

The Role of Patients in Overdiagnosis & Overuse: Blaming the Victim

Adam Cifu, MD



Overdiagnosis & Overuse

- Overdiagnosis
 - detection of a disease that would not have affected a person's health or longevity
 - overdiagnosis leads to preclinical treatment or awareness that harms or fails to help people
- Overuse
 - the use of medical interventions -- drugs, procedures, devices, services -- that harm or fail to help patients
- Overdiagnosis and overuse lead to low-quality care and unnecessary costs

- References



Mostly, clinicians are to blame for overdiagnosis and overuse: A Case Study

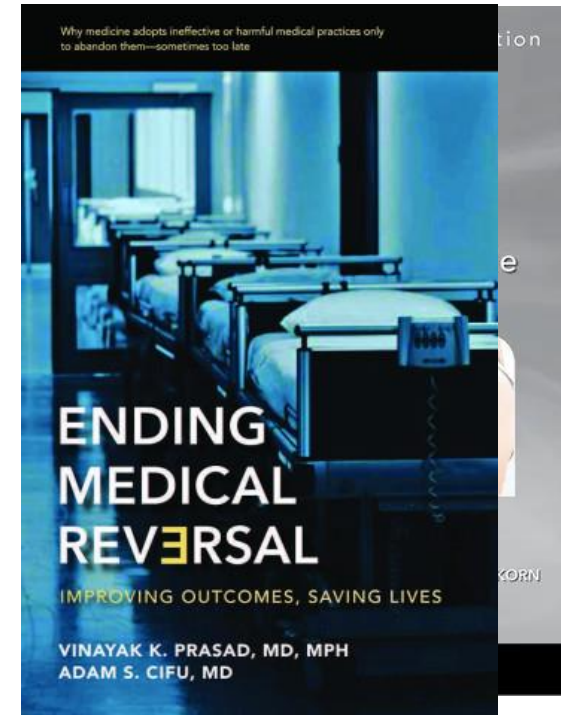
- A patient presents with classic reflex/vasovagal syncope and a doppler ultrasound of the carotids is ordered
- **Ignorance:** “I did not know that carotid dopplers are not part of the syncope workup.”
- **Fear:** “I know that carotid dopplers are not part of the syncope workup, but I am really worried about this patient. I don’t want anything to happen to her, and I am afraid I will get sued if something bad does happen and I hadn’t done dopplers.”
- **Greed:** “Yeah, yeah, yeah, I know about the whole overdiagnosis/overuse thing, but each doppler gets me a little more money.”
- Overuse is the result of clinicians responding to incentives, education/culture, work-flows, peer comparison...

But patients play a role

- “I twisted my knee last week. Can I get an MRI?”
- “A friend of mine just had a heart attack. He told me I should get a coronary artery calcium screen.”
- “Do you want to look at the ten supplements that I take?”
- A recent conversation:
 - Me: Good news, I don’t need to do any labs today
 - Patient: Are you sure, my cat gets more tests than I do
 - Me: Your cat probably doesn’t need the tests. The vet is probably making a lot of money off your cat.
 - Patient: My last doctor always ordered tests. I might be sick.

I should be the last person to overuse: bona fides

- I am a general internist, primary care and inpatient general medicine
- I've spent a career thinking about and teaching evidence-based clinical reasoning
- I've written about premature adoption for the lay audience
- I've publicly staked a claim as a slightly crazed minimalist



We have been called critics, haters, nonbelievers, or our least favorite—nihilists. We prefer the term “medical conservative.” We believe this is the ideal approach to patient care.

