Patient Safety

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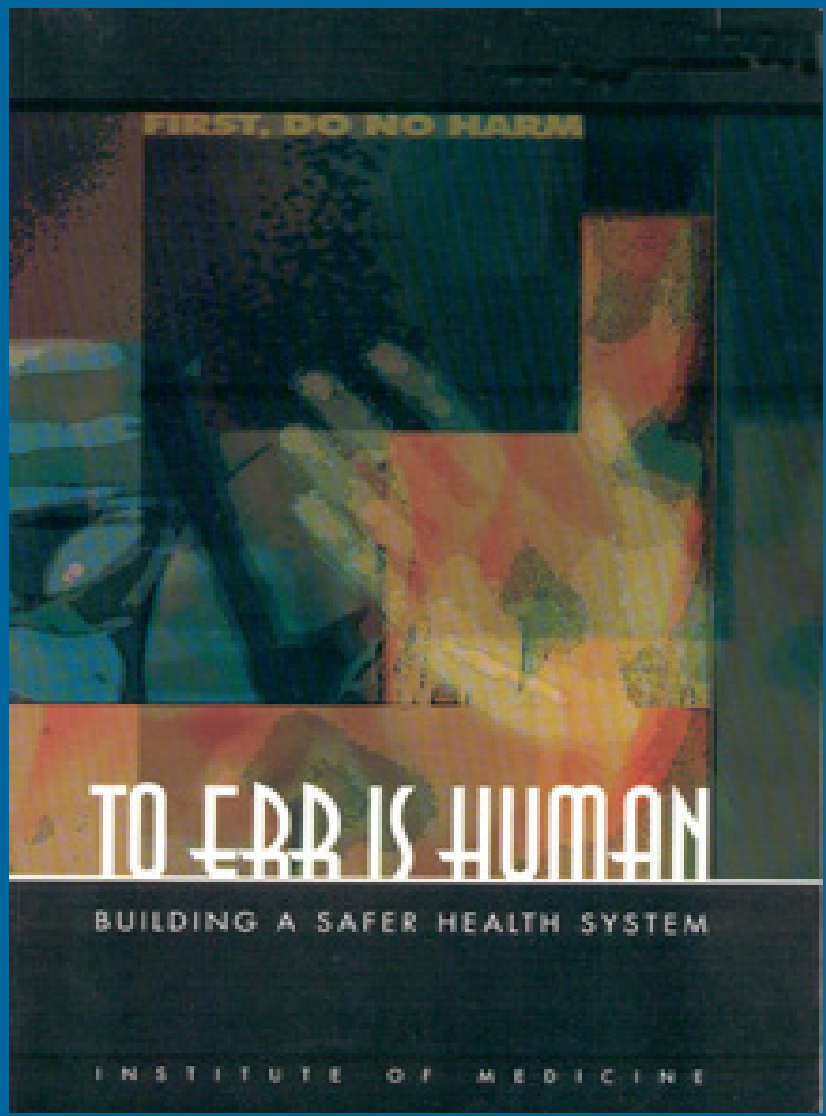


National Institute of Medicine report 1999

Significance of Medical Error

- 44,000 - 98,000 deaths per year
  - 3 jumbo jets crashing every other day
  - 5th leading cause of death
  - More in 6 months than in Vietnam
- Annual cost 37-50 billion dollars

Five Precepts for Error Management

(Helmreich and Merritt, Culture at Work in Aviation and Medicine)

- Human Error is inevitable in complex systems
- Limitation of human performance imposed by cognitive capabilities
- High workload and stress increase error
- Safety is a universal value but there is a continuum. How much safety we want and what can can we afford?
- High Risk Organizations must develop a safety culture to make individuals and teams responsible

Error, stress and teamwork in medicine and aviation: cross sectional surveys crews

(Sexton JB, Thomas EJ, Helmreich, RL. Error, stress, and teamwork in medicine and aviation: cross sectional. BMJ 2000; March 18;320:745-749)

