



Model for Improvement

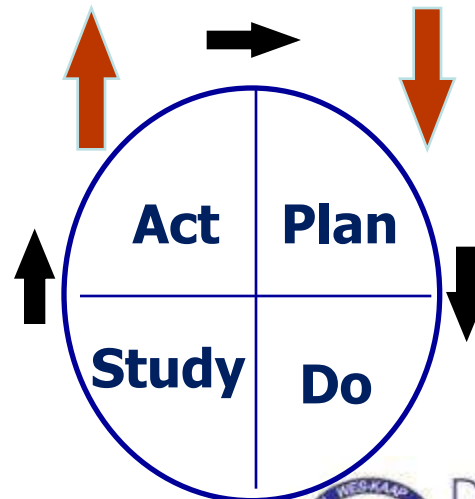
*Best Care Always
Learning Session 2
November 1, 2011*

Model for Improvement

What are we trying to accomplish?

How will we know that a change is an improvement?

What changes can we make that will result in an improvement?



Establishing the Team's Aims

- Improvement relies on **intention** to improve
 - Senior leaders set & align aim with strategic goals- **remember the Execution model**
 - Middle management understand – and can translate- the project work to the strategic goals **remember the Execution model**
 - Agreement on aim is critical
- Aim should be **unambiguous...Clear, specific, numerical, measurable**
 - Strong message in **stretch** goal

• Avoid aim “drift”

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Do Not Negotiate the Ambition of the Aim

- Negotiate time to get to the aim
- Think about using half-lives
- Remind folks that we will get there through a program of testing and spread
- Keep the 'hard red goal line' on every graph
- Consider relative (50% improvement) versus absolute goal (2% infection rate)

Aims Statements-

Outcomes, Process, Relative or Absolute?

- Achieve 100% compliance with appropriate selection and timing of prophylactic antibiotic administration
- Reduce ventilator associated pneumonia to zero or 300 days between cases by September 2012



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Aim Statements-

Outcomes, Process, Relative or Absolute?

Culture

- At least 70 percent of staff surveyed report a positive climate within 1 year



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Measurement Guidelines

- The key measures should clarify the aim and make it tangible
- Keep it simple: Be careful about over-doing process measures
- Use a balanced set of measures: process, outcome and balancing measures



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**Seek Usefulness
Not Perfection**

Measurement Clarify the Aims

Example

- Aim: There will be 300 days between central line infections by May 2012.
- Measure: central line infection rate
- Formula:
 - Numerator: number of central line infections
 - Denominator: total number of line days
 - Multiply the result by 100 to express as a percentage

Measurement Clarify the Aims

Example

- Aim: 95% compliance with the peripheral line insertion bundle by March 2012
- Measure: Percent compliance with the PVC insertion bundle
- Formula:
 - Numerator: Total number patients receiving all elements of the bundle;
 - Denominator: total number of patients with peripheral lines inserted .
 - Multiply the result by 100 to express as a percentage





Change Concepts

A Change Concept Is...

A general idea or theory - grounded in science, experience, or logic - that can stimulate specific ideas for changes that will lead to improvement.

Change concepts can be derived from:

- **Evidence; scientific results**
- **Critical thinking or observation of current system**
- **Creative thinking**
- **Hunches**
- **Mental leaps...extrapolating from other situations**



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Selecting Changes

- Copy: use the literature, experience of others, hunches and theories: “This is what they did at Dr. Grays. I don’t know if it will work here but let’s see what we can learn from it.”
- Avoid low impact changes, “Let’s put up a poster.”; “Let’s have an education session.”; “Let’s send out reminders.”

