UNPACKING DIFFERENCES & SIMILARITIES BETWEEN IMPROVEMENT & IMPLEMENTATION: SCIENCE & PRACTICE IN EACH

Anne Sales PhD RN

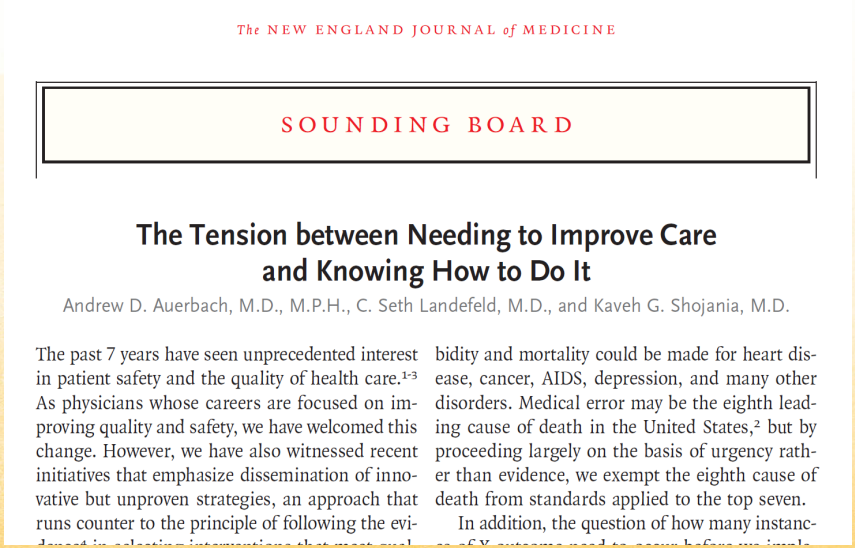
asales@missouri.edu

Sinclair School of Nursing
University of Missouri

OVERVIEW

- Brief overview of quality improvement (QI) and IS
  - Definitions
  - Differences
  - Similarities
  - So what now?
- Tools developed from implementation research
- How can these tools be used in QI work?

DIFFERENT PERSPECTIVES



The NEW ENGLAND JOURNAL of MEDICINE

SOUNDING BOARD

The Tension between Needing to Improve Care and Knowing How to Do It

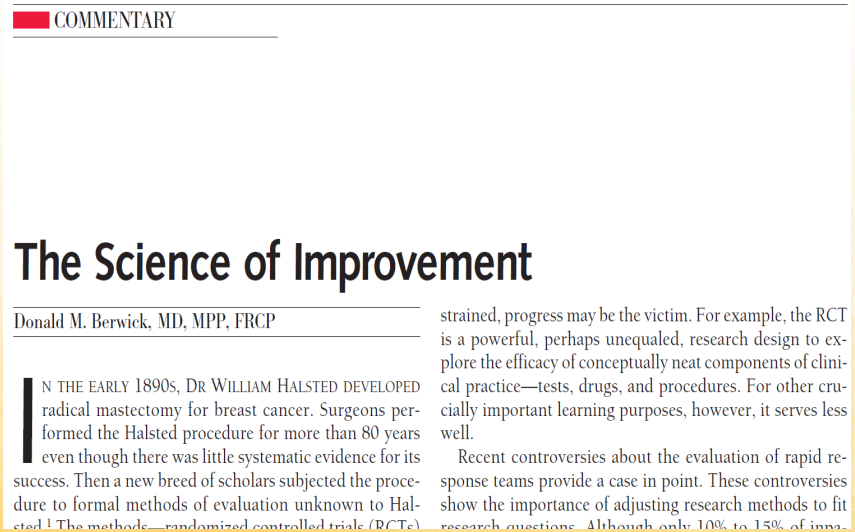
Andrew D. Auerbach, M.D., M.P.H., C. Seth Landefeld, M.D., and Kaveh G. Shojania, M.D.

