

August 2017

# Closing the Knowing – Diving Deeper Safety

Singapore Healthcare Enterprise Risk Management Congress  
17<sup>th</sup> August 2017

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Regional Director, Asia Pacific

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Me gustaría compartir su historia con ustedes y después discutir como es que estamos colaborando.



Peter Pronovost, MD, PhD  
Director of Patient Safety, Johns Hopkins

## No Room for Error

By Karen Nitkin and Lisa Broadhead; additional reporting by Linell Smith and Patrick Smith

Date: 01/08/2016

# John Hopkins 1<sup>st</sup> Patient Safety Workforce



No Room for Error

By Karen Nitkin and Lisa Broadhead; additional reporting by Linell Smith and Patrick Smith Date: 01/08/2016

This group comprises Johns Hopkins Medicine's first patient safety workforce. Each individual saw opportunities and challenges 15 years ago, and has been leading patient safety interventions ever since. Back row, from left: Richard "Chip" Davis, Albert Wu, George Dover and Dan Ford. Middle row, from left: Ronald R. Peterson, Rhonda Wyskiel, C. Michael Armstrong and Cheryl Connors. Front row, from left: Peter Pronovost and Sorrel King, holding a picture of Josie King.

# No Room For Error ( JOHN HOPKINS)

- ▶ On June 2, a second tragedy occurred. Ellen Roche, a healthy 24yearold, died of lung failure less than a month after inhaling an irritant medication while participating in an [asthma research study](#).
- ▶ Ten days after Roche's death, the U.S. Office for Human Research Protections suspended all federally funded human subject research at Johns Hopkins, halting nearly 2,500 investigations for several months.
- ▶ The two deaths shattered Johns Hopkins, propelling what some consider the most significant culture change in its history.
- ▶ “These events created a **moral moment where we had to make a choice**,” says Peter Pronovost, director of the Armstrong Institute for Patient Safety and Quality. “It was: **Are we going to openly address our shortcomings? Or are we going to hide behind our brand and say all is well? Leadership stood up and said, ‘We need to start talking about this.’”**

# What did they do?

- ▶ Nearly 200 Tasks performed to reduce risk and prevent harm
- ▶ The leaders had their phone number on every nurse counter table in the hospital - "call me even at 2am" .... Mitigating the challenges of physician's compliance to patient safety guideline.
- ▶ Process changes , people competency changes
- ▶ Pronovost and his colleagues estimated that the checklist prevented 43 infections and eight intensive care unit (ICU) deaths over two years, saving the hospital \$2 million in health care costs
- ▶ The new culture of accountability led to the creation of the Comprehensive Unit-based Safety Program (CUSP), developed at Johns Hopkins more than 10 years ago
- ▶ Checklists implemented in 1,100 ICUs in 44 U.S. states, *bloodstream infections are down by 40 percent in those hospitals, saving 500 lives and \$34 million.*

*“Improving patient safety wasn’t a choice at Johns Hopkins,” says Lori Paine, director of patient safety for The Johns Hopkins Hospital and Armstrong Institute. “It was an obligation.”*

# Culture of Safety

- ▶ "a safety culture is the combination of behaviors and attitudes you get toward patient safety the moment you step into the front door of the health facility."
- ▶ Essential to a safety culture is a foundation built on a just, or fair, culture and a willingness to learn from failures by adopting systems thinking to error prevention
- ▶ The safety culture must permeate "every nook and cranny" of the organization so that staff "speak up and point out when a process is not safe
- ▶ It is everyone's responsibility... Collectively....

