Nuts and Bolts of Quality Improvement

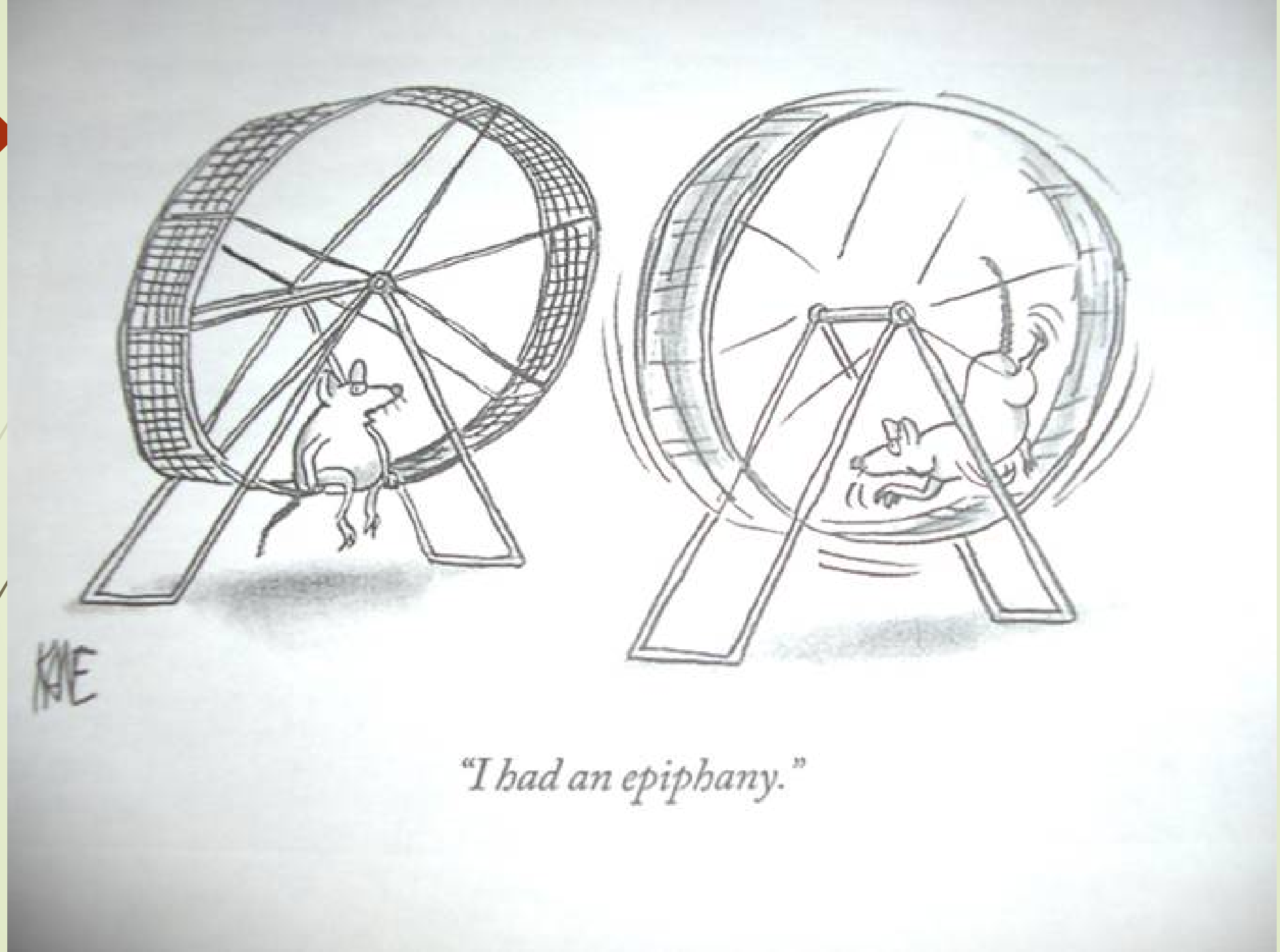
Amanda Norton

Quality Improvement Advisor

The First Law of Improvement

"Every system is perfectly designed to achieve exactly the results it gets."

Dr Paul Bataldan



"I had an epiphany."

