The Quality Improvement Guide brings together learning from around Wales - and further afield - to explain how a simple set of techniques can be applied to improve the services provided by NHS Wales.

It will encourage all staff to apply these techniques and be part of introducing change to bring about improvements. This guide supports the Improving Quality Together national learning programme, which provides a common language for improvement in NHS Wales.

“Improving Quality Together has given us a shared vocabulary and understanding as a team. It gives the whole team a different dimension and a different perspective and it has really paid off for us.”
- Julia Toy, Business Manager, Powys Teaching Health Board people of Wales.

If you would like to find out more about IQT, visit www.IQT.wales.nhs.uk

Published by 1000 Lives Improvement which is part of Public Health Wales NHS Trust

Includes examples of IQT projects from across Wales!
The Quality Improvement Guide

Contents

1. Introduction 5
2. Improving quality requires putting the person at the centre of care 9
3. Delivering improvement through teamwork and leadership 15
4. Using the Model for Improvement 19
5. Testing changes 37
6. Communicating your improvement 43
7. Common improvement questions 47
8. Improving Quality Together in action 51
9. References 59
10. Introducing Improving Quality Together 63

The Quality Improvement Guide:
The Improving Quality Together Edition

Copyright © 2014, 1000 Lives Improvement

All rights reserved. First edition: March 2014. This guide is adapted from The 1000 Lives Plus Quality Improvement Guide published in 2011, 2013.

These materials may be photocopied for educational, not-for-profit uses, as long as the contents are not altered in any way and that 1000 Lives Improvement is named as the source of the content. These materials must not be reproduced for commercial use, or republished under any circumstances, without written permission from 1000 Lives Improvement.

Introduction
Introduction

NHS Wales has been on a journey of quality improvement for several years. We have seen great success in making patient care safer, reducing delays and wastage, and making sure services across Wales offer the same level of high quality care everywhere.

However, we know there is still room for improvement. The experience of people using our health services is that care is often excellent, but excellence is not reliably and consistently guaranteed.

The quality improvement work in Wales in the last ten years has shown that those working in NHS Wales are committed to improving care - we know that nobody wants to cause harm or offer poor quality care for their patients.

However, the biggest challenge has been using the right techniques to achieve improvement.

The Improving Quality Together learning programme gives staff a set of common techniques to achieve improvements in care. This common and consistent approach to improving the quality of services can be used by any member of staff anywhere across NHS Wales.

It will also help improvements take place more quickly and spread effectively throughout the country.

Improving Quality Together consists of three main levels of development with a complementary Board level. Bronze level raises awareness of the common language for quality improvement in NHS Wales, Silver level takes that learning into application, Gold level focuses on developing coaching capability for quality improvement across NHS Wales, and the Board level focuses on leading system-wide quality improvement and assurance.

This guide introduces a common language for improvement and some of the techniques underpinning Improving Quality Together, and which are explored further in the Improving Quality Together Bronze level e-learning modules. There are also case studies that show how these techniques can be applied in different settings, to encourage and equip everyone working in NHS Wales to be a catalyst for improving care for the people of Wales.

In NHS Wales we all have two roles: Doing our job and improving our job. Therefore, the first question we need to ask is: “How are we going to improve things?”

We need to realise that improvement usually comes through small changes that make a measurable difference. Quality is rarely the result of learning brand new knowledge, exciting innovations or one-off changes. Instead, we need to focus on the regular and often painstaking work of providing a reliable service and continuously trying to improve what we do (Berwick 1992 I and Berwick 1992 II).

Experience in Wales and across the world has shown that some simple principles and techniques can increase success. Even so, improvement will only be maintained and spread if those techniques are widely understood and shape the way that whole organisations work (Shortell, 1998).
Introduction

For improvement to be maintained there must be:

- **Will** - We must want to improve;

- **Ideas** - We must know what to try;

- **Execution** - We must know how to change.

(Berwick, 2003 and Nolan, 2007)

The Bronze level of Improving Quality Together is the ideal introduction to these themes. The Bronze level takes about two hours to complete four e-learning modules. There are also more in-depth guides called ‘How to Improve’ and ‘Leading the Way to Safety and Quality Improvement’ which are available from 1000 Lives Improvement.

Instructions on how to complete the Bronze level of Improving Quality Together can be found at www.IQT.wales.nhs.uk.
Improving quality requires putting the person at the centre of care

The people we care for should be at the heart of all that we do. Our starting point should always be what is best for the person as a whole.

Analysing the real life experiences of people in your care helps to determine what individuals want and expect from their care. Patients are not outsiders to the healthcare system. In many ways, they are the only true ‘insiders’. They are the ones who experience healthcare most personally - the reliability of the system and effectiveness of treatment can literally be a matter of life or death to a patient (Davies, 2012).

The Institute of Medicine includes person-centred care as one of the six domains which constitute quality in healthcare (National Research Council, 2001):

- **Person-centered** - care that is respectful of and responsive to individual patient preferences, needs and values, and ensuring that patient values guide all clinical decisions.
- **Safety** - avoiding harm to staff and patients from the care that is intended to help them.
- **Effective** - care based on scientific knowledge to all who could benefit and refraining from actions to those not likely to benefit.
- **Timely** - reducing waits and harmful delays for both those who receive and those who give care.
- **Efficient** - avoiding waste, of equipment, supplies, ideas, and energy.
- **Equitable** - care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socio-economic status.

