Academic Health
Science Network
North East and North Cumbria

Improvement Toolkit

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About this Improvement Toolkit

This Improvement Toolkit covers two key areas: culture and quality improvement. It is recognised that you cannot make improvements without considering both of these areas.

Aims of this Improvement Toolkit

Culture
This Improvement Toolkit describes some practical ways you can evaluate the culture in your team and the steps you can take to make and sustain improvements.

Quality Improvement (QI)
This Improvement Toolkit will provide you with the essential tools to improve quality, to measure its success, and ensure that improvements are sustained.

Framework for Safe, Reliable and Effective Care

This Improvement Toolkit links to the Framework for Safe, Reliable and Effective Care developed by the IHI (Institute for Healthcare Improvement) which, as you can see from the diagram opposite, focuses on Culture and the Learning System, with the importance of leadership being highlighted as important to both.

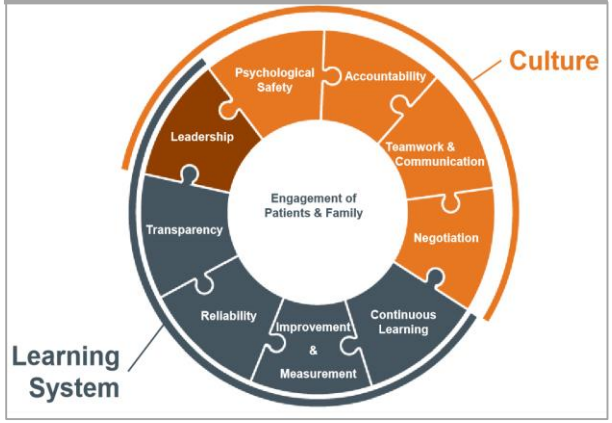
The IHI White Paper and Framework can be viewed by clicking here.

Who this Improvement Toolkit is for

This Toolkit is for staff who work in healthcare, leading teams/directorates/departments through culture and/or quality improvement work.

For organisations wanting to do a large-scale review NHSI have designed a Culture and Leadership Programme, which includes tools and guides to support organisations to discover any cultural issues they need to address and to design and implement strategies for compassionate and inclusive leadership. This can be viewed by clicking here.

Framework for Safe, Reliable and Effective Care



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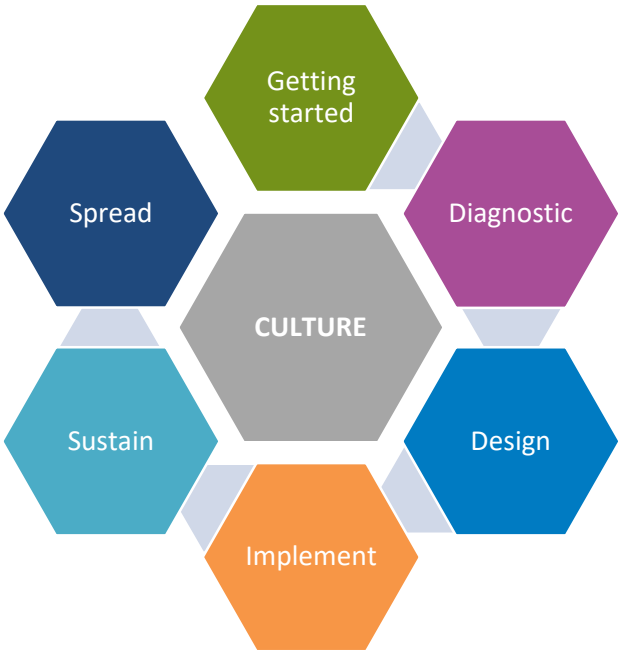
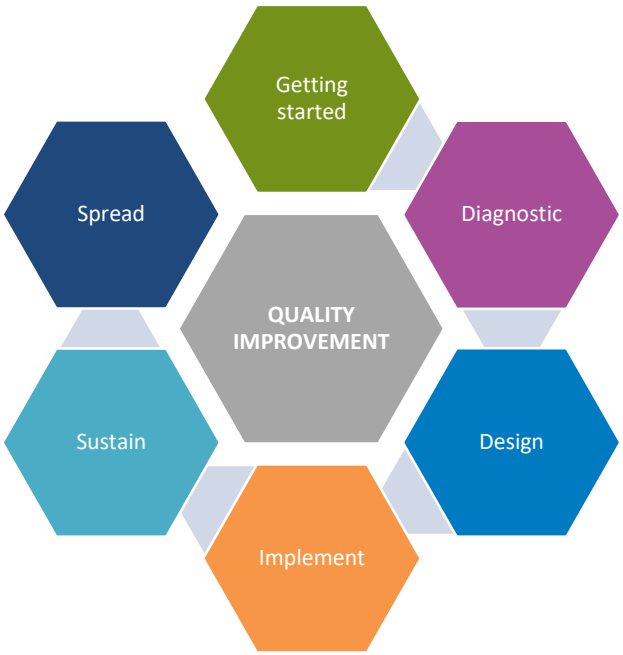
About this Improvement Toolkit

This Toolkit is split into three main sections with each having its own sub sections. These are outlined below.

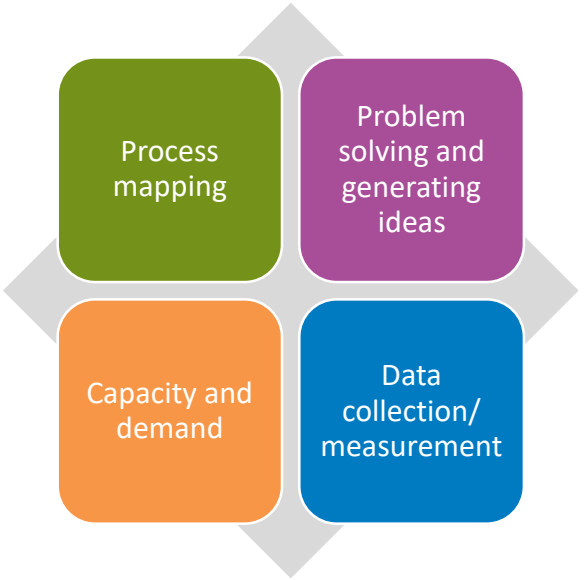
Culture



Quality Improvement



QI Tools and Techniques



Important Information

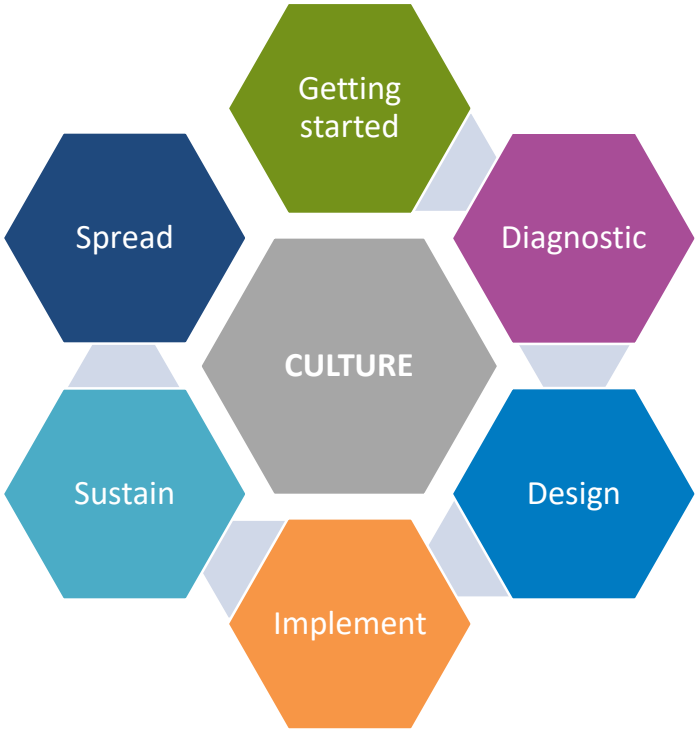
Clicking on the text or any of the hexagons will take you to that section/sub section in the document.

You will also see the icons below at the bottom of each page.

Clicking on Main Menu will bring you back to this page. Clicking on Section Menu will bring you back to the contents page of whichever section you are in, whether this is Culture, Quality Improvement or QI Tools and Techniques.

Please note: The links in this Toolkit are not fully supported by all PDF viewers. It is recommended that you use Abode Acrobat Reader to benefit from full functionality.

CULTURE



Main Menu

CULTURE SECTION: CONTENTS

Overview

The Culture section of this Improvement Toolkit will cover the following:

Getting started: This section will cover the key actions you need to consider so your culture work isn't doomed before you even start!

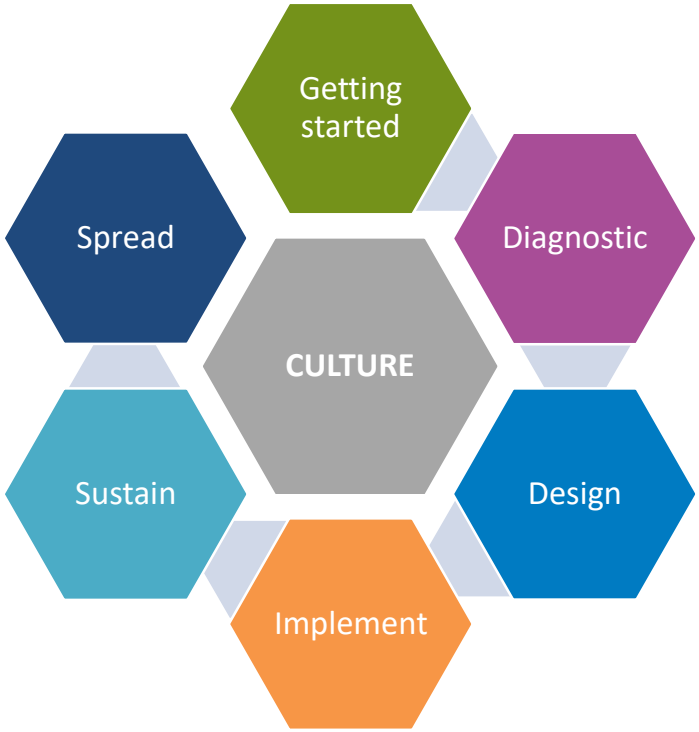
Diagnostic: This section will help you understand your starting point and provide you with a really good grasp of where you are now.

Design: This section will help you design your cultural improvement work using a number of tools and techniques.

Implement: This section promotes the use of the PDSA (Plan, Do, Study, Act) tool to help this phase be 1) as painless as possible, and 2) give your culture changes the best chance of being successfully implemented.

Sustain: This section shares with you a sustainability model which will help you assess whether the improvements you make are likely to be sustained.

Spread: Here common pitfalls of spread are shared, with advice on how to overcome them should you or others try to implement your culture improvements elsewhere, such as within another department or team.



Getting started: Culture definitions

Culture is the way we work together. In many work environments, there are opportunities to improve culture. While this may seem like a daunting task, the good news is that we all, individually and collectively, have the power to do it.

Safety culture is the collection of beliefs, perceptions and values that employees share in relation to risks within an organisation.

Safety climate is a subset of the broader culture and refers to staff attitudes about patient safety within the organisation.

It's the way we do things round here.

Getting started: The principles for achieving a sound safety culture

- Employee driven rules
- Safety processes rather than outcomes at the heart of the organisation
- Behaviour motivated by consequences
- A concentration on achieving success not on the avoidance of failure
- Feedback to the frontline on working practices
- Ensuring the feedback is effective feedback
- Observation of work practices as an essential activity
- Recognising the importance of the value of the individual within the team
- Safety is a priority
- A behaviour based approach

Information from:
Geller SE. Ten principles for achieving a total safety culture. Professional Safety 1994; 39,9.
Presented as part of culture debrief training and reproduced with permission from Joanna Pendray, South West AHSN

Getting started: Before you start your work on culture…….

Before you embark on your work to evaluate and improve the culture in your team it is important to ask yourself some questions:

Leadership support	•Do you have leadership support for any culture improvement work? This is critical as staff must be confident that the leaders are open to understanding the culture in the team and will support the actions needed for improvement.
Resources	•Culture work is time consuming – you will need to consider the resources you need for the following activities: staff engagement, baseline data collection, analysis and reporting, undertaking surveys and debriefing staff on survey findings, developing and implementing an action plan.
Staff engagement	•How will you engage staff in the work? To provide meaningful results you should aim to get responses from 60% of staff, make a commitment to staff to debrief on results, make improvement work visible and linked to the survey, stress that the results are for learning and not for judgement.
Improvement opportunities	•What areas present the biggest opportunity for improvement? Culture assessment tools will highlight lots of areas where improvements could be made - it is a good idea to focus on a small number of quick wins.
Sharing findings	•It is important to ensure that the findings of the culture work are not shared in a way that allows individuals or small teams to be identified but it is equally important that staff are involved in the development of the action plan and that this is followed through and monitored to demonstrate progress. •Think about the timeframe for a repeat survey.
Making changes	•How will you support staff to make changes/work differently? Agree with the team the priority order for improvement ideas. Use improvement methodology to maximise the likelihood of successful and sustained improvement (see Quality Improvement section for more information, from page 27).

What are values?

Values underpin the quality of service we deliver to patients, users and communities.

Compassion, dignity and respect are at the heart of a good patient experience. We need to do more to highlight and celebrate these values.

Values can also help us to build a culture in which safety is paramount and everyone pulls together to deliver seamless care. Safety, effectiveness, experience: these values are the foundation of quality.

Team Values Workshop

Consider running a Team Values Workshop where you will create your values with members of your team. Guidance on running this workshop can be viewed by clicking here.

Diagnostic: The Golden Thread – Linking your values to the organisation's strategy

It is important for the team to feel that the values they define are owned by the team but also to be able to clearly see how their values underpin the achievement of the organisation's strategy. Leaders will need to build on the values in the team to engage staff in the delivery of the organisational and team objectives.

Key Strategic Driver *(i.e. core goals, objectives or priorities from the business plan/organisational strategy and direction from the board)*	**Team Values** *(i.e. how does this driver translate into your team values?)*	**Leadership Implications** *(i.e. what will this require of the leaders in your team?)*
e.g. to support the health and wellbeing of our staff to enable them to fulfil their roles and responsibilities	*e.g. to support each other and work as a team*	*e.g. involve staff in decision making, ring-fence time for team meetings*
Interdependencies (i.e. identify any other teams or key processes you will need to link with to support your team values):		

Diagnostic: Collecting your culture baseline data

There is a wealth of data collected by all NHS providers which can give a snapshot to support the culture development work. Most of this data is only published annually so you may want to look back over several years to see if the data has changed. For culture work in teams the following data should be available and will give a baseline position which together with the culture survey will help you to identify areas for improvement but also to evaluate the impact of your safety culture improvement work.

