Foundations in Patient Safety

An Approach to Adverse Events & Medical Errors

School of Medicine

UNIVERSITY OF COLORADO
ANSCHUTZ MEDICAL CAMPUS

IHQSE

A Case

HPI:

88 yo man with atrial fibrillation, DM, CHF presents with right facial droop, aphasia and right-sided weakness (last normal 13:00).

Imaging:

CT head without hemorrhage. CTA with occlusion of left MCA

Management:

- Systemic TPA administered at 17:26, admitted to the ICU
- <24 hours later, after discussion with neurology, ASA initiated as well as heparin gtt (Afib and high CHADS2VASC)

A Case

HD 3 at 0300 (+36 hours):

- The patient was unresponsive
- Head CT→ large right frontotemporal intraparenchymal hemorrhage with midline shift
- Neurosurgery was consulted and drainage not assessed to be an option.

- **HD 4:**

Patient developed progressive coma due to cerebral herniation. Family elected comfort care and the patient died.

Reflection

Has anyone been involved in a bad outcome for a patient?

Guilt

Incompetence

Sense of Failure

Second guessing

What do you do next?

Just Work Harder

The Basic Premises

We try really hard

We want to do the right thing

We all make mistakes

“The paradox is that the single greatest impediment to error prevention is that we punish people for making them.”

- Dr. Lucian Leape

Professor, Harvard School of Public Health

U.S. Congressional Testimony

U.S. Committee on Veterans' Affairs, Subcommittee on Health, October 1997

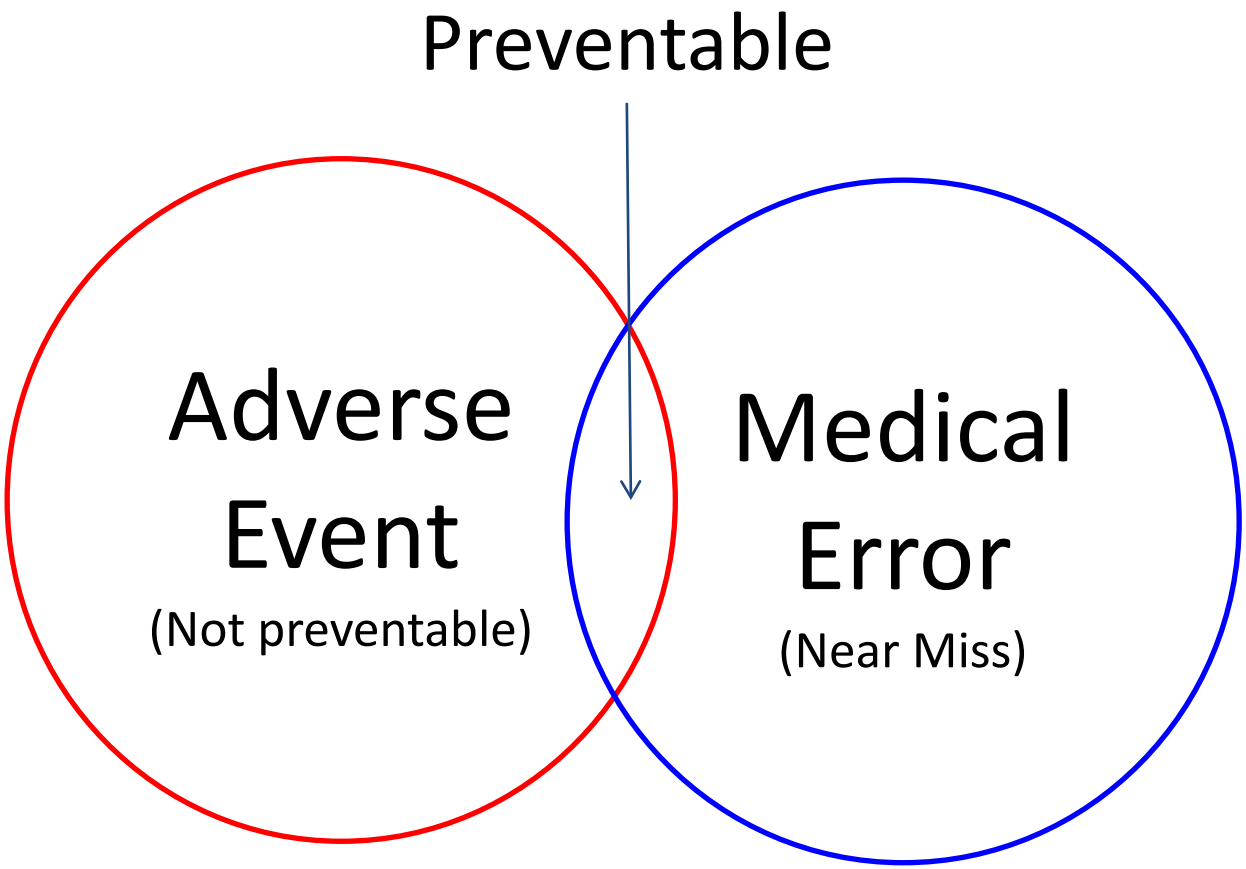
“The news spread rapidly, the case tried repeatedly before an **incredulous jury of peers**, who returned a summary judgment of **incompetence**. I was dismayed by the **lack of sympathy** and wondered **secretly** if I could have made the same mistake—and, like the hapless resident, become the **second victim** of the error.”