Evidence shows that person-centred care can lead to improved quality, reduced waste, a better experience of care, and better use of resources.
Improving quality requires putting the person at the centre of care

There are a number of definitions of person-centred healthcare available from across the globe and they all have common themes:

- Users identifying areas that need to change.
- Involvement in decision making and respect for patients’ preferences.
- Empathy, dignity, compassion and emotional support.
- Clear, comprehensible and timely communication.
- Fast and smooth access to optimal care.
- Education and empowerment to manage their conditions and care for themselves.

A genuine partnership between the public and healthcare professionals must exist to design and deliver true person-centred care. To achieve this, staff need to view the services being delivered through ‘the patients’ eyes’, in order to meet their needs in the ways most valuable to them.

Three simple questions that are helpful in achieving person-centred care are:

1. What does the person need/want?
2. What is important to the person as the initial need for a service arises?
3. What is important for the person following their last contact with the service?

How to achieve person-centred care

Shared decision making

The majority of individuals want to play an active role in their treatment decision. Shared decision making tools are designed to support patients during consultations when presented with different treatment options. Option grids are developed to support such treatment choices and encourage an equal partnership with those we care for.

Provide dignified care

Dignity in care is at the heart of caring for people. It allows everyone to effectively engage in their care as partners and is a cornerstone to person-centred care. Simple things such as supporting individuals to set their own daily goals and helping them achieve simple tasks can have a big impact in their healthcare experience. This has been achieved in Wales through the use of simple questions, such as ‘What can I do for you today?’

Communicate effectively

Effective sharing of information is key to achieving person-centred care and can reduce demand on the system. Avoiding medical jargon and using effective communication skills can ensure individuals are more able to access and navigate the system, and better manage their health. Communication techniques and tools are available to support healthcare professionals and members of the public to work together more effectively.
Stories for improvement
Capturing healthcare experiences are proving an effective and powerful way of making sure the improvement of services is centred on the needs of the people using them. All experiences are valuable and can provide great insight into the care provided.

Individuals are interviewed and their stories are analysed and used in numerous ways - as a tool to identify areas of good practice or improvement, to support spread of evidence based interventions, to support effective communication, and to help all staff members to appreciate the impact of the care provided.
Delivering improvement through teamwork and leadership

To achieve improvement across a whole organisation there needs to be strong teamwork and leadership. One person working alone or groups of people working in an uncoordinated way will not achieve it.

As Brent James, from Intermountain Healthcare notes, a mature quality system uses both breakthrough and incremental improvement at the same time (James B, 2012):

Improving Quality Together focuses on enabling frontline teams to make the improvements they see are needed every day. Combine this with a co-ordinated effort to tackle the larger scale issues, through teamwork and strong leadership, and a common approach to improvement, and large scale issues can be resolved.

Once priorities have been agreed, setting up the teams to lead on taking improvement actions will help build commitment, generate ideas, and co-ordinate tasks, as well as review progress. We need to consider four different aspects when putting a team together:

- Leadership at an organisational level (Sponsor).
- Clinical or technical expertise.
- Frontline leadership.
- Patients or customers of the process.

Identifying issues

Leaders at all levels need to encourage and spread ideas about alternative ways of doing things. Generating new ideas from frontline staff is particularly important. Teams should meet regularly to generate new ideas through:

- Brainstorming exercises.
- Adapting strategies from other industries.
- Adapting ‘best practices’ from other services or conferences.
- Identifying trends by analysing patients’ stories, incidents and near misses, or ‘customer’ complaints.
- Visiting the sites of other services.
Delivering improvement through teamwork and leadership

Regularly involve new people in these meetings, including the ‘customers’ of the process, whether they are patients or other staff groups, and make sure the group is open to new views. New members of the group help to generate some of the best ideas, and students in particular can bring a fresh pair of eyes to an issue.

Asking teams to describe their perfect day, and then identify all those things that get in the way of them achieving it every day, often highlights the inefficiencies in the system that are getting in the way of teams delivering their service. This quickly involves staff in finding solutions for issues they are most concerned about changing.

Successfully introducing improvement

Achieving and embedding improvement will require consistently applying a range of improvement initiatives into the daily work of the organisation. By involving all staff in making improvements, it will become the way we do things here, as opposed to top down initiatives which are very often unsustainable.

By developing driver diagrams with your teams, you can demonstrate how small changes can have a big impact, and where their improvement efforts at a local level are connected to the wider organisational aims and priorities.

The next chapter outlines the common approach to quality improvement for NHS Wales, and explores how driver diagrams can break down large scale aims into smaller improvement efforts.
Using the Model for Improvement

For every journey we make, we need some way to guide that journey, a compass if you like, that will provide us with direction.

A roadmap can give us a sense of where we are going, a sense of where we are currently, but in addition we need to consider how we are going to get there, and whether we are making progress.

