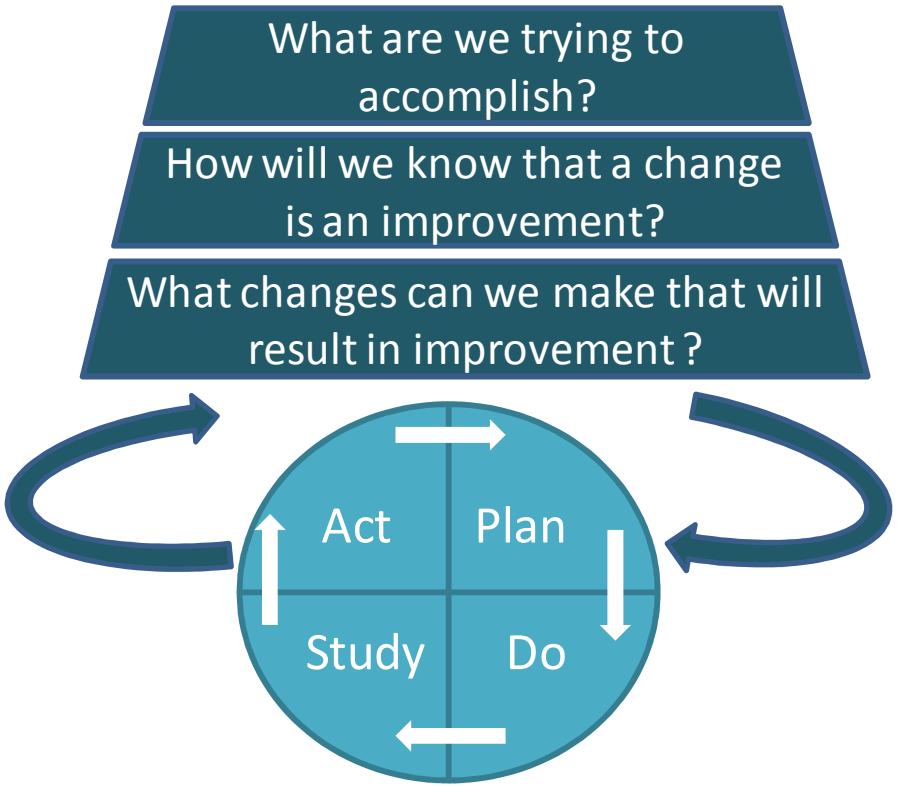
# An Introduction to Quality Improvement

Ciara Kirke

## Learning Session One

# The Model for Improvement

# Model for Improvement




Associates for Process Improvement

# What are we trying to accomplish?

# What are we trying to accomplish?

- Goal
  - What outcome do you want?
  - Why is this important?
  - Stretch
  - Meaningful to patients

# What are we trying to accomplish?

- SMART aim for the project
  - Specific
  - Measurable
  - Achievable
  - Realistic
  - Time-bound

# Collaborative aim

- Reduce the number of hospital acquired pressure ulcers by 50% across participating teams in SSWHG and DMLHG within a six month timeframe and sustained by 28th February 2018

- Specific, Measurable, Achievable, Realistic, Time-bound?

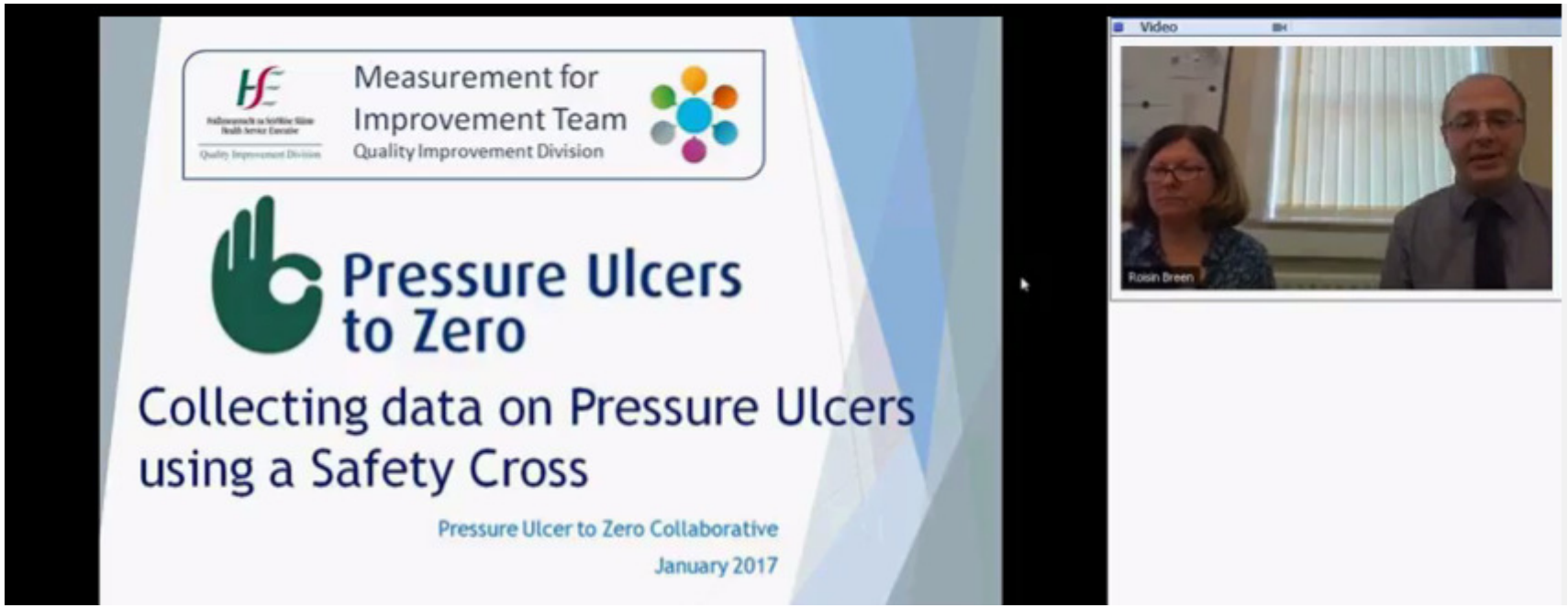
# What are you trying to accomplish?