Wu AW. Medical error: the second victim. BMJ 2000

Stepwise Approach to Case Review

Step 1: Name the Event, Identify the Harm

Definitions



Harm Score

HARM = (Level of harm) x (Frequency of Event)

Focus on high frequency events, or events that cause an unacceptable level of harm

Level of Patient Harm

NO HARM

- Circumstances that have capacity to cause error
- Error that did not reach the patient
- Error that reached the patient but NO harm
- Error that reached the patient and required monitoring or intervention to confirm that it resulted in NO harm to the patient

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HARM

- Temporary harm to the patient and required intervention
- Temporary harm to the patient, required initial or prolonged hospitalization
- Permanent patient harm
- Intervention required to sustain life
- Patient Death

Common Themes

- Communication
- Handoffs
- Medication
- Process Inefficiencies
- Cognitive Errors

Breakout 1: 8 minutes

For the case, please identify:

- What was the adverse event?
- What was the level of patient harm?
- What common themes contributed?

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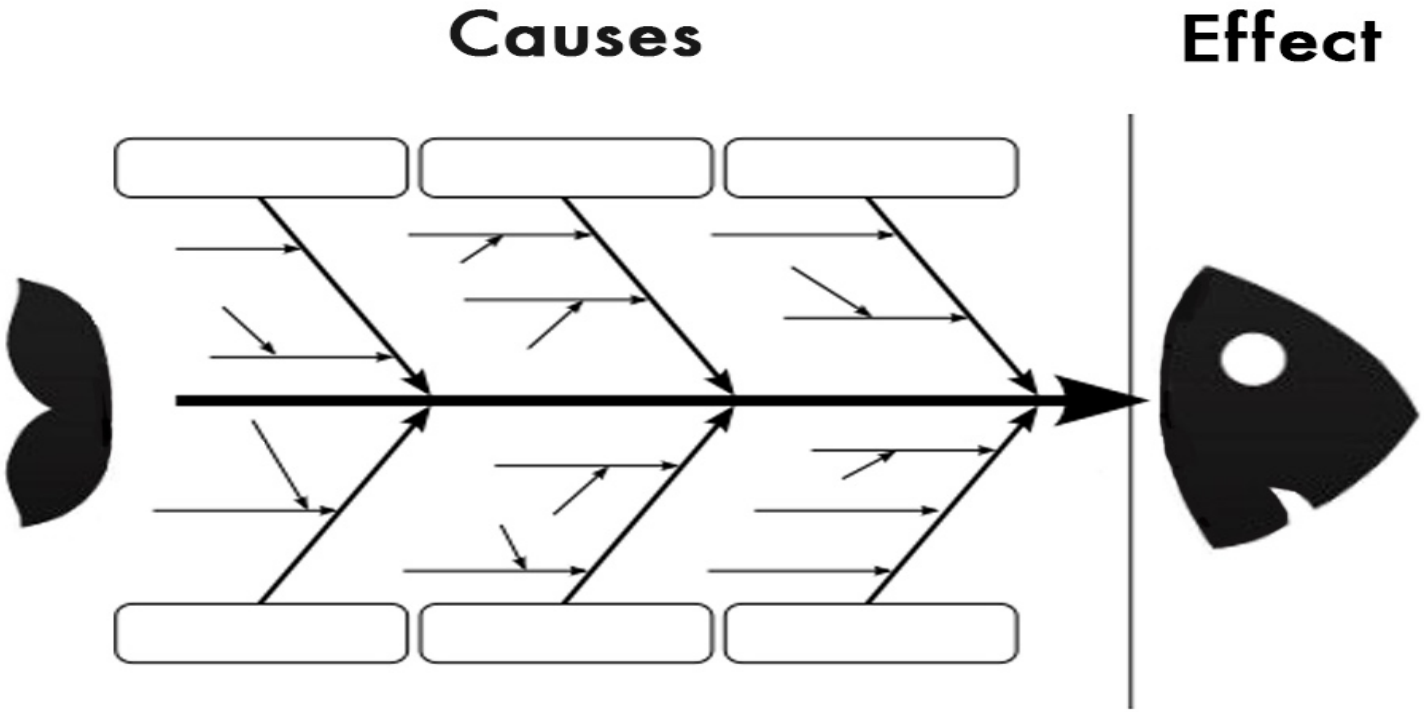
A Case

