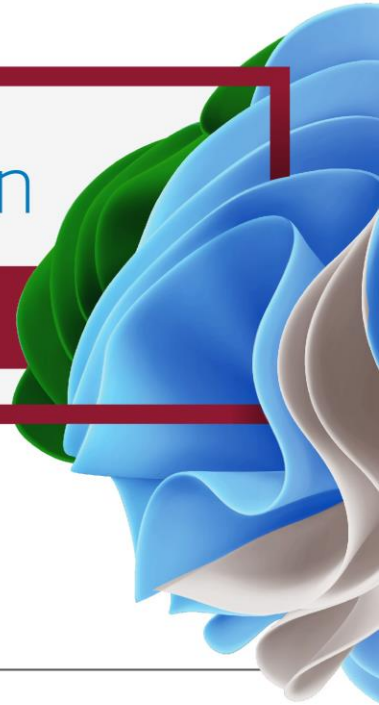
In Collaboration with

Middle East Forum on Quality & Safety in Healthcare 2023

16-19 March, Doha



Building Situational Awareness to Manage Risk

Healthcare Resilience in Extraordinary Times

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Hamad Healthcare Quality Institute

Building Situational Awareness to Manage Risk

Are you aware of all that I going on around you?

Frank Federico
Executive HRO Coach
Patient safety Expert

Conflict of Interest

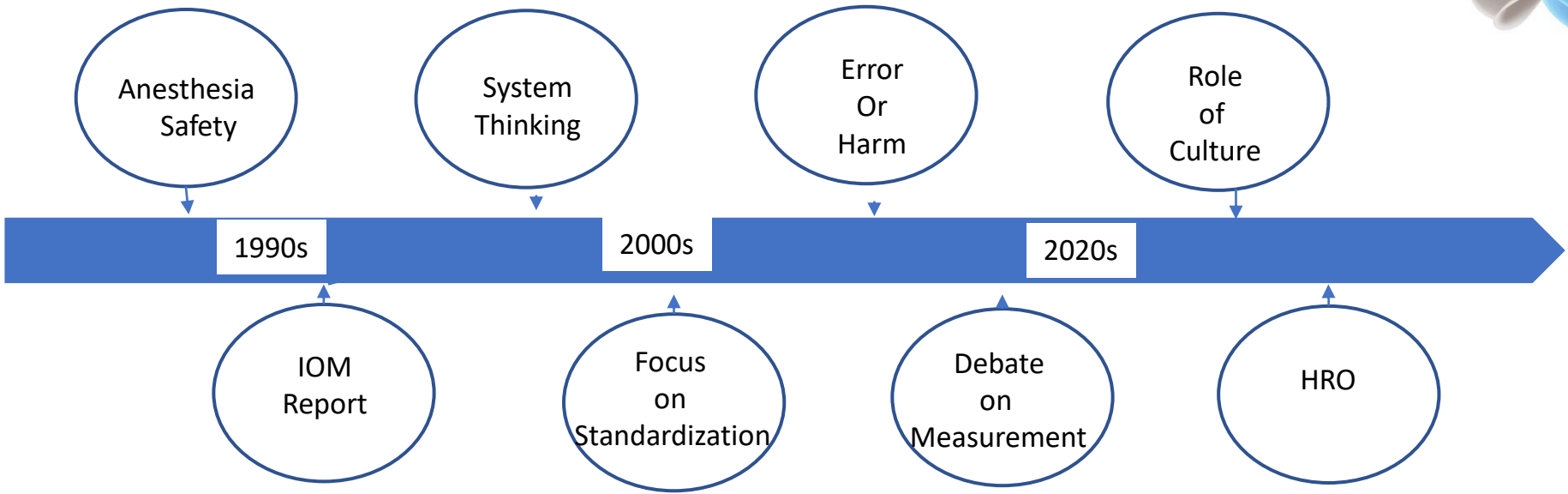
The speaker(s) or presenter(s) in this session has/have no conflict of interest or disclosure in relation to this presentation.

Learning Objectives

At the end of this session, participants will be able to:

1. Describe situational awareness
2. List how one can improve their situational awareness
3. Identify activities that deal with emerging risks

Timeline of Patient Safety Journey



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Have We Improved?

Twenty years later, such errors remain a serious concern, with tens of thousands of patients experiencing harm each year. But while much work remains, the patient safety movement has achieved several significant successes, experts say.