- Medicine more likely to deny the effects of stress and fatigue
  - medical personnel 60% vs. cockpit crew 26%
- Staff did not acknowledge they make mistakes
- Surgeons more likely than intensivists and pilots to advocate hierarchies
  - surgeons 45% vs. intensivists 6% and pilots 3%

Clinician Attitudes About Teamwork

- Operating Room *(Sexton JB, Thomas EJ, Helmreich, RL. Error, stress, and teamwork in medicine and aviation: cross sectional. BMJ 2000; March 18;320:745-749)*
  - Only 55% of consultant surgeons rejected steep hierarchies
  - Minority of Anesthesia and Nursing reported high levels of teamwork

- Critical Care *(Surgenor SD, Mlike GT, Corwin HL. Teamwork and collaboration in critical care: Lessons from the cockpit. Crit Care Med. 2003; March;31(3): 992-993)*
  - Discrepant attitudes between physician and nurses about teamwork
    - 73% physicians “High” or “Very High”
    - 33% nurses “High” or “Very High”

2001 AAMC Policy Statement

- 80 hour week maximum
- No more than 24 continuous hours
  - emergency medicine and critical care only 12 hours
- 8 hours between duty shifts
- Maximum call 1 in 3
- Day off every seven

http://www.aamc.org/newsroom/reporter/nov01/gme.htm

What is a Medical Error?

"An act or omission that would have been judged wrong by knowledgeable peers at the time it occurred"