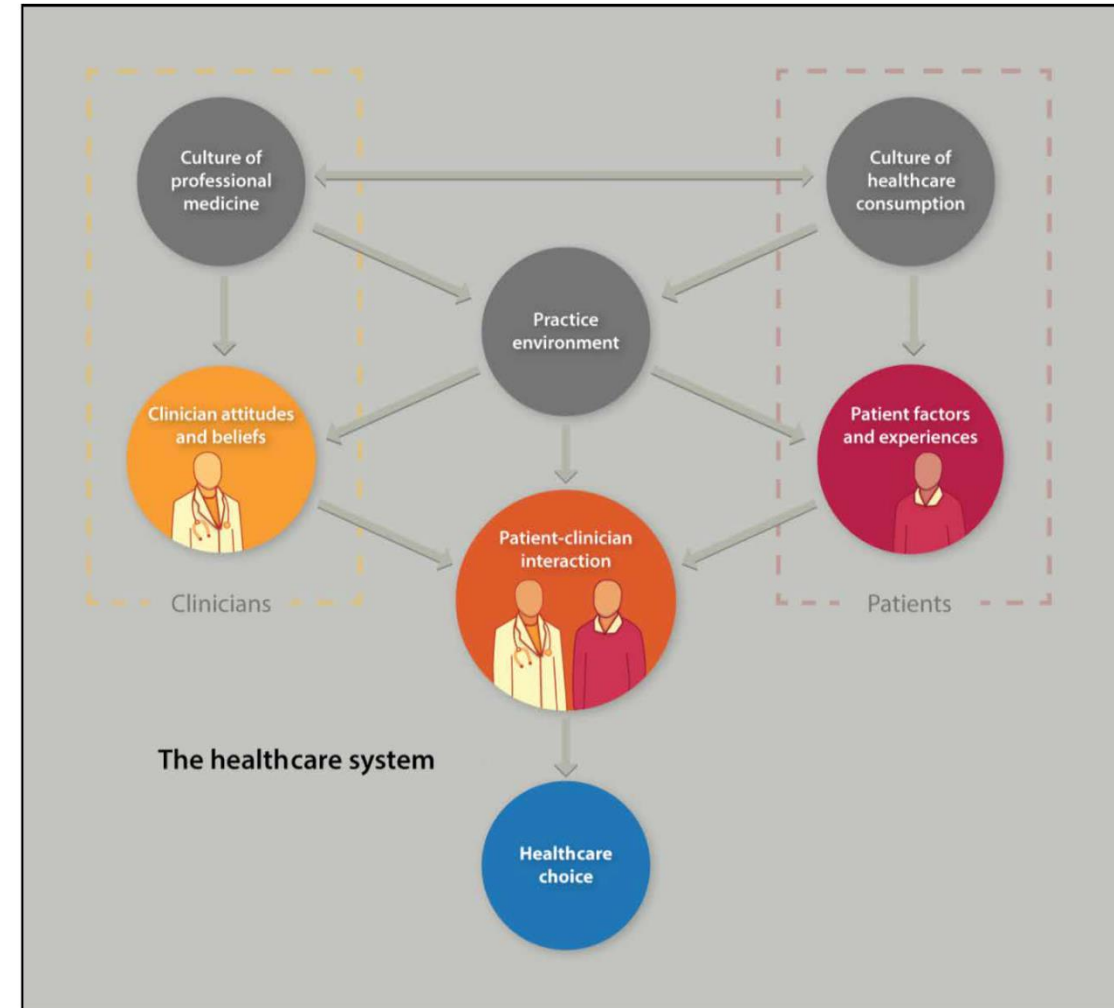
We set out the tenets of the medical conservative now because the rapid pace of innovation and the marketing powers afforded by digital media has tested the resolve of slow-adopting skeptical clinicians.

We set out the tenets of the medical conservative now because the rapid pace of innovation and the marketing powers afforded by digital media has tested the resolve of slow-adopting skeptical clinicians.

The benefit is clear and the evidence strong and unbiased. Cardiac resynchronization therapy for patients with systolic heart failure and typical left bundle branch block, direct acting oral anticoagulants for prevention of arterial and venous thrombosis,

I should be resistant to overuse

- For me, patients themselves pose the greatest challenge to not overusing medical therapies
- Even if I can control the culture of medicine, my own attitudes and beliefs, and my practice environment, I can't control the patient factors



Patients come to visits prone to want more rather than better healthcare: Examples

- Enthusiasm for cancer screening
- Overestimate benefits/underestimate harms of medical care
- Little knowledge of the concept of overuse

Enthusiasm for screening

 ORIGINAL CONTRIBUTION

Enthusiasm for Cancer Screening in the United States

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Floyd J. Fowler, Jr, PhD

H. Gilbert Welch, MD, MPH

Context Public health officials, physicians, and disease advocacy groups have worked hard to educate individuals living in the United States about the importance of cancer screening.

