An introduction to quality Improvement methods

Binita Kane @binitakane



What is Quality Improvement?

• 'The use of methods and tools to continuously improve quality of care and outcomes for patients'

A basic principle of QI is:

If you can't measure it, you can't improve it.

Why QI methodology?

"It's just so inefficient"

"It's such a waste of time and resource"

"Nothing ever changes"

"I don't know where to start"

"We tried that ten years ago and it didn't work."

- Systematic method of solving complex problems through learning and testing.
- Framework for change
- Really improves care for patients
- Make life easier for staff
- Cost savings will follow!

How often in your current practice...

 Do you stop and think 'is this the best possible way to achieve what we are trying to achieve?'

• Do 'incidents' lead to a meaningful change?

• Do change efforts fail?

The historic NHS way...



QI Methodology – understanding variation

Observation chart for the National Early Warning Score (NEWS2)



Mean time to first antibiotic (hrs) in suspected sepsis



Use of run charts to track changes

Figure 2 Summary statistics versus time-ordered data. (Each unit has the same 24 data values ordered differently over time.)



Perla R. BMJ Qual Saf 2011; 20: 46-51

Cycle Time (min)





Appreciation of systems

 'A system is a network of interdependent components which work together to try and accomplish a common aim'



'Systems must be managed'

Process Mapping – making a cup of tea





Psychology

What motivates people?

- Autonomy
- Mastery
- Purpose

What drives behaviour?

- Knowledge
- Confidence
- Personality type

How do people respond to change?







Theory of knowledge – how do we know what we know?

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?



Setting Aims

The aim should be time-specific and measurable; it should also define the specific population of patients or other system that will be affected.

Establishing Measures

Teams use quantitative measures to determine if a specific change actually leads to an improvement.

Selecting Changes

Ideas for change may come from those who work in the system or from the experience of others who have successfully improved.

Testing Changes

The Plan-Do-Study-Act (PDSA) cycle is shorthand for testing a change in the real work setting — by planning it, trying it, observing the results, and acting on what is learned. This is the scientific method adapted for action-oriented learning.

What are we trying to accomplish?

How to write SMART Goals





Higher goal: to get fitter, to increase lean muscle mass

The 5 Whys

Problem: I'd like to exercise more but I don't								
Why?	Because I am extremely busy with work and I have young kids							
Why does that stop you?	Because I don't have time to get to the gym							
Why does that stop you?	Because I tend not to exercise at home							
Why?	Because I prioritise everything else							
Why?	Because I am not motivated enough to exercise							

Driver Diagram



MEASUREMENT: number of sessions of exercise per week

Types of measures

- **OUTCOME**: What's in it for the customer?
 - Fitness test
 - Measurement of lean muscle mass
- **PROCESS**: Is the system working in the way in which it should? The means of getting to the outcome measure.
 - Number of times app is used
 - Number of exercise sessions per week
- **BALANCING**: What are the unintentional consequences?
 - Household expenditure (cost of personal trainer, equipment, outsourcing)
 - Time with children

Theory of knowledge – how do we know what we know?



Setting Aims

The aim should be time-specific and measurable; it should also define the specific population of patients or other system that will be affected.

Establishing Measures

Teams use quantitative measures to determine if a specific change actually leads to an improvement.

Selecting Changes

Ideas for change may come from those who work in the system or from the experience of others who have successfully improved.

Testing Changes

The Plan-Do-Study-Act (PDSA) cycle is shorthand for testing a change in the real work setting — by planning it, trying it, observing the results, and acting on what is learned. This is the scientific method adapted for action-oriented learning.

Run chart: number of exercise sessions per week



Asthma ED project (2013-2015)

School's award tribute to Daniella Sciama, former pupil who died from sudden asthma attack



6 months data on all patients with asthma seen, treated and discharged from ED

New ED asthma pathway



Impact (2 years of work)?



Why?

SMART Aim: 95% of patients with acute asthma have PEFR or other objective measure of severity within 30mins of presentation



Driver Diagram – Asthma ED project



The interventions

Detailed ED Staff Survey – 46 responses

50% of staff did not know how to calculate a a predicted PEFR



Acute Asthma in the ED & BTS Guidelines 2016



LEARNING OUTCOMES

- Stratify severity at triage (BTS guidelines)
- Initiate asthma pathway & treatment
- Reassess your patient

Peak Expiratory

Calculate % of best (or predicted) PEF

for ALL patients presenting to the H with ASTHMA

 $\eta_{0} PEF = \frac{PEF}{Eest PEF} \times 100$

 >75%
 50-75%
 33-50%

 Mild
 Moderate
 Acute

 Severe
 Th

% $PEF = \frac{PEF}{Best PEF} \times 10$

Name Property Contractory of Television of Contractorial Contractory

PEAK FLOW METERS ALL patients presented with Asthma must have peak flow measure pre and post nebulisers. Use Asthma Pathway

Positive feedback – the toilet door





% of patients with an acute asthma exacerbation having PEF measured

The value of failed tests



"I did not fail one thousand times; I found one thousand ways how not to make a light bulb"

Thomas Eddison, creator of the lightbulb

However – QI can be much simpler....



Simple measures things can lead to big changes



Pebble jar

Green = good day

Black = bad day

Reviewed daily

Discussed next day

Increasing face-to-face time with patients (during visiting hours)



- Increased patient satisfaction
- Increased staff satisfaction
- Reduced LOS
- Improved time of d/c
- Increase throughput of patients
- Reduced bank nurse costs













"Without data you're just another person with an opinion"

- W. Edwards Deming

Top tips for you

- Get involved! QI is rewarding and will be useful in every aspect of your life/ career
- Pick something simple
- Find the right mentor
- Team approach
- Get some formal training
- Small and frequent measures
- Weekly PDSA review

QI the big picture

TheKıngsFund≻		Topics ~	Publications	Blog	Events	Courses	Consultancy and support ~	About us		٩
	Home > Publications >									
	Making the case for improvement: lesso and leaders Quality improvement Local service design (qua ns fo	o lity for NHS	boa uctivity	ards					

10 lessons for NHS leaders

- Make quality improvement a leadership priority for boards.
- Share responsibility for quality improvement with leaders at all levels.
- Don't look for magic bullets or quick fixes.
- Develop the skills and capabilities for improvement.
- Have a consistent and coherent approach to quality improvement.
- Use data effectively.
- Focus on relationships and culture.
- Enable and support frontline staff to engage in quality improvement.
- Involve patients, service users and carers.
- Work as a system.

CQC Quality Improvement in Hospital Trusts

FIGURE 1: COMMON ELEMENTS OF QI



Thank you for listening

binita.kane@mft.nhs.uk @binitakane