In NHS Wales our roadmap and compass for improvement is called the Model for Improvement. It was developed by Associates in Process Improvement (www.apiweb.org) in 1996, and is structured around two main sections:

The first section, framed as 3 questions, provides us with direction; our current position against that direction; and lastly an idea of how we are going to get there:

1. What are we trying to accomplish? This is the AIM and provides direction.
2. How will we know that a change is an improvement? These are the MEASURES and describe our current and future position.
3. What changes can we make that will result in an improvement? These are the CHANGES that tell us how we are going to get there.

The second section focuses on testing these changes and for this we use a small scale cycle of change called PDSA - Plan, Do, Study, Act.

For further details about the Plan-Do-Study-Act cycles, see page 40.
1. What are we trying to accomplish?

So if we unpack each of these questions in turn, how do we shape our aim? What is our direction?

We need to be clear about what we are trying to accomplish - is the aim to reduce death, avoid dependency or illness, reduce risk, reduce interruptions?

We also need to think in terms of specifics - you may be familiar with the SMART objectives acronym, or you may have heard Don Berwick who led the 100,000 Lives campaign in America who stated that ‘some was not a number, and soon was not a time’. Langley et al. (1996) suggests including these specifics in your aim:

- **A worthwhile topic** - does it map to the domains of quality in healthcare?
- **Outcome focused** - what is the overall outcome, not just the process?
- **Measurable** - if you can’t measure it, how are you going to know you’ve improved?
- **Specific population** - scale it, so you are looking at one group of patients/customers, one setting etc.
- **Clear timelines** - by when?
- **Succinct but clear** - you may be able to understand it, but test it with colleagues from other teams, departments and patients/customers, do they understand it?

Unless we are specific, how are we ever going to know that we have achieved it?

2. How will we know that a change is an improvement?

When we are clear about our desired outcome, the next task is to choose a standard to measure the outcome against. What will show us how we are progressing towards our outcome? What is our current position?

- Improvement cannot happen without measurement.
- We cannot try a solution until we understand the problem.
- We cannot test a solution unless we are measuring its effect.

**How we measure**

As you test your changes, you need to be able to see whether those changes have made a difference.

The only way to look at this is by collecting data over time and looking at it in these terms, avoiding averages and keeping it as real time as possible.

The diagram on the next page, ‘The seven steps to measurement’, illustrates the complete process. The first three steps have been covered in earlier sections of this guide.

Steps 4 to 6 make up the ‘Collect-Analyse-Review’ cycle. First collect some information (step 4), then analyse it and present it in an appropriate way to convert it into useful information (step 5), and finally review the information to see what decisions need to be made (step 6). The Collect-Analyse-Review cycle then starts all over again (step 7).
The first Collect-Analyse-Review cycle will provide a ‘baseline’ of current performance (the starting part). If we collect data about 20 - 25 times and plot the results on a chart, this will provide an ideal number of points to create a baseline or identify a trend. One way to get more points is to measure more frequently. More frequent measurement allows for faster feedback on whether your changes have made an improvement and more opportunities to make decisions about what to do next. For this reason some have referred to the rate of measurement as the ‘heartbeat’ of your improvement.

Often the information needed is not currently being collected. If so, start collecting your information straight away. But we do not have to wait to start making small changes. They will not affect the overall situation while creating the baseline.

Using ‘run charts’ is a simple way to present and analyse information over time. A more sophisticated presentation is the statistical process control chart which will help you understand the scale of variation in the process you want to improve. ‘Plotting the dots’ is very effective because it helps us to spot trends and patterns displayed to us.

The frequency of measurement, often carried out weekly, is a major difference between measurement for improvement and more traditional forms of measurement.

Traditionally, figures are smoothed out to get to ‘the real underlying trend’ by taking an average of the period. The problem comes when comparing the previous average with the current one to see if there’s been an improvement. Simply comparing two numbers and knowing that one will be bigger than the other gives a 50 per cent chance of being better (or worse)! In contrast, run charts and statistical process control charts have rules which provide confidence that when a change has been spotted, it really is one. We give an example run chart at the end of this section.

Finally, step 6 reminds us that it is vital to set time aside to look at what the measures are telling us. How often the information is collected, analysed and reviewed sets the pace for change being introduced.
When we are aiming to improve, it is important that measurement is carried out fairly and openly. However, if people think that their measurement will be used to criticise them, then they will be reluctant to collect and share that information.

Frequent measures also allow us to monitor reliability - how many times did we do what we intended as a proportion of the total number of tries? For example, if we have a procedure for screening all patients admitted to hospital, what proportion of the total were actually screened? Improving outcomes however relies on more than just screening. We have to take action based on the results, we have to intervene. Now we need both of these two steps to be reliable to get our outcome. When we try to do two things in a process, reliability gets harder. What proportion of those screened received the resulting intervention? If both steps have 80 per cent reliability, the reliability of the process is 64 per cent (80 per cent of 80 per cent).

Typically, when we measure reliability for the first time, the results are disappointing. 80 per cent is typical for a one step process, and less than 50 per cent for bundles of steps where four or more steps are linked.

