

# Residents and Patient Safety: See it, Do it, Teach it

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# Disclosures

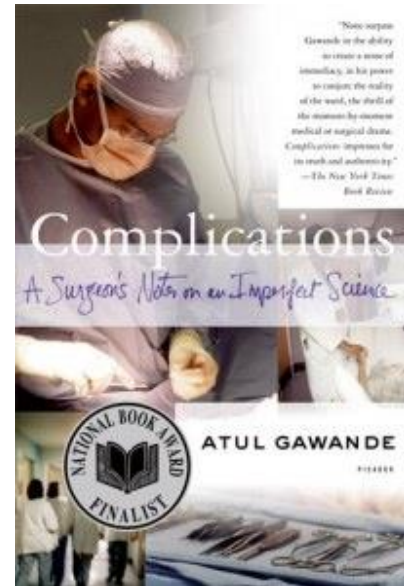
- I have received compensation from Bard Medical as a product development consultant and speaker.

- *Traditionally, supervisors in medicine erred on the side of autonomy, in the belief that trainees needed to learn by doing—giving rise to the iconic mantra of medical training, “see one, do one, teach one.” We now recognize this paradigm as being both ethically troubling and one more slice of the proverbial Swiss cheese, a constant threat to patient safety. (Robert Wachter, MD)*
- *No patients were harmed in the making of this physician. (Unknown)*

# Case Study

- A neurology resident is in the ER evaluating a patient with diplopia, generalized weakness and respiratory distress, suspicious for a myasthenia crisis. While writing a consult note, the ER physician grabs the resident and asks him to see a patient who arrived with ongoing generalized tonic-clonic seizures. After examining that patient, he returns to the computer and enters an order for intravenous lorazepam and head CT. Later, while still in the emergency department, he hears an emergency code called in the CT scanner. While in CT, the patient with myasthenia developed hypoxia and respiratory failure requiring emergent intubation. The neurologist realizes that he accidentally entered orders for the lorazepam and head CT on the wrong patient. It is likely that the large dose of lorazepam and lying flat on the CT scanner caused worsening of the respiratory symptoms precipitating intubation.

# Residents and Medical Errors



- 17.8% of residents report caring for a patient with a medical error in the last week
- 37% felt that they were at least partially responsible for the error

Jagsi, Arch Intern Med 2005;165  
Varkey, Am J Med Qual 2009;24

# Residents and Patient Safety

- Well positioned to identify opportunities, front line experts
- Essential that residents develop an understanding of patient safety science
- This expertise is no longer optional, it is a requirement to practice medicine
- May hold keys to sought after culture changes

# Current State

- Resident participation and training in patient safety and quality improvement in most academic medical centers
  - Side-lined
  - Discontinuous
  - Confined to elective blocks and ambulatory rotations
  - Intermittent M&M conferences
  - Occasional committee participation
  - Orphaned performance improvement projects
  - Innovation for work-arounds

# ACGME Next Accreditation System

- Integration of quality improvement and patient safety principles into the *milestones*
- Emphasis on the responsibility of sponsoring institutions for ensuring quality and patient safety within the environment for learning patient care (CLER: *Clinical Learning Environment Review*)



# ACGME Neurology Milestones

- Work in inter-professional teams to enhance patient safety (Systems-based practice)
  1. Describe team member's roles in maintaining patient safety
  2. Identifies and reports errors and near-misses
  3. Describes potential sources of system failure in clinical care such as minor, major and sentinel events
  4. Participates in team based approach to medical error analysis
  5. Engages in scholarly activity regarding error analysis and patient safety

# ACGME Neurology Milestones

- Information sharing, gathering, and technology (Interpersonal and communication skills)
  1. Effectively communicate during patient hand-overs using structured communication tool and accurately document transitions of care
  2. Completes all documentation accurately, including use of HER to promote patient safety

# Clinical Learning Environment Review (CLER)

- 6 domains
  1. Patient safety
  2. Healthcare quality
  3. Care transitions
  4. Supervision
  5. Duty hours and fatigue management
  6. Professionalism
- Site visits and resident survey responses

# Clinical Learning Environment Review (CLER)

- “generalized lack of resident engagement in the systems-based practice of medicine in the clinical learning environments in which they learn and provide clinical care”
- Expect consistent and direct involvement in safety and quality improvement systems where they practice
- Eventually aggregated knowledge will be used to modify ACGME expectations and possibly institutional accreditation standards

Nasca, NEJM 2014;370

Bagian, Acad Med 2015;90

## Trainee Barriers

- Local and institutional culture
- Competing educational demands
- Learner-buy in to the value of patient safety education

