

# The Impact of Emergency Department Use on the Health Care System in Maryland Deborah E. Trautman, PhD, RN





# The Future of Emergency Care in the United States Health System

## Institute of Medicine June 2006



### The Future of Emergency Care Key Findings (Institute of Medicine 2006)

- ED overcrowding is a universal problem (Academic & Community Hospitals)
- Emergency care is highly fragmented
- Critical specialist unavailable
- Ill prepared to handle a major disaster
- Not well equipped to handle pediatric care

### The Future of Emergency Care Key Findings (Institute of Medicine 2006)

- Inadequate inpatient bed availability
- Discernible risk when average bed occupancy rates exceed 85% (BMJ,1999)
  - Boarding patients in the ED
    - Limited privacy, receive less timely services, do not benefit from expertise and equipment specific to their condition that they would receive as an inpatient

### The Future of Emergency Care Recommendations (Institute of Medicine 2006)

- Create a coordinated, regionalized,
  - accountable system
- Create a lead agency
- End ED boarding and diversion
- Increase funding for emergency care
- Enhance emergency care research
- Promote EMS workforce standards
- Enhance pediatric presence throughout emergency care

## **End ED Boarding and Diversion**

### Address ED Overcrowding





## **ED** Overcrowding

- No single universal definition
- Consensus exists that when the demand for ED services exceeds the ability to provide service, overcrowding exists (Weiss et al, 2004)



# **ED** Overcrowding

- State/National/International problem
- System Problem
- Complex
- Multi-factorial
- Complex web of interrelated issues





### **ED Overcrowding**

Impact on Health Care Strategies for Improvement Research Opportunities





ED Overcrowding Impact on Health Care

**Patient Safety** 

## Quality of Care



# **Patient Safety and Quality of Care**

(Hoot et al., Annals of Emergency Medicine, 2007)

- Deficit in quality of emergency care
- Reduced access to emergency medical services
- Delays in care for cardiac patients
- Delays in care for all patients
- Increased mortality



#### Patient Safety and Quality of Care (Hoot et al., 2007)

- Inadequate pain management
- Extended patient transport time
- Risk of violence: angry patients against staff
- Increased costs of care



#### Patient Safety and Quality of Care (Hoot et al., 2007)

- Decreased patient satisfaction
- Increased risk management issues
- Decreased physician and nurse job satisfaction



## **Strategies for Improvement**

- Input: Demand for ED services
- Throughput: Changes in the management of patient care within the ED
- Output: Hospital and community health system capacity and response.

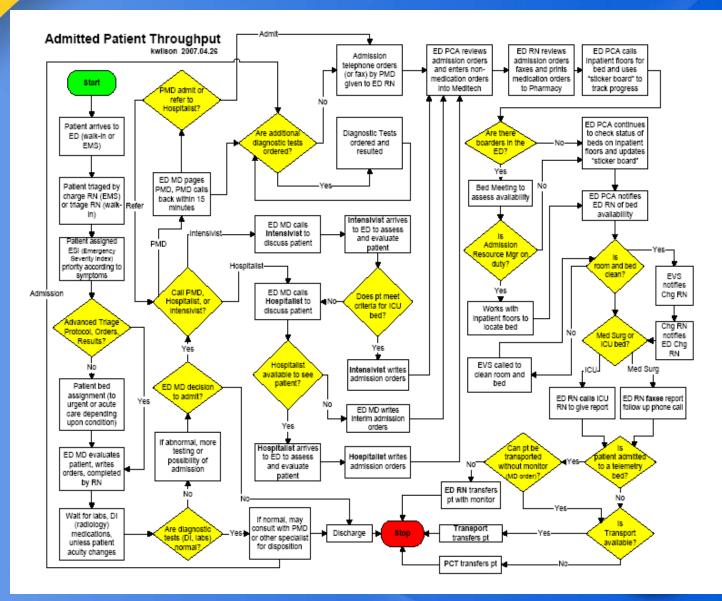


## Throughput

Systematic Process Analysis Failure Modes Effects Analysis (FMEA)

