PREVENTION OF MEDICAL ERRORS

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Donald Wood graduated with an Associate Degree in Nursing from Florida Junior College and a Diploma in Nurse Anesthesia from Richland Memorial Hospital, Columbia South Carolina. He is a Registered Nurse with certifications in Nurse Anesthesia, Healthcare Compliance, and Healthcare Privacy Compliance. He is a Florida Licensed Healthcare Risk Manager and a Certified Professional in Healthcare Risk Management.

Mr. Wood has over 40 years of experience including 17 years as a chief anesthetist. His involvement includes nursing education, hospital safety committees, EMR setup/management, and medical simulations. Mr. Wood is an author and speaker having presented to audiences at the local, state and national level.
Objectives

After completing this activity, learners will be able to:

- Describe a root-cause analysis
- Recite the most “misdiagnosed” conditions
- Recognize medical error reduction and prevention strategies
- Identify patient safety goals
WHAT ARE WE TALKING ABOUT

ADVERSE EVENT

NEAR MISS

MEDICAL ERRORS

Between 200,000 and 400,000 Deaths Annually

Preventable Adverse Events
STUDIES QUOTED

- Institute of Medicine
  - Study 1980s, released 1999

- Center for Medicare and Medicaid Services
  - Study 2008, released 2010

- Studies primarily look at hospital statistics
  - Majority of care takes place in ambulatory setting

www.cdc.gov/nchs/fastats/physician-visits.htm
www.propublica.org/article/how-many-die-from-medical-mistakes-in-us-hospitals
www.medicalnewstoday.com/releases/11856.php
780 Medicare patients (2008)

- Medication: 31%
- Patient care: 26%
- Surgery/procedures: 28%
- Infection: 15%

PHYSICIAN REVIEW OF PREVENTABILITY

780 Medicare patients (2008)

- Likely or clearly preventable: 44%
- Preventable: 51%
- Not preventable: 5%
- Undetermined: 2%

CAVEATS

- Study only looked at Medicare discharges
  - Older population
  - Multiple co-morbidities and medications
- Extrapolation used to reach final numbers
- What is an acceptable error rate?
- What is an achievable error rate?
TYPES OF ERRORS
DIAGNOSTIC ERROR

- Error or delay in diagnosis
- Failure to employ indicated tests
- Use of outmoded tests or therapy
- Failure to act on results of testing

TREATMENT ERRORS

- Error in performance of operation, procedure or test
- Error in administering treatment
- Error in dose or method of using drug
- Avoidable delay in treatment or response to abnormal test
- Inappropriate care

PREVENTIVE ERRORS

- Failure to provide preventative treatment
- Inadequate monitoring or follow-up of treatment

OTHER ERRORS

- Failure of communication
  - Staff
  - Patients

- Equipment failure
  - Direct care
  - Indirect care

- Other system failure

PROBLEMS IN THINKING

- Cognitive biases
- Multi-tasking
- Interruptions
ROOT CAUSE ANALYSIS
THE BASICS

Why?

Why?

Why?

Why?

Why?
ROOT CAUSE ANALYSIS

- What we are doing?
  - Looking for fundamental reasons for the failure
  - Seeking not just the first, but all causes for the failure

- Types of causes
  - Human
  - Organizational
  - Physical
ROOT CAUSE ANALYSIS

- Thorough, in-depth
  - Cause and effect
  - Identify risks and contributors
  - Identify improvements

- Must be credible
  - Inter-disciplinary
  - Backed by organizational leadership
ACTIVE FACTORS THAT INCREASE RISK

- Physical or emotional state
- Impairment
- Distractions
- Complacency
- Communication issues
- Poor teamwork
LATENT FACTORS THAT INCREASE RISK

- Variability
- Lack of reliability
- Lack of checklists
- Inadequate briefing or huddles
- Unfamiliar environment
- Equipment flaws/technology
WHAT DO YOU SEE?
Top three

- Human factors
- Communications
- Leadership
Root Cause Analysis and Action

- National Patient Safety Foundation 2015
- Traditional RCA not effective
- RCA concentrated on the catastrophic cases
RCA² DIFFERENCES

- We have more close calls than catastrophes
  - RCA² focuses more on risk than severity
- People involved not the ones to make decisions
- Concentration placed on prevention of future events
- Answers must be actionable, measurable, and implemented
BLAMEWORTHY EVENTS

