What makes de-implementation *different*?

And why does it matter?

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Acknowledgements

- David H Au, MD MS
- Christine Hartmann, PhD
- Quality & Safety QUERI QUE 15-471
- Laura Feemster, MD MS
- Barbara Majerczyk, MPH
- Seppo T. Rinne, MD, PhD
- Renda S. Wiener, MD, MPH
- Toral J. Parikh, MD, MPH
- Melody Sansana, BA
- Peter Rise, MS
- Edmunds Udris, MPH
- Krysttel C. Stryczek, MA
- Chris Gillespie, PhD
- George G. Sayre, PsyD

What is low-value care?

- Low-value care (a.k.a., medical overuse): are diagnostic or therapeutic practices that provide no demonstrable benefit or where the benefits are outweighed by harms
  - Distinguishing from other sources of waste
- De-implementation: "[S]topping practices that are not evidence-based." - Prasad and Ioannidis (2014)
  - Systematic efforts to end the use of low-value care whether a specific alternative is available or not
  - Preventing patient harm
  - Improving value access & timeliness ≠ seek cost savings

Extent of low-value care and trends

- Estimates low 10-16% - high of 30-46% (Morgan et al. 2015; Niven et al. 2015, Scott 2019)
- $75.7B to $101.2B estimated in overtreatment & low-value practices (Shrank et al 2019)
  - $12.8B to $28.6B could be saved by existing interventions
- Medical overuse doesn't seem to be improving (Kale et al 2013; Chamberlain et al 2013); some evidence that underuse improving (Kale et al 2013)

What we know about the drivers of low-value care

- Literature on medical overuse & strategies growing doubling from 2014 to 2015 (Morgan et al 2017; Morgan et al 2018)
- Small (n=20) # of NIH/AHRQ grants on de-implementation but majority <= 2 years (Norton et al 2017)
- Physician awareness of Choosing Wisely low (21% 2014; 25% 2017 (Colla et al 2017b))

Morgan et al (2015) drivers of overuse - Providers

Intrinsic

- Lack of knowledge of harm from overuse

Morgan et al (2015) drivers of overuse - Providers

Intrinsic

- Regret for errors of omission > commission

Morgan et al (2015) drivers of overuse - Providers

Intrinsic

- Belief action better than inaction

Morgan et al (2015) drivers of overuse - Providers

Extrinsic

- Inadequate time

Morgan et al (2015) drivers of overuse - Providers

Extrinsic

- Positive publication bias

Morgan et al (2015) drivers of overuse - Providers

Extrinsic

- Guidelines promoting overuse

Morgan et al (2015) drivers of overuse - Providers

Extrinsic

- Medical culture

Morgan et al (2015) drivers of overuse - Patients

Intrinsic

- Belief more care is better

Morgan et al (2015) drivers of overuse - Patients

Intrinsic

- Lack of knowledge of harm from overuse

Morgan et al (2015) drivers of overuse - Patients

Intrinsic

- Discomfort with uncertainty

Morgan et al (2015) drivers of overuse - Patients

Extrinsic

- Media misrepresentation of research

Morgan et al (2015) drivers of overuse - Patients

Extrinsic

- Advocacy groups

Three ways de-implementation is *different*

- *Outcomes* may be different
  - Unintended consequences
- *Heuristics* & routines exist
  - Have to be suppressed while forming new
- (Underlying) *Cause*
  - It's the same… but we approach it like it's not

Outcomes

- Outcomes may be different - hx, cultural context (Prusaczyk et al 2020)

Outcomes - unintended consequences

- Overuse, by definition, has constituencies
  - Financial, professional, political (Norton & Chambers 2020);

Outcomes - unintended consequences

"The football team at my high school, they were tough. After they sacked the quarterback, they went after his family."

RODNEY DANGERFIELD

- Thornton Melon, Back to School

Outcomes - unintended consequences

- 1995 Agency for Health Care Policy and Research (AHCPR--now AHRQ) nearly defunded over lower-back treatment guidelines (Schlachter 2017; Deyo 2008)
  - Deyo lecture https://bit.ly/2ASDup5 @ 2008
    Birnbaum lecture https://bit.ly/2MJ3d5Z

Unintended consequences

- Psychological reactance = negative cognition when individual feels their freedom or prerogative is threatened (Quick et al 2007; Clee & Wicklund 1980)
  - Mistrust, counter arguing
  - Anger, irritation
- Imprudent efforts to deprescribe could cause patients to become broadly mistrustful

Counter-arguing

MONEY

'This isn't about the mask, it's about control': Costco customer asked to leave after refusing to wear a face covering

Josh Rivera USA TODAY

Published 7:16 p.m. ET May 20, 2020 | Updated 5:42 p.m. ET May 22, 2020

Doctors' new coronavirus threat: Patients who refuse to wear masks

Health care workers don't want to fight the mask culture war, but they're being forced to.

By Lois Parshley | May 21, 2020, 3:40pm EDT

SHARE

Anger


CNN
US
Crime + Justice
Energy + Environment
Extreme Weather
Space + Science
LIVE TV
Edition
Man refusing to wear mask breaks arm of Target employee
Two men were arrested for felony battery after starting a fight with employees at a Los Angeles Target store over wearing masks inside the store. Source: CNN
News & Politics (13 Videos)
Hot

Dilema: Challenge an idea without attacking

- The more people feel attacked, the more likely they are to harden their position
  - Book: *Being Wrong* by Kathryn Schulz
- Example from meta-analysis of audit-and-feedback (Kluger & DeNisi 1996)
  - ⅓ of audit & feedback associated w/ worse quality
- One reason why efforts characterize those to adopt/implement, e.g., laggards (Rogers 2005), is so fraught.

Concern over patient resistance

- Providers report patient ambivalence / resistance about deprescribing (Anderson et al 2014; Stryczek et al 2019)
- May not materialize, but could still be barrier (Stryczek et al 2019; Parikh et al 2020)

  Interviewer: “Could you give me an example of a time when that conversation happened?”

  Provider: “With this specific drug? No. But it happens all of the time.”

Heuristics & routines

- Overuse requires overcoming
  - Individual-level heuristics/habits/mental models
  - Organizational-level routines

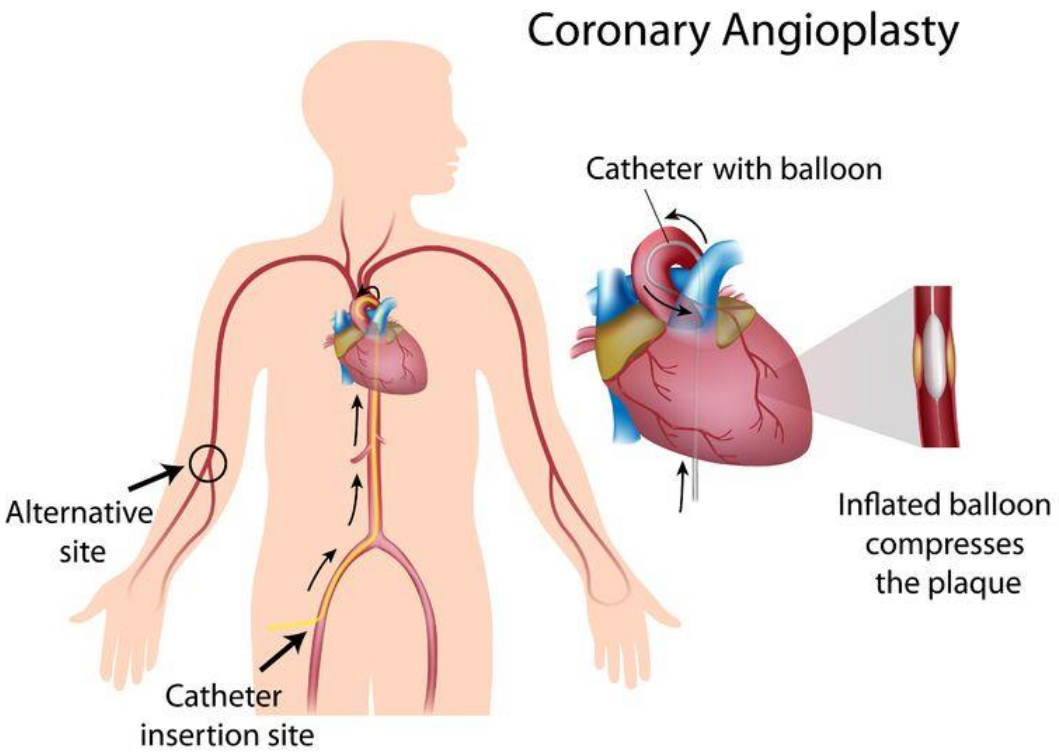
Existing heuristics & routines

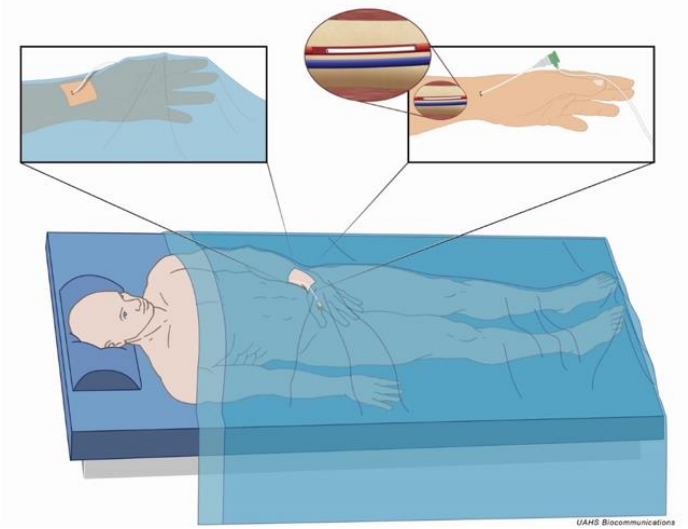
- Much of our behavior driven by heuristics (Kanneman 2008)
  - System 1: fast, efficient, intuitive, based on learned mental models, subconscious, (largely) automatic
    System 2: slow, effortful, reflective, conscious, deliberate & (potentially) corrective
- Most behavior system 1

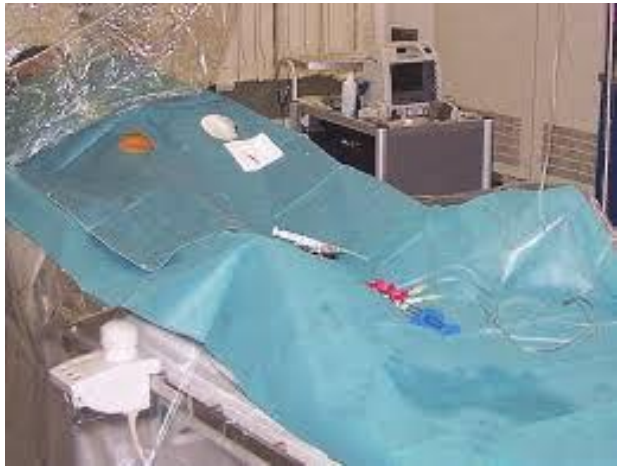
De-implementation = suppressing heuristics

- De-implementation = learning new heuristics & unlearning old heuristics
- Volume/complexity of knowledge exceeds our capacity to retain
    - Guidelines have become more complex;
    - We use heuristics to deal with complexity; we fall back on defaults
    - Organizational routine is analogous (Fiol & O'Connor 2017a, 2017b)

