Measurement for Improvement
Got Data, Now What? Moving from Data to QI

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Learning by steps

- Ignaz Philipp Semmelweis: 1846 - Assistant of First Obstetrical Clinic in Vienna, Wiener Allgemeinen Krankenhaus, 1847 - Discovered that touching other women who have childbed fever infect other, 1861 - book on this topic

- Data: 1846 - up to 30% of women died in Dec 1846; Mar 1949 - no a single woman died

- Observations: different rates of diffusion, knowledge alone does not change practice, power of test cycles

[Ignaz Philipp Semmelweis, The Etiology, Concept, and Prophylaxis of Childbed Fever, University of Wisconsin Press, 1983]

QI Literacy

- *Data are the improvement language!*

- *Variation is the voice of the system!*

Find a Balance between Measurement and Improvement

What we want to avoid……..

Barriers to Putting Data into Action

- Don't even know where to get data/info
- Paralysis by analysis
- No one is interested in it
- Defensiveness
- Too complex to understand/
- Incorrect interpretation of data
- No ideas about promising interventions

Less is more effect

- Which city is bigger?

- Study: testing of German and American students which cities in Germany and the US are larger

- Findings: American cities got 71% of American cities right and 73% German cities right

- Conclusion: a less knowledgable group often makes better or equal inferences than a more knowledgable group less knowledgable group

[Goldstein, Psychological Review 109, 75-90, 2002]

Overthinking

- How long should a radiologist look at a film?

- If radiologists look too long at a film, the start seeing things that are not there; they begin to overreact to slight irregularities in normal structures and identify non-existent malformations

- Finding: about 38 seconds

[Potchen, Journal of the American College of Radiology3, 423-32, 2006]

Kubler Ross Stages of Coping with Data

- Denial: "The data are wrong…."

- Anger: "The data are right, but it's not a problem…"

- Bargaining: "The data are right, it's a problem, but it's not *my* problem…"

- Acceptance: "The data are right, it's a problem, it's my problem…"

*"Every system is perfectly designed
to get the results it gets."*

Paul Batalden, M.D

QI Principle

QI performance measurement alone is not quality improvement.

"Miss you, too."

Got Data: Now What?

- Analyze (understand the data)
- Prioritize areas for action
- Communicate with stakeholders
- Take improvement actions

Options for Improvement Actions

- **'Do nothing!'** – if results are within expected ranges and goals, frequently repeat measurement

- **'Take Immediate Individual Action'** – follow-up on individual pts (missed appointments, pts not on meds, etc.) and/or provider

- **'Quick PDSA'** – develop a quick pilot test

- **'Launch QI Project!'** – set up a cross-functional team to address identified aspects of chronic care

Collect "Just enough" Data

- The goal is to improve care, not prove a new theorem
- 100% is not needed
- Maximal power is not needed
- In most cases, a straightforward sample will do just fine

Quiz

In 1601, James Lancaster successfully conducted an experiment to illustrate the effectiveness of lemon juice to prevent scurvy. When did the British Navy adopt this treatment?

1. 1602
2. 1689
3. 1757
4. 1796

Treatment of Scurvy
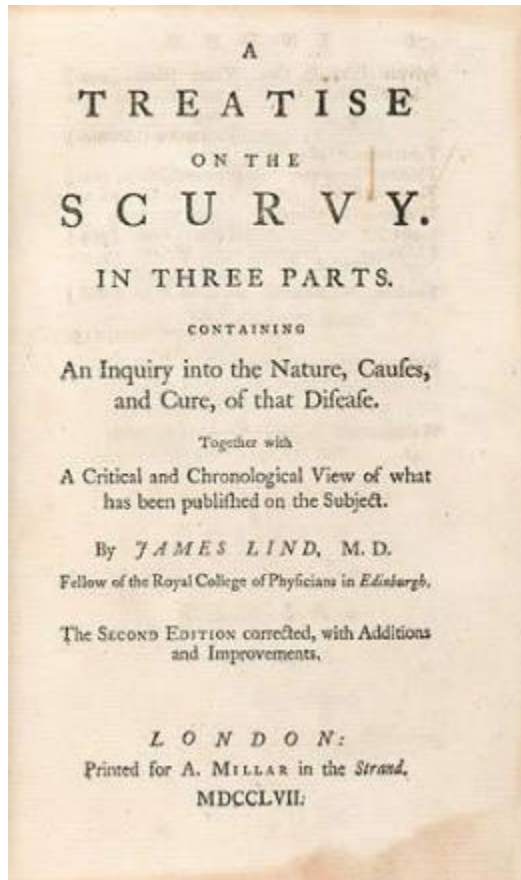
Stephen J. Bown - Scurvy: How a Surgeon, a Mariner, and a Gentleman Solved the Greatest Medical Mystery of the Age of Sail; St. Martin's Press, 2004

- In 1601 lemon juice, as a protective against scurvy, is recorded by James Lancaster.