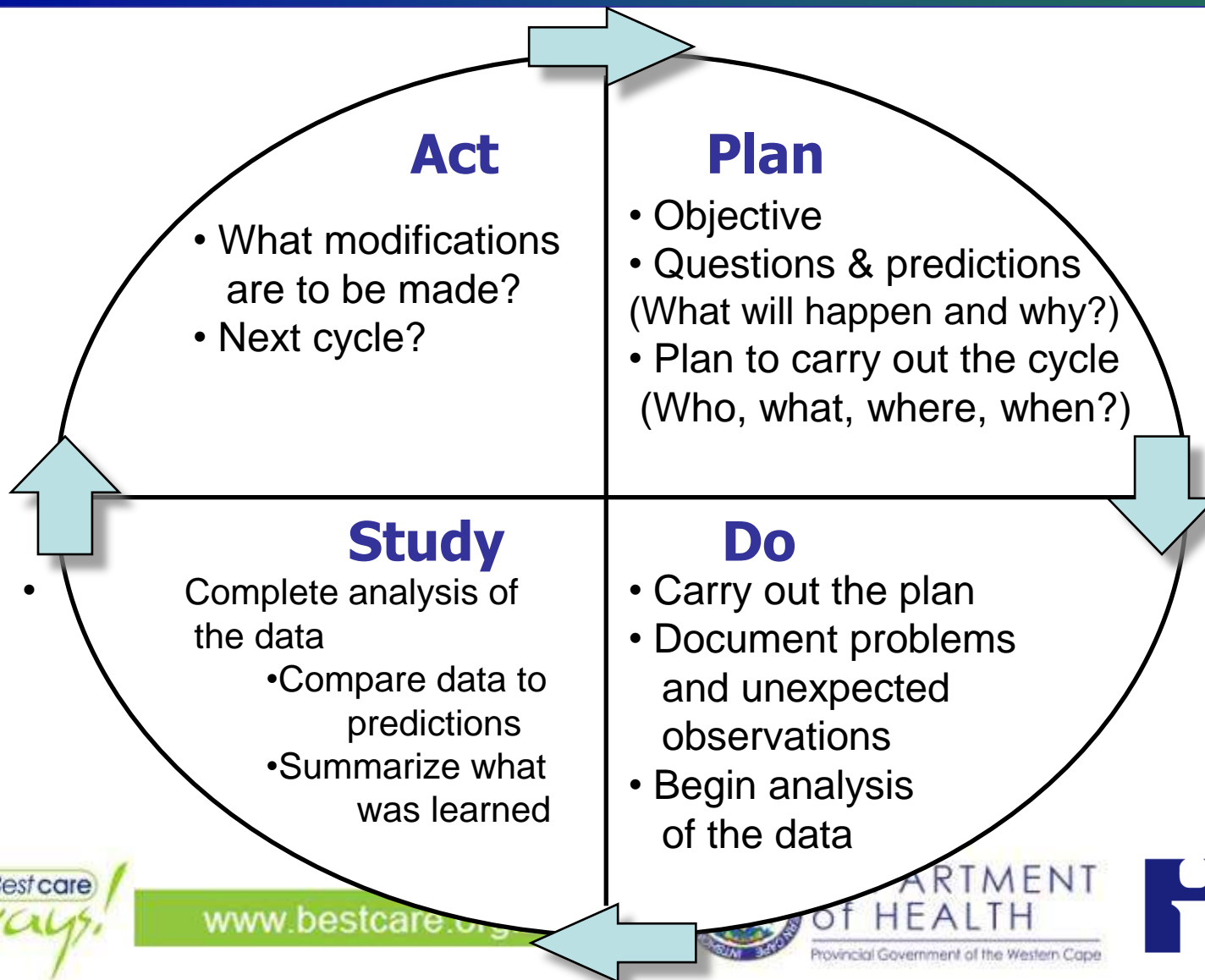
Selecting Concepts

- Avoid technical slow-downs: “We will build a computer programme to do this...”
- Be strategic: set priorities based on the aim, known problems, and feasibility, “Let’s see if we can get the multi-disciplinary team together for one round.”
- Do tasks in parallel- develop a new form for central line bundle compliance while putting together central line supplies



Testing Changes

PDSA Cycle for Learning & Improvement



About Predictions...

