

Practice Conference: Defining Ourselves

Improving Patient Outcomes Through an Understanding of Clinical Decision Biases

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Objectives

- Describe common clinical decision biases that result in medical errors
- Reduce potential for clinical decision biases through self-awareness of cognitive dispositions to respond



Diagnostic Errors

"Mistakes do happen. We tend to think of them as aberrant. They are, however, anything but....not only do errors occur but they occur in predictable ways."

(Gawande, 2002, pg. 47)



IOM: "To Err Is Human"* (1999)

Type of error	Example
No fault error	Unusual or hidden
System related error	Technical/equipment failure*
Cognitive error	Faulty knowledge* Faulty data gathering Faulty synthesis



Dissecting Errors:

Study of 100 cases of diagnostic errors identified by autopsy & QA:

- No-fault errors: 7 cases
- System related errors: 65 cases
- Other cognitive errors: 74 cases (some overlap with system errors)
 - Faulty knowledge 11 instances
 - Faulty data gathering 45 instances
 - Faulty synthesis 264 instances

(Graber et al., 2005)

Does experience count?

- Inexperience: errors due to lack of knowledge
- More experience:
 - More certain about decision making (overconfident)
 - Pattern recognition, automaticity and short cuts (efficient, but effective?)
 - Can result in BIGGER errors...

Heuristics

- We often use *heuristics*, rules of thumb, short cuts, when time and/or uncertainty is a factor.

Occam's razor: If multiple competing diagnoses, go for the simplest

Hoofbeats: horses not zebras

- *Heuristics* can predispose to cognitive dispositions to respond (CDRs) that can result in errors

CDRs

- CDRs are decisions biased by:
 - Environmental factors
 - Contextual factors
 - Patient factors
 - Clinician factors
 - E.x. experience, emotion, fatigue...
- More than 40 identified CDRs (Croskerry, 2002 & 2003)

Case

- An NP in a busy emergency department is told by the nurse that the patient in the next bed is CJ and he's back with his usual complaints of back pain.
- The NP reviews the chart and sees that CJ is a 29y male who is a frequent flyer to the ED. The last notation in his chart states:
 - *"Chronic pain problem, Drug seeking. Phx chronic LBP, DJD, and noted scoliosis"*

Case

- The NP enters the room and asks CJ a series of probing questions:
 - "Where's your back pain located? How long has it been bothering you? What have you tried for it?"
- She performs a brief exam and then orders LS spine x-rays & sees other patients while awaiting results.

Case

- The L-S spine X-rays are essentially normal except mild scoliosis
- The NP orders meperidine IM & Rx naproxen; Discharges him home to follow up with PCP.

Case

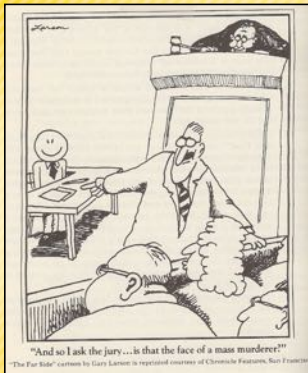
- CJ returns a few days later with continued back pain, saddle anesthesia and urinary incontinence.
- He is diagnosed with cauda equina syndrome, undergoes an L-4 laminectomy and L4-5 discectomy.
- The delayed intervention results in chronic neurogenic bladder, neuropathic pain, and gait disturbances.

Dissecting the CDRs

- “Busy ED”
 - Spinning plates analogy
 - **Projection bias**
 - External and internal factors affect decision making
 - Grocery shopping when hungry...
 - What catalog purchases are made on cold days?

Dissecting the CDRs

- “...told by the nurse...he’s back with his usual complaints of back pain.” Chart indicates: “Chronic pain problem, Drug seeking”
 - **Anchoring bias**
 - Fixate specific feature and jump to conclusions; **premature search closure**
 - **Ascertainment bias**
 - Pre-shaped, stereotyped expectations
 - **Psych-out error**
 - Psych patient labeling; attribution error: behavioral rather than organic etiology



Stereo-typing?
Ascertainment bias

Dissecting the CDRs

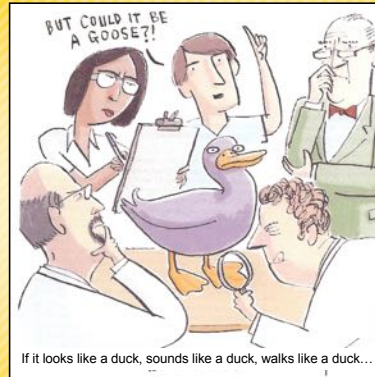
- “The NP...asks series of probing questions...”
 - Systematic sets of questions and probes, shape and redirect the data gathered.
 - Closed-ended questions, control the dialogue.

“If we ask specific questions we get specific answers and hardly anything else...only get the answers WE are looking for and not necessarily the ones we need to make correct diagnoses”

Open-ended questions may be more revealing

Dissecting the CDRs

- “The NP...orders LS spine x-rays”
 - **Commission bias**
 - An urge to do something
- “L-S spine X-rays are essentially normal except mild scoliosis”
 - **Confirmation bias**
 - Confirms diagnostic hypothesis
 - **Search satisfying**
 - Call off the search when something is found: scoliosis



Strategies to Reduce Diagnostic Error (de-biasing strategies)

- **Affective** forcing strategies
 - Be aware of the effects of *affect* on decisions
- **Optimize environments**
 - Decrease distractions
 - Provide adequate resources
 - DSS, PDAs, algorithms

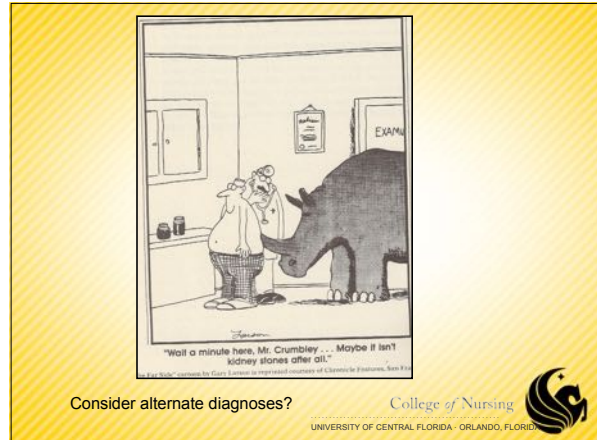
Strategies to Reduce Diagnostic Error (de-biasing strategies)

- **Critical thinking/metacognition**
 - Thinking about your thinking
 - A learned skill
 - Develop insight and awareness of YOUR typical CDRs
 - **Cognitive forcing strategies**
 - Develop strategies to avoid CDRs
 - **Simulation**
 - Clinical scenario walk throughs

Strategies to Reduce Diagnostic Error (de-biasing strategies)

- Embrace uncertainty
- Resist the urge to suppress alternatives and competing hypotheses
 - What else might this be?

Don't be guilty of Sutton's Slip: going for the obvious, where the money is.



Consider alternate diagnoses?

Strategies to Reduce Diagnostic Error (de-biasing strategies)

- Establish accountability
 - Peer review
 - M&M conferences (focus on the process)

Sometimes...don't just do something, stand there.

Summary

"To Err Is Human" but being aware of your personal CDRs and diagnostic biases, can improve your patient outcomes

Questions?

Thank You!

References

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