- In 1612, Woodall recommended citrus fruit for protection against scurvy on sea voyages.

- In 1753 James Lind published A Treatise on the Scurvy which portrays his experiment on-board the ship Salisbury in 1747.

- From 1772 to 1775 sailors on historic voyages with Captain James Cook remained free from scurvy.

- In 1796 lemon juice was officially introduced in the British Navy as a prophylactic against scurvy.

- In 1865 British Board of Trade adopted the policy for the merchant marine.

Quiz

How long did the NIH take to recommend the treatment of ulcer as suggested by Marshall in his 1984 Lancet Article?

1. 2 years
2. 5 years
3. 10 years
4. 20 years

Treatment of Ulcer – Marshall

The Lancet · Saturday 16 June 1984

UNIDENTIFIED CURVED BACILLI IN THE STOMACH OF PATIENTS WITH GASTRITIS AND PEPTIC ULCERATION*

BARRY J. MARSHALL   J. ROBIN WARREN

Departments of Gastroenterology and Pathology, Royal Perth Hospital, Perth, Western Australia

Summary   Biopsy specimens were taken from intact areas of antral mucosa in 100 consecutive patients presenting for gastroscopy. Spiral or curved bacilli were demonstrated in specimens from 58 patients. Bacilli cultured from 11 of these biopsies were gram-negative, flagellate, and microaerophilic and appeared to be a new species related to the genus *Campylobacter*. The bacteria were present in almost all patients with active chronic gastritis, duodenal ulcer, or gastric ulcer and thus may be an important factor in the aetiology of these diseases.

1979: Dr. Robin Warren, pathologist at Royal Perth Hospital, Australia found bacteria in stomach of patients

1981: Dr. Barry Marshall starts residency

1982: Marshall cultivates bacteria: Helicobacter pylori, 100% in Duodenal Ulcer and 77% in Gastric Ulcer

1984: first publication in Lancet; presents treatment of ulcer with common antibioticum

1994: National Institute of Health recommends treatment of ulcer as suggested by Dr. Marshall
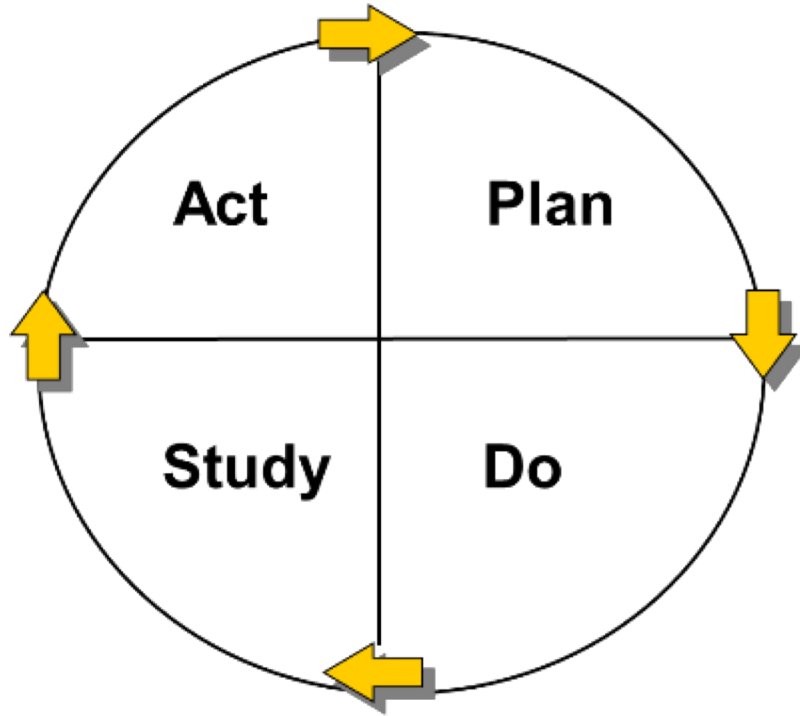
"How can we accelerate change and improvements."

QI Principle

Learn through small, incremental changes to achieve continual improvements.
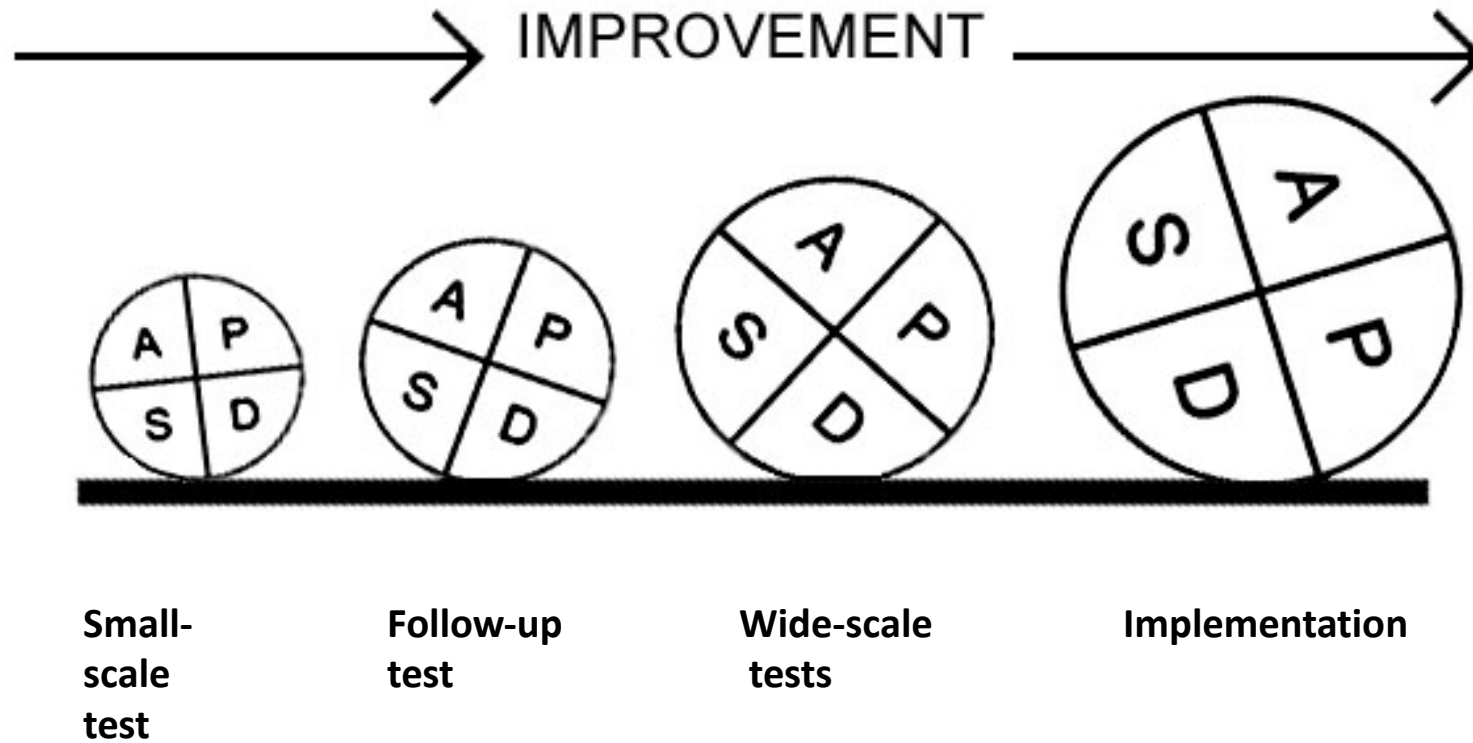
PDSA Cycle

Why use the PDSA Cycle to test for change?

- Increase your confidence that the change will result in improvement

- Learn to adapt the change to conditions in the local environment

- Minimize resistance when you move to implementation

PDSA Cycle

Start

IMPROVEMENT

Small-scale test

Follow-up test

Wide-scale tests

Implementation

PDSA Cycle Tips

- "What change could you test by next Tuesday?"
- Learn from others ('*Steal shamelessly, share senselessly*')
- Volunteers at first
- Useful, not perfect, data

- Start Small - "Rule of 1":
  - 1 facility
  - 1 office
  - 1 provider
  - 1 patient

QI Challenge

How can you accelerate change and improvements to increase the number of OUD patients who are on oOAT and retained in treatment!