- The patient was being managed by a medicine team, ICU team, and with neurology consulting.
- Communication occurred primarily through written notes (minimal verbal communication).
- There was not an order set for post-stroke care, including heparin initiation.
- New team taking over for patient care mid-hospital course.

Step 2: Analyze the Adverse Event

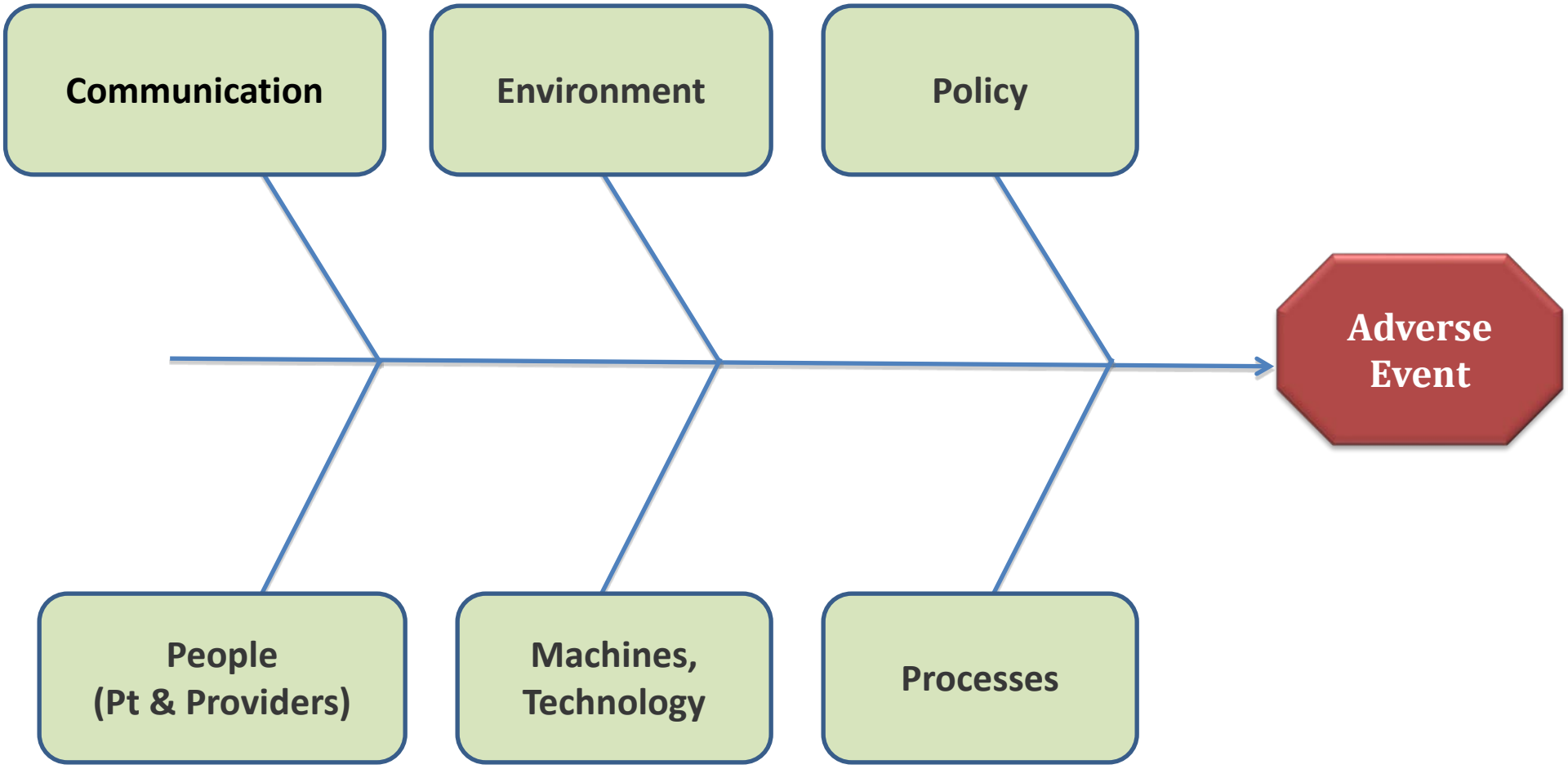
Fishbone "Ishikawa" Diagram



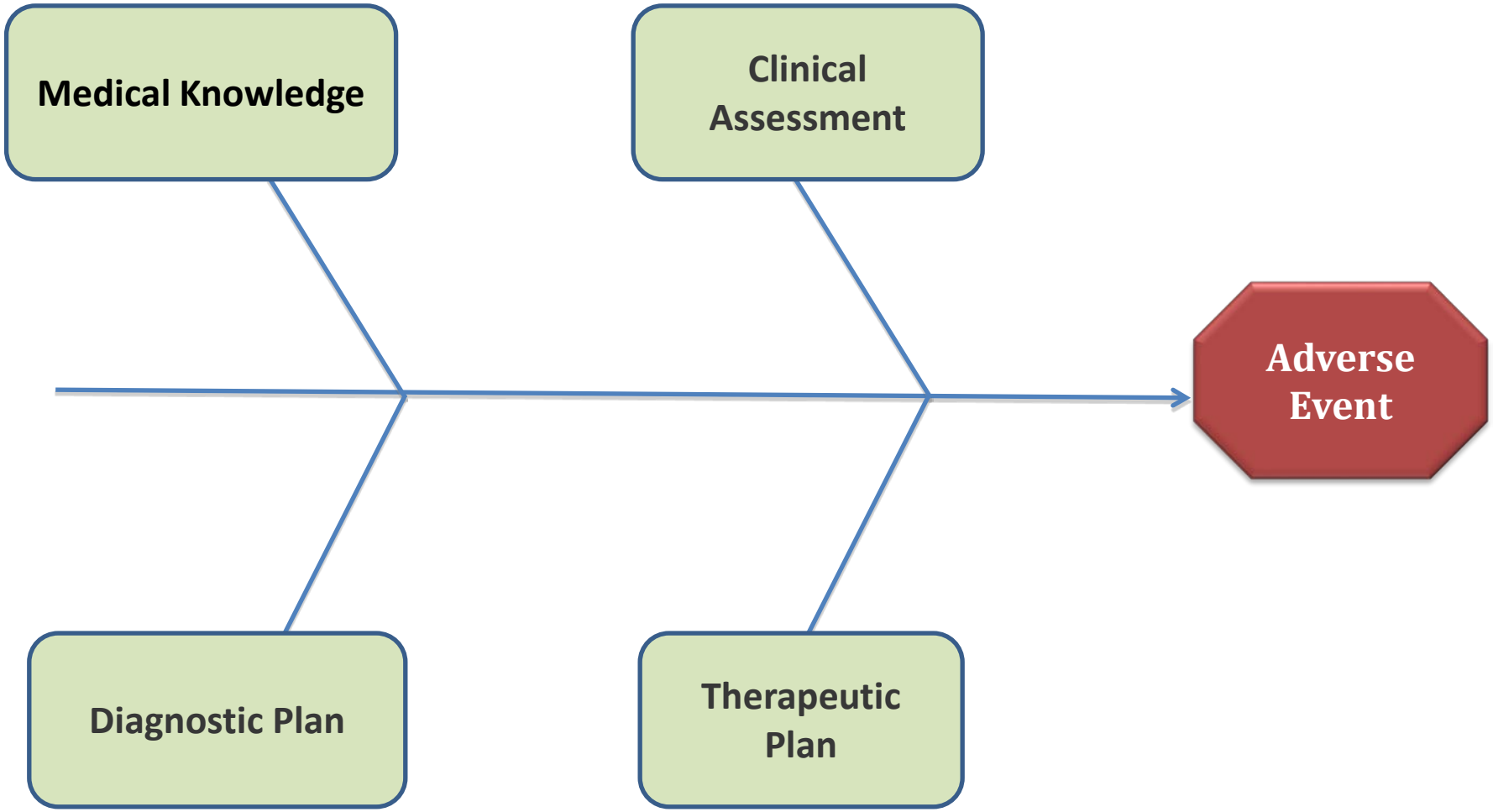
People – I am tired
Environment – Snowy day
Machine/Technology - alarm clock broke
Communication – didn't know what time meeting started
Policy – WFH
Processes – route to work