**Our Goal is the Safety of Patient & Staff !!!**



November 1999

# INSTITUTE OF MEDICINE

*Shaping the Future for Health*

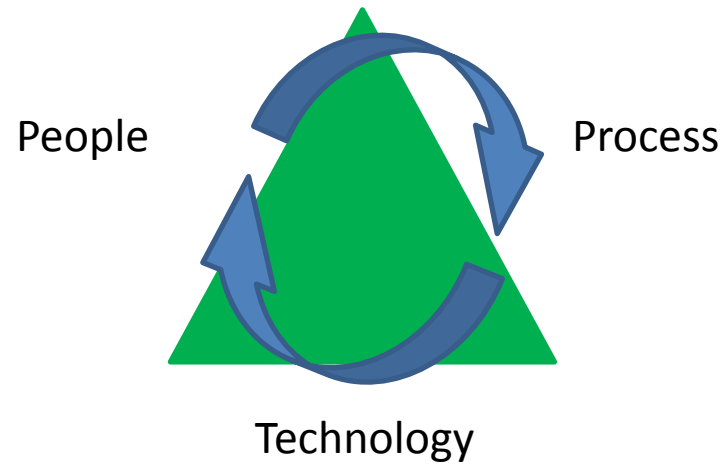
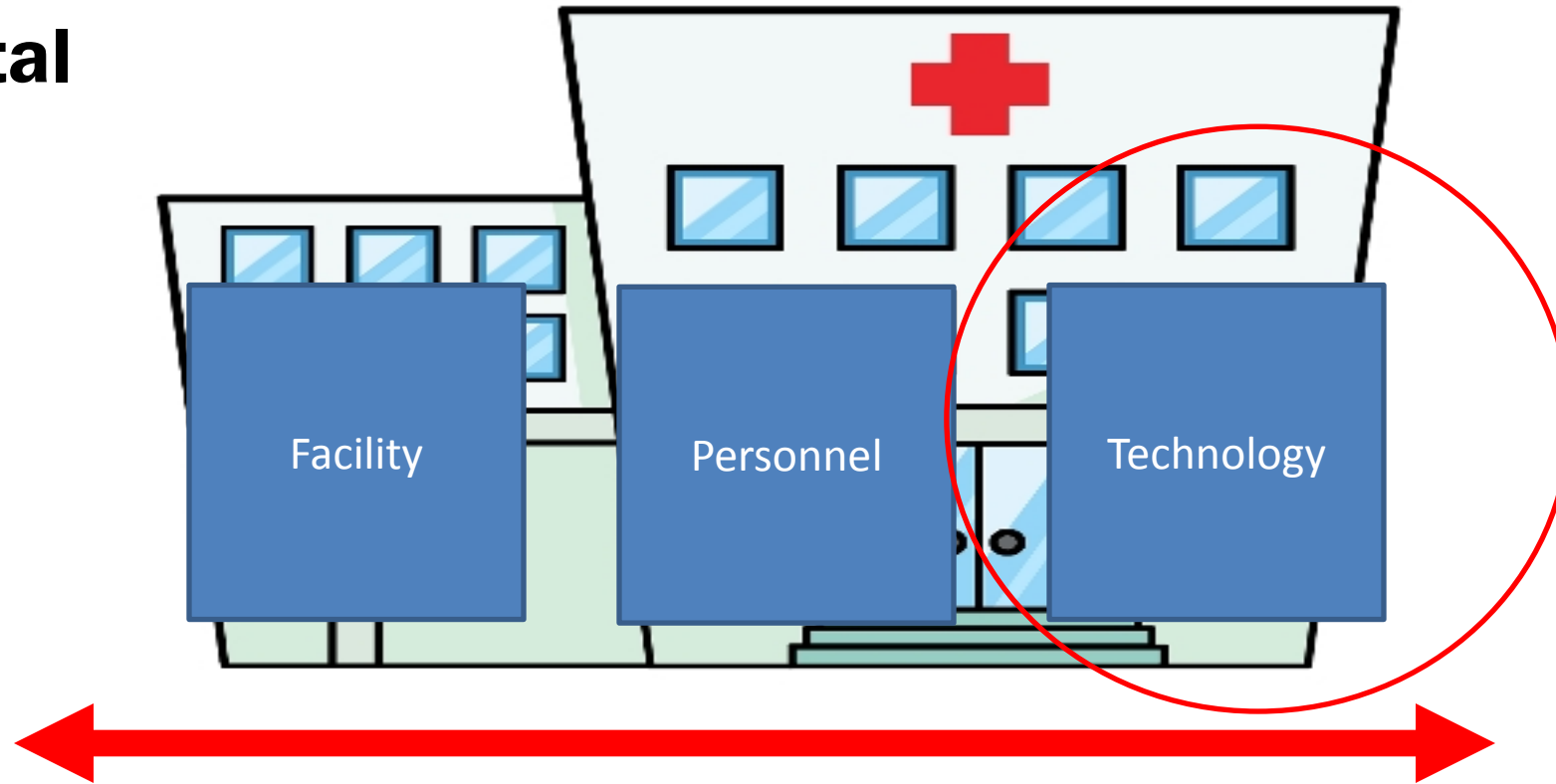
## **TO ERR IS HUMAN: BUILDING A SAFER HEALTH SYSTEM**

**H**ealth care in the United States is not as safe as it should be--and can be. At least 44,000 people, and perhaps as many as 98,000 people, die in hospitals each year as a result of medical errors that could have been prevented, according to estimates from two major studies. Even using the lower estimate, preventable medical errors in hospitals exceed attributable deaths to such feared threats as motor-vehicle wrecks, breast cancer, and AIDS.

Medical errors can be defined as the failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim. Among



# A Hospital



# Technology

- ▶ Not all devices are created equal, and not all devices are suitable for all healthcare environments
- ▶ Interoperability of medical device
- ▶ Innovative disruptive devices
- ▶ Innovative techniques
- ▶ Integration of technology in healthcare setting
- ▶ The RISE of SMART HOSPITALS

