DIAGNOSTIC ERRORS AND SHORTCOMINGS

– a major cause of complications in healthcare

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DISPOSITION

Diagnostic errors:

• What are they?
• How common are they?
• What do they look like?
• What causes them?
• What can be done?
DEFINITION OF DIAGNOSIS

• Diagnosis = *dia* and *gignoskein* (≈ to separate..)

• The art or act of identifying a disease from its signs and symptoms
WHAT ARE THEY?

Diagnostic errors are:

- IOM: a) “the failure to establish an accurate and timely explanation of the patient’s health problem(s) and b) to communicate that explanation to the patient
- The Swedish Patient Injury Act: an incorrect (wrong, delayed, non-existent) diagnosis / diagnostic process
- Highly avoidable
HOW COMMON ARE THEY?

• Lack of hard data is obvious

• Constitute around 10 – 20 % of all adverse events

• Higher figures (up to 40 %) in primary care, A/E and prehospital care

• Everyone in here will be affected by one, sooner or later
WHAT DO THEY LOOK LIKE?

• Missed diagnosis ≈ 50 %
• Delayed diagnosis ≈ 20 %
• Wrong diagnosis ≈ 10 %
• Combinations of above ≈ 20 %
WHAT DO THEY LOOK LIKE?

Two major differences:

- Individual errors more likely cause a wrong diagnosis or a missed diagnosis
- System errors more likely cause a delayed diagnosis
WHAT CAUSES THEM?

Diagnostic errors are:

• Basically caused by imperfections in how our brains work…

• Divided into cognitive causes, lack of knowledge, and system causes
WHAT CAUSES THEM?

Etiology of Diagnostic Error

- Both System and Cognitive Errors: 46%
- Cognitive Error Only: 28%
- System Error Only: 19%
- No Fault Error Only: 7%
WHAT CAUSES THEM?

- Faulty Knowledge: 3%
- Faulty Data Gathering: 14%
- Faulty Synthesis: 83%

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WHAT CAUSES THEM?

**System 1**
- Fast
- Unconscious
- Automatic
- Everyday Decisions
- Error prone

**System 2**
- Slow
- Conscious
- Effortful
- Complex Decisions
- Reliable
WHAT CAUSES THEM?

Dual process theory
WHAT CAUSES THEM?

- We spend most time in system 1 ("cognitive laziness")
- Bias and heuristics most seen in system 1
- Majority of faulty thinking in system 1
- Repetition in system 2 → system 1
- System 2 can overrule system 1
- System 1 can overrule system 2
- We can actively move between them
WHAT CAUSES THEM?

Cognitive bias:

• Around 200 types of cognitive biases

• The most common are: anchoring bias (premature closure) diagnostic momentum confirmation bias the framing effect
WHAT CAN BE DONE (1)?

General level

• Stop using the term “arrive at a diagnosis”
• Start using the term “go through the diagnostic process”
• Education about the diagnostic process
WHAT CAN BE DONE (2)?

System level

- Optimize work-place conditions
- M&M, analysis of diagnostic errors
- Training
- Diagnostic aids (Safer Dx), technical support and solutions
WHAT CAN BE DONE (3)?

Individual level

- Always consider 3 diagnostic options
- Rule out the worst case scenario
- What speaks against the proposed diagnosis?
- Think out loud!
- Educate patients / relatives to ask the control questions
SUMMARY

Diagnostic errors are:

- Common
- A major cause of patient harm
- Avoidable