### Neurology

- Wide spectrum of clinical learning environments
- Small but highly complex populations of patients

## Faculty Barriers

- Local and institutional culture
- Inadequate training and skills in patient safety science and inadequate resources to correct
- Faculty buy-in, enthusiasm, opposition?
- Resistance to standardization
- Data availability

### Neurology

- Sub-specialization
- Highly research oriented
- Late to the game

# Transfer of patient safety knowledge

<b>Formal Curriculum</b>	<ul style="list-style-type: none"><li>• <b>Foundational Knowledge</b></li><li>• <b>May be at level of institution or program</b></li><li>• <b>Didactic or case based curriculum</b></li><li>• <b>Example: Patient safety course</b></li></ul>
Informal Curriculum	<ul style="list-style-type: none"><li>• Foundational and experiential learning</li><li>• Occurs mainly in the clinical learning environment</li><li>• Shaped by hospital/clinic initiatives, resources, multidisciplinary</li><li>• Example: Stroke leadership committee for TJC</li></ul>
“Hidden” Curriculum	<ul style="list-style-type: none"><li>• May be positive or negative</li><li>• Largely a function of institutional culture</li><li>• Example: How an attending responds to an identified medical error</li></ul>

# Foundational Knowledge

1. The nature of adverse events and medical errors
2. Systems thinking and design, human factors engineering
3. Measurement of safety, errors and harm
4. Culture of patient safety and high reliability organizations
5. The role of health information technology in patient safety
6. Communication, inter-professional teams, transitions of care

# Experiential Learning

- **Incident reporting**
- Error disclosure
- **Morbidity and mortality conferences**
- **Integrating into inter-professional patient safety-teams: Comprehensive Unit Safety Program (CUSP)**
- **Chart audit and review exercises and patient safety projects**
- Simulation based training
- **Root cause analysis and debriefing**
- Inter-professional team training: Team STEPPS
- Engaging residents in organizational patient safety initiatives
- Patient safety culture surveys
- **Equip faculty with necessary skills to teach patient safety science**



# Integrating trainees into quality and safety at the point of care

Short-term Team Based	<ul style="list-style-type: none"><li>• Trainees and faculty physicians on rotations</li><li>• Target specific care gaps in proximal workflow or behavior change</li><li>• May build and improve on previous teams work (iterative)</li><li>• Can be led by front line physicians with basic experience with QI/PS knowledge or as they acquire these skills</li><li>• Example: monitor and improve pharmacological DVT prophylaxis</li></ul>
Medium-term Unit Based	<ul style="list-style-type: none"><li>• Initiative based on unit or institutional priorities</li><li>• Led by unit leaders with some experience and knowledge of QI/PS principles with participation by multidisciplinary team</li><li>• Project is handed off from trainee to trainee as they rotate</li><li>• Focus on workflow or systems or culture within the unit</li><li>• Example: project to decrease CAUTIs on a neuro unit</li></ul>
Long-term System Based	<ul style="list-style-type: none"><li>• Focused on a system level process, institutional priority</li><li>• Trainees work on during clinical rotations or dedicated QI/PS rotations or participate on committees, teams</li><li>• Led by institutional QI/PS leaders (CQO, MDPI)</li><li>• Example: Hospital wide throughput initiative to decrease time admitted patients spend in the ED.</li></ul>

# Case Study

- What role would your teaching faculty play in responding to a patient safety event in the following domains:
  - Reporting
  - Disclosure
  - Root Cause Analysis

# Faculty Development

- Institutional or departmental level
- Faculty often learning alongside trainees (some programs have deliberately paired)
- Legitimize QI/PS work, academic promotion
- Established academic leadership positions
- Encourage publication
- Protected time
- Recognize and reward

# Other Resources

- Institute for Healthcare Improvement, Open School
  - <http://www.ihl.org/education/ihlopenschool/Pages/default.aspx>
- National Patient Safety Foundation (NPSF)
  - <http://www.npsf.org/>
- Agency for Healthcare Research and Quality (AHRQ)
  - <http://www.ahrq.gov/professionals/quality-patient-safety/patient-safety-resources/index.html>
- American Academy of Neurology Toolkit
  - [https://www.aan.com/uploadedFiles/Website\\_Library\\_Assets/Documents/3.Practice\\_Management/2.Quality\\_Improvement/15%20Program%20Directors%20Tool%20Kit%20v506.pdf](https://www.aan.com/uploadedFiles/Website_Library_Assets/Documents/3.Practice_Management/2.Quality_Improvement/15%20Program%20Directors%20Tool%20Kit%20v506.pdf)

Questions?/Discussion