Late to Work

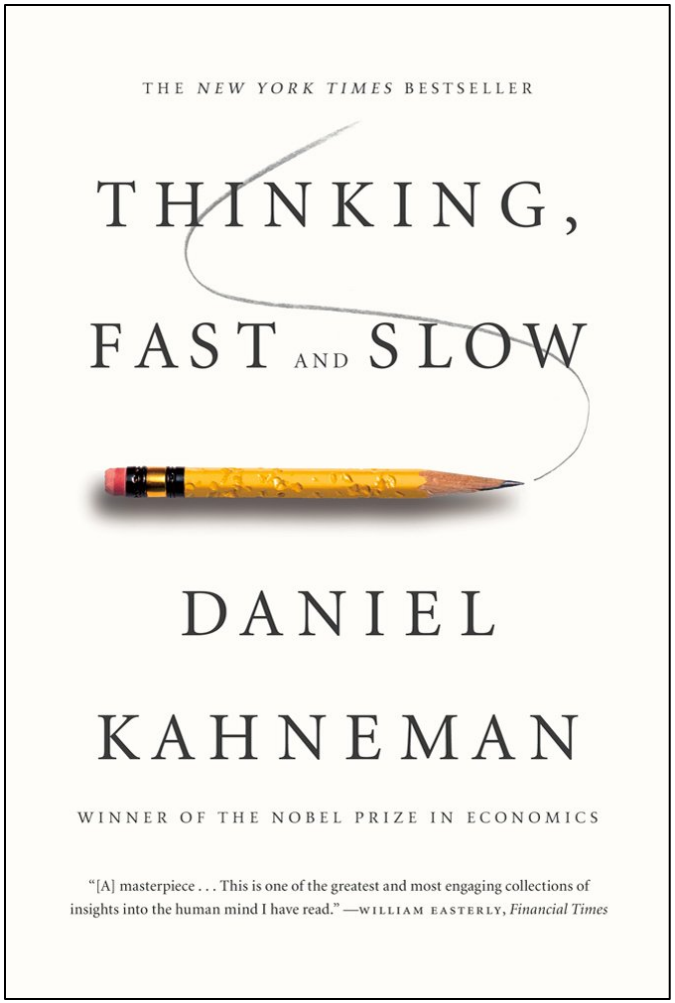
What System Factors Contributed?