Culture Elements	Data	Source	Comparator
Teamwork	% of staff agreeing that their team often meets to review team effectiveness	Annual staff survey Q4i	National/trust average, trend over time
Improvement readiness	Staff feel secure raising concerns about unsafe practice	Annual staff survey Q13b	National/trust average, trend over time
	% of incidents reported as 'no harm'	Local incident reporting system	National comparator from NRLS data, trust average, trend over time
	How likely are staff to recommend this organisation to friends and family if they need treatment?	Staff Friends and Family Test	National comparator, trust comparison, trend over time
	Staff are able to make suggestions to improve the work of their team/department	Annual staff survey Q4b	National/trust average, trend over time
Support and compassion	% of staff who said they have felt unwell in the last 12 months as a result of work-related stress	Annual staff survey Q9c	National/trust average, trend over time
	Staff sickness rate	Local HR data	Compare with trust average, trend over time. (National /regional data is available but may be difficult to compare at service level)
	Staff turnover rate (voluntary)	Local HR data	Compare with trust average, trend over time
Leadership	% of staff satisfied with support from their immediate manager	Annual staff survey Q5b	National/trust average, trend over time

Diagnostic: Culture Assessment – Surveys

There are various tools available to assess the safety climate (a snapshot of culture) of an organisation or team. In healthcare, commonly used tools are:

Questionnaires	SAQ	SCORE	MaPSaF
e.g. HSOPS, MOSOPS, NHSOPS & MBI	Safety Attitudes Questionnaire	Safety, Communication, Operational Reliability, Resilience & Engagement	Manchester Patient Safety Framework

What do the surveys cover?

- Is there psychological safety?
- Is there an open culture?
- How effective is teamwork?
- Does the organisation learn effectively?

Want further information?

Want to compare the features of different culture survey tools? Check out a review by clicking here.

Click on the links to find out further information about the following: HSOPS, SCORE, MaPSaF and MBI.

How do we maximise the value of the survey?

Local promotion of the survey

- Introduce it at team meetings
- Put up posters/distribute leaflets
- Verbal encouragement of staff to complete the survey
- Confirm that there will be actions related to the survey outcomes to combat 'survey fatigue'

Allow time for staff to complete the survey

- Permission to complete – when/where, allocate IT, confidential space, breaks with coffee?
- Increases the perception that contribution is valued

Used with permission from Joanna Pendray, South West AHSN

Would you like a shorter survey? See the next page.

Diagnostic: Culture Survey – Taking a snapshot

The culture tools described on the previous page will provide a detailed insight into the culture of your team and will provide the basis for a comprehensive action plan.

If you want to get a high level insight into team culture it is possible to use a shorter survey using a small number of questions to reflect the various cultural elements. This, together with the baseline data on page 13, will give an overview of the staff perception of team culture which will allow you to identify areas of best practice to celebrate and areas where improvement work may be needed.

Aim to get a minimum of a 60% response rate for your survey so that you know that the results are representative of the views of the staff overall.

Snapshot Culture Survey

The AHSN for North East and North Cumbria have developed a very short 10 question patient safety survey called Patient Safety Culture Snapshot Survey. To view click here.

Analysing the results when using the short Patient Safety Survey

If you are doing culture work in a large department or service you may want to divide the analysis into individual teams and staff groups.

Where there are less than five people in a team who have responded to the survey it is recommended that you group these together as 'other' so that individual members of staff cannot be identified.

For each question add up the number of positive responses scoring 4 and 5, the number of neutral responses scoring 3 and the number of negative responses scoring 1 and 2. Work out what percentage of responses fall in each category. Any questions scoring more than 60% positive is a 'good' result.

Diagnostic: Culture Survey – Maximising the value

Commitment to debrief with staff on results

- Power of results is in debriefing with staff
- Results used for learning, not judgement
- Debriefing to highlight what is going well, issues and frustrations
- Debriefing can increase engagement

Be open to ideas and feedback from staff

- Empower staff to take forward ideas for improvement
- When staff take forward improvement ideas they will own them

Prioritise and use improvement methodology

- Agree with the team the priority order for improvement ideas
- Ensure that the team understand how to make small tests of change and measure the effect (see from page 45 'Using the Model for Improvement')
- Make improvement activity visible and link to the survey

Do use the Quality Improvement section in this Toolkit to support you and your team in making the right improvements and embedding them so this becomes the new way of working.

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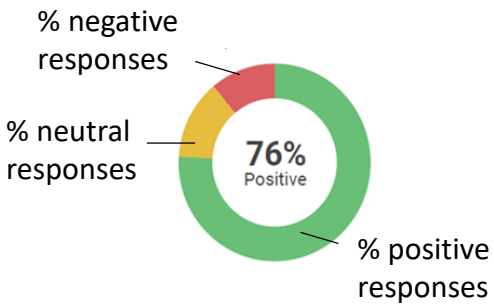
Diagnostic: Culture Survey – Sharing the findings

What to share?

A good way to display the findings of your survey is to use a ring chart for each question which shows the percentage of positive responses:

"Q1. A culture of continuous quality improvement is embedded in this organisation"



The survey results will show the positive and negative aspects of the culture in the team, but to fully understand what drives the responses and identify what improvement work may be needed it is important to hold debriefing sessions for the staff so that they can explore the findings and suggest actions to address issues or share good practice.

See the information opposite for tips on running a debrief session.

What is debriefing?

- An open conversation
- A safe space where people can share
- A way of celebrating bright spots and good practice
- A way of surfacing issues
- An opportunity to look at and discuss safety culture survey results
- About learning not judgement or inspection

Who?

- Facilitator and notetaker, preferably not the manager/s of the team
- Someone from outside the unit is more likely to 'drill down'
- It can be difficult for managers to get out of 'problem solving' mode
- Neutral staff e.g. Quality, Safety, Risk, HR can be a great source
- Having managers present can mean staff don't raise issues

How?

- Facilitator and notetaker, preferably not the manager/s of the team
- Debrief staff in role specific groups e.g. a staff nurse group, a manager group, an admin group, a junior doctor group
- Organise the debrief sessions soon after the survey (allow 60 minutes per session).
- Prioritise the questions that you want to explore. For each issue raised ask staff to contribute suggestions for the action plan
- Write up debrief. An example debrief template can be viewed here
- REMEMBER: The survey is not the solution, it's the start of a journey of improvement

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Design: Culture action plan

Debriefers liaise with management team to highlight the following findings from the culture survey:

- Themes
- Differences/commonalities between groups of staff

Management team then work with staff to agree the action/interventions needed:

- Prioritise actions with the team – use their suggestions, co-design, co-create
- Identify a couple of quick wins – build confidence
- Ask – what can we influence?
- Implement staff ideas within control e.g. methods of feedback
- Design systems to help people work safely
- Stop doing stuff – reduce e.g. interventions, policies, duplication
- Make actions visible and measurable and follow up on the plan so that staff see a commitment to improvement
- Agree with staff when the survey should be repeated to test that improvements have been made and sustained

For guidance on developing an action plan click here.
Used with permission from Joanna Pendray, South West AHSN

For ideas on how to tackle common cultural issues view from page 22.

Design: What is collective leadership?

Collective leadership is where staff at all levels act to improve care – within and across organisations.
It means **'leadership of all, by all and for all'**.

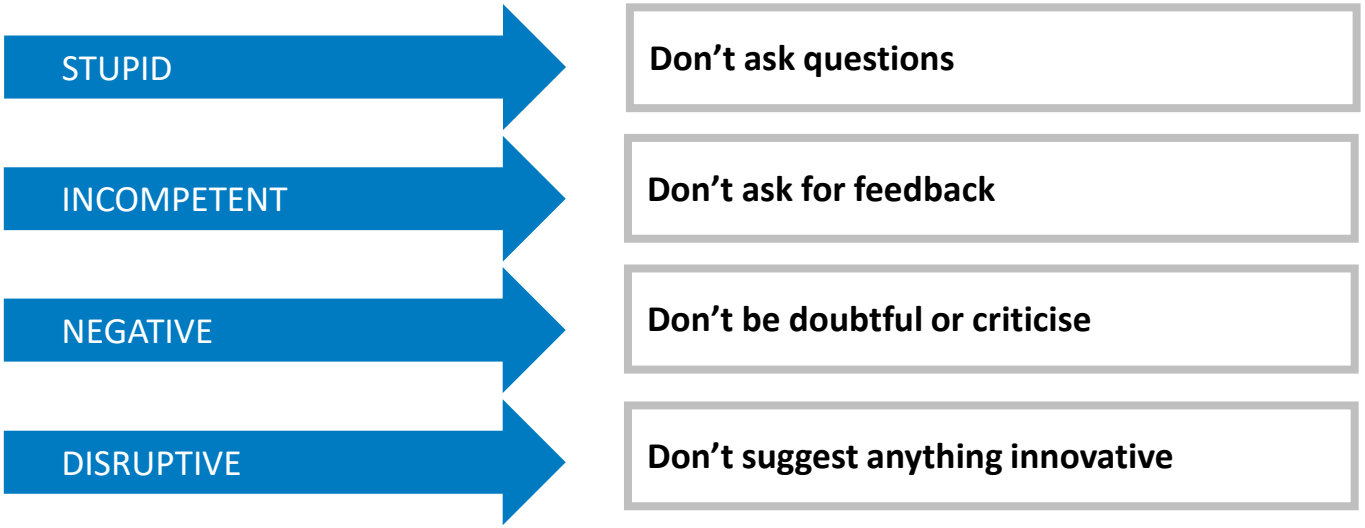
In your team the leadership behaviours will shape the culture. The table below shows how the elements of culture translate into practice.
How does the practice in your team match this suggested approach?

Cultural elements	Values	Putting it into practice
Vison and values	Constant commitment to quality of care	Everyone lives a shared vision and embodies shared values
Goals and performance	Effective, efficient high quality performance	Having clear priorities and objectives at all levels and intelligent data informing everyone about performance
Support and compassion	Support compassion and inclusion for all patients and staff	All interactions involve careful attention, empathy and intent to take intelligent helping action
Learning and innovation	Continuous learning quality improvement and innovation	Everyone taking responsibility for improving quality, learning and developing better ways of doing things
Teamwork	Team working and support within and across organisations	Effective team based working, interconnectedness within and across organisations, systems thinking and acting

Further detail can be found in the NHSI Culture and Leadership Programme by clicking here.

Design: What is psychological safety?

To protect one's image, if you don't want to look:



Psychological safety is a belief that one will not be punished or humiliated for speaking up with ideas, questions, concerns, or mistakes.

A shared sense of psychological safety is a critical input to an effective learning system.

One of the key building blocks of a positive safety culture is a team in which everyone feels psychologically safe.

Information from: Psychological Safety and Learning Behavior in Work Teams. Administrative Science Quarterly, Vol. 44, No. 2 (Jun., 1999), pp. 350-383
Amy Edmondson
Used with permission from Joanna Pendray, South West AHSN

Design: How to promote psychological safety

The ability of staff to raise safety issues is an essential component of safe care.

Building psychological safety is about creating an environment where no one is hesitant to voice a concern about a patient or anything that puts the organisation at risk.

Speaking up should not be associated with being perceived as ignorant, incompetent, critical or disruptive.

Leaders contribute to building psychological safety and a collaborative care environment in a few important ways:

- Demonstrating a positive attitude to collaboration and learning from others
- Treating others with respect
- Working toward a common goal
- Continuously reinforcing the cultural values of the organisation
- Treating staff involved in a patient safety incident in a consistent, constructive and fair way. You may find the NHS Improvement 'A just culture guide' useful, to view click here.

The culture work across the North East and North Cumbria region has highlighted a few areas that are commonly identified in culture surveys:

Staff feel they don't get useful and meaningful feedback – see opposite and next page
Staff feel that team members are 'burnt out' – see page 24
Staff struggle to deal with difficult colleagues – see page 24
Communication breakdowns are common – see page 25

Information from: Aguinis, Gottfredson & Joo 2012 'Delivering effective performance feedback: the strengths-based approach' Business Horizons.
Used with permission from Joanna Pendray, South West AHSN

Giving employee feedback

Feedback is essential for us to perform as individuals – it allows us to understand how our behaviour, knowledge, skills and talent match the job we have; it feeds into our performance and influences our progress towards goals. Individual goals should feed into team goals and, ultimately, organisational goals. Clarity about the meaning and purpose of our role is part of the ethos of creating joy in work and limiting burnout.

Opportunities to give feedback:

- Formal feedback - e.g. performance appraisal
- Team feedback - information about how the team is doing given via huddles, staff information boards, team meetings etc.
- Patient feedback - information about patient outcomes and experience
- Informal feedback - day to day information about how and why performance is valued

Many organisations use performance appraisals as a way of giving formally organised feedback to individuals, this is usually on an annual basis, mostly looking at past performance and is often weakness based.
The feedback staff value most is the day to day feedback about the team, the patients and their contribution.

Design: How to address common cultural issues cont.

The greatest opportunity for performance improvement comes from understanding and building on strengths rather than focussing on weaknesses. This is know as a 'strengths-based approach':

- Adopt the strengths-based approach as the primary means of providing feedback
- Have a coaching style conversation to draw out and reflect on positive behaviours and discuss how these could be applied to future work
- Closely link any negative feedback to employee knowledge and skills rather than talents
- Make sure the person providing feedback is familiar with the employee's job requirements
- Choose an appropriate setting when giving feedback
- Deliver the feedback in a considerate manner

Janine: Come in, Charlie; have a seat. I want to talk to you about your great work on admissions - Mrs Watts was telling me that you were really efficient and that you took time to listen to her and made her feel comfortable, so I wanted to thank you and say well done as this is the kind of work which enhances not only your reputation, but that of the ward and the whole hospital.
Charlie: Really? That's good, she is such a nice lady. I am pleased that she felt it went well. I hate it when our patients have to wait ages to be admitted, so I really try my best to work quickly so that people don't have to wait so long.
Jamie: That's brilliant - you're clearly great at being efficient and making patients feel comfortable on admission. How is everything else going?
Charlie: Ok I think, although I was a bit worried as the other day I didn't make it to the huddle because I was trying to admit a patient and then I didn't hear about some of things for the day that came up later.
Jamie: I am sure that the patients really appreciate your time and we need to make sure that you have the opportunity of attending the huddles so that everyone in the team has the same information and can hear your contributions too, what would be a good way forward do you think?
Charlie: Hmmm, well, I suppose the huddles are quite short so perhaps I could explain to the patient that I need to go if I am in the middle of an admission?
Jamie: That sounds good, I think most people would understand and you could even explain at the beginning of the admission process that you will need to go to an important patient safety meeting for 5 mins at 09:30, maybe that would help too, as the patient would then expect you to go off for 5 mins.
Charlie: Yes, I guess they would understand as it's for everyone's benefit.
Jamie: Great, is there anything else that it would be helpful to talk through today?
Charlie: No, thanks, that will help with the huddle for sure.
Jamie: Great, we'll check in next week to see how things are going – don't forget, if you can see that there are issues where things could be improved, please bring them to me.
Charlie: Ok, thanks Jamie, will do.

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How to tackle burnout

Burnout has become an important issue because of its increasing prevalence and severity. High levels of burnout undermine patient care and impact on our capacity to focus on improvement work.

