Quality Improvement and Implementation Science
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Learning Objectives: You Will Learn About…

- Define quality, quality improvement, & quality assurance.
- List six domains for healthcare quality improvement.
- Describe the "research-practice gap."
- Define implementation science.

Quality & Quality Improvement

The Why

44,000

98,000

To Err is Human

- The majority of medical errors do not result from individual recklessness or the actions of a particular group--this is not a "bad apple" problem.

- More commonly, errors are caused by faulty systems, processes, and conditions that lead people to make mistakes or fail to prevent them.

Crossing the Quality Chasm

1. Care is based on continuous healing relationships.

2. Care is customized according to patient needs and values.

3. The patient is the source of control.

4. Knowledge is shared and information flows freely.

5. Decision making is evidence-based.

6. Safety is a system property.

7. Transparency is necessary.

8. Needs are anticipated.

9. Waste is continuously decreased.

10. Cooperation among clinicians is a priority.

Practice Transformation

Practice Transformation refers to a process of change in the organization and delivery of primary care to advance quality improvement, patient-centered care, and characteristics of high performing primary care.

Quality

Quality in healthcare is defined as "the degree to which health care services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge."

Quality Assurance

Quality Assurance measures compliance against standards

- Quality Assurance refers to those questions we can answer with a yes/no response (*checkboxes*)
- Examples
  - Did all patients receive at least 1 medical visit in each measurement year?
  - Did all patients receive at least 1 viral load monitoring test in the measurement year?

Quality Improvement

Quality Improvement is the framework used to systematically improve care.

Quality improvement seeks to standardize processes and structure to reduce variation, achieve predictable results, and improve outcomes for patients, healthcare systems, and organizations.

Quality Improvement (cont'd)

Quality improvement aims to make a difference to patients by improving safety, effectiveness, and experience of care by:

- Using understanding of our complex healthcare environment.

- Applying a systematic approach.

- Designing, testing, and implementing changes using real time measurement for improvement.

Principles of Quality Improvement

1. Primary intent.
2. Employing an iterative process of testing change ideas.
3. Consistent use of an agreed methodology.
4. Empowerment of front-line staff and service users.
5. Using data to drive improvement.
6. Scale-up and spread, with adaptation to context.

Six Domains for Healthcare Quality Improvement

Safety

Timeliness

Effectiveness

Efficiency

Equity

Patient centeredness

Quality Improvement & Equity

- Improvement for all but maintenance of the equity gap (**equality in improvement**).

- Improvement more in the disadvantaged population (**decreasing the gap**).

- Improvement more in the advantaged population (**widening the gap**).

Improvement - Practice or Science?

Implementation Science

The Health Care Context

- Key factors differentiate healthcare from other industries; adoption of project management strategies must be adapted to account for the contextual factors differing healthcare from manufacturing.

- Contextual factors include:
  - Duplicate Processes
  - Multiple Decision-Points
  - Multi-Person Tasks
  - Documentation & Checklists
  - Policies and Regulations
  - **Patients, Family, & Caregivers**

Scientific Management and the "One Best Way"

- Lillian and Frank Gilbreth
  - Frank Gilbreth was a contractor who utilized scientific management approaches to improve brick laying processes.
  - Lillian Gilbreth held a PhD in Psychology.
  - Collaborated on the development of motion study:
    - Originated "micro-motion study."
- The Gilbreth's work focused on the use of scientific management principles to find the "**one best way**" to complete routine tasks.

The One Best Way & Surgical Procedures

- By studying surgical operations, the Gilbreths monitored physicians and the way operating room procedures were organized and executed.

- They analyzed each movement by the surgeons to see if their work could be more efficient and therefore less fatiguing.

- One of their conclusions was that operating room nurses could improve efficiency:
  - The Gilbreths observed that surgeons spent more time searching for their instruments when operating than actually performing the operation.
  - They recommended that surgical instruments should be organized and laid out in regular and consistent patterns.
  - The alignment of work of physicians and nurses played (**and still plays**) an important role in the efficiency of operating room processes.

American Hospital Association Annual Meeting 1914

"There are several concessions you must make at the outset before you can expect to do any valuable work in introducing the science of management into the hospitals.

The first is you must submit to having accurate measurement applied to your present methods and practices.

The second concession that must be made is the willingness to allow a man not trained in surgery to apply the measurement and determine the resulting standard.