What Cognitive Biases Contributed?



Medical Heuristics



- System 1

  ex) post-op patient with tachycardia, unilateral leg swelling
  → ***pulmonary embolism***

- System 2

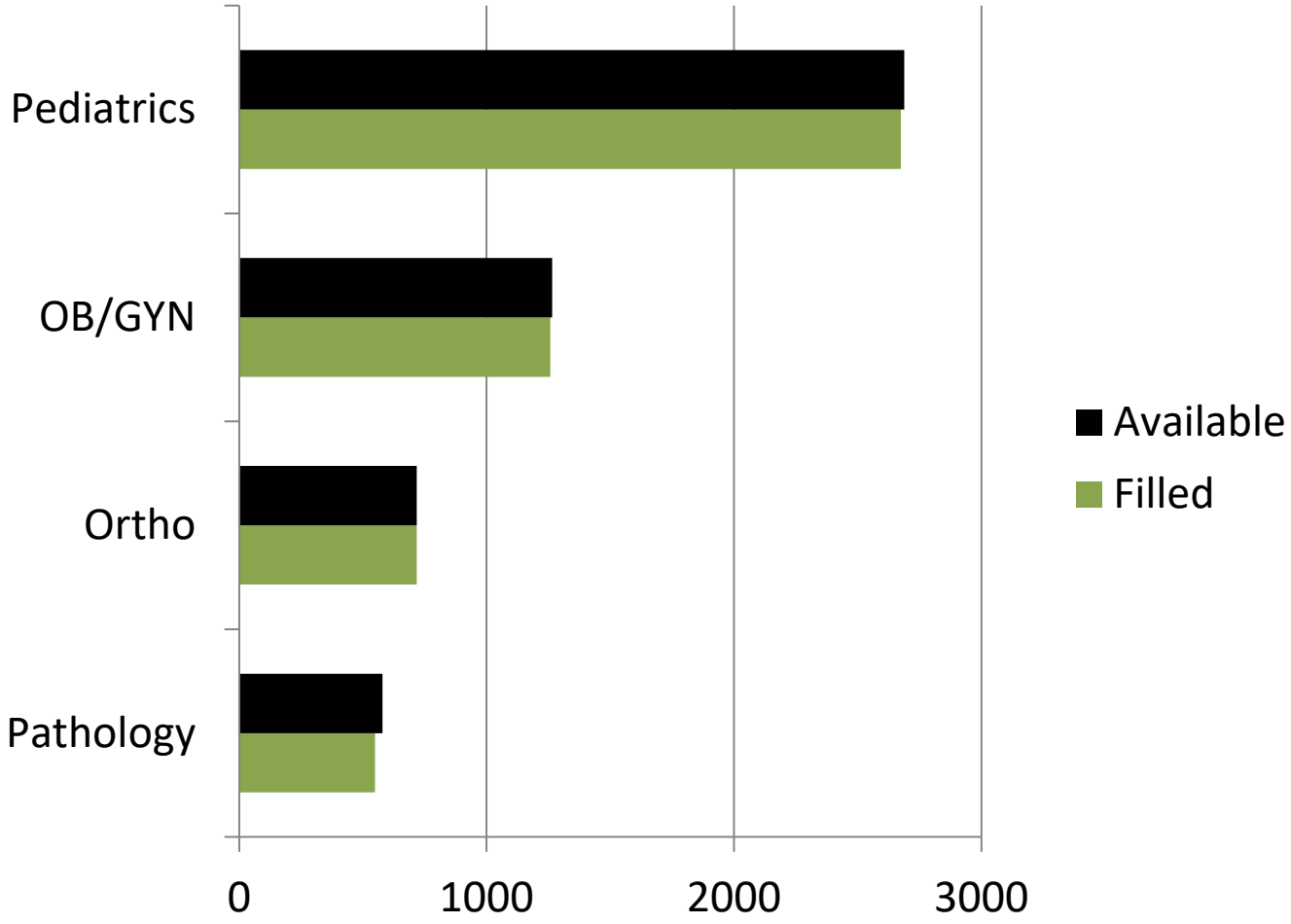
  ex) HIV patient with CD4 50, fevers, myalgias, recent travel

