

# The Art and Science of Medical Decision Making:

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Jaiden Sila, BSN, RN CARES Clinic Coordinator

Bill Lydiatt, MD Nebraska Methodist Hospital, Professor of  
Surgery-Creighton University

# Mark Gilbert, PhD, Artist



Associate Professor  
UNO

- Saving Faces
- Portraits of Care
- EPICs



# Decision Making

- Uncertainty and ambiguity are ubiquitous
- Sorting through immense amounts of information and understanding:
- Defining the known knowns ***FACTS***
- What are the known unknowns ***RESPONSES to Therapy***
- But being prepared for the unknown unknowns ***UNINTENDED CONSEQUENCES***





# Science

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Method of thinking to find the truth

Randomized controlled clinical trials  
are gold standard

Data developed to guide decisions

Protocols bring consistency towards  
best outcomes for a population



Klementinum library, Prague, Czech Republic



# Randomized Clinical Trial

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- Random assignment to two or more groups
- Blinded to the participant and researcher
- Often with placebo control or standard of care versus standard plus

# RTOG Post op Treatment of HNC Results

- Compared Radiation versus chemoradiation
    - Local regional control: 72% versus 82%\*
    - 3 yr Progression free survival: 37% vs 47%\*
    - 3 yr Overall survival: 45% versus 55%
  - Severe side effects ( $\geq$ Grade 3) 34% vs 77%\*
  - Death due to Treatment: 0/231 vs 4/228
- \* All were statistically significant differences



Roland, Mark Gilbert



# How information is presented and used matters

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- 30% improved survival
- 1 additional person out of 10 will be alive at 3 years if chemotherapy is added
- 9 of 10 people will receive chemotherapy without benefit and likely with more complications
- 98% of people survive the treatment
- 2 out of 100 people will be killed by this treatment

# Neighborhood Advice

- Findings:

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  - People can more accurately predict their affective reactions to a future event when they know how a neighbor in their social network reacted to the event than when they know about the event itself and
  - People do not believe this.
- Said another way
  - Peer advice better predicted response to a future event than data
  - This is counter intuitive

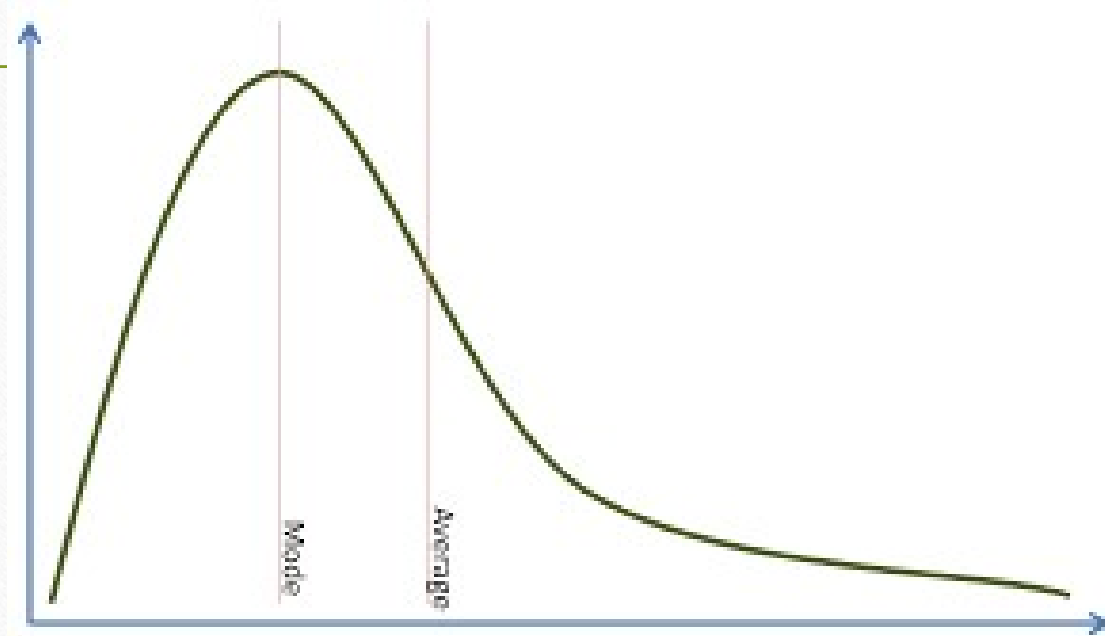
Gilbert, Daniel T., Matthew A. Killingsworth, Rebecca N. Eyre, and Timothy D. Wilson. 2009. The surprising power of neighborhood advice. *Science* 323, no. 5921: 1617-1619.