Many have influenced Improvement theory and application

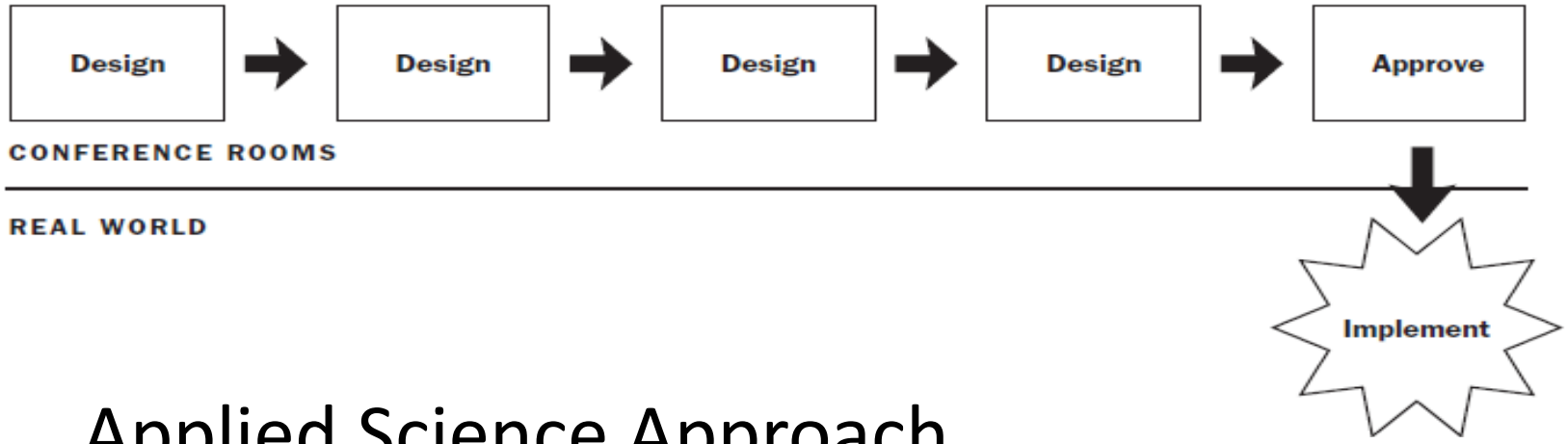
- Deming
- Juran
- Crosby
- Senge
- Capra
- Wheatly
- Berwick
- Peters
- Covey
- Scholtes
- Nolan,Nolan, Langley, Norman & Provost
- Dobyns
- Gaucher
- Wheeler
- Shewhart
- Goldratt
- Bertalanfy

Other Roadmaps

1. Continuous Quality Improvement (CQI)
2. Six-sigma DMAIC
3. Seven-step problem solving model
4. FOCUS-PDCA
5. Japanese Quality Circles
6. Lean improvement
7. Lean Six Sigma
8. Others?

