

- “the science and technologies involved in healthcare -- the knowledge, skills, care interventions, devices and drugs – have advanced more rapidly than our ability to deliver them safely, effectively, and efficiently”
 - IOM. 2001. Crossing the Quality Chasm: A New Health System for the 21st Century.



*“Modern healthcare is the **most complex human activity** there is, due to interpersonal relationships between many different clinicians with different expertise and interests, and we haven’t figured out how to make that work well.*

We have come to a full stop against a complex environment that resists accepting change on the scale clearly required”

Lucian Leape, MD

Founder of the Modern Patient Safety Movement

Adjunct professor of health policy at Harvard University

"Error in Medicine," published in JAMA, 1994



Informatics Limitations

- Facilitate errors due to inappropriate / poor designing of systems customisations and automations of processes.
- Resistance to change.
- Under developed IT infrastructure
- Inadequate hardware logistics
- Limited funds.
- Lack of visionary leaders.
- Limited studies on the benefits of informatics on patient safety.



Technology adds new concerns

- Poor designed systems due to lack of proper planning and early involvement of clinicians
- Inflexible processes
- Changes in workflows
- Ease of use and interface with the various technologies
- Power outage + no backups
- Risk adjustment
- Overload data and system slowness



Dr Watson the IBM's supercomputer

- The computer can analyze about 200 million pages of data in less than three seconds, which could allow physician to more accurately diagnose and treat complex cases. Physicians could, for example, use Watson to consult medical records and the latest research findings for recommendations on treatment.
- FDA Approved?



Just a Culture Principles

- **Values** and expectations-what is important to the organization
- **System** design and continual redesign of system and address processes and systems so it does not happen to someone else
 - Coaching and open environment
- **Peer to peer** coaching where helping one another to stay safe and make sure things are being done correctly
 - Just culture algorithms can help
- Patient safety needs to be viewed as a **strategic** priority
- The entire hospital needs to be focused on patient safety if a culture of safety is to be established

Dekker S. *Just Culture: Balancing Safety and Accountability*. Burlington, VT: Ashgate Publishing;; 2008.

Marx D. *Patient Safety and the Just Culture: A Primer for Health Care Executives*. New York, NY: Trustees of Columbia University;; 2001.



Examples:

- Having a patient safety **plan**
- Doing an **annual** report card, use **trigger** tools
- Have a patient safety committee
- Many also have separate medication management committee from safety committee (more **attention**)
- **Education** for staff to make sure they know near misses must be included in definition of medical error
- Doing patient safety walkabout **rounds** by senior leaders



Key success of a Culture of Safety

- **Acknowledgment** of the high-risk nature of an hospital's activities and the determination to achieve consistently safe operations
- A **blame-free** environment where individuals are able to report errors or near misses without fear of reprimand or punishment
- **Encouragement** of collaboration across ranks and disciplines to seek solutions to patient safety problems
- Organizational **commitment** and resources to address safety concerns



Event 'Management'

- **Prevent** failure but if you can't,
- Make failure **visible** and
- Prevent **adverse** effects of failure or
- **Mitigate** the adverse effects
- **Learn** from all events



Errors Provide Useful Information

- We can learn more from our failures than from success
- Our processes can be improved when studied

“Give me a fruitful error anytime, full of seeds, bursting with its own corrections. You can keep your sterile truth to yourself.”
Vilfred Pareto



Which patients are most at risk of medication error?

- patients on **multiple** medications
- patients with **another** condition, e.g. renal impairment, pregnancy
- patients who **cannot communicate** well
- patients who have **more than one doctor**
- patients who do not take an **active role** in their own medication use
- **children** and babies (dose calculations required)



Systems Process Changes Structure, Environment, and People

- Simplification
- Standardization
- Process design includes prompts
- Elimination of sound/look-alikes
- Environment/product improvements
- Training
- Teamwork
- Communication



Select Resources for Patient Safety Information

- Agency for Healthcare Research and Quality
www.ahrq.gov
- Institute of Medicine of the National Academies
www.iom.edu
- The Joint Commission www.jointcommission.org
- Institute for Safe Medication Practices
www.ismp.org
- National Patient Safety Foundation <http://npsf.org/>
- JCAHO “Speak Up” program
 - <http://www.jcaho.org/general+public/patient+safety/speak+up/index.htm>



Take Home Messages

- Safety is everyone's job!
- Learn from previous errors
- Report incidents to learn not to blame.
- Errors are not only human related but the majority are system failure!
- Technology has been designed by human factors!!



human



HI



Human





Thank you

Professor Ahmed AlBarrak