Institute of Medicine

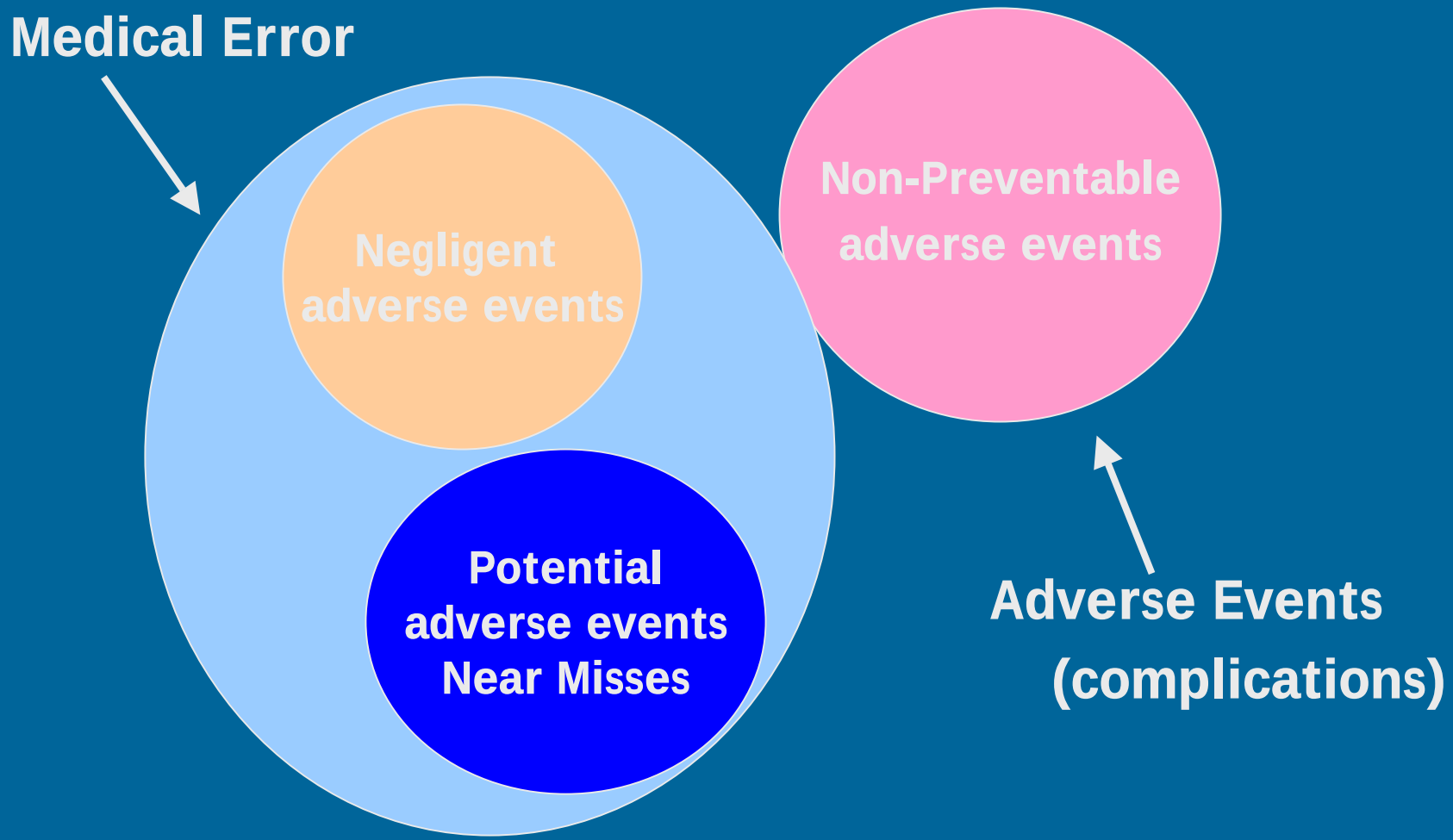
Other Definitions

- Sentinel Event
  - An unexpected incident involving death or serious physical or psychological injury, or risk thereof.

    Example: Incompatible blood given to a patient resulting in death.
- Incident
  - Error makes it to the patient
  - Does not require harm
- Near Miss / Close Call
  - Used to describe any variation, which did not affect the outcome, but for which a recurrence carries a significant chance of a serious outcome.

    Example: Wrong medication is dispensed for a patient, but the error is identified before the patient received it.

Errors and Adverse Events



Human Error Models

- **Person**
  - Traditional approach
  - Unsafe acts, aberrant mental processes
  - Counter-measures directed at human behavior
- **System Approach**
  - Accepts fallibility
  - Errors consequences, not causes
  - System defenses

System v. Person

- Balance between system and person
- Help clinicians to be part of high-reliability organization
- Address human factors training
- Integrate people and technology

Dekker S. The Field Guide to Human Error Investigations. Ashgate Publishing, Limited. 2002, Burlington, VT.

