Improving care, delivering quality

1000 LIVES + 0 FYWYDAU

The Quality Improvement Guide

Nursing Edition

A method for improving the quality of nursing in Wales

supported by

Royal College of Nursing

What they're saying about The Quality Improvement Guide – Nursing Edition

"Many nurses have been involved in the good progress that has been made in Wales to improve patient care, and they have been supported by the clear, evidence-based methods introduced by 1000 Lives Plus. When we implement a change to the care provided by nurses we need to know that it will be effective and we also have to demonstrate and share the improved outcomes which result. The steps in this guide will assist every nurse as they introduce changes that will benefit patients."

Angela Hopkins, Director of Nursing, Cwm Taf Health Board

"We are delighted that nurses continue to play such an important part in 1000 Lives Plus. The RCN is committed to empowering the nursing family to deliver improvements, because we know the impact this can make. This guide will aid all frontline staff to deliver changes that can make a real difference to patients' experiences and outcomes."

Tina Donnelly, Director, Royal College of Nursing Wales

"When trying a new idea, it's best to start small – even just one person, in one place. The approach taken in this guide allows small trials to build towards widespread change. The simple techniques in this guide offer every nurse a significant opportunity to truly improve life for the people of Wales."

Dr Alan Willson, Director, 1000 Lives Plus

Foreword

The 1000 Lives Plus programme has captured the imagination of the healthcare workforce in Wales. With its simple focus on saving lives, reducing harm and improving both the quality and safety of care, it continues to make a real difference to patients across the country.

The work is delivered through an easy to follow service model and a strong evidence-base that supports frontline staff to lead the changes needed to improve care.

I am proud of the continuing contribution that nurses and midwives are making in the 1000 Lives Plus national programme.

The programme is working in new areas using the established building blocks of the service improvement model described in detail in this guide. I urge you to read, use and share this guide with others.

It is through the engagement with programmes such as this that we will achieve the ambitious aim set out in the Welsh Government's 'Designed to Realise our Potential' (2008) statement on nursing and midwifery in Wales:

"To realise the maximum potential of nurses and midwives in order to meet, in partnership with others, the changing health needs of people in Wales."

Getting it right and providing our patients with the highest standard of care possible takes commitment and leadership every day. Our next important step in this journey is to move from seeing this improvement work as an initiative, to seeing this as the 'way we do things around here' – our patients expect and deserve the best we can do for them.

Professor Jean White, Chief Nursing Officer for Wales

The 1000 Lives Plus Quality Improvement Guide - Nursing Edition

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The 1000 Lives Plus Quality Improvement Guide - Nursing Edition

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1 Introduction

Introduction

With nurses making up a significant proportion of the NHS workforce in Wales, they play a crucial role in implementing and influencing improvements to the care patients receive. The experience of those who use the health service in Wales is that excellent care can be provided, but it's not always provided reliably and consistently.

1000 Lives Plus is committed to developing a consistent and standard language for improvement in NHS Wales and this version of 'The Quality Improvement Guide' has been specially created to support the nursing profession.

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).

A focus on improvement is part of the clinical judgment nurses employ in the provision of care to enable people to improve, maintain, or recover health, to cope with health problems, and to achieve the best possible quality of life, whatever their disease, until death. (Defining Nursing, RCN 2003)

However, the complexity of people's healthcare needs requires the collective knowledge, skills and actions of many disciplines and professions. Each discipline shares some knowledge and skills with others, but each also makes its own unique contribution to the 'collective' pool.

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

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 cause harm or do a poor job for their patients.

The purpose of this guide is to describe a useful set of techniques that nurses and nursing at all levels can use in different settings, and 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 takes improvement forward.

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

The first 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 every person who has had a stroke should receive the same evidence-based care within an appropriate time frame, wherever and whenever they have their stroke

The second example shows how the number of patients developing Catheter Associated Urinary Tract Infections (CAUTI) can be reduced. It demonstrates how applying systematic nursing care can improve the outcome for patients.

The third example shows how the percentage of hospital acquired pressure ulcers can be reduced. It shows how the identification of underlying risk factors in individuals is key to planning the most appropriate preventative interventions.

The Principles of Nursing Practice

The Principles of Nursing Practice (figure 1), developed by the Royal College of Nursing, describe what the public can expect from nursing practice in any setting.