Routines are organizational analog







(Underlying) *Cause* - Knowledge expires

- Continual evolution of knowledge: The half-life of facts
- Much of what we know to be true today will turn out to be inaccurate or false
  - Episiotomy
  - Pre-frontal lobotomy for anxiety, terminal cancer
  - Radical mastectomy
  - PCI for angina
- Half life of facts in surgery calculated to be approximately 47 years (Hall et al, 1997)

(Underlying) *Cause* - Brandolini's Law

- A.K.A. the *bullshit asymmetry principle*
- "...the amount of energy needed to refute bullshit is an order of magnitude bigger than that needed to produce it." (Williamson 2016)

Learning Healthcare System

- Setting expectation knowledge will change; is normal
- Creating systems for re-evaluating practices
  - Embedded research (Damschroder et al, in press)
  - Lessons from combatting groupthink, e.g., formalizing counter-argument (Janis 2008)
- May need a higher bar for accepting findings
- Creativity/innovation through automaticity (Lemov 2012)

Why it *matters*

- Taking into account unintended consequences
  - Anticipating; measuring; strategies to mitigate
- Heuristics/routines
  - Taking into account systems that need to change around the clinician
  - Creating space for unlearning
- Learning Healthcare System
  - Presenting/thinking about overuse differently
  - Structures, e.g., embedded research

THANK YOU

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Concern over patient resistance

- At same time, patients in US focus groups (Schleifer and Rothman 2012)
  - Awareness of potential for too many medications
  - Open to deprescribing medications
- Patients and caregivers oppose medication deprescription when: Perceived medically appropriate; feel benefit/lack of harm; had previous negative medication withdrawal (Reeves et al 2016)
- Strategies: Trial period; engage in dialogue (Parikh et al, 2020)

Fragmented literature

- 43 terms (Niven et al, 2015; Gnjidic & Elshaug 2015)

Challenges of evidence-based knowledge

- Half life of facts in surgery estimated to be approximately 45 years (Hall & Platell, 1997)
  - “5 years ago it was suggested that: prefrontal lobotomy usefully altered patients' reactions so that "no anxiety, fear, or concern over their impending death from cancer was manifest"[3];
  - "in primary malignant hypertension the malignant phase may disappear" after lumbodorsal sympathectomy[4];
  - and, the detection of a gastric ulcer was "a strong indication for immediate operation"[5]

At least 7 lit reviews on factors associated with low-value care or interventions to reduce it*

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- Systems of care, e.g., HMO vs. fee-based, and low-value care (Keyhani et al 2013)
- Not associated

At least 7 lit reviews on factors associated with low-value care or interventions to reduce it*

- Scoping review: 44 articles on facilitating; on 2 on sustaining (Niven et al 2015)
- 30% on Dx de-implement

At least 7 lit reviews on factors associated with low-value care or interventions to reduce it*

- Systematic review of supply vs. demand-side interventions (Colla et al 2017a)
- 84 studies tested intervention effectiveness
- Most effective (by number):
  - Clinical decision support;
  - Multicomponent
  - Provider education & patient education;
- 56% targeted meds vs. 12% radiology & 10% labs/path

At least 7 lit reviews on factors associated with low-value care or interventions to reduce it*

- Narrative review on cognitive bias & overuse (Scott et al, 2017)
- Small number (n=5) on behavioral nudges

“Properly speaking, there is no certainty; there are only people who are certain.”

—CHARLES RENOUVIER, ESSAIS DE CRITIQUE GÉNÉRALE”

To be positive is to be mistaken at the top of one's voice.

--Ambrose Bierce

Different types of de-implementation

Reversal		Replacement	
Partial	Complete	Related	Unrelated
Reducing frequency, breadth or scale of outmoded practice, so that it is provided to a narrower subgroup of patients.	Universal discontinuation of ineffective practice.	Substitution of existing practice, replaced by a closely related and more effective intervention.	Substitution of existing practice, replaced by a more effective intervention that is unrelated to usual care.

Wang et al, 2017