Towards the Future of Emergency Care

Jerry Overton

Executive Director
Richmond Ambulance Authority
Department of Emergency Medicine
VCU Health Systems

ACCIDENTAL DEATH AND DISABILITY:
THE NEGLECTED DISEASE
OF MODERN SOCIETY

DIVISION OF MEDICAL SCIENCES
NATIONAL ACADEMY OF SCIENCES   NATIONAL RESEARCH COUNCIL

The Future of Emergency Care: Key Findings and Recommendations

KEY FINDINGS

Many EDs and trauma centers are overcrowded.
[Drawn from *Hospital-Based Emergency Care: At the Breaking Point*]

- Demand for emergency care has been growing fast—emergency department (ED) visits grew by 26 percent between 1993 and 2003.
- But over the same period, the number of EDs declined by 425, and the number of hospital beds declined by 198,000.
- ED crowding is a hospital-wide problem—patients back up in the ED because they can not get admitted to inpatient beds.
- As a result, patients are often "boarded"—held in the

Critical specialists are often unavailable to provide emergency and trauma care. [Drawn from *Hospital-Based Emergency Care: At the Breaking Point*]

- Three quarters of hospitals report difficulty finding specialists to take emergency and trauma calls.
- Key specialties are in short supply. For example, the number of neurosurgeons declined between 1990 and 2002, while the number of trauma visits increased.
- On-call specialists often treat emergency patients without compensation due to high levels of uninsurance.
- These specialists also face higher medical liability exposure than those who do not provide on-call coverage.

The Future of Emergency Care in the United States Health System

Institute of Medicine

Sponsors

Josiah Macy, Jr. Foundation

Agency for Healthcare Research and Quality

Centers for Disease Control and Prevention

Health Resources and Services Administration

National Highway Traffic Safety Administration

Future of Emergency Care in the U.S. Health System
Related IOM/NRC Studies

Accidental Death and Disability: The Neglected Disease of Modern Society (1966)

Injury in America: A Continuing Public Health Problem (1985)

Emergency Medical Services for Children (1993)

Primary Care: America's Health in a New Era (1996)

Reducing the Burden of Injury: Advancing Prevention and Treatment (1999)

America's Health Care Safety Net: Intact but Endangered (2000)

To Err Is Human: Building a Safer Health System (2000)

Crossing the Quality Chasm: A New Health System for the 21st Century (2001)

The Future of the Public's Health in the 21st Century (2002)

Preparing for Terrorism: Tools for Evaluating the Metropolitan Medical Response Program (2002)

A Shared Destiny: Community Effects of Uninsurance (2003)

Hallmarks of the IOM Process

Independence

Bias and conflict of interest

Confidentiality

Peer review

The IOM Process: Study phase

Committee selection

Bias and conflict

Information gathering

Deliberation

Recommendations

Report writing

(2) The IOM Process: Peer Review

Internal review

Committee review

External review

Motivation

Crowded EDs

Financial burden of uncompensated care

Fragmentation

Inadequate Surge Capacity

Personnel Shortages

Limited Data on Quality

Inadequate Research Funding and Infrastructure

Limited Preparedness for Pediatric Patients

Vision for the Future of Emergency Care

A Coordinated, Regionalized,

and Accountable

Emergency Care System

Statement of Task (In Brief)

The objectives of this study are to:

(1) examine the emergency care system in the U.S.;

(2) explore its strengths, limitations, and future challenges;

(3) describe a desired vision of the emergency care system; and

(4) recommend strategies required to achieve that vision.

The study will also examine the unique challenges associated with the **provision of emergency services to children and adolescents**, and evaluate progress since the publication of the IOM's 1993 report, *Emergency Medical Services for Children*

In addition, the study will examine **prehospital EMS** and include an assessment of the current organization, delivery, and financing of EMS services and systems, and assess progress toward the *EMS Agenda for the Future*

Future of Emergency Care in the U.S. Health System
Project Calendar

2003
- Project begins (September); 18 members
- Sponsors: Josiah Macy Jr. Foundation and AHRQ

2004
- First Committee Meeting (February)
- Project expands to 25 Main Committee and 3 Subcommittees; 40 combined members
- NHTSA, HRSA, and CDC added as sponsors