Objective To determine the public's enthusiasm for early cancer detection.

Design, Setting, and Participants Survey using a national telephone interview

Enthusiasm for Cancer Screening in the US

- Most adults (87%) believe routine cancer screening is almost always a good idea and that finding cancer early saves lives (74% said most or all the time)
- Less than one-third believe that there will be a time when they will stop undergoing routine screening
- Thirty-eight percent of respondents had experienced at least one false-positive screening test;
 - more than 40% of these people characterized that experience as "very scary" or the "scariest time of my life"
 - yet, looking back, 98% were glad they had the initial screening test
- Most had a strong desire to know about the presence of cancer, regardless of its implications: two-thirds said they would want to be tested for cancer even if nothing could be done

Pts overestimate benefits, underestimate harms

Clinical Review & Education

Review | LESS IS MORE

Patients' Expectations of the Benefits and Harms of Treatments, Screening, and Tests A Systematic Review

Tammy C. Hoffmann, PhD; Chris Del Mar, MD, FRACGP

Patients' expectations of the benefits and harms of treatments, screening, and tests: a systematic review


- Benefits
 - 54 outcomes, across 32 studies, assessed benefit expectations
 - Of 34 outcomes with overestimation data available, most patients overestimated the benefit for most outcomes
- Harms
 - 27 outcomes, across 13 studies assessed harm expectations
 - Of 15 outcomes with underestimation data available, most patients underestimated the harm for most outcomes
- A correct estimation -- by at least 50% of participants -- only occurred for two outcomes about benefit expectations and two outcomes about harm expectations

Overuse is not a widely known/understood concept

PLOS ONE

RESEARCH ARTICLE

What do people know and think about medical overuse? an online questionnaire study in Germany

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Do people know about medical overuse?

- Fifty-eight percent of people had never heard of medical overuse
- About 60% assumed that medical overuse means "too much medicine, including overtreatment and overtesting"
- Medical overuse was mainly suspected for services not covered by the public health insurance system (56%), surgical interventions (45%), and medication prescriptions (37%)
- "The main problem with medical overuse was seen in rising health care costs, while harmful physical and mental consequences for patients were mentioned less often"

Where do these beliefs come from?

- If we are to change how people think about overuse, we must understand where the ideas originate
- What seems true in life isn't necessarily true in healthcare: proverbs
- Willful miseducation/deceiving marketing
 - individuals
 - pharmaceutical companies
 - health journalists
 - entertainers