Demand and capacity work (from page 78) can help to quantify the resources needed to safely deliver the service.

However, the solution to burnout is not always more staff and/or less patients….. Encourage the team to think about the following:

- What are the sources of frustration in their working day?
- What activities take time and don't add value?
- Where is there duplication of effort?
- Can technology help or is it part of the problem?
- Do staff feel their efforts are valued?
- What are the simple things that could be fixed and will give staff a sense of control?
- Brainstorm and be willing to test innovative ideas that might decrease unnecessary work (see QI Tools and Techniques section, page 57).

Dealing with difficult colleagues

Difficult colleagues can have a very negative impact on teamwork. Often this can be a problem that is not actively tackled and then negative behaviours are seen to be tolerated.

High performance cultures are clear about defining the desired behaviours and don't tolerate disrespect.
In the debrief sessions following the culture survey if it is clear that negative behaviour in a team is a problem explore the source of the difficult behaviour – is it pervasive or limited to a few individuals?

Leaders need to clarify the rules of the culture, what is expected and acceptable and be clear that everyone in the team is accountable for their behaviour. Tacking the problem can be daunting but sends a clear message to the rest of the team and improves morale. Don't put off an important conversation, and definitely don't delegate it to someone else.

For further advice on dealing with difficult behaviours and conflict in teams see the resources below:
Leadership Toolkit: Dealing with difficult people
Managing conflict – NHSI/ACT Academy

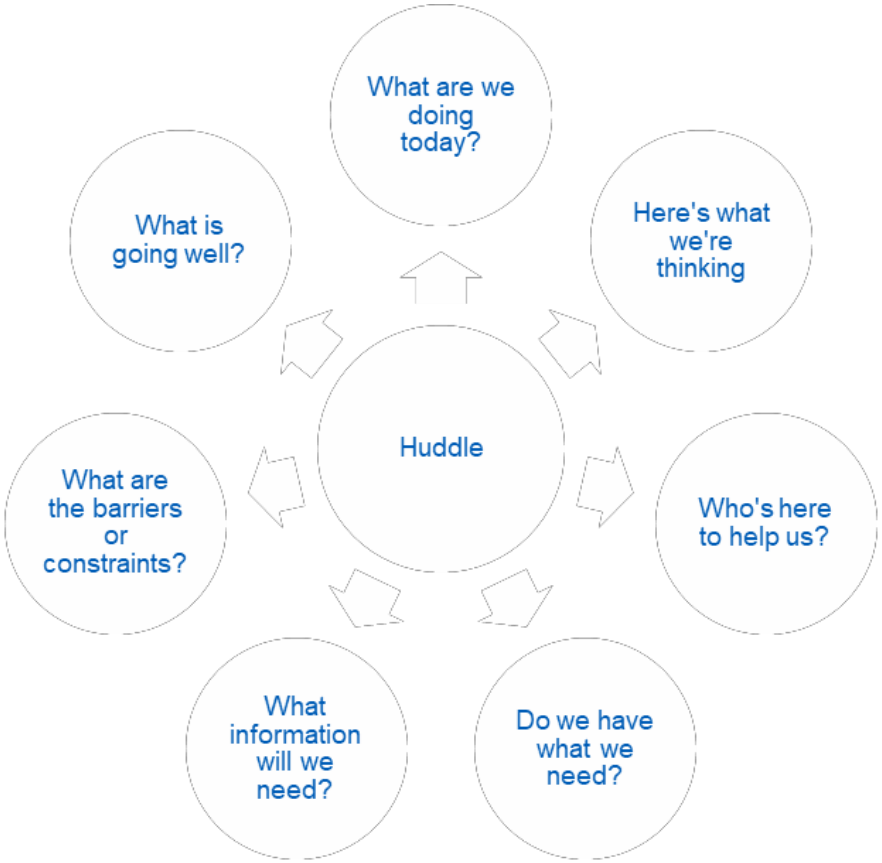
Communication

Communication is key to effective teamwork. It is structured and consistent. All members of the team feel included and treated equally; communication is across disciplines. Face to face communication is valued and understood to be key to safety. Psychological safety (see page 20) means that communication is open and honest.

Example

Team meetings… providing a forum for…operational and patient safety concerns

Focussed and time limited, 10 mins is great!



Inclusive and multi-disciplinary

Greater cohesion in the team = better clinical outcomes & higher patient satisfaction

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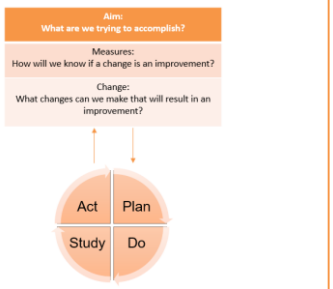
Implement



View:
Section in Toolkit on Quality Improvement, Sub section 'Implement' from page 45.

Sustainability

View:
Section in Toolkit on Quality Improvement, Sub section 'Sustain' on page 48.

Spread

View:
Section in Toolkit on Quality Improvement, Sub section 'Spread' on page 49.

QUALITY IMPROVEMENT

Main Menu

QUALITY IMPROVEMENT SECTION: CONTENTS

Overview

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Getting started: This section will cover the key actions you need to consider so your improvement idea isn't doomed before you event start!

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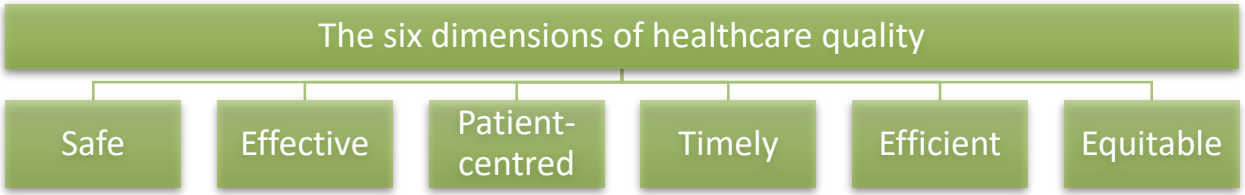
Getting Started: What is quality and quality improvement?



Dimension	What this means
Safe	Avoiding harm to patients from care that is intended to help them
Effective	Providing services based on evidence and which produce a clear benefit
Person-centred	Establishing a partnership between practitioners and patients to ensure care respects patients' needs and preferences
Timely	Reducing waits and sometimes harmful delays
Efficient	Avoiding waste
Equitable	Providing care that does not vary in quality because of a person's characteristics

Information from The Health Foundation (2013): 'Quality improvement made simple: What everyone should know about health care quality improvement'

Quality Improvement

There is no single definition of quality improvement.

However, a number of definitions describe it as a systematic approach that uses specific techniques to improve quality.

One important ingredient in successful and sustained improvement is the way in which the change is introduced and implemented.

Taking a consistent approach is key.

Getting started: Quality Improvement Diagnostic

A Quality Improvement Diagnostic is available where individuals and teams can assess their level of Quality Improvement knowledge and capability.

This will help identify any gaps. If there are a number of gaps, this certainly doesn't mean that you still cannot go ahead with your improvement work because:

1) there are step by-step-guides included within this document
2) you may not need all the tools outlined

To view the Quality Improvement Diagnostic, click on the picture below.

Quality Improvement Diagnostic

Why and What	How
Many changes are made because there is a wish to improve things, rather than being really clear as to what you want the outcome to be. Having a clearly defined aim statement for your improvement work can really help bring clarity to what you are hoping to achieve.	**What you need:** Pen and paper **What you do:** Your aim should be SMART: • **S**pecific • **M**easurable • **A**chievable • **R**elevant • **T**ime-bound Example of a good Aim Statement: Reduce the number of pressure ulcers from [number/%] to [number/%] by [date] in [geographical area]

Why and What

A Driver Diagram is a strategy on a page.

The Institute for Healthcare Improvement states:
A driver diagram is a visual display of a team's theory of what "drives" or contributes to, the achievement of a project aim.

This is useful for two reasons:

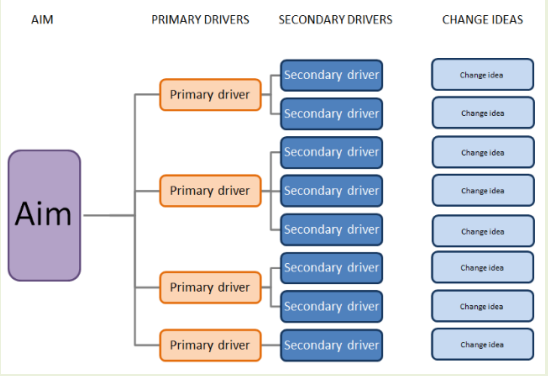
- It outlines clearly the actions which you plan to take to achieve your aim
- It is useful for communicating your strategy to others, without them having to read a lengthy document

A Driver Diagram is made up of the following:
Overarching aim: The outcome you plan to achieve (see Your Aim Statement on page 32)
Primary Drivers: The key areas that contribute directly to achieving your aim
Secondary Drivers: These are the factors that affect each of the primary drivers. These are the more specific areas that you plan changes for
Change Ideas: Change Ideas are determined from the secondary drivers. They are quantifiable ideas for change that you will test and measure through PDSA cycles (see from page 45)

How

What you need:
Pen and paper
Key members of staff/decision makers

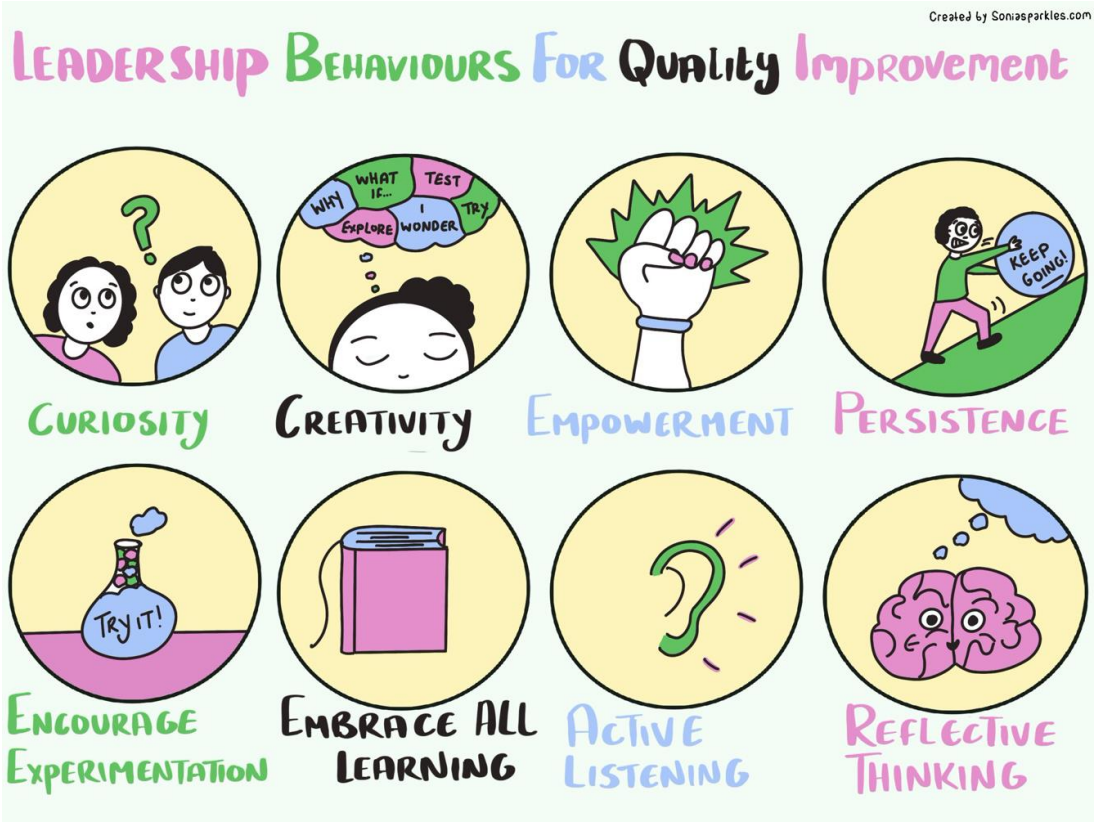
What you do:
You start by defining your Aim Statement (see page 32). From this you identify your primary drivers, then the secondary drivers, and then your change ideas



Picture from East London NHS FT

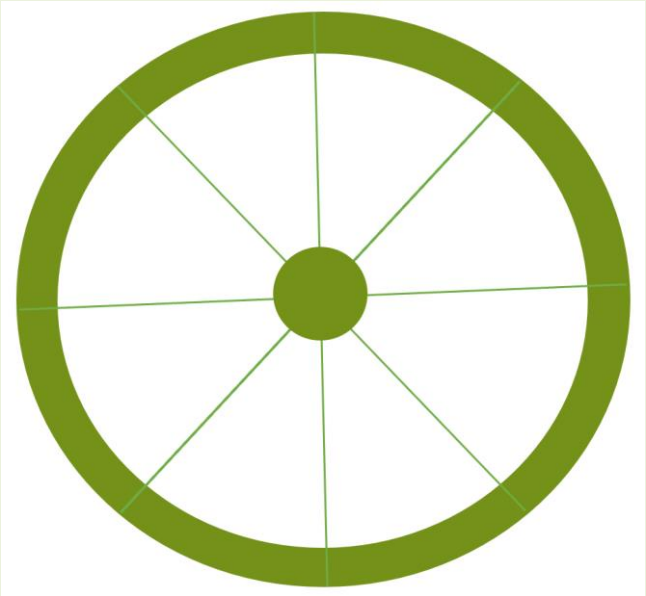
For further information view a short film clip from the IHI Open School on creating Driver Diagrams by clicking here (with permission of the Institute for Healthcare Improvement (IHI), @2019)
Develop a Driver Diagram in Excel using a tool on the NHSI website (developed by Central London Community Healthcare NHS Trust) by clicking here.

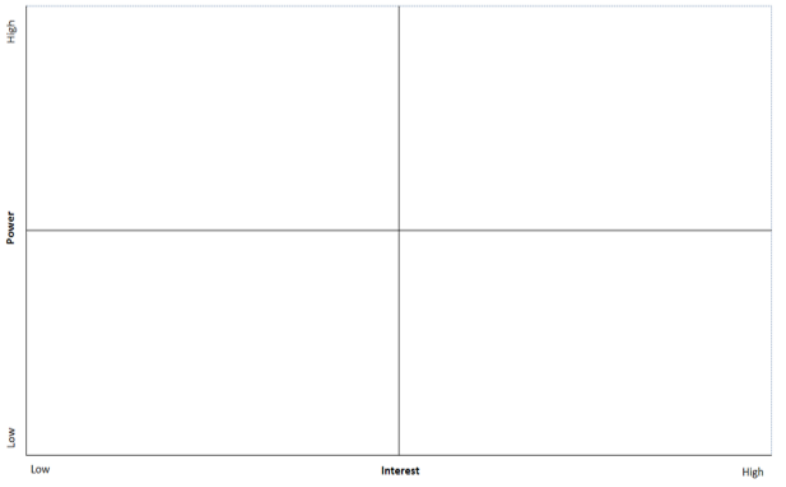
Why and What	How
It is important to consider who should be in the team right from the start, to ensure the following: • All the right stakeholders are involved • Decision makers as well as 'doers' are engaged	Things to consider: • Who will be the overall lead? Consider using the diagram on the next page to help identify the lead • Who else needs to be involved? Consider using Stakeholder Analysis, outlined on page 37, to help you identify your improvement team, and consider using the Benefits Wheel, shown on page 36, to help you engage with them so they are keen to be part of the team • What knowledge and skills will each member bring to the improvement team? • What is the role of each member within the improvement team? • How will you involve patients? For support with this see from page 39. • How will the improvement team meet (virtually or face-to-face, or a mixture of the two)? • How often will the improvement team meet? Do consider using improvement huddles here (see page 38 for further information) • Have all meeting dates been arranged? • Do all improvement team members have the dates of meetings in their diaries?