- In your teams, write your SMART aim (5 mins)
- Is it Specific? Measurable? Achievable? Realistic? Time-bound?
- Bring it back to facilitate discussion

# How will we know that a change is an improvement?

# https://www.youtube.com/watch?v=KTI5a5Dr1M8

Pressure Ulcers to Zero



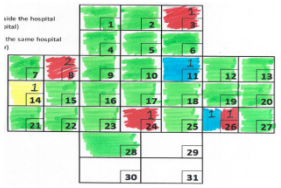
# Webinar

- In the Webinar, we covered just enough information to get you started using measurement

- Since then, you have already started measuring the numbers of pressure ulcers using the safety cross – i.e. you have already gathered some baseline data!

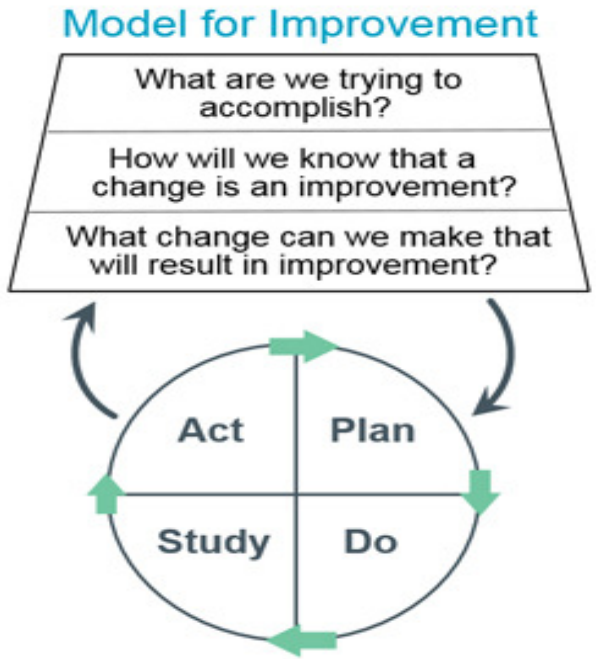
# Why collect Baseline data?

- A baseline helps you to understand where you come from: how is your service performing now and in the recent past?
- Remember, everyone will be starting from different places – sometimes it is just a reflection of the type of service you provide



# Why measure?

- In order to know if a change is an improvement, you need to measure
  - As you progress, you may introduce new processes or implement an intervention
  - As you make these changes, you need to measure to know if the changes are making a difference



# What to Measure?

- The overall aim of the collaborative is to reduce the number of unit acquired Pressure Ulcers.
- Therefore the appropriate measure is the number of **New pressure ulcers acquired on your ward each month**.

# How to Measure

- Always check if you have data already available. If you do, use it
- If you don't, you must minimise the burden of data collection.

  – A **Safety Cross** is a simple tool to collect data while minimising the effort involved

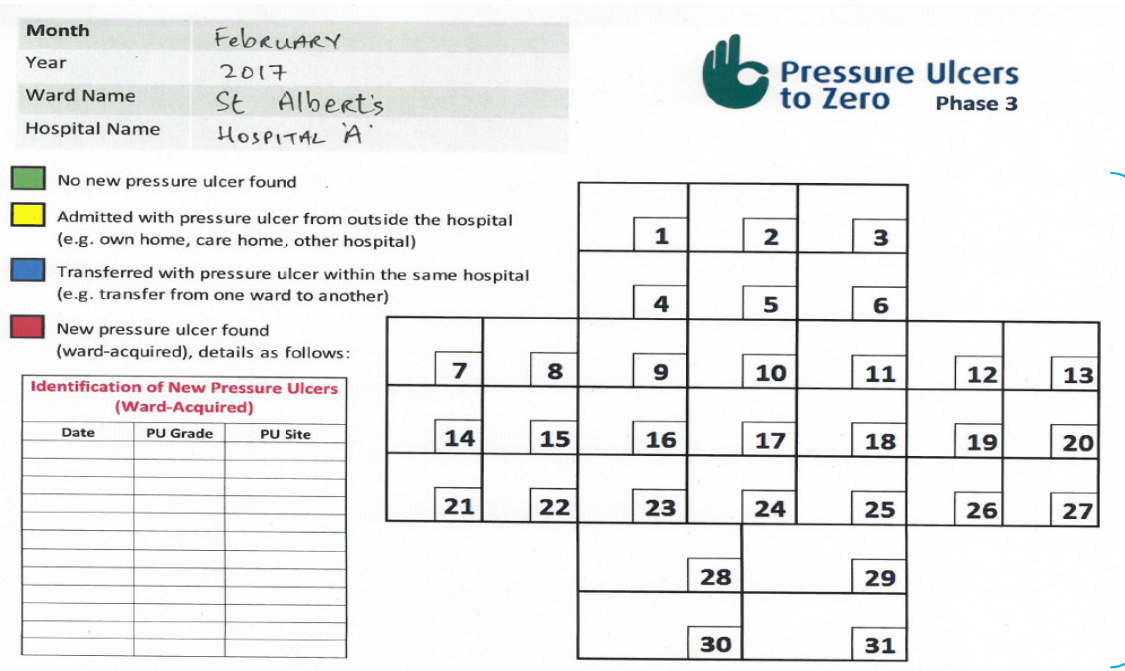
# Layout of a Safety Cross

Pressure Ulcers to Zero

Month and Ward details

Legend

Record details of New Unit Acquired Pressure Ulcers here



| Month | February |
|---|---|
| Year | 2017 |
| Ward Name | St Albert's |
| Hospital Name | Hospital 'A' |

