

*Improving care, delivering quality*



# The Quality Improvement Guide

A method for improving public services in Wales



[www.1000livesplus.wales.nhs.uk](http://www.1000livesplus.wales.nhs.uk)

# What they're saying about The 1000 Lives Plus Quality Improvement Guide

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“The recent significant improvements that have happened in healthcare in Wales have been due to concerted efforts, partnership working and a clear methodology. This learning can now be taken into other areas of the public sector, offering great opportunities for improvement in services to the people of Wales. This short guide will help anyone seeking to improve to find a way forward rapidly.”

**Professor Sir Mansel Aylward, CB, Chairman, Public Health Wales and co-Chair of the 1000 Lives Plus national programme**

“On an international level, the improvement in Welsh healthcare has been seen as a major success. We have been encouraged in our partnership with the innovators and improvers who have sought change for the better. As this partnership spreads into other sectors beyond healthcare, the lessons learned will benefit everyone seeking to proactively improve the services they offer.”

**Maureen Bisognano, President and Chief Executive Officer, The Institute for Healthcare Improvement**

“Change and Improvement needs to be a continuous feature of all our public services, and the easy-to-follow instructions in this guide are one step on the path to achieving this. Public services must be agile and flexible as they move forward with the change agenda and this guide is part of our journey towards a better future.”

**Jo Carruthers, Deputy Director, Public Services Management Wales**

“The aim of improvement is always aspirational, but for it to happen it has to be founded on practical ideas. It is about changing the way we do things to make sure that what we do is at the highest level of quality. As can be seen in this guide, the ongoing drive to improve in NHS Wales is essentially practical and can be applied in much wider settings.”

**Dr Chris Jones, Medical Director for NHS Wales and co-Chair of the 1000 Lives Plus national programme**

In every improvement movement there comes a point where you have to engage people in a practical way that makes sense and can be shown to work. The concepts in this guide can be applied by clinical teams across healthcare to make concrete improvements in quality and safety.”

**Stephen Thornton, Chief Executive, The Health Foundation**

“The methodology outlined in this guide has already proven useful to those of us working beyond the scope of healthcare. All of us who have a duty of care to individuals in our community must seek ways to improve what we do. Our service users deserve the very best, and in our drive to meet that expectation, we need clear thinking about how we are going to change. This guide clearly states the necessary steps we need to take to improve.”

**David Tovey, Older People's Services Manager, Coastal Housing Group Ltd**

“Major improvements often begin with very small, but significant changes. In nursing, small changes in the way we operate can provide people with a much better experience of care. This guide encourages us all to try a small change, to see what effect it has, and to build on small changes to make cumulative improvements that revolutionise what we do by transforming the way we do it.”

**Professor Jean White, Chief Nursing Officer for Wales**

# The 1000 Lives Plus Quality Improvement Guide

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1

Introduction



## Introduction

In common with most large organisations in healthcare and elsewhere, at NHS Wales we need to improve in order to provide the best possible care and reduce harm, waste and variation in the system. The experience of the health service, and of people in Wales, is that excellent care can be provided, but it's not always provided reliably and consistently.

The first question that needs to be asked is: “How should we set about making this improvement?” Scientific models which promote and support new knowledge, exciting innovations and best practice offer one-off solutions, but they're not improvements. They can distract from the regular and often painstaking work of providing a reliable service and continuous improvement. The good news is that there are better ways to manage improvement, but we will need to learn them (Berwick 1992 I and Berwick 1992 II).

The experiences of the Safer Patients Initiative (funded by The Health Foundation), the 1000 Lives Campaign and many other programmes in Wales and beyond, have 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).



For improvement to be maintained there must be:

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

**Ideas** - we must know what to try; and

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

(Berwick, 2003 and Nolan, 2007)



The first example, improving population health, is from a well-known initiative in Wales which worked to reduce known health risks for the people it serves. It shows how a clear distinction between process and outcome can lead to purposeful work in everyday practice. This groundbreaking work, carried out 40 years ago (Tudor Hart, 1970), illustrates that there is nothing new in the modern approach.

Over several years, NHS Wales has shown that it is often good at coming up with ideas, being innovative and drawing on good practice. The 1000 Lives Campaign, and now the 1000 Lives Plus programme, also show that those working within NHS Wales are committed to improving. However, the biggest challenge has been using the right techniques to achieve improvement. This has sometimes given the impression that there is a lack of commitment, but we know that nobody wants to do harm or do a poor job for their patients.

The purpose of this guide is to describe a useful set of techniques and show how they can be applied in different settings to encourage everyone - the public, managers, health professionals, support staff and board members - to explore how they can use these techniques in their work. The aim is to create a shared understanding and language for the way the NHS and public services set about improvement.

This guide does not cover every aspect in detail. The themes are explored further in the ‘How to Improve’ and ‘Leading the Way to Safety and Quality Improvement’ guides available on the website at [www.1000livesplus.wales.nhs.uk](http://www.1000livesplus.wales.nhs.uk).