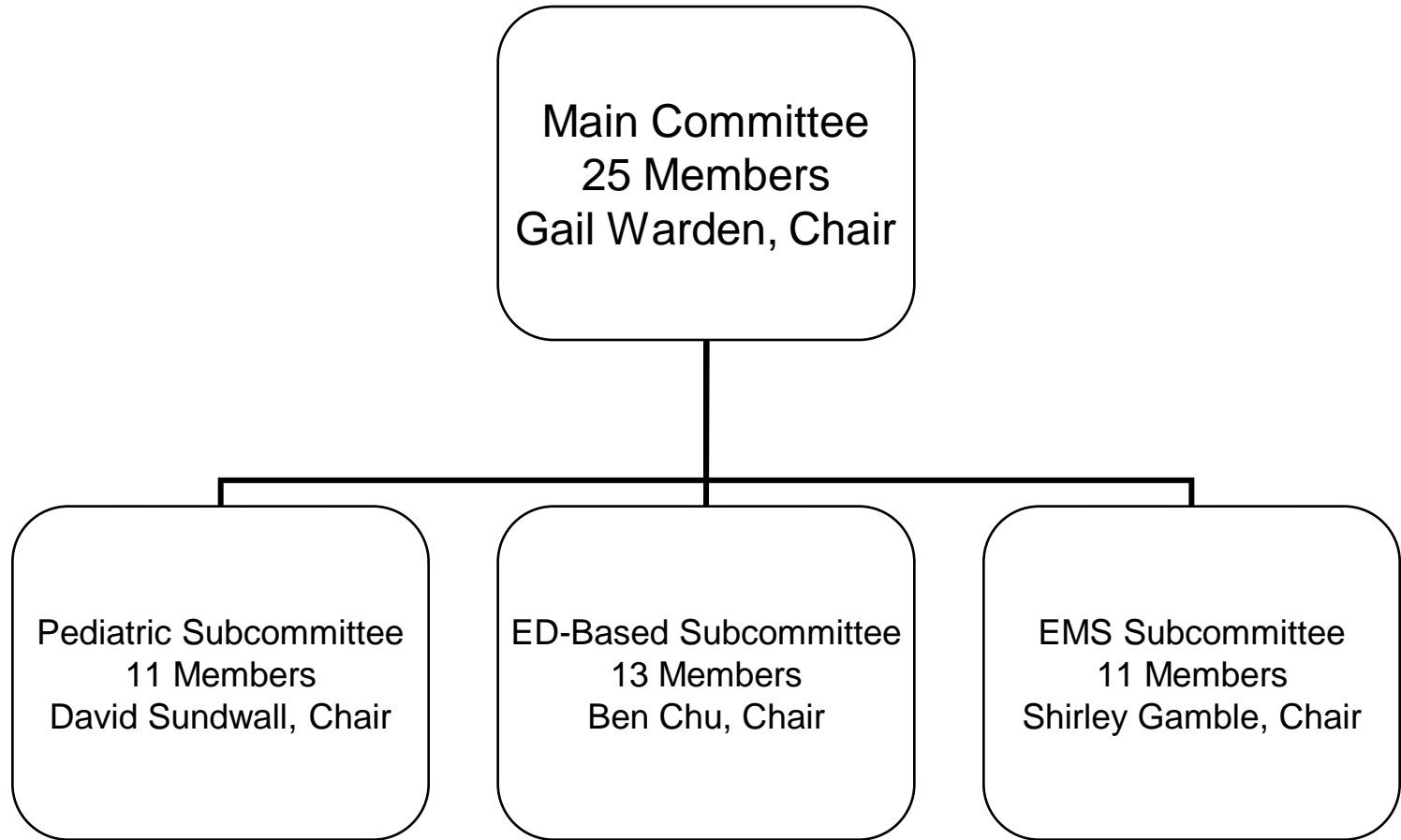## 2005
- Committee meetings, presentations, site visits, commissioned papers

2006
- Report Release (June 14)
- Workshops begin (July)
- Final Books published (November)