Pressure Ulcers to Zero Phase 3

- No new pressure ulcer found
- Admitted with pressure ulcer from outside the hospital (e.g. own home, care home, other hospital)
- Transferred with pressure ulcer within the same hospital (e.g. transfer from one ward to another)
- New pressure ulcer found (ward-acquired), details as follows:

**Identification of New Pressure Ulcers (Ward-Acquired)**

| Date | PU Grade | PU Site |
|---|---|---|
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| | | 4 | 5 | 6 | | |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| | | 28 | | 29 | | |
| | | 30 | | 31 | | |

Record daily Pressure Ulcer Incidence here

# Safety Cross – 1st February

Pressure Ulcers to Zero

| | |
|---|---|
| Month | February |
| Year | 2017 |
| Ward Name | St. Albert's |
| Hospital Name | Hospital 'A' |

Pressure Ulcers to Zero Phase 3

- No new pressure ulcer found
- Admitted with pressure ulcer from outside the hospital (e.g. own home, care home, other hospital)
- Transferred with pressure ulcer within the same hospital (e.g. transfer from one ward to another)
- New pressure ulcer found (ward-acquired), details as follows:

**Identification of New Pressure Ulcers (Ward-Acquired)**

| Date | PU Grade | PU Site |
|---|---|---|
| | | |
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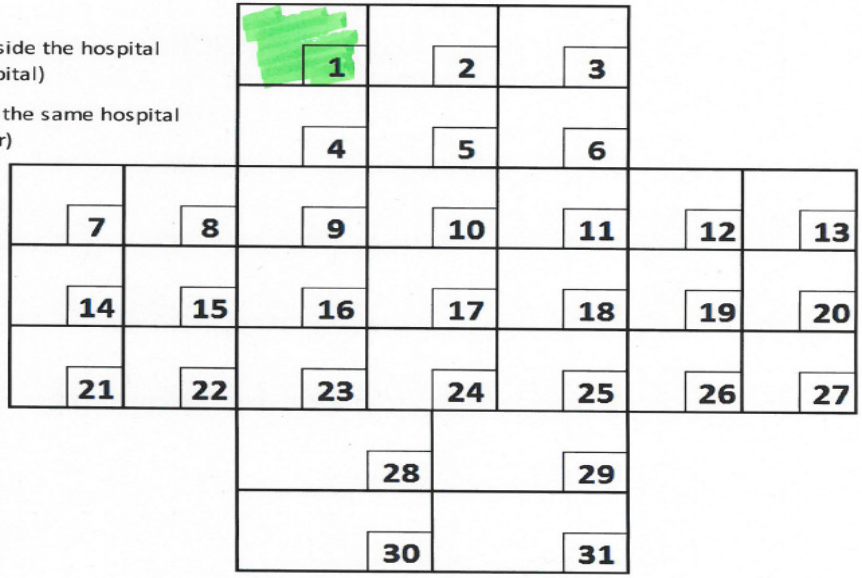


Pressure Ulcers to Zero

# Safety Cross – 3rd February

Pressure Ulcers to Zero

| | |
|---|---|
| Month | February |
| Year | 2017 |
| Ward Name | St Alberts |
| Hospital Name | HOSPITAL 'A' |

Pressure Ulcers to Zero Phase 3

No new pressure ulcer found

Admitted with pressure ulcer from outside the hospital (e.g. own home, care home, other hospital)

Transferred with pressure ulcer within the same hospital (e.g. transfer from one ward to another)

New pressure ulcer found (ward-acquired), details as follows:

| Identification of New Pressure Ulcers (Ward-Acquired) | | |
|---|---|---|
| Date | PU Grade | PU Site |
| 3/2/17 | II | Right heel |
| | | |
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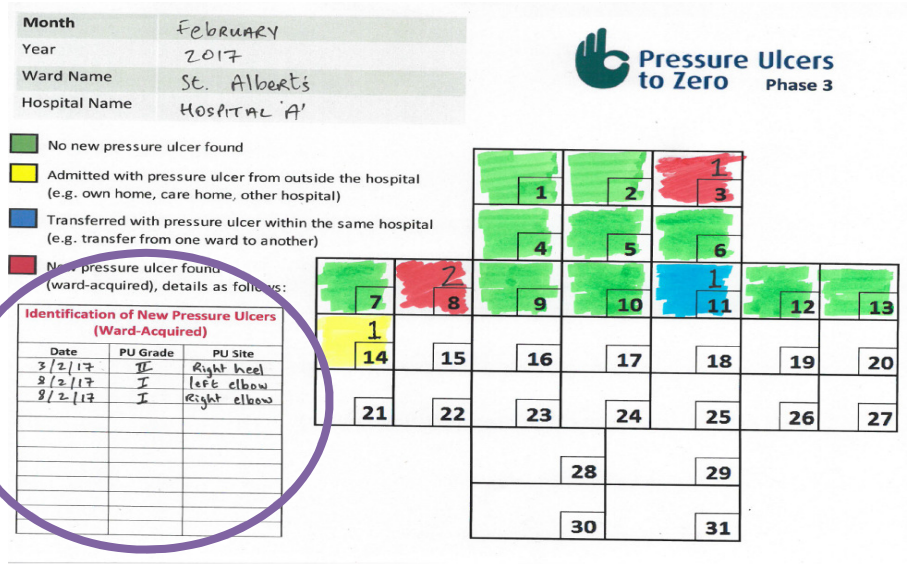
|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | |
| | | | 4 | 5 | 6 | |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| | | 28 | | 29 | | |
| | | 30 | | 31 | | |

