Cognitive biases you may have met before

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Textbooks

Quality and Safety in Radiotherapy
Hendee’s Radiation Therapy Physics (4th Ed)
The Human Condition
Impact of the Human Condition

The New York Times

Radiation Offers New Cures, and Ways to Do Harm

By WALET ROGENER - JAN 23, 2011

As Scott Jerome-Parks lay dying, he clung to this wish: that his fatal radiation overdose — which left him deaf, struggling to see, unable to swallow, burned, with his teeth falling out, with ulcers in his mouth and throat, nauseated, in severe pain and finally unable to breathe — be studied and talked about publicly so that others might not have to live his nightmare.
Type 1 Thinking

12 13 14
Context is Everything
Our Biases are Implied
A characteristic of Type 1 thinking that represents categories as norms and prototypical examples.
Implicit Bias

Research supports a relationship between patient care and MD bias in ways that could perpetuate health care disparities.

PERSPECTIVE

Physicians and Implicit Bias: How Doctors May Unwittingly Perpetuate Health Care Disparities

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Anchoring Bias

An overemphasis on early information that impacts subsequent decisions.
Forms of Anchoring Bias

Priming effect – Type 1 Thinking

Deliberate process of adjustment – Type 2 Thinking
Anchoring Bias

Related to MD Decisions

Tendency to fixate on specific features of a presentation too early in the diagnostic process, and to base the likelihood of a particular event on information available at the outset.
A Simple Task

Take 3 sec to review the poker hand, then calculate the sum by doubling the value of each card (aces are worth 11).
Answer

Take 3 sec to review the poker hand, then calculate the sum by doubling the value of each card (aces are worth 11).

Answer: \[ 50 = (2\times5) + (2\times4) + (2\times3) + (2\times2) + (2\times11) \]
Follow-up “Safety Related” Question

Did you find any anomalies with the poker hand?
Inattentional Blindness

When your attention is otherwise engaged, you sometimes fail to notice a salient and fully visible, but unexpected object or event.

“The invisible gorilla strikes again: Sustained inattentional blindness in expert observers”

Trafton Drew, Melissa L. H. Vo, and Jeremy M. Wolfe

https://www.youtube.com/watch?v=qHUI6seBoCg
Rad Onc Example

IMRT Treatment

Patient is nauseous
Biases That Impact Causal Analysis

Hindsight Bias
Tendency to view the event as being more predictable than it really was.

Confirmation Bias
Jump to a conclusion, then look for evidence to support it.
Error Detection/Recovery is a Skill

We need to educate ourselves.

Biases can work in our favor.

When an accident is eminent, people can also make a miraculous recovery.
Be aware of our biases

- Anchoring
- Implicit
- Inattentional
- Confirmation
- Hindsight
- and many (many) more
The Next Presentation
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