



improvement foundation
Australia

Quality Improvement Fundamentals

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improvement foundation
Australia



Why is this necessary?

- ▶ Evidence / Practice gaps
- ▶ Overuse of services v/s under use
- ▶ Delays / rationing / waiting times
- ▶ Inequities / disparities across regions / demography
- ▶ Variation in healthcare outcomes
- ▶ Prevalence of errors

- ▶ **Present Health Outcomes**

Quality Improvement

- ▶ History
- ▶ Improvement model
- ▶ QI Tools
- ▶ Creativity / Innovation
- ▶ Creativity Tools



History of Quality Improvement

The Quality Pioneers



W. Edwards
Deming

10 (1900 - 1993)



Walter
Shewhart

(1891 - 1967)



Joseph Juran

(1904 -)

▶ **Don Berwick**

▶ **Paediatrician**

▶ **Institute Healthcare
Improvement (IHI)**

www.ihl.org



“Every system is perfectly designed to deliver the results you get”

Paul Bataldan



Quality Improvement Tools

Affinity

Brainstorming

Cause & Effect Diagrams

Check Sheet

Decision Matrix

Feedback

Five Whys

Flow Diagrams

Focus Groups

Improvement Model

Impact Diagram

Interview

Median chart

Multi-voting

Pareto Diagrams

Pie Chart

Process Maps

Radar Chart

Scatter Diagrams

Survey

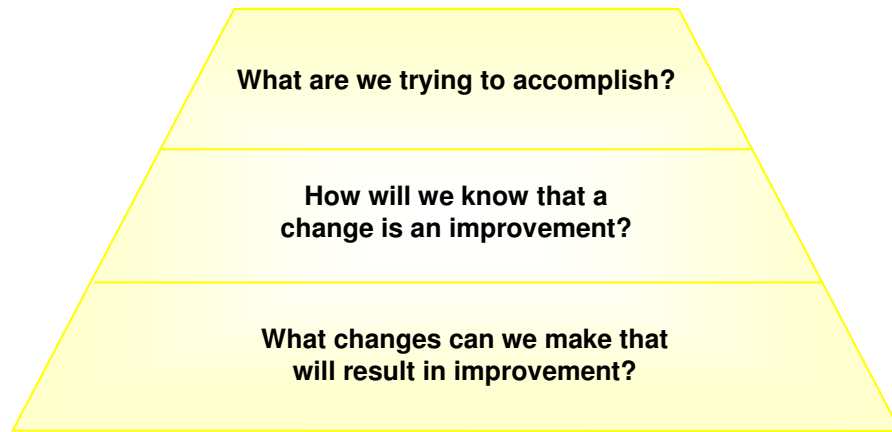
Trend Chart

The Improvement Model

Improvement Model

- ▶ Better or worse performance can not be obtained from a “system of work” merely on demand
- ▶ Outcomes such as - Mortality, Waiting Times in Practice, Diabetes Control, Screening / Dealing with Mental Health issues are **Properties of our system of care**

