Improvement Academy
Part of the Yorkshire and Humber AHSN

Improvement Planning Sheet

What is your Problem statement?
- One or two sentences
- Encapsulates the essence of 'the problem' (not the solution)
- Is agreed by those involved in or affected by the work

What diagnostic tools might you need to use?
- Existing data
- New data/ information
- 5 Why's
- Brainstorming
- Process Mapping
- Ishikawa
- Pareto principle

What is your Statement of aim?
- What do you want to improve?
- For who? (population)
- By how much? (target)
- By when? (time frame)

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- What do you want to improve?
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Choosing who may need to be in your team
- Who else needs to be in YOUR team
- What are your first steps to bring your team together?

What are your measures?
- Is there retrospective data?
- What baseline data is needed?
- What 3 measures will be used for the run charts?

1.

2.

3.

Are there operational definition for these measures?
- Make it simple
- Think about KEY measures 1.e. outcome, process, balancing
- Make it do-able (i.e. easy to collect on a regular, ongoing basis)

What are your changes ideas?
- Ideas for change
- Brainstorming
- Ideas from others
- 'the evidence-base'
- 'steal ideas shamelessly

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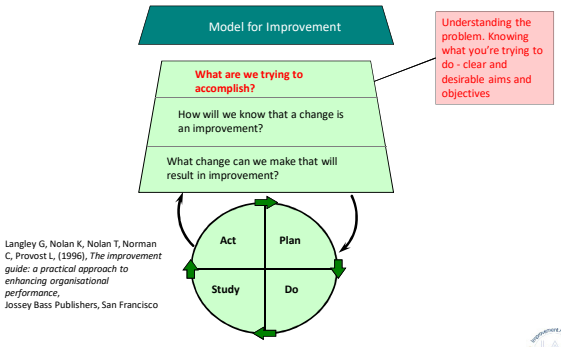
Question 1



Understanding the problem. Knowing what you're trying to do - clear and desirable aims and objectives

Langley G, Nolan K, Nolan T, Norman C, Provost L, (1996), *The improvement guide: a practical approach to enhancing organisational performance*. Jossey Bass Publishers, San Francisco

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Question 1
What are we trying to: accomplish?

Made up of 3 stages/tasks/elements

1. Identification: defining what actually is the Problem
2. Diagnosis /Analysis of the causes of the problem
3. Defining the Aim of the improvement work

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1. Problem statement

- One or two sentences
- The root of the problem … not a symptom or solution
- Agreed by those involved in or affected by the work
- Specific

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Some examples of problem statements

- We have high levels of pressure sores amongst people aged over 70 years on Ward 5.
- Communication from one shift to another on Ward 1 is poor. This is compromising the quality of our care.
- There have been high levels of complaints about the way the staff on Ward 23 deal with families.

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What's your problem?

Choose one area and write your problem statement

- One or two sentences
- Encapsulates the essence of 'the problem' (not the solution)
- Is the root of the problem … not a symptom
- Is agreed by those involved in or affected by the work

Be ready to share

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2. Diagnosing/analysing your problem

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Understand your systems

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

If we want better outcomes, we must change something in the system.

To do this we need to understand our systems."

Don Berwick

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How?

By carefully selecting tools that will help you better understand why your 'problem' is occurring.

Some examples …

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Existing data/information

- Routinely collected data
- National/local surveys
- Local/national audit data

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New (easy to collect) data/information

- Brief survey e.g. ask staff to complete 3 questions at end of handover rating satisfaction with aspects of handover at the beginning of their shift
- Brief interview e.g. ask parents to rate their satisfaction with communication from the ward staff and offer one idea for improvement

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The 5 Whys

We often jump to either 'the symptom' of the problem, OR 'the solution'

WHY?

WHY?

WHY?

WHY?

WHY?

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Brainstorming

- Be aware of the impact of hierarchy on people's willingness to contribute
- Make sure everyone has a voice i.e. consider using post-it notes
- Encourage people to think 'outside the box'
- Do not judge

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Process mapping

Understand systems

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If we want better outcomes, we must change something in the system.

To do this we need to understand our systems."