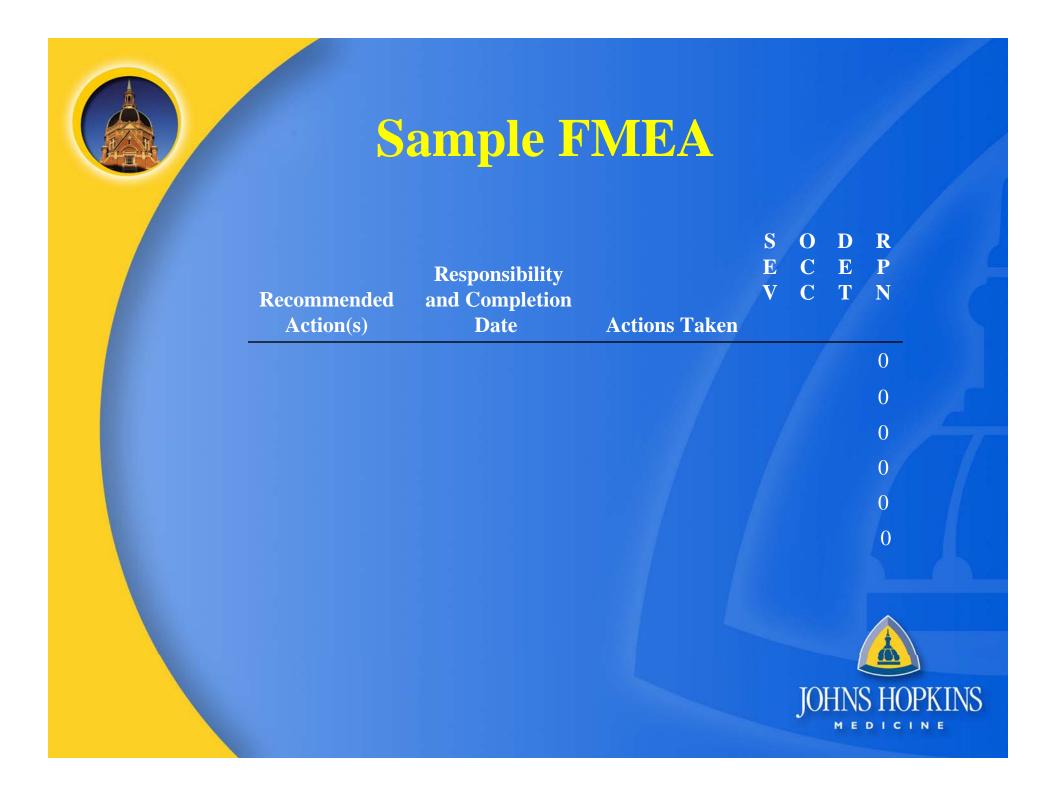
FMEA analysis is a tool which helps analyze the steps in a process for failures, causes of failures, and their criticality. Based on the criticality analysis, improvements are made to prevent or mitigate the effects of the process failures.





JOHNS HOPKINS

	Sa	Sample FMEA						
Process Function	Potential Failure Mode	Potential Effects of Failure	Potential Cause(s) Mechanism(s) of Failure	S E V	O C C	D E T	R P N	
Patient arrives in extremis	Staff not at greet desk	Patient death	High patient census	10	1	2	20	
	No bed available	Delay in care	Increased patient acuity	9	3	1	27	
		Potential harm to other patients Possible communication failure with	Decreased staffing levels Disaster				0	
		handoff Treatment delay/omission					0	
				JOHN ™	NS H	IOP	KIN	



## Throughput

Improving hospital efficiency and patient flow

Queuing theory

Smoothing the peaks and valleys of patient admissions has the potential to eliminate bottlenecks, reduce crowding, improve patient care and improve costs. (IOM, 2006)



## **Throughput Process Change**

- Accelerated rapid screening and assessment
- Accelerated initial provider assessment
- Team assignments for waiting room patients
- Rapid diagnostics & consultative services

- Capacity bed management plans and meetings
- Bed Czars and coordinators
- Waiting Room
  Medicine
- Placement of patients in inpatient hallways



### Leadership Responsibilities (Joint Commission, 2007)

### Standard LD 3.15

The leaders develop and implement plans to identify and mitigate impediments to efficient patient flow throughout the hospital.



### Research Opportunities (IOM, 2006)

- Address the needs and gaps in emergency care
- Explore innovative strategies to meet ED and inpatient occupancy demand
- Examine hospital efficiency and patient flow
- Review the appropriateness of medical treatments
- Examine ED utilization patterns and trends





**Improving the Delivery of Emergency Services** 

### Achieving the Vision (IOM, 2006)



# **Improving the Delivery of Emergency Services**

- Address the needs of general and specialty populations (psychiatric patients)
- Identify and recognize "Best Practices"
- Address the convenience of "one stop shopping"





# **Improving the Professional Practice Environment**



#### Center For Excellence In Emergency Nursing

International ED Nurse Exchange Programs

Special Operations

Critical Event Management

> Research Fellowship



ED Community Health and Outreach Programs Global Health

Leadership Program

Transportation Medicine



**Improving the Delivery of Emergency Services** 

#### There is no "one size fits all solution" (IOM Report Brief, 2006)

Focusing on a single issue to improve operations is a fool's errand (Kelen, 2006)