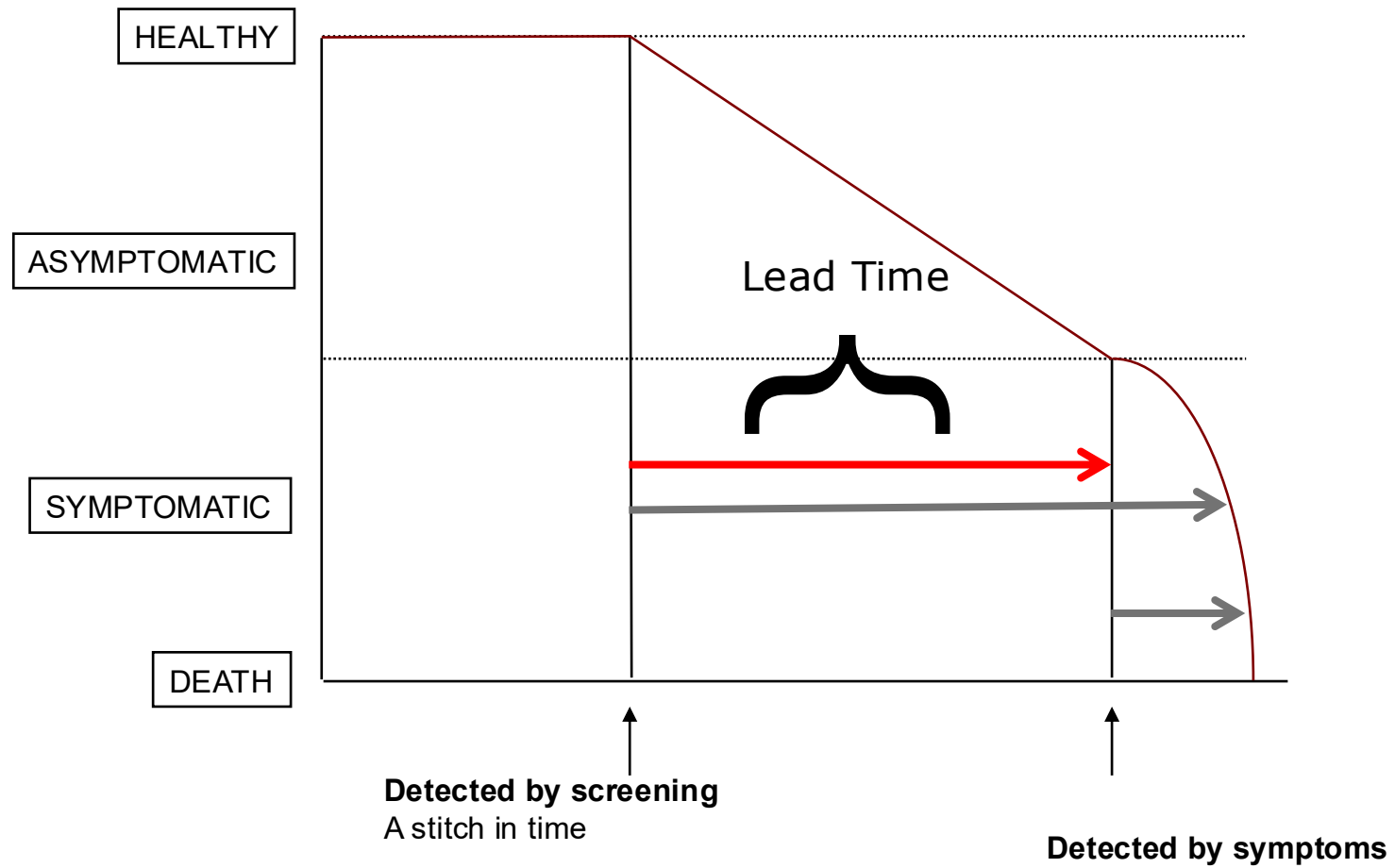
Proverbs

- Simple, traditional sayings that express a perceived truth
- Based on common sense or experience
- Reflect cultural beliefs and shared knowledge
- Heuristics for how to live

A stitch in time saves nine

- Acting early will leave you better off
- Does not account for the phenomenon of lead time bias – acting early may just give you more time living with a disease

Lead time bias



An ounce of prevention is worth a pound of cure

- Better to prevent a disease than develop it and treat it
- Does not consider the potential harm of preventative interventions
- Population: an ounce multiplied by a very large number is much greater than a pound multiplied by a small one
 - ~ 1 woman in 1000 screened with mammograms for 10 years has her life saved
 - 999 only accrue harm from the mammograms over that time
- Individual: ounces of prevention over the course of a life do harm -- financial and physical -- especially compared to a disease that is unlikely to occur