Within this guide each one of the eight principles has been mapped to one of the 1000 Lives Plus improvement areas, illustrating how they relate to quality improvement work. These can be found on pages 57 - 73.

Figure 1

2 The Model for Improvement

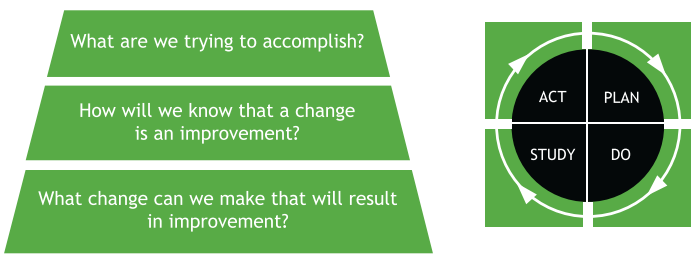
The Model for Improvement

The Model for Improvement provides a framework to structure improvement efforts. It was originally developed by Associates for Process Improvement (www.apiweb.org) 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 2.

Figure 2: The Model for Improvement
(Institute for Healthcare Improvement)



For further details about the Plan-Do-Study-Act cycles, see page 26.

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 desire outcome of each of the three example cases:

	Example 1 Stroke	Example 2 Infections	Example 3 Pressure ulcers
Desired outcome	Improve the outcomes for people following a stroke	Reduce the number of patients developing an infection	Reduce the number of patients acquiring a pressure ulcer

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 measurement. 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 a period of time; and
  - is already in use, if possible.
- Use a measure that is specific and sensitive enough to allow you to identify and monitor outcomes.
- 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 30.

Here are the outcome measures for our three examples:

	Example 1 Improve outcomes following stroke	Example 2 Reduce number of patients developing catheter associated urinary tract infections	Example 3 Reduce the percentage of patients acquiring a pressure ulcer
Outcome measures	Number of deaths each year from stroke Hospital mortality rate from stroke Number of people receiving emergency treatment for stroke within 24 hours	Number of infections Number of catheters used Number of days catheter remains in situ	Number of days since last pressure ulcer developed Incident form for any ulcer grade II and above Pressue ulcer rate per 1000 bed-days

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 through 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 do the following.

- 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 the 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 Davies 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 50).

We use the evidence base gathered to produce driver diagrams to summarise desired outcomes and how they can be achieved. Pages 23, 24 and 25 give examples of driver diagrams based on the desired outcomes of:

- improving quality of life for people following a stroke;
- reducing people's exposure to infections; and
- reducing people's risk of developing a hospital acquired pressure ulcer.

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.

