



Overcoming challenges in de- implementing low-value care: **Routines, asymmetry of outcomes, and psychological reactance**

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Fallor ergo sum.

I err, therefore I am

- St. Augustine

Vignette

The inhaler

The inhaler

- Dr. Bhatt is has a routine visit
- New note from pulmonary for patient, Mr. Larsen
- Chronic obstructive pulmonary disease
- Inhaled corticosteroid

The inhaler

- Prescribed inhaled corticosteroid by ED physician
- COPD guidelines complex
- Second-guessing ED physician

The inhaler

- E-consult note
- Potential risk of pneumonia from inhaled corticosteroid (NNH = 62)

The inhaler

CPRS in use by: Udris,Edmunds M (vista.puget-sound.med.va.gov)

View Action Options Tools Help

ZZTEST,ACPRS PATIENT FIVE (OUTPATIENT)

000-00-1919

Jan 20,1957 (59)

Visit Not Selected

Current Provider Not Selected

Primary Care Team Unassigned

Results May 04,16 (c) PULMONARY NON-VISIT IFC (PUGET SOUND) Cons Consult #: 4951957

All consults

- May 11,16 (c) BENEFA
- May 04,16 (c) PULMON
- Apr 25,16 (dc) MH VC
- Apr 25,16 (dc) MH VC
- Apr 21,16 (x) MH VOC
- Apr 21,16 (dc) MH VC
- Apr 21,16 (x) MH VOC
- Apr 21,16 (x) MH VOC
- Apr 05,16 (dc) SOCW
- Mar 29,16 (x) CARDIC
- Mar 29,16 (dc) CARD
- Mar 28,16 (dc) RESTI
- Mar 25,16 (dc) TELEC
- Mar 02,16 (dc) SOCV
- Mar 01,16 (c) ZZTES
- Feb 25,16 (c) BLOOD
- Jan 26,16 (c) DHADMA

RECOMMENDATIONS:

- Tapering and discontinuing inhaled corticosteroid as follows
 - Discontinue symbicort
 - Initiate olodaterol 2 actuations QDay
 - Initiate mometasone 1 puff QD for 1 month then stop
- Continue albuterol and Tiotropium

RATIONALE:

The patient carries a diagnosis of COPD and most recent spirometry suggests moderate airflow limitation. He is currently treated with "triple therapy"

- Symbicort [Budesonide 80 mcg/Formoterol 4.5 mcg BID]
- Tiotropium 18 mcg once daily
- Albuterol 90 mcg bid prn

Very limited evidence of additional benefit for patients with mild-moderate disease having benefit from triple therapy. Most recent guidelines suggest that inhaled corticosteroids are indicated for patients who have severe obstruction (less than 50% predicted) and are experiencing frequent exacerbations (2 or more per year). Inhaled corticosteroids have been also shown in multiple randomized trials to increase the risk of pneumonia.

New Consult

The inhaler

- Uncertainty: “Why rock the boat?”
- “But it’s like a security blanket, just to have it here in case I should get some kind of a scenario.”

The inhaler

- Worry that inhaler was going to be *the cause* of a bad scenario
- What if gradual reduction and then revisit?
- 20 minute discussion

The inhaler

- Routines / Heuristics
- Asymmetry of outcomes
- Psychological reactance



Defining low-value care & de-implementation

- Low-value practices fail to provide benefit, or risks outweigh expected benefit (Grimshaw et al 2020); medical overuse
- Fail to accord with the patient's/client's preferences (Berwick & Hackbarth 2012; Berwick 2019)

Defining low-value care & de-implementation

- De-implementation: “[S]topping practices that are not evidence-based.” (Prasad & Ioannidis 2014)
- Deliberate strategies targeting a specific low-value practice (Helfrich et al 2018)

Prevalence of low-value care

- Prevalence 10-16% to 30-46% (Morgan et al. 2015; Niven et al. 2015, Scott 2019)
- Vary by setting, time, place
- Lack data in many settings, e.g., non-healthcare, LMIC; but have examples
 - e.g., DARE drug program (West & O'Neal 2004), abstinence-only sex education to prevent spread of HIV (Richter 2016)

Extent of low-value care and trends

- \$75.7 billion to \$101.2 billion cost to US healthcare (Shrank et al 2019)
 - Of which, \$12.8 billion to \$28.6 billion could be saved from demonstrated interventions, e.g., programs to optimize medications, prior authorization, shared decision-making

Causes of low-value care

- Why do low-value practices exist (systemically)
- What drives low-value practice use

Why low-value practices exist

- Tradition-based practices (Hanrahan et al 2015)
- Scientific evolution
 - Half-life of facts (Arbesman 2013; Hall et al 1997)
- Corruption of science
 - Crisis of reproducibility (Open Science Collaboration 2015; Ritchie 2019)
 - Pseudoscience (Caulfield 2015; Bluestone 2021);
Brandolini's law (Williamson 2016)

Drivers of low-value care (Morgan et al 2015)

	Intrinsic	Extrinsic
Provider / healthcare system	E.g., Lack of knowledge of harm from overuse; Belief more care is better; Discomfort with uncertainty	E.g., Guidelines promoting overuse; Medical culture; Financial—provider and hospital; Inadequate time
Patient / public	E.g., Discomfort with uncertainty; Belief more care is better; Lack of knowledge of harm from overuse	E.g., Media misrepresentation of research; Financial—third party payment shielding from costs; Advocacy groups

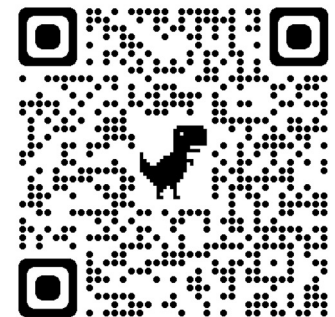
Routines

Heuristics & routines

- Heuristics: mental shortcuts & patterns of behavior individuals develop over time in response to encountering the same task or problem (Helfrich et al 2018)
- Routines: repeated, interdependent patterns of actions by individuals within an organization in response to some task or problem (Fiol et al 2017a)

Heuristics & routines

- Habit & heuristics - individual level (Scott 2017; Ingvarsson et al 2020)
 - System 1 (fast, intuitive, automatic) vs. System 2 (slow, effortful, conscious) (Kahneman 2008)
- Policies, standards, routines - group level (Bourgault et al 2019; Hanrahan et al, 2015)
- Backwards bicycle example on YouTube channel Smarter Everyday
<https://bit.ly/3v9PSgA>



Heuristics: Backwards bicycle

Veterans Health
Administration



www.research.va.gov



Heuristics & routines

- Overuse requires overcoming
 - Individual-level heuristics/habits/mental models
 - Organizational-level routines, patterns
 - E.g., Dr. Bhatt's reluctance to change a prescription written by the ED physician

De-implementation = suppressing heuristics

- In implementation we have to establish new heuristics
- In de-implementation we have to do that while unlearning or suppressing old heuristics
- The old heuristic is still there under the surface
 - Resurface as a result of stress, disruption

Ways to counteract

- Build in systems that short-circuit the routines without stranding the clinician,
 - Vignette example of proactive e-consult
 - Pathology-order hard stops that prevent re-ordering tests the patient already has, but includes the results of the previously ordered test (Precop et al 2015)
- Introduce an incompatible substitute, e.g., “watchful waiting” as alternative to more aggressive care for men with elevated PSAs but at low risk of fatal prostate cancer (Mahel et al., 2019)

Ways to counteract

- **Systems:** The Abdul Latif Jameel Poverty Action Lab resources on systematically scale back ineffective policies & programs:
<https://www.povertyactionlab.org/evidence-to-policy/scaling-back-evaluated-program>
- **General principle: Chesterton's Fence**
 - Understand the origins & reasons for the policy or program; understand who the stakeholders are (more on this when we talk about reactance)

Asymmetry of outcomes

Asymmetry of outcomes

- Benefits of de-implementing is hypothetical and divorced from the decision
- Conversely, perceived risk/benefit in favor of the low-value practice may be very stark



If you haven't had a mammogram, you need more than your breasts examined.

A mammogram is a safe, low-dose X-ray that can detect breast cancer before there's a lump. In other words, it could save your life and your breast.

If you're a woman over 35, be sure to schedule a mammogram. Unless you're still not convinced of its importance.

In which case, you may need more than your breasts examined.

Find the time.
Have a mammogram.

**AMERICAN
CANCER
SOCIETY**

Give yourself the chance of a lifetime.

Asymmetry of outcomes

- For an individual clinician, best outcome from de-implementation = nothing
 - For clinician, there's often a palpable risk in de-implementation vs. little discernible benefit
 - Risk without reward
 - E.g., Dr. Bhatt faced with taking away Mr. Larsen's sense of security whereas there would never be a moment when she'd see the prevention of pneumonia

Asymmetry of outcomes

Generally, on one hand I'd like to say in someone who's on medication they don't need, you should try to stop it. But deep down there's a little hesitation that if someone is doing well, why rock the boat?

- Primary care provider talking about taking patients off an inhaled corticosteroid when they don't need it (Stryczek et al 2020)

Ways to counter

- Provider-level: give the provider back-up
 - Endorsement from colleague, particularly specialist
 - Use policies & standards - Create triggering events, like routine medication reviews that are visible to patients
- Prepare the patient to make it easier for the provider: Establish expectation that care changes over time, e.g., cancer screening, cholesterol management, create time-based checkpoints

Psychological reactance

Psychological reactance


- Psychological reactance: a response people feel when they believe their rights are being infringed on, or something they deserve is being taken away (Dillard & Shen 2005)
 - Anger
 - Count-arguing/mistrust
- De-implementation - could occur with patient or provider

Reactance - Consequences

- Danger of reactance both a patient and provider levels
 - Anger dissipates
 - Mistrust can persist
- Stimulating greater use of low-value practice “boomerang effect” (Compton & Pfau 2005)
 - Early review of audit-and-feedback interventions found a third associated with an increase in the practice they were trying to de-implement (Kluger & DeNisi 1996).
- May encourage the use of other low-value practices that aren’t monitored/tracked or that have even worse effects

Psychological reactance

CNN US Crime + Justice Energy + Environment Extreme Weather Space + Science LIVE TV Edition Q




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

</>

Hot 10X



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



Reactance - Constituencies

- Risk of reactance can be high because overuse, by definition, has constituencies
 - Financial, professional, political, social (Norton & Chambers 2020)
- 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>

Reactance - Spillover

- Dr. Bhatt didn't encounter reactance with Mr. Larsen, which reflects what occurred in our program (Parikh et al 2020)
 - But concern was present (Stryzek et al 2020)

Interviewer: Could you give me an example of a time when that [patient resists ending use of a medication] happened?

Primary care provider: With this specific drug? No. But it happens all of the time.

Reactance - Countering

- Inoculate stakeholders
 - Engage stakeholders early & often
 - Listen. Understand their perspective & concerns (Chesterton's Fence)

Reactance - Countering

- Inoculate stakeholders
 - Involve stakeholders in decision-making; if possible, make soft recommendations (not hard stop)
 - Libertarian paternalism (Thaler & Sunstein 2003)
 - Provide narratives that illustrate the harms you're trying to prevent: Data tells, but stories sell

Reactance - Countering

- Reveal who bears the burden, particularly with harms
 - Example from anesthesiology (Brownlee & Korenstein, 2021) reports on poor anesthesia practices in the 1980s that crystalized awareness & motivation

Reactance & implementation

- Qualifier
 - Not that psychological reactance is unique to de-implementation (e.g., Covid mask mandate)
 - Not that psychological reactance is only (or necessarily main) unintended consequence from de-implementation
 - It's just more salient

De-Implementation Strategies

- At least 7 literature reviews on strategies to promote de-implementation and/or factors influencing de-implementation of low-value care (Colla et al 2017a; Sypes et al 2020; Reitbergen et al 2020; Augustsson et al 2021; Burton et al 2021; Heus et al 2022, Ingvarsson et al 2022, Tabriz et al 2022)
 - Strategies focused on patients (Sypes et al 2020)
 - Focused on nurses (Reitbergen et al 2020)
 - Low-value cancer (Tabriz et al 2022)
 - Randomized controlled de-implementation studies (n=121) (Heus et al 2022)

De-Implementation Strategies

- Overall, promising literature
 - 69% of de-implementation RCTs were effective, & effect size was substantial median relative reduction of 17% (IQR 7%–42%)(Heus et al 2022)
- Main problem is literature focuses on general effects, not explaining patterns of mechanism of why strategies worked
 - Can make it difficult to apply across settings & types of low-value care

Conclusions

- Three factors present unique challenges to de-implementation
 - Routines & Heuristics
 - Asymmetry of outcomes
 - Psychological reactance
- Important to take into account while designing de-implementation strategies & programs
 - Possible to mitigate

Thank you!

- Happy to answer questions & hear your thoughts
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