- Most often unstated but powerful influence.
- It is your theory behind the changes you choose and tests that you run.
- Without a theory, change are just independent elements that don't add up.
- Allows you learn and delve deeper: bundle example.



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Why Test?

- Increase belief that the change will result in improvement in your environment.
- Predict how much improvement can be expected from the change.
- Learn how to adapt the change to conditions in the local environment.
- Minimize resistance upon implementation.



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To be Considered a Real Test

- Test was planned, including a plan for collecting data.
- Plan was carried out and data was collected.
- Time was set aside to analyze data and study the results.
- Action was based on what was learned.



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Airplane Simulation: Testing

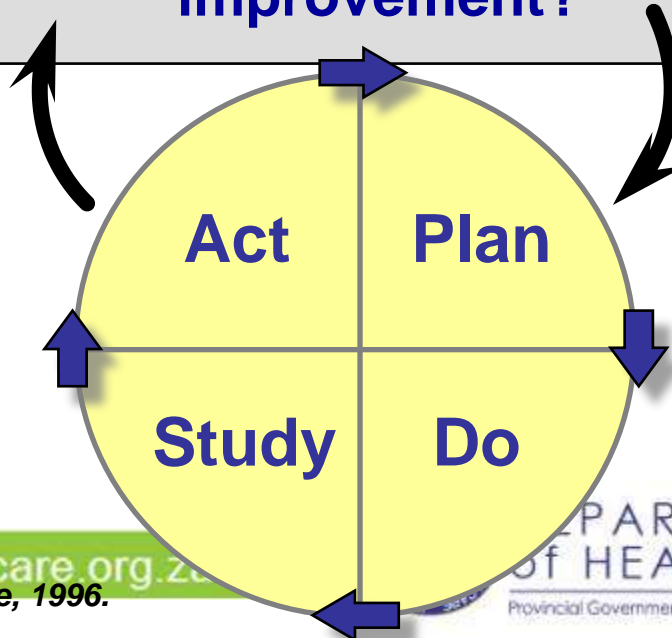
The Model for Improvement

The three questions provide the strategy

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?



The PDSA cycle provides the tactical approach to work

Source:

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Langley, et al. *The Improvement Guide*, 1996.

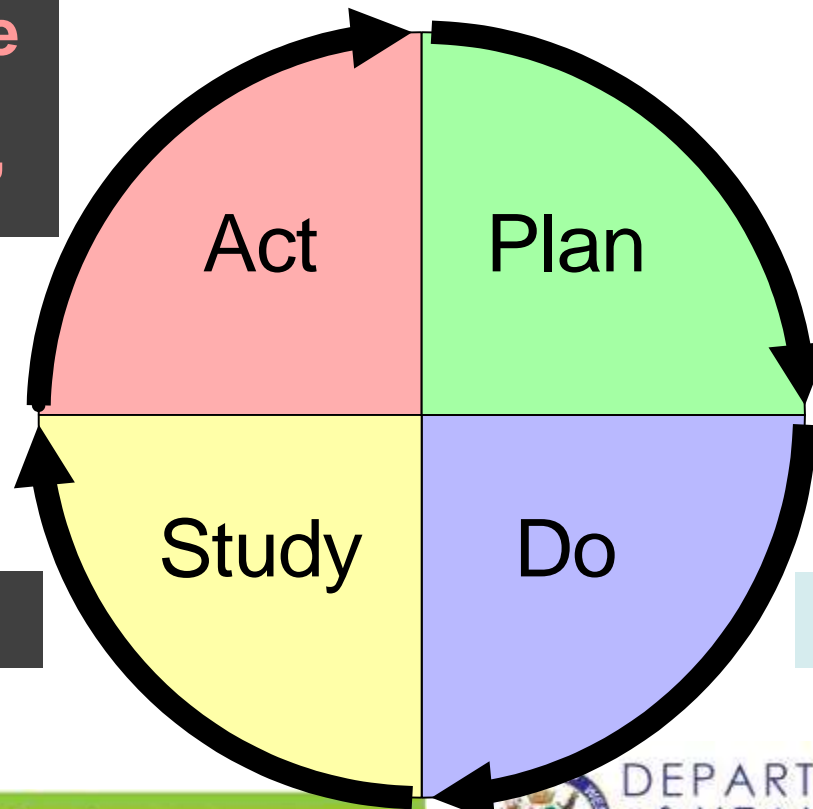
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The PDSA Cycle

“What’s next:
Try something
else? Explore
this further?
Implement?”