  → ***need to active System 2 given broad differential, complexity***

Hector's Specialty

- You are a med school dean preparing MSPEs
  - Hector scored 243 on Step 1 and 263 on Step2
  - Hector wrestled in college and can bicep curl 120#
  - He enjoys woodworking in his spare time
- Hector is most likely to be entering which specialty?
  - Pediatrics
  - Pathology
  - Orthopedic Surgery
  - OB/GYN

Narrative Context: Hector



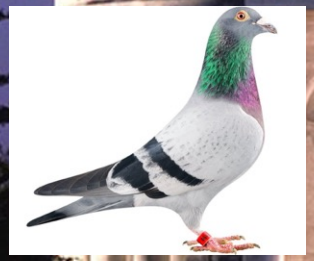
It wasn’t that what first came to mind [is] always wrong; it was that its existence in your mind led you to feel more certain than you should be that it was correct.

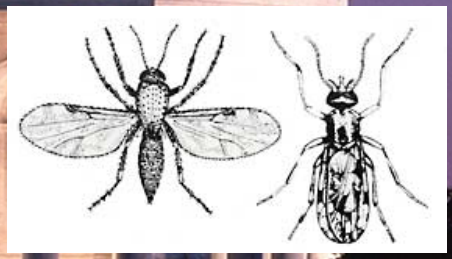
- Michael Lewis, *The Undoing Project*

Name the Bias

- **Availability**
  - *The tendency to weigh likelihood of a diagnosis by how easily it is recalled*
- **Framing**
  - *Reacting to information based on how it is framed*
- **Premature Closure**
  - *Tendency to accept a diagnosis before it is fully verified*
- **Confirmation**
  - *Tendency to focus on evidence that supports a working diagnosis, rather than to look for evidence that refutes it or supports an alternate diagnosis*