20 years of patient safety. AAMC News

“But we're really not even halfway through the journey that we need to be on, which is to get to a destination where really everyone going to the hospital can feel confident that it's a safe place and that they're going to get their condition treated and they're not going to come up with something else because of an error or lapse in safety or any other issue,” Krumholz said.

U.S. Hospitals Are Getting Safer for Patients, Study Finds

July 20, 2022

SPECIAL ARTICLE

The Safety of Inpatient Health Care

David W. Bates, M.D., David M. Levine, M.D., M.P.H.,
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Laura C. Myers, M.D., M.P.H., Merranda S. Logan, M.D., M.P.H.,
Christopher G. Roy, M.D., M.P.H., Christine Iannaccone, M.P.H., Michelle L. Frits, B.A.,
Lynn A. Volk, M.H.S., Sevan Dulgarian, B.S., B.A., Mary G. Amato, Pharm.D., M.P.H.,
Heba H. Edrees, Pharm.D., Luke Sato, M.D., Patricia Folcarelli, Ph.D., R.N.,
Jonathan S. Einbinder, M.D., M.P.H., Mark E. Reynolds, B.A.,
and Elizabeth Mort, M.D., M.P.H.

Conclusion

Adverse events were identified in nearly one in four admissions, and approximately one fourth of the events were preventable.

What is keeping us from further improvement?

- Some still do not acknowledge the level of harm present
- Interventions that time and effort to implement
- Some interventions are limited in what they accomplish
- Many interventions are not sustained
- Too many priorities

- We have added more work in an effort to make care safer
- All the focus is on those who provide care- not enough on leaders and managers
- Cultures of safety may be lacking or weak
- We do not know how to prevent all harms
- Do you have other reasons?

National Airlines Flight 193

“...the ground proximity warning system (GPWS) sounded and the "pull up, pull up" voice warning began...”

"The crew failed to check and utilize all instruments available for altitude awareness, turned off the ground proximity warning system and failed to configure the aircraft properly and in a timely manner for the approach."

Chernobyl

“On April 26, 1986, the Number Four RBMK reactor at the nuclear power plant at Chernobyl, Ukraine, went out of control during a test at low-power, leading to an explosion and fire that demolished the reactor building and released large amounts of radiation into the atmosphere. Safety measures were ignored,….”

In the **Deepwater Horizon** incident, the drilling crew held an inaccurate mental model of the developing situation. This was partly fed by erroneous assumptions, inaccurate mental models and ultimately leading to inaccurate situation awareness of the well conditions.

Search of the Lost Cord

Nurse caring for pediatric patient. Wanted to ensure the comfort of the patient. The patient receiving medications via a new automated pump that required recharging and was disconnected from the electrical circuit. Patient also connected to EKG machine. In attempt to reconnect the EKG leads, the nurse plugged the connector to the electrical line intended for the pump.

Hamad Medical Corporation
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CASE RECORDS *of the* MASSACHUSETTS GENERAL HOSPITAL

Founded by Richard C. Cabot

Nancy Lee Harris, M.D., *Editor*
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Eric S. Rosenberg, M.D., *Associate Editor*
Alice M. Cort, M.D., *Associate Editor*
Christine C. Peters, *Assistant Editor*

Case 34-2010: A 65-Year-Old Woman with an Incorrect Operation on the Left Hand

David C. Ring, M.D., Ph.D., James H. Herndon, M.D., M.B.A., and Gregg S. Meyer, M.D.

Ten days later, the patient was admitted to the day-surgery unit, and carpal-tunnel-release surgery was performed without complications. Immediately after completing the procedure, the surgeon realized that he had performed the incorrect operation.

In this case, distractions that interfered with the surgeon's performance of routine tasks included personnel changes, an inpatient consult, and a previous patient's needs

Vanderbilt Case

Nurse assigned a trainee. Asked to administer a medication in the Radiology area. Searched for the medication in the automated dispensing cabinet. Used two letter search for the medication. Drawer opened. Reconstituted the medication and administered to the patient. she left the area. CODE called because patient stopped breathing. Investigation determined that the nurse had administered a paralytic agent.

What is a common issue in each of these cases?

Findings

- Safeguards in place – human and technological
- Person in an unfamiliar situation
- Distraction
- Multi-tasking
- Aware that something is not correct but proceed anyway
- Did not stop to assess the situation
- Did not call a huddle or “stop the line”

Findings

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What was not mentioned?

Loss of Situational Awareness

Why do you think that these people lost situational awareness?