# The Median isn't the Message

Stephen Jay Gould

- Survival curves tend not to be symmetrical
- Right biased with a long tail
- Therefore, how do you account for the outliers



# Science and Humanistic Concepts 20<sup>th</sup> and 21<sup>st</sup> Century

- Alleviation of suffering
- When to treat and when not to
- How to balance risks and benefits of treatments and clinical testing





# Art

- Search for meaning
- Value Laden
- Uses the individual to inform generalizable truth
- Power of the narrative



Guernica, Pablo Picasso



# Suffering

- May come from
  - physical ailments
  - psychic ailments
  - disease and its treatment
- Hard for individual to predict what will be the major cause of their suffering
- Harder still for caregivers to predict and anticipate
- Suffering occurs most often when the ailment threatens the future or their perception of the future for that individual





# Suffering involves an assault on personhood

- Some aspect of personhood is at risk
- Future or current loss of an aspect of the self
- Only the person can define whether and how much they are suffering
- Therefore alleviation of suffering is *value laden*, complex and nuanced



# Health Care Values

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## Science - Knowledge

- Value free
- Based on comparison
- Generalized knowledge about diseases
- Technology aids
- Looking for facts

## Medicine - Wisdom

- Value laden
- Based on observation
- Specific knowledge about the patient's disease and the context of that disease
- Technology distances
- Looking for relief of suffering



# Science and Art

## *Dualism that defines health care today*

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- The golden mean is the balance we seek to strike
- This tension is ancient
- Both are essential
- The advent of scientific knowledge and success has altered the balance substantially
- Science and data are necessary but insufficient to our quest to improve quality

# Art informs Medicine

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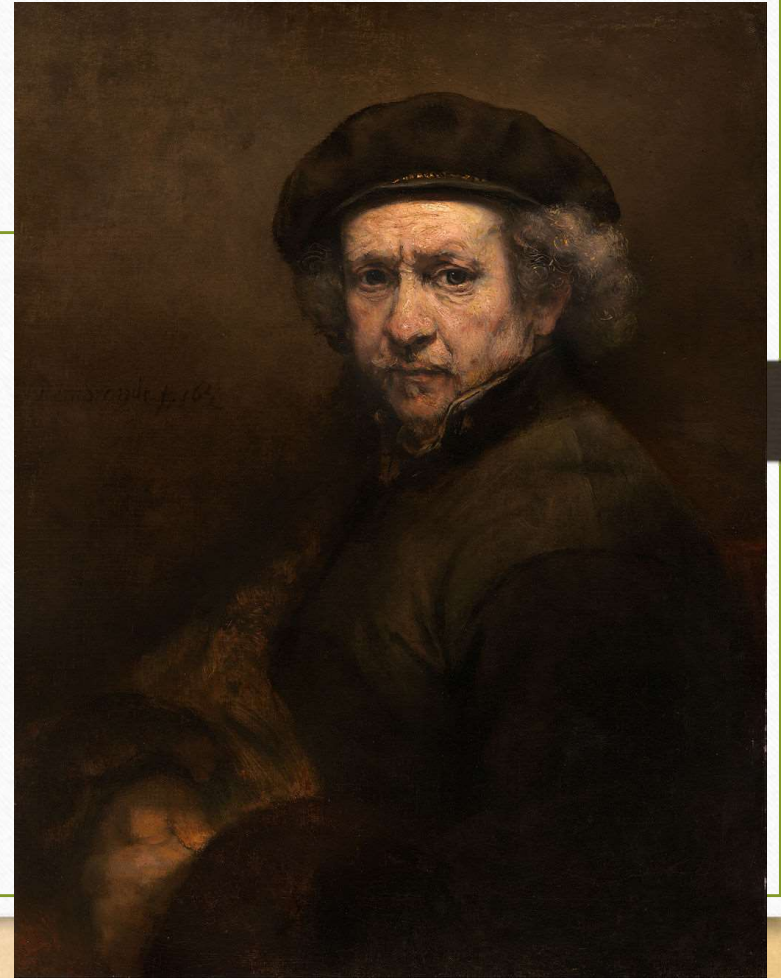
- Artists depict what they observe and sense in the circumstances of their lives.
- Historical and contemporary artists' images and writing often represent human frailty, weakness, fear, vulnerability, social inequity.
- These human miseries intersect with medicine as individuals who suffer these maladies seek medical care.
- Since the arts/humanities affect us emotionally, we recognize the important affective juncture between art and medicine for teaching and learning thus helping to develop *wisdom*.





Rembrandt van Rijn, Frick Collection

Self Portrait, National Gallery, DC



# Medicine Informs Art

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- Access to profound experiences on a daily basis
- Witness to compelling individual stories and experiences



# Hippocrates

- Life is short,
- the art, long,
- opportunity fleeting,
- experimentations perilous,
- judgement difficult