Figure 3: An example of a driver diagram for improving outcomes after stroke

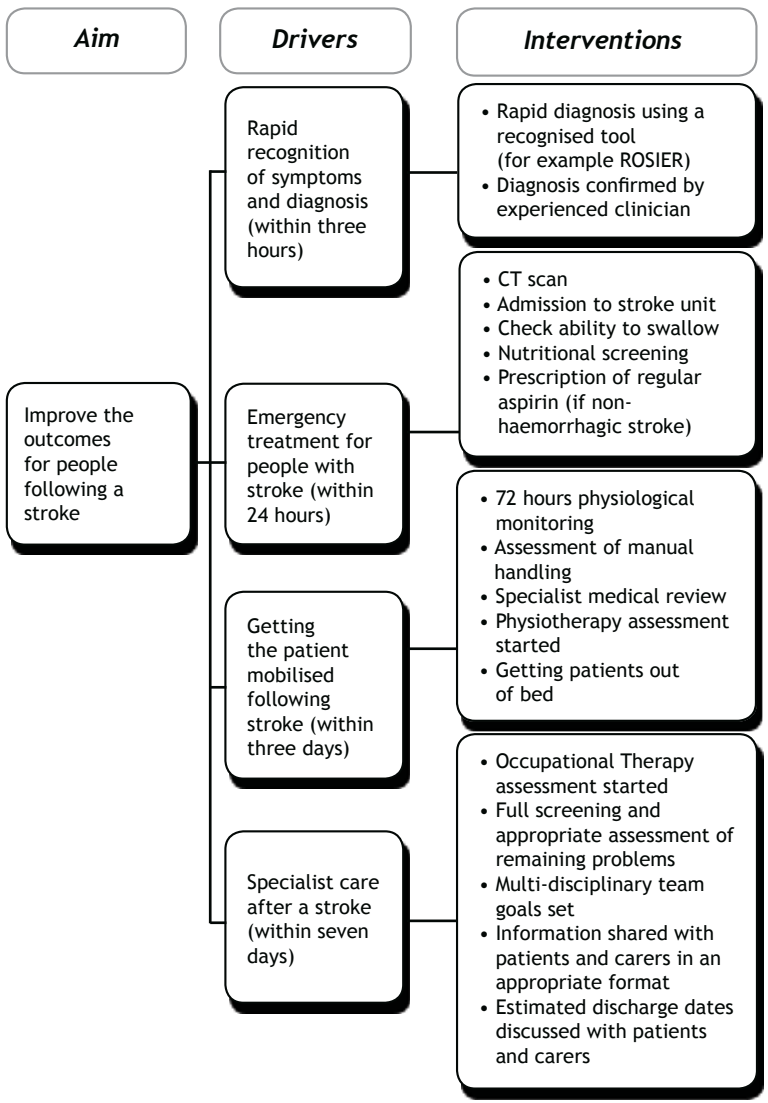


Figure 4: Driver Diagram – Catheter Associated Urinary Tract Infections

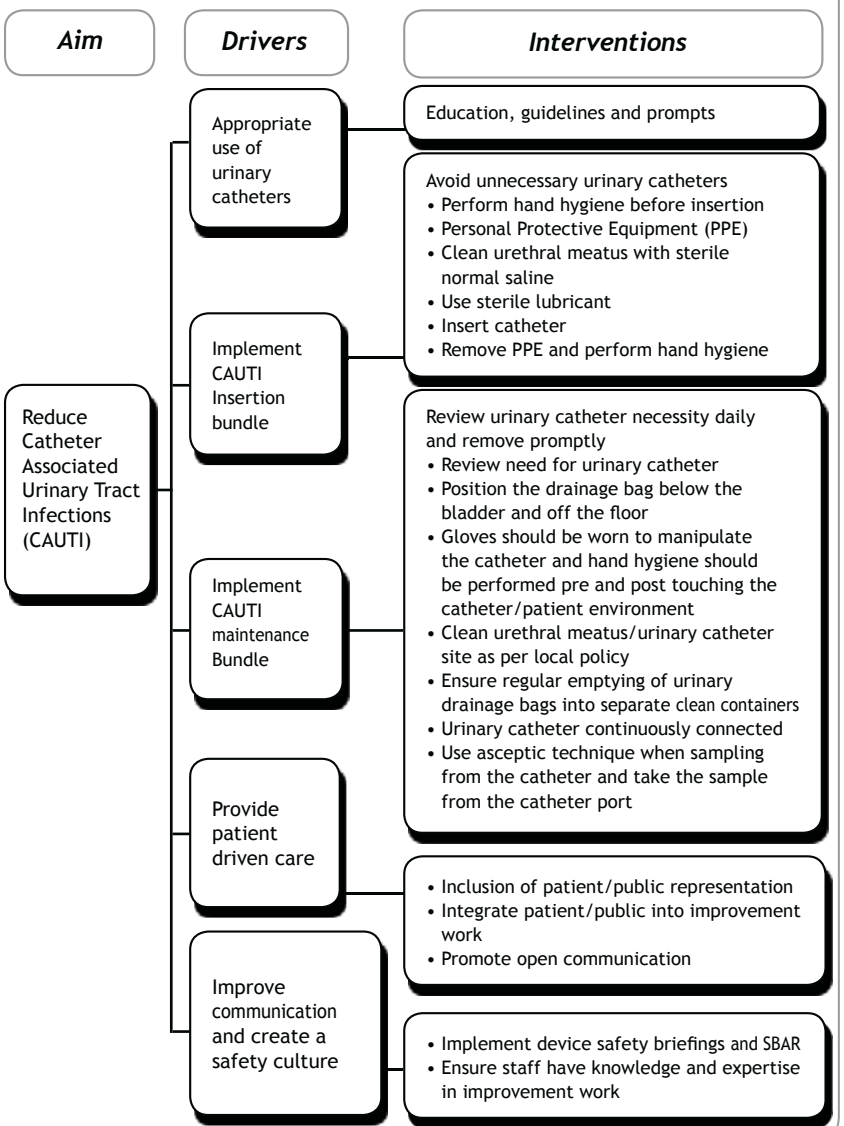
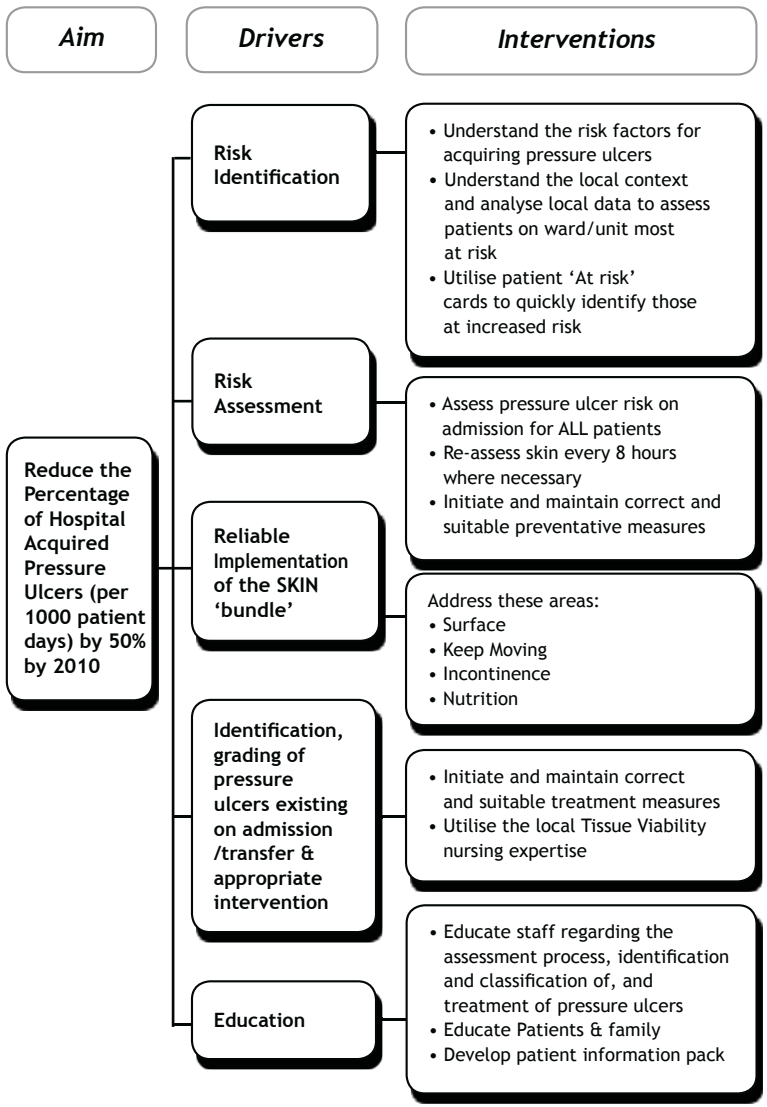


Figure 5: Driver Diagram – Preventing Hospital Acquired Pressure Ulcers



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, 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 - 95% of patients, propagate 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 quickly 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 14).

'Decide aim' (step 1) is covered in the '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). Finally review the information to see what decisions need to be made (step 6). The Collect-Analyse-Review (CAR) cycle then starts all over again (step 7).

Figure 6: The Seven Steps to Measurement

The seven steps to take are:

Step 1 - Decide your aim

Step 2 - Choose your measures

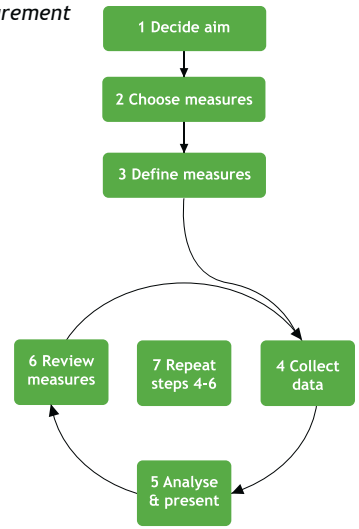
Step 3 - Define your measures

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 CAR cycle will provide a 'baseline' of current performance (the starting part). If you collect information about 20 to 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 here, 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 7 shows how the way things will be measured will change, depending on what the measurement is going to be used for.