Committee Structure

Main Committee
25 Members
Gail Warden, Chair

Pediatric Subcommittee
11 Members
David Sundwall, Chair

ED-Based Subcommittee
13 Members
Ben Chu, Chair

EMS Subcommittee
11 Members
Shirley Gamble, Chair

Gail Warden, MHA, Chair

SUBCOMMITTEES				
Pediatric Emergency Care (PEDS)	**Prehospital Emergency Medical Services (EMS)**	**Hospital-based Emergency Care (ED)**	**Not Serving on a Subcommittee**	
David Sundwall, MD (Chair)	Shirley Gamble, MBA (Chair)	Benjamin Chu, MD, MPH (Chair)	William Kelley, MD	**MAIN COMMITTEE**
George Foltin, MD	Arthur Kellermann, MD, MPH	Peter Layde, MD, MSc	Stuart Altman, PhD	
Marianne Gausche-Hill, MD	Jerry Overton, MA	John Prescott, MD	Thomas Babor, PhD, MPH	
Darrell Gaskin, PhD	Brent Eastman, MD	Eugene Litvak, PhD	Mark Smith, MD, MBA	
Richard Orr, MD	Robert Bass, MD	Mary Jagim, RN	Robert Gates, MPA	
	Nels Sanddal, MS, REMT-B	John Halamka, MD		
		Brent Asplin, MD, MPH		
		William Schwab, MD		
Jane Knapp, MD	Fred Neis, RN	Joseph Wright, MD		**SUBCOMMITTEE ONLY**
Thomas Loyacono, EMT-P	Herbert Garrison, MD	John Lumpkin, MD		
Donna Thomas, RN	Mary Beth Michos, RN	Daniel Manz, EMT		
Milap Nahata, PharmD	Daniel Spaite, MD	Kenneth Kizer, MD		
Rosalyn Baker	Kaye Bender, PhD, RN	Stuart Altman, PhD		
Mary Fallat, MD				

Future of Emergency Care in the U.S. Health System
ED/Hospital Subcommittee

Benjamin K. Chu, M.D., M.P.H. (Chair)

Kaiser Foundation Health Plan and
Hospital, Southern California

Stuart H. Altman, Ph.D.

Brandeis University

Brent R. Asplin, M.D., M.P.H., F.A.C.E.P.

University of Minnesota and Regions
Hospital

John D. Halamka, M.D.

Beth Israel Deaconess Medical Center

Mary M. Jagim, R.N., B.S.N., C.E.N.

MeritCare Health System

Kenneth W. Kizer, M.D.
Medsphere Systems Corporation

Peter M. Layde, M.D., M.Sc.

Medical College of Wisconsin

Eugene Litvak, Ph.D.
Boston University Health Policy Institute

John R. Lumpkin, M.D., M.P.H.
The Robert Wood Johnson Foundation

W. Daniel Manz, B.S.
Vermont Department of Health

John E. Prescott, M.D.

West Virginia University School of Medicine

C. William Schwab, M.D., F.A.C.S.

University of Pennsylvania Medical Center

Joseph L. Wright, M.D., M.P.H.

Maryland Institute for Emergency Medical
Services Systems

THE NATIONAL ACADEMIES
Advisers to the Nation on Science, Engineering, and Medicine

INSTITUTE OF MEDICINE
OF THE NATIONAL ACADEMIES

Future of Emergency Care in the U.S. Health System
EMS Subcommittee

Shirley Gamble, MBA (Chair)

United Way Capital Area

Bob Bass

Maryland Institute for Emergency Medical Services Systems

Kaye Bender, PhD

University of Mississippi Medical Center

A. Brent Eastman, MD

Scripps Health and University of California San Diego

Herb Garrison, MD

East Carolina University

Arthur L. Kellermann, M.D., M.P.H.

Emory University School of Medicine

Mary Beth Michos

Prince William County, VA Department of Fire and Rescue

Fred Neis, RN
The Advisory Board Company

Jerry L. Overton, M.A.
Richmond Ambulance Authority

Nels D. Sanddal, M.S., REMT-B
Critical Illness and Trauma Foundation

Dan Spaite, MD
University of Arizona College of Medicine

Information Gathering

Expert presentations

Commissioned papers

Literature review

Site visits

Professional societies and associations

Sponsor/governmental resources

Future of Emergency Care in the U.S. Health System
Pubic Presentations to the Committee

February 2–4, 2004

Overview of Emergency Care in the U.S. Health System

Overview of the Emergency Care System
Arthur L. Kellermann (Emory University School of Medicine)

Emergency Care Supply and Utilization
Charlotte S. Yeh (Centers for Medicare and Medicaid Services)

Rural Issues in Emergency Care
John E. Prescott (West Virginia University)

Major Emergency Care Issue Areas

Patient Flow and Emergency Department Crowding
Brent R. Asplin (University of Minnesota)

Evolution of the Emergency Department (circa 2004): A Systems Perspective
Eric B. Larson (Group Health Cooperative)