“What’s
happening
now?
What will
happen if we try
something
different?”



“Did it work?”

“Let’s try it!”

Always!
Best care

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PDSA Exercise



AIM

To have your team's airplane travel the greatest distance

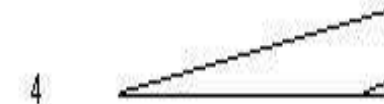
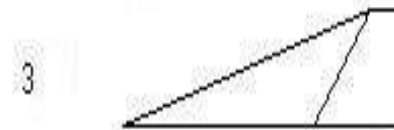
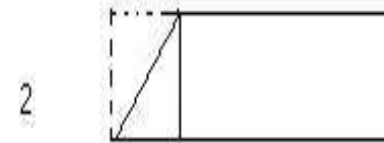
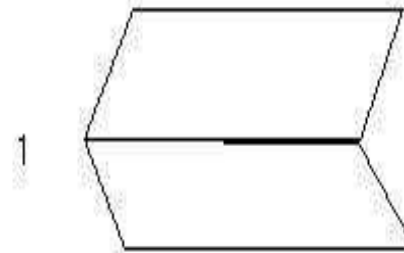
Instructions

1. Use the sheets of paper and other materials provided
2. Design and produce a paper airplane
3. Take your plane to the "flight deck" for testing
4. Launch your airplane
5. Measure and record the distance traveled
6. Evaluate your flight and your design
7. Make improvements
8. Repeat Steps 1-7