Printed with permission from Sonia Sparkles
www.soniasparkles.com

Sonia Sparkles created the above, based on a document created by the CQC (Care Quality Commission) titled '[Quality improvement in hospital trusts: Sharing learning from trust on a journey of QI]'. Even if you are not based in a hospital trust, it is likely that you would want the leader of your improvement work to have all the qualities outlined above.

Why and What	How
We all know that before asking anyone to do something we should consider 'what is in it for them', and this is the purpose of the Benefits Wheel. People are extremely busy so you need to give some thought to 'what is in it for them' before approaching them about becoming a member of the improvement team. 	**What you need:** Flipchart paper and pen **What you do:** 1. Consider who you want to be a member of your improvement team (see page 34) 2. Draw the diagram opposite on a piece of flipchart paper 3. In the centre circle write the name of your improvement/group 4. In the outside bands write the names of potential team members 5. Within each triangle write why you think each person should be involved and why they would want to be. Ideas might be: • an academic paper could be published once the improvement is well underway • that it will bring visibility with senior leaders • they have a special interest in this area

Why and What	How
Stakeholder Analysis helps you: • identify who needs to be in your implementation team, and/or • helps 'sense check' those people you have already identified Names of people are plotted onto a piece of flipchart paper so you can see who has low/high power (influence) and low/high interest.  	**What you need:** Flipchart paper, pens and sticky notes **What you do:** 1. Write down on individual sticky notes the names of the people who you feel should be involved in your improvement team 2. Plot them on the matrix in terms of their power (influence) and their interest 3. Consider the Stakeholder Analysis, to see: • if there are people in the high power/high interest quadrant (top right) as these are the people who will ensure the work remains high on the agenda because of their power (influence) and will be willing to do this because of their interest • if there are a number of people who have high interest, even if their power (influence) is low, as these are often the 'doers' who will make things happen • where the gaps are. How will you fill these gaps? One way of looking at how to engage with people is using the Benefits Wheel, shown on the previous page

Why and What

A huddle is a communication tool to share information which people within a team need to know. Huddles have already been discussed in the Culture section of this Toolkit, see page 25.

They are sometimes referred to as 'Meetings round a board', 'Communication Cells', and 'KHWDB' (know how we're doing boards).

There are three elements to a huddle:

- **Time:** Meetings are short (ideally 10 minutes) and frequent (ideally daily)
- **People:** Having the right people attend to make each huddle effective
- **Information:** The board which has all relevant and up-to-date information displayed enables the huddles to run smoothly

These boards demonstrate that they can be very large or very small, with the size and content depending on your improvement work

How

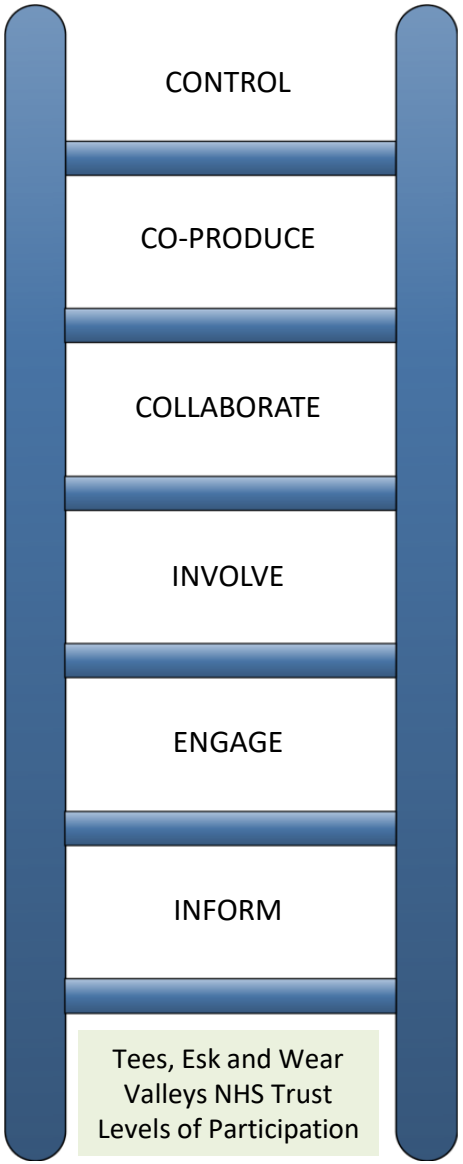
What you need:
Board and relevant information

What you do:
Think about the following:

- How often will you meet?
- How long will each huddle last?
- What will be discussed? For improvement huddles, one idea is to discuss what PDSAs have been completed and what the plan is for the next PDSAs. For information on PDSAs see from page 45.
- How will you keep to time?
- Who will chair each huddle (ideally the chair role should rotate)
- Who is responsible for keeping the board up to date? Content of the board should be based on need, so the content will change over time

Getting started: Engaging with staff and patients

Why and What	How
Engaging with patients and staff can bring a unique insight into what works well and what does not. We often feel that the only way to engage with patients and staff is to meet formally through meetings and discussions. Although this can be beneficial it does mean that only a small number of views are sought, so do give some thought to other ways which can be used in addition to this.	The ladder opposite was developed by Tees, Esk and Wear Valleys NHS Trust to demonstrate the different levels of participation. The diagram on the next page provides examples of different engagement approaches specifically for patients. These diagrams should be considered as part of your improvement work and help inform how you involve both patients and staff.



Responsible for decision making is in the hands of the identified stakeholders and individuals

Equal and two-way partnership between service providers, service users, carers and other key stakeholders with shared power for design, delivery and evaluation

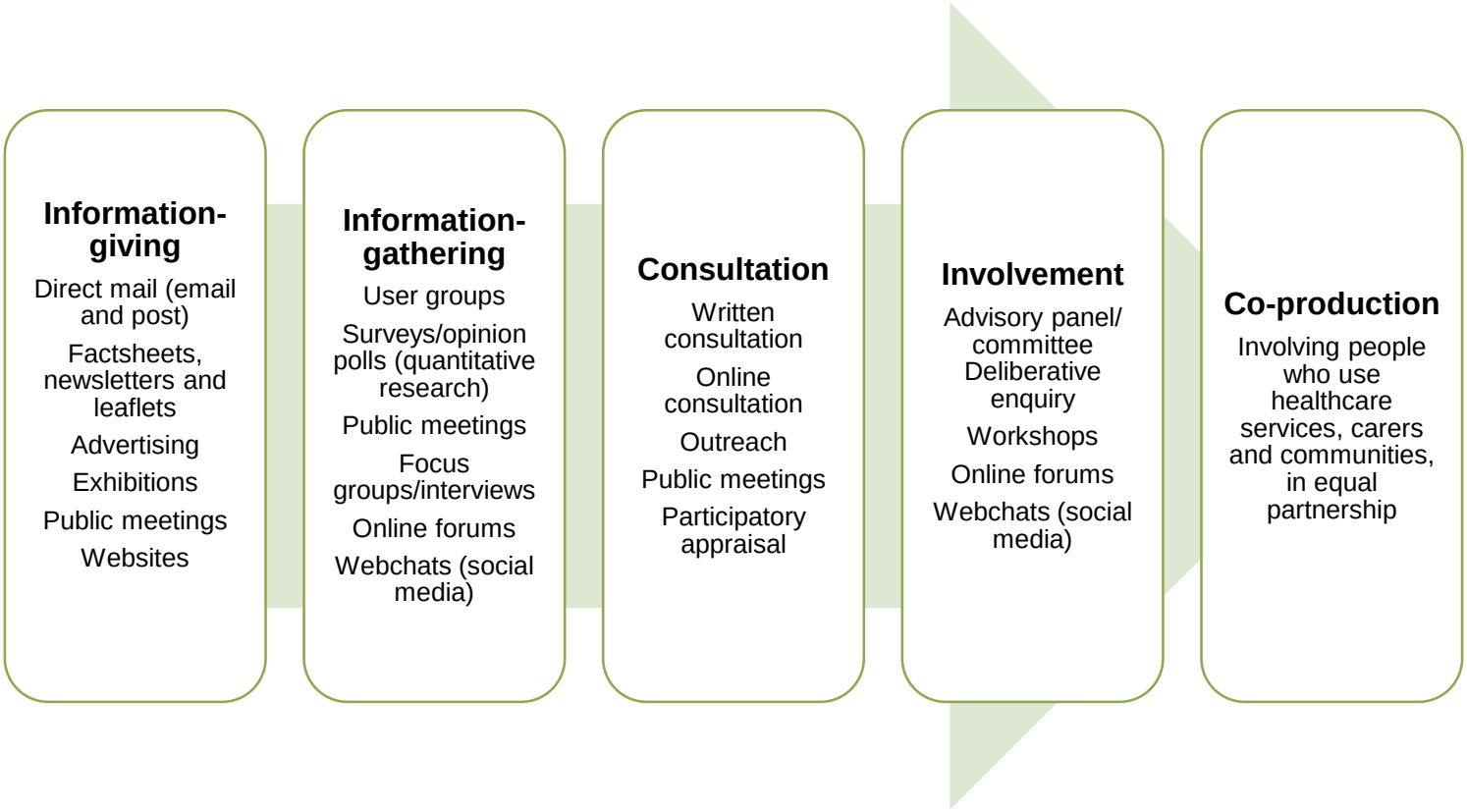
People working together with clear roles and responsibilities and direct involvement in decision making and action

People have an active role in influencing opinions and outcomes but the final decision remains with the organisation

Seeking a broad range of views and comments to inform decision making. Decision making remains with the organisation

People informed of action and changes but their views are not actively sought

Getting started: Engaging with patients



Getting started: Governance arrangements

Who is accountable and who is responsible for ensuring the improvement work succeeds?
Often the person accountable and responsible ends up being the same person, but should this be the case for your improvement work? Your Chief Executive/Director or Chair of the group might be accountable, but each member of the group should also have the responsibility for making sure the improvement succeeds. As part of identifying the roles within the group (see from page 34) also highlight who is accountable and who is responsible.

What will happen if something doesn't go to plan?
What are the reporting mechanisms and escalation procedures should a deadline slip or if something goes wrong? Ensure every member of your group knows what to do if things are not moving on as expected or if a problem occurs.

Getting started: Communications strategy

It cannot be stressed enough how important communication is to the success of your improvement work.

Make sure you can answer the following:

- Which stakeholders need to be kept informed? (for example, staff groups and patients)
- How will you communicate?
- What information should be communicated?
- How often do you plan to communicate?
- Who is responsible for ensuring effective communication happens?

Not everyone will want to receive the same amount of information or in the same way. Also, too much information or too little can cause people to become disengaged. So, do consider carefully how you communicate. It is worth developing a communications strategy so it is clear to everyone what is required and who will make sure communication happens.

Diagnostic: Tools and techniques to use

The purpose of this Diagnostic Phase is to thoroughly understand what currently happens (not what you would like to happen). This is a very important part of the process because often key decisions are made in the Design Phase based on the information collected at this stage in the process.

There are three key areas to cover in the Diagnostic Phase:

Process Mapping

Steps 1 – 3 only
See from page 52.
You need to develop a current state process map, which will help you understand what your process looks like now

Problem Solving

Consider using one or more of the following problem solving tools to help you really understand any issues highlighted when developing your process map.
Start with the Kipling Questions, page 56, then pick one or more of the following:

- Five Whys, page 60
- TRIZ, page 64
- Brainstorming/silent brainstorming, page 57
- Fishbone diagram, page 58
- Pareto Charts, page 59

Data Collection/ Measurement

At this stage you need to understand and collect data with the following in mind:

- You are measuring for improvement, not judgement or research, page 68
- Understand the types of measures, page 69
- Get started with collecting data (including identifying your baseline data), page 70
- Understand types of variation and charts, from page 71. What variation do you have currently?
- If you need to collect capacity and demand data see from page 78. The variation in these can be analysed, see from page 71 as above.

Add this information to your current state process map

Design: Tools and techniques to use

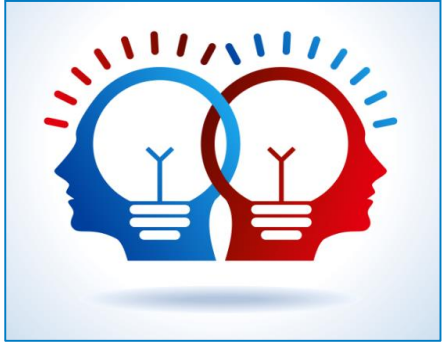
The Design Phase is a tricky phase in the process. You will now have a considerable amount of information about your current process from Process Mapping, Problem Solving and Data Collection/Measurement, undertaken in the Diagnostic Phase. So by now you should be very clear as to what works well but also what doesn't. The question now is "How do you design an improvement which meets your needs?"

There are four key areas to cover in the Design Phase:

Process Mapping

Step 3 and 4 only. See from page 52.
Develop your future state process map – what the improvement will look like in the future once implemented.

Generating Ideas



Consider using one or more of the following generating ideas tools when developing your future state process map:

- Brainstorming/silent brainstorming, page 57
- Weighted voting, page 63
- TRIZ, page 64
- 1-2-4-All, page 65
- Discovery Action Log, page 66
- 25/10 Crowd Sourcing, page 67

Design: Tools and techniques to use cont.

Data Collection/ Measurement

When designing your improvement you will need to do the following:

- Consider how you plan to reduce variation in the system, using the data collected in the Diagnostic Phase (for further information on variation view from page 71)
- Consider what measures you plan to use throughout the implementation and sustain phases, from page 69
- Use your baseline data to predict what will happen once your improvement is implemented, page 70
- If you have collected capacity and demand data use this to predict what this will look like in the future (view from page 78) again, as with the diagnostic phase, not forgetting the variation within these.

Add this information to your future state process map.

Sustainability

You may be wondering why sustainability is in the Design section of this document. The reason is that when considering making sustainable change you need to consider whether your design will meet its aim and is sustainable going forward. Many improvements are not viewed as long term, and are therefore set up to fail before they even start.