- Not every error is a system failure
- When to assign individual blame
  - Criminal acts
  - Patient abuse
  - Provider substance abuse
  - Deliberately operating in an unsafe way
PATIENT SAFETY GOALS
IDENTIFY PATIENTS CORRECTLY

- Utilize at least two methods
  - Name
  - Address
  - Date of birth
- Ask correctly
USE MEDICINES SAFELY

- Medication reconciliation
  - Interactions with OTC, herbal, and supplements

- Label all medications when they leave their original container

- Always check for allergies
PREVENT INFECTION

- Hand washing
  - Sanitizers supplement soap and water
- Catheter associated infections
- Post-operative infections
PREVENT MISTAKES IN SURGERY

- Pause before surgery or procedure begins

- The correct
  - Patient
  - Procedure
  - Location

- Mark the location where the procedure is to be done
  - Left or right?
IMPROVE COMMUNICATIONS

- Get the right information to the right person
- Be aware of health literacy issues
CASE STUDIES

- Derived from closed claims
- Claims may be closed due to several reasons
- Not all studies discussed resulted in a monetary settlement
CLOSED CLAIMS BY DISPOSITION

PIAA Closed Claim Comparative, 2004-2013 (94,228 closed claims)

- Dropped, withdrawn or dismissed: 7%
- Settled: 24%
- Verdict-Defendant: 2%
- Verdict Plaintiff: 1%
- ADR/Contract: 1%
- Unknown: 1%
- Preemption of Medical Errors: 65%

Prevention of Medical Errors
CARDIAC
62 y/o obese female presented to ED with c/o chest pain, sweating, pain radiating down left arm

- Chest x-ray, lab, ECG, and treadmill stress test – all normal
- Patient told “right demographics for acid reflux”
- Sent home 4 hours after onset of symptoms
One bed over, the patient overheard ED physician’s discussion with Mr. X

“Your ECG is fine and your blood tests are fine, too. But we’re going to keep you for observation just to make sure it isn’t your heart.”

Three hours after discharge, pt returned to ED with chest pain – diagnosis: AMI, occluded left anterior descending artery
55 y/o man presented to hospital with what appeared to be seizure

- ECG and cardiac enzymes abnormal
- No cardiology consult
- Transferred to tertiary care hospital

Multiple in and out-patient treatments for seizures

- Several abnormal ECG and cardiac labs
- No cardiac consultation
Admitted for long term monitoring of EEG with audio and video monitoring eleven months later
- New resident noted abnormal ECG, labs
- Concerns were not elevated to attending
0230 – Oxygen monitor alarm, nurses respond, discussed and declined to call a code

0237 – Resident arrived, noted respiratory arrest

0240 – Respiratory arrives, starts ventilation

0241 – First pulse check

0246 – Code called, CPR started

0259 – Circulation and ventilation restored
NEUROLOGICAL
NEUROLOGICAL

- 74 y/o female, hx of fall, fractured vertebrae, surgical repair, chronic pain
- Undergoing placement of pump for pain management
- Neurosurgeon wanted to confirm placement of catheter
  - Asked for Omnipaque contrast media
OR nurse requested Omnipaque from pharmacy

OR pharmacy was out of Omnipaque
  – Substituted MD-76

OR nurse gave to surgeon who administered

Catheter placement confirmed

Patient woke up with pain, seizures
Later that day surgeon read material on MD-76
   – Not for intrathecal use

Patient died the following day
PULMONARY RELATED

- Most common allegation – failure to diagnose
- Mimicking symptoms
- Multiple conditions
- 80% of COPD cases are undiagnosed until advanced stages
CASE STUDY

- 33 y/o obese female with c/o R thigh pain, swelling, red streaks in R leg. Hx of asthma. Taking oral contraceptives for 10 years. Exam = enlarged R inguinal lymph nodes. Cellulitis – antibiotics.

- 3 days later returned with new onset SOB, chest pain, dyspnea with walking. Tachycardia, diminished breath sounds bilaterally. Asthma flare-up – inhaler and antibiotics.

- Fell at home. EMS transported to ED. Decompensated and arrested. Autopsy = large pulmonary embolus.
INFECTIOUS / COMMUNICABLE DISEASES
CASE STUDY

- 66 y/o male. HX – HTN, COPD, asthma, OA, recurrent UTIs. Called office with c/o consistent with UTI, 7 day course Cipro called in.

- Two weeks later, called c/o persistent productive cough – 10 day course of Ceftin called in.

- One week later, called c/o fever, malaise – continue ATB.