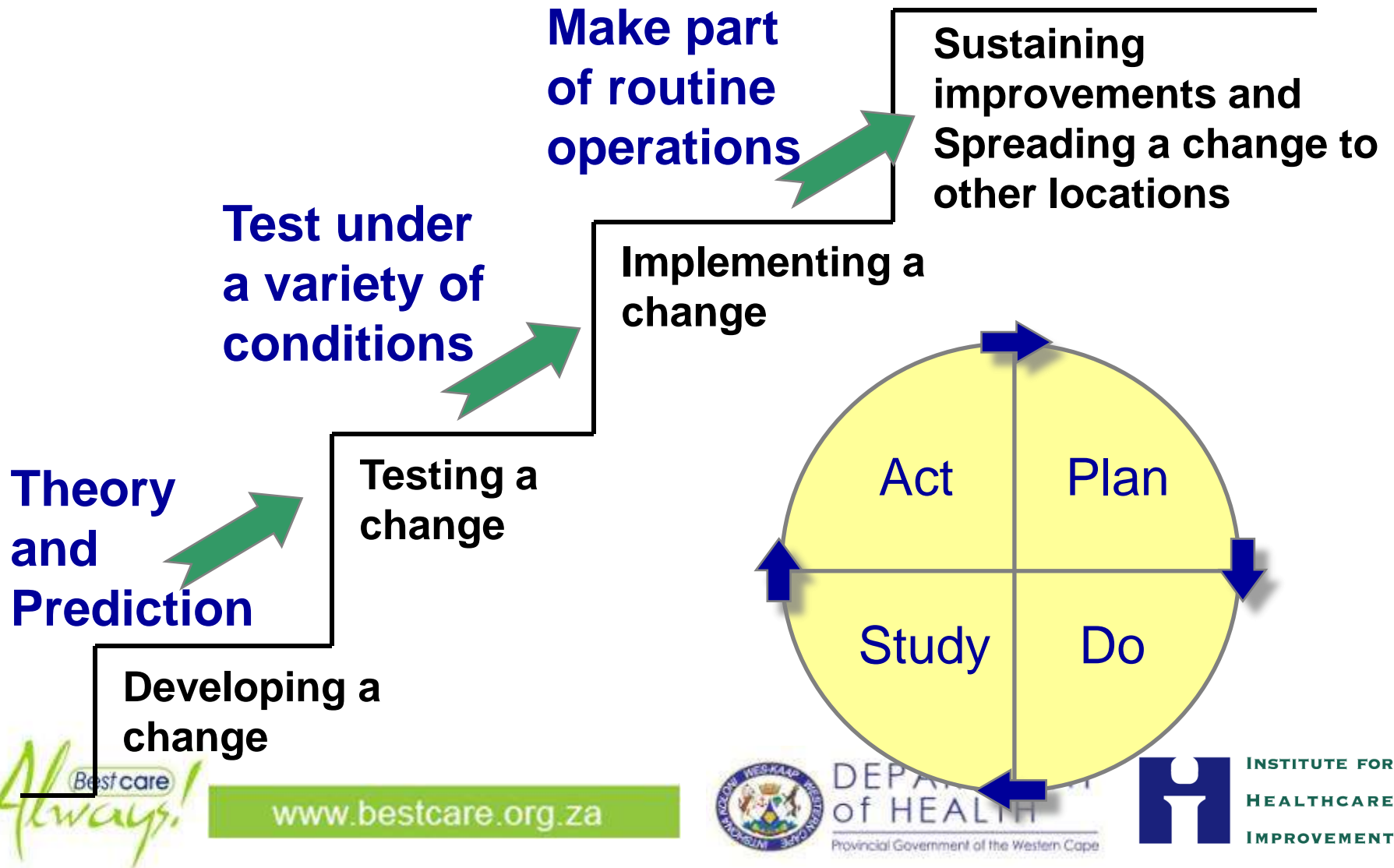
The Basic Paper Airplane Design

1. Take an A4 sheet and fold it in half
2. Fold the short edge of one side down to the first fold (ie produces a 45Degree angle). Do This for the other side too.
3. Fold down the new fold you have created to the original fold you did in (1). Repeat for the other side.
4. Do (3) again for both sides
5. Hold Centre and open wings out. Now Throw!!!



Hold Centre & Fold wings out

The Sequence for Improvement



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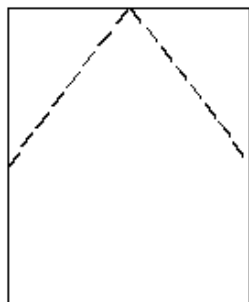


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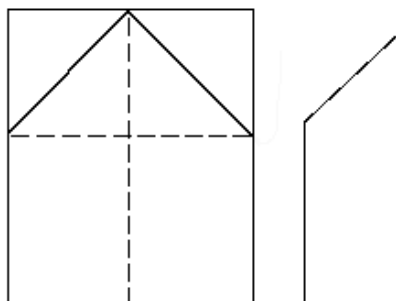


Paper Glider Directions

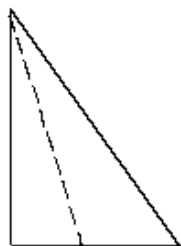
1. Fold down upper two corners.



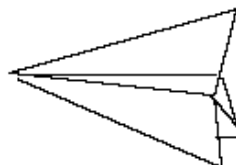
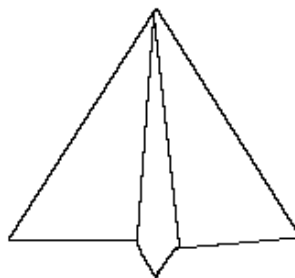
2. Fold Paper in half-length wise.



3. Take out two corners and fold like this:



4. Your glider should look like this.



Airplane Simulation Testing Form

Prediction	Change made	Distance	Learning

Lunch



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Movie – making a garden



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The theatre sisters had decided to try this



Chlorhexidine skin prep for peripheral IV lines..... a great idea!