Don Berwick

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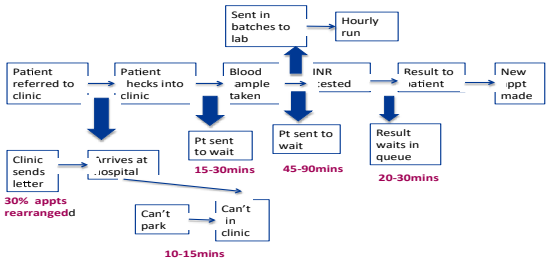
Process mapping



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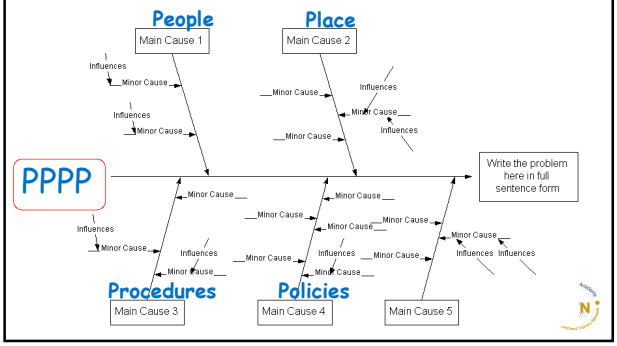
Ishikawa/Fishbone diagrams



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The Pareto Principle

- 'The 80-20 Rule'
- 'The Law of the Vital Few'
- For many phenomena, 80% of the consequences stem from 20% of the causes
- Observation that 80% of income in Italy went to 20% of the population

Vilfredo Pareto, 1906

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The Pareto Principle

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The Pareto Principle

Reason for fall (n=100)	
Unsafe transfer	𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 = 40
Lack of preventative equipment e.g. grab rail	𝍷 𝍷 𝍷 𝍷 𝍷 = 25
Poor lighting	𝍸 𝍸 𝍸 = 15
Unsafe footwear	𝍸 II = 7
Unable to access walking aid	𝍸 = 5
Uneven floor surface	IIII = 4
Unrecognised deterioration in health	II = 2
Patient confused	I = 1
Medication side effects	I = 1

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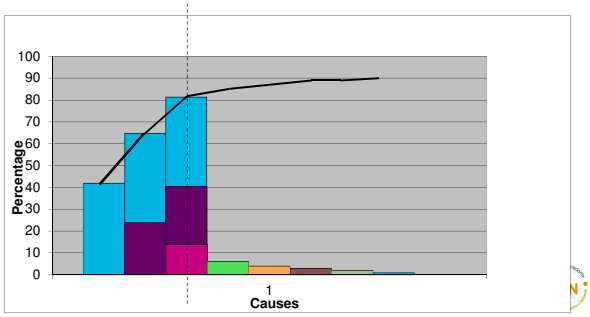
The Pareto Principle



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The Pareto Principle

By addressing the top 3 causes of falls:

- Unsafe transfer
- Lack of preventative equipment
- Poor lighting

… you are likely prevent 80% of falls

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The Pareto Principle

By addressing the remaining problems:

- Unsafe footwear
- Unable to access walking aid
- Uneven floor surface
- Unrecognised deterioration in health
- Patient confused
- Medication side effects

… you are likely prevent **20% of falls**

So, by doing 20% of the work you can generate 80% of the benefit of doing the entire job.

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Now think about which of the diagnostic tools might help you better understand your problem

- *You have 20 minutes*
- *You may wish to talk with the people on your table*
- *Fill in Box 2 of your improvement planning sheet*
- *We will ask people to volunteer to share your thoughts when we come back together in 20 minutes*

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Fred Flintstone's popularity is a result of years of frolicking humour and continues to provide pleasure to people of all ages.

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3. Moving from a 'problem statement' to an 'aim'

An example

Problem: Communication from one shift to another is poor.

Aim: to increase staff satisfaction with handover by 50% from baseline by May 2018.

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Examples of an 'aim'

- To reduce unwitnessed falls on Ward 16 by 20% from baseline before the end of May 2018.
- To reduce DNAs at the Tuesday morning ENT out-patient clinic 25% from baseline by June 2018.

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Generating an 'aim': things to think about

- What do you want to improve?
- For who – population? (choose enthusiasts, don't be too ambitious)
- By how much – target? (you may need more data)
- By when - time frame? (be realistic)
- Make sure it is 'SMART"

YOUR GOAL: TO ENSURE EVERYONE HAS THE SAME GOAL AND UNDERSTANDING

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Now decide your (draft) aim

- *You have 10 minutes*
- *You may wish to work with the people on your table*
- *Fill in Box 3 of your improvement planning sheet*
- *We will ask people to volunteer to read theirs out when we come back together in 10 minutes time*