Pressure Ulcers to Zero

# Safety Cross - 14th February




- Just remember that the table is intended to be used only for the ‘reds’: the new ward acquired PUs.
- If you want to record all PUs including Blues and Yellows, you would still need to be able to distinguish the reds so some modification may be necessary

# Safety Cross – 28th February

Pressure Ulcers to Zero

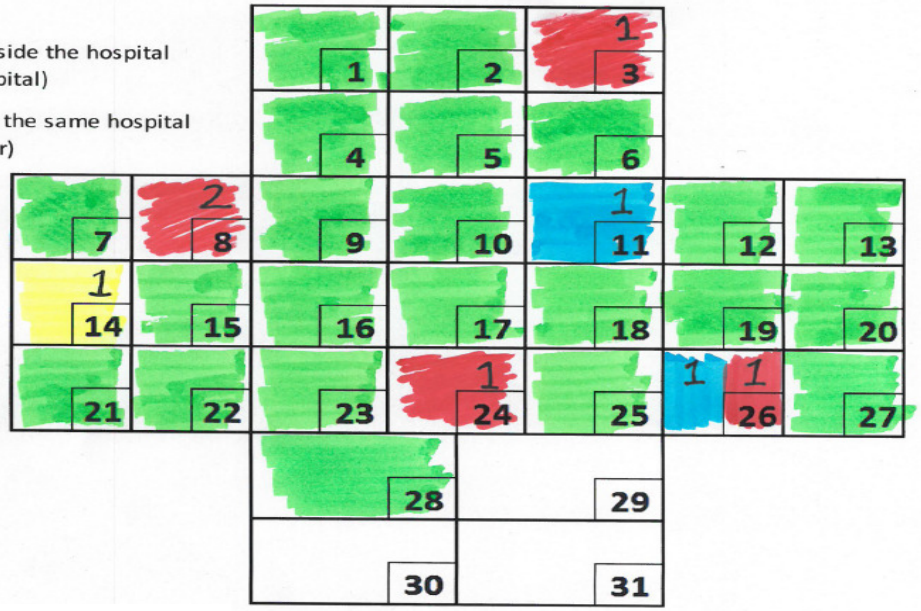
| | |
|---|---|
| Month | February |
| Year | 2017 |
| Ward Name | St. Albert's |
| Hospital Name | Hospital 'A' |

Pressure Ulcers to Zero Phase 3

- No new pressure ulcer found
- Admitted with pressure ulcer from outside the hospital (e.g. own home, care home, other hospital)
- Transferred with pressure ulcer within the same hospital (e.g. transfer from one ward to another)
- New pressure ulcer found (ward-acquired), details as follows:

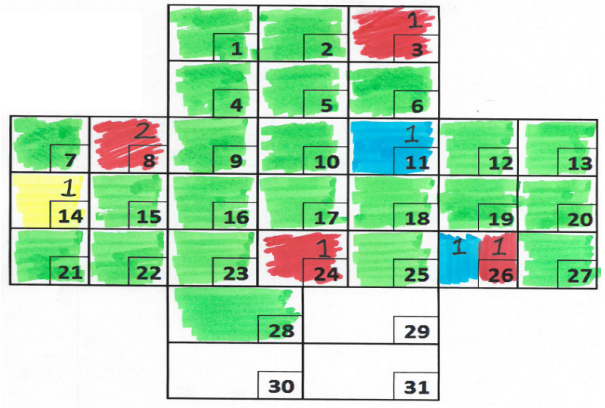
**Identification of New Pressure Ulcers (Ward-Acquired)**

| Date | PU Grade | PU Site |
|---|---|---|
| 3/2/17 | II | Right heel |
| 8/2/17 | I | left elbow |
| 8/2/17 | I | Right elbow |
| 24/2/17 | II | left hip |
| 26/2/17 | I | tailbone |




Pressure Ulcers to Zero

# Completed Safety Cross for February.




5 = the number of new Pressure Ulcers (ward-acquired) identified in February 2017

# Next Steps

- Keep up the good work!
- Do a new safety cross for each month
- Send in copies to the PUTZ collaborative
- At the next learning session, we will look at how to look at your data using a run chart
- Orlaith will do some data validation today with the teams indiviudally and check how everyone is getting on with the safety cross

# Safety cross

- How to measure?
  - Safety cross and accompanying info
- Important
  - Record all on safety cross – grade, where acquired…
  - Operational definition for data submitted to collaborative – ward-acquired (not hospital), new, ulcers (not patients) – check for 2 on one day, all grades of ulcers (1,2,3,4)

# Measurement for Improvement

Pressure Ulcers to Zero

| | Improvement | Accountability | Research |
|---|---|---|---|
| Aim | Improving care | Comparison, regulation | New knowledge |
| Observ-ability | Observable | No test | Blinded or controlled |
| Bias | Consistent | Adjust to reduce | Design to eliminate |
| Sample size | Just enough, small sequential | 100% of relevant data | Just in case data |
| Hypothesis | Flexible, changes | None | Fixed |
| Testing | Sequential | None | One large test |
| Is change improve-ment? | Run or control charts | None | Statistical tests against hypothesis |