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OR
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The problems identified:

The pack:

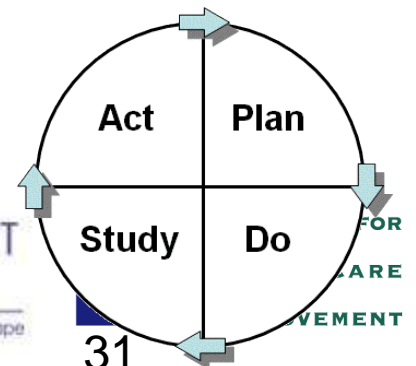
- No trolley space, has to be balanced on the patient

The gloves:

- Anaesthetist are mostly Male - gloves are far too small for their hands
- numerous complaints
 - “I cannot put them on without them ripping to shreds”
 - gloves discarded into a box for the nurses to use in non sterile procedures.
- results - using non sterile gloves, or surgical gloves which triples the cost

The bag:

- The red bag is also saved for other waste disposal.

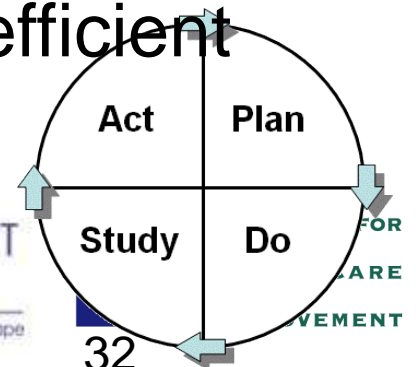


PDSA: team work and small tests of change

How many doctors would have needed to test the packs to discover these problems?

What could have been saved with small tests of change?

- money
- frustration
- enthusiasm for change
- time to create something effective and efficient