Assess your improvement using the Sustainability Model and Guide (developed by the Institute for Innovation and Improvement), which can be downloaded here *(with permission from the Sustainable Improvement Team, NHS England and NHS Improvement).*

Implement: Using The Model for Improvement

The Model for Improvement is a framework developed to drive continuous improvement. It is used in many countries around the world.

It was developed by Associates in Process Improvement (API), based on the work by W. Edward Deming.

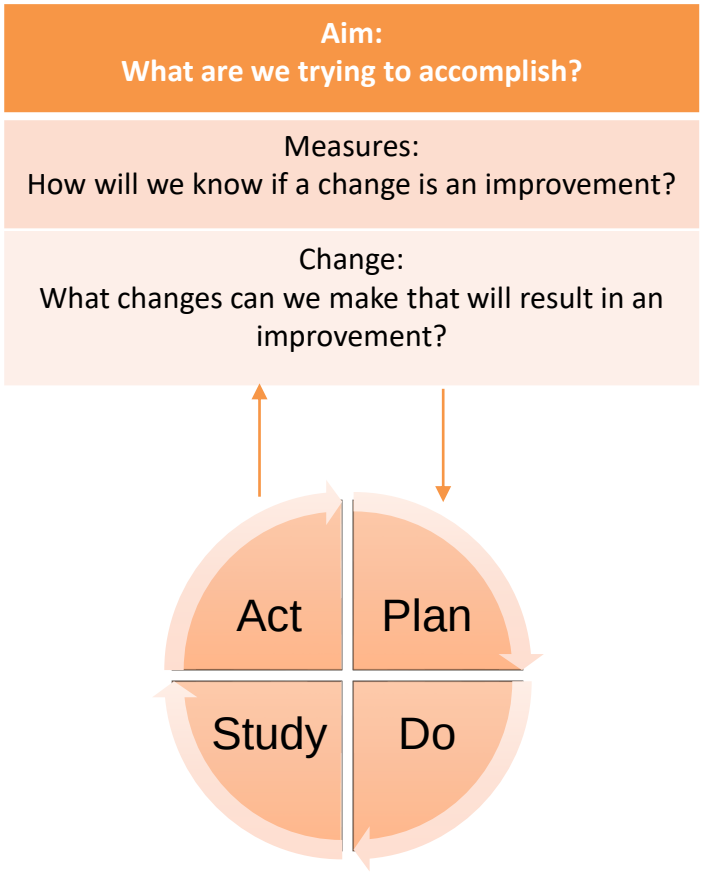
The model consists of two parts:

The first three questions help you define what you want to achieve (your aim), what will you measure to understand if a change is an improvement (Measures), and what ideas you think might make a difference (Change).

The second part is the PDSA (Plan Do Study Act) cycle. Each PDSA outlines the steps for the actual tests of each change idea.

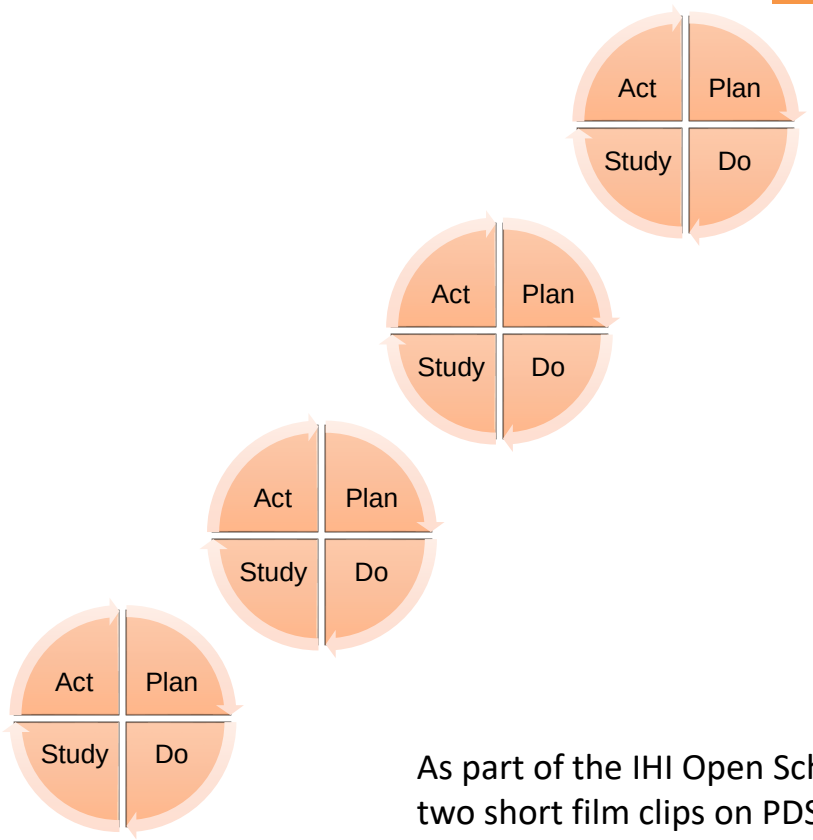
Each PDSA should be a small test, refining your idea through each test.

It is likely that a number of PDSAs will need to be completed before your improvement is ready for full implementation, and this is demonstrated in the diagram on the next page.



Implement: Using The Model for Improvement cont.

Success!



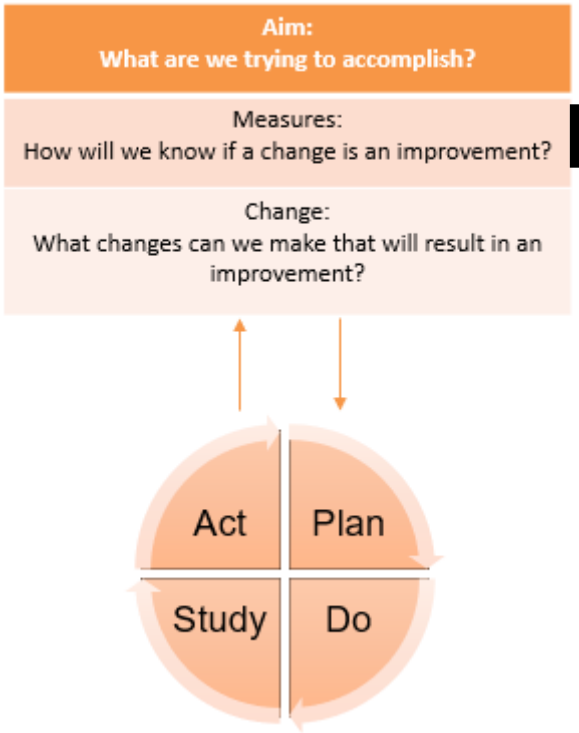
Aim:
What are we trying to accomplish?

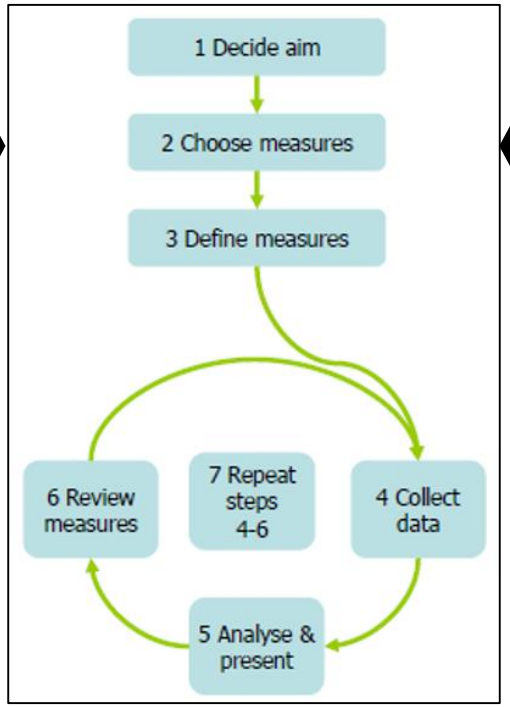
Measures:
How will we know if a change is an improvement?

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

As part of the IHI Open School there are two short film clips on PDSA cycles. Click here to view (with permission of the Institute for Healthcare Improvement (IHI), @2019)

Implement: Using The Model for Improvement and measurement





For further information on this measurement model view this short video by clicking here from Mike Davidge, Head of Measurement at NHS Elect.

Top tips:

- Audit is not an improvement process
- For improvement collect continuous data
- Undertake multiple small tests of change

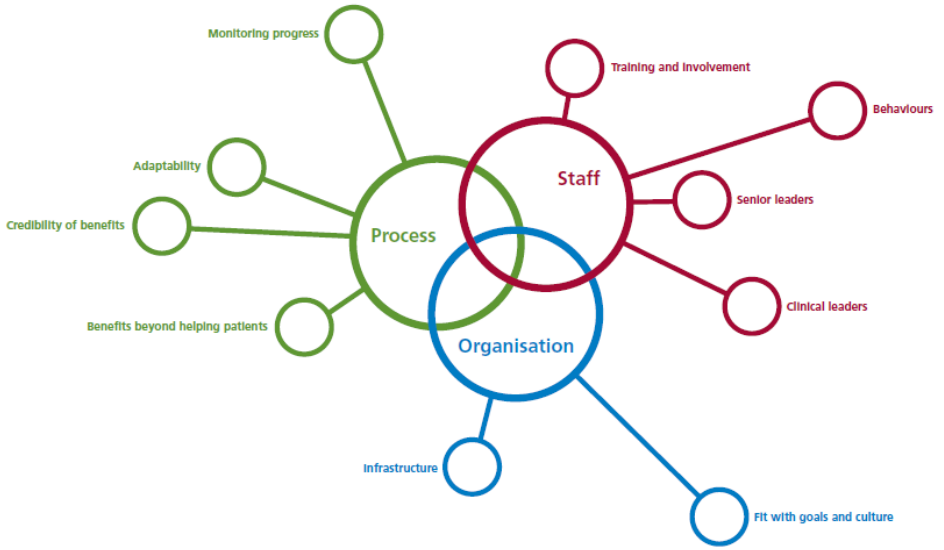
Sustain

One way of measuring sustainability is using the Sustainability Model and Guide (developed by the Institute for Innovation and Improvement).

This Model and Guide was developed as an easy-to-use tool to help teams:

- self-assess against a number of key criteria for sustaining change
- recognise and understand key barriers for sustainability, relating to the specific local context
- identify strengths in sustaining improvement
- plan for sustainability of improvement efforts
- monitor progress over time

This diagram below demonstrates the 10 elements within the Sustainability Model. Once you have assessed yourself against these it will help you understand where you need to concentrate your efforts to ensure sustainability is maintained in the longer term.



The Model and Guide can be downloaded by clicking here *(with permission from the Sustainable Improvement Team, NHS England and NHS Improvement).* The key pages in this document are pages 5 - 9 so you understand the context, and the improvement team should complete pages 16 – 19 together.

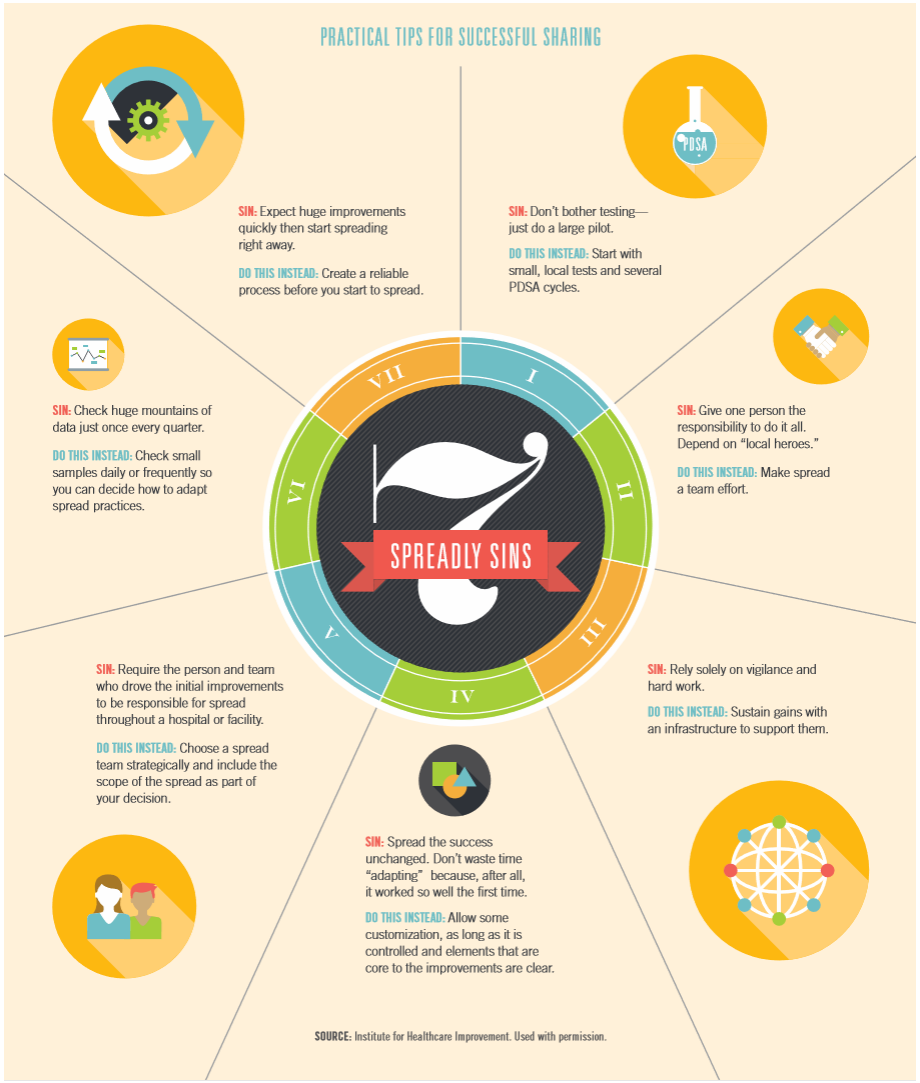
On page 8 it suggests that a score of 55 or higher offers reason for optimism.

Spread

By this point you have fully implemented your improvement/s and consistently sustained your aim. So now you either want to implement the improvement elsewhere or other people want to take your idea and implement it within their service.

This is a great idea but can be met with disaster if not thought through properly.

The IHI have produced this great one page document show opposite called the '7 spreadly sins'. It highlights each potential pitfall and provides good ideas as to how to prevent them happening.