In the first section of this guide, three examples are used to illustrate the point being made.

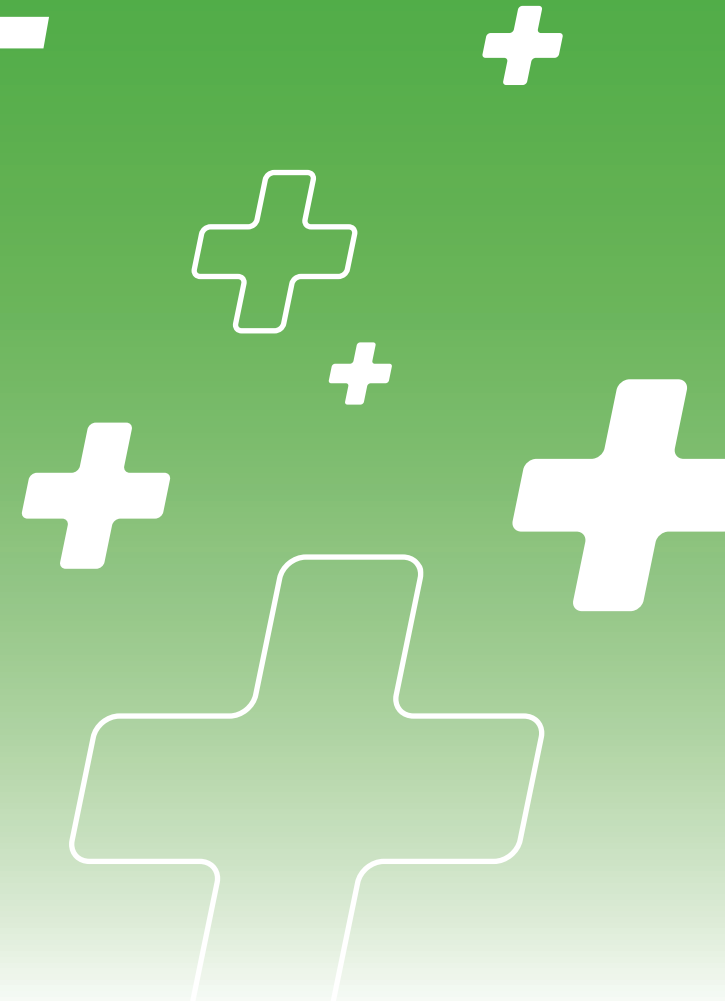
The second example, road safety, is a hypothetical example that refers to how to prevent deaths and injuries due to road traffic. This example has been deliberately chosen because it is from outside healthcare. It shows that the same methods can be used in a wide range of improvement efforts.

The third example, improving stroke care, shows how people in Wales can receive better treatment. It applies the method to improve the way services are organised and provided. This example shows how anyone who has a stroke should receive the same evidence-based care within an appropriate time frame wherever and whenever they have their stroke.



# 2

## The Model for Improvement



# The Model for Improvement

The Model for Improvement provides a framework to structure improvement efforts. It was originally developed by Associates for Process Improvement ([www.apiweb.org](http://www.apiweb.org)) to provide the best chance of achieving goals and adopting ideas (Langley et al, 1996).

The model is based on three key questions, known as the thinking components:

1. *What are we trying to accomplish?*
2. *How will we know that a change is an improvement?*
3. *What change can we make that will result in improvement?*

These questions are then used in conjunction with small scale testing, the doing component known as Plan-Do-Study-Act cycles (PDSA) as outlined in Figure 1.

# 1. What are we trying to accomplish?

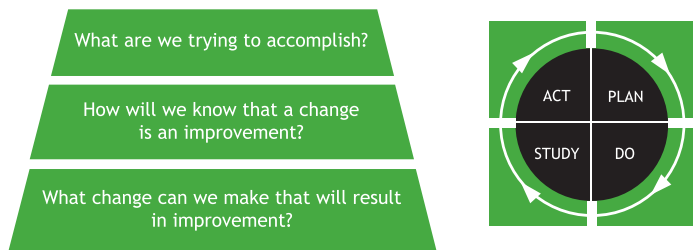
Improvement requires effort, so it is important to direct our efforts to the right problem. The first thing we have to do is be clear about what we aim to achieve. For example, is the aim to reduce death, avoid dependency or illness, or reduce risk?

This sounds obvious, but is often hard to answer precisely. Without this clarity, it is impossible to decide what action to take or to know whether the outcome is an improvement. So the vital question is: “What outcome do we want?”

The table below sets out the desired outcome of each of the three example cases:

	Example 1 Population health	Example 2 Road Safety	Example 3 Stroke Care
Desired outcome	Reduce people's exposure to known health risks	Reduce death and injury on the UK roads	Improve the outcomes for people following a stroke

Figure 1: The Model for Improvement (Institute for Healthcare Improvement)



For further details about the Plan-Do-Study-Act cycles, see page 24.