Seeing is believing

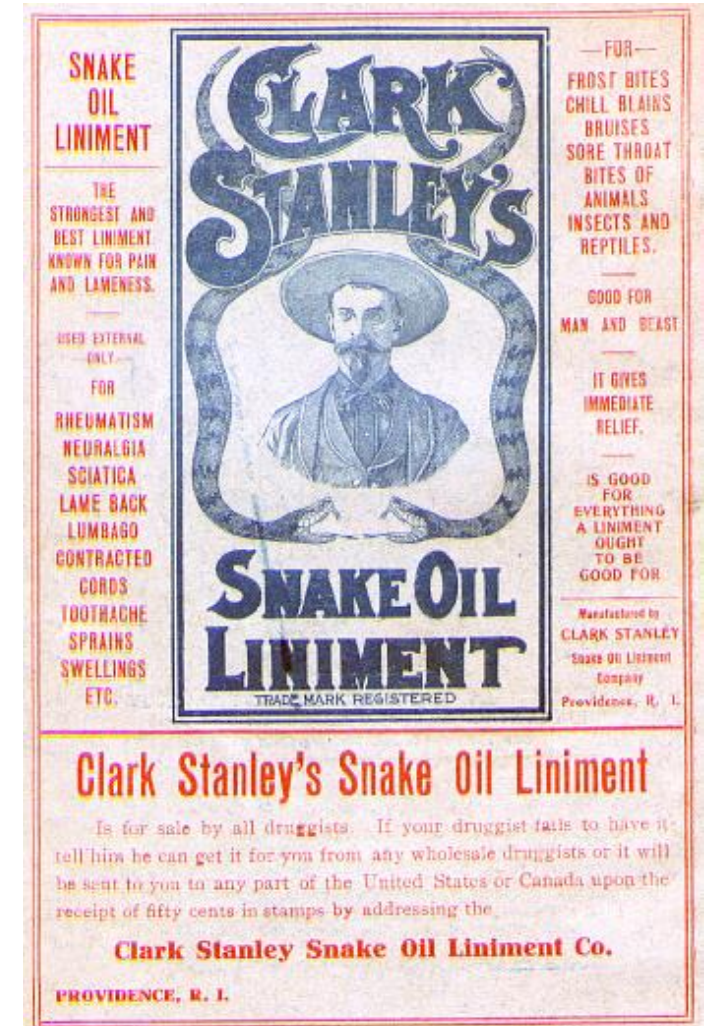
- Many medical practices seem like they must be beneficial
- They either make perfect sense (screening stress tests) or they appear effective
- Especially problematic in an era of technological advances
- When you handle the newest smart phone, you can tell it is better than one from ten years ago
- Health trackers, continuous glucose monitoring, and full body scans seem like they must be better than older technology (or nothing)

Willful miseducation

- Some mistakes are built into our culture or education, some are created through willful miseducation
- People leading patients astray for their own benefit (but sometimes because they mean well)
 - individuals (snake oil salesmen: someone who sells or promotes fraudulent cure)
 - pharmaceutical industry
 - health journalists
 - entertainment industry

Renaissance of the snake oil salesman

- Loss of trust in medicine (COVID, misinformation, too few doctors with too little time, victims of our success)
- The internet enables influencers to reach millions and convert attention into money
- Easier to be a snake oil salesman than a doctor
 - can give general advice to thousands
 - don't have to deal with follow-up and non-responders
- Supplements, longevity, and screening (cancer and cardiovascular) are being most heavily marketed





Pretty convincing, huh?

The pharmaceutical industry and direct to consumer advertising

- A case study: risankizumab



Risankizumab

- The largest direct-to-consumer advertising spend by pharma in 2023: \$579.7 million
- American market: 2 million people with moderate to severe plaque psoriasis
- \$290 per potential patient spent on advertising

Why the advertisement is misleading

- Psoriatic lesion shown involves < than 1% BSA; risankizumab indicated for BSA involvement of 3-10% or >10%
- Ad maintains that risankizumab results in 90% clearer skin. The study endpoint was a 90% reduction in lesion surface area. 25% of patients did not reach that endpoint
- Least effective and most expensive of drugs for the indication

Learn how AbbVie could
help you save on


Skylar[®]
risankizumab-rzaa

You could pay as little as \$5 per dose, 4 times a year*

abbvie | Questions about cost? Visit **SKYLAR**.com

*Not available to all U.S. patients. Restrictions apply. See SKYLAR.com for full eligibility requirements.

Cost

- Risankizumab is priced at \$288,000/pt/year
- When patients see this miracle treatment, which costs as little as \$5 per dose, 4 times per year, they will request it
- Who pays the cost?
- We all pay, via medical insurance premiums or taxes

Willful miseducation: journalists

- Media shows medicine and medical science better than it is
- We call careless and incurious reporting of poorly done biomedical research churnalism
 - churnalism trades the real story -- why a study is unimportant or proves something other than it contends -- for the easy headline
 - *Health & Wellness* media are filled with “Great Advances”, “Breakthroughs”, and “Gamechangers”

Seven deadly sins of churnalism

1. Promoting associations from observational studies as proof of causation
2. Extrapolating and generalizing results
3. Ignoring confounding and selection bias
4. Neglecting plausibility: If it sounds too good to be true, it probably is
5. The disclaim and pivot maneuver
6. Ignoring previous studies or that many results are significant thanks to analytic decisions
7. Being incurious

Entertainment

- Medical miracles and unexpected recoveries make good entertainment
- An entire genre of medical literature demonstrates that CPR is more successful and less traumatic on TV than in real life

SPECIAL ARTICLE

CARDIOPULMONARY RESUSCITATION ON TELEVISION

Miracles and Misinformation

SUSAN J. DIEM, M.D., M.P.H., JOHN D. LANTOS, M.D., AND JAMES A. TULSKY, M.D.



Contents lists available at ScienceDirect

American Journal of Emergency Medicine

journal homepage: www.elsevier.com/locate/ajem

Cardiopulmonary resuscitation in television medical dramas: Results of the TVMD2 study☆

Luz Ramirez, RA^{a,b}, Jose Diaz, RA^{a,b}, Abbas Alshami, MD^{a,c}, Daryelle S. Varon, MS^d, Sharon Einav, MD, MSc^e, Salim Surani, MD, FCCP^f, Joseph Varon, MD^{g,*}

Contents lists available at ScienceDirect

Resuscitation

journal homepage: www.elsevier.com/locate/resuscitation

Short communication

It isn't like this on TV: Revisiting CPR survival rates depicted on popular TV shows☆

Jaclyn Portanova^{*}, Krystle Irvine, Jae Yoon Yi, Susan Enguidanos

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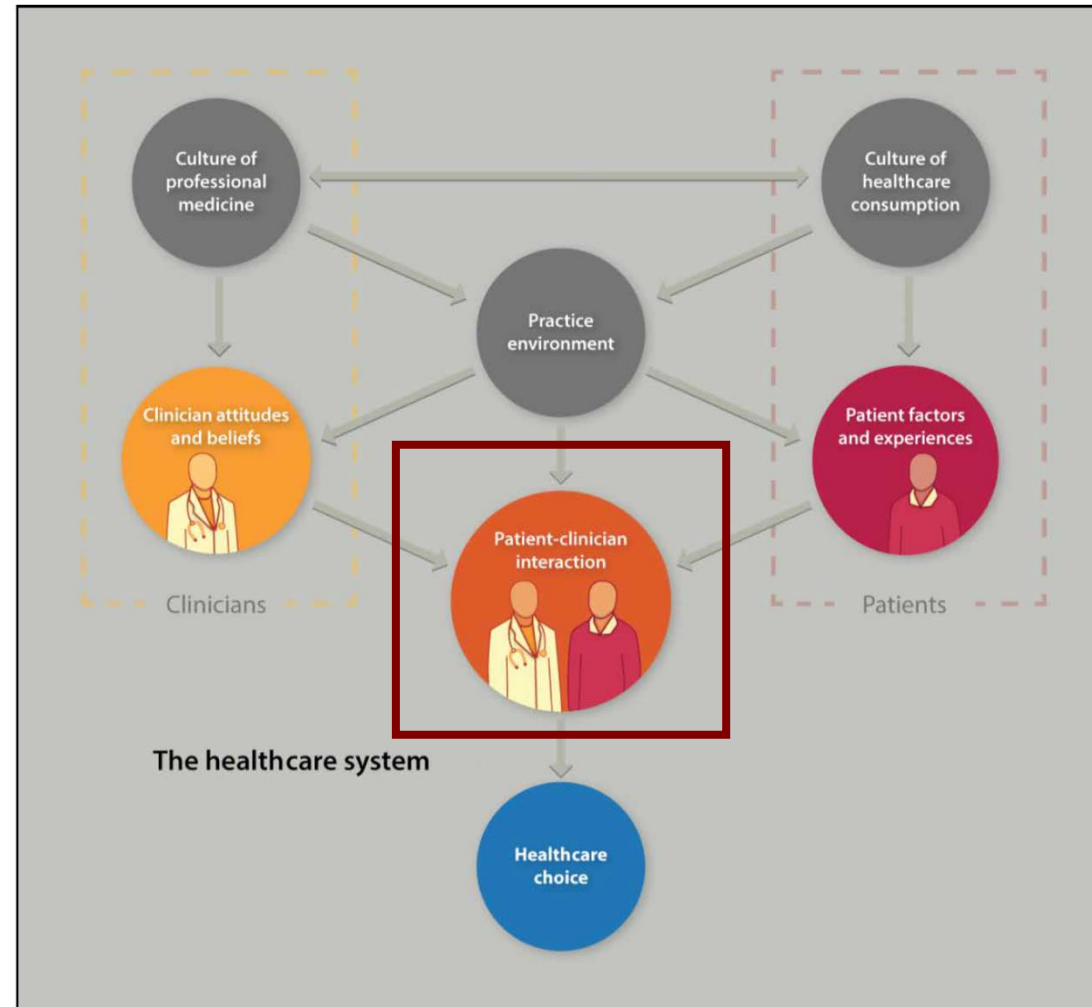
Depiction of Resuscitation on Medical Dramas: Proposed Effect on Patient Expectations

