De-Implementation: Exploring Multi-Level Strategies for Reducing Overdiagnosis and Overtreatment

Workshop Session #7, Room 133
2016 Preventing Overdiagnosis Conference
Barcelona, Spain
Agenda

- Welcome, overview of de-implementation, objectives

- Presentations
  - Case Study 1: Patient and provider strategies for de-implementation (Russ Harris)
  - Case Study 2: Policy strategies for de-implementation (Barry Kramer)
  - Overview of de-implementation (Wynne Norton)

- Discussion

- Summary
Overview of De-implementation

- Increasing recognition of harms associated with overscreening, overdiagnosis, and overtreatment

- Strategies are needed to prevent overuse of future practices and to reduce overuse of existing practices

- Multi-level factors inhibit or drive de-implementation

- Multi-level strategies will be needed to de-implement overuse of practices
Objectives

1. Identify multi-level factors that may inhibit or facilitate de-implementation

2. Discuss potential multi-level strategies to support de-implementation

3. Explore role of stakeholder groups in advancing the science and practice of de-implementation
Sample Questions for Discussion

- What additional multi-level factors influence de-implementation (inhibit or drive)?

- What stakeholders should be involved in de-implementation research and practice activities?

- How might de-implementation differ by type of intervention (e.g., screening, diagnosis, treatment), health area (e.g., cancer, diabetes), context (e.g., hospital, health department), or country?
Case Study #1: Patient and Provider Strategies for De-Implementation

Russ Harris, MD, MPH
Professor of Medicine
University of North Carolina at Chapel Hill
Case Study #2: Policy Strategies for De-Implementation

Barry Kramer, MD, MPH
Director, Division of Cancer Prevention
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Overview of De-Implementation

Wynne E. Norton, PhD
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Disclosure

- I have no financial relationships to disclose.
- Opinions are mine, not official positions of the National Cancer Institute, the National Institutes of Health, or the U.S. federal government.
Rationale for De-Implementation

- Increase in health care spending without comparable improvement in health outcomes

- Increasing evidence of unwarranted use of health practices, programs, devices, diagnostics, procedures, tests, drugs, imaging, and treatments

- Examples
  - Routine use of proton pump inhibitors
  - Hormone replacement therapy
  - Radical mastectomy

Prasad & Cifu, 2015; Morgan et al., 2015; Howell et al., 2010; Rossouw et al., 2002; Elshaug et al., 2013
Outcomes of Overuse

- Patient and public distrust
- Inefficiency
- Poor use of resources
- Increased cost
- Physical harm
- Psychological harm
- Disengagement
- Tension
- Negative attitudes
- Reluctance

Morgan et al., 2015; Prasad & Ioannidis, 2014
Definitions

- **Disinvestment**
  - Processes of withdrawing (partially or completely) health resources from any existing health care practices, procedures, technologies or pharmaceuticals that are deemed to deliver little or no health gain for their cost, and are thus not efficient health resource allocations

- **De-Implementation**
  - “We regard de-implementation broadly as ‘stopping practices that are not evidence-based.’”
  - Abandonment

Editor’s Note, *Implementation Science*, 2014; Elshaug et al., 2007; Prasad & Ioannidis, 2014
Terminology

Gnjidic & Elshaug, 2015; Nieven et al. 2015
Implementation = De-Implementation?

- Implementation science focused predominantly on integrating evidence into practice

- Similar to implementation but not simply the reverse
  - More difficult?
  - Longer process?
  - More intense strategies?

- Challenges include habit formation, positive reinforcement, cognitive dissonance, episodic learning, formal and informal learning, etc.

  Bodegom-Vos et al., 2016; Davidoff, 2015; Montini & Graham, 2015
5 Key Dimensions

(1) Type of Evidence

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ineffective</td>
<td>Strong evidence it does not work</td>
</tr>
<tr>
<td>Contradicted</td>
<td>New evidence it does not work (i.e., medical reversal)</td>
</tr>
<tr>
<td>Mixed</td>
<td>Inconsistent evidence that it works</td>
</tr>
<tr>
<td>Untested</td>
<td>Absence of evidence (i.e., no research conducted to date)</td>
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</tbody>
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**Evidence of harm (to patient) assessed across types**

(2) Type of Action

- Reduce Frequency
  - Decrease regularity with which an intervention is delivered (e.g., screening every 5 years vs. 3 years)

- Reduce Intensity
  - Decrease strength or potency with which the intervention is delivered (e.g., decrease dosage from 200 mg to 50 mg)

(2) Type of Action (cont’d)

- Replace
  - Replace existing intervention with similar that is ‘better’ (e.g., cost-effective, efficient, effect size)

- Remove
  - Stop delivering intervention (e.g., hormone replacement therapy)

- Constrict
  - Limit delivery of intervention to smaller or more targeted sub-group (e.g., routine screening for all vs. screening for high-risk)

(3) Rate

- How quickly does an intervention need to be de-implemented?
  - Cost
  - Harm
  - Regulation
  - Short- and long-term impact on patient outcomes (e.g., side effects, mortality, complications, quality of life, trust, engagement in health system and receipt of health services)

- Rate of de-implementation should guide selection and use of targeted de-implementation strategies

(4) Multi-level Factors

- **Patient**
  - Knowledge, beliefs, skills, acceptance, communication

- **Provider**
  - Motivation, knowledge, attitude, skills, incentives

- **Organization**
  - Culture, climate, leadership, resources

- **Societal**
  - Professional organizations/norms, regulatory policies, reimbursement

(5) Multi-level Strategies

- **Patient-mediated strategies** (e.g., patient education, communication skills, health literacy)

- **Provider-focused strategies** (e.g., +/- reinforcement, incentives or disincentives, communication skills, awareness/information, training)

- **Organizational strategies** (e.g., culture, climate, efficiency, resources, process redesign)

- **Societal strategies** (e.g., professional associations, reimbursement policies, media, societal norms)

Discussion
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Summary
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- De-implementation is an important—albeit understudied—area of scientific inquiry

- Research is needed to understand why ineffective, harmful, and/or unproven practices are delivered and how best to reduce or remove such practices

- De-implementation involves many stakeholders across delivery settings and health domains

- Follow-up activities needed
Closing Comments

- Thank you very much for your attendance and contribution to this workshop!

- PDF copies of the presentations may be made available upon request (wynne.norton@nih.gov)

- Feel free to contact us to share any additional thoughts, comments, or suggestions you may have on de-implementation

- Research Day Workshop: Friday, September 23rd
Contact Information

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