The Problem With Our RCAs

- Many investigations stop when they find an error
- Few dig more deeply to understand the situation
- Few examine the behaviors and existing culture that contributed to the defect
- Only when the causes of the ‘lost’ situation awareness are understood can we make any conclusions about incident causes

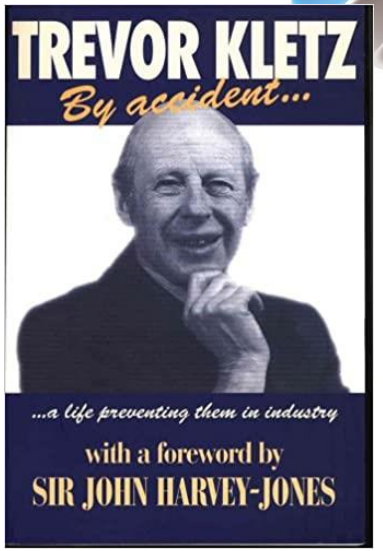
Stating That The Person Lost Situation Awareness Is Not Helpful

- Situational Awareness - should prompt further investigation
  - Why was situational awareness lost?
  - What else was going on?
  - What is the culture of the ward/department/service/hospital?
  - Was the person distracted, and if yes, by what?
  - Was the person overloaded with tasks?
  - Was the person not aware of the risk present in the situation?
  - Did the person have the psychological safety to "**stop the line**" or speak up

It's Not What You Think . . .

- '**Situation Awareness**' listed as a cause
- This term has become overused and misused
  - often a shortcut to saying that someone didn't pay enough attention, or was careless
  - may have led to inappropriate blame and punishment, at the expense of real learning
- "…concluding that incidents are due to human error is about as useful as stating that falls are due to gravity."

Trevor Kletz



- Situational awareness is about getting in the mindset of consciously knowing what you're doing and observing your surroundings
- Being in the moment

- Always important
  - Even if making that same trip to work or going out for a peaceful walk or purchasing an item

Failure to Identify and Assess Risk

- Data/information was not observed, or data/information was not visible
- Incorrect or incomplete mental model applied due to lack of experience or knowledge
- Over-reliance on a mental model or failure to realize that the mental model was incorrect

What could the each of the individuals in the previous cases have done to prevent the event?

Losing Situational Awareness

- "*If it feels wrong then it probably is*"
- Fixation on one thing to the exclusion of everything else
- Poor communications, such as vague or incomplete statements
- Not following established procedures
- Future states that were expected do not materialize
- Not having the 'time to think
- Falling into a pattern that you are not attentive to the task because it has become routine

Daily Stressors

- Number of daily tasks for nurses
- Number of daily tasks for doctors
- Number of daily tasks for pharmacists

Know What Leads to Loss of SA

1. Ambiguity
2. Reduced/ poor communication
3. Confusion
4. Trying something new under pressure
5. Deviating from established norms
6. Verbal violence
7. Doesn't feel right
8. Fixation / boredom / task saturation
9. Being rushed / behind schedule
10. Fatigue
11. Stress
12. Complacency