Five Why's





The Case

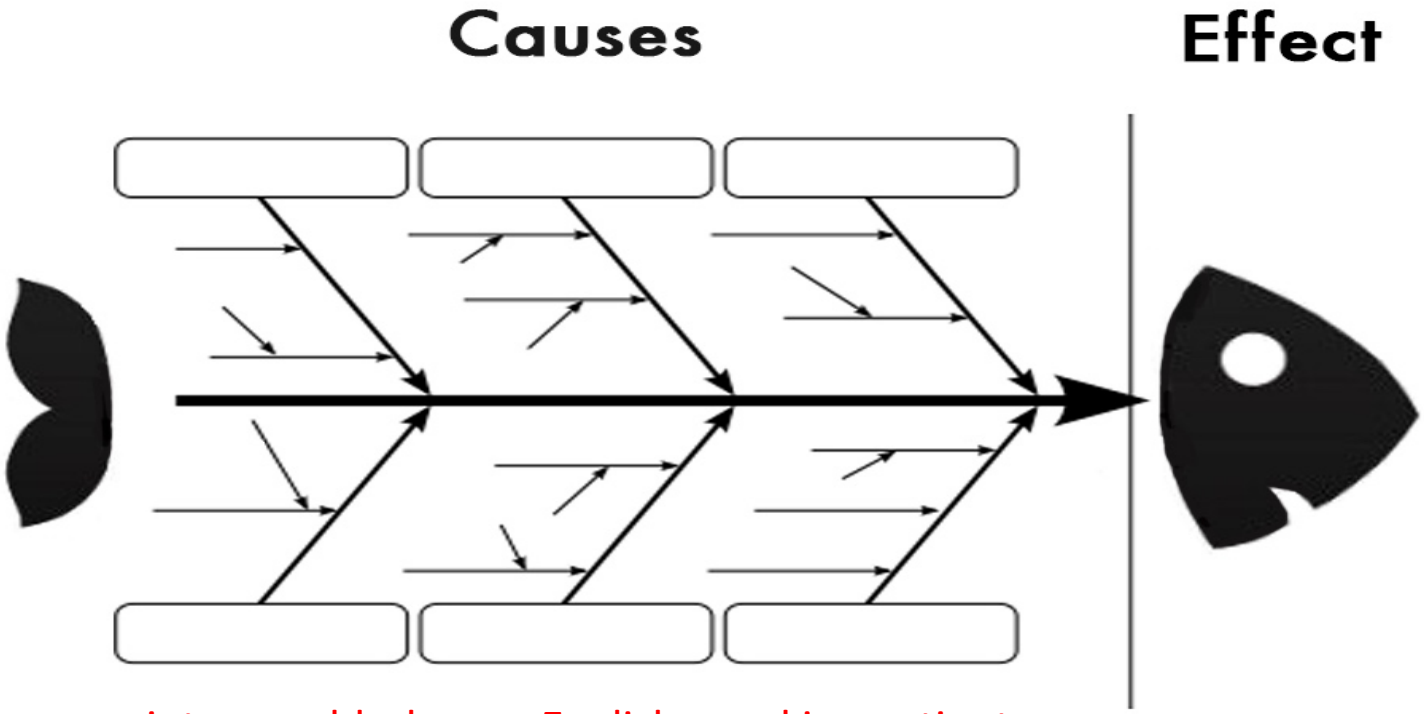
- **Neurology Team:** Intended to recommend 'prophylactic heparin', but the primary team interpreted this as 'therapeutic heparin gtt,' which is contraindicated within 24 hours of tPA administration. TPA administration at 4 hrs 26 minutes (4.5 hour window)
- **Primary team:** Brand new interns and residents! (July) Handoff had occurred during patient hospital course.
- **Neuro-ICU nurses:** Standard of care was not followed (obtain a head CT 24-hours post tPA). Patient was elderly (88) and not English-speaking.
- **Pharmacy:** No heparin order set for post CVA exists (used Afib order set)
- **Nurse Manager:** Hospital was at capacity, patient was in the STICU instead of the Neuro ICU. TPA administration occurred at shift change – delay from time of order.
- **Intern:** Pager difficulties, unclear if received all pages during time of neurology recs.

Breakout 2: 10 minutes

For the case, create a cause & effect diagram (fishbone), including both system and cognitive errors. Use the 5 Why's to enhance your inputs.

- Every BO to report 1 factor to group

Fishbone "Ishikawa" Diagram



People – new interns, elderly non-English speaking patient
Environment – STICU, full hospital, July
Machine/Technology – pager issues
Communication – consultant communication – notes, hand offs
Policy – who takes care of stroke patients
Processes – order set, pathway for strokes

Cognitive – decision to order tPA at 4:26, heparin gtt vs ppx

Hemorrhagic Stroke

Step 3: Get Stakeholder Insight

- Who was involved in the case?
- What other specialties or professions may offer helpful insight?

Step 4: Disclose the error

What matters to patients?

- Disclose the error.
- Tell them why.
- How you will minimize the effect.
- How you will prevent the next occurrence.
- Acknowledge, Apologize

Deny & Defend --> *Communicate and Respond*

Breakout 4: 10 minutes

Reflect on a time you disclosed an error to a patient or family.

Step 5: Identify Action Items

- Which patient safety concerns are actionable?
- Who is your support team?
- Do they align with hospital/clinic/resident/system priorities?

Breakout 5:

- Share a time you have seen change in the system occur from a patient safety event.

Step 6 (1): Report the Event

What Should I Report?

Anything that happened that **should not have happened**

Anything that **should have happened but did not**

Any risks you identify that have the potential to lead to an error

Great catches, near misses, and events that reached the patient or family with and without harm

Summary

- Analyze an adverse event using patient safety principles
- Identify stakeholders
- Disclose to patients and team members
- Create actionable follow-up items
- Report an event within our system

Thank you!

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Ideas for next time

- https://med.stanford.edu/neurology/education/grandRounds/samuels-gr-video.html
- Neurology GR- professor talking about his mistakes