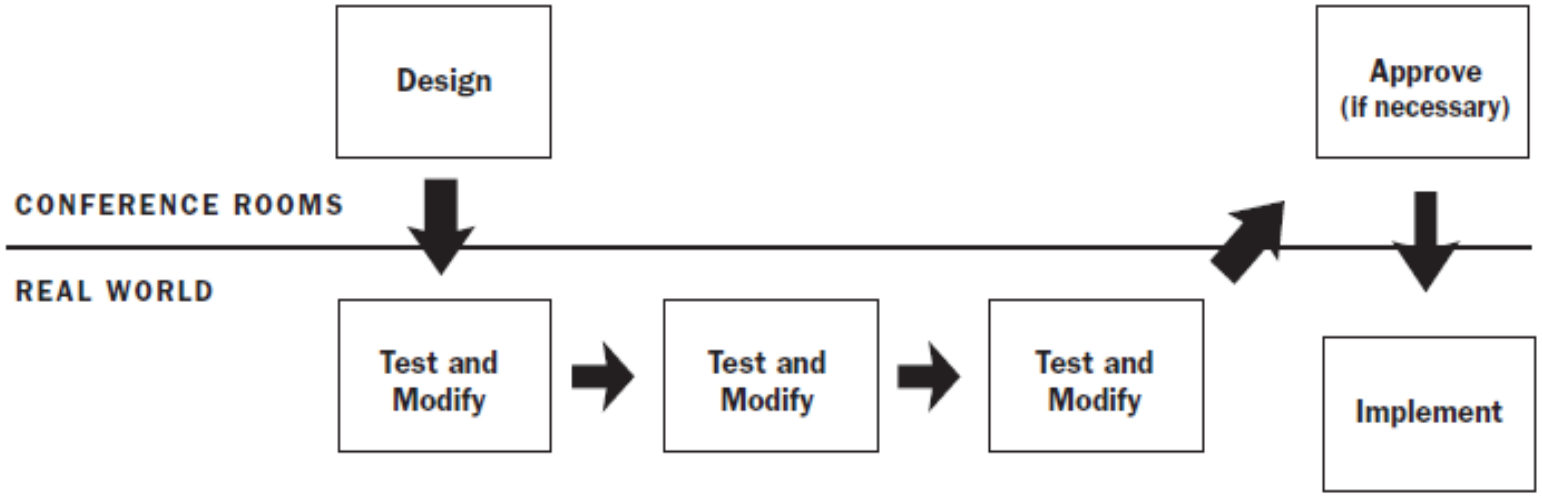
The Typical

Figure 7. The Typical Approach to Standardizing Clinical Processes

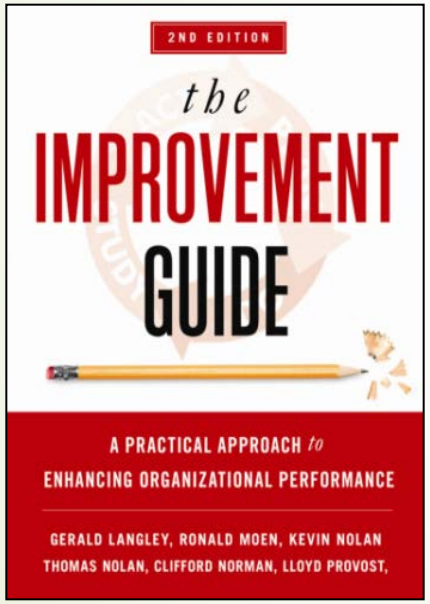


Applied Science Approach

Figure 8. Standardize Clinical Processes: Refine the Design for the Local Setting Using Small Tests of Change



All improvement requires change but not all change will result in an improvement



Langley et al, 2009

The Improvement Guide

The Model for Improvement

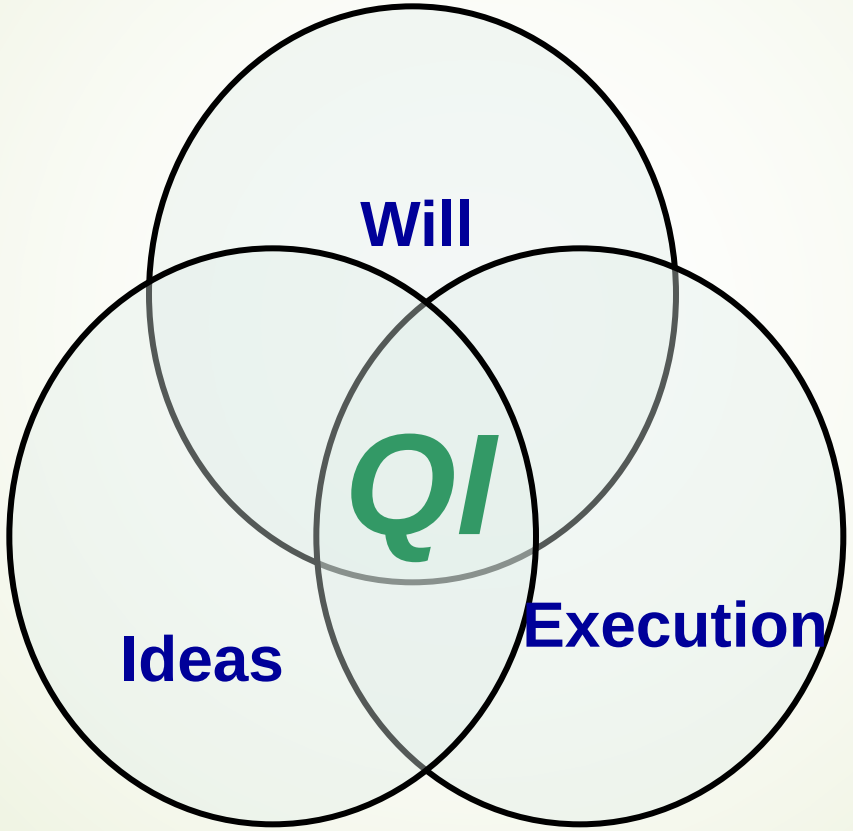
'This model is not magic, but it is probably the most useful single framework I have encountered in twenty years of my own work on quality improvement'

Dr Donald M. Berwick
Former Administrator of the Centres for Medicare & Medicaid Services
Professor of Paediatrics and Health Care Policy at the Harvard Medical School

Key Factors for Quality Improvement

Having the *Will* (desire) to change the current state to one that is better

Developing *Ideas* that will contribute to making processes and outcome better

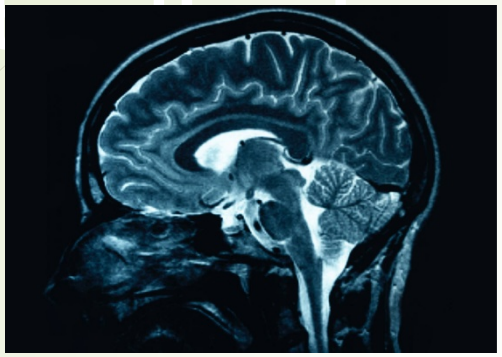


Having the capacity to apply CQI theories, tools and techniques that enable the *Execution* of the ideas

Quality Improvement

Model for Improvement

Act Testing



Model for Improvement

What are we trying to accomplish?

How will we know that a change is an improvement?

What change can we make that will result in improvement?

What are we trying to accomplish

What are We Trying To Accomplish?

"Soon" is *not* a time

desire to do better

achieve measured

improvement

"Some" is *not* a number

ste

tim

oals

"Hope" is *not* a plan

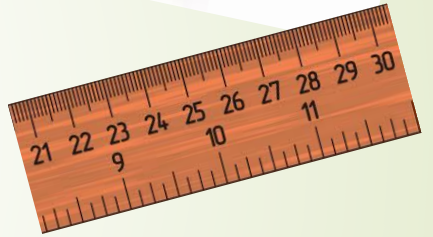
Aiming for success

- Aim statement:
  - What?
  - For whom?
  - By when?
  - How much?