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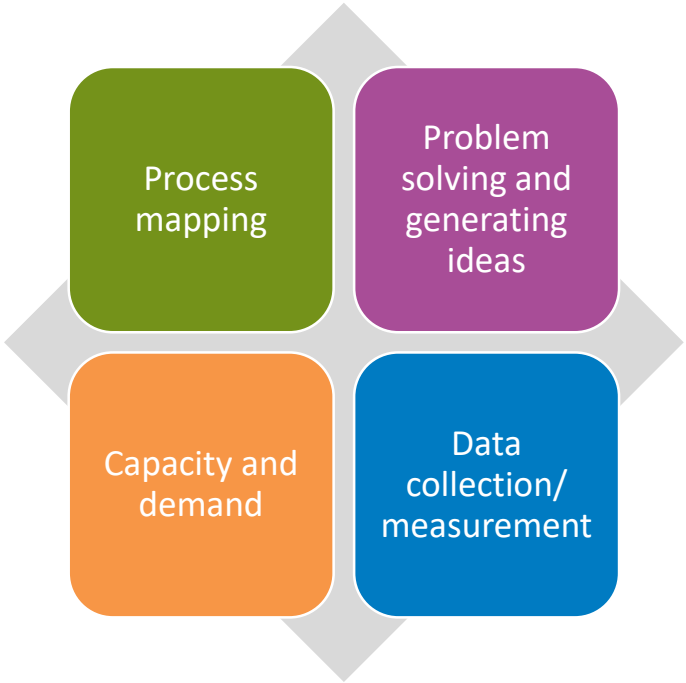
QI TOOLS AND TECHNIQUES

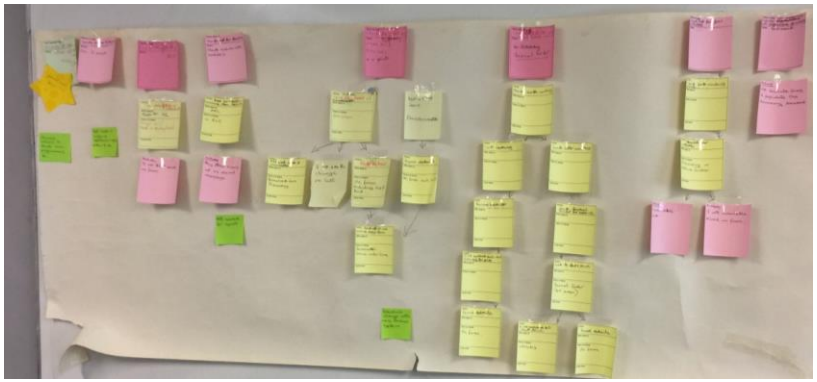


The QI Tools and Techniques on the following pages are by no means a definitive list. However, using these should provide you with a good understanding of some of the tools which can be used to make effective and sustainable improvements.

Main Menu

QI TOOLS AND TECHNIQUES SECTION: CONTENTS

Process Mapping: Overview

Why and What	How
Process mapping: • Helps you understand the current process, referred to as the Current State, from the patient perspective • Identifies each step/action in the current process, outlining what happens and how it happens • Helps you identify opportunities, plus what is value added, necessary non-value added, and where there is waste – see the next page) • Enables the process to be remapped to show what it will look like in the future, referred to as the Future State	You map out what currently happens now (your Current State), and the results will look something similar to the picture below.  Once you have remapped your process, adding in where improvements can be made, keeping what adds value, and removing all the waste in the process, your map will look similar to the picture below.  For step-by step-instructions view from the next page.

Process Mapping: Value and waste

Value Added
Example: time with a clinician
All the steps which the patient/customer values

Necessary non-value added
Example: governance/government requirements
Necessary work, that although from a patient/customer perspective does not directly add value to them, they understand why it needs to be done

Waste
Examples: space, equipment, time
Waste is resources and materials that are in excess of what is needed to meet patient/ customer requirements

The easiest way to remember the eight wastes is to remember the name TIM WOODS

The eight wastes		Example
T	Transportation	Unnecessary walking/journeys
I	Inventory	Excess stock in storerooms
M	Motion	Unnecessary movement, such as looking for lost paperwork, patients and staff walking long distances
W	Waiting	Using 'push systems' where patients/referrals for example are pushed onto the next step regardless of whether the next step has capacity to deal with them
O	Over-processing	Duplication of information (including asking a patient for their details more than once)
O	Over production	Requesting unnecessary tests/information, keeping appointment slots just in case
D	Defects	Repeating processes because current information not provided
S	Staffing	Being under-utilised (for example, not utilising staff skills properly)

STEP 1: Getting started

1. Who to involve

   Ideally in a process mapping meeting involve no more than eight people

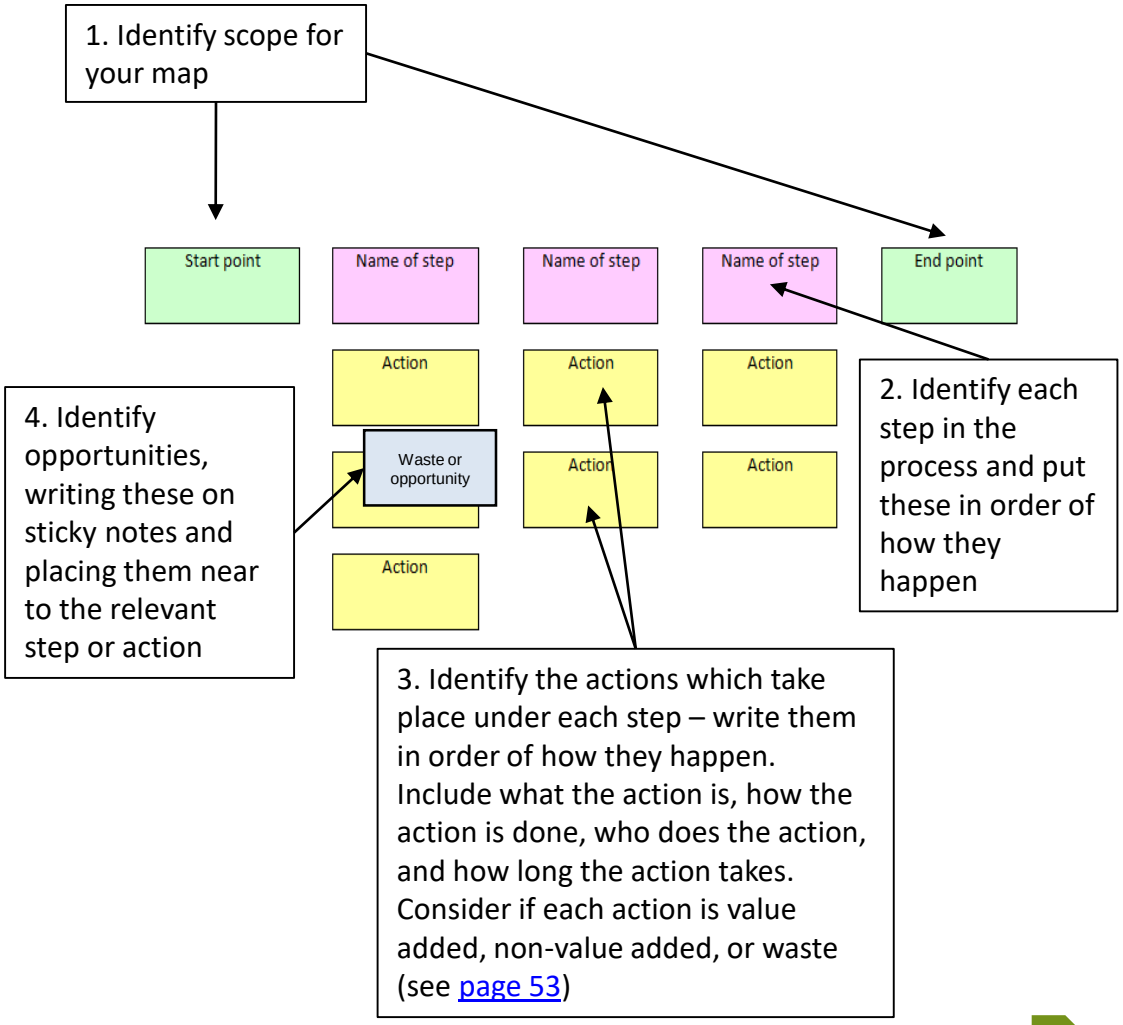
   - Ideally involve representatives from all stakeholder groups who are currently involved in the process
   - Involve a decision maker who can sign off changes
   - Invite patients and carers

2. Resources
   - Roll of lining paper
   - Pens
   - Sticky notes in four different colours

3. Information

   What information might you need to help inform your discussions? Examples include any data you have already collected, Service Level Agreements, NICE Guidance.

STEP 2: Develop your map



STEP 3: Analyse your map

This is a key part of the process and is often one which isn't given the time it needs.

Go through each step and action, asking the following:

- Do you have all the data you need? If not, how will you get this? Having accurate data is very important when it comes to designing your new process because basing your new process on incorrect data could have considerable negative impacts.
- Are the waits between actions and steps appropriate? If not, what can you do about this?
- Is the way information is received and sent the most efficient way? If not, what is?
- Is each step/action 'right first time'? If not (and it very often isn't) why is this and what can you do about it?
- What do other organisations do? Why not go and visit them?

STEP 4: Develop your future state process

The future state process map is developed in exactly the same way as the current state process map (steps 1 – 3), but rather than focusing on what currently happens, you take everything which you have learned, and develop a future state process map outlining what the process will look like in the future, ensuring it will meet your aim/s, see page 32.

Problem Solving & Generating Ideas: The Kipling Questions

Why and What	How
Use for problem solving. When there is a problem, using the Kipling Questions can help you define your problem, which ultimately makes resolving your problem easier. Rudyard Kipling wrote a poem called 'I Keep Six Honest Serving Men', and the start of this poem is often referred to as the Kipling questions: I keep six honest serving-men (They taught me all I knew); Their names are What and Why and When And How and Where and Who.	**What you need:** Paper and pen **What you do:** Ask you/your team the following: • What is the problem? • Why is it a problem? • Where is it a problem (location, geographical area, patient cohort)? • How is it a problem? • When is it a problem (date/time)? • Who is it a problem for?

Why and What	How
Can be used for problem solving and generating ideas. Brainstorming is a way of: 1) Solving problems around a specific area 2) Generating new ideas Silent brainstorming is sometimes used to ensure that the views of all involved are heard. This is useful when there are some 'larger than life' characters in the room!	**What you need:** Sticky notes and plenty of wall space **What you do:** 1. Be open to all ideas. No idea should be viewed as too ridiculous! Judgement and analysis at this stage prevents ideas being made 2. Ask people to generate ideas: • *Brainstorming:* Ask people to talk freely about their ideas right from the start • *Silent Brainstorming:* Ask people to write down all their ideas on sticky notes first and then ask them to talk about them • *Note:* The quantity of ideas counts at this stage, rather than quality (you narrow the list down later) 3. Place all sticky notes on the wall, ask people to talk around their ideas, and group into themes where appropriate 4. Allow people to build on ideas put forward by others 5. Evaluate ideas. One approach which you might want to use to help you with this is weighted voting, page 63.

Problem Solving and Generating Ideas: Fishbone Diagram

Why and What

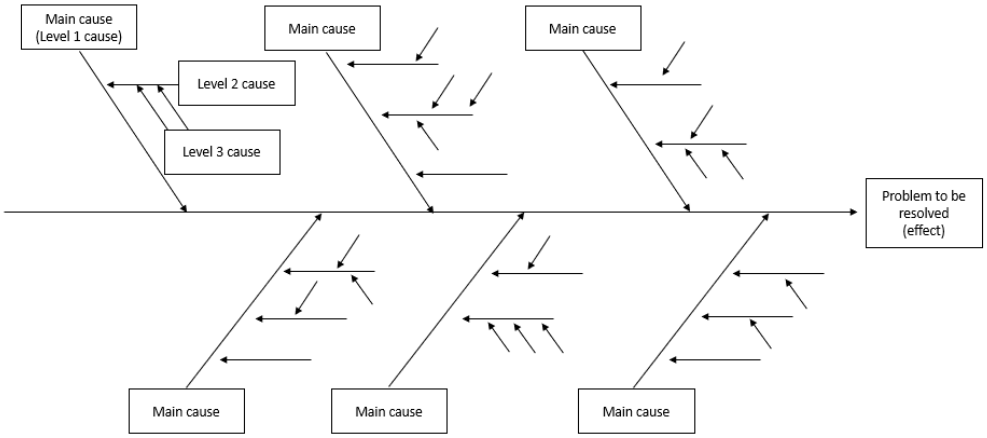
Use for problem solving.

Developing a Fishbone Diagram helps you identify the root cause/s of a problem.

It is called a Fishbone Diagram because it looks like fish bones.

A Fishbone Diagram is also sometimes referred to as a Ishikawa Diagram or Cause and Effect Diagram.

It is a tool used to explore and display all the factors that may influence or cause a given outcome.

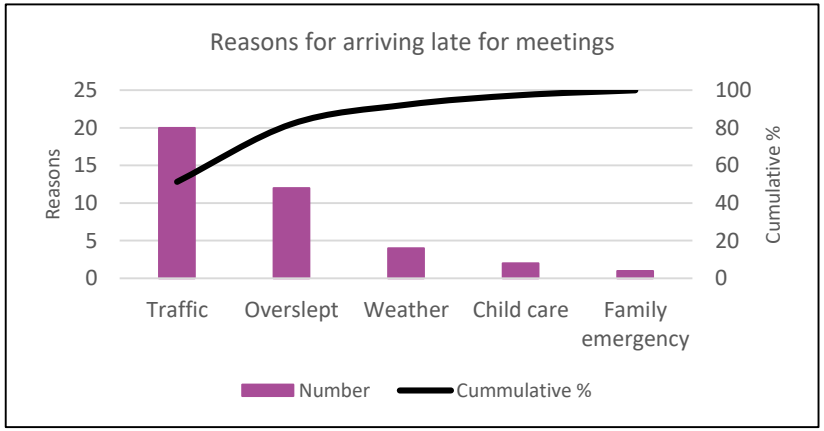


How

What you need:
Flipchart paper or whiteboard and pens

What you do:

1. Agree on a problem statement (which is the effect of your problem). Write this in the head of the fish
2. Identify the main causes (Level 1 causes) of the problem. If you find it difficult to identify the main causes, use the following headings:
   - Methods/process
   - Equipment
   - People
   - Materials
   - Environment
   - Management
3. Brainstorm/Silent Brainstorm (see page 57) each main cause, considering each problem/issue in turn and add these onto the fish as branches (Level 2 causes)
4. For each branch use the Five Whys (see page 60) to get to the root of each problem (Level 3 causes).

Why and What	How
Use for problem solving. A Pareto Chart is used to separate the 'vital few' problems from the 'many'. A Pareto Chart is also sometimes referred to as the 80/20 rule, 80/20 principle, or 'the law of the vital few'. The chart is based on the Pareto Principle that 20% of the causes have 80% of the impact, although it needs to be noted that it might not always be an exact 80/20 distribution. Examples are: • 80% of crime is caused by just 20% of criminals • 80% of a restaurant's turnover comes from 20% of its menu • 80% of referrals are likely to come from 20% of referrers The chart contains both bars and a line graph, where individual values are represented in descending order by bars, and the cumulative percentage total is represented by the line.	**What you need:** Your data and an Excel spreadsheet **What you do:** 1) Develop your Pareto Chart in Excel. If you are unsure how to do this there are numerous videos and instructions on the internet 2) Analyse your graph, and this will help you in deciding which problem to tackle first. The biggest problem in the Pareto Chart below for arriving late for meetings is traffic. You would therefore try to tackle this problem first, maybe by changing the start time of your meeting/event. 