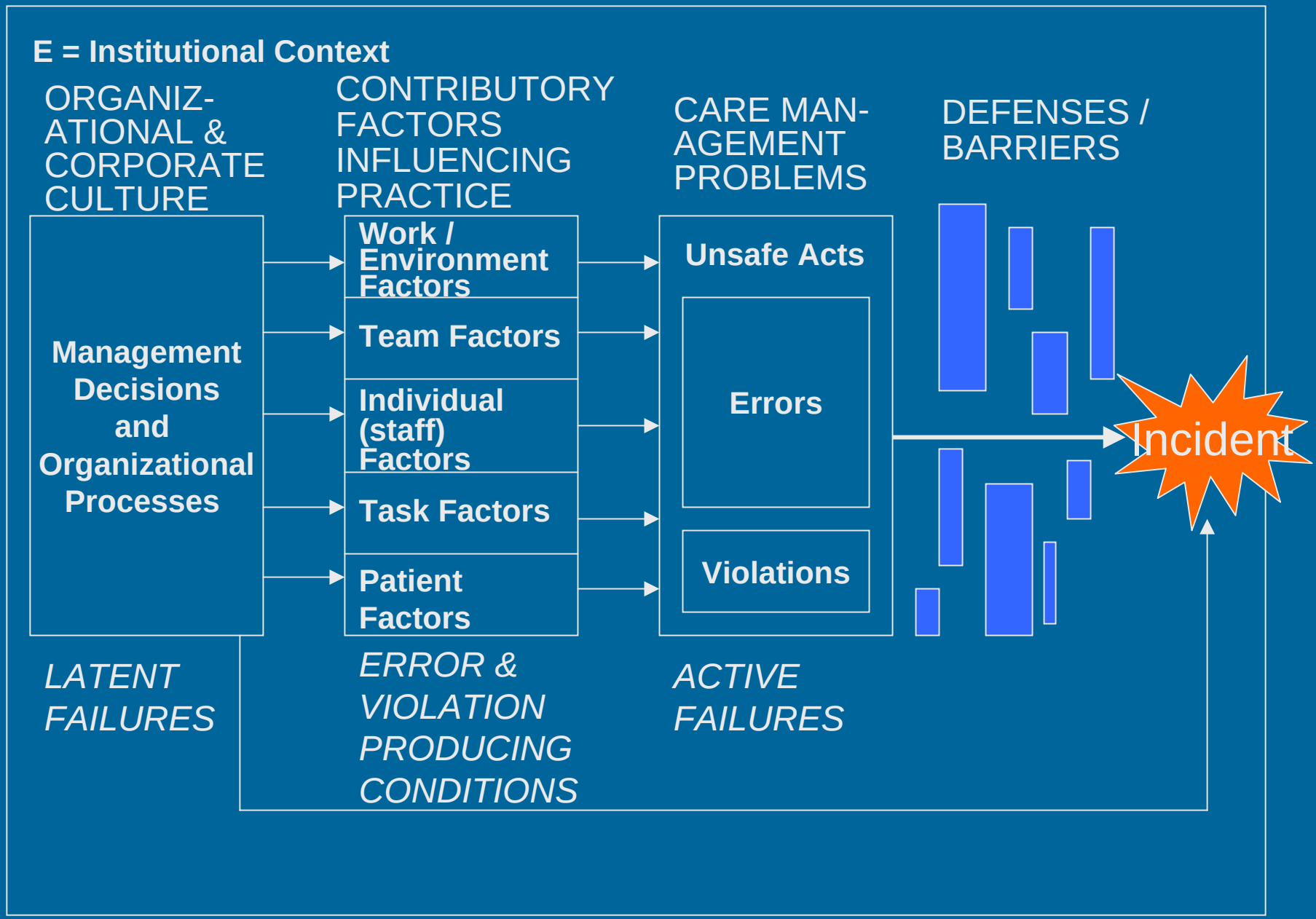
Shapiro MJ, and Jay GD. "High Reliability Organizational Change for Hospitals: Translating Tenets for Medical Professionals." Qual Saf Health Care 2003; 12(4): 238-9.

Finally,
don’t rely exclusively on new technology making patients safer…..

System Approach

- Advantages
  - Effect a Cultural Change
  - Enhances reporting
  - Identifies recurrent patterns
  - Promotes safeguards

Reason's Error Model



SYSTEM THINKING in other high risk industries

- **Aviation** - Zero deaths in 1998.
- **Anesthesia** - Deaths:

20 years ago	1 of 20,000
Today	1 of 200,000

- **Aluminum Refining** (ALCOA)

"You can't make the safety better without having a profound understanding of the process."

Error Management

- Lessons from High Reliability Organizations
  - Airlines fatality rate 0.27 per 1,000,000 departures
  - Serious medication errors 6.7 per 100 patients
- Human variability is desired
- Need to be preoccupied with failure
- Train for the eventual error
  - **Greater use of Simulation**

Your role?

- Seek non-technical safety education
  - Error Models and Process Improvement
  - Teamwork
  - Decision Making
  - Error Disclosure
- Identify and report incidents
- Participate in error disclosure
- Participate in local safety improvements and national goals (JCAHO)

Mandates for Reporting

JCAHO 2001 Standards

"Inform patients and, when appropriate, their families about the outcomes of care, including unanticipated outcomes"

http://www.jointcommission.org