Check points - developing an Aim Statement

AIM Content

- Explicit over arching description
- Specific actions or focus
- Unachievable by hard work alone



AIM Characteristics

- Measurable (How good?)
- Time specific (By when?)
- Define participants and customers

Aim adds

- Direction
- Constancy of purpose
- Predictor of team success
- And communicates magnitude of change

What might your aim be to improve screening?

AIM Tips

1. **Be prepared to refocus**
2. **This is your destination, not your current reality**
3. **It's not about how… but about where you WANT to be**

How will we know a change is

How Do We Know That a Change is an Improvement?

Improvement is *not* just about measurement

However… without measurement you will never be able to answer the question!

Performance Measurement in 3 Worlds

Aspect	Improvement	Accountability	Research
Aim	Improve care	Compare, reassure, spur change	New knowledge
Methods **Test Observable**	Yes	N/A. Evaluate current performance	Test blind or controlled
Bias	Accept stable bias	Adjust data to reduce bias	Design to eliminate
Sample Size	Just enough data, small sequential samples	N/A. Report 100%	Just in case data
Hypothesis Flexible	Yes. Revised as learn and test	No hypothesis	Fixed hypothesis
How to determine improvement	Run or Shewhart charts	No focus on change	Hypothesis, Statistical tests: F-test, t-test, chi square, p value
Testing Strategy	Small sequential tests	No tests	1 large test
Data confidential	Data used only by those involved in improvement	No subjects. Data is for public	Subjects protected

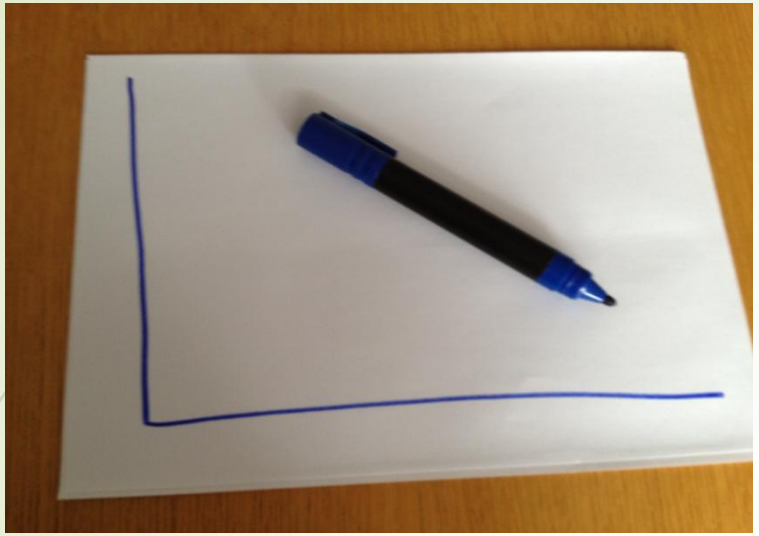
Measurement of Improvement Work

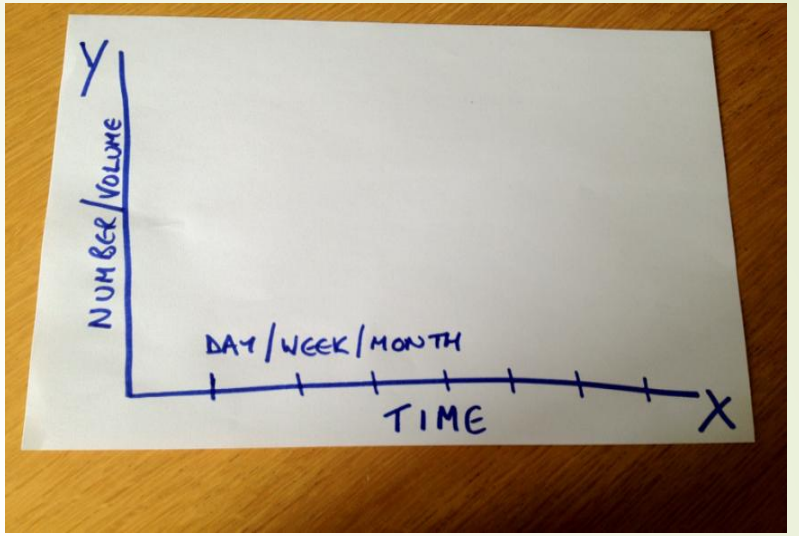
Define measures that will measure the impact of the Improvement work