Solberg et al, Jt Comm J Qual Improv. 1997 Mar;23(3):135-47

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

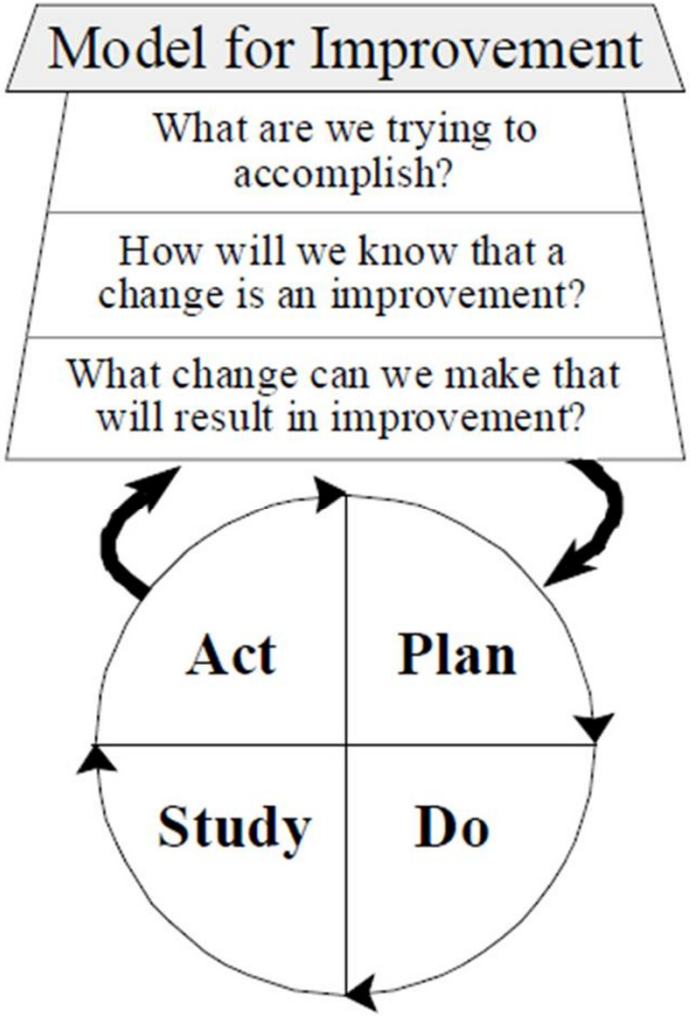
# What changes can we make that will result in improvement?

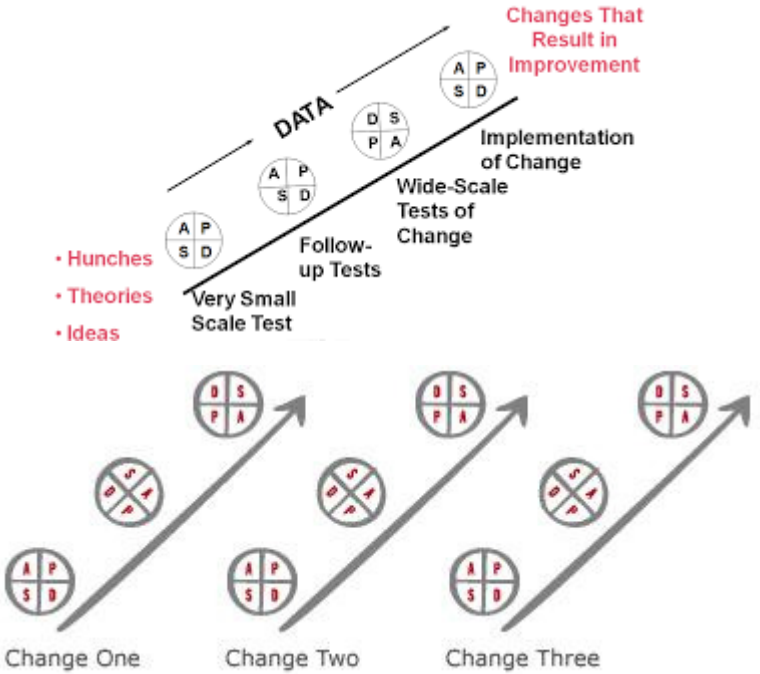
- Ideas for change
- Prediction that by doing x, y will happen
- Lots of ideas needed
- Engage staff and patients to come up with ideas
- Particularly engage those who will be expected to change their practice

# What changes can we make…?

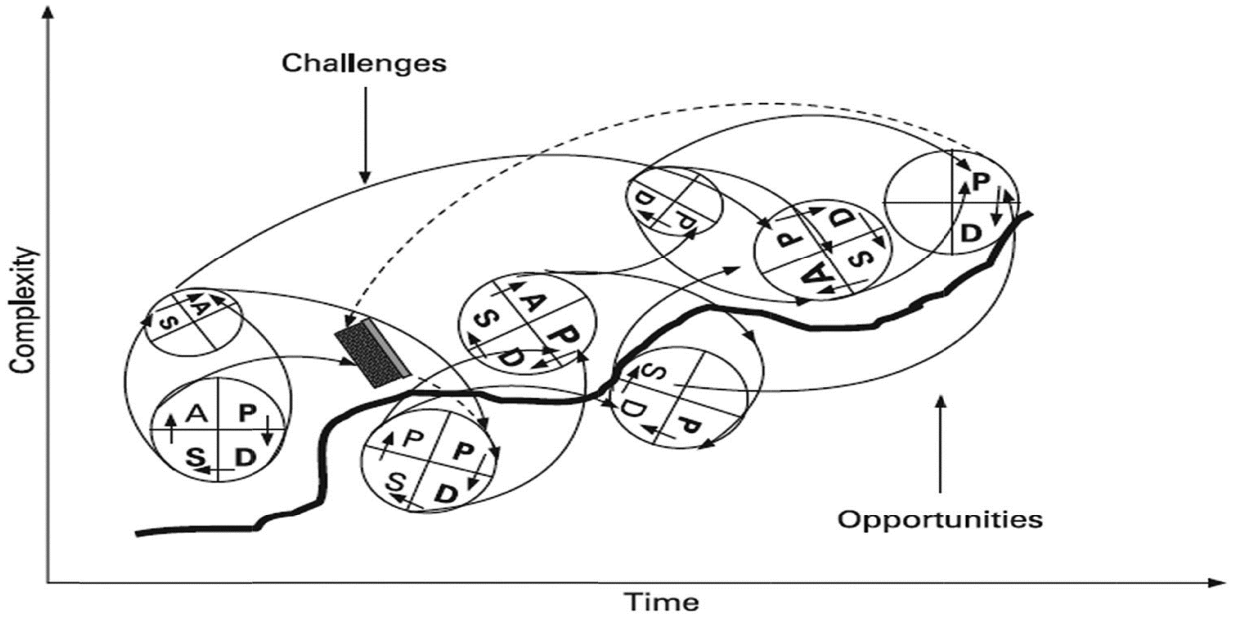
- Process experts – staff nurses, pre-reg nurses, care assistants, porters, catering staff, patients, family and carers
- Subject matter experts – tissue viability nurse, wound care, vascular surgeons, physiotherapists, SLTs, OTs
- Outside view – literature, research, senior manager, other wards, doctors, pharmacists, complaints manager, volunteers, patient reps…