It is often possible to reach 95 per cent reliability for single steps (for example, by providing training, memory aids and built-in reminders). If greater levels of reliability are needed, or if these simple changes do not deliver 95 per cent, the system itself needs to be redesigned. Design is the best tool for achieving reliability.

**Example of using a run chart**

A stroke unit has developed a new process for referring patients for CT scans, along with staff training to communicate the changes in process. The aim of the work was to improve the percentage of patients which receive a CT scan within 24 hours of admission.

The stroke unit has data for the period June 2009 to May 2011. The data for June 2009 - June 2010 is a baseline position prior to any service improvement work undertaken:
To monitor the impact of changes in process we need to calculate
the median average baseline position. The median (15 per cent) has
been calculated for the baseline period. This is shown as a dotted red
line on the charts. In the first chart it is projected beyond June 2010,
when the service improvement work commenced. The median shows
that in half of the months at least 15 per cent of patients received a
CT scan within 24 hours. If everything remained the same this would
not change.

In July 2010, the staff training commenced and a new referral
process was introduced. The second chart demonstrates the impact
of the changes in process. There has been a “shift” in the data.
A shift in the data is represented by six or more consecutive data
points above the median line.

Once we have established there have been any changes in the
data using run chart rules, and we fully understand what changes
have impacted on the data we are able to recalculate the median
to review for any future changes in the data. The second chart
demonstrates a new median of 65 per cent. Now 65 out of 100
patients typically receive a CT scan within 24 hours.

Making the right decision based on data
Variation is the natural fluctuation that we see in our processes. For
example, the percentage of patients receiving their CT within 24
hours is not constant from one month to the next as we saw in the
previous example.

Understanding variation is vital when deciding how to improve our
processes and services. There are two different types of variation,
“common cause” variation and “special cause” variation.

An example of different types of variation
Every day I drive to work. It normally takes me about 55 minutes,
if there are no unusual occurrences, but this does vary. It rarely
takes exactly the same time to drive to work due to levels of traffic,
weather, or the timing of traffic signals. These time differences are
expected. It is common cause variation.

One day, there was an accident on the motorway. My journey to work
took 94 minutes. This is special cause variation. If this happened to
you, would change your route to work every other day just because
of this single occurrence?

A few days later road works began on the motorway. The journey to
work now took 75 minutes. For the next few days it took around 75
minutes as well. It looks like this new drive time would continue, so I
decided to look for a different route.

This data can be quickly articulated in a run chart, which helps
identify the type of variation occurring.
You can see the drive to work is usually around 55 minutes and the accident leads to the journey of 94 minutes. Using a run chart like this quickly shows that this is special cause variation by how different that data point is to the rest. The journey times then revert back to having common cause variation around 55 minutes for a further six data points, i.e. six days.

Then the journey time increases due to the road works. The data in the run chart shows that this has caused a ‘process shift’ to a resulting drive time of around 75 minutes. At this point it makes sense to look for a different route to work.

In the workplace, when we have a process that is producing unsatisfactory results, understanding whether we are seeing common or special cause variation is vital when deciding our method on addressing the issue.

<table>
<thead>
<tr>
<th>Type of Variation</th>
<th>Recommended Action</th>
<th>Suggested tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Cause</td>
<td>Understand the process so that changes introduced will change the process</td>
<td>Process map</td>
</tr>
<tr>
<td>Special Cause</td>
<td>Investigate the occurrence and determine what factor external to the process has caused the variation</td>
<td>Root cause analysis</td>
</tr>
</tbody>
</table>

In our work we often react to special cause variation, and look to redesign the system around these one-off events, as opposed to looking at what is underlying the common cause variation.
3. What change can we make that will result in improvement?

Once we have a clear aim, and a baseline, it is only at this stage that we identify what changes we can test to accomplish our aim.

Consider these elements when looking at what changes to test:

What isn’t working
- a. Feedback from patients, staff and other services around you will help you see what isn’t working.
- b. What change will give the biggest benefit?
- c. How much of what we are doing is repeated work, or work that could have been done right first time?
- d. What can be made simpler?
  Ask your patients and the staff that use your service.
- e. Are there evidence-based interventions not happening for every patient?

Process mapping is a great tool to help teams identify where they can make changes, as it allows them to form a team view on how the process is really working and how it should work in the future.

What should we be doing

We use driver diagrams to summarise the desired outcomes of a service and how they can be achieved.

If we create a driver diagram in a balanced way and we reliably do the actions that it suggests, then we can be confident we will reach our aim.

Driver diagrams and the Model for Improvement

A driver diagram represents the key interventions which will help us achieve our aim. If we reflect back on the Model for Improvement, a driver diagram turns our Model on its side:
When producing driver diagrams there are some basic rules which must be followed:

- The first column - ‘Aim’ - shows the desired outcome of the service (the simpler the better).
- The second column - ‘Drivers’ - shows the factors that affect the outcome.
- The third column - ‘Interventions’ - this name can confuse, but it shows the actions that have been shown to be integral to a service and make a difference.

A driver diagram should be as brief and simple as possible. In most cases there will be three columns, but larger aims may have secondary and even tertiary drivers. As far as possible, the interventions should state what should happen within a service but not specify where it takes place or the type of staff involved. A driver diagram should be seen as a working document.

Driver diagrams help you to think of the change or problem in context and can prompt you for factors that you might have forgotten or ignored. They also show the linkage between the interventions you plan to make and your aim.

When relevant to a service, evidence-based interventions should be included in your driver diagram, while remembering to be brief and concentrate on the things that will improve the outcomes of your service the greatest.

There is a large amount of literature available on achieving change and we have deliberately kept this text short. However, Pronovost provides another very accessible approach for medical settings (Pronovost et al, 2008).

Think of the essential points that will make a difference to your aim - look at your process map if you have one - what points are key to delivery? This will help you identify your drivers.

Two examples on the following pages show how this can be used for both non-clinical and clinical areas, and how the drivers can be separated into theme or time-related elements:

---

An example of a driver diagram that might be used in road safety

<table>
<thead>
<tr>
<th>Aim</th>
<th>Drivers</th>
<th>Interventions</th>
</tr>
</thead>
</table>
| Reduce death and injury on UK roads | Competent and safe drivers | Clear road markings  
Safe road layout  
Re-design accident blackspots |
| Safe vehicles |  | MOT Testing  
Manufacturing Standards |
| Safe roads |  | Skills and knowledge test  
Testing for over 80’s  
Medical grounds for not driving |
|  | Competent pedestrians | Alcohol testing  
Drug testing  
Speed and signal traps |
|  | Effective response to accidents | Television advertising  
In-school training  
Well-designed crossings |
|  |  | Fast ambulance response  
Paramedic training  
Air ambulance available |
Using the Model for Improvement

An example of a driver diagram for improved outcomes after a stroke

- **Improve the outcomes for people following a stroke**
  - Rapid recognition of symptoms and diagnosis (within 3 hours)
  - Emergency treatment for people with stroke (within 24 hours)
  - Getting the patient mobilised following stroke (within 3 days)
  - Specialist care after a stroke (within seven days)

- **Rapid diagnosis using a recognised tool (for example ROSIER)**
  - Diagnosis confirmed by experienced clinician

- **CT Scan, Admission to stroke unit. Check ability to swallow. Nutritional screening. Prescription of regular aspirin (If non-haemorrhagic stroke)**

- **72 hours physiological monitoring. Assessment of manual handling. Specialist medical review. Physiotherapy assessment started. Getting patients out of bed**

- **Occupational Therapy assessment started. Full screening and appropriate assessment of remaining problems. Multi-disciplinary team goals set. Information shared with patients and careers in an appropriate format. Estimated discharge dates discussed with patients and careers**

- **Emergency treatment for people with stroke (within 24 hours)**

- **Getting the patient mobilised following stroke (within 3 days)**

- **Specialist care after a stroke (within seven days)**

- **Testing changes**
Testing changes

Once we have identified the changes we wish to test that will affect our Aim, we use the PDSA cycle approach to test these changes.

However, before we start testing our changes, there are some human factors we need to take into account.

Human error

A central principle of healthcare improvement work is that harm and waste are not caused by bad people but instead by bad systems. Contrary to the perceived image of harm in healthcare caused by malice or intentional negligence on the part of the individual, it is errors of omission that are responsible for most healthcare-related adverse events.

One large study has demonstrated that the rate at which basic, standard care was not delivered in US healthcare was 45% (McGlynn et al, 2003) indicating that it was what we don’t do as healthcare teams that causes harm and avoidable mortality. These frequent lapses are not a sign of poor personal standards or of a lack of knowledge or skills. They are an inevitable consequence of attempting to perform in a complex system with human limitations.

As the phrase has it, ‘to err is human’, and whilst human beings are capable of brilliant and innovative solutions to problems, maintaining reliability in our processes and practices in the often chaotic healthcare environment under conditions of stress and fatigue make it inevitable that error will occur.

Human factors - smarter ways of working

The aviation industry has long been aware that 70-80% of aviation accidents can be attributed to human rather than mechanical error (Endsley, 1988). With other ‘safety critical’ industries, aviation has developed the principles of human factors which work to counter the natural human propensity to error. Innovations which have taken the human factor into account are all around you: the three pin plug - impossible to plug-in any other way; diesel pumps - impossible to now put diesel into many modern petrol cars, as the pumps are different sizes; cash points, which now give you your card back before your money, and beep to remind you it’s there.

When you are considering your tests of change, check them against the following list of principles from the WHO Patient Safety Curriculum Guide for Medical Schools (World Health Organization, 2009):

- Avoid reliance on memory.
- Make things visible.
- Review and simplify processes.
- Standardise common processes and procedures.
- Routinely use checklists.
- Decrease the reliance on vigilance.

Teams have used human factors principles to improve communication by adopting safety briefings and using the SBAR (Situation, Background, Assessment, and Recommendation) tool in verbal and printed format in settings from the board report to escalating care for the deteriorating patient.

The PSAG (Patient Safety at a Glance) board promotes situational awareness for the entire clinical team whilst performing a debrief
and allows teams to celebrate what went well during a shift or clinical incident whilst planning on how to improve performance next time.

NHS Wales Awards winners 2013, Hywel Dda University Health Board utilised the human factors principles in their redesign of the signage in Withybush Hospital with their service users.

Taking these elements into account can make our processes less complex, more reliable and therefore safer.

**Plan, Do, Study, Act**

Once we have designed our tests of change, taking into account the human factors, we need to test them on a small scale, with one person, one setting, one service provider, which is measurable in real-time and gives us quick feedback as to whether the change has made an improvement. This approach helps ensure sustainability too.

Even if something has been shown to work in other settings, we should take the time to do a small-scale trial. There are almost no ‘plug and play’ solutions that work in all situations. Testing allows us to adapt actions to particular settings. To test a new procedure or technique, we need to ‘plan, do, study and act’ as explained below.

**Plan**

Plan what you are going to do differently - ‘who, what, where and when’.

**Do**

Carry out the plan and collect information on what worked well and what issues need tackling.

**Study**

Gather relevant team members as soon as possible after the test for a short informal meeting. Analyse the information gathered and review the aim of the new procedure or technique against what actually happened. Questions that need to be asked include the following.

‘What is the information telling us?’

‘What worked and what didn’t work?’

‘What should be adopted, adapted, or abandoned?’

**Act**

Use this new knowledge to plan the next test. Agree the changes and amend the outcome measures if necessary.

We plan, we do it, we study it, and then we act on those results. We change our plan based on what the results have shown us, and then we start another PDSA cycle to re-test.

It’s important to understand how our tests of change have impacted on our measures. Here is an example of a number of PDSAs marked on a chart recording compliance with a bundle of interventions known here as the ‘Response bundle’:
The team can clearly see where tests of change have had an impact, and where they have not, what may need re-tweaking, and what can be expanded.

We should continue testing in this way, refining the new procedure or technique, until it is ready to be fully introduced. But, do it quickly (think in days, not weeks). When the change has been reliable for 90 to 95 per cent of patients it can be spread to more sites.

Don’t assume that a change can simply be ‘rolled out’ once it has been successfully tested. The introduction needs to be managed at every stage. There is no hard and fast rule for how fast to introduce the change. Once it has been introduced in a new area, test the change again.

---

**% Compliance with Response bundle**

- Integration of RRAILS & Dashboard
- Pilot of a new data gathering tool data entered into the dashboard
- NEWS introduced
- Safety briefing introduced
- PDSA - Training sessions on the ward
- PDSA - Data collection tool amended
- PDSA - Response bundle data unreliable

---

October 2011 - No patients on the ward identified as being at risk of deterioration in the 24 hour period
Communicating your improvement

Good communication supports every part of an improvement programme as it aims to involve people, introduce new ideas, procedures and techniques, and change culture.

An effective communications strategy reinforces improvement work by:

- Developing language which wins ‘hearts and minds’.
- Communicating the improvements and the involvement of those delivering them.
- Developing tools which allow people - both frontline staff and leaders - to understand what needs to be done.
- Conveying involvement and success.
- Creating a co-ordinated ‘joined up’ approach which gives energy, maintains momentum and makes sure new ways of working are spread throughout and across organisations.

To present information in ways which will be understood and encourage involvement we need to identify audiences and the perspectives they bring. For example, taking the time to ask and understand what motivates frontline staff is essential for shaping all communications with them (Welsh NHS Confederation, 2009).

Focus groups can be a useful way of uncovering issues that may encourage or detract from the improvement. The results can then be used to develop communication objectives and important messages.

A well-crafted key message conveys the focus of the work in a short but memorable statement, reflecting the values and hopes of those who are involved. This is part of developing a ‘hearts and minds’ approach, which involves people on a practical and an emotional level.

Talking to frontline staff to hear their views, thoughts and successes with the improvement will encourage others to get involved. Every attempt should be made to gather information on the progress and achievements of frontline staff, and to communicate this widely.

It is important to provide resources for others to spread the message. These could include template articles and press releases, logos and images, presentations and video material (along with advice on how to use them).

When improvement continues over a significant period of time, the real challenge is how to maintain interest. We need to resist the temptation to change the messages and approach to ‘freshen things up’. The focus should stay on the aim of the work, those who are delivering the changes, and the differences those changes are making.
Communicating your improvement
Common improvement questions

Is audit helpful?
Many staff take part in clinical audits as part of professional practice. Audits are essentially about comparing what should be happening with what has actually happened. This means that it is useful for governance and assurance, for example, in whether service standards or expected practice has been followed.

However, audits only provide a ‘snapshot’, which usually relies on an interpretation of notes or records originally compiled for a different purpose. At its best, an audit gives detailed knowledge of a process and can be helpful in setting improvement priorities.

Even when an audit results in specific recommendations for improvement, and a commitment is given to carry out another audit at a later date, too often the necessary change does not follow.

How does the Model for Improvement differ from traditional change methods?
The Model for Improvement requires the ongoing gathering of information and feedback, rather than periodically assessing progress. Improvement science encourages teams to know their systems and work to achieve better outcomes. If we know our system, and know where it is failing, we can choose and adapt an improvement idea from elsewhere (Greenhalgh, 2004). Rolling out best practice reinforces the opposite - ‘top-down’ instructions which impose solutions that do not take account of the actual problem and which then cannot be assessed.

As Shortell (1998) said: “The overall system of caring for patients must be transformed into a culture that emphasises integration and teamwork rather than individualism, measurement for improvement rather than judgement, and continuous learning from each other rather than identification of “best practices” which are treated as sacred cows”.

Do care pathways and national service frameworks drive change?
These are both useful devices for agreeing models of service and setting out expectations for service users. But on their own, they are unlikely to drive change. The reasons why were described by Greenhalgh (2004) who researched the characteristics of effective changes. They are as follows:

- ‘It must have clear relative advantage’ - the people or teams (users) who are asked to make the change part of their work must be able to see that the new method is likely to be better.
- ‘It must have compatibility with the users’ values and ways of working’ - if users find it hard to incorporate the new method, they are unlikely to do so.
- ‘Complexity must be minimised.’
- ‘Users will adopt more readily if innovations allow trialability’ - can it be tested on a small scale to allow learning and familiarity before full commitment?
- ‘There must be observability, that is, it must be seen to deliver benefit’ - if the benefits are not obvious, or they take a long time coming, energy will be lost.
- ‘Reinvention is the propensity for local adaptation’ - this is the key to achieving sustainable improvement. A good improvement must be incorporated into the changing system and not preserved like a museum piece.
What is available to help me make an improvement?

The Improving Quality Together learning programme provides staff with the skills and support to make the improvements they see are needed every day.

Each NHS Wales organisation has an IQT lead who can direct you to the relevant level of development to meet your needs.

Contact details and extra resources can be found on the IQT website: www.IQT.wales.nhs.uk
Improving Quality Together in action

Every NHS Wales organisation is taking part in Improving Quality Together.

ABM University Health Board:
Improving patient flow and communication on hospital wards.

Reducing delays in a patient’s journey and improving communication on hospital wards are just two of the key benefits gained from Jo Rowland’s silver project in the Princess of Wales Hospital, Bridgend.

The Assistant Head of Physiotherapy used her Improving Quality Together training to implement daily board rounds to discuss each patient and find out the next step needed.

Reporting back findings on a daily basis has increased efficiency and resulted in reduced lengths of stay in hospital and improved patient flow through the wards.

It has also provided a consistent approach which has improved communication between staff, and between staff, patients and their families.

Jo said: “Now we have a consistent, clear, sustainable approach which has made a real difference to patients’ journeys.”

Aneurin Bevan University Health Board:
Cleaner operating theatres lead to safer care.

Nurse Helen Dinham used the skills she learnt to reduce surgical site infections by improving the standard practice of cleaning in orthopaedic theatres in the health board.

Improving Quality Together helped her team address the obstacles that were preventing the correct level of cleaning taking place such as standardising equipment and amended policies.

The outcome of the project was 100 per cent compliance with the cleaning requirements, meaning infection risks were reduced and patients would recover more quickly.

She said: “Reaching our target was very good for staff morale and has reassured patients that the quality of care and the standard of cleanliness in orthopaedic theatres is excellent.”

Betsi Cadwaladr University Health Board:
Improving mouth care for patients.

Practice Development Nurse, Suzie Wilson used her Improving Quality Together silver training to improve the mouth care offered by her nursing colleagues to patients in hospital.

She knew from patient satisfaction surveys, carried out in the health board, that high quality mouth care wasn’t given to patients all of the time.

Issues included patients not being encouraged to continue with their normal mouth hygiene routines and the need to improve the cleaning of patients’ dentures.
Small tests of change were implemented, beginning with one patient, one ward, then three wards before spreading the improvement.

*She said, “Improving Quality Together helped to engage nurses who are responsible for delivering mouth care and made them feel as if they were part of the solution.”*

**Cardiff and Vale University Health Board:**

**Improving access to dental services for patients in prison.**

Head of Primary Care Service Delivery, Rhian Blake used her silver training to improve access to dental services for patients at Her Majesty’s Prison in Cardiff.

In the past 18 months, the profile of the prison population had changed significantly with more individuals on higher remand and shorter sentences.

As a result, many patients had incomplete dental treatment or didn’t receive the required treatment in a timely fashion.

Rhian used the programme’s methodology to analyse the problem and find solutions which included the immediate allocation of appointments when needed and a quicker triage process. The changes led to a reduction in complaints and fewer missed appointments.

**Cwm Taf University Health Board: Improving discharge procedures to reduce delays.**

Assistant Director of Quality Improvement and Clinical Governance, Claire Bevan has been working with teams to deliver the organisation’s improvement priorities. The work on flow has led to changes that mean patients wait for less time before being assessed.

All senior nurses have received silver training and are currently using their new skills to improve patient flow by looking at board rounds and improved discharge.

Claire has worked on a new framework for IQT that ensures it becomes an integral part of day-to-day work across the health board.