Figure 7: Solberg et al, 1997 adapted

	Improvement	Accountability	Research
Aim	Improvement of care	Comparison, choice, reassurance	New knowledge
Method of testing	Small sequential tests	No testing – simply evaluate performance	One large carefully designed test
Bias	Accept consistent bias	Adjust what you collect to reduce bias	Design to eliminate bias
Sample size	Small sequential samples	Potentially large – need to gather all relevant information	Large – need information to cover all eventualities
Flexibility of hypothesis	Hypothesis changes with learning	No hypothesis	Fixed hypothesis
Type of analysis and presentation	Run charts or statistical process control charts	League tables, achievement of target	Traditional statistical tests
Confidentiality of information	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 calculate 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 protocol for screening all patients admitted to hospital, what proportion of the total actually were 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: 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 by supporting human operators with training, memory aids and in-built reminders. If greater levels of reliability are needed or if these simple changes do not deliver 95%, the system itself needs redesigning. 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/publications

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 role, 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 and to 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 be 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.

Teams should meet regularly to generate new ideas through:

- Spontaneous participation in discussion in order to gather information;
- Adapting strategies from other industries;
- Adopting 'best practices' from other services or conferences;
- Identifying trends by analysing patient 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.

Patient stories have become a powerful means for bringing experiences to life. They present an individual's own perspective on their care and help us build a picture of what it is like as a service-user.

The strength of patient stories is that the content of each interview is led by the individual patient/client. This means that it is unlike any other method used to elicit patient views. For instance, in patient satisfaction questionnaires, the questions are often decided by healthcare professionals and reflect the issues that they feel are important, rather than showing the things that really matter to patients.

1000 Lives Plus has been using patient stories as a means to identify areas of improvement. This is a very powerful way of ensuring patient involvement in the planning and improvement of healthcare services and to find out which aspects of their experience they value.

Patient stories have been a component of the Royal College of Nursing Clinical Leadership Programme since its inception in 1999. Patient stories are used as part of the development programme for nurse leaders who use the technique to provide evidence of areas that require improvement and also of the impact of nursing interventions.

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/publications

The RCN Clinical Leadership programme gives participants the opportunity to choose and practice service improvement.

The overall aim of the RCN Clinical Leadership Programme is:

> *'To assist healthcare practitioners and their teams to develop patient-centered and evidence-based strategies within the context of their day-to-day practice, organisational climate and policy agenda.*
>
> This is achieved through the following specific objectives:
>
> - Developing self
> - Developing effective relationships with team
> - Developing and enhancing a patient focus
> - Developing greater political awareness and networking skills

Delivering Improvement through Teamwork and Leadership

The evidence generated from the research findings suggests that this programme will impact nurses as individuals, teams, patients and organisations. Further information can be found at www.rcn.org.uk/development/practice/leadership

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 that 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 would 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, 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 of the work 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 are available on the website: www.1000livesplus.wales.nhs.uk/communication-resources

When improvement continues over a significant period of time, the real challenge is how to maintain interest. 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.

Examine the 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 may help build 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.

8 Improving Healthcare across Wales

The following pages outline improvement work taking place across Wales – illustrating how the methodology in this guide has been applied by nursing staff across the country.

Each of the examples has also been mapped to the RCN's Principles of Nursing Practice, illustrating the link they have to quality improvement work.

The Principles of Nursing Practice

Royal College of Nursing

A Nurses and nursing staff treat everyone in their care with dignity and humanity – they understand their individual needs, show compassion and sensitivity, and provide care in a way that respects all people equally.

Increasing the amount of time nurses spend with patients

Creating more time for nurses to spend with their patients has been one of the most significant outcomes of the Transforming Care work which is being introduced throughout Wales. In ward West 3 of Llandough Hospital, near Cardiff, it has allowed nurses to double the amount of time they spend with their patients.

"It has really changed the way we work," says Helen Luton, Deputy Ward Manager.

