Patient Safety: It’s Not Rocket Science

James P. Bagian, MD, PE
Director, Center for Health Engineering
Department of Anesthesia
University of Michigan
Founding Director, VA National Center for Patient Safety
jbagian@umich.edu

IOM Goals
- Safe
- Timely
- Efficient
- Effective
- Equitable
- Patient-Centered

Patient Safety - The Problem
- Not New
- 1981 - Steel (NEJM)
- 1991 - Harvard Practice Study (NEJM)
- 1995 - Family Practice MDs (JFamPrct)
- 11/99 - IOM Report
  - Deaths due to Preventable Adverse Events greater than MVA, Breast Cancer, or AIDS
Where Healthcare Was/Is
- Cottage Industry Mentality
- Virtually Total Reliance on:
  - Professional/Individual Responsibility
  - Individual Perfection
  - Train and Blame
- Little Understanding of Systems Relative to People and Processes
  - Ignorance vs Arrogance
  **Culturally Different!!!!**

Typical Approach
- New Policies, Regulations, Reporting Systems, Training
- Good First Step But…..
  - Lack of Systems Insight
  - Superficial Solutions (?Answers)
  - Inadequate Follow-Up
  - Lost Opportunity

Goal Selection
- Clear
  - Not Confused With Tactics
- Compelling
  - Relevance To Those Who Must Take Action
  - Early Stakeholder Involvement in Goal Definition
- Reinforced By Leadership
  - Visible Participation
    - All levels – not hierarchical
Typical Missing Features

- Clear Understanding of Goal
- Preventive Approach
- Field Understanding & Buy-In
- Systems Approach
- Sustainability
- Trust/Culture of Safety

Safety System Design

- High Reliability Organizations
- Role of Reporting
  - Learning or Accountability
- Systems-Based Solutions
  - Patient Centered – DUH!!!!
- Importance of Close Calls

Guiding Principles For Patient Safety System

- **Learning, Not Accountability System**
- Reporting System Characteristics
  - Non-punitive - Confidential and De-identified
  - Internal and External
- Importance of Close Call
- Reports Should Emphasize Narratives
- Interdisciplinary Review Teams
- About Identifying Vulnerabilities **NOT** Statistics
- Prompt Feedback
- Open to All Comers
Safety & Human Error: Challenges

- Healthcare Views Errors as Failings Which Deserve Blame - Fault
- Train and Blame Mentality
- Blind Adherence To Rules
- Corrective Actions Focusing on Individual
- No Blood No Foul Philosophy

Safety & Human Error: Cornerstones

- People Don’t Come to Work to Hurt Someone or Make a Mistake
- Must Keep Asking “Why?”

Patient Safety - Strategy

- Invite People to Play
  - Problem Recognition
  - Remove Barriers (Punitive, Difficulty, Black Hole Effect)
  - Learning NOT Accountability System
- Importance of Close Call
- Blameworthy Definition
- Training (Middle thru Top Management)
  - Leadership At All Levels
- Human Factors Approach
  - Tools That Guide Behavior
Changing Culture

Tools

Behavior

Attitude

CULTURE!!!

Prioritize

- Risk Based
  - Severity
  - Probability
- Must Make Sense
  - Business Processes
  - Regulatory Environment

Causation/Actions:

Who vs. What & Why

- Who
  - ‘Whose Fault Is This?’
  - Actions focused on correcting individual
  - ‘Corrects’ only after problem occurs
  - Limited scope of action and generalizability
- What & Why
  - Actions focus on systems level causation
  - Widespread applicability
  - Stronger preventive strategy
Human Factors Engineering and "Actions"

- **Warnings and labels** (watch out!)
- **Training** (don’t do that)
- **Procedure changes** (work around that)
- **Interlock, lock-in, lock-out**, etc (let me design it so you can not do that – forcing functions)
- **Is there one right action???

Communication

- Communication Identified As Principal Factor >70% Of RCAs
- Medical Team Training (MTT)
  - Developed To Improve Results
    - Crew Resource Management Principles
    - Briefings and De-Briefings

Association Between Implementation of a Medical Team Training Program and Surgical Mortality

MTT Impact

- N=108; 74 MTT, 34 Control
- MTT 50% greater decrease in mortality than Control
- Dose-response –
  - 0.5 deaths/1000 procedures less per quarter p=0.001
  - 0.6 deaths/1000 procedures per increase in briefing/debriefing p=0.001

What Have We Learned?

- Actions needed well before entering the OR
  - Timeout period is too late in many cases
  - Systems-based approaches beyond individual
- Involvement of all disciplines
- Structured communication that drives discussion
  - Briefings & debriefings, Medical Team Training essential

Action Assessment

- Characteristics of Actions
  - Temporary vs. Permanent
  - Procedural vs. Physical
- Action Evaluation
  - Process
  - Outcome
Management Involvement

- Formalized, Not Ad Hoc
  - Regular Part of Agenda For All Levels
- Safety Permeates the Fabric of All Activities
- Relentless

Sustainable Systems Approach

- Problem Identification
- Clear Goal Definition
- Involvement Of All Sectors
- Identify Systems Influences
- Identify Systems Controls
- Identify Constraints
- *Critique – Go To Worst Critics Early On*
- Pilot – Volunteers First Then Others
- Evaluate

Essential Elements For Sustainable Improvement

- Appropriate Goal Identification & Selection
- Transparent Prioritization
- Identification of Real Causes
- System-based Countermeasures That Address Underlying Causes
- Stronger Actions That Are Explicit
- Measurement of Actions
  - Process & Outcome
- Top Leadership Involvement/Visibility
Leadership - What Can You Do Right Now?

- Lead by Example
- Relentless Drumbeat
- Eliminate 'Whose fault is it?'
- Encourage Skepticism
  – Devil’s Advocate is Valued
- Distinguish Real Priorities From Official Priorities
- What Happened?, What Should Have Happened?, What Usually Happens?
- Part of Every Agenda

Closing Thoughts

- Not About Errors!!!
- Counting reports is not the objective, identifying Vulnerabilities is
  – Hope they increase
  – Analysis, Action, & Feedback are the key
- Prevention NOT Punishment
- Cultural change is the key – takes time
- Safety is the Foundation Upon which Quality is Built