*She said, “By learning more about what actually makes a difference in service improvement and impact on patient outcomes and experiences we can accelerate the transformation of services.”*

**Hywel Dda University Health Board:**

**Improving communication between hospitals and GP practices.**

South Pembrokeshire Senior Primary Care Locality Manager Hayley Blyth is using her silver training to improve communication between secondary and primary care.

The focus is to ensure patient discharge letters are sent from the hospital to the GP who made the referral rather than just sent back to the GP practice.

She is currently halfway through her project and is already seeing an impact with improved communications, less delays in the system and more seamless care for the patient.
She said, “Improving Quality Together is helping ensure the right information is going to the most appropriate person at the right time. By improving the process we are ensuring more timely, effective and seamless care for our patients.”

**Powys Teaching Health Board: Reducing interruptions and increasing efficiency.**

Board Business Manager, Julia Toy used her Improving Quality Together silver project to reduce staff interruptions to increase efficiency and improve patient care.

She worked with the patient services team in Llandrindod Wells Hospital to encourage them to do the online training and use the learning to reduce interruptions, enabling staff to focus more on the patients they were treating.

*Julia said, “Before Improving Quality Together some staff felt it was up to managers to come up with solutions and ideas. Now everyone understands it’s a shared responsibility. “It just gives the whole team a different dimension and perspective and it really paid off for us in Powys.”*

**Public Health Wales NHS Trust: Setting the improvement agenda at board level.**

Nearly one in four members of staff in Public Health Wales have taken up the challenge to develop their quality improvement skills. This commitment is matched by the top of the organisation, with the entire board of the organisation completing the bronze level.

*“I was delighted that the Public Health Wales board was the first in Wales to complete the Improving Quality Together bronze level,”*

said Chair, Professor Sir Mansel Aylward CB.

“Quality has to be the priority for every member of staff - and if the events of Mid Staffs have taught us anything, Boards must take the lead. They need to send a clear message that they are committed to quality - and completing the first level of the programme was one way in which we could do this.

“The online training module provides an insight into basic improvement methodology which staff can apply in their work - whatever their role in the organisation. I'm certainly going to be applying the framework in my role as chair of the organisation.”

**Velindre NHS Trust: Making it easier for members of the public to access training.**

Training and Development Manager Zoe Whale used her silver training to make it easier for patients and the public to access important training before they take part in clinical research that is looking for better treatments for common, often life-threatening illnesses.

Zoe works at the National Institute for Social Care and Health Research (NISCHR), which is part of Velindre NHS Trust, and provides an all Wales training programme for research.

There were delays in getting people booked into training and when the process was analysed, they found it included 26 steps - much longer than it needed to be. The team are now testing ways to ensure patients get quicker access to training so they can contribute to research.

*Zoe said: “Improving Quality Together gets you thinking about what you can do. People have really welcomed being part of it. It will improve our services. and also develop our staff.”*
Welsh Ambulance Services NHS Trust: Referral scheme improves quality of care for patients

Staff in the Welsh Ambulance Service are using the programme to help reduce unnecessary hospital admissions and support care closer to patients’ homes.

The alternative care pathways work, which is being carried out with health boards, aims to make better use of community services for patients who have fallen or had epileptic or diabetes-related episodes.

Instead of taking them to hospital, paramedics can refer patients to their GP or an identified community team using a 24/7 internal telephone service operated by trained staff.

Since the launch of this new way of working, more than 2858 patients have been safely referred to an alternative care pathway.

Unscheduled Care Lead Grayham McLean, said, “This work is ensuring patients receive the most appropriate care, from the right clinician, at the right time and in the right place.”
References

We referred to the following documents when producing this guide.


Reinertsen JL, Bisognano M, and Pugh MD (2008), ‘Seven Leadership Leverage Points for Organization-Level Improvement in Health Care (Second Edition)’, Institute for Healthcare Improvement, Cambridge, Massachusetts (www.ihi.org)


Introducing Improving Quality Together

NHS Wales aims to provide the highest quality and safest care for the people of Wales. Improving Quality Together is a national learning programme of core improvement skills for all NHS Wales’ staff and contractors. The programme builds upon recognised local, national and international expertise. Taking part will help you play a vital part in transforming NHS Wales into the service that people need. The programme will give you an opportunity to develop your skills and gain accreditation in quality improvement methodology.

You will share a common and consistent approach to improving the quality of services that will help improvements take place much more quickly and spread effectively throughout the country.

“I think Improving Quality Together is excellent. It gives our frontline staff the skill-base to go into their own departments and say ‘I can make this improvement.’” - Neil

“Improving Quality Together has helped us get ahead of the curve.” - Colleen

“IQT gets you thinking about what you can do. People have really welcomed being part of it. It will improve our services, but also develop our staff.” - Zoe

What are the core skills?
The core set of skills are based on the Model for Improvement, looking at:

- setting aims
- measures
- understanding your system
- identifying changes
- testing those changes
- spreading improvements

The skills focus on a person-centred approach in all we do, using measurement for improvement and small tests of change to achieve high reliability.

Find out more about Improving Quality Together at www.IQT.wales.nhs.uk

Improving Quality Together will:

- Equip you to find new ways of working to save you time and reduce stress.
- Help you put the people you help at the heart of everything you do.
- Help you provide an even better service.