Mental Health and Substance Abuse Issues
Michael H. Allen (University of Colorado Health Sciences Center)

Future of Emergency Care in the U.S. Health System Presentations (cont…)

Workforce Education and Training
Glenn C. Hamilton (Wright State University School of Medicine)

Information Technology in Emergency Care
Larry A. Nathanson (Beth Israel Deaconess Medical Center)

Pre-Hospital Care, Public Health, and Emergency Preparedness

Emergency Care and Public Health
Daniel A. Pollock (Centers for Disease Control and Prevention)

Overview of the Issues Facing Pre-Hospital EMS
Robert R. Bass (Maryland Institute for Emergency Medical Services Systems)

Emergency Preparedness
Joseph F. Waeckerle (University of Missouri Baptist Medical Center)

Research Agenda

Overview of Research in Emergency Care
E. John Gallagher (Montefiore Medical Center)

Research Needs for the Future
Robin M. Weinick (Agency for Healthcare Research and Quality)

THE NATIONAL ACADEMIES
Advisers to the Nation on Science, Engineering, and Medicine

INSTITUTE OF MEDICINE
OF THE NATIONAL ACADEMIES

Future of Emergency Care in the U.S. Health System Presentations (cont…)

June 9–11, 2004

Overview of the Emergency Medical Services for Children

The EMS-C Program History and Current Challenges

Jane Ball (The EMSC National Resource Center)

The 1993 IOM Report: Promise and Progress

Megan McHugh (IOM Staff)

Issues in Pediatric Emergency Care

Pediatric Equipment and Care management

Marianne Gausche-Hill (Harbor-UCLA medical Center)

Special Problems in Pediatric Medication

Milap Nahata (Ohio State University Schools of Pharmacy and Medicine)

Training and Skills Maintenance

Cynthia Wright-Johnson (Maryland Institute for EMS Systems)

Future of Emergency Care in the U.S. Health System Presentations (cont…)

Pediatric Disaster Preparedness

George Foltin (New York University Bellevue Hospital Center)

Organization & Delivery of Emergency Medical Services

System-Wide EMS & Trauma Planning and Coordination

Stephen Hise (National Association of State EMS Directors)

Fire Perspective on EMS

John Sinclair (International Association of Fire Chiefs)

Trauma Systems

Alasdair Conn (Massachusetts General Hospital)

Critical Care Transport

Richard Orr (Children's Hospital of Pittsburgh)

Future of Emergency Care in the U.S. Health System Presentations (cont…)

History and Organization of EMS in the U.S.

EMS System Overview and History
Robert Bass (Maryland Institute for Emergency Medical Services Systems)

Overview of Local EMS Systems
Mike Williams (Abaris Group)

Issues Facing Rural Emergency Medical Services
Fergus Laughridge (Emergency Medical Services, Nevada State Health Division)

Prehospital EMS Issue Areas

EMS Financing and Reimbursement
Jerry Overton (Richmond Ambulance Authority)

EMS Quality Improvement and Patient Safety
Robert A. Swor (William Beaumont Hospital)

Overview of the EMS Agenda for the Future
Ted Delbridge (University of Pittsburgh)

EMS Data Needs
Greg Mears (University of North Carolina-Chapel Hill)

Overview of Current EMS Research
Ron Maio (University of Michigan)

Future of Emergency Care in the U.S. Health System Presentations (cont…)

September 20-21, 2004

Prehospital EMS Issue Areas

International EMS Systems
Jerry Overton (Richmond Ambulance Authority)

Current Status of Federal Emergency Care Legislation and Funding
Mark Mioduski (Cornerstone Government Affairs)

Prehospital EMS Issue Areas (continued)

Overview of EMS Workforce Issues
John Becknell (Consultant)

EMS System Design and Coordination
Bob Davis (USA Today)

Future of Emergency Care in the U.S. Health System Presentations (cont…)

On-Call Coverage Issues

Survey of On-Call Coverage in California

Mark Langdorf (University of California – Irvine)

Specialty Physician Perspective—Orthopaedics

Nick Halikis (Little Company of Mary Hospital)

Specialty Physician Perspective—Neurosurgery

John Kusske (University of California – Irvine)

Issues in Rural Emergency Care

The Family Practice Perspective

Arlene Brown (Southern New Mexico Family Medicine Residency and Family Practice Associates of Ruidoso, PC)