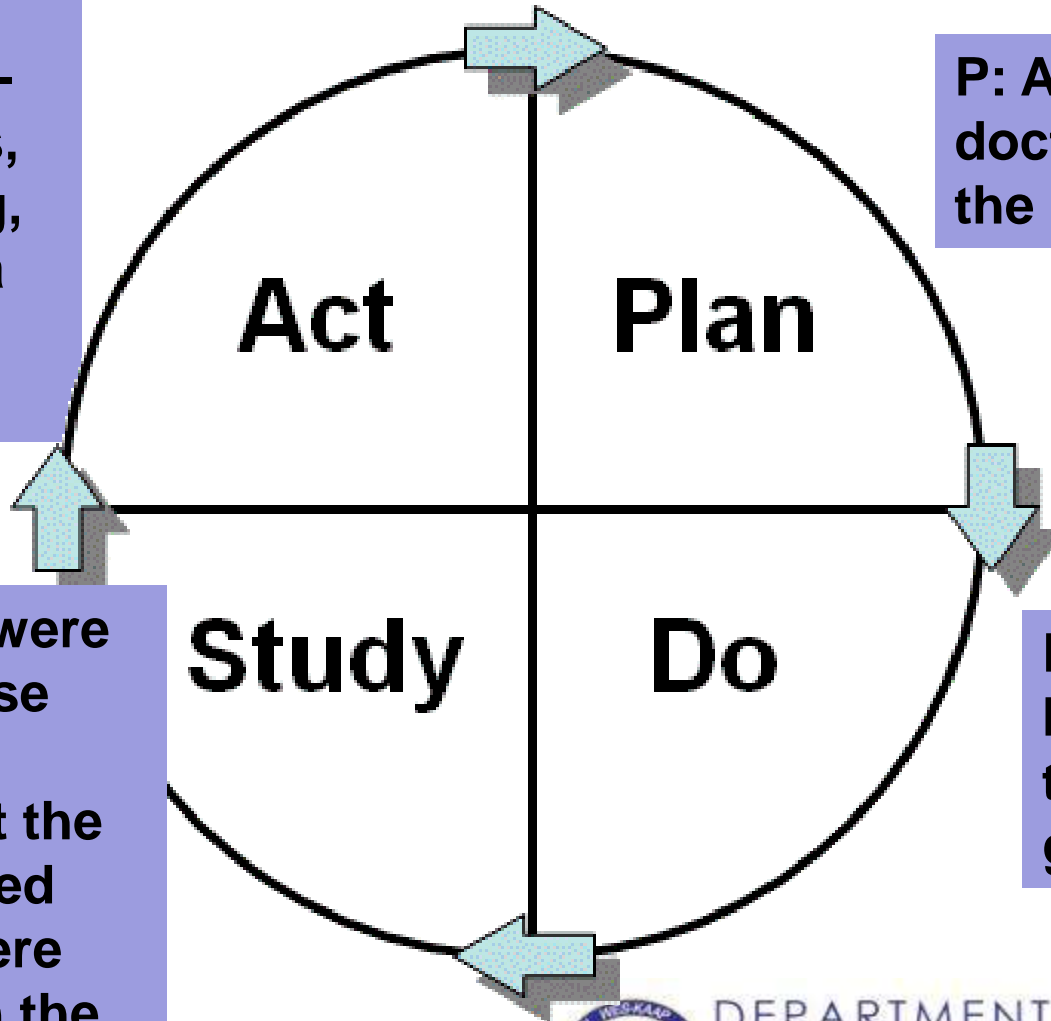
The Plan-Do-Study-Act Cycle

A: Make a smaller pack - bigger gloves, no refuse bag, and provide a trolley for packs

P: Ask one doctor to use the pack

S: The gloves were too small, refuse bag not used, nowhere to put the pack. Dr M noted other packs were also resting on the patient

D: Dr. M was happy to use the pack and give feedback



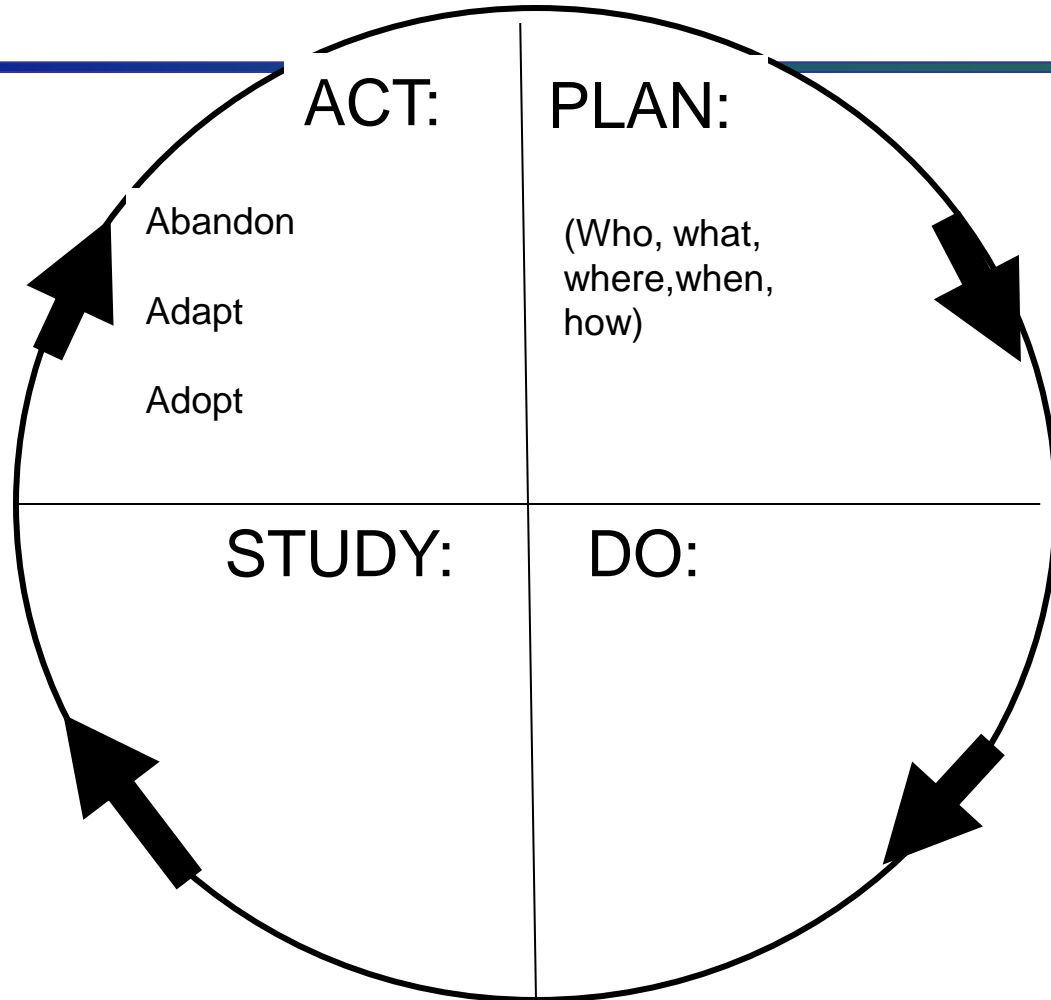
Best Care... Always!