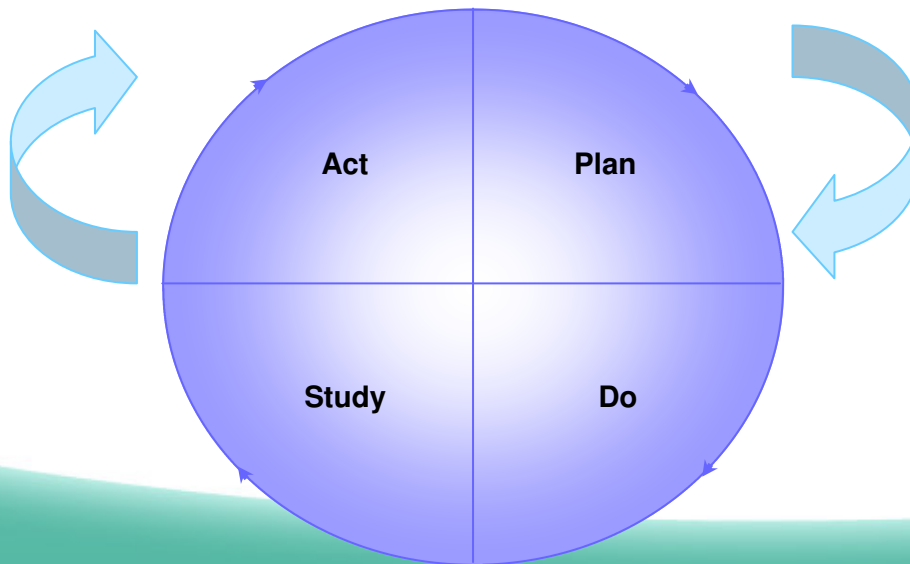
The Improvement Model



3 Fundamental Questions



PDSA Cycles



The First Question

What are we trying to accomplish?

- ▶ = Goal Statement
- ▶ Needs a clear statement with numerical goals, unambiguous and achievable

Goal Statement

- ▶ Be clear on the boundaries
- ▶ Avoid aim drift
- ▶ Flexible
- ▶ Keep team focus
- ▶ Involve leaders
- ▶ Provide updates
- ▶ Connect to Strategic Plan (!!)

Example

- ▶ By December 1 2008,
- ▶ To increase to 70% the proportion of patients seeing their doctor of choice



Question 2

How do we know that a change is an Improvement?

Measurement

- ▶ Measurement for Judgment vs. Improvement
- ▶ Golf, Riding a Bike

- ▶ Reluctance to Measurement

Benefits of data collection

- ▶ Helps Decision Making
- ▶ Set the Stage / Mark Present Performance
- ▶ Single Point of Reference
- ▶ Identify Patterns & Trends
- ▶ Clarify Relationship / Remove Bias of Single Individuals
- ▶ Focus on What is Important



Question 3

Now We Have
Performance Data, What
Do We Do With It?



The Third Question

What **Changes** Can We
Make That **Result** in an
Improvement?

Three Fundamental Questions

**What are we trying
to accomplish? (GOAL)**

**How do we know that a change is
an improvement? (MEASUREMENT)**

**What changes can we make that
will result in an improvement? (IDEAS)**

On the Nature of Change

***“All improvement will require change,
but not all change will result in
improvement!”***

G. Langley, et al *The Improvement Guide*. Jossey-Bass Publishers,
San Francisco, 1996: xxi.

The Model for Improvement (MFI) provides an approach to help increase the odds that the changes we make will result in lasting improvement.

Change in Health Care

- ▶ Slow
- ▶ Hierarchical
- ▶ Conservative
- ▶ Change is not a natural process
- ▶ Many changes are not improvement
- ▶ How does it make it stick?

Changes in health Care

- ▶ Usual tools:
 - ▶ Education (CPD)
 - ▶ Incentives
- ▶ Both stress the existing system, and don't help build a new one

How Do You Generate Change Concepts and Come Up with New Ideas?



Atlanta's Infamous "Spaghetti Junction"

**"Every system is perfectly designed
to achieve the results that it gets"**

An Innovative Change Concept!



How did they come up with this idea?

A Practical Need Often Drives Creativity!





Change Concepts (Improvement Guide)

- ▶ Eliminate waste
- ▶ Improve workflow
- ▶ Optimize inventory
- ▶ Change work environment
- ▶ Customer interface
- ▶ On time
- ▶ Reduce variation
- ▶ Mistake proof
- ▶ Focus on the service

Change Concepts Related to Eliminating Waste and Improving Work Flow

A. Eliminate Waste

1. Eliminate things that are not used
2. Eliminate multiple entry
3. Reduce or eliminate overkill
4. Reduce controls on the system
5. Recycle or reuse
6. Use substitution
7. Reduce classifications
8. Remove intermediaries
9. Match the amount to the need
10. Use sampling
11. Change targets or set-points

Source: The Improvement Guide, p. 295

B. Improve Work Flow

12. Synchronization
13. Schedule into multiple processes
14. Minimize handoffs
15. Move steps in the process close together
16. Find and remove bottlenecks
17. Use automation
18. Smooth work flow
19. Do tasks in parallel
20. Consider people as in the same system
21. Use multiple processing units
22. Adjust to peak demand

We can make no progress until???

