standardized program of study
    - Includes cognitive, psychomotor, affective objectives
    - Clinical requirements
    - Length
**Continuing Education**

- Benefits
  - Maintenance of core or minimal levels of knowledge
  - Maintenance of fundamental technical/professional skills
  - Expansion of skills and knowledge
  - Awareness of advances in profession

**Licensure**

- Granting of a license to practice a profession
- A process of occupational regulation
- Permission granted by competent authority to engage in a business, profession, or activity otherwise unlawful
- Involves governmental activity
- May be required by state or local authorities to practice as a paramedic

**Certification**

- Grants authority to an individual who has met predetermined qualifications to participate in an activity
- A document certifying fulfillment of requirements for practice in a field
- Usually refers to action of a non-governmental entity
- May be required by state or local authorities to practice as a paramedic
Certification

- Unfounded general belief that “licensed professionals” have greater status than those that are “certified” or “registered”
- A “certification” granted by a state, conferring a right to engage in a trade or profession, is in fact a “license”

Registration

- The act of registering
- To enroll one’s name in a “register” or book of record
- State and national certification/recertification requirements

Professionalism

- Education should help produce a paramedic professional
- Profession
  - The existence of a specialized body of knowledge or expertise
  - Generally, self-regulating through licensure or certification verifying competence
  - Maintains standards including initial and continuing educational requirements
### Professionalism

- Professionals follow standards of conduct and performance for the profession
  - Adherence to a code of ethics approved by the profession

### Health Care Professional

- Conforms to the standards of health care professions
- Provides quality patient care
- Instills pride in the profession
- Strives for high standards
- Earns respect of others
- High societal expectations of professionals while on and off duty

### Health Care Professional

- EMS personnel occupy positions of public trust
- Unprofessional conduct hurts the image of the profession
- Commitment to excellence is a daily activity
Health Care Professional

- Image and behavior
  - How you appear to others and to yourself is important
  - Vital to establishing credibility and instilling confidence
  - Highly visible role model
  - Paramedics represent a variety of persons
    - Self
    - EMS agency
    - State/county/city/district EMS office
    - Peers

Attributes of Professionalism

- Integrity
- Empathy
- Self-Motivation
- Appearance & Personal Hygiene
- Self-Confidence
- Communications
- Time Management
- Teamwork and Diplomacy
- Respect
- Patient Advocacy
- Careful Delivery of Service

Primary Responsibilities

- Preparation
- Response
- Scene assessment
- Patient assessment
- Management
- Appropriate disposition
- Patient transfer
- Documentation
- Returning to service
**Additional Responsibilities**

- Community involvement
- Supporting primary care efforts
- Advocating citizen involvement in the EMS system
- Participate in leadership activities
- Personal and professional development

**Medical Direction**

- Many services provided by paramedics are derived from medical practices
- Paramedics operate as “physician extension”
- Physicians regarded as authorities on issues of medical care
- Physicians vital component of EMS

**Role of Medical Direction**

- Education and training of personnel
- Participation in personnel selection process
- Participation in equipment selection
- Development of clinical protocols, in cooperation with expert EMS personnel
- Participation in quality improvement and problem resolution
Role of Medical Direction

- Provides direct input into patient care
- Interfaces between EMS systems and other health care agencies
- Advocacy within the medical community
- Serve as “medical conscience” of EMS system
- Advocate for quality patient care

Types of Medical Direction

- On-line/ direct
- Off-line/ indirect

Benefits of Medical Direction

- On-line
  - Immediate and patient specific care
  - Telemetry
  - Continuous quality improvement (CQI)
  - On-scene

- Off-line
  - Prospective
    - Development of protocols/ standing orders, training
    - Selection of equipment, supplies and personnel
  - Retrospective
    - Patient care report review
    - CQI
On-Scene Physician

- Origins of medical direction
  - Use of standing orders
  - Direct field supervision
  - The non-affiliated on-scene physician

Improving System Quality

- Major goal for any EMS system is to continually evaluate and improve care
- Continuous quality improvement (CQI)
  - Focus is on the system and not an individual
  - Dynamic process

EMS Research - Benefits

- Quality EMS research is beneficial to future of EMS
- EMS funding dependent on scientifically proving the value of EMS services
- Enhances recognition and respect for EMS professionals
Basic Principles

- Peer review and publication of research
- Finding research
- Types of research
  - Descriptive
  - Experimental
  - Prospective
  - Retrospective
  - Cross-sectional

Basic Principles

- Population
- Randomization and control
  - Sample
    - Systematic sampling
    - Alternative time sampling
    - Convenience sampling
  - Sampling error
  - Selection bias

Basic Principles

- Parameter
  - Nuisance variables
- Blinding
  - Unblinded
  - Single blinded
  - Double blinded
  - Triple blinded
### Basic Statistics

- Descriptive
  - Qualitative
  - Quantitative
    - Mean
    - Median
    - Mode
    - Standard deviation
- Inferential
  - Null hypothesis
  - Research hypothesis

### Research Ethics

- Consent

### Research Format

- Introduction
- Methods
- Results
- Discussion
- Conclusion
**Conducting Research**

- Prepare a question
- Write a hypothesis
- Decide what to measure and the best method to measure it
- Define the population
- Identify study limitations
- Seek study approval
- Obtain informed consent

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**Conducting Research**

- Gather data
- Analyze the data
- Determine what to do with the research product
  - Publish
  - Present
  - Follow-up studies

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**Data Collection**

- EMS provider’s role in data collection
Evaluating & Interpreting Research

• Was the research peer reviewed?
• What was the research hypothesis?
• Was the study approved by an institutional review board and conducted ethically?
• What was the population being studied?
• What were the entry/exclusion criteria for the study?

Evaluating & Interpreting Research

• What method was used to draw a sample of patients?
• How many groups were the patients divided into?
• How were patients assigned into the groups?
• What type of data were gathered?
• Does it appear that the study had enough patients enrolled?
• Do there appear to be any potential confounding variables that are not accounted for?
• Were the data properly analyzed?

Evaluating & Interpreting Research

• Is the author’s conclusion logical based on the data?
• Does it apply in local EMS systems?
• Are patients in the study similar to those in the local EMS system?