# Does this idea for change result in improvement?


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?
Act
Plan
Study
Do


Changes That Result in Improvement
DATA
Implementation of Change
Wide-Scale Tests of Change
Follow-up Tests
Very Small Scale Test
• Hunches
• Theories
• Ideas
Change One
Change Two
Change Three

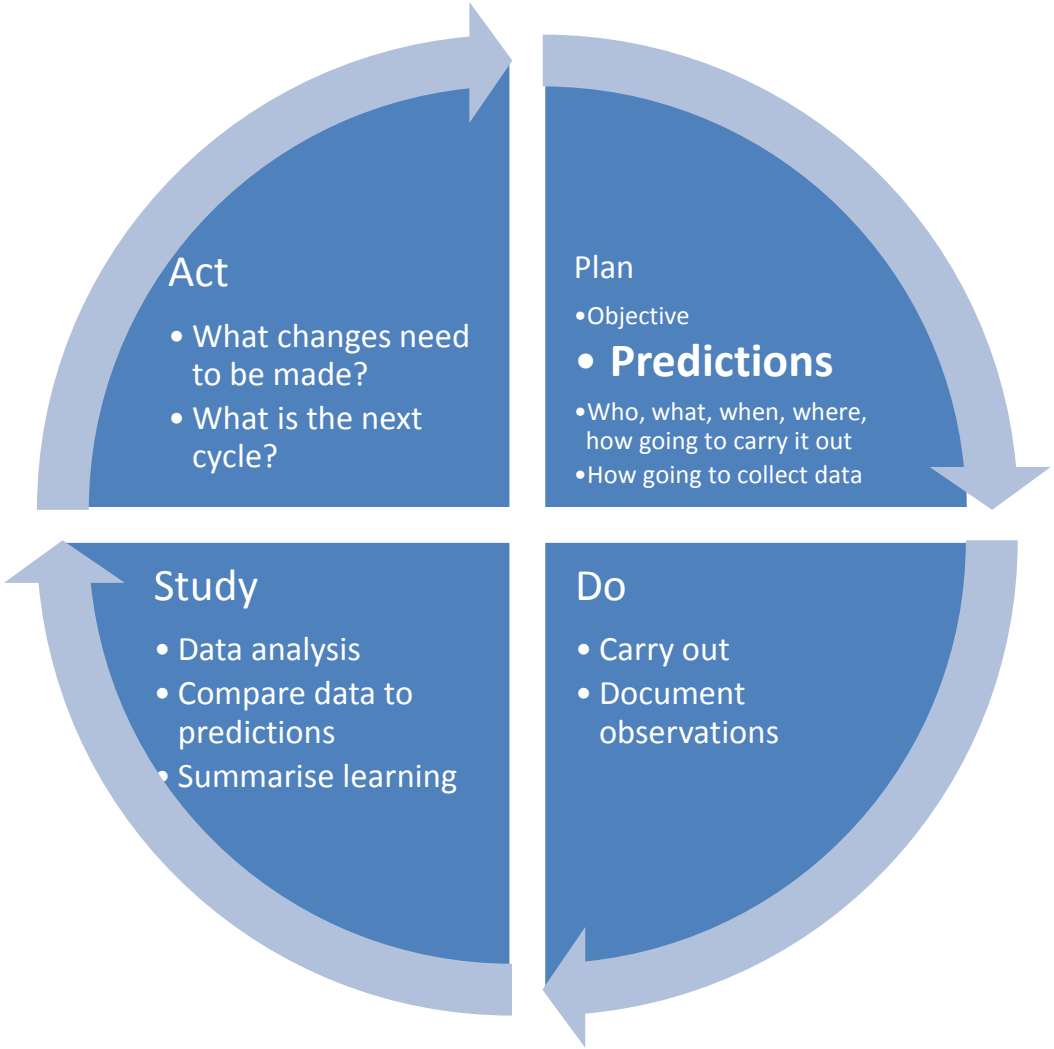
## Revised conceptual model of plan–do–study–act (PDSA) methodology.4.