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Patients desires and expectations influence doctors



We are influenced

Patients' anxiety and expectations

*How they influence family physicians' decisions
to order cancer screening tests*

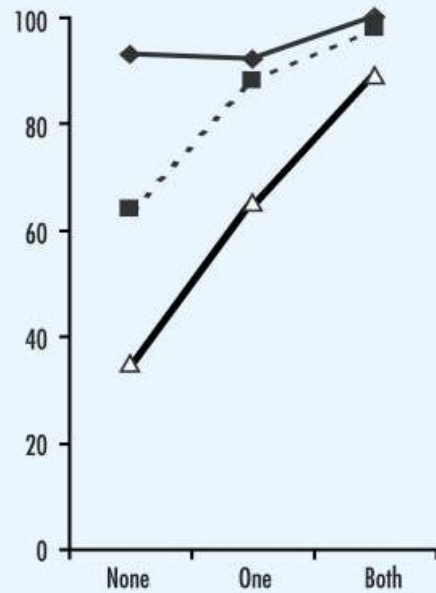
Jeannie Haggerty, PHD Fred Tudiver, MD Judith Belle Brown, MSW, PHD
Carol Herbert, MD, CFPC, FCFP Antonio Ciampi, PHD Remi Guibert, MD

Patients' anxiety and expectations

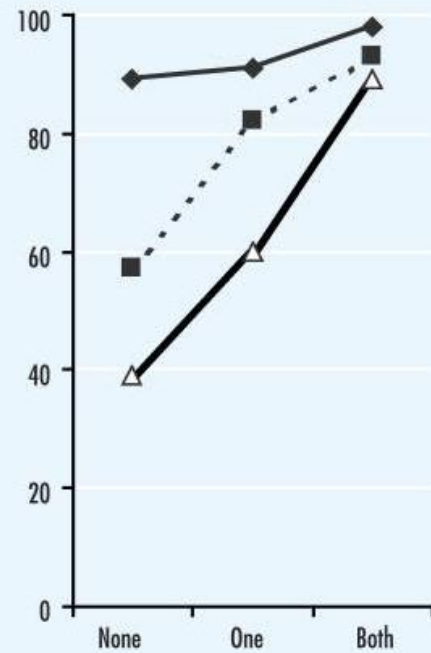
- Study (2005) compared the influence of guideline recommendations and patients' anxiety or expectations on the decision to order four cancer screening tests in clinical situations where guidelines were equivocal
- PSA in men > 50; mammography for women 40-49; colon cancer screening with FOBT or colonoscopy for patients > 40
- Cross-sectional survey; clinical vignettes mailed to FPs and patients

VIGNETTES WHERE TEST WAS ORDERED (%)

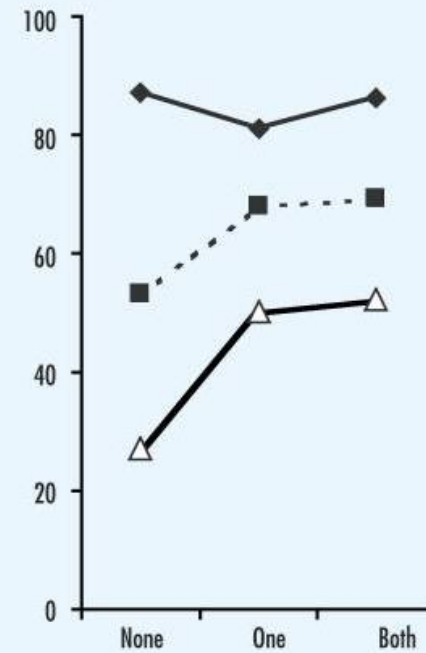
Prostate-specific antigen



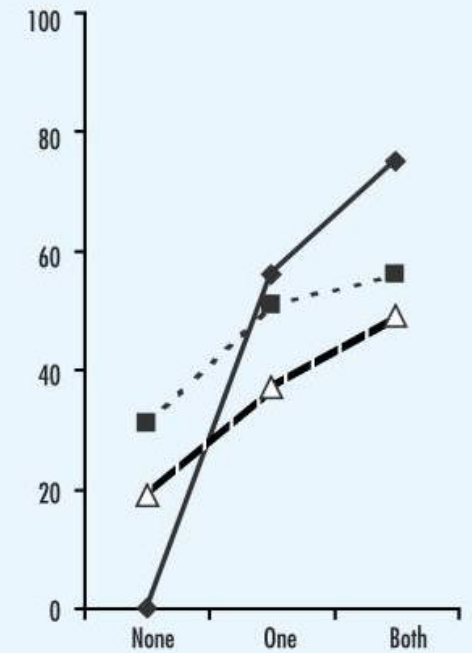
Mammography



Fecal occult blood test



Colonoscopy



PRESENCE OF PATIENT ANXIETY OR EXPECTATION IN CLINICAL VIGNETTE

◆ – Recommended △ – Not recommended ■ – Unclear

And finally...

- If our patients haven't been brought up to want more medical care
- If the heuristics that work in the rest of their lives haven't trained them to want more
- If our snake oil salesmen, pharmaceutical companies, journalists, and entertainers haven't subtly instructed them to want more
- Then we clinicians assume that they want more (even when they don't)

We often act of expectations without even knowing them

- Study explored the extent to which parental pre-visit expectations and physician perceptions of those expectations are associated with inappropriate antimicrobial prescribing
- Pre-visit and post-visit survey of parents and post-visit survey of physicians
- Only significant predictor of ABX prescribing for conditions of presumed viral etiology was a physician's belief that a parent wanted an antimicrobial
- Doctor prescribed ABX 62% when they thought ABX were expected, vs. 7% when they did not think parent expected ABX
- When MD thought the parent wanted an ABX, they were more likely to give a bacterial diagnosis -- 70% of the time versus 31%
- Physician prescribing behavior was not associated with actual parental expectations for receiving antimicrobials
- Failure to provide expected antimicrobials did not affect satisfaction

Proposals

- Legislation
 - DTC marketing
 - misinformation
- Cost sharing
 - patient shares cost
 - physician shares cost
- Patient education
- Physician
 - education
 - time
 - incentives

Questions, Comments, Attacks?

- References



<https://www.adamcifu.com/overuse-references>