# Top 10 Health Technology Hazards



**1** Infusion Errors Can Be Deadly If Simple Safety Steps Are Overlooked



**2** Inadequate Cleaning of Complex Reusable Instruments Can Lead to Infections



**3** Missed Ventilator Alarms Can Lead to Patient Harm



**4** Undetected Opioid-Induced Respiratory Depression



**5** Infection Risks with Heater-Cooler Devices Used in Cardiothoracic Surgery



**6** Software Management Gaps Put Patients, and Patient Data, at Risk



**7** Occupational Radiation Hazards in Hybrid ORs



**8** Automated Dispensing Cabinet Setup and Use Errors May Cause Medication Mishaps



**9** Surgical Stapler Misuse and Malfunctions



**10** Device Failures Caused by Cleaning Products and Practices

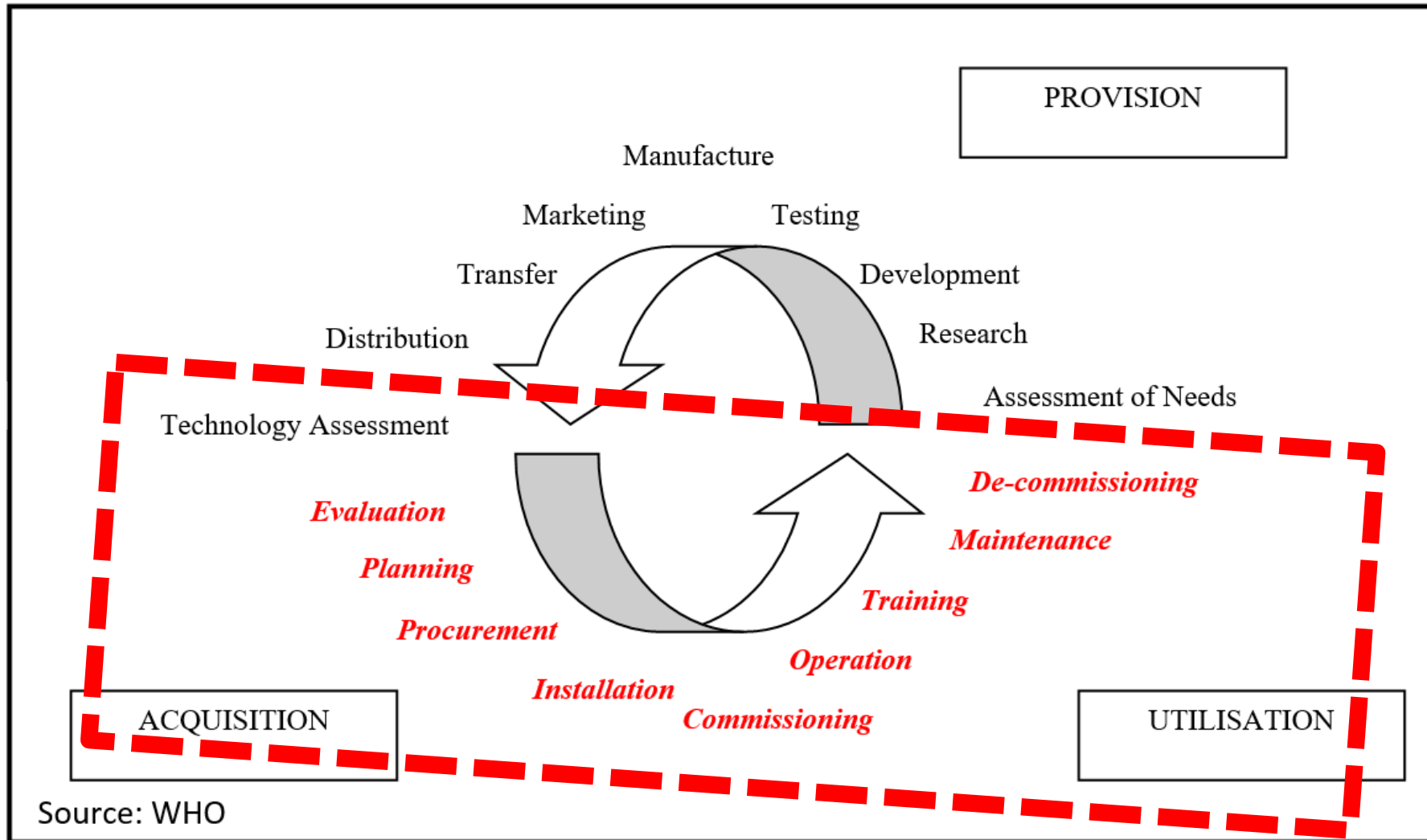
# Health Technology Management

- ▶ Modern healthcare services is technology driven → complexity increases, acquisition cost increases, maintenance cost increases
- ▶ The management of medical equipment technology has not been keeping up to date in meeting the demand in delivering the best and safe health services to the patients
- ▶ The keys to the safe, efficient and cost-effective management of medical equipment technology lies in the use of best practices, quality assurance, continuous improvement, modern management techniques, and competent human resources

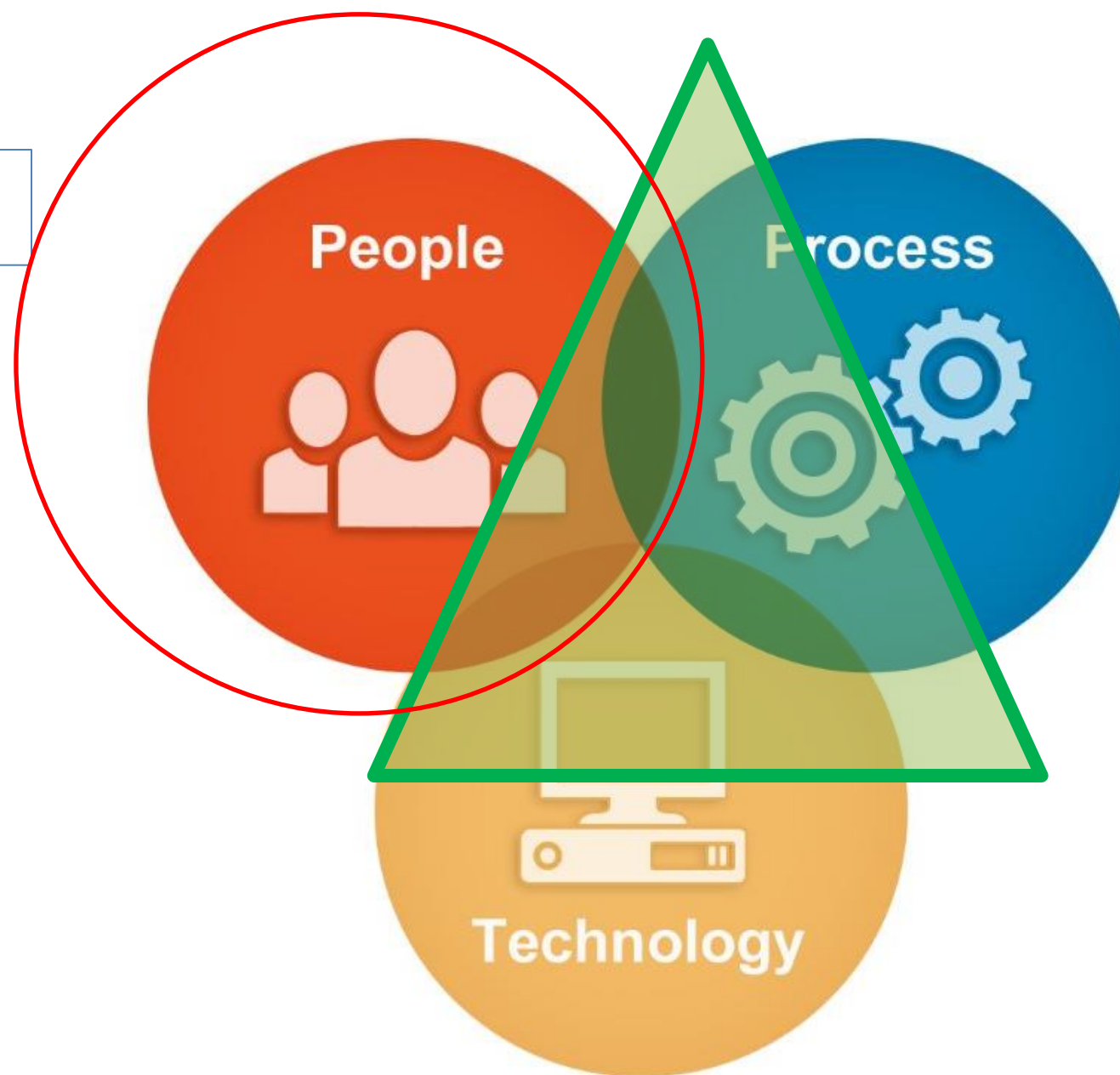
# Health Technology Management

- ▶ A comprehensive program of technology management should be multidimensional and include the following elements:
  - Multidisciplinary involvement during the lifecycle of the technology
  - Comprehensive equipment control program
  - Risk management and patient safety considerations

# Where does HTM come in?



# Change Impact





# Observe!

- ▶ What is right or wrong with this picture?



We don't know what we don't know!!!

The Human Factor



# What is Human Factors?

## Perspective from U.S. FDA

Human factors: “...the application of *knowledge about human capabilities and limitations to the design and development* of tools, devices, systems, environments, and organizations...” (ANSI/AAMI HE75)

Usability: “*Characteristic of the user* interface that establishes effectiveness, efficiency, ease of user learning and user satisfaction” (ISO/IEC 62366:2007)

# Human Factors Philosophy

*“Human error is the cause of adverse events.”*

*“Human error is a symptom of trouble deeper inside the system.”*

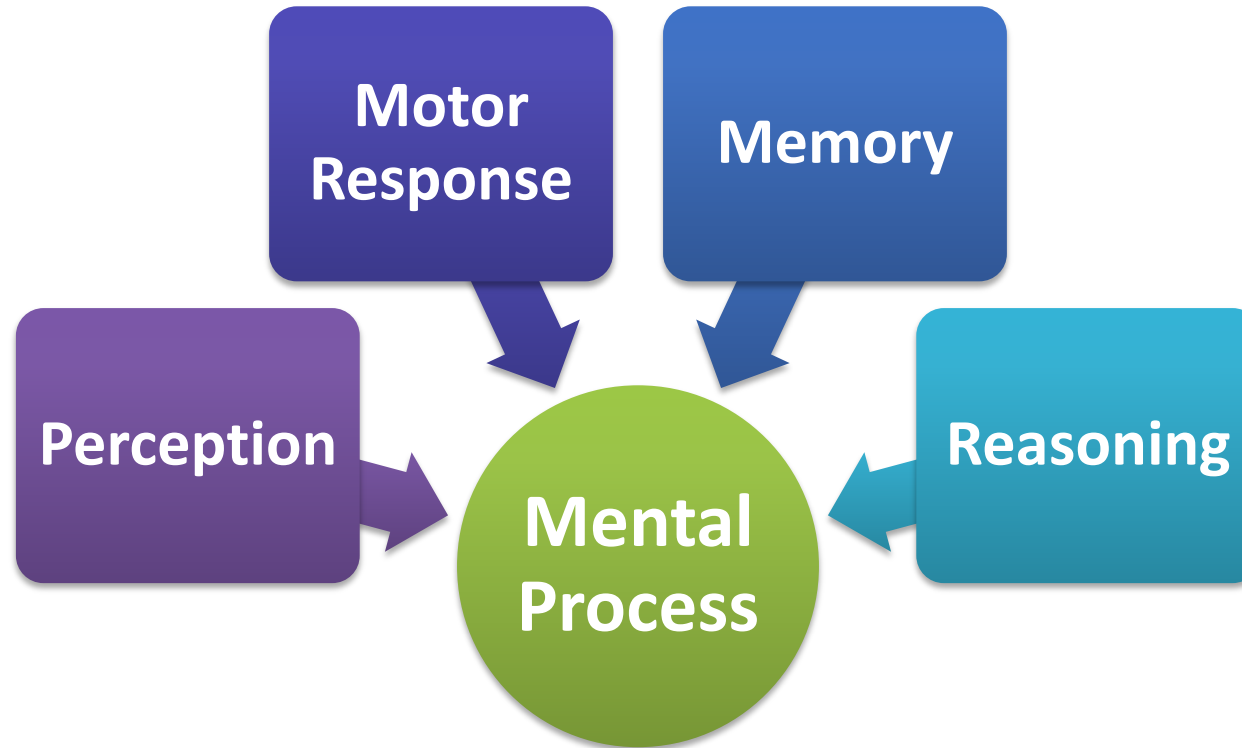
*“The system is not basically safe, and **the point is not to protect it from unreliable people...**”*

*“Every point in the process of care giving **contains inherent lack of safety...**”*

*“The system itself is full of contradictions between multiple goals that people must pursue simultaneously...”*

*Human error is systematically connected to features of people’s tools, tasks, and operating environment. Progress on safety comes from understanding and influencing these connections.”*

# Cognitive Factors **(Is it your brain's fault?)**

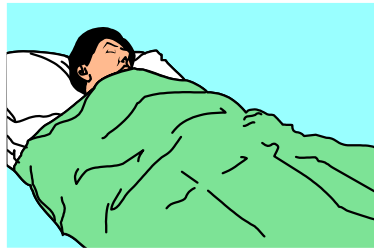
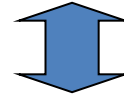


- ▶ Considering factor influencing a potential incident

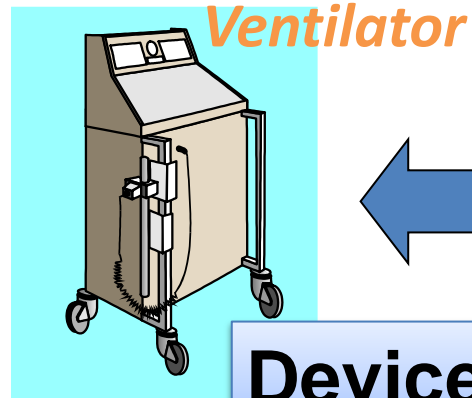
# Device Interfaces

## Environment: Hospital / Home

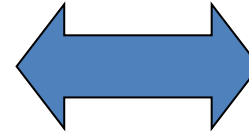
- Electric Power
- Medical Gas
- Heat, Humidity, Light
- IT networks, EMR, Clin lab systems



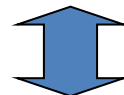
**Patient**



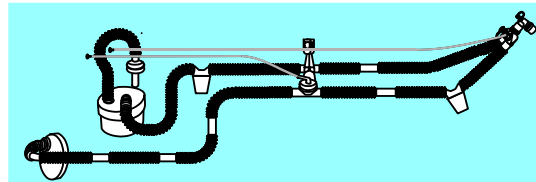
**Device**



**User**

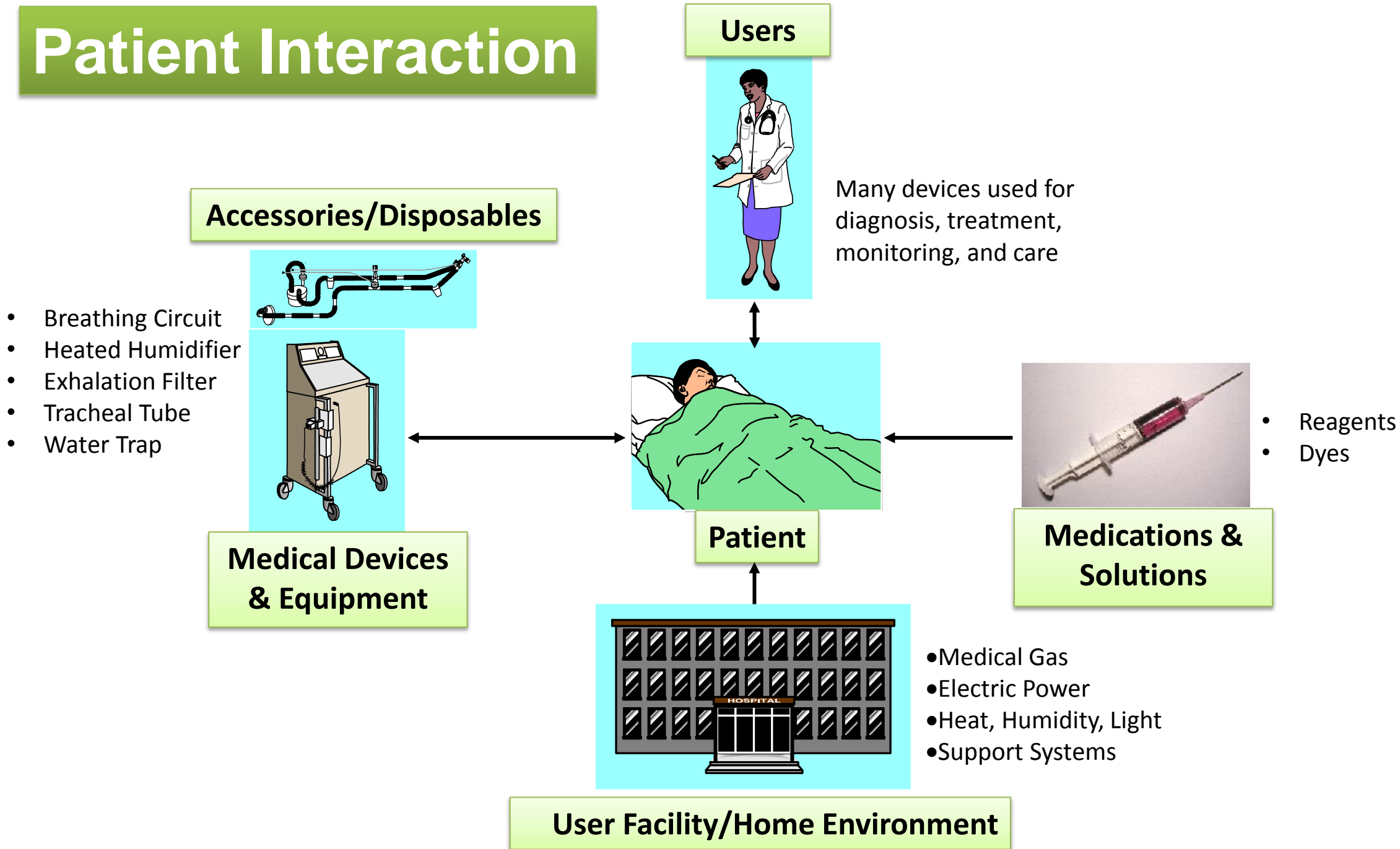


- Breathing Circuits
- Heated Humidifier
- Exhalation Filter

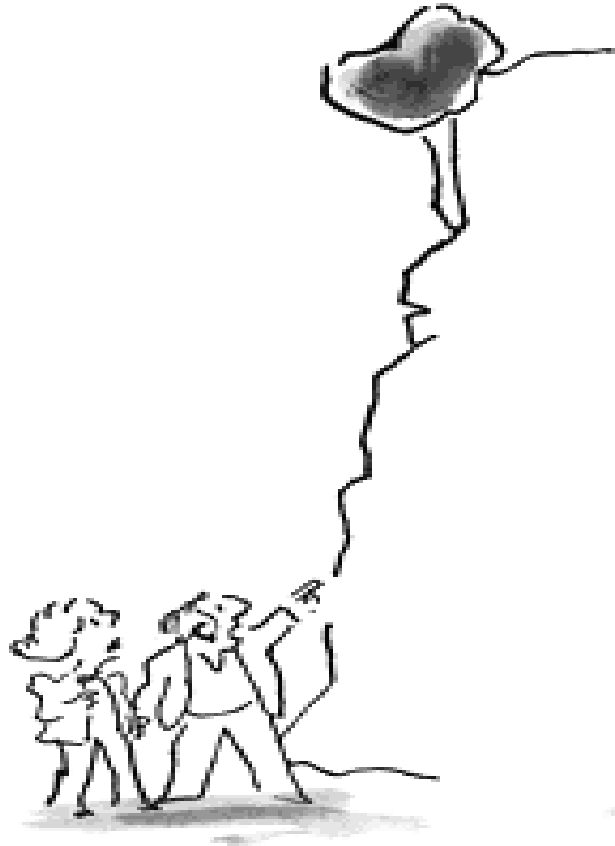


## Accessories/Disposables

# Patient Interaction



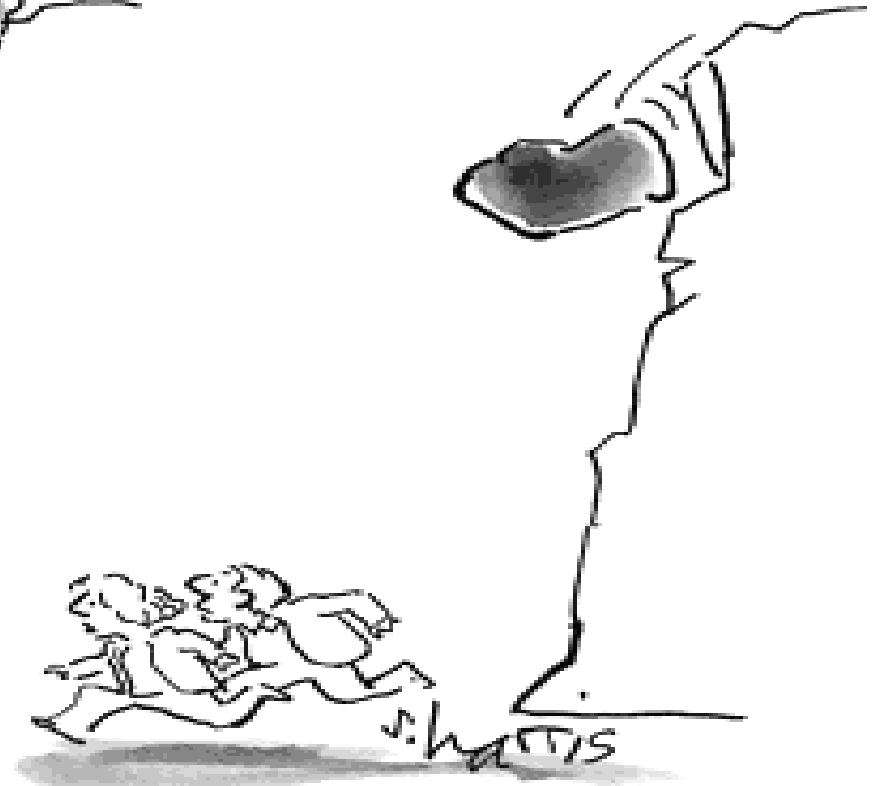
RISK  
PERCEPTION



RISK  
ASSESSMENT



RISK  
MANAGEMENT



Source: Sydney Herald, modified by Bernd Rohmann

# Establishing Enterprise Risk Management

- ▶ No one RIGHT way – fit with local goals & objectives
- ▶ Desired goals
  - Achieve better organizational decision making
  - Align the organization's risk appetite with its strategic plan
  - Assist the board with its corporate governance obligations
  - Centralize accountability for risk
  - Incorporate risk management into the organization's overall decision-making process
  - Optimize regulatory compliance
  - Reduce risk exposure
  - Standardize the process for risk assessment and analysis

<https://www.ecri.org/components/HRC/Pages/RiskQual22.aspx?tab=2>



# Framework

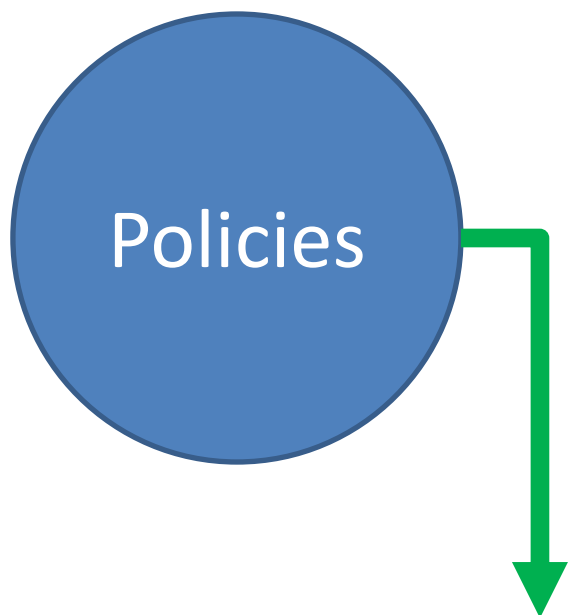
**Figure. Enterprise Risk Management (ERM) Action Steps**



ERM1501

# Risk Management's Greatest TOOL ...

## *Patient Safety Reporting System*



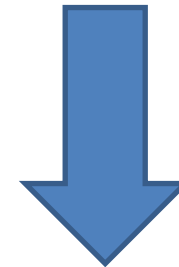
The difference of  
Who Should Vs.  
Who Could...



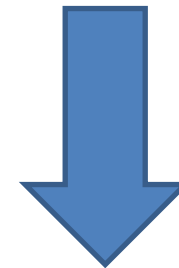
# Outcome Example

## ▶ *Hospital 1.* (May 2015)

- Integrate Risk Management & Patient Safety
- Organisation wide culture of safety – same goal, committed to prevent, detect, respond, analyse, and learn/teach
- 1000 reports a month (including near miss)
- RM work closely with specialists to ensure they are notified of any potential risk-related events so that they can support providers through disclosure, as well as be proactive in resolving patient complaints



50% drop in Malpractice claims



62% drop in professional liability premiums in 2006

# It's a Long and Winding Journey

## ► Change is a Herculean Task

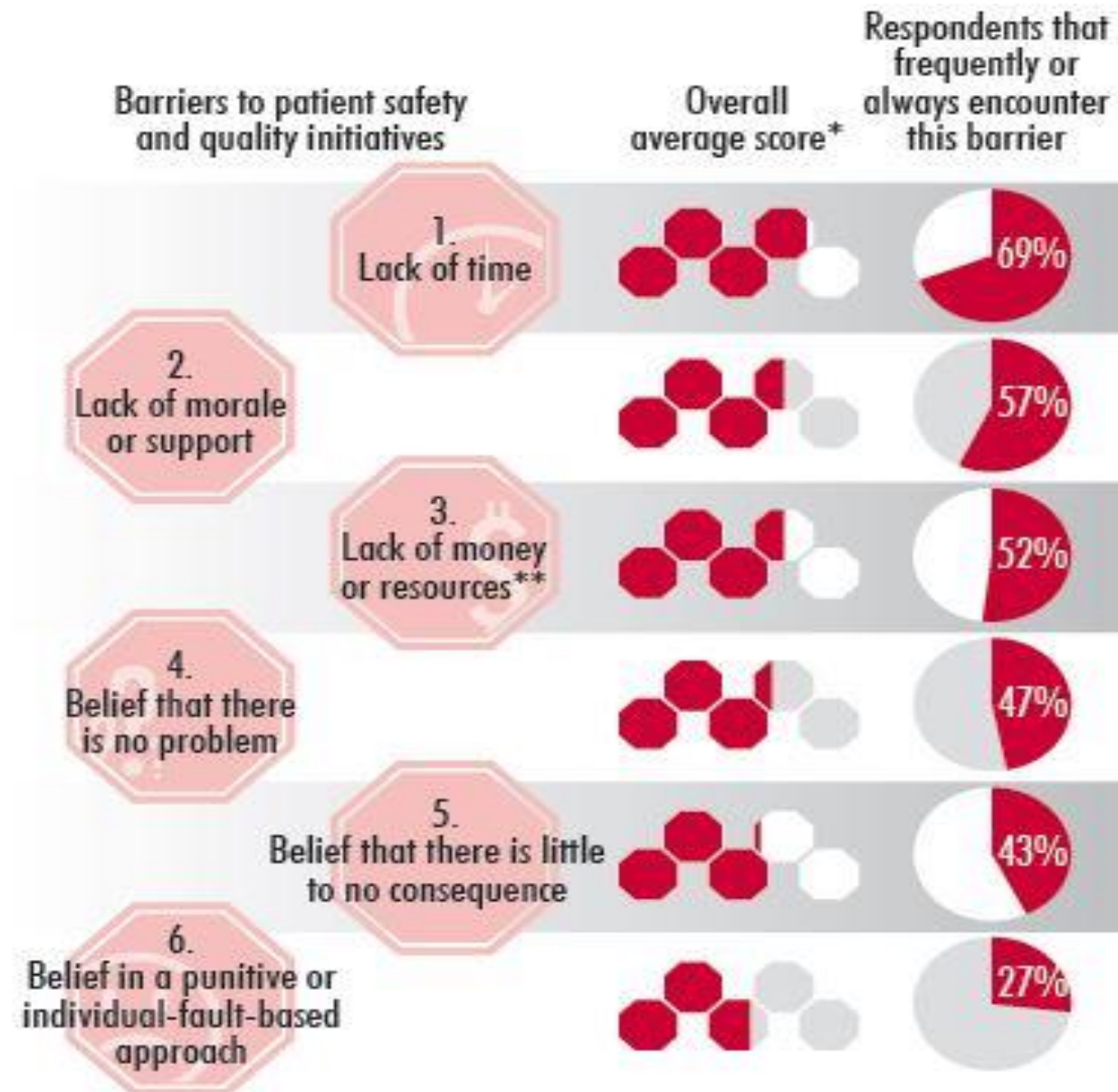
Oppositions

Clinical Team reluctance in Change

Administration question the data

No time, No resources

# Most Common Barriers Chosen by Survey Respondents (2014)



Educational materials from ECRI Institute, (610) 825-6000

\* Frequency that the barrier is encountered, based on 5-point scale. 1 - Never, 2 - Rarely, 3 - Sometimes, 4 - Frequently, 5 - Always. 113 respondents.

\*\* 112 respondents

# Summary

- ▶ Risk Management Tools
- ▶ Implementation method and process
- ▶ It is NOT perfect
- ▶ Culture of Safety needs to be embedded
- ▶ Acceptance and Support from Leadership
  
- ▶ COMMON GOAL ... THE PATIENT

# Questions?

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# Thank You