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Lunch and Networking

#

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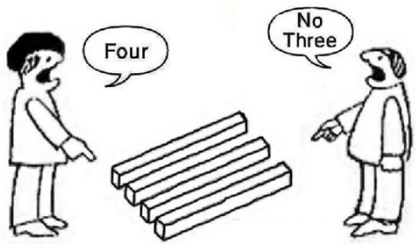
Human factors at large



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Choosing your team

- Spend 5 minutes t thhinking through the people who might need to help you with this work. Think about:
  - Who can support your improvement work directly, or help you access any help you may need?
  - Who understands the various parts of the system that you are trying to improve?
  - Who will be affected by the changes you are trying to make?
  - Who could block it going forward?
  - Who are the 'enthusiasts'?
- Make a note in Box 4 of your planning sheet.

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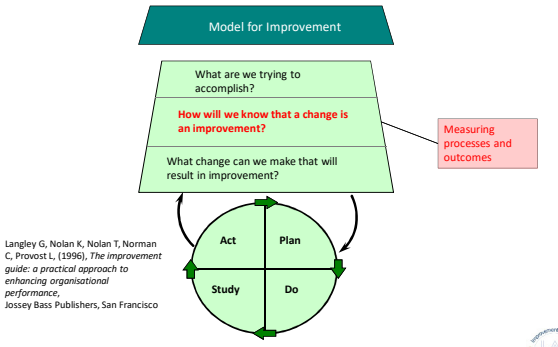
Question 2



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To make effective changes,
we have to be observant.

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A, B, C, D, E, F

104

10, 11, 12, B, 14

105

A, B, C, D, E, F
10, 11, 12, B, 14

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13 13

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What happened?

The physical stimulus '13' is the same in each case but is perceived differently because of the influence of the context in which it appears.

- We EXPECT to see a letter in the context of other letters of the alphabet AND numbers in the context of other numbers.

SO WE NEED STANDARDISED MEASUREMENT.

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Why measure?

To know where you are …

… where you're going…

And when you've arrived … !!!

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All improvement involves change, BUT not all change is an improvement!

AND

Without measurement it is impossible to know whether you have improved.

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"The Three Faces of Performance Measurement: Improvement, Accountability and Research"

Lief Solberg, Gordon Mosser and Sharon McDonald
Journal on Quality Improvement vol. 23, no. 3, (March 1997), 135-147.

"We are increasingly realizing not only how critical measurement is to the quality improvement we seek but also how counterproductive it can be to mix measurement for accountability or research with measurement for improvement."

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What will you measure?

Measurement can be split into the reason why you are measuring: what words are evoked by each?

- Measurement for **Research**
  Science, rigor, hypothesis testing, stats, "large data"
- Measurement for **Performance Management**
  Comparison, justification, targets, FEAR …
- Measurement for **Quality Improvement**
  'Just enough' data, improvement of care, ownership
  What does this mean about our various 'audiences'?

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The Three Faces of Performance Measurement

Aspect	Improvement	Accountability	Research
Aim	Improvement of care (How?)	Comparison, choice, reassurance, spur for change	New knowledge (What?)
Methods: • Test Observability	Tests are observable	No test; merely evaluate current performance	Test blinded or controlled tests
• Bias	Accept consistent bias	Measure and adjust to reduce bias	Design to eliminate bias
• Sample Size	"Just enough" data, small sequential samples	Obtain 100% of available, relevant data	"Just in case" data
• Flexibility of Hypothesis	Hypothesis flexible, changes as learning takes place	No hypothesis	Fixed hypothesis
• Testing Strategy	Sequential tests	No tests	One large test
• Determining if a Change is an Improvement	Run charts or Shewhart control charts	No change focus	Hypothesis, statistical tests (t-test, F-test, chi square), p-values
• Confidentiality of the Data	Data used only by those involved with improvement	Data available for public consumption and review	Research subjects' identities protected

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Measurement for improvement

Select the correct measures!

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What will you measure?

The 3 types of measures used in quality work:

(Structure)

Outcome

Process

(Balancing)

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What will you measure?

Structure

In QI, we tend not to measure structures as they are generally fixed or slow to change, e.g.

- Buildings
- Numbers of beds
- Numbers of geriatricians

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What will you measure?

Outcome measures

These relate back to the aim.

Examples

- Aim: To reduce unwitnessed falls on **Ward 16** by **20% from baseline** before the **end of May 2018**.
- Outcome measure: number of unwitnessed falls per day/week
- Aim: To reduce DNAs at the Tuesday morning ENT out-patient clinic **25% from baseline** by **June 2018**.
- Outcome measure: number of DNAs per clinic

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What will you measure?

