MEDD 410 - Patient Safety and Quality Resources

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Objectives:

1. Describe the magnitude of Adverse Events in hospitalized patients
2. Apply a Human Factors approach to Patient Safety and Quality
3. Identify ways that medical students can contribute to a culture of safety
“Patient Safety”

Errors vs. Adverse events

- **Error**: An “error” has occurred when someone does not execute an action as intended or his/her actions do not produce the intended outcomes. ¹

- **Adverse event**: An event which results in unintended harm to the patient, and is related to the care and/or services provided to the patient, rather than to the patient's underlying medical condition

² Harvard Medical Practice Study, NEJM 1991
• 4% of patients had 1 or more Adverse Events
• 28% were due to “negligence”
• Deaths due to AE’s = = 1/200 admissions

Deaths in Hospital due to Preventable Adverse Events:
44,000 - 98,000 per year

- Motor vehicle accidents (43,458)
- Breast cancer (42,297)
- AIDS (16,516)

7.5% of patients had 1 or more Adverse Events
39% were Highly Preventable
Deaths due to AE’s = 1/165 admissions


• 7/100 hospital patients is harmed receiving care
• Each year, unsafe injections cause 1.3 M deaths
• At any given time, 1.4 M people die from Hospital Acquired Infections

WHO 2013 10 Facts on Patient Safety
http://www.who.int/features/factfiles/patient_safety/en/

Human Factors Approach:

Framework for analyzing risk and safety in clinical medicine.

Analyses of accidents in medicine and elsewhere have lead to a much broader understanding of adverse event causation, with less focus on the individual who makes an error and more on pre-existing organisational factors that provide the conditions in which errors occur.

This is called a “Human Factors Approach”
Our initial approach when an adverse event has occurred is to focus on what happened at the “sharp end” or the interface between the patient and the task that a provider was performing.

This approach ignores the other factors that loom beneath the surface that have a much larger effect on patient safety and quality.

In fact, as we go from the blunt end to the sharp end, closer to the patient, we have a decreasing ability to prevent error.

Taking a big picture approach and looking deeper at the organizational, environmental and team factors is what we mean by Quality Improvement. As we move closer to the patient, we term our approach Patient Safety. But it is a continuum and they are related.
Table 1. Framework of Factors Influencing Clinical Practice and Contributing to Adverse Events.*

<table>
<thead>
<tr>
<th>Framework</th>
<th>Contributory Factors</th>
<th>Examples of Problems That Contribute to Errors</th>
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</thead>
<tbody>
<tr>
<td>Institutional</td>
<td>Regulatory context</td>
<td>Insufficient priority given by regulators to safety issues; legal pressures against open discussion, preventing the opportunity to learn from adverse events</td>
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<td>Medicolegal environment</td>
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<tr>
<td>Organization and management</td>
<td>Financial resources and constraints</td>
<td>Lack of awareness of safety issues on the part of senior management; policies leading to inadequate staffing levels</td>
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<td></td>
<td>Policy standards and goals</td>
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<td></td>
<td>Safety culture and priorities</td>
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<tr>
<td>Work environment</td>
<td>Staffing levels and mix of skills</td>
<td>Heavy workloads, leading to fatigue; limited access to essential equipment; inadequate administrative support, leading to reduced time with patients</td>
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<td></td>
<td>Patterns in workload and shift</td>
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<td></td>
<td>Design, availability, and maintenance of equipment</td>
<td></td>
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<td></td>
<td>Administrative and managerial support</td>
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<tr>
<td>Team</td>
<td>Verbal communication</td>
<td>Poor supervision of junior staff; poor communication among different professions; unwillingness of junior staff to seek assistance</td>
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<td></td>
<td>Written communication</td>
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<td>Supervision and willingness to seek help</td>
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<td></td>
<td>Team leadership</td>
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<td>Individual staff member</td>
<td>Knowledge and skills</td>
<td>Lack of knowledge or experience; long-term fatigue and stress</td>
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<td>Motivation and attitude</td>
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<td></td>
<td>Physical and mental health</td>
<td></td>
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<tr>
<td>Task</td>
<td>Availability and use of protocols</td>
<td>Unavailability of test results or delay in obtaining them; lack of clear protocols and guidelines</td>
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<tr>
<td></td>
<td>Availability and accuracy of test results</td>
<td></td>
</tr>
<tr>
<td>Patient</td>
<td>Complexity and seriousness of condition</td>
<td>Distress; language barriers between patients and caregivers</td>
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<td>Language and communication</td>
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<td></td>
<td>Personality and social factors</td>
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</table>

* The framework is based on Vincent et al.*

Table 2. Examples of Care-Management Problems.