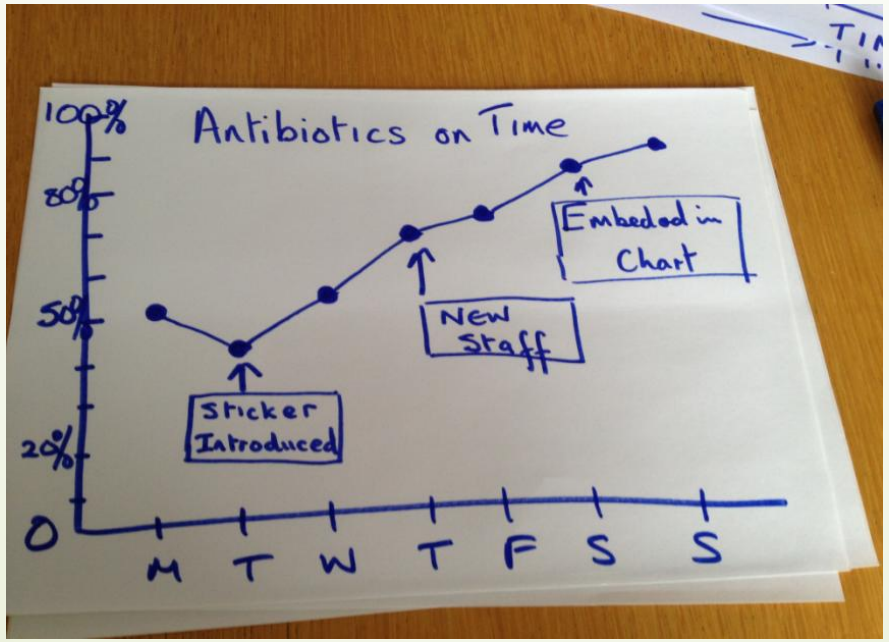
They will monitor and guide your progress

This may take a number of different approaches:

- Percent compliance
- A count of correct attempts
- Verbal feedback




Y
NUMBER/VOLUME
DAY/WEEK/MONTH
TIME
X


Antibiotics on Time
100%
80%
50%
20%
0
Sticker Introduced
New Staff
Embedded in Chart
M T W T F S S

What might you measure while improving screening outcomes?

“You can’t fatten a cow by weighing it”

Palestinian Proverb

What changes can we make that will lead to improvement

Change can mean different things

Selecting Changes

- Copy: use the literature, experience of others, hunches and theories
- Be strategic: set priorities based on the aim, known problems and feasibility
- Avoid low impact changes
- Steal shamelessly and learn from others

A Practical Need Often Drives Creativity!

What changes might you try to improve screening outcomes?

Why Test Changes...?

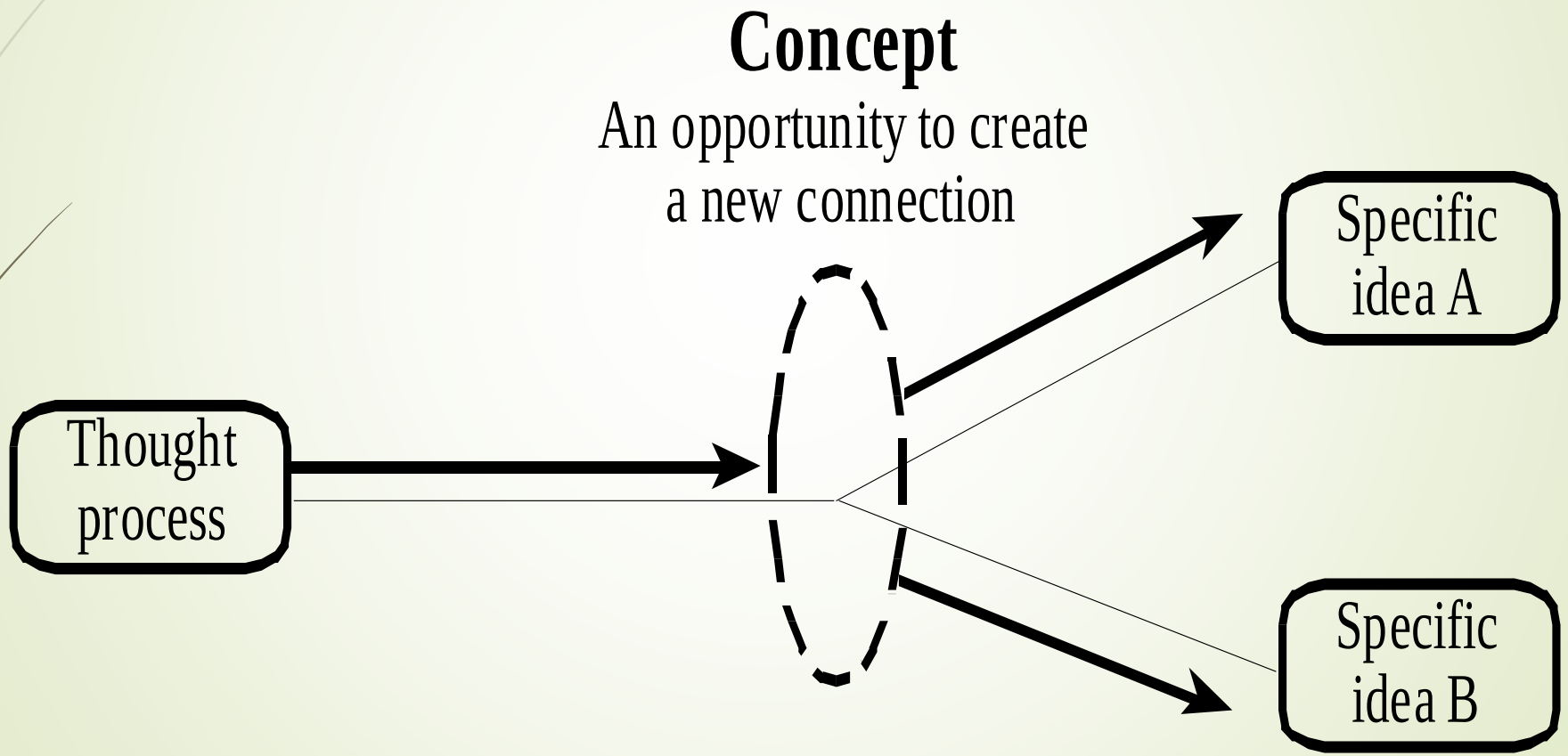
To increase the belief that the change will result in improvements in your setting