"We were shocked when we realised that we were only spending about 40% of our time with patients. After implementing Transforming Care we now spend almost 80% of our time caring for patients."

The increased time for patients has come from identifying and addressing activities that were particularly time-consuming. Now a nominated key holder is responsible for the medications cupboard, reducing the amount of time spent looking for the key.

Decluttering the ward has made a big difference and more efficient stock control and labelling of supplies and equipment has also created real time savings.

"After implementing the improvement tools and techniques within Transforming Care, we now spend almost 80% of our time caring for patients."

Deputy Ward Manager, Helen Luton (second from the left) with nursing staff from ward West 3, Llandough Hospital.

"We've reduced interruptions for nurses from 23 times per hour to just nine times an hour," said Helen. "We have also seen a reduction in the number of falls on the ward, and we have gone 256 days without any patient developing a pressure ulcer."

Patient and staff surveys are showing higher satisfaction levels for both patients and staff, and there are significant savings in terms of preventing wastage – with over £500 worth of medical supplies saved in the initial stages alone.

The achievements generated through this work are displayed on notice boards on the ward, which has provided a real boost to morale and maintained the momentum for the improvements.

Transforming Care is now being spread to other wards, with staff elsewhere in the hospital keen to take part.

Top Tip!

There is no substitute for looking at the system personally, seeing where any measurements come from and how they are made.
See pages 30-34.

The Principles of Nursing Practice

Royal College of Nursing

B Nurses and nursing staff take responsibility for the care they provide and answer for their own judgments and actions – they carry out these actions in a way that is agreed with their patients, and the families and carers of their patients, and in a way that meets the requirements of their professional bodies and the law.

Delivering reliable and standardised care

The World Health Organization's Safer Surgery Checklist is designed to make surgery even safer. Since it was introduced in 2009, it has been spread to operating theatres across Wales.

The introduction of the Safer Surgery Checklist at Velindre Cancer Centre was championed by senior theatre nurse, Karen Frantzeskou. The checklist ensures that theatre teams go through each item on the list before surgery begins, creating an opportunity for the whole theatre team to take responsibility and share information about potential safety problems or any concerns about patients.

The checklist is used at the three critical points of surgery: before anaesthesia (sign in); pre brachytherapy procedures (time out); and before the patient leaves theatre (sign out).

At Velindre Cancer Centre the radiotherapy and physics department are involved in theatre. This means the organisation has a wider surgical team than most theatres. All parties have been involved and able to influence the process, leading to a smooth implementation of the checklist across all surgical teams.

"The formal introduction of the Safer Surgery Checklist at Velindre has been a step forward in ensuring patient safety."

Karen Frantzeskou (front row, far right) and members of the surgical team with an enlarged version of the Safer Surgery Checklist.

Vivienne Cooper, Head of Nursing at Velindre Cancer Centre, said: "Patients receive a very high standard of care during their surgical episodes at Velindre Cancer Centre, and the checklist has enhanced this experience by providing the team with that extra safeguard to make sure everything is in place at the start of each procedure.

"Just as professional pilots would never dream of flying an aircraft without going through the 'cockpit' procedure, so surgeons and other theatre staff can follow a similar safeguard. The formal introduction of the Safer Surgery Checklist at Velindre has been a step forward in ensuring patient safety."

Top Tip!

To achieve improvement across a whole organisation there needs to be teamwork and strong leadership.
See pages 36-41.

The Principles of Nursing Practice

Royal College of Nursing

C Nurses and nursing staff manage risk, are vigilant about risk, and help to keep everyone safe in the places they receive healthcare.

Improvement which reduces avoidable harm

'Sepsis' is a common disease that may be caused by a variety of infections which enter the bloodstream, causing septicaemia, organ failure and frequently resulting in death. Severe sepsis is thought to cause the deaths of 37,000 people in UK hospitals every year, a greater number than for deaths caused by bowel and breast cancer combined.

Organisations throughout Wales are involved in the 'Global Sepsis Alliance', which is an international initiative to reduce mortality and morbidity through the early detection of sepsis and introduction of sepsis care bundles.

The 'care bundle' approach involves implementing groups of evidence-based interventions within a strict time limit for each, and every patient, whose condition requires it.