**Greg Ogrinc, and Kaveh G Shojania BMJ Qual Saf 2014;23:265-267**

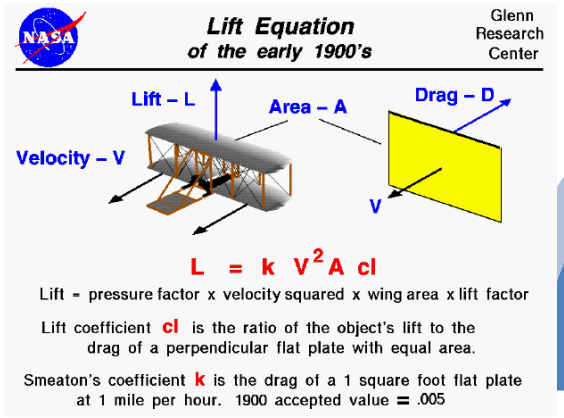


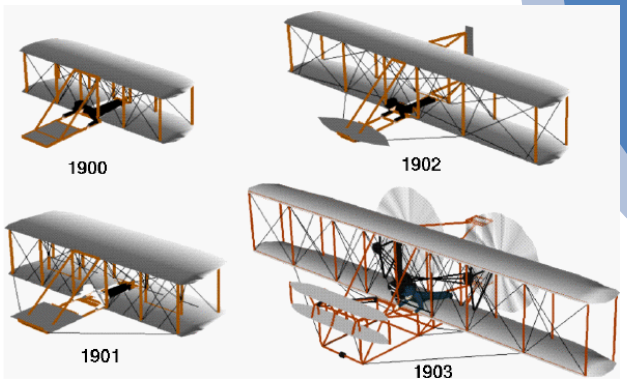
BMJ Quality & Safety

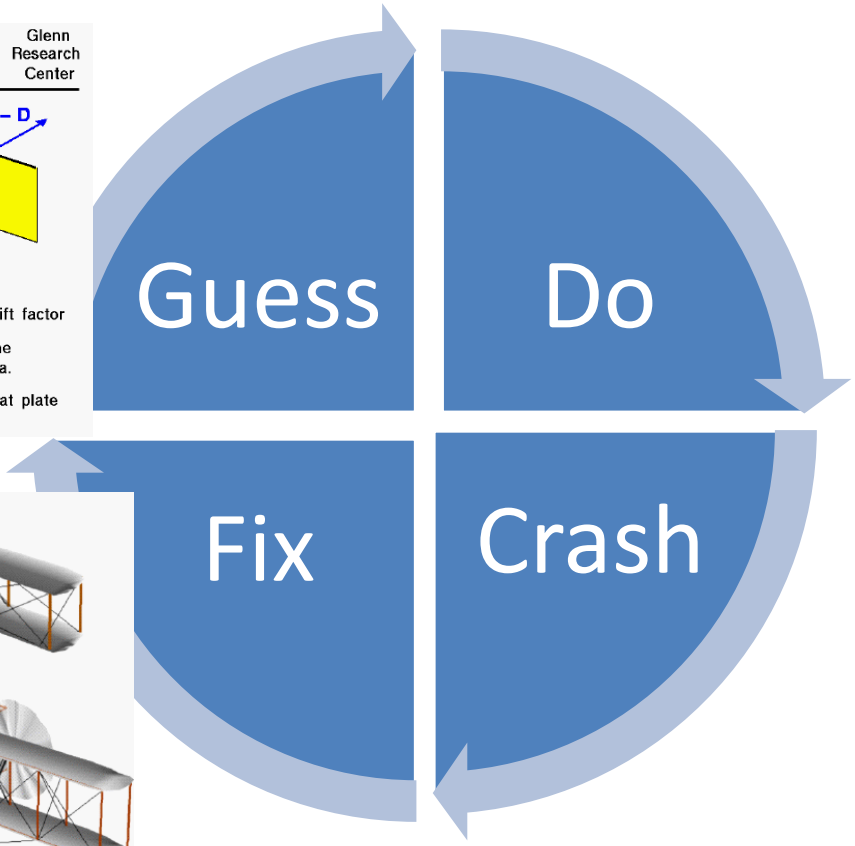


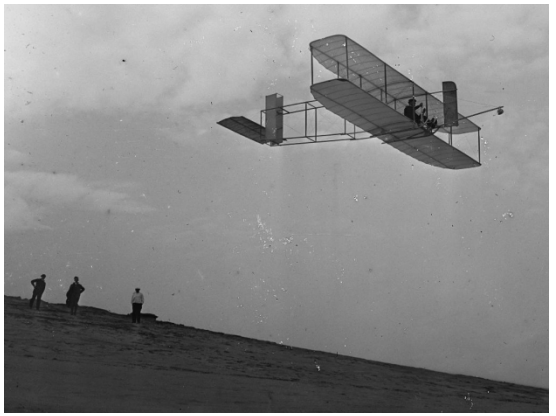

Pressure Ulcers to Zero

# The Wright Cycle



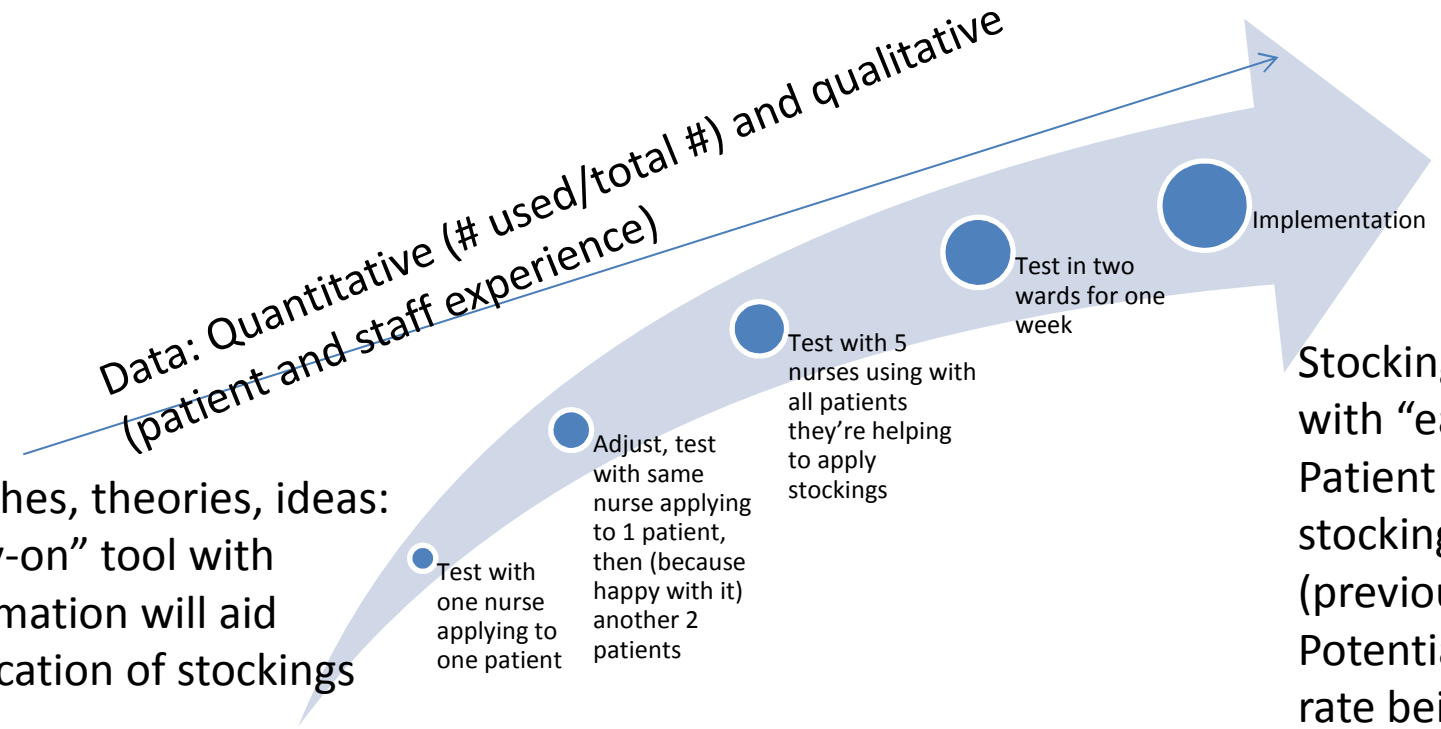



# Why do PDSA tests?

- Increase the degree of belief that the change(s) will result in improvement
- Compare several options, alone or in combination, in your unique context
- When prediction is different to practice – identify issues and adjustments needed
- Involve staff and patients in getting to the desired outcome
- Even out the workload – small tests frequently not one big launch