FORCE FIELD ANALYSIS OF HAND HYGIENE		
AREA OF FOCUS	SUPPORTING FORCES	OBSTRUCTING FORCES
SUPPLIES	<ul style="list-style-type: none"> - Improved Availability of Alcohol <u>Handrub</u> & Appropriate Cleansing Consumables (x4) - Immediate Access - Satisfactory Maintenance - Adequate Hygiene facilities 	<ul style="list-style-type: none"> - Lack of product or proper agent (x5) - example - volume of dispensers - Lack of accessibility - where dispensers are positioned (x3) - Poor maintenance of facilities for hand hygiene - Infrastructure Challenges: for example, inadequate washbasins for unit layout - Limitation on consumables - Tender Processes, Procurement
AWARENESS	<ul style="list-style-type: none"> - Hand Washing Campaign (x3), Awareness Week - Reminders / Posters (for clinical staff, not pts) - <u>Shigella</u>, Chicken Pox epidemics 	<ul style="list-style-type: none"> - Lack of measurement and feedback - High "traffic" volumes - diverse groups, inconsistent reinforcement leadership - Posters not near patients self-catheterization areas - Patient awareness, understanding and practice is low - Therapists cause cross contamination between patients - Admin and Clerks
TRAINING	<ul style="list-style-type: none"> - Protocol in Place - Training, Ongoing Education Program (x3) staff, patients and visitors 	<ul style="list-style-type: none"> - Lack of Knowledge (<u>When</u> to use ?why)
WILL	<ul style="list-style-type: none"> - Knowledge of outcomes/ consequences - Perceived Risk (at risk vs. not at risk) - Staff Motivating, Lead by Example - Leadership Role Models, Champions - Affects quality of patient care - Revelations 	<ul style="list-style-type: none"> - No visual feedback on IMPACT of HAIs - Not everyone motivated, informed or trained - Staff resistance - don't see the point (x2) - Leadership Role Models - Attitude towards accountability - Low Collective Buy-in (including procurement) - Perceptions of 'work overload' or high workload (x4), staff shortages (x2) - Perception around 'gloves'
STRUCTURE	<ul style="list-style-type: none"> - IPC Presence <ul style="list-style-type: none"> - IPC Nurse - IPC Committee with Monthly Meetings (x2) - Management Support - Surveillance of effectiveness, "<u>Glitterbug</u>" audits - Institutionalisation of General Cleanliness - Part of Rehab Programme 	<ul style="list-style-type: none"> - Too many hand washing opportunities per patient - Part of Rehab Programme - No IPC nurse - No follow up
"Every Patient, Every Time"	<ul style="list-style-type: none"> - "<u>gentle</u> reminder" - <u>cutting</u> hierarchy - <u>availability</u> of 'specific products for individuals' 	<ul style="list-style-type: none"> - Overcrowding - Work Flow - Inadequate time allocation

Problem:

Aim of this change:

The Change:



Measurement for this change

Prediction: