

How *Medication Errors* Can be Used to Leverage Improvement

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Goals and Objectives

- **Describe** if a medication error is due to simple human error, risky behavior or reckless behavior and if it requires employee coaching or disciplinary action.
- In a **Just Culture**, understand how to apply principles of **root cause analysis** to a medication error investigation.
- List the phases a “**second victim**” goes through after an event and how a manager can support their employee



Tools to Take Home

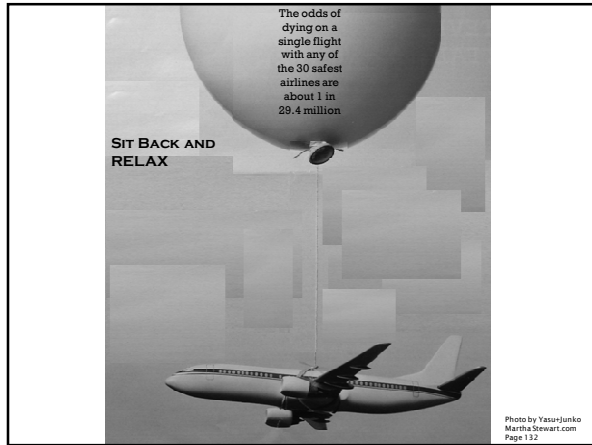
- How to do a Root Cause Analysis (RCA)
- Examples of how to promote Just Culture in your Pharmacy Department
- Supporting your staff after an event
- Medication Safety Metrics that could be reported
- Useful reference materials





Mission Statements

- To improve the health of people in our region.
- We serve together into improve the health of our communities and to steward the resources entrusted to us.
-we are committed to the care and improvement of human life. In recognition of this commitment, we strive to deliver high-quality, cost-effective health care in the communities we serve.
- To improve the lives of those we touch.
- We improve health one patient at a time in a friendly and professional culture committed to superior quality and safety.
- To fulfill President Lincoln's promise "To care for him who shall have borne the battle, and for his widow, and his orphan by serving and honoring the men and women who are America's veterans
-we are positively changing lives - lives that are affected by mental and emotional stress or chemical dependency. It is our philosophy that nobody needs to cope alone.
- Dedicating our best today for your best tomorrow
-is dedicated to improving the quality of life for individuals suffering from catastrophic injury or chronic illness.



Human Reliability

- Intelligent human beings have an intrinsic error rate of about **3%**
- Perfection is not possible since humans make mistakes
- First step in **Culture of Safety**: get folks to admit they will might make an error.
- "Safety performance is **90% about people** and that is what makes it so simple and so complex"

RA Carillo 2002

How We Err

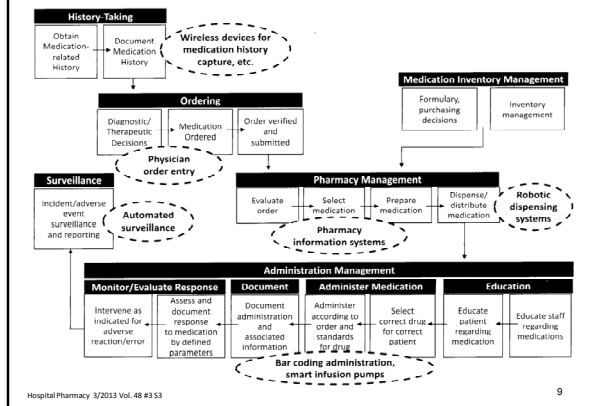
- Skill based Slips (automatic)
 - Attention failures, Lapses in memory
 - Risk increases with stress, distraction, perception (think SALAD here)
- Rule based mistakes (intuitive)
 - Miss applying a rule based on previous experience or applying a bad rule
- Knowledge based mistakes (critical thinking)
 - No experience and create wrong solution

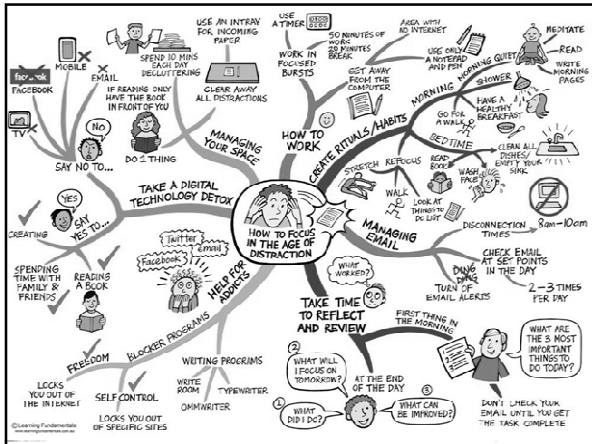
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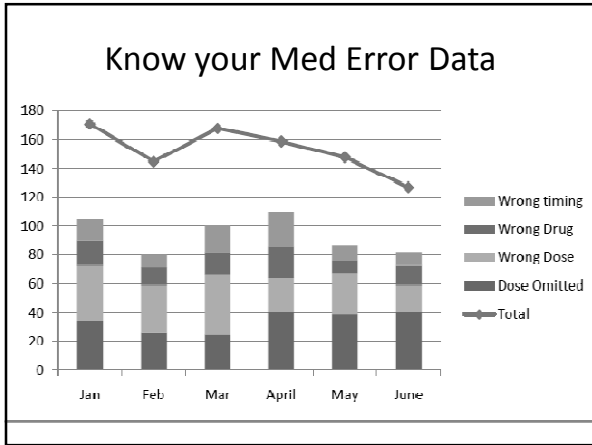
We are predisposed to Errors

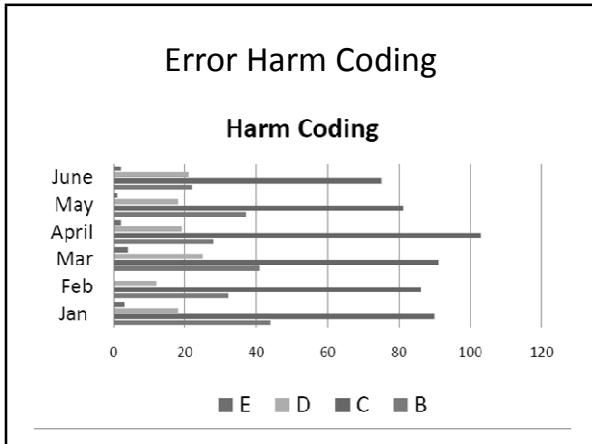
- Confirmation bias:
 - We see what we expect $0.15\text{mg}/\text{kg} \times 0.8\text{kg} = 1.2\text{mg}$
 - Our brains try to impose our expectations
- Illusion of Control:
 - We focus on ritual behavior even when it adds no value or leads us astray
- Status Quo Bias:
 - We prefer the current situation
 - We have a tendency to fall back onto old ways

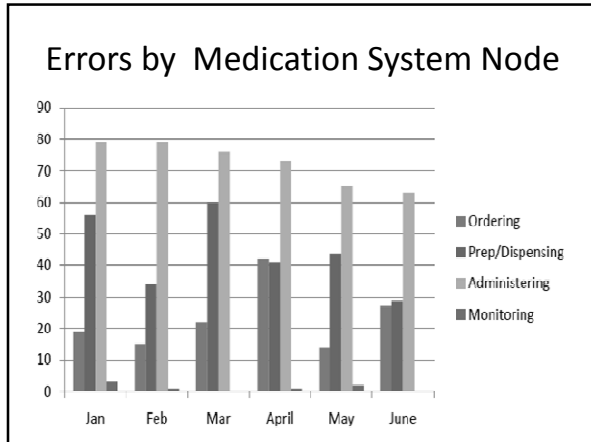
SLHS Complexity of our Medication Systems













What is Culture?



"The way we do things around here."

- **Shared** perceptions about what is good, right, important, valued, rewarded, supported and expected
- Culture is **shaped by**:
 - Policies, practices and procedures
 - The values and personalities of people in the organization
 - Leadership
- specific **pieces of culture** like:
 - Safety Climate: To what extent is safety of patients a priority?
 - Teamwork Climate: To what extent is collaboration valued and supported?



Culture of Safety

- An organization that performs high-risk activities with low accident rates, includes blameless voluntary reporting systems, rigorous analysis of accidents and near misses, open communication about safety and error that includes the patient and family, and a focus on individual accountability, and an unflagging commitment to patient safety from leadership*.

*the most important factor in predicting safety is **leadership**

“Just Culture”

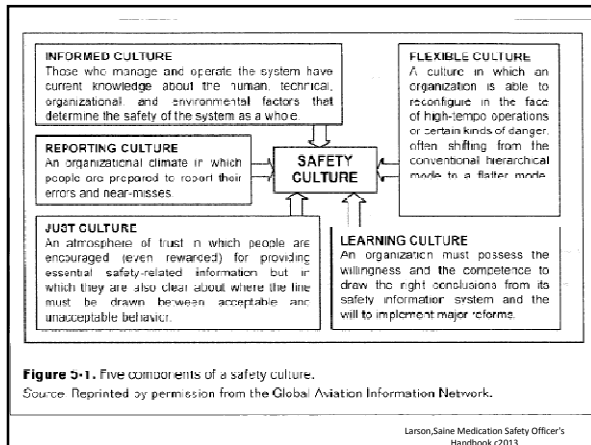
You believe:

- Professionals will make mistakes
- Professionals will develop unhealthy norms
- In a fierce intolerance for reckless conduct
- Hazards and errors will be reported
- there should be Accountability for choosing to take risk
- System safety will improve

Employees must:

- say “I’ve made a mistake”
- if need risky behavior should ask for permission
- Resist the growth of at-risk behavior
- Participate in generating learning from our every-day bad experiences

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Safety Culture requires Effective Communication and Teamwork:

Structured Communication	Briefing, Checklist, SBAR, Debriefing
Assertion/Critical Language	Key words, the ability to speak up and stop the show
Psychological Safety	An environment of respect Folks speak up without fear
Effective Leadership	Sharing the plan, continuously inviting other team members into the conversation, explicitly asking people to share questions or concerns, using people's names

People's Performance is shaped by:

- Stress
- No stress (boredom)
- Workload
- Workflow
- Distractions
- Team Performance – poor communication
- Environment



At Risk Behavior

- Drift: we naturally deviate from required behaviors as we gain confidence and expertise
- Drift is a behavioral choice that creates unjustifiable RISK
- At Risk behaviors is often habitual and may take awhile
- At Risk behaviors: related to culture



Drift....how much to allow



At Risk Behaviors

- Talking on phone during order entry
- Not clarifying an order
 - Pediatric dose in ml you change to mg
 - Taking a poll on handwriting on high alert drug
- Allowing distraction to be norm
- Scanning medication barcodes after you administer the drug



Risky → Reckless

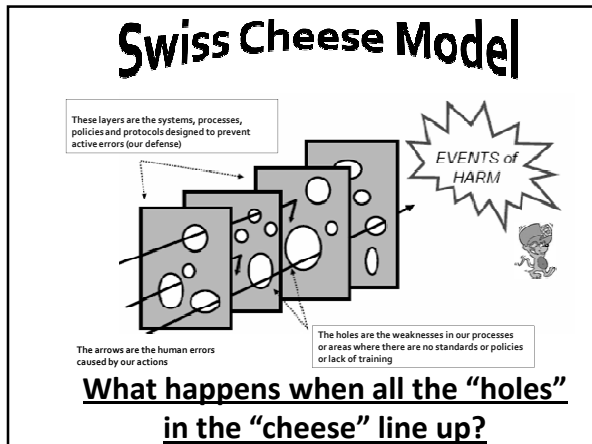
- Disregard of known rule that creates or worsens harm to patient
- Intentional acts of violence
- Reckless disregard toward safety of patients, employees
- Substance abuse
- Cover up of incident

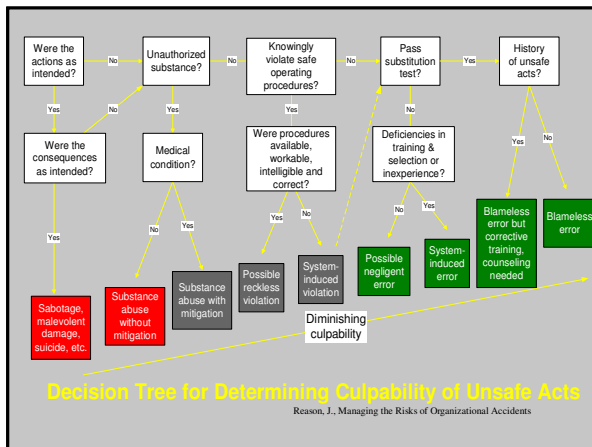


Rewards

- Do you reward speed more than accuracy
- Allow Drift like working faster to accomplish more
- Very competent have fading perception of risk
- Managers reward the right things to ensure safety.







Case Study

- Busy pharmacist answers the phone while processing a big order, opens a second patient’s record and forgets to go back to original record once done with phone call.
 - Slip
 - Risky
 - Reckless

Approach to those involved

- **Console** the *Human Error*
 - Manage through changes in processes/procedures, training, environment
- **Coach** the at *Risk Behaviors*
 - Manage through removing incentives for at risk behavior, increasing situational awareness
- **Discipline** the *Reckless Behavior*
- Support “Second Victims”



Don't Let a medication error go to waste: detailed analysis if

- Potential for significant patient harm
 - Good catches that were lucky
- High harm severity
- High alert medications
- Recurrent events



Event Investigation Tools

- Root Cause Analysis (RCA):
- Fixing Your Systems
 - Getting staff to accept CHANGE
 - LEAN thinking = a systematic process used to implement change within a system



Methodology for Ensuring You have Good Processes

- **Prospective** – Risk
 - FMEA (Failure Mode Effects Analysis)
 - ISMP Self Assessments
 - Review of ISMP Medication Safety Alerts
- **Retrospective** – Error
 - RCA (Root Cause Analysis)



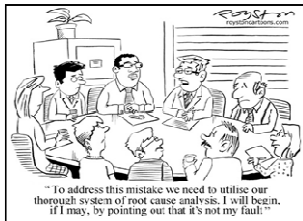
Event Investigation: Retrospective = RCA

- What happened
- What was supposed to happen
- What does procedure require
- Why did it happen – Root Cause Analysis
 - Reasons for the failure of one or more processes
 - Point in process where an intervention could prevent this from happening



ROOT CAUSE ANALYSIS

Root Cause Analysis (RCA) is a class of problem solving methods aimed at identifying the root causes of problems or events. The practice of RCA is predicated on the belief that problems are best solved by attempting to correct or eliminate root causes, as opposed to merely addressing the immediately obvious symptoms. By directing corrective measures at root causes, it is hoped that the likelihood of problem recurrence will be minimized.



ROOT CAUSE ANALYSIS (Continued)



RCA meeting expectations for all participants include:

- Information is **peer review privileged** and specifics surrounding the event should not be discussed outside of the meeting
- Discussions should be **open**
- Meeting should focus on **systems and processes**, not individual responsibilities
- Meetings are not a medical or nursing peer review process
- Participants should **refrain from interrupting others** and respect each individual's opportunity to share views, concerns and ideas
- Participants should **remain objective**

9/16/2013

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Before you Start RCA

- No Hindsight Bias
 - You usually only know 2 things when you start your investigation
 - Last person involved
 - What the outcome was
- No Severity Bias
- Staff interviews are important: set culture so they tell you the real story
 - Let interviewees talk...don't lead them



RCA Steps



- Determine participants for RCA
- Event facts: documentation and interviews
 - Develop timeline and sequence of events
- Group agrees on process as it should occur
- Compare that with what did occur and why there were deviations
- 5 Whys to determine root cause(s) [contributing factors]

Herding the smart people

- Everyone always wants to jump to conclusions
- Scope creep can occur
- Do not pre judge: never assume you know what happened until you hear the entire story from ALL who were involved.



RCA Steps con't

- From Root Cause(s) **develop action plans:**
 - Mistake proof, standardize, forcing functions best
- Assign **someone responsible** for action plan and time due.
- Follow-up: **re assess** several months later to ensure plan is working.
- Share “fixes” up to leaders and down to staff

RCA: Contributing Factors

- Management over site (no focus on safety)
- Human factors (fatigue, stress)
- Environmental factors (busy, interruptions)
- Poor policies, no policies, drift from policy
- Inadequate training
- Inadequate supervision
- Communication (missing info you need)
- Technology and Tools
- Teamwork issues
- Harassment or intimidation

RCA when:

- Reviewable Sentinel Events
 - Event resulted in “unanticipated death/major permanent harm not related to the natural course of the patient’s illness or underlying condition or”
 - Suicide
 - Death of full term infant
 - Discharge of infant with wrong family
 - Sexual abuse/assault
 - Hemolytic transfusion reaction

RCA when:

- Reviewable Sentinel Events
 - Invasive procedure on wrong patient or site
 - Unintended retention of a foreign body
 - Severe neonatal hyperbilirubinemia
 - Prolonged radiation...

- When something keeps you up at night or it’s a “holy cow” or “signal” of something bigger.



Joint Commission RCA

- Intended process flow
- Equipment performance
- Controllable/uncontrollable environmental factors
- Where else could this happen
- Competency of staff and staffing levels, performance of staff

Joint Commission RCA

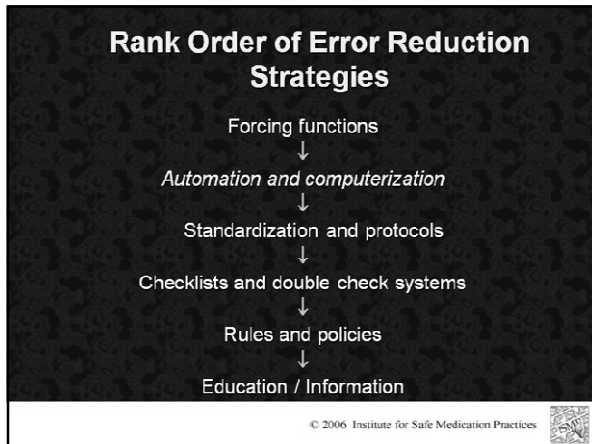
- Was information available
- Communication between staff
- Process occurring in right environment
- Culture of safety
- Barriers to communication
- Leadership's role
- Using technology as intended

Thorough RCA for Joint Commission


- A determination of the **human** and other **factors** most directly associated with the sentinel event and the process(es) and systems related to its occurrence
- An analysis of the **underlying systems** and processes through a series of "Why?" questions to determine where redesign might reduce risk
- **Scope** is adequate for type of event (see next slide)
- An identification of **risk points** and their potential contributions to this type of event
- A determination of **potential improvement in processes** or systems that would tend to decrease the likelihood of such events in the future, or a determination, after analysis, that no such improvement opportunities exist

Scope for SE Medication Errors

- Physical assessment process
- Individual identification process
- Continuum of care
- Staffing Levels
- Orientation, training , competency supervision of staff
- Communication with patient/family other staff
- Availability of information
- Adequacy of technical support
- Equipment maintenance and management
- Physical environment
- Med Management (procurement, storage, ordering, transcribing, prep dispensing, administering, monitoring)



“Good” RCA



- All stakeholders attended
- Everyone talked and was honest
- Offered constructive advice on action items
- Root Causes were discovered and agreed on by those actually doing the work
- There was enthusiasm around action plan
- Staff involved felt supported during RCA
- Action plans included more than “education” and implemented fully and process re-measured.

Action Plans for Improvement: Error Reduction Strategies

- Simplify
- Reduce Reliance on Memory
- Standardize
- Error Proof
- Improve Information Access
- Make errors visible
- Reduce Handoffs
- Automate wisely
- Mitigate unwanted side effects of change
- Improve communication
- Provide adequate training

Communication Tools

- SBAR: tool to share key information
 - Situation
 - Background
 - Assessment
 - Recommendation
- Debrief after events
- Checklists
 - Between Shifts
 - High Risk scenarios
- Patient Communication with AIDET

STOP THE BUS!



“I need clarity”

Not offensive to others on team and doesn't scare the patient

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Safety Culture

- Voluntary Reporting
- Good catches
- Shift Huddles = sharing errors = transparency
- Stories = Patient Safety Moments
- Safety Walk Rounds



Patient Safety WalkRounds

Leadership WalkRounds are an improvement tool that connect senior leaders with their frontline staff to help build a culture of safety within the organization.

Benefits of WalkRounds:

- Allow executive leaders to have a structured conversation around patient safety with frontline staff, and enquire as to the barriers to caring for patients as safely as possible
- Establish a strong commitment by senior leadership to a culture that encourages patient safety
- Education staff about patient safety concepts and improvement as well as incident reporting systems
- Connect senior leaders with staff as a way to both educate senior leadership about safety issues and to signal to staff senior leaders' commitment to a patient safety culture.

Tools

- Resources from organizations that promote a culture of safety:
 - FDA's Safe Use Initiative
 - The Joint Commission + NPSGs
 - Institute for Safe Medication Practices (ISMP)
 - Institute for Healthcare Improvement (IHI)
 - National Patient Safety Foundation (NPSF)
 - VA National Center for Patient Safety

CAREGIVER SUPPORT (SECOND VICTIM) TOOLKIT

"The term second victim is used to describe those who suffer emotionally when the care they provide leads to patient harm"
~Albert W. Wu, MD, MPH

Managers need to have access to resources to support their employees after events occur.



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Stages staff go through post event

1. Stage 1: Chaos and Accident response

- a. Error realization
- b. Get help for patient
- c. Stabilize/Treat patient

2. Stage 2: Intrusive Reflections

- a. Re-evaluate clinical scenario
- b. Self isolation
- c. Haunted re-enactments

3. Stage 3: Restoring Personal Integrity

- a. Acceptance among work/social structure
- b. Managing gossip grapevine
- c. Fear

...post event

4. Stage 4: Enduring the inquisition

- a. Reiterate the case scenario
- b. Respond to multiple "why's"
- c. Interact with many different event management staff

5. Stage 5: Obtaining Emotional First Aid

- a. Personal and Professional Support
- b. Getting/Receiving Help/Support
- c. Litigation Assistance

.....post event

6. Stage 6: Moving On

a. Dropping Out:

- i. Move to a new unit/facility
- ii. Strongly Consider quitting role
- iii. Feelings of gross inadequacy

b. Surviving:

- i. Coping, but still having intrusive thoughts
- ii. Persistent sadness
- iii. Hanging in there

c. Thriving:

- i. Maintain life/work balance
- ii. Gain insight/perspective
- iii. Make something positive out of event

Include staff in RCAs



- The National Quality Forum offers this Safe Practice Statement: "Following serious unintentional harm due to systems failures and/or errors that resulted from human performance failures, the involved caregivers (clinical providers, staff, and administrators) should receive timely and systematic care to include: treatment that is just, respect, compassion, supportive medical care, and the opportunity **to fully participate in event investigation and risk identification and mitigation activities that will prevent future events.**"

Medication Safety Metrics

- Harm Coding: taxonomy
 - NCC MERP Severity Index Coding (A – I)
 - HPI SEC Levels of Harm Coding (Near miss – Serious Safety Event)
- Harmonization of these scales:
 - See HPI (Healthcare Performance Improvement White Paper December 2009).

<http://hpiresults.com/docs/PatientSafetyMeasurementSystem.pdf>

Medication Error Measurement

- Why measure: learn and improve our medication systems
- Voluntary reporting captures **5-10%** of what is really happening
- Read "Signals" from your data
- Outcome measures
- Process measures



Process Measures

- Pharmacist interventions / 100 admissions
- % of staff completing training in Med Safety
- % of new processes that have an FMEA performed
- Number of self-reported med errors
- Dispensing errors detected by bar code reading
- Number of near – misses with high alert drugs

Outcome Measurements

- ADEs / 1000 doses
- ADEs by harm coding
- Reduction of patient harm from ADEs
- % of patients receiving a specific high-risk medication with related ADE
- Patient Satisfaction Scores
- Number of errors after pharmacy hours

Medication Error Data

- Adverse Drug Event Reports (ADEs)
- Adverse Drug Reactions (ADRs)
- Trigger Reports (ADE or ADR)
 - naloxone
 - D50
 - Vitamin K
- Data Mining from ICD coding
- Error rates: use caution!

Automation Metrics

- Smart Pumps
 - Usage goal of profiles of 80 – 90%
- Bedside Barcode Scanning adherence
 - 95% +
- Override rate of Automatic Dispensing Cabinets

Medication Error Metrics

- Harmful errors with % of action plans implemented
- Harmful errors / 1000 doses dispensed
- # pts with ADE to drug/#pt on drug
- # good catches/all events discovered
- Rx interventions: rate of ADEs prevented through Rx interventions/100 admissions
- Metrics related to warfarin/heparin management

Summary

- Safety is a journey
- Culture is very important
- Leadership is very important
- You should never let a good medication error go to waste
- Attached are a list of key references



Key References

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