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

Once we are clear about the desired outcome, the next task is to choose a standard to measure the outcome against. At best, this measurement will be simple and easy to use, but it is often difficult to find a perfect measure. We may need to accept some imperfection and collecting the necessary information may be difficult.

The principles to follow when selecting a measure are:

- Use a measure which is:
  - well defined;
  - allows comparison between sites and over time; and
  - already in use, if possible.
- Use a measure that is specific and sensitive enough to allow you to identify and monitor outcomes. Here are two examples to illustrate the terms ‘specific’ and ‘sensitive’.
  - When trying to reduce deaths on the road, monitoring all deaths in the UK may well miss the outcome achieved because the deaths on the road are not distinguished from deaths from all other causes. The measure is not specific enough. See page 16 for an appropriate measure.
  - When trying to reduce people’s exposure to health risks, monitoring harm from medicines by counting mistakes in prescriptions might produce very misleading results because many cases of harm from medicines are not the result of prescription mistakes. In this case, the measure

is not sensitive enough. (It is also not specific enough because many mistakes do not result in harm). See page 16 for an appropriate measure.

- Don’t reject a measure simply because other factors could affect the effectiveness of the measure. If those other factors are likely to stay constant, the measure may still be valuable.
- When choosing an outcome measure, favour one that can be applied to the whole community, population or system.

Whether using an existing measure or creating new ones, it is vital to be clear about how they are defined. If using an existing measure, it is likely to have been developed for a different purpose, so take time to understand how it was put together. Make sure that everyone involved in collecting information for new measures knows why they are doing it.

Lastly, improvement work sometimes needs to go ahead without there being a good outcome measure, and often before monitoring is stable. This is because improvement work is not an experiment trying to prove the value of an action, it is about adopting and adapting practice, based on evidence. For this reason, and also because it can take a long time for any change in outcome to be recognised, we should also have at least one measure of process. Guidance on how to choose appropriate process measures is given on page 24.



Here are the outcome measures for our three examples:

	Example 1 Population health	Example 2 Road Safety	Example 3 Stroke Care
Outcome measures	<p>Incidence of left ventricular hypertrophy</p> <p>Mean blood urea of more than 40mg/100ml</p>	<p>Number of deaths each year from road accidents in Great Britain</p> <p>Casualties per 100 million vehicle kilometres</p> <p>Road deaths per 100,000 people</p>	<p>Number of deaths each year from stroke</p> <p>Hospital mortality rate from stroke</p> <p>Change in Barthel score while in hospital</p>

### 3. What changes can be made that will result in improvement?

It is essential to link outcome measures to ‘interventions’ - the systems and processes that will help us achieve the desired outcome. We will not make consistent progress towards improving outcomes by focusing on outcome measures alone.

There are two parts to this question - “What is wrong with the system now?” and “What works?”

#### What is wrong with the system now?

The experience of our staff, the evidence of our own eyes, and feedback from our patients and other service users will all help us identify what we need to focus and concentrate our efforts on.



We need to consider the following:

- What will deliver the biggest benefit? This is often addressing the things that are done most often or the area where most waste is incurred.
- What do typical cases tell us about the system?
- Are demand and need understood properly? How much demand is repeat work or work caused by another part of the service?
- What is the high-value part of the system (the part that delivers real benefit)? Is it the same as the part which has the highest costs?

- What can simplify the process?
- How can we use the knowledge of service users and people in other parts of the process?

In other words, we need to make a conscious effort to:

- Avoid making change for change's sake.
- Avoid considering one interesting, seemingly urgent and personally fascinating topic at the expense of important mainstream work.
- Avoid focusing only on 'special causes' which are particularly serious or unusual as they will often give false information about how to improve the system in general. To improve, we need to focus on the things which regularly cause unreliability.

For example, in acute stroke services, some of the biggest causes of unreliability result from certain staff not being available outside 'office hours'. Approaches to improve reliability have tackled the skill mix of the staff available at any one time and re-examined segregation of duties to reduce the differences in care patients experience at different times.

- Avoid adding extra steps to 'fix' a system that isn't working. Especially avoid adding a solution while allowing a problem to continue. This is what Balestracci refers to as "scraping burnt toast" (Balestracci, 2005). Such steps will add handovers, bottlenecks and bureaucracy but will not improve efficiency.
- Avoid the 'silo' mentality where departments or groups do not want to share information with others. Do customers

get what they want from parts of the service? Are we running a 'great' department while quietly blaming other departments for poor delivery?

- Avoid confusing information on performance (whether targets have been met) with information on improvement (how the system is working).

## What works?

To find out what works we first need to gather evidence of how a good system should work. Don't make this unnecessarily hard by going into too much detail. Greenhalgh (2004) has shown that successful change is most likely to be achieved using simple steps that can be applied in local situations (see page 46).