What if the outcome is far into the future?

e.g. improvement in diabetic care

Proxy measures are used when you can't directly measure what you need to. The best proxy measures are those that have been shown (through research) to lead to the outcome that you desire.

- Proxy measures are usually *process* measures used in place of an outcome (e.g. HbA1C level as a measure of diabetic care).

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What will you measure?

Choosing your process measures

- Are the processes (parts/steps) in your system performing as planned?
- Which part(s) of your system are compromising quality? *(safe, effective, experience)*
- Where should improvement efforts be focused?
- If you don't know .... you may need to use diagnostic tools to find out!!
- What measures will show you that your change ideas are leading towards improvement?

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What will you measure?

Choosing your process measures

Example 1

Aim: To reduce unwitnessed falls on **Ward 16** by **20% from baseline** before the **end of May 2018**.

Diagnosis: audit 2 months of falls data; brainstorm with staff; Pareto analysis. Large number falls associated with (1) unassisted toileting (2) delays in initiating falls risk assessment

Process measures: (1) time taken to anser call bells (2) time between admission and completion of falls risk assessment

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What will you measure?

Choosing your process measures

Example 2

Aim: To reduce DNAs at the Tuesday morning ENT out-patient clinic **25% from baseline** by **June 2018**.

Diagnosis: calls to 10 pts who DNA-ed; follow-up 'phone survey of 30 pts who DNA-ed. Large numbers associated with (1) not remembering the appt (2) not knowing how to cancel.

Process measures: (1) numbers who confirm attendance (2) numbers of cancellations

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What will you measure?

Balancing measures

These are not always needed.

- Unintended consequences
- 'Robbing Peter to pay Paul'
- What will people worry about?

Examples

YOU: "We aim to reduce falls amongst patients on Ward 10 THEM: *"What if the number of pressure ulcers increases?"*
... SO MEASURE TO INCIDENCE OF PRESSURE ULCERS

YOU: "We aim to reduce the number of DNAs at the clinic
THEM: what if the clinic runs over
... SO MEASURE THE TIME THE CLINIC FINISHES

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Structure, Process or Outcome? Test your understanding:

Suppose you are concerned about the quality of care for fractured ankles consider what you could measure for:

Structure?

Process?

Outcome?

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123

What will you measure and how?

Structure?
(answer)

Are there X- ray facilities available

Are there X- ray facilities available 24hrs

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What will you measure and how?

Process?
(answer)

How often are the Ottawa ankles guidelines followed when ordering X-rays?

How long is it before patients are assessed?

How long is it before patients are treated?

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What will you measure and how?

Outcome?
(answer)

How many patients have full function after 3 months?

What is the complication rate?... (perhaps sub divide into types of complication)

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How will you measure?

Types of data to support improvement efforts	
Continuous measurements	Temperature Time to complete a task Weight
Count or classification of observations	No. of risk assessments completed within 48 hours of admission Number of complaints from carers
What people think/feel about something	Response to the question 'Is this assessment form easier to read than that one?'
Ratings	A nurse rating a new screening tool on ease of use, on a scale of 'poor', 'fair', 'good', 'very good' 'excellent'
Rankings	People being asked to place a 1 beside the item in a list they think is most important, a 2 beside the next, etc.

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Who is familiar with run charts?

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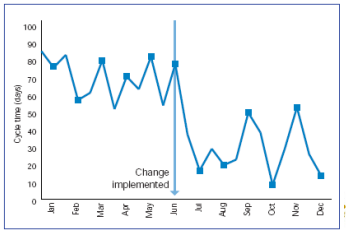
How will you measure?

Charts vs Tables

Example of poor presentation data – number of days between GP referral and appointment with specialist

Date	Cycle time *(days)*	Date	Cy
	85		
Jan	76	Jul	
	83		
Feb	58	Aug	
	62		
Mar	80	Sep	
	53		
Apr	71	Oct	
	64		
May	82	Nov	
	55		
Jun	78	Dec	

Same data presented as a run chart – number of days between GP referral and appointment with specialist



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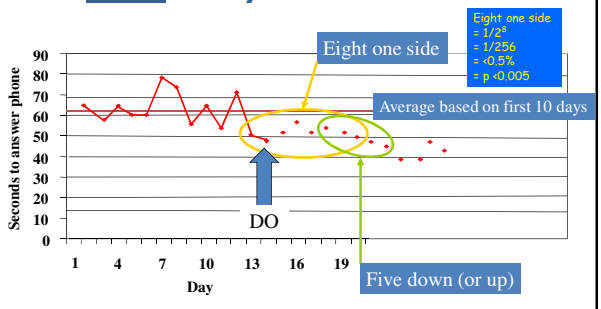
How will you measure?