- ▶ Medical Indemnity
- ▶ Payment system is altered
- ▶ GP Training Program changes
- ▶ Patients are more reasonable

Methods for Generating Change Concepts

- Edward de Bono's work
- Six Thinking Hats
- Lateral Thinking Methods
- Provocation
- Movement
- Random Entry
- **Concept Triangle**
- Lens of profound knowledge
- Developing a change (Improvement Guide Ch. 5)
- 70 Change concepts (Improvement Guide, Appendix)
- IHI Idealized Design
- A "Whack on the Side of the Head" (Roger Von Oech)
- IDEO's "deep dive"



Creativity & Innovation



Creativity Framework

- ▶ Attention
- ▶ Escape
- ▶ Movement

Attention

- ▶ Focus on things taken for granted
- ▶ Pay attention to the very definition of the issue
- ▶ Stepping Stones example

Escape

- ▶ Mentally escape current patterns of thinking
- ▶ Eg details thoughts from other disciplines
- ▶ Eg “illegal for patient to wait > 5 minute”

Movement

- ▶ Eg search for connections between what has been learnt from other disciplines and the area of interest eg healthcare

Attention..... to

- ▶ Elements of current reality
- ▶ Feature attributes
- ▶ Assumptions, paradigms
- ▶ Analogies
- ▶ What works (or not)
- ▶ Anything outside normal framework

Escape.....from

- ▶ Current mental patterns
- ▶ Time & place
- ▶ Early judgement
- ▶ Barriers & Rules
- ▶ Past experiences

Movement.....how?

- ▶ In time or place
- ▶ To another point of view
- ▶ Free association
- ▶ Building on ideas

Tools

- ▶ Brainstorming & Affinity
- ▶ Cause & Effect
- ▶ Process Mapping
- ▶ Six Thinking Hats
- ▶ Stepping Stones
- ▶ 5 Whys
- ▶ Force-Field Analysis
- ▶ Context Map
- ▶ Hot Potato
- ▶ That's Impossible

6 Sigma & Lean

- ▶ Business Management System developed by Motorola
- ▶ Seeks to identify & remove causes of defects
- ▶ Reduce variation
- ▶ if one has six standard deviations between the mean of a process and the nearest specification limit, there will be practically no items that fail to meet the specifications

Lean

- ▶ **More value with less work.**
- ▶ Management Philosophy derived from the “Toyota Production System”
- ▶ Tools for elimination of waste “muda”
- ▶ Value Stream Mapping, “pull systems”, error-proofing
- ▶ Improve “flow” or “unevenness”

Summary

- Improvement requires change to systems
- QI Tools including the Improvement Model help you bring about change
- You will never know whether the change is better unless you measure
- Creativity & Innovation can be a deliberate process

Learning points (Berwick)

- ▶ Not all change in improvement, but all improvement is change
- ▶ Real improvement comes from changing systems, not change within systems
- ▶ To make improvements, we need to be clear about what we are trying to accomplish, how will we know the change is an improvement, and what change can we make

Learning Points

- ▶ The more specific the goal, the more likely the improvement *
- ▶ Concentrate on meeting the needs of the patient, not the organisation
- ▶ Measurement is best used for learning (not selection, reward or punishment)
- ▶ Measurement helps us decide whether to keep, change or reject the innovation

Learning points

- ▶ Effective leaders challenge the status quo
- ▶ Education and incentives are not very effective at creating improvement
- ▶ Most work systems leave too little time for reflection on work