Nursing staff at Cwm Taf Health Board are vigilant about the risk of sepsis and manage the risk by implementing the care bundles. Senior nurse, Andrew Hermon, said:

"The care bundles have given staff a real lever to improve and standardise care and identify potentially very sick patients far earlier."

"The new techniques help us identify patients with sepsis very early and deliver a package of simple, effective treatments..."

"This allows prompt treatment and improved outcomes for patients. The key is to ensure it's done right each and every time, which should lead to a real reduction in the number of sepsis cases."

Sepsis is preventable, but it must be recognised early, and treated quickly. The care bundles consist of evidence-based interventions in three elements. The first actions need to occur within one hour of diagnosis, the second 'bundle' six hours from the diagnosis and the third set of actions, 24 hours from diagnosis.

"We are focusing on early diagnosis and the rapid provision of treatment for sepsis. The new techniques help us identify patients with sepsis very early and deliver a package of simple, effective treatments, such as giving oxygen, large volumes of intravenous fluids and antibiotics," said Andrew.

Top Tip!

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.

See pages 19-21.

The Principles of Nursing Practice

Royal College of Nursing

D Nurses and nursing staff provide and promote care that puts people at the centre, involves patients, service users, their families and their carers in decisions and helps them make informed choices about their treatment and care.

Small changes, making a big difference

Falls are recognised as a major cause of disability and the leading cause of mortality resulting from injury, in people aged over 75 in the UK. People aged over 60 have a 30% chance of falling and falls account for 10% of all 999 calls to the ambulance service in Wales.

Staff in Powys Teaching Health Board are using a care bundle to help treat and support someone who has suffered a fall.

The bundle encourages staff to recognise someone has fallen (even if there is no resulting injury), look at why they have fallen, carry out a proper risk assessment, decide on most appropriate treatment and put measures in place to prevent further falls.

By taking this consistent approach it should ensure that wherever an elderly person falls - whether at home or in a residential home - they should receive the same response.

A bespoke plan is then initiated for each patient, dependant on needs identified as part of the risk assessment.

To support the work, a specialist falls service has been established in Penrallt Day Hospital in Llanidloes.

"1000 Lives Plus has given us the platform to make small changes that are making a big difference to patients' lives."

Sister Veronica Jarman

The service provides support for patients to help them stay at home and retain their independence for longer.

Nursing Sister Veronica Jarman said the specialist service has made a real difference to patient care. She said: "We go through risk assessment with our patients at the falls service and talk about all the elements that affect their lives.

"We are assessing them continuously and ensuring they are safe, as well as providing physiotherapy and other treatments.

"1000 Lives Plus has given us the platform to make small changes that are making a big difference to patients' lives."

Top Tip!

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.

See pages 15-17.

The Principles of Nursing Practice

Royal College of Nursing

E Nurses and nursing staff are at the heart of the communication process: they assess, record and report on treatment and care, handle information sensitively and confidentially, deal with complaints effectively an, and are conscientious in reporting the things they are concerned about.

Improvement – doing the right thing consistently every time

Numerous studies have demonstrated that a significant proportion of in-hospital mortality could be prevented by improvements in the systems for early detection and treatment of acute deterioration.

The NHS Early Warning Score (NEWS) is a relatively simple system for predicting and communicating the imminent deterioration of a patient's condition.

All Welsh hospitals are working towards the implementation of NEWS by 2012 through participation in the 1000 Lives Plus' Rapid Response to Acute Illness (RRAILS) programme.

Betsi Cadwaladr University Health Board nurse, Anwen Crawford, explains how a card carrying the scoring system will help: "All staff, wherever they work in a hospital, and whether they are doctors, nurses, physiotherapists or other staff, can use this card to assess patients."

"It provides a standard level of response to ensure that every patient in Wales receives the same level and quality of care."

"It provides a standard level of response to ensure that every patient in Wales receives the same level and quality of care."

Anwen Crawford, with one of the cards carrying the NHS Early Warning Score (NEWS).

Use of NEWS across Wales will ensure that all clinicians will share a common language with which to express the severity of patient sickness and a mutual understanding as to what actions to take.

At Ysbyty Gwynedd, nurses and doctors communicate severity of illness using forms