# PDSA ramp



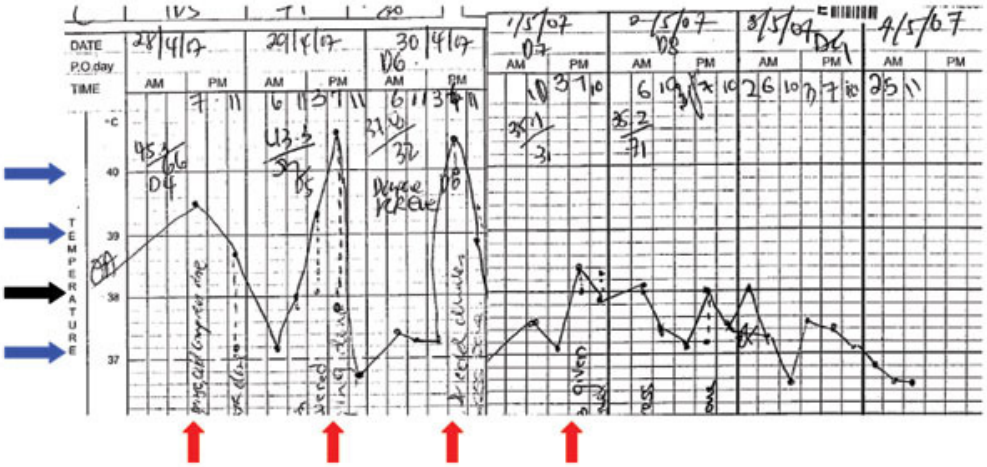

Hunches, theories, ideas: "Easy-on" tool with information will aid application of stockings

Stockings now applied with "easy-on" tool.
Patient acceptability of stockings mean 7/10 (previously 3/10)
Potential impact on VTE rate being tracked

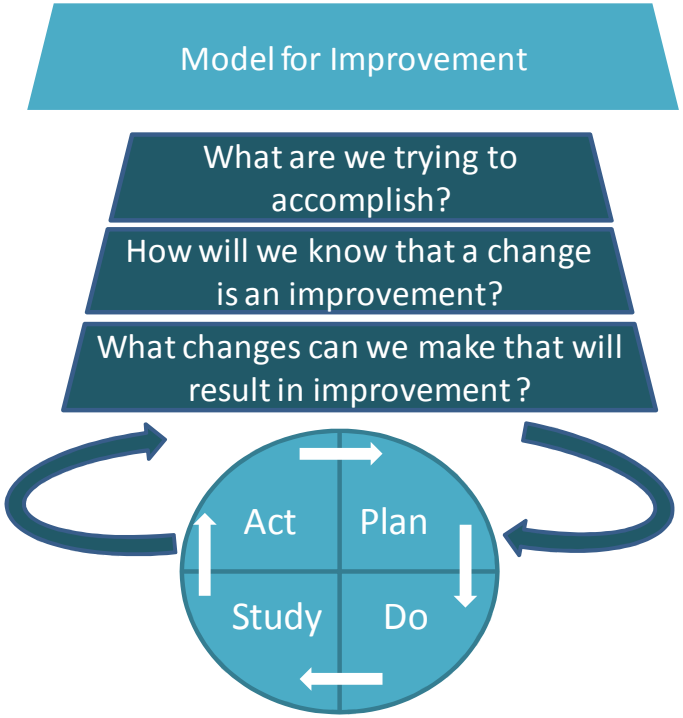
# How have you applied the Model for Improvement?

# Applied Model for Improvement

- Aim: Treat infection
- Measure: Temperature
- Ideas: Paracetamol, antibiotics…
- PDSAs: Paracetamol reduces temperature for 6 hours, initial antibiotic not working, changed, antibiotic working



# Model for Improvement




Associates for Process Improvement