The past 7 years have seen unprecedented interest in patient safety and the quality of health care.[1-3] As physicians whose careers are focused on improving quality and safety, we have welcomed this change. However, we have also witnessed recent initiatives that emphasize dissemination of innovative but unproven strategies, an approach that runs counter to the principle of following the evi-

bidity and mortality could be made for heart disease, cancer, AIDS, depression, and many other disorders. Medical error may be the eighth leading cause of death in the United States,[2] but by proceeding largely on the basis of urgency rather than evidence, we exempt the eighth cause of death from standards applied to the top seven.

In addition, the question of how many instanc-

NEJM August 9, 2007



COMMENTARY

The Science of Improvement

Donald M. Berwick, MD, MPP, FRCP

In the early 1890s, Dr William Halsted developed radical mastectomy for breast cancer. Surgeons performed the Halsted procedure for more than 80 years even though there was little systematic evidence for its success. Then a new breed of scholars subjected the procedure to formal methods of evaluation unknown to Halsted.[1] The methods—randomized controlled trials (RCTs)

strained, progress may be the victim. For example, the RCT is a powerful, perhaps unequaled, research design to explore the efficacy of conceptually neat components of clinical practice—tests, drugs, and procedures. For other crucially important learning purposes, however, it serves less well.

Recent controversies about the evaluation of rapid response teams provide a case in point. These controversies show the importance of adjusting research methods to fit research questions. Although only 10% to 15% of inpa-

JAMA March 8, 2008

DEFINING IMPLEMENTATION SCIENCE (IS)

- As defined by the Annual NIH Conference on Implementation and Dissemination, implementation is the use of strategies to adopt and integrate evidence-based health interventions and change practice patterns within specific settings. *Research on implementation addresses the level to which health interventions can fit within real-world public health and clinical service systems.*
- *Implementation science is the study of methods to promote the integration of research findings and evidence into healthcare policy and practice*. It seeks to understand the **behavior of healthcare professionals and other stakeholders** as a key variable in the **sustainable uptake, adoption, and implementation of evidence-based interventions**.

http://www.fic.nih.gov/News/Events/implementation-science/Pages/faqs.aspx

WHAT IS QUALITY IMPROVEMENT (QI)?

- "… the combined and unceasing efforts of everyone– healthcare professional, patients and their families, researcher, payers, planner and educators– to make the changes that will lead to better patient outcomes (health), better system performance (care) and better professional development (learning)."
    - Generalizable scientific evidence + particular context

  -> Measured performance improvement

- From Batalden, P; Davidoff, F (2007) "What is quality improvement and how can it transform healthcare" *Quality and Safety in Healthcare* 16:2-3

SOME SALIENT DIFFERENCES

- QI focuses on better outcomes for patients in the here and now
- IS focuses on how to change behavior– general principles– that may improve outcomes at some point, but not necessarily here and now
- These two differences have important implications

AND A COUPLE MORE

- The two come from different histories
  - QI arises largely from manufacturing processes and improving the quality of products– and to some extent (more recently) improving processes of production
  - IS arises largely from multiple scientific streams
    - Science of innovation diffusion (Everett Rogers)
      - Research utilization
    - Evidence-based practice/evidence-based medicine (Archie Cochrane)
    - Science of behavior change

GENERALIZABILITY VS. LOCAL KNOWLEDGE

- A primary defining question may be:
  - How widespread is the problem?
    - If local (your unit, your hospital, perhaps even your system), use QI approaches
    - If broader than your sphere of influence, consider IS as an approach
- But we have serious data deficiencies
  - Very hard to know how big a problem is
    - Our data are old, often not generalizable
      - Local data tend to be more current
    - Given the pace of change, even a couple of years' old data can point you in an inappropriate direction

TEAMS IN THE CONTEXT OF QI AND IS

- Health care is a team-based sport
  - All aspects of health care delivery increasingly require team activity
    - Coordination
    - Communication
    - Collaboration
    - Structure
- But team science is in its infancy
  - Science of teams in health care is under-developed compared to our need to know

TEAMS ARE CENTRAL TO BOTH QI AND IS

- Teams are central to both approaches to defining and creating solutions
  - Poorly understood
  - Seldom studied
  - QI in particular has a long history of specific beliefs about teams
    - Not much evidence
- Studying the process requires a team as much as doing it does

INDIVIDUALS ARE A PRIMARY FOCUS OF IS

- Much of current implementation science is about changing the behavior of individuals
  - Very difficult to understand ways of changing behavior of multiple individuals (teams)
    - Much more complex problem than individual
  - Given differences in team functioning, this complexity is amplified
- To date, IS has generated little evidence about teams and team behavior

TEAMS ARE A FOCUS OF QI

- QI embeds much of its action in team functions
  - But this aspect is seldom studied
  - We understand very little of the contribution of teams to whether QI activity is successful or not
  - The evidence base is very weak
    - We mostly have strongly held beliefs

IDENTIFIED ISSUES RELATED TO TEAM FUNCTIONING

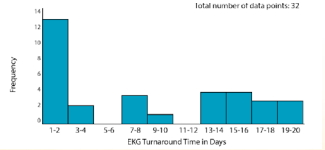
- Hierarchy matters
  - Not always bad
  - It depends on context
- Leadership matters
  - The qualities that make a good leader may be universal
    - Or they may be highly context-dependent
- Space may matter
- Personality– particularly fit among members of a team—probably matters a lot
  - But not very modifiable except through attrition
- Stability, duration, experience, training all probably matter

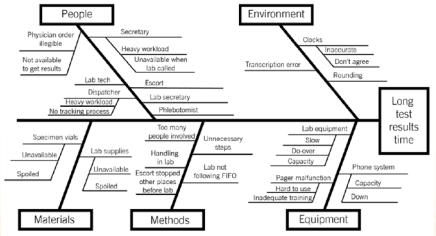
IN SUMMARY

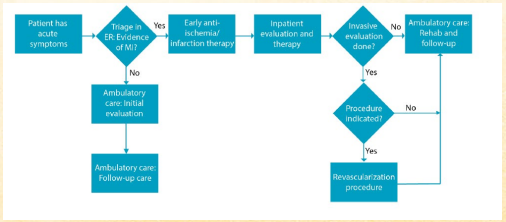
- QI and IS represent two different traditions occupying overlapping space
  - Not necessarily mutually incompatible
  - But not easy to meld
  - Both have strong and passionate adherents
- While both can be used to address similar issues, there are different costs associated with each
- Both are heavily reliant on interprofessional teams
  - Neither has a strong evidence base from which teams can work

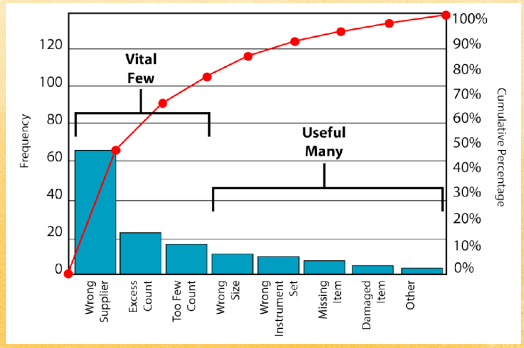
APPROACHES TO QUALITY IMPROVEMENT

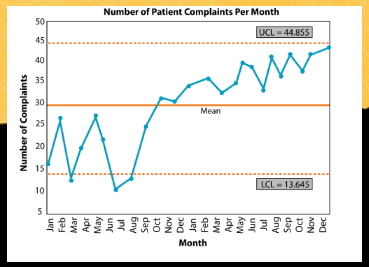
- Many different approaches
- Most use Plan-Do-Study-Act cycles or experiments
- Overall process models are often used
- https://www.ihi.org/resources/Pages/Tools/default.aspx

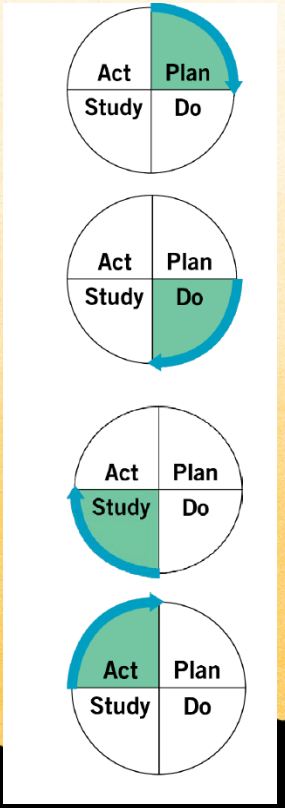












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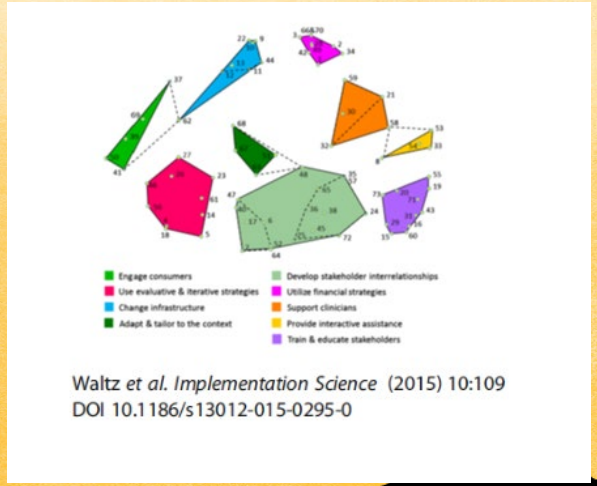
TOOLS DEVELOPED THROUGH IMPLEMENTATION SCIENCE

- Frameworks and models
  - Process models
  - Determinants frameworks
  - Evaluation frameworks
- Implementation strategies



Waltz *et al. Implementation Science* (2015) 10:109
DOI 10.1186/s13012-015-0295-0

AN IMPORTANT QI TOOL

Owner: [best combination of passion and influence] Date: [date last updated]

Problem: *What is the problem?*

Importance: *Why is it important?*

Current Situation: *Where are we now?*

Targets: *Where do we want to be?*

Root Causes: *What are the causes of the problem?*

Recommendations: *What are the prioritized experiments?*

Plan-Do-Check-Act:
What experiment are we trying next?

Date	Experiment	Data		What did we learn? What did the data tell us?
		Before	After	

*What items need to be done to forward the problem solving and/or experiments?**

**Print Action Item lists as needed*

WHAT HAPPENS WHEN WE BLEND QI AND IMPLEMENTATION SCIENCE?

MICHIGAN MEDICINE
UNIVERSITY OF MICHIGAN

A3 Scientific Problem Solving

Owner: _____ Date: _____

PROBLEM: *What is the problem?*

IMPORTANCE: *Why is it important?*

P I C T R

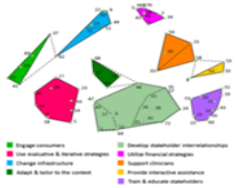
CURRENT SITUATION: *Where are we now?*

***Reminder**: Go back to the "P" section to revise the Problem*

TARGETS: *Where do we want to be?*

ROOT CAUSES: *What are the causes of the problem?*

RECOMMENDATIONS: *What are the prioritized experiments?*



PLAN-DO-CHECK-ACT:

What experiment are we trying next?

Date	Experiment	Data		What did we learn? What did the data tell us?
		Before	After	

*What items need to be done to forward the problem solving and/or experiments? **

**Print Action Item lists as needed*

RE-AIM: Effectiveness • Adoption • Implementation • Maintenance • Reach

SUMMARY

- Briefly reviewed tools commonly used in QI
  - A3 as a process model
- Brief overview of tools developed using implementation research methods
  - Focus on frameworks, models and strategies
  - Determinants and evaluation frameworks
  - Implementation strategies
- How these can be integrated to support improving quality of care– implementing evidence-based practice
- Discussion and examples from your own practice