We can show you pictures which illustrate plainly the fact that standardization such as used under scientific management is today practically unknown…especially in the operating room."
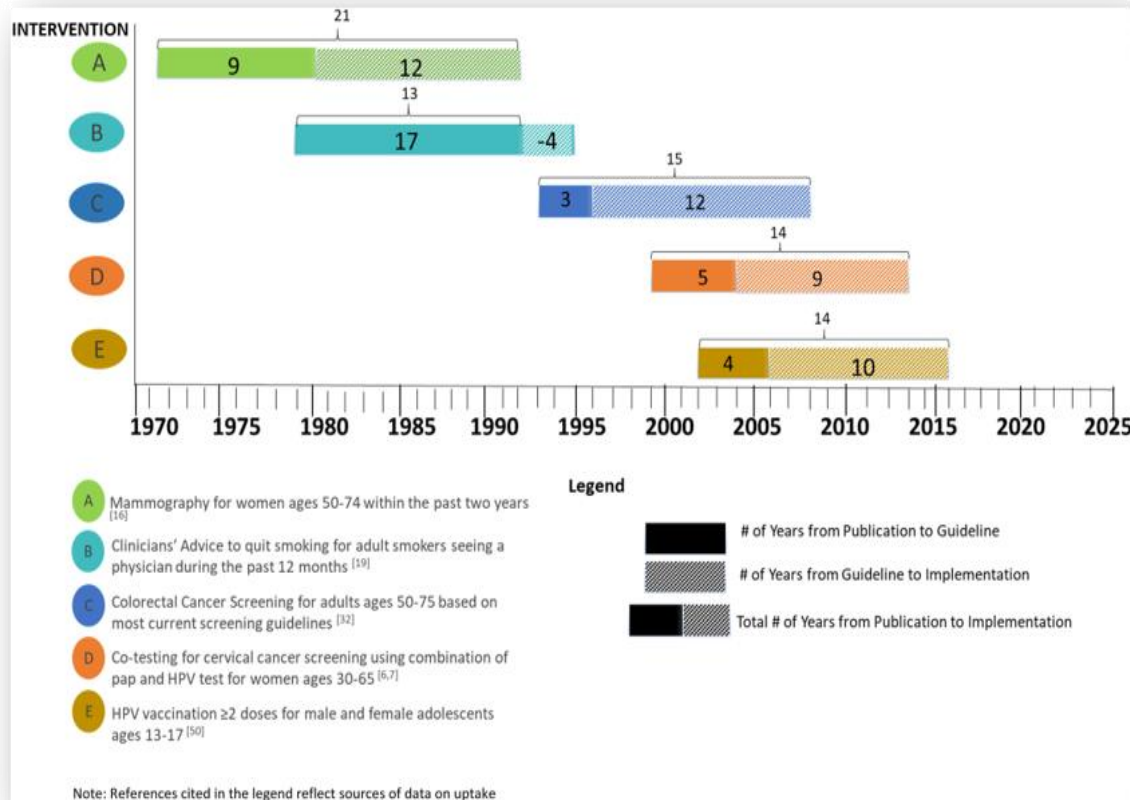
~ Frank Gilbreth

Research-Practice Gap

Frank and Lillian Gilbreth presented their results on surgical operations and the standardization of techniques in operating rooms to the American Medical Association in 1915 – they were rejected.

The AMA adopted the Gilbreth's operating room procedures 15 years later in 1930.

Research to Practice Gap

- Time from publication to guideline ranged from 3 to 17 years.

- Time from guideline to implementation ranged from 4 to 12 years.

- Time from publication to implementation ranged from 13 to 21 years, averaging 15 years.

Implementation Science

Implementation Science is the scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices into routine practice, and, hence, to improve the quality and effectiveness of health services.
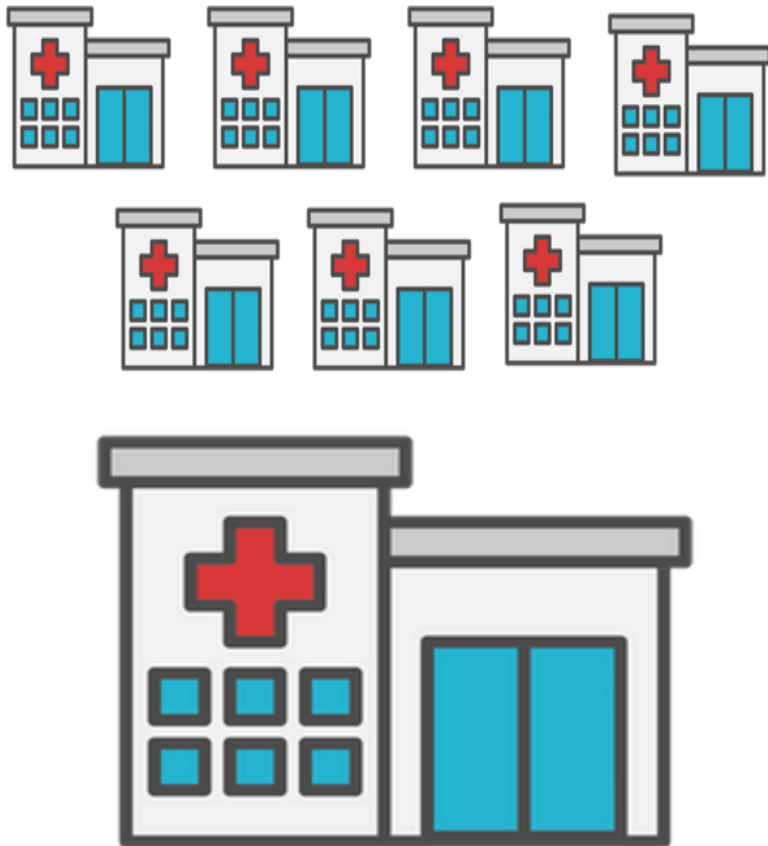
Implementation & Improvement

Do the Right Things
- Orientation of <u>implementation science</u>.
- Implementing evidence-based practices.

Do Things Right
- Orientation of <u>quality improvement</u>.
- Making sure the practices are done thoroughly, efficiently and reliably.

Improvement & Implementation (cont'd)

Implementation & Improvement Projects

Improvement projects usually begin with a **specific problem**.

Implementation projects usually begin with **an evidence-based practice**.

Synergy not Conflict

- An agency seeking to investigate a problem or low performance will take an **improvement** pathway:
  - I want to investigate and better understand a problem or low performance (**improvement**).
- An agency seeking to adopt an evidence-based practice will take an **implementation** pathway:
  - I have chosen an evidence-based practice to adopt in the agency (**implementation**).
- An **improvement pathway** can lead to an **implementation pathway:**
  - I investigated my problem (**improvement**) and chose to adopt an evidence-based practice to solve it (**implementation**).

Questions/Comments

THANK YOU!

References

- Donaldson, M. S., Corrigan, J. M., & Kohn, L. T. (Eds.). (2000). To err is human: building a safer health system.
- Baker, A. (2001). Crossing the quality chasm: a new health system for the 21st century (Vol. 323, No. 7322, p. 1192). British Medical Journal Publishing Group.
- National Coordinating Resource Center – AIDS Education and Training Center Program. Accessed from: https://aidsetc.org/topic/practice-transformation
- IOM (Institute of Medicine). Lohr KN, editor. Medicare: A strategy for quality assurance. Washington, DC: National Academy Press; 1990
- Backhouse, A., & Ogunlayi, F. (2020). Quality improvement into practice. BMJ (Clinical research ed.), 368, m865. https://doi.org/10.1136/bmj.m865
- Hirschhorn, L. R., Magge, H., & Kiflie, A. (2021). Aiming beyond equality to reach equity: the promise and challenge of quality improvement. bmj, 374.

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References

- McLaughlin, N., Rodstein, J., Burke, M. A., & Martin, N. A. (2014). Demystifying process mapping: a key step in neurosurgical quality improvement initiatives. Neurosurgery, 75(2), 99–109. https://doi.org/10.1227/NEU.0000000000000360

- Baumgart, & Neuhauser, D. (2009). Frank and Lillian Gilbreth: scientific management in the operating room. Quality & Safety in Health Care, 18(5), 413–418. https://doi.org/10.1136/qshc.2009.032409

- Khan, S., Chambers, D. & Neta, G. Revisiting time to translation: implementation of evidence-based practices (EBPs) in cancer control. Cancer Causes Control 32, 221–230 (2021). https://doi.org/10.1007/s10552-020-01376-z

- Eccles, M.P., Mittman, B.S. Welcome to Implementation Science . Implementation Sci 1, 1 (2006). https://doi.org/10.1186/1748-5908-1-1

- Nilsen, P., Thor, J., Bender, M., Leeman, J., Andersson-Gäre, B., & Sevdalis, N. (2022). Bridging the Silos: A Comparative Analysis of Implementation Science and Improvement Science. Frontiers in Health Services, 18.

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