We use the evidence gathered to produce driver diagrams to summarise desired outcomes and how they can be achieved. Pages 21, 22 and 23 give examples of driver diagrams based on the desired outcomes of:

- reducing people's exposure to known health risks;
- reducing death and injury on UK roads; and
- improving quality of life for people following a stroke.

The first step to producing a driver diagram is to gather evidence of what works. The best evidence is published accounts of controlled experiments or, better still, systematic reviews of several publications. If that evidence is not available, professional guidelines, national service frameworks and evidence of good practice may be useful, but we need to be aware of their limitations.

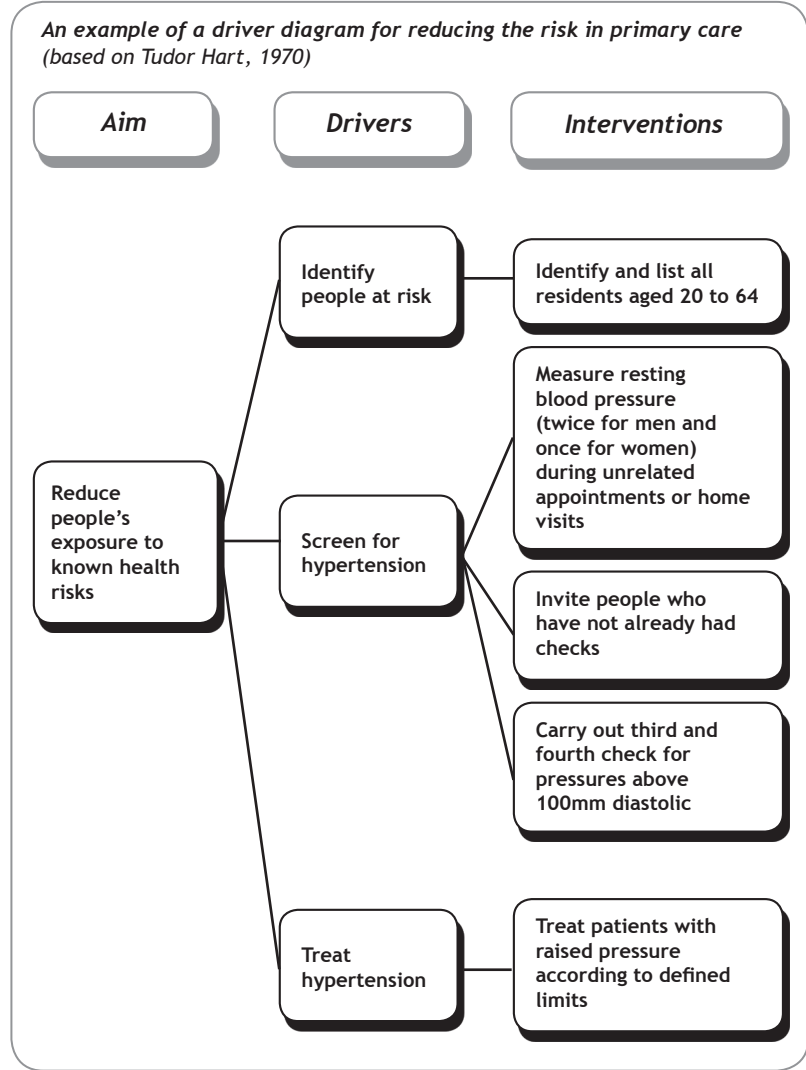
When producing driver diagrams there are some basic rules which must be followed:

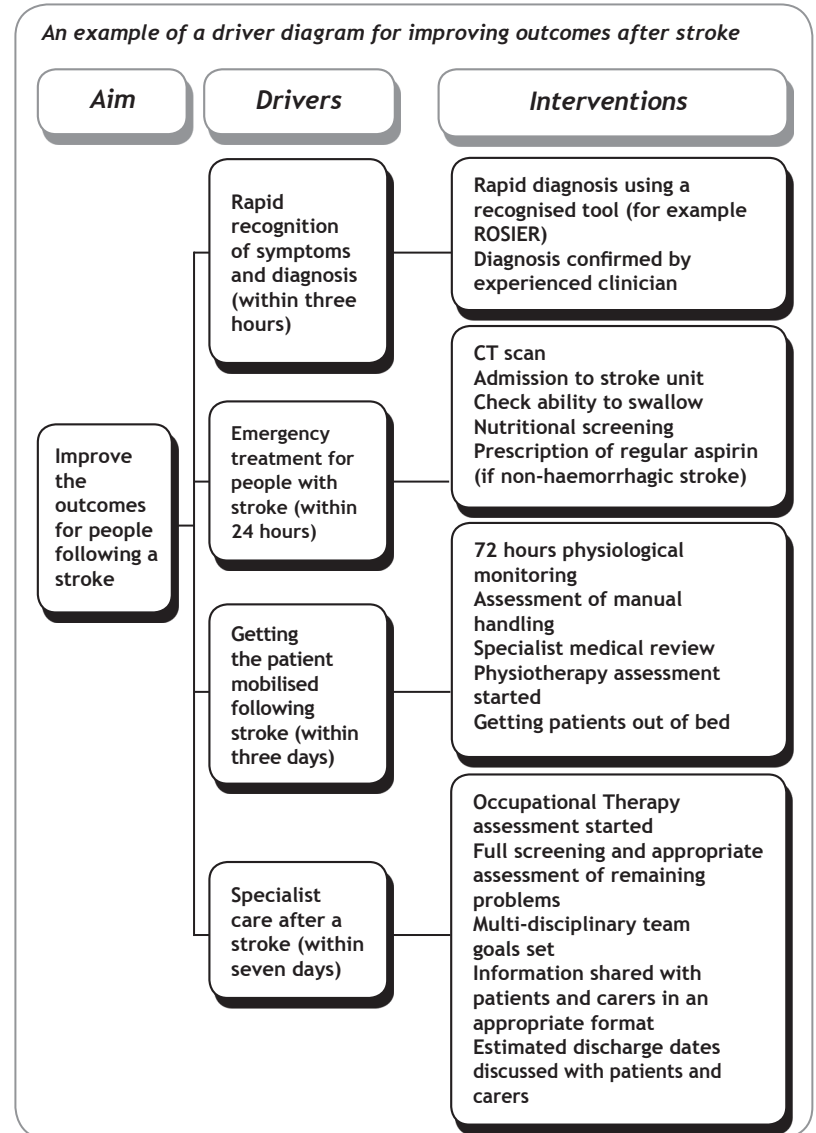
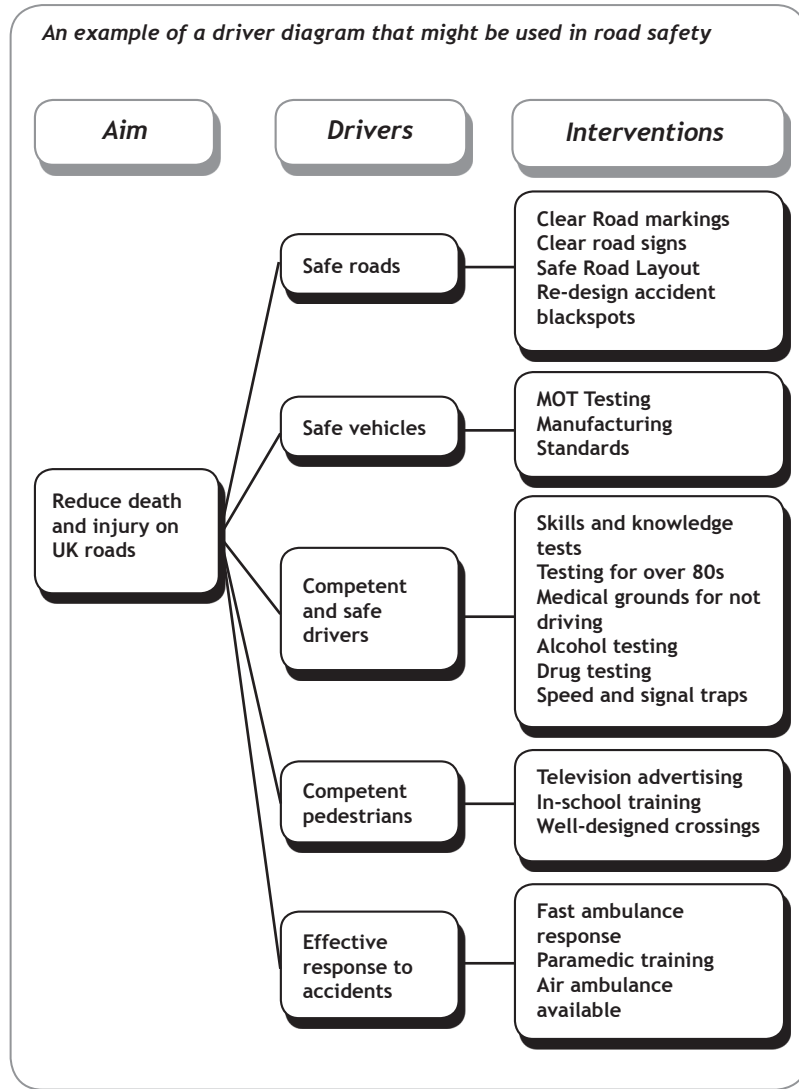
- The first column - 'Aim' - shows the desired outcome of the service (the simpler the better).
- The second column - 'Drivers' - shows the factors that affect the outcome.
- The third column - 'Interventions' - shows the actions that have been shown to make a difference and bring about improvements.

A panel of experts will have to agree the driver diagram. It should be brief and simple, and contain only evidence-based and important interventions.

As far as possible, the interventions should state what happens to the patient and not specify where care takes place or the type of staff involved.

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, 2008).





## How do we introduce changes to processes?

In the 1000 Lives Plus improvement work, we have learnt that to try something new in a reliable way, it is best to start small - one person, one setting, one service provider.

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 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% of patients, 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.

We must remember to account for the organisation's ability to make sure it can manage a larger number of new sites while continuing to maintain existing ones.



# 3

## Measurement and Reliability



## Measurement and Reliability

To summarise the last section, 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.

Study the system to see which action offers the most potential value. Use a spreadsheet to count all critical parts in the process. Alternatively, use “process mapping” which converts the process into a visual, step-by-step diagram, or existing audits or recent reports.

However, bear in mind that audits and reports are likely to study small fractions of the information available and may be inaccurate. For both these reasons, they can lead to false conclusions. There is no substitute for looking at the system personally, seeing where any measurements come from and how they are made.

### How we measure

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 (see page 12). ‘Decide aim’ (step 1) is covered in ‘What are we trying to accomplish?’, and steps 2 and 3 are covered in ‘Finding an outcome measure.’

Steps 4 to 6 form 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).

Figure 2: The Seven Steps to Measurement

The seven steps to take are:

Step 1 - Decide your aim

Step 2 - Choose your measures

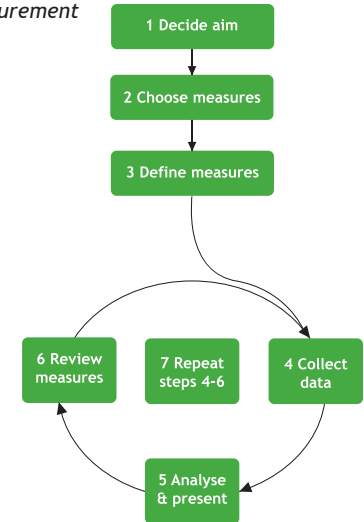
Step 3 - Define your measures

Step 4 - Collect your baseline data

Step 5 - Analyse and present your data

Step 6 - Meet to decide what it is telling you

Step 7 - Repeat steps 4 to 6 each month or more frequently



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.

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 help analyse information, and a statistical process control chart will help you look at your information

and understand any 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% 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.

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 information. There are three main reasons for collecting information:

- improvement - to help discover ways to improve;
- accountability - to hold people accountable and make sure they are working to an acceptable standard; and
- research - to discover something new.

Figure 3 shows how the way things will be measured will change, depending on what the measurement is going to be used for. (Solberg et al, 1997 adapted).

Figure 3: Comparison of data requirements for improvement, accountability and research.

	Improvement	Accountability	Research
<b>Aim</b>	Improvement of care	Comparison, choice, reassurance	New knowledge
<b>Method of testing</b>	Small sequential tests	No testing - simply evaluate performance	One large carefully designed test
<b>Bias</b>	Accept consistent bias	Adjust what you collect to reduce bias	Design to eliminate bias
<b>Sample size</b>	Small sequential samples	Potentially large - need to gather all relevant information	Large - need information to cover all eventualities
<b>Flexibility of hypothesis</b>	Hypothesis changes with learning	No hypothesis	Fixed hypothesis
<b>Type of analysis and presentation</b>	Run charts or statistical process control charts	League tables, achievement of target	Traditional statistical tests
<b>Confidentiality of information</b>	Information used only by those involved in improvement project	Information available in the public domain	Results widely available but research subjects’ identity protected



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? 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% reliability, the reliability of the process is 64% (80% of 80%).

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

It is often possible to reach 95% 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%, the system itself needs to be redesigned. Design is the best tool for achieving reliability.

For more information on measurement and reliability, the 'How to Improve' guide published by 1000 Lives Plus covers this in much more detail. The guide is available on the website at [www.1000livesplus.wales.nhs.uk](http://www.1000livesplus.wales.nhs.uk)

# 4

## Delivering Improvement through Teamwork and Leadership



## Delivering Improvement through Teamwork and Leadership

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


Organisations can often point to specific examples of good-quality improvement practice, but supporting staff to introduce and maintain co-ordinated improvements is far more challenging.

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

- Leadership at an organisational level;
- Clinical or technical expertise;
- Frontline leadership.

There may be one or more people on the team working in each role, and one person may fill more than one, but each role should be represented on the team in order to achieve long-term improvement. However, we need to avoid setting up a team that is too large to reach an agreement or cannot communicate quickly and effectively.

To attract and keep excellent team members, we can:

- 
- Use information to define and solve the problem, and gather people who are enthusiastic about the issue.
  - Appoint a local specialist or ‘process owner’ who:
    - is responsible for the processes which are to be changed; and
    - has the knowledge necessary to oversee the effective introduction of the improvement.
  - Set up ‘sub-teams’ if there are several areas to be covered or specific areas of expertise are needed.

### Building the will to make improvements as quickly as possible

Strong leadership is critical to building the will to change. Changing practice often requires a change in the organisation’s culture (the beliefs and assumptions people have about ‘the way things are round here’).

The culture in an organisation, even at the level of an individual department or unit, develops through the messages staff receive from leaders. Surveys can provide useful information on people’s attitudes and opinions, and can give leaders vital information about where to focus attention.

Setting clear improvement aims and monitoring progress against them is a primary task for leaders, but it is the practical actions of leaders that most strongly influence an organisation’s culture and the will to change.

Practical actions include sharing stories based on users' experiences and highlighting the need for change. Being approachable to staff and communicating openly using a structured approach, such as leadership 'WalkRounds', can be valuable.

## Generating and spreading ideas

Leaders at all levels need to encourage and spread ideas about alternative ways of doing things. Those ideas need to be good enough to form the basis of new working systems.

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, complaints, incidents and near misses; and
- Visiting the sites of other services.

Successful sites regularly involve new people in these meetings and make sure the group is open to new views. New members of the group help to generate some of the best ideas.

Asking frontline staff about the biggest challenges they face each day, then looking for ways to tackle them, quickly involves staff in finding solutions for issues they are most concerned about changing.

Encouraging and spreading ideas about alternative ways of doing things offers a new and different way to improve care. It is a proven way for frontline staff to help drive improvement rather than having to accept other people's ideas.

## Successfully introducing change

Achieving change will require consistently applying a range of improvement initiatives into the daily work of the organisation. Using driver diagrams is an excellent way of demonstrating how local actions are in line with organisation-wide priorities, and so these diagrams should be developed and used at all levels.

A second essential component of successfully introducing change is clear accountability - all the way from the frontline team to the most senior level of the organisation. The role of executive lead for an improvement initiative is not a passive 'figurehead' role. It requires positive action to support, challenge, allocate appropriate resources, and overcome barriers to change.

The third essential component for introducing change must be a commitment to develop staff at all levels in the skills needed to lead and deliver improvement initiatives.

The 1000 Lives Plus programme has developed a driver diagram to provide an overview of the actions leaders should consider to introduce change. This diagram is in the 'Leading the Way to Quality and Safety' guide, available on the website at [www.1000livesplus.wales.nhs.uk](http://www.1000livesplus.wales.nhs.uk)

# 5

## Engaging your Audience Developing a Communications Strategy



## Engaging your Audience

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; and
- 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.

A focus on frontline staff - 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.

As part of the communications strategy, we should consider developing a brand. This is more than just designing a logo. The values, tone and emotional impact of a logo needs to be considered too. A positive ‘identity’ for the improvement work can lead to greater recognition and create a real sense of ownership.

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). Further details and ideas are available on the website: [www.1000livesplus.wales.nhs.uk](http://www.1000livesplus.wales.nhs.uk)

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.



# 6

## Common Questions



## What is an audit?

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 (see reference to Greenhalgh on page 54). 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”.

## Why focus on harm, waste and variation?

### Harm

Evidence suggests that harm and death which can be avoided are a common side effect of healthcare provided in NHS Wales and beyond. In the UK, Sari et al (2007) found that harm had been caused to patients in 8.7% of hospital admissions. The harm contributed to the person’s death in 10% of these cases, and to disability in 15% of the cases.

### Waste

Once harm has happened, dealing with the consequences costs money and represents a large and avoidable cost. In 2001, harmful events were estimated to cost the UK NHS around £1 billion a year in extra bed days alone (Vincent et al, 2001).

In the US, it is estimated that \$19.5 billion a year is wasted as a result of errors (avoidable mistakes). The three most expensive errors are post-operative shock (\$93,682 per case), infection due to central venous catheter (\$83,365 per case), and infection following infusion, injection, transfusion or vaccination (\$78,083 per case) (Shreve et al, 2010).

## Variation

There is often a difference between what we do and what we think we do and there is now a lot of evidence that best practice is not being delivered reliably and consistently.

This variation is not normally the result of individual competence or practice, but a result of the systems and processes being used. Berwick frequently quotes that: “Every system is perfectly designed to achieve exactly the results it gets”. It is through improving reliability in the systems and processes we use every day that there is the greatest potential for improvement.

## 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.





# 7

Summary



## Summary

Experience has shown that when some simple principles and techniques are widely understood and shape the whole organisation's culture, success can be maintained and spread.

The Model for Improvement provides a framework to structure improvement actions, but this is not enough by itself. Improvement work is about adopting and adapting evidence-based practice to the particular setting, and a well-defined outcome measure allows improvement to be tracked between sites over time.

Consult the best evidence to choose the most appropriate actions to achieve improvement and use a driver diagram to summarise the aim and actions. Make sure you consult an expert group to agree these. Use the 'Plan-Do-Study-Act' (PDSA) cycle as a way of trying a new technique, starting small and spreading to more sites only when the new technique is 90 to 95% reliable.

To improve you need to use measurements to understand the problem and to measure the effect of a change. Study your system to see which action offers the most potential value. Use the Collect-Analyse-Review cycle to produce a baseline and use run charts or statistical process control charts to demonstrate how the process is performing. How often you collect, analyse and review information sets the pace for introducing change.

To achieve improvement across an organisation, teamwork is essential. Once you have agreed your high-level priorities, setting up teams to lead on improvement actions will help build will, generate ideas and co-ordinate execution, as well as help to review progress.

Strong leaders need to generate commitment, which often requires a change in the culture of the organisation. New ideas from frontline staff should be encouraged and spread, and leaders must incorporate the resulting improvement actions into the organisation's daily work.

A 'joined-up' approach that gives energy, maintains momentum and spreads new ways of working requires an organisation-wide communications strategy. The strategy should focus on those who are delivering the changes and the differences they are making, and convey clearly defined key messages.



## Improving public services in Wales together

If you would like more information about the 1000 Lives Plus programme, visit the website at

[www.1000livesplus.wales.nhs.uk](http://www.1000livesplus.wales.nhs.uk)

You can also sign up to receive the programme's monthly e-newsletter, which provides the latest news and developments.

For further information, please contact the 1000 Lives Plus office at:

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## References



## References

We referred to the following documents when producing this guide.

Balestracci D (2005), 'SPC for the real world', Quality Digest.com.  
([www.qualitydigest.com/sept05/departments/spc\\_guide.shtml](http://www.qualitydigest.com/sept05/departments/spc_guide.shtml))

Berwick DM (2003), 'Errors today and errors tomorrow', New England Journal of Medicine, 348: 2570-2572

Berwick DM, Enthoven A, and Barker JP (1992), 'Quality Management in the NHS: The doctor's role - I', British Medical Journal issue 304, pages 235 to 239

Berwick DM, Enthoven A, & Barker JP (1992), 'Quality Management in the NHS: The doctor's role - II', British Medical Journal issue 304, pages 304 to 308

Greenhalgh T, Robert G, Macfarlane F, Bate P, and Kyriakidou O (2004), 'Diffusion of Innovations in Service Organisations: Systematic Review and Recommendations', The Milbank Quarterly, issue 82 (4), pages 581 to 629

Tudor Hart J (1970), 'Semi-continuous screening of a whole community for hypertension', The Lancet, issue 2, pages 223 to 226

Langley GJ, Nolan KM, Nolan TW, Norman CL, and Provost LP (1996), 'The Improvement Guide - A Practical Approach to Enhancing Organisation Performance', Jossey-Bass

Nolan, TW (2007), 'Execution of Strategic Improvement Initiatives to Produce System-Level Results', IHI Innovation Series White Paper, Institute for Healthcare Improvement, Cambridge, Massachusetts ([www.ihl.org](http://www.ihl.org))

Pronovost P, Berenholtz S and Needham D (2008), 'Translating evidence into practice: a model for large scale knowledge translation', British Medical Journal, issue 337, pages 963 to 965

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.ihl.org](http://www.ihl.org))

Sari A, Sheldon T, Cracknell A, Turnbull A, Dobson Y, Grant C, Gray W, Richardson A (2007), 'Extent, nature and consequences of adverse events: results of a retrospective casenote review in a large NHS hospital', Quality and Safety in Healthcare, issue 16, pages 434 to 439

Shortell SM, Bennett CL, and Byck GR (1998), 'Assessing the Impact of Continuous Quality Improvement on Clinical Practice: What It Will Take to Accelerate Progress', Milbank Quarterly issue 76 (4), pages 593 to 624

Shreve J, Van Den Bos J, Gray J, Halford M, Rustagi K, Ziemkiewicz E (2010) 'The Economic Measurement of Medical Errors', Society of Actuaries Health Section, Milliman Inc.

Solberg L, Mosser G, and McDonald S (1997), 'The Three Faces of Performance Measurement: Improvement, Accountability and Research', Joint Commission Journal of Quality Improvement, issue 23 (3), pages 135 to 147

NHS Communications, 'What it means, how to do it, and why bother' (2009), Welsh NHS Confederation ([www.welshconfed.org](http://www.welshconfed.org))

Vincent C, Neal G and Woloshynowych M (2001), 'Adverse events in British hospitals: preliminary retrospective record review'. British Medical Journal, issue 322, pages 517-519

*Improving care, delivering quality*



## The Quality Improvement Guide

'The 1000 Lives Plus 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 quality of services provided. It will encourage everyone (the public, carers, managers, healthcare professionals, accountants, board members) to apply these techniques and be part of introducing change to bring about improvements.

The main issues covered are:

- identifying the problem;
- making sure the changes made are improvements;
- measuring the difference;
- introducing change;
- teamwork and leadership;
- communicating with and involving staff; and
- spreading change.

Published by 1000 Lives Plus, the national programme which aims to improve outcomes and drive quality improvement in Wales to reduce harm, waste and variation in the system, and improve the overall experience of care.