Three Steps to Address Risk

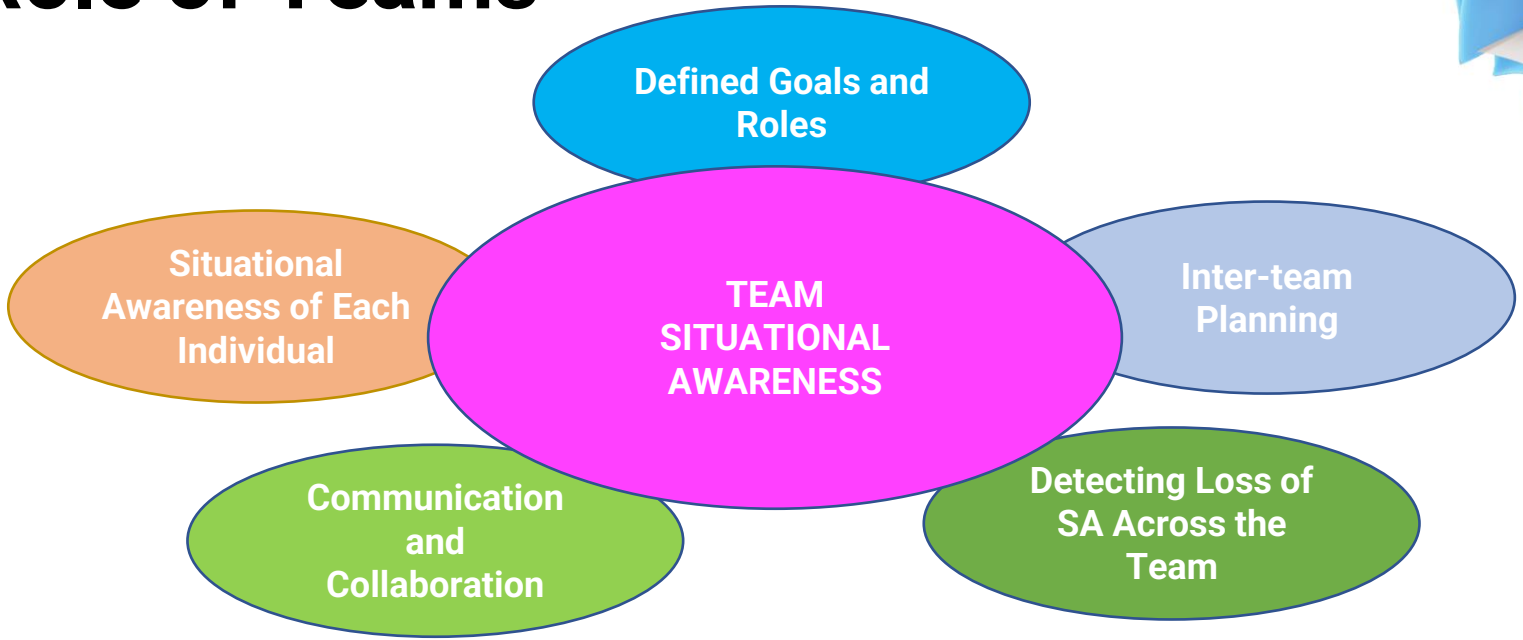
- Identify the risk and assess how serious
- Mitigate/correct/adjust
- Escalate as needed

Peter Lachman, ISQUA

Role of Individuals

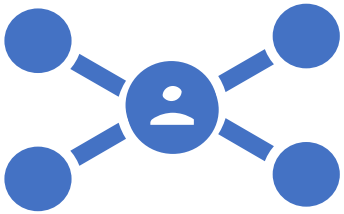
- Be **attentive** to your own mental state
- Be **aware** of the environment
- **Notice** the behavior of the team
- Ask for **clarification** if unclear
- **“Stop the Line”** if concerned about harm to self/staff/patient
- Do NOT multitask
- Pay **attention** to your intuition
- Be brave and **speak up** – be proactive

Role of Teams



Team Situational Awareness

Common mental image of what is happening and an understanding of how others are perceiving the same situation.



“Shared Situational Awareness” : each team member has the same shared situation awareness

Edmond 1995

Role of Managers

Must be aware of:

- The **situation** in your area of responsibility and in the system
- Amount of **workload** of individuals
- Existing **distractions**
- Number ofconcurrent tasks- **multitasking**

- Introduction of a **new procedure or equipment**
- Fatigue and illness
- **Stress** affecting staff
- Level of psychological safety

Role of Leaders

- Develop **psychological safety**
- Set expectations that people will speak up when concerned
- Champion deep **searching** into the **causes** of the loss of situational awareness
- Work with managers/core leaders to develop a healthy environment – **Fair and Just Culture**

Psychological Safety

- Willingness to speak up even when it feels uncomfortable
- Ask questions without fearing that you will be ridiculed or be embarrassed
- “Stop the Line” and reassess

Huddles

- Present opportunity for a team to identify and share concerns/risk
- Help to ensure that all have the same mental model
- Can be scheduled and Ad Hoc

Simulation

- You may not know the risk you are in until someone shows you
- Simulation is useful to place people in environments that may not be common
- Can be useful to build team communications and support
- Helpful when introducing new equipment or new procedure
- Useful to practice communications
- Helpful in predicting contributors to loss of situational awareness

Examples of Cases for Simulation Training

- High risk medications
- Patient not improving as expected
- Breakdowns in communication
- Multiple teams and multiple handovers
- Changes in early warning score
- Patient on service other than expected service

Deteriorating Patient

- Perception of the situation - Early Warning Score
- Understanding the meaning of the perception – assessing the situations
- Rapidly predicting the outcome of the situation- deciding to call rescue/rapid response team

Let’s Revisit the Cases

What could each person involved have done differently?

This Feels Very Stressful

Stress

Awareness

SUMMARY

- There are constantly changing situations which may increase risk
- There are a many factors that contribute to loss of situational awareness
- Simulation is one way in which we can provide training in increasing situational awareness
- Psychological safety is necessary to people to “stop the line”

Thank you

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