Why and What	How
Use for problem Solving. Five Whys is a technique for discovering the root cause of a problem.	**What you need:** Paper and pens **What you do:** 1. You clearly define your problem (and you can use the Kipling Questions on page 56 to help you with this). 2. You then ask 'why', and continue to ask why as many times as you need to until you get to the root cause. Although this tool is called Five Whys don't be limited by this number. You may find that you reach the root cause in less than five or you may need many more.

Example

Problem: The first patients on the theatre list are always late to theatre
Q: Why are the first patients on the theatre list always late?
A: Because the porters are late picking them up
Q: Why are the porters late picking them up?
A: Because the porters don't start until 09:00am and theatre begins at 9am
Q: Why don't the night shift porters bring up the patients?
A: Because they go off duty at 08:30am
Q: Why is there no cover between 08:30am and 09:00am?
A: There is, but not enough to do all the jobs required at that time
Q: Why can't we increase the cover?
Action: Look at changing shifts to increase cover

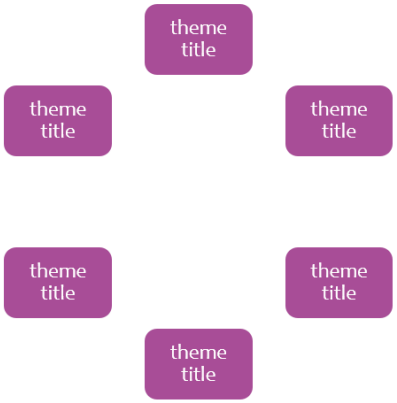
Example from the NPDT

Problem Solving & Generating Ideas: Interrelationship Diagrams

Why and What	How
Use for problem solving. Interrelationship Diagrams enable you to understand the relationship between problems so you can see if a cause and effect relationship exists. Therefore, it helps you identify which issues are causing problems and which are an outcome of other actions, showing the strength of each influence.	**What you need:** Sticky notes, pens, flipchart paper **What you do:** 1. Identify your problem (using the Kipling Questions on page 56) 2. Through Brainstorming/Silent Brainstorming (see page 57) identify any issues, reasons or causes for the problem. Put sticky notes into themes. Identify a theme heading and write each theme heading on a sticky note and add to a sheet of flip chart paper in a circle. See diagram 1 on the next page 3. Choose any sticky note on the flip chart paper, and label this as A. Compare it to the other sticky notes, identifying if there is a connection. If there is, discuss which is the cause and which is the effect. Use an arrow pointing from the cause to the effect to demonstrate the relationship. Please note: • A relationship either does exist or does not exist – do not add dotted lines • Two headed arrows are not allowed! 4. Continue until you have considered all sticky notes, labelling each with a letter of the alphabet as you go. See diagram 2 on the next page 5. Analyse your diagram. Write on how many causes and effects there are for each theme. See diagram 3 on the next page. Any sticky note with a large number of outgoing arrows is a key cause of the problem. Any sticky note with many arrows pointing to it is a main effect 6. Place the sticky notes in order as to the most arrows ‘out’ versus the number of arrows ‘in’. See diagram 4 on the next page. You can then clearly see what you need to focus on first.

Problem Solving & Generating Ideas: Interrelationship Diagrams cont.

Diagram 1 → Diagram 2



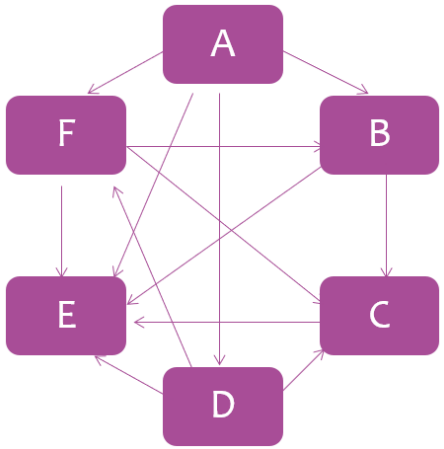


Diagram 4

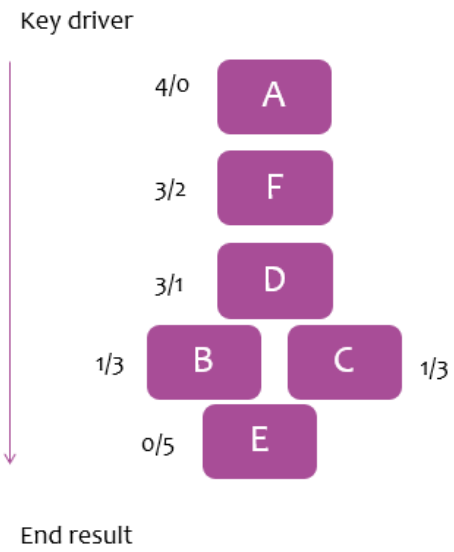
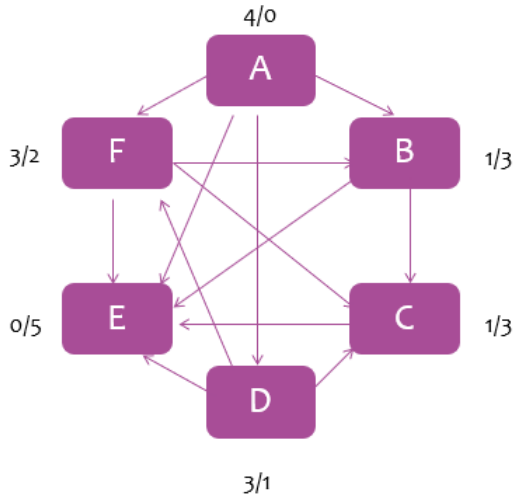


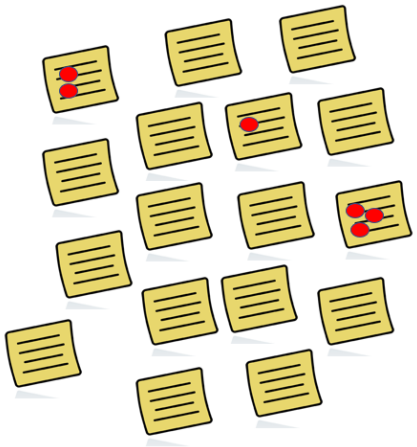
Diagram 3



From this you can see that the one with the most arrows out is A, which we can then assume is the main cause, whereas E is probably the main effect

This shows that you need to focus on A first, F second, and so on. By the time you get to E the problem should be resolved

Why and What	How
Use for problem solving and generating ideas. Weighted voting is used to gain the views of the team by giving team members the opportunity to vote on the causes of a problem or options they feel will have the most impact when generating ideas.	**What you need:** Wall space or flip chart paper, sticky notes, a large number of coloured dots (preferably one colour) **What you do:** 1. Use silent brainstorming (see page 57) to identify all possible causes/options, using one idea per sticky note 2. Place all sticky notes onto the wall or flip chart paper, grouping them into themes where appropriate 3. Give everyone five dots to 'spend' 4. Each person can 'spend' their votes as they wish: • They may want to spend it all on one cause/option, and if they do they would place all five dots on the one sticky note • They may want to spend it on a number of causes/options, such as two dots on one, two on another, and one on another



Each person has five dots and can 'spend' them as they wish

Why and What	How
Use for problem solving and generating ideas. TRIZ is the Russian acronym for the "Theory of Inventive Problem Solving". The purpose of this tool is to: • Make it possible to speak the unspeakable and get skeletons out of the closet • Make space for innovation • Lay the ground for creative destruction by doing the hard work in a fun way • Build trust by acting together to remove barriers	**What you need:** • Groups of 4 – 7, no chairs, no tables • Paper to record **What you do:** 1. Identify the problem (using the Kipling Questions outlined on page 56) 2. Using 1-2-4-All Tool (page 65) list the actions which will produce the worst possible results 3. Then, again using the 1-2-4-All Tool, develop a further list highlighting all the current actions that resemble ones from the first list 4. Once again, using the 1-2-4-All Tool identify which of these actions will you stop doing.

Information from Liberating Structures website:
http://www.liberatingstructures.com/6-making-space-with-triz/

Problem Solving and Generating Ideas: 1-2-4-All

Why and What	How
Use for generating ideas. The purpose of using this tool is to engage everyone simultaneously in generating questions, ideas, and suggestions.	**What you need:** • Chairs and tables optional • Paper to record **What you do:** 1. Identify the design question you wish to work on. You might want to use the Kipling Questions for this on page 56 2. For 1 minute people silently reflect on the question 3. For 2 minutes, in pairs, people generate ideas, building on ideas from self-reflection 4. For 4 minutes, in foursomes, people share and develop ideas, building on the ideas generated through being in pairs 5. For 5 minutes, each group shares one important idea with everyone in the room.

Information from Liberating Structures (Holisticon)

Problem Solving and Generating Ideas: Discovery Action Log

Why and What	How

Use for generating ideas.
 	
The purpose of using this tool is to discover, invent, and unleash local solutions to chronic problems.
	What you need:
	• Space!
	• Flipchart and pen
	
	What you do:
	1. Identify someone to observe and record insights
	2. Get everyone to stand or sit around a table
	3. Allow 5 minutes to outline the purpose of the 'Discovery and Action Dialog' (or the problem using the Kipling Questions on page 56)
	4. For the next 15-20 minutes ask the following questions, one by one:
	  • How do you know the problem is present?
	  • How do you contribute to the solution?
	  • What prevents you to do this all the time?
	  • Do you know someone who solved this?
	  • Do you have any ideas?
	  • What needs to be done? Volunteers?
	  • Who else needs to be involved?
	5. The person identified to observe and record insights recaps.

Information from Liberating Structures (Holisticon)

Problem Solving and Generating Ideas: 25/10 Crowd Sourcing

Why and What	How
Use for generating ideas. This tool is used to rapidly generate and shift a group's most powerful actionable ideas. This works best with large numbers.	**What you need:** • Open space, no chairs or tables • A5 blank cards, one for each participant, plus pens • Bell **What you do:** 1. Put the question out there, also stating "If you were 10 times bolder, what big idea would you recommend?" 2. Explain what is going to happen over the following steps 3. Give everyone the opportunity to think and write down their big idea on their A5 blank card 4. People then mill around and swap their cards with other people. Once 30 seconds is up the bell rings. People then read the card in their hands and score it from 1 – 5 (1 for low and 5 for high) to demonstrate how good they think the idea is. They then write the score on the back of the card 5. Repeat this process five times 6. The person holding the card at this point counts up the score on the card 7. The facilitator starts counting down from 25, asking people to shout up when the card they have in their hand reaches that number, and that person then shares the idea. The facilitator should continue to do this for the top 10 scored cards.

Information from Liberating Structures (Holisticon)

Data Collection/Measurement: The three reasons for measurement

For the purpose of your improvement work, your focus should be here

Characteristic	Judgement	Research	Improvement
Aim	Achievement of target	New knowledge	Improvement of service
Testing strategy	No tests	One large test	Sequential tests
Sample size	Obtain 100% of available, relevant data	"Just in case" data	"Just enough" data, small sequential samples
Type of hypothesis	No hypothesis	Fixed hypothesis	Hypothesis flexible, changes as learning takes place
Variation (Bias)	Adjust measures to reduce variation	Design to eliminate unwarranted variation	Accept consistent variation
Determining if a change is an improvement	No change focus	Statistical tests	Run charts or SPC charts

Information from: Solberg et al, 1997
Slide from NHS Elect

Data Collection/Measurement: Types of measures

Outcomes measures	Process measures	Balancing measures
• Measures that refer to an improvement aim • These measures gauge the level of success • These measures are often what organisations report on nationally	• Track in a timely manner how things are progressing • These measures ensure that the improvement work is running smoothly and effectively • These measures are usually developed 'in-house' and are rarely reported nationally	• Check how the rest of the system looks • These measures are used to ensure that any changes made do not impact negatively on other parts of the system
Example Aim: Lose 10 lbs by the end of December 2019 Outcome measure: Weight in lbs by 2019	Example Aim: Lose 10 lbs by the end of December 2019 Outcome measure: Weight in lbs by 2019 Process measure: Visits to the gym, number of times cycled to work each week	Example: Aim: Lose 10 lbs by the end of December 2019 Outcome measure: Weight in lbs by 2019 Process measure: Visits to the gym, number of times cycled to work each week Balancing measure: Extra money spent on gym membership
Example Aim: To reduce the number of smoke free pregnancies from 20%/40 mothers to 10%/20 mothers by December 2019 Outcome measure: Number of smoke free pregnancies	Example Aim: To reduce the number of smoke free pregnancies from 20%/40 mothers to 10%/20 mothers by December 2019 Outcome measure: Number of smoke free pregnancies Process measure: Number of staff giving smoking advice at first contact	Aim: To reduce the number of smoke free pregnancies from 20%/40 mothers to 10%/20 mothers by December 2019 Outcome measure: Number of smoke free pregnancies Process measure: Number of staff giving smoking advice at first contact Balancing measure: Number of staff happy with the stop smoking discussion

Information used with permission from AQuA (Advancing Quality Alliance)

Questions:

1. What population are you focusing on (for example, staff group, patient group)?
2. What is your aim? See page 32 for information on defining your aim
3. What are your process and balancing measures? See page 69 for further information
4. How much baseline data do you need to collect? See box opposite for further information
5. How will the data be collected for each measure?
6. How often will you collect the data? Your process and balancing measures should be continually collected, so every day or every week
7. Who is responsible for the data collection?
8. Who will analyse the data?
9. How will the group discuss the data?

Plotting your data:

As outlined on page 68 'Three reasons for measurement' it states that when measuring for improvement you need to accept consistent variation, and it suggests that you use run charts or SPC charts (statistical process control charts) as these will help you:

- recognise variation (consistent or not)
- evaluate and where necessary improve the process
- prove or disprove assumptions

Variation is discussed in further detail on the following pages.

Baseline data

You need to collect baseline data (historic data) so when you start making changes you can see if there has been an improvement.

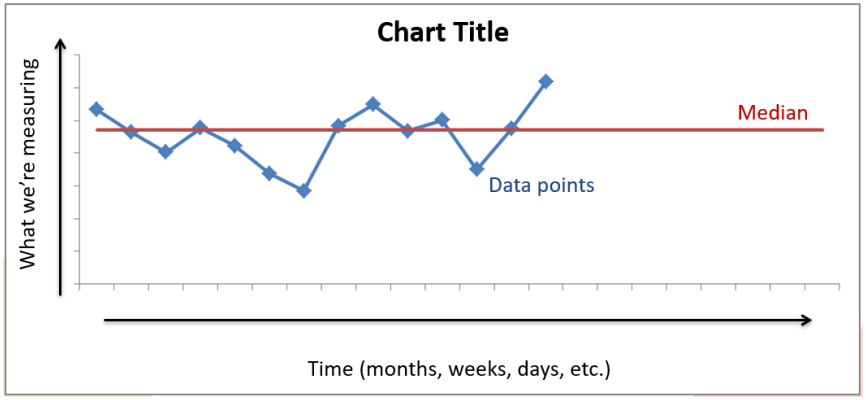
It is advisable to have a minimum of 6 data points of baseline data to create a valid chart. However, there is increased reliability when using 20 or more data points. If you have less than 20 data points use a run chart (see from page 72) and if you have more use an SPC chart (see from page 75).

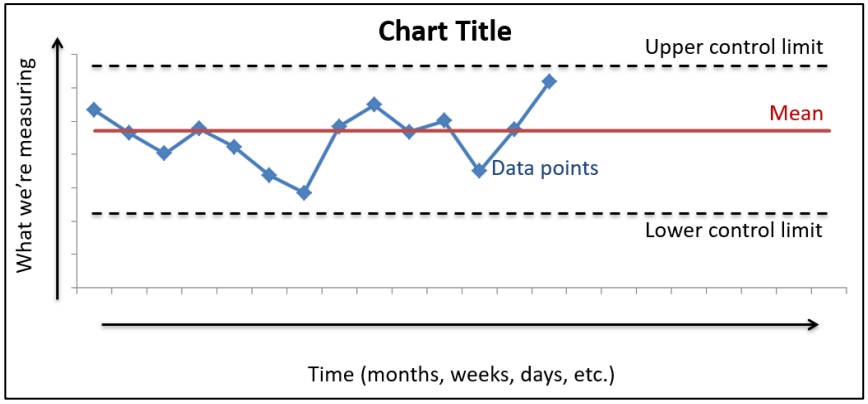
There are two types of variation:

Type of variation	What it is
Common cause	If the process is stable and predictable any variation is known as 'common cause variation'. A process is 'in control' if it only displays common cause variation.
Special cause	If the process is unstable or 'out of control' any variation is known as 'special cause variation'. This means that it is not an inherent part of the process. Special cause variation highlights that something unusual has occurred within the process and is attributable to factors that were not within the original process design.

Variation can be plotted on both a run chart and SPC chart, but what is the difference?

Run charts	Control charts
• Plots data in time order • Uses the median as the centre line (the middle value when all values are ranged in ascending order) • Looks at how data falls around the median	• Similar to run charts but with additional control limits • Centreline is calculated by the mean (usual average)





Run chart rules

If you can see any of the following it means that there is a special cause variation

Name	How to identify special cause variation
Shift	Six or more successive data points falling on the same side of the centreline
Trend	Five or more successive data points heading in the same direction (either increasing or decreasing)
Astronomical point	A point very different to the rest, often occurring due to a one off influence
Unusual pattern	Data that looks unusual

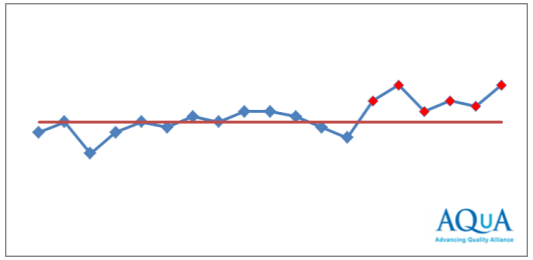
Confused? The following pages should help as they illustrate each of these rules.

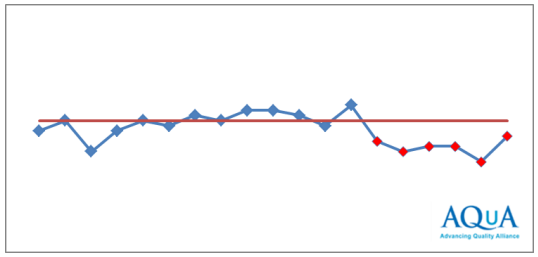
Information used with permission from AQuA (Advancing Quality Alliance)

Data Collection/Measurement: Run charts cont.

SHIFT

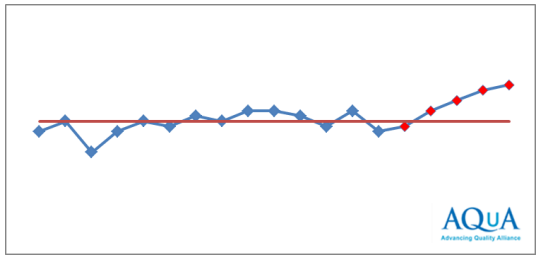
Six or more data points in a row, above or below the median line

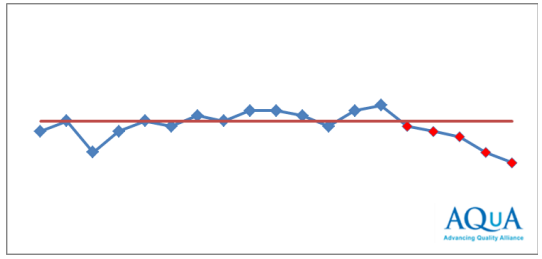




TREND

Five or more points in a row, increasing or decreasing

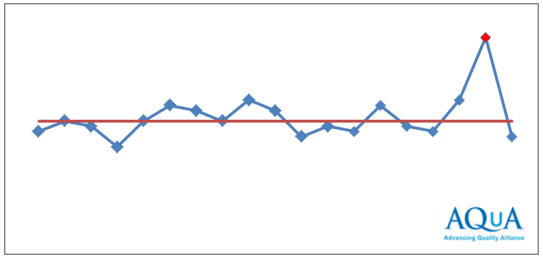




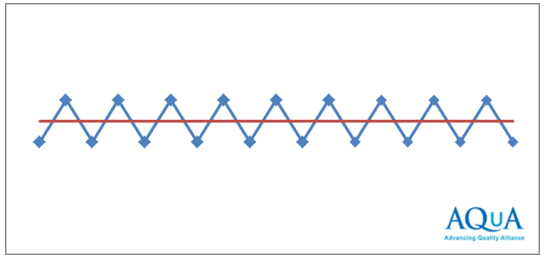
Information used with permission from AQuA (Advancing Quality Alliance)

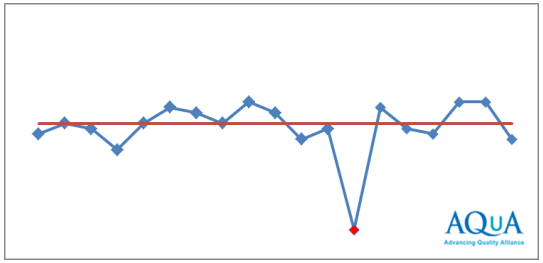
Data Collection/Measurement: Run charts cont.

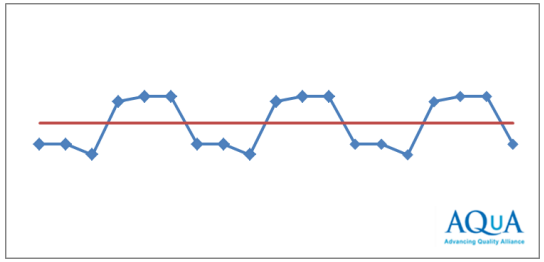
ASTRONOMICAL POINT
A point very different to the rest



UNUSUAL PATTERN
Data that looks unusual







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SPC chart rules

If you can see any of the following it means that there is a special cause variation

Name	How to identify special cause variation
Shift	Eight or more successive data points falling on the same side of the centreline
Trend	Six or more successive data points heading in the same direction (either increasing or decreasing)
Astronomical point	A point outside the control limits
Outer thirds	2 out of 3 points in the outer thirds of the limits
Inner thirds	15 points in a row within the inner third of the limits

Information used with permission from AQuA (Advancing Quality Alliance)

Confused? The following pages should help as they illustrate each of these rules.

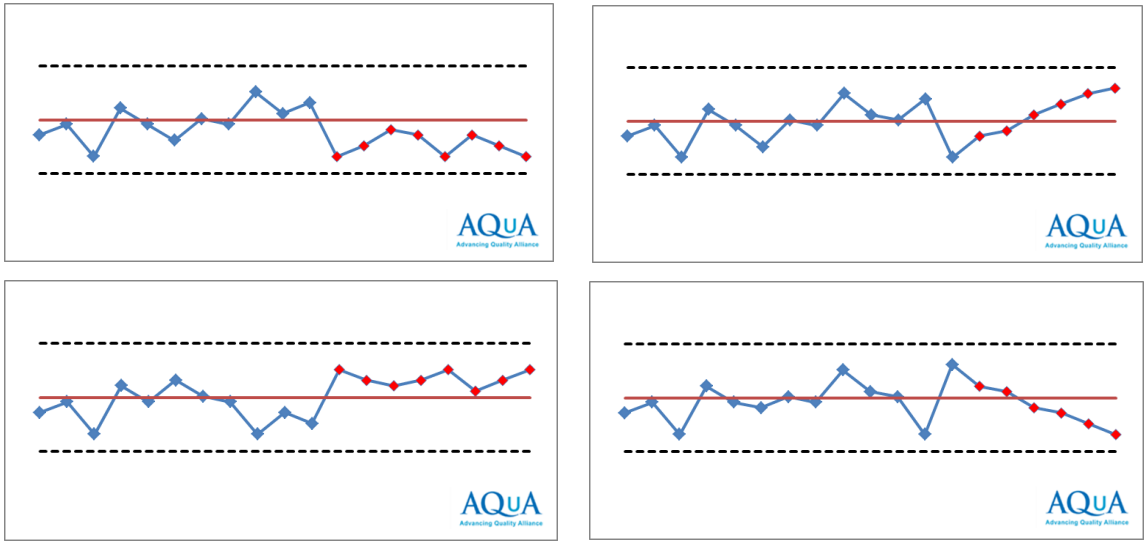
Data Collection/Measurement: SPC charts cont.

SHIFT

Eight or more data points in a row, above or below the median line (so similar rule as used in run charts, but in this case it is 8 points you look for)

TREND

Six or more data points in a row, heading in the same direction (so similar rule as used in run charts, but in this case it is 6 points you look for)



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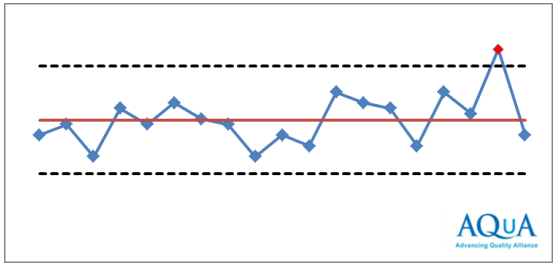
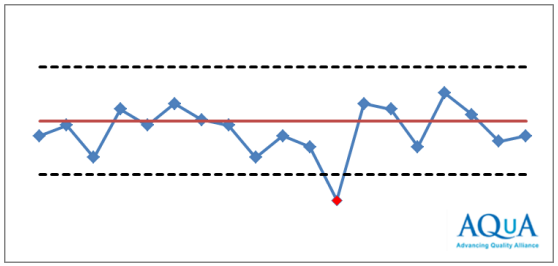
ASTRONOMICAL POINT

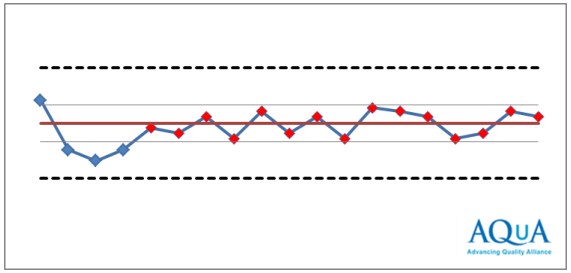
A point outside the control limits (so similar rule as used in run charts, but here there is no interpretation required about whether a point is different enough
as it is outside the control limits)





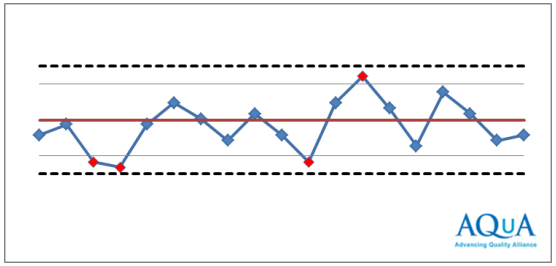
INNER THIRDS

15 points in a row within the inner third of the limits. (This often occurs when a change to the process dramatically reduces the variation. You also see this in falsified data)



OUTER THIRDS

2 out of 3 points in the outer thirds of the limits. (These can be an early indicator that another of the rules is likely to occur. It indicates that the process is becoming unstable)



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Capacity and Demand

Most of the information in this section is taken from the Improvement Leader's Guide: Matching capacity and demand (Institute for Innovation and Improvement).

Permission has been granted from the Sustainable Improvement Team, NHS England and NHS Improvement, to include this information in this Toolkit.

- Measure demand, capacity, backlog and activity in the same units for the same period of time.
- You can measure demand, capacity, backlog and activity either in patient numbers or in minutes. If patients take different times to process, then it is often easier to calculate everything in minutes or hours.

DEMAND

Definition
Demand is all the requests and referrals coming in from all sources.

Measuring demand
Multiply the number of patients referred by the time in minutes it takes to process (see or treat) the patient.

Example
20 referrals x consultation time of 30 minutes each = 600 minutes (10 hours) of demand each day.

Make sure all demand is measured:
- Include all requests that come in by letter, phone call, fax, email etc.
- Do not forget hidden demand, including those who are not referred but should be

CAPACITY

Definition
Capacity is the resources available to do the work. This includes all equipment and staff hours available to see/treat the patients.

Measuring capacity
Divide the number of appointments available by the number of staff hours available to do the work.

Example
If a patient takes 20 minutes to process, and two members of staff provide 480 minutes (8 hours of session time) per week each, this means there is 960 minutes (16 hours) of capacity each week. If you divide the staff availability by the time an appointment takes (so, 960/20), this means 48 patients can be seen in that time.

BACKLOG

Definition
Backlog is the previous demand that has not yet been dealt with, showing itself as a queue or waiting list.

Measuring backlog
Multiply the number of patients waiting by the time in minutes it will take to process the patient.

Example
100 patients on the waiting list x 30 minute treatment time each = 3,000 minutes (50 hours) backlog.

ACTIVITY

Definition
Activity is all the work done. It is the actual work, carried out by staff including the time spent with patients, carers and liaising with colleagues.

Measuring activity
Multiply the number of patients processed by the time in minutes it took to process each patient.

Example
100 patients processed x 15 minutes = 1,500 minutes (25 hours) of work done each day.

Measures of activity numbers are misleading as this does not necessarily reflect demand or capacity:

- The activity in the month of June may well include demand carried over from May, April or even March
- Staff may have not been fully utilised. They may have been kept waiting by the patient, specialised pieces of equipment or test results

Academic Health Science Network
North East and North Cumbria

For further information contact:

Ruth James or Julia Wood
ruth.james@ahsn-nenc.org.uk
julia.wood@ahsn-nenc.org.uk

Academic Health Science Network
North East and North Cumbria

www.ahsn-nenc.org.uk
@AHSN_NENC