Telemedicine in Rural Emergency Care

Jim Marcin (University of California – Davis)

THE NATIONAL ACADEMIES
Advisers to the Nation on Science, Engineering, and Medicine

INSTITUTE OF MEDICINE
OF THE NATIONAL ACADEMIES

Future of Emergency Care in the U.S. Health System
Commissioned Paper Topics

The Role of Emergency Care in the Health Care Delivery System

Patient Safety and Quality

Patient Flow in Hospital-Based Emergency Services

Organization and Planning for EMS and Trauma Systems

Information Technology

Rural Emergency Care

Workforce

Financing

New Medical Technologies

Mental Health and Substance Abuse

Research Infrastructure and Funding

Achieving the Vision

- Congress: Establish a demonstration program to promote regionalized, coordinated, and accountable emergency care services.
    - $88 million over 5 years
    - Phase I - 10 states @ $6 million
    - Phase II – 10 states @ $2 million, plus technical assistance
- Congress: Establish a lead agency in DHHS for emergency and trauma care.
    - Establish a working group
    - Consolidate functions and funding
- Federal Agencies: Establish evidence-based categorization systems; prehospital protocols; and indicators of system performance.

Achieving the Vision (cont…)

- Federal Agencies: modify EMTALA and HIPAA rules to encourage regionalized, coordinated systems.

Key Problems

Only 6 percent of EDs have all essential pediatric supplies and equipment needed managing pediatric emergencies.

Many emergency providers receive little training in pediatric emergency care.

Many medications prescribed to children are "off label."

Disaster preparedness plans largely overlook the needs of children.

Inclusion of Pediatric Concerns

Categorization systems based on pediatric capabilities

Treatment, triage and transport protocols for children

Performance measurement of pediatric emergency care

Lead agency with oversight of pediatric emergency care

Pediatric Disaster Preparedness

Minimize parent–child separation.

Improve the level of pediatric expertise on disaster response teams.

Address pediatric surge capacity.

Develop specific medical and mental health therapies, as well as social services, for children.

Conduct disaster drills for a pediatric mass casualty incident.

Provider Training and Resources

Define pediatric competencies; require practitioners to receive the level of training necessary to achieve and maintain those competencies.

Appoint pediatric coordinators to provide pediatric leadership in EMS agencies and hospitals.

Research

Research the efficacy, safety, and health outcomes of medications for children.

Research the effect of technologies and equipment in the emergency care environment on children.

Federal Leadership for Pediatric Emergency Care

Appropriate $37.5 million each year for the next 5 years to the federal Emergency Medical Services for Children program.

Key Problems

Overcrowding: 40 percent of hospitals report ED overcrowding on a daily basis

Boarding: patients waiting 48 hours or more for an inpatient bed

Ambulance Diversion: Half a million ambulance diversions in 2003

Uncompensated Care: results in financial losses and closures for EDs and trauma centers

Key Problems (cont...)

Inefficiency: Limited use of tools to address patient flow to reduce crowding

On-Call Specialists: unavailability of specialists to provide emergency and trauma consultation

Inadequate Emergency Preparedness: surge capacity, training, planning, and personal protective equipment

Fragmentation: limited coordination of the regional flow of patients

Accountability: lack of system performance measurement; public reporting; financial incentives

Key Problems (cont...)

Research: Inadequate funding and infrastructure

Recommendations

Congress: Provide $50 million for uncompensated emergency and trauma care.

Hospitals: End boarding and diversion, supported by CMS working group, JCAHO.

Hospitals: Adopt operations management techniques and IT improvements to enhance patient flow, supported by training and certification organizations.

States and Regions: Regionalize on-call specialty services.

Congress: Establish a commission to evaluate the impact of medical liability on on-call services

Recommendations (cont…)

Federal Agencies: Evaluation of long-term workforce needs

Congress: Increase funding for hospital preparedness in key areas:

- Trauma systems
- Surge capacity
- Personal protective equipment
- Research

DHHS: Study to determine optimal research strategy, including dedicated NIH center

The State of EMS

Persistent fragmentation—EMS care is highly fractured and often there is poor coordination among providers.

Wide variability in performance—The speed and the quality of EMS care depends largely on the patient's location.

The State of EMS (continued)

Limited evidence base—The evidence base for many practices routinely used in EMS is limited.

Lack of readiness for disasters—Only a tiny proportion of federal funds have been directed to medical response.

Recommendations

The Committee produced recommendations in a number of areas including:

- Communications
- Workforce standards
- Research
- Disaster preparedness

Communications

Improve data and communication systems interoperability between EMS agencies, hospitals, and public health departments.

State regulation of air medical providers with respect to communications, dispatch, and transport protocols.

Workforce Standards

Improve the quality and consistency of EMS by encouraging states to:

- Require national accreditation of paramedic education programs.
- Accept national certification as a prerequisite for state licensure.
- Establish a common scope of practice for EMS personnel across states, with state licensing reciprocity.

Research

Study to examine the gaps in emergency and trauma care research.

Development of a research strategy.

Increased funding for prehospital EMS research, emphasizing systems and outcomes research.

Disaster Preparedness

Elevation of emergency care to a position of parity with other public safety entities in disaster planning and operations.

Increase in funding for EMS-related disaster preparedness through dedicated funding streams.

Incorporation of disaster preparedness training into EMS professional training and continuing education.

Dissemination Workshops

Engage the public and stakeholder groups

Disseminate findings from IOM reports

Explore implications of recommendations

Identify research and data needs

Consider implementation issues

Taking Healthcare to the Patient

Transforming NHS

The Need

- Demand Rising 6-7% Annually
- Life Threatening Emergencies = 10%
- Traditional Approach Changing
- Emergency Prepardness

The Need

- Duplication of Services
- Little Investment of Leadership
- Call Handling Challenges
- Inconsistency of Measurement of Standards

National Strategic Vision

- Four Challenges
  - Leadership
  - Education
  - Stakeholder Involvement
  - Partnerships with Other NHS Organizations

Benefits

- "Patients will Receive improved care and experience from consistently getting the right response, first time, in time"

- "Up to one million fewer patients will face unnecessary A & E attendance"

Benefits

- "Greater job satisfaction"
- "Better, more effective and efficient use on NHS resources"
- "Improvements in self-care and health promotion"

Objectives

- "Hear and Treat"
- "See and Treat"
- Increase Range of Services
- Improve Speed and Quality

Recommendations

- Total of 70
  - Transformation
  - "Achieving this vision"

Transformation

- Integration of Urgent Care
    - Focus on the Patient
    - Locally take Home Visits
    - Rotation
- Increase Range of Services
    - Diagnostic Procedures
    - Health Promotion for Self Care

Recommendations
"Achieving the Vision"

- Improving Leadership
- Improving Consistency and Quality
- Improving Efficiency and Effectiveness
- Supporting Performance Improvement
- Developing the Workforce

Recommendations

- *Improving Leadership*
- Improving Consistency and Quality
- Improving Efficiency and Effectiveness
- Supporting Performance Improvement
- Developing the Workforce

Improving Leadership

- Transformation of Culture
- Develop Collaborative Relationships
- Technology
- "Shared ownership of urgent care"

The *NHS Direct* Healthcare Guide

Dr Ian Banks

What is an emergency?

When it comes to your health or the health of someone in your family, it is often very obvious if the person is seriously ill and needs immediate emergency care.

An emergency is 'a critical or life-threatening situation'. That's all very well, but it still doesn't really help you decide what a 'critical situation' is. Here are some examples:

- Unconsciousness.
- Heavy blood loss.
- Suspected broken bones.
- Deep wound such as a stab wound.
- Suspected heart attack.
- Difficulty in breathing.

There are a few things that you should remember in any emergency. These will help you to deal with the situation quickly and efficiently:

- Remain calm.
- Do everything you can to help the person, but don't put yourself in danger.
- Don't give the person anything to eat, drink or smoke.
- Don't stick anything in their mouth.

How can you help them?

The way to help a person very often depends on what is wrong with them. Sometimes, the quickest way to help is to take the person to the local hospital's accident and emergency department. This will vary from area to area as it does depend on how close your local hospital is. However, even in an area where your hospital is fairly close, you should call an ambulance and not move the patient if:

- You think they may have hurt their back or neck, or have any other injury that may be made worse by moving them.
- The person is in shock and needs your constant attention.
- The person has severe chest pain or difficulty breathing.

The recovery position

If the patient is unconscious there is a safe position to put them in which allows them to breathe easily and stops them choking on any vomit. Once you have checked that they are breathing normally, lie them on one side, with a cushion at their back, upper knee brought forward, head pointing downward to allow any vomit to escape without being inhaled. Remember when you are moving the patient onto their side, to make sure their neck and back do not move.
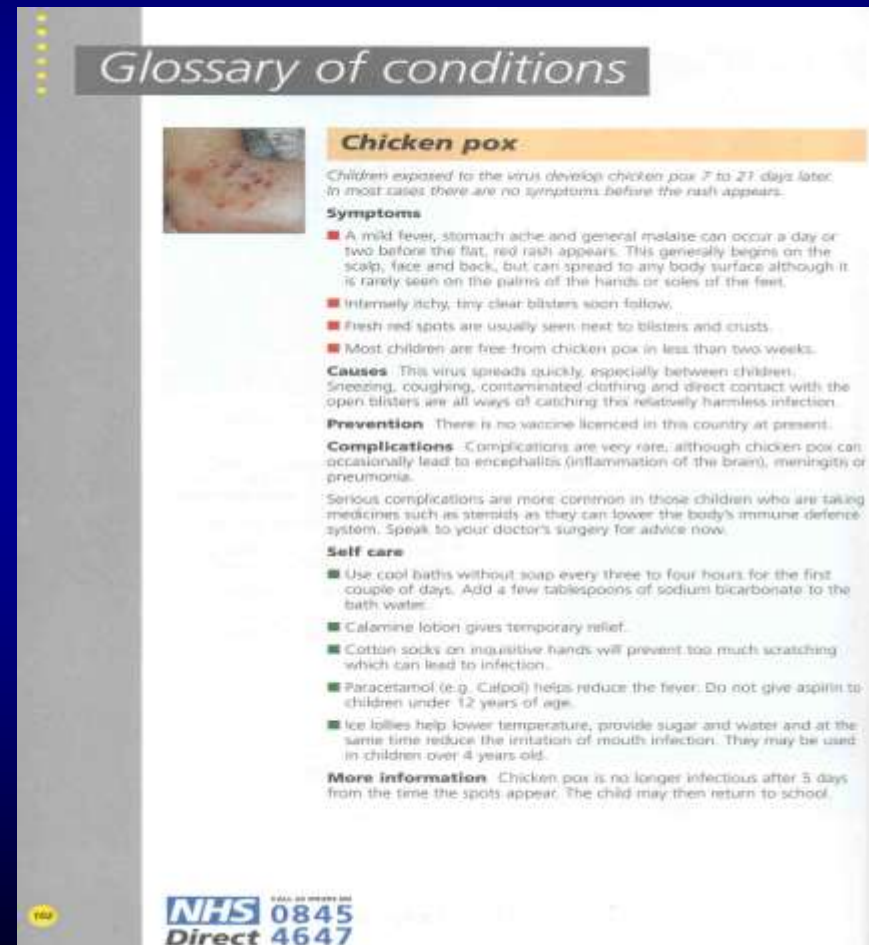
System Access

NHS Direct

"The helpline is led by nurses who can help reassure you and give you telephone advice and health information. Anyone can ring NHS Direct, at any time . . ."

- Glossary of Conditions
  - Self Care
    - What to do
    - Pharmacist
    - Other Advice Organizations
  - Dial 9-9-9

Glossary of conditions

Chicken pox

Children exposed to the virus develop chicken pox 7 to 21 days later. In most cases there are no symptoms before the rash appears.

Symptoms

- A mild fever, stomach ache and general malaise can occur a day or two before the flat, red rash appears. This generally begins on the scalp, face and back, but can spread to any body surface although it is rarely seen on the palms of the hands or soles of the feet.
- Intensely itchy, tiny clear blisters soon follow.
- Fresh red spots are usually seen next to blisters and crusts.
- Most children are free from chicken pox in less than two weeks.

Causes This virus spreads quickly, especially between children. Sneezing, coughing, contaminated clothing and direct contact with the open blisters are all ways of catching this relatively harmless infection.

Prevention There is no vaccine licenced in this country at present.

Complications Complications are very rare, although chicken pox can occasionally lead to encephalitis (inflammation of the brain), meningitis or pneumonia.

Serious complications are more common in those children who are taking medicines such as steroids as they can lower the body's immune defence system. Speak to your doctor's surgery for advice now.

Self care

- Use cool baths without soap every three to four hours for the first couple of days. Add a few tablespoons of sodium bicarbonate to the bath water.
- Calamine lotion gives temporary relief.
- Cotton socks on inquisitive hands will prevent too much scratching which can lead to infection.
- Paracetamol (e.g. Calpol) helps reduce the fever. Do not give aspirin to children under 12 years of age.
- Ice lollies help lower temperature, provide sugar and water and at the same time reduce the irritation of mouth infection. They may be used in children over 4 years old.

More information Chicken pox is no longer infectious after 5 days from the time the spots appear. The child may then return to school.

NHS Direct 0845 4647

Improving Leadership

- Leadership Development Funded

- Eliminate "Command and Control"

- Develop Planning Expertise

Recommendations

- Improving Leadership
- *Improving Consistency and Quality*
- Improving Efficiency and Effectiveness
- Supporting Performance Improvement
- Developing the Workforce

Improving Consistency and Quality

- "Far better measures"
- "Linked to National Service Frameworks"
- Single Data Repository
- Develop Evidence Based Case
- ePCR
- National Support

Recommendations

- Improving Leadership
- Improving Consistency and Quality
- *Improving Efficiency and Effectiveness*
- Supporting Performance Improvement
- Developing the Workforce

Improving Efficiency and Effectiveness

- "Strategic Capacity"
- "New Models of Service Delivery"
- Technology
- "Matching Supply and Demand

Recommendations

- Improving Leadership
- Improving Consistency and Quality
- Improving Efficiency and Effectiveness
- *Supporting Performance Improvement*
- Developing the Workforce

Supporting Performance Improvement

- Consistent Performance Measurements

Annex C: Summary of changes to performance requirements

Current Position (Pre-review)	End Position (Post review)
Four national performance requirements, set in 1996: • *Presenting conditions which may be immediately life threatening (classified as **Category A**) should be responded to within 8 minutes irrespective of location in 75% of cases.* • *A fully equipped ambulance should attend incidents classified as **Category A** within 14/19 minutes of the initial call, 95% of the time, unless the control room decides that an ambulance is not required.* • *All other patients (**Category B/C**) should be responded to within 14 minutes (Urban) or 19 minutes (Rural) in 95% of cases.* • *Ambulance services are required to take patients to hospital where the need is identified by a doctor as **urgent** and these patients should arrive at hospital within 15 minutes of the arrival time specified by the doctor in 95% of cases.*	Two national response time requirements which apply only to those patients for whom every minute of waiting is critical: • *Presenting conditions which may be immediately life threatening (classified as **Category A**) should be responded to within 8 minutes irrespective of location in 75% of cases.* • *A fully equipped ambulance should attend incidents classified as **Category A** within 19 minutes of the request for transport, 95% of the time, unless the control room decides that an ambulance is not required.* For all other patients, ambulance trusts are assessed on the overall quality of care provided to patients (one component being timeliness of response).
Regional variation in how calls are categorised and performance reported.	• Standard, improved, categorisation of calls. • Consistent, credible performance reporting. • Patients receive the same level of service wherever they live. • Ambulance trusts are "good" trusts if they provide a quality service to patients.

Supporting Performance Improvement

- Call Prioritization
  - Consistent
  - Current Version
- Payment for Results support Improvements

Recommendations

- Improving Leadership
- Improving Consistency and Quality
- Improving Efficiency and Effectiveness
- Supporting Performance Improvement
- *Developing the Workforce*

Developing the Workforce

- Review Course Content
- Develop Patient Pathways
- Commonality of Training with other NHS Professional
- Career Progression to Clinical Leaders

Developing the Workforce

- Increased Funding
- Marketing the Profession
- Cultural Diversity
- ECP Regulated as a Profession
- Develop a Five Year Plan

Towards the Future

Final Thoughts

- EMS is an essential component of *Health Care* system
- *Change* will be a Constant
- Seek *Technological* and *Evidence Based* Solutions
- The *Economics* are integral to survival

Emergency Medical Service Systems Research: Problems of the Past, Challenges of the Future

Daniel W Spaite, MD, FACEP
Elizabeth A Criss, RN, MEd
Terence D Valenzuela, MD, FACEP
John Guisto, MD, FACEP

Out-of-hospital emergency care was designed around the concept of a system of interrelated events that combine to offer a patient the best care possible outside the hospital. However, in contrast to the actual operations of emergency medical service

If we do not begin to develop effective research models to evaluate the cost-effectiveness of EMS, it may cease to exist in its current form. If we fail to define the optimal functions of the system and allow opinion and dogma to drive the type of care being rendered, our opportunity to identify the true importance and impact of EMS may disappear.

Questions???