To learn how to adapt the change to conditions in your setting

To evaluate the costs and “side-effects” of changes

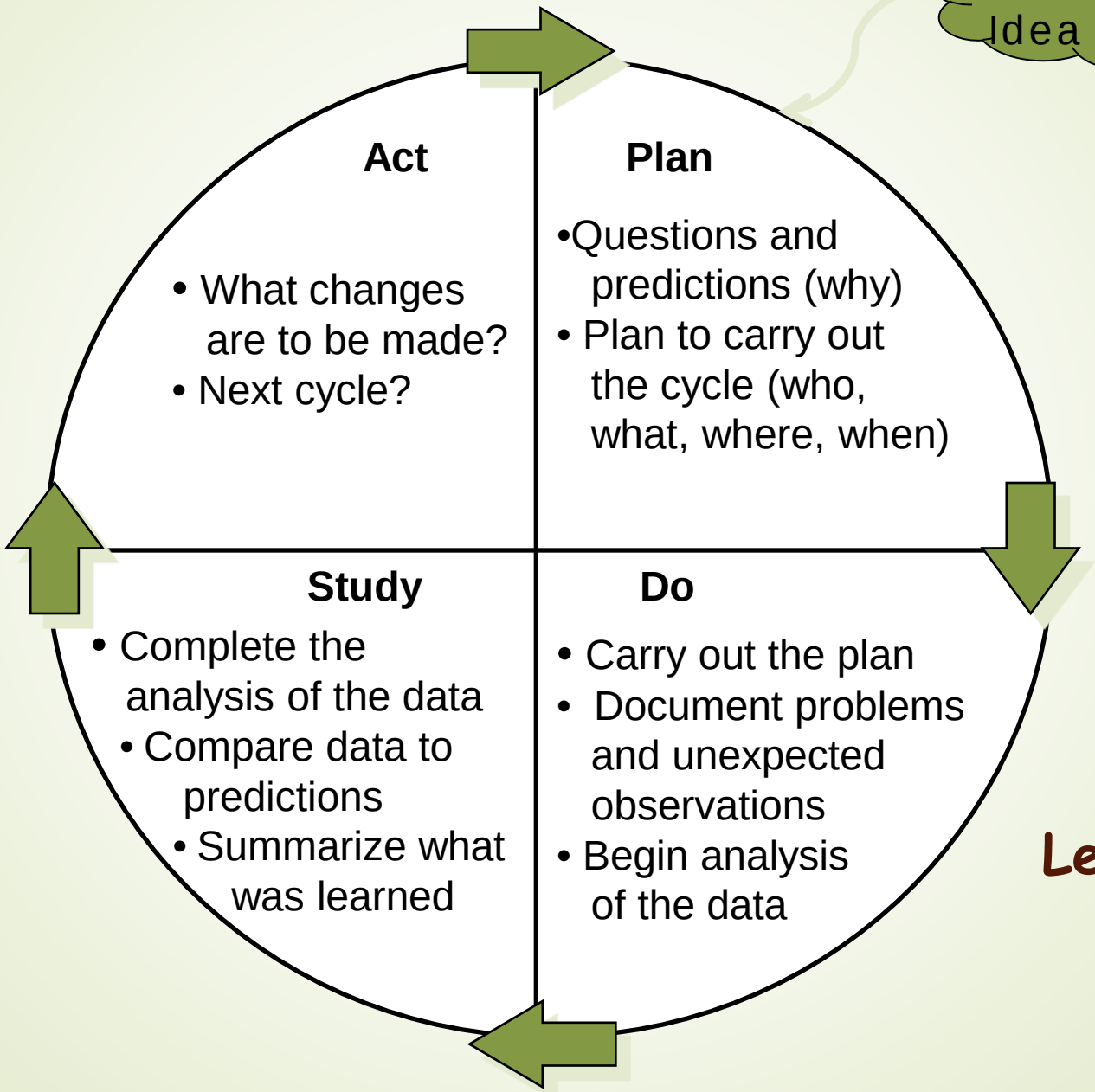
Overall to minimise the resistance when spreading the change throughout the organisation.