- One day later called, c/o abdominal pain and diarrhea. D/C Ceftin, 5 day course of Cipro and prn Immodium called in.
2 days later to ED with c/o persistent diarrhea and fever. Hypotensive, dehydrated, hyponatremic, elevated white count. KUB = possible ileus. Stool cultures = ATB induced Clostridium difficile.

Surgical consult = Pseudomembranous colitis 2° to C. diff. Recommend subtotal colectomy if worsening condition.

Pt. continued to deteriorate – hypotensive, reduced urinary output. Vancomycin started. Exploratory surgery-large segment of ischemic distal ileum resected.

Condition worsened. Life support stopped, Pt. expired.
IT’S A SMALL WORLD

- **Travel time**
  - Brazil to Atlanta Georgia, 9:17, Zika
  - Guinea to Paris France, 5:30, Ebola
  - Hong Kong to Los Angeles California, 12:00, SARS

- **Distant diseases**
  - Syria to Minnesota
  - Libya to Sweden
A globally mobile society

- Differences in endemic diseases
- What has been under control may be returning
  - TB
  - Measles
- Variable use of sanitary facilities
- Distrust / avoidance of ‘common’ preventative actions
SURGICAL COMPLICATIONS
52 y/o female, breast biopsy on Friday, developed flu-like symptoms, called surgeon and referred to PCP

Seen in office 0900 Monday, hypotensive & unstable, sent to ED

In ED, treated with IVF at 1100
- Elevated liver and renal function
- PE normal, no exam of surgical site documented
- Transferred to medical service at 1230
At 1700 seen by PGY1 medical resident, hypotensive, low urinary output, in spite of Dopamine

Bed shortage in MICU, retained in ED

2200 moved to MICU, febrile and hypotensive

Diagnosis of sepsis by MICU resident
  – Central line for fluid
  – Arrested during insertion, resuscitated
• On Tuesday, Renal consult noted concern with surgical site
• Surgical consult obtained at 1700 supported diagnosis
• Patient died one week later
  – Sepsis
  – Toxic shock syndrome
WRONG SITE SURGERY
FAC 64B8-9.007
(2) “…requiring the team to pause…”
(b) “…record shall specifically reflect…”

Florida Statute 456.072(1)(bb)
“Performing or attempting to perform…”
“…includes the preparation of the patient.”
WRONG PATIENT

- Two patients scheduled for breast surgery on the same day by the same surgeon
- First patient anesthetized, prepped, and draped before arrival of surgeon
- Right total mastectomy performed for breast cancer
On completing the surgery, pre-op nurse informed surgeon that his mastectomy patient was ready in the pre-op area.

First patient was supposed to have a breast biopsy only.
Pathology results switched on two patients
- One patient had unnecessary surgery (mastectomy)
- One patient had delay in treatment

CEO said Capital Health has
- Conducted two internal reviews
- Reviewed standard operating procedures
- Investigated best practices worldwide
INAPPROPRIATE USE OF OPIOIDS
OPIOID USE

Things to do

- Review old records
- Complete H&P, consults as necessary
- Establish clinical grounds to justify therapy
- Establish a treatment plan
- Monitor for medication abuse/E-FORCSE®
- Keep legible records to justify treatment
GOOD NEWS

- **2003-2009 annual deaths due to overdose**
  - Increased from 1804 to 2905, (61%)

- **2010-2012 deaths due to overdose**
  - Decreased from 3201 to 2666 (16.7%)
  - Oxycodone deaths decreased 52.1%
HIGH VOLUME OXYCODONE PRESCRIBERS IN FLORIDA

- **2010**
  - 98 out of 100 nationally

- **2012**
  - 13 out of 100 nationally

- **2013**
  - 0 out of 100 nationally
29 year old – Breast lump w/intermittent pain and swelling around lump – saw PCP 6 weeks after initial complaint

Visit: No note of swelling, size progression, pain. No review of family history

Chart - “Worried about breast lump. One child – 18 months. Small mobile mass. No enlarged axillary lymph nodes or mass in opposite breast. Fibroma L breast, r/o cyst. Mammogram”
Request form for MMG did not mention mass or include information on size or location

MMG report: “Chronic mastitis with scattered benign intraductal papillomatosis.”

PCP called patient “all is well”

Appointment in three months, no mention of possibility of malignancy or instructions on observing for other signs and symptoms
- Patient busy, no appointment scheduled

- Six month later, pain and blood tinged discharge
  - Spoke with MA (physician was busy)
  - Don’t worry, common with mastitis
  - Physician not told of call, not entered into record
  - Appointment in two months
Follow up visit (8 months after initial visit)
  - Dimpling over mass, no enlarged lymph nodes
  - Referred to surgeon, no records/letter sent

Surgical consult one month later
  - Biopsy recommended
  - Patient wanted to speak with PCP first
  - Surgeon charted “Patient refuses biopsy”
After consulting with PCP, biopsy of original breast mass and newly enlarging axillary lymph node.

Ten months after initial visit for breast lump patient diagnosed with malignancy on both sites.

What could be done differently?
54 year old male sees a PCP for the first physical since high school

Family hx of colon cancer- brother and father

Hypertension severe and resistant to medications; took months to stabilize

Prevention schedule forgotten for 18 months
NON-FDA APPROVED MEDICATION / DEVICES
A BIG INVESTMENT

- Six to eleven years research
- One to two years
- $125,000,000
- Chance for Success -9%
OFF LABEL DRUG USE

- **Botox**
  - Approved in 1989 for blepharospasm
  - Approved in 2002 for frown lines
  (already used for 10 years as off label)

- **Once approved, may be used based on the physician’s professional opinion**
  - Review the literature
  - Educate the patient
  - Join an IRB approved study
MEDICAL DEVICES

- Intended to diagnose, cure, mitigate, treat or prevent disease
- Intended to affect structure of body not through chemical action
- An instrument, apparatus, implement, machine, contrivance, or implant
- May include software as well as hardware
Turn your smart phone into a
- Glucometer (including continuous monitoring)
- ECG
- BP monitor
- Pulse oximeter
- Ultrasound imaging device

FDA regulation of apps is variable and risk based
DISCLOSURE OF MEDICAL ERRORS
FS 456.0575–Duty to notify patients.

Every licensed health care practitioner shall inform each patient, or an individual identified pursuant to FS. 765.401(1), in person about adverse incidents that result in serious harm to the patient.

Notification of outcomes of care that result in harm to the patient under this section shall not constitute an acknowledgment of admission of liability, nor can such notifications be introduced as evidence.
THE PRACTICAL ASPECT

- Seek legal/risk management guidance
- Communicate
- Express concern/empathy
- Do not blame
- Present a plan
- Confirm patient/parent understanding
- Document
WHAT CAUSES DISSATISFACTION?

Patients tend to unhappy when

- No one will provide answers
- The story is always changing
- People play the blame game
- There is no line of communication
- No one seems to be in charge
IF YOU DON’T TALK WITH YOUR PATIENT…

They will.
HEALTH LITERACY
HEALTH LITERACY DEFINED

The ability to obtain, read, understand and use healthcare information to make appropriate health decisions and follow instructions for treatment.
HEALTH LITERACY SYMPTOMS

- Decreased compliance with treatment/medication
- Increased use of emergency room
- Increased 30 day readmission rate
HEALTH LITERACY RISK FACTORS

- Elderly
- English as a second language
- Less than a high school education
- Recent immigrant

YouTube search: AMA health literacy
A LOOK AT THE LOCAL AREA

<table>
<thead>
<tr>
<th>Location</th>
<th>65 years and over (percent)</th>
<th>Other than English spoken at home (percent)</th>
<th>Graduated from HS (percent)</th>
<th>Persons below poverty level (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leon County</td>
<td>11.4 (9.4)</td>
<td>9.9</td>
<td>92.1</td>
<td>23.3</td>
</tr>
<tr>
<td>Gadsden County</td>
<td>15.5</td>
<td>9.3</td>
<td>77</td>
<td>25.6</td>
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<tr>
<td>Wakulla County</td>
<td>13.2</td>
<td>5.1</td>
<td>87.5</td>
<td>15.1</td>
</tr>
<tr>
<td>Florida</td>
<td>19.1 (17.3)</td>
<td>27.8</td>
<td>86.5</td>
<td>16.5</td>
</tr>
</tbody>
</table>

US Census QuickFacts 2014
PRESCRIPTION LABELS

- Take 1 tablet by oral route 2 times everyday with food
- Take 1 tablet by mouth once a day
CULTURE OF SAFETY

What can you do?

- Identify high risk, error prone activities
- Seek solutions to safety concerns
- Blame free environment
- Encourage collaboration
- Be the leader – set the example
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Additional resources and activities please visit
www.thedoctors.com
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