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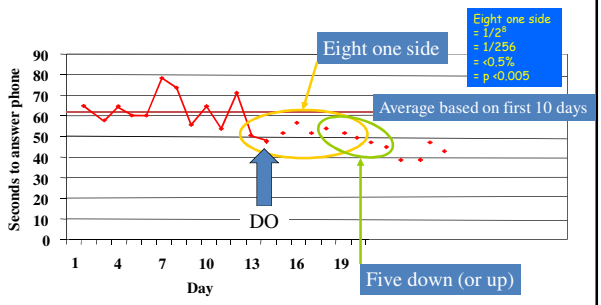
What will you measure and how?



The Run Chart

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How will you measure?

Run Chart article

http://qualitysafety.bmj.com/content/20/1/46.abstract

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How will you measure?

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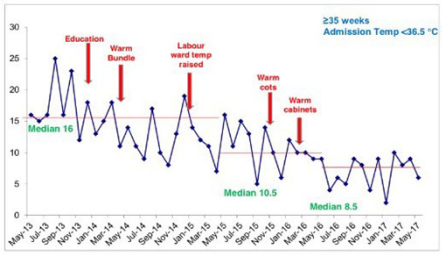
How will you measure?

Hypothermia Associated Admissions



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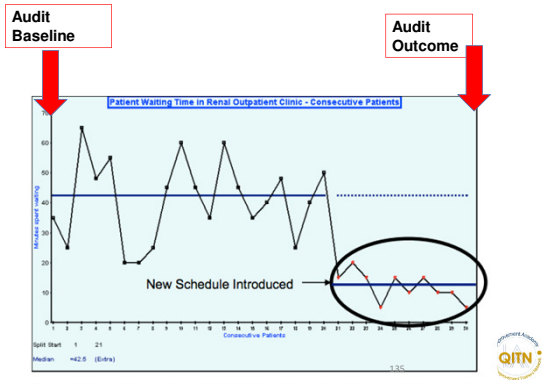

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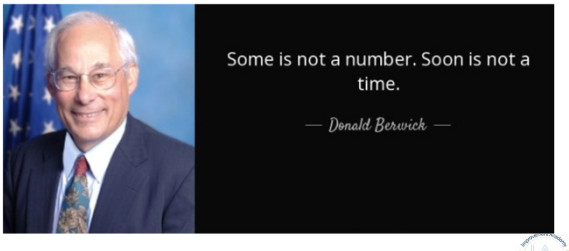
How will you measure?

The importance of operational definitions



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Measurement: key points

- Measures are used to guide improvement
- Focus on the vital few (about 3)
- Try to integrate measurement into your routine
- Define numerator and denominator i.e. 5/10 (50%) Vs 5/5 (100%)
- Plot your data over time
- Make run charts visible – they provide important feedback

PLOT THE DOT!!

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Choosing your measures

What measures will you need to collect?

- Spend 15 minutes talking through what measures you might use. Think about:
  - Outcome/process/(balancing)
  - Ease of collection
  - Vital few
  - Meaningful and inspiring
- Make a note in Box 5 of your planning sheet.
- *We will ask people to volunteer to share their thoughts when we come back together in 15 minutes*

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Further information

Basic entry-level QI training:
http://qitraining.improvementacademy.org/

Video ++ on behaviour change:
http://www.improvementacademy.org/resources/abc-for-patient-safety-workshop-and-toolkit/

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Looking ahead to day 2

You will need to be ready to describe your project to others, i.e.

- Your aim and any 'diagnostic learning'
- Your measures (and any baseline data)
- Your change ideas

We will provide an introduction to change and PDSAs (and other areas you want us to cover)

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Homework and interim supports

- Define your problem statement and aim
- Meet with your team
- Analyse your problem using appropriate diagnostic tools
- Agree your measures *(ask us if you get stuck)*
- Gather some baseline data
- Begin to think about some possible change ideas

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Peer review presentation and discussion

<<Name>>

Day 2: 8th March, 2018

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My problem and aim

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My team

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My measures

1.

2.

3.

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My baseline measures

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Homework and interim supports

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Thank you for listening

Please complete an evaluation form before you leave

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