Change Concept: *A general notion or approach to change that has been found to be useful in developing specific ideas for changes that lead to improvement.*



The PDSA Cycle

Change Idea

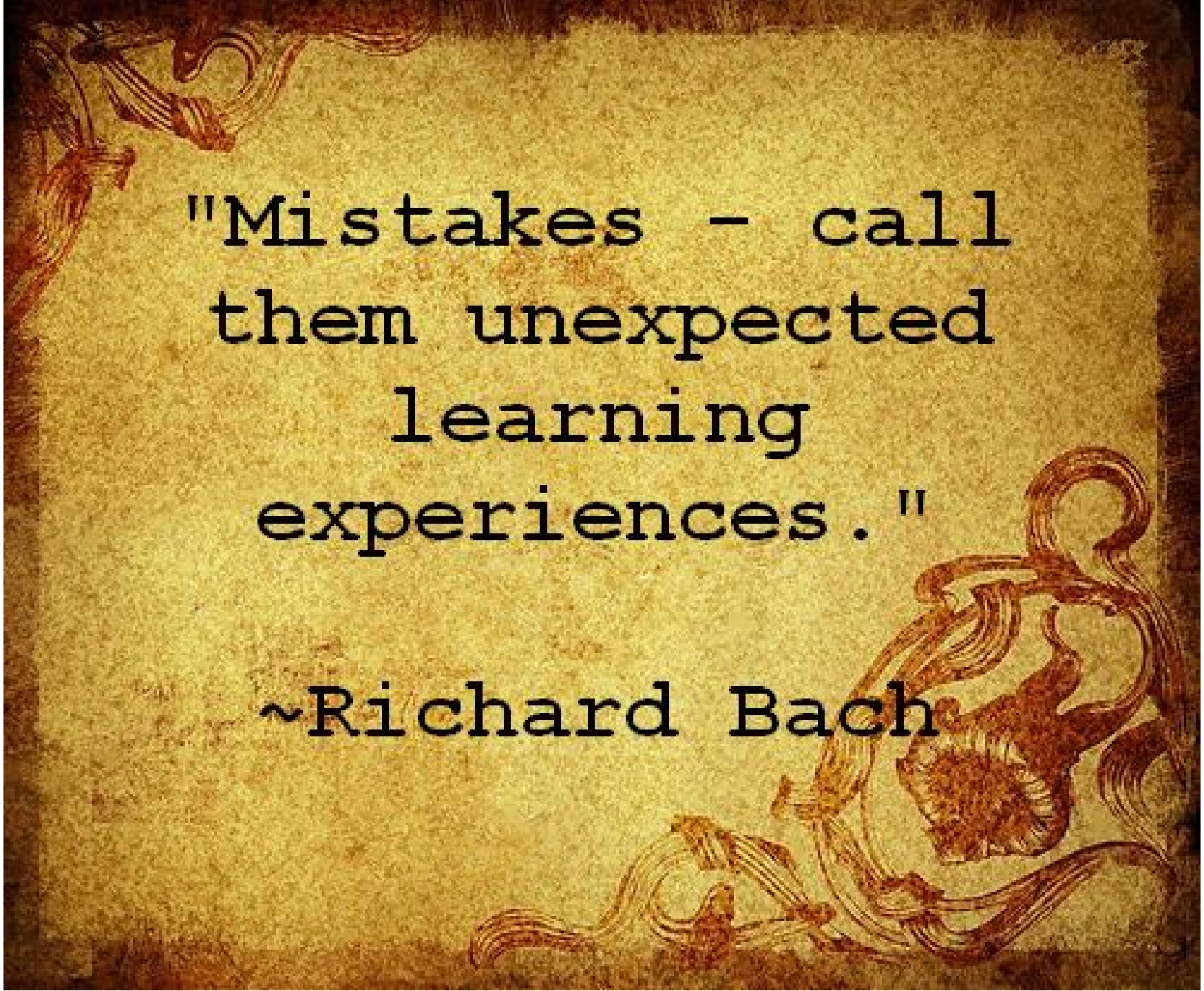


What's next?

What will happen if we try something different?

Did it work?

Let's try it!


"Mistakes - call them unexpected learning experiences."
~Richard Bach

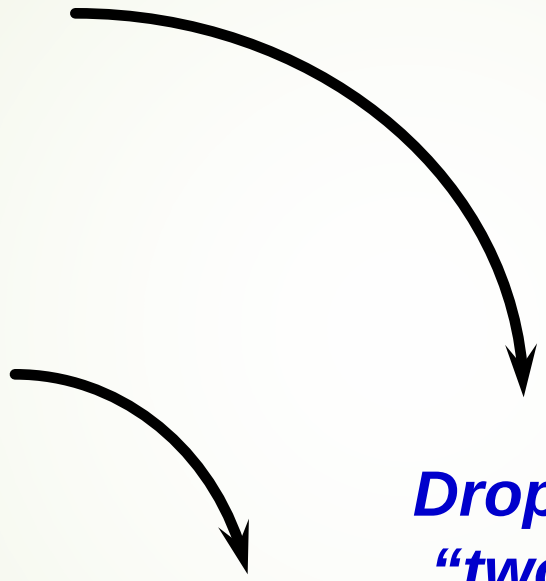
Start Small

- ✓ 1 patient
- ✓ 1 day
- ✓ 1 case
- ✓ 1 provider

Move to 3,5,7…. as confidence grows

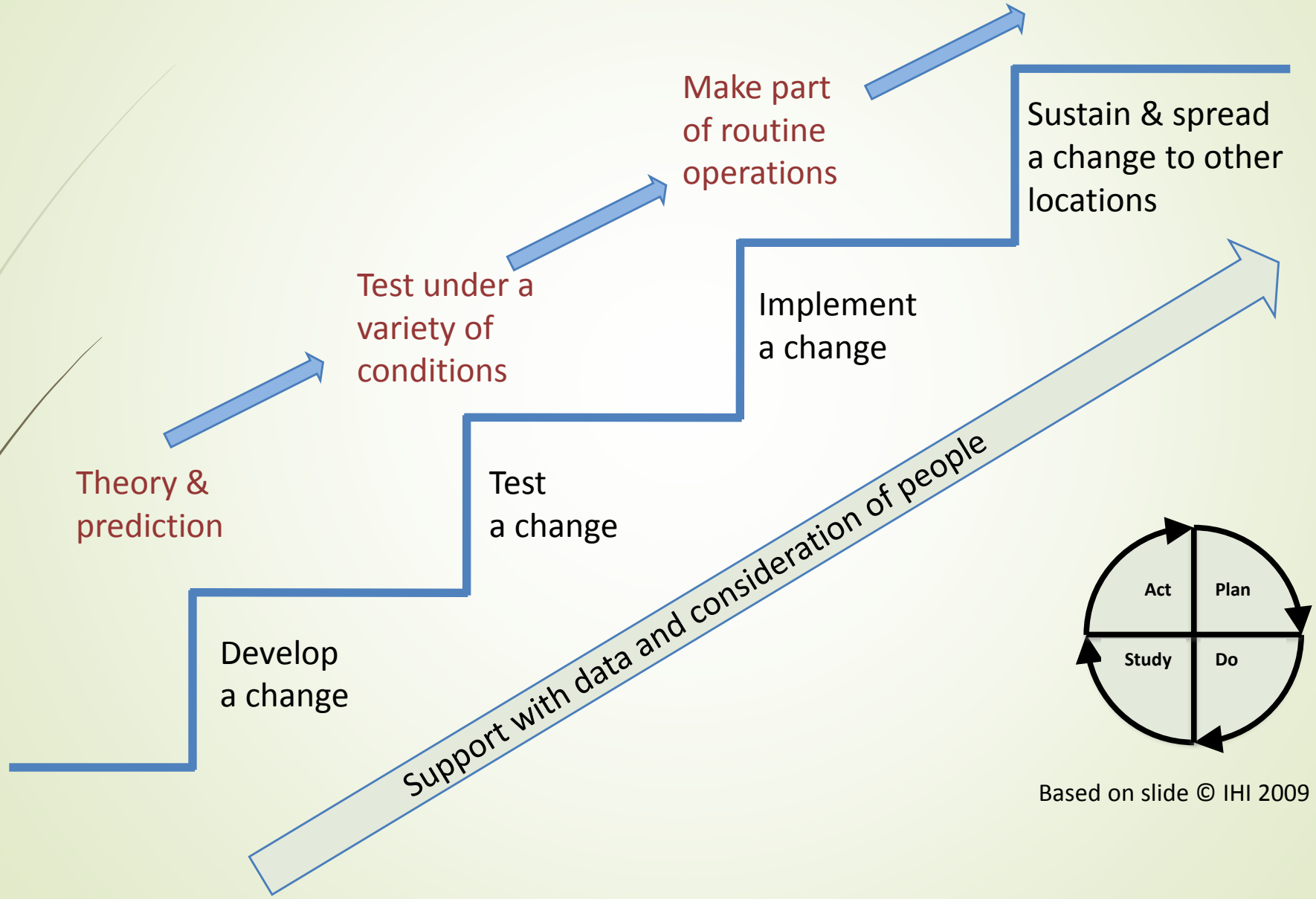
Smaller Scale Tests: Shrink It! rapid cycles of learning

- Years
- Quarters
- Months
- Weeks
- Days
- Hours
- Minutes



Drop down next "two levels" to plan test cycle!

Sequence for improvement



Simple yet balanced