- Failure to monitor, observe, or act
- Delay in diagnosis
- Incorrect assessment of risk (e.g., risk of suicide or self-harm)
- Loss of information during transfer to other healthcare staff
- Failure to note faulty equipment
- Failure to carry out preoperative checks
- Deviation from an agreed protocol (without clinical justification)
- Failure to seek help when necessary
- Use of incorrect protocol
- Treatment given to wrong body site
- Wrong treatment given

Approach to Barriers or Defenses:


Reason proposed what is referred to as the “Swiss Cheese Model” of system failure.

- Every step in a process has the potential for failure, to varying degrees.
- The ideal system is analogous to a stack of slices of Swiss cheese.
- Consider the holes to be opportunities for a process to fail, and each of the slices as “defensive layers” in the process.
- An error may allow a problem to pass through a hole in one layer, but in the next layer the holes are in different places, and the problem should be caught.
- Each layer is a defense against potential error impacting the outcome.

- For a catastrophic error to occur, the holes need to align for each step in the process allowing all defenses to be defeated and resulting in an error.
- If the layers are set up with all the holes lined up, this is an inherently flawed system that will allow a problem at the beginning to progress all the way through to adversely affect the outcome.
- Each slice of cheese is an opportunity to stop an error.
- The more defenses you put up, the better.
- The fewer the holes and the smaller the holes, the more likely you are to catch/stop errors that may occur.
What You Can Do:

1. Follow Safety Protocols
2. Ask Questions when you have concerns
3. Communicate Clearly
4. Take Care of Yourself
1. Follow Safety Protocols

Clostridium Difficile

- Most common Health Care Infection
- Transmission related to touching surfaces
- Antibiotics increase chance of infection


The 5 Moments
# 1 Measure for Preventing Health Care Associated Infections

![Handwashing steps](http://www.who.int/gpsc/5may/en/)

- **1a**: Apply a sufficient amount of the product in a cupped hand, covering of surfaces.
- **1b**: Rub hands palm to palm.
- **2**: Rub hands palm to palm.
- **3**: Right palm over left dorsal with interlaced fingers and vice versa.
- **4**: Palm to palm with fingers interlaced.
- **5**: Backs of fingers to opposing palms with fingers interlaced.
- **6**: Notational rubbing of left thumb clashed in right palm and vice versa.
- **7**: Palms of hands and backs of hands with clasped fingers of right hand in left palm and vice versa.
- **8**: Once dry, your hands are safe.

World Health Organization Patient Safety **Save Lives Clean Hands**

http://www.who.int/gpsc/5may/en/

Application time of hand hygiene & reduction of bacterial contamination

Handrubbing is:
- more effective
- faster
- better tolerated

Pittet and Boyce. *Lancet Infectious Diseases* 2001

World Health Organization Patient Safety Save Lives Clean Your Hands
2. Ask Questions

Don Berwick on Speaking Up:

https://www.youtube.com/watch?v=iSyARc1d8gs&feature=youtu.be

IHI Online Catalogue – Patient Safety Courses:
http://app.ihi.org/lms/onlinelearning.aspx

Introduction to Patient Safety 100
Lesson 1: Understanding Medical Error and Patient Safety
Lesson 2: Understanding Unsafe Acts
Lesson 3: A Call to Action — What YOU Can Do
3. Communicate Clearly

An estimated 80% of serious medical errors can be linked to miscommunication between caregivers when patients are transferred or handed-off.

http://www.jointcommission.org/issues/article.aspx?Article=RZIHoUK2oak83WO8RkCmZ9hV5hT8Zbr14Nzn2lEUk=
4. Take Care of Yourself

- Use self-restraint and try not to overextend yourself.
- Take daily time-outs for exercise, yoga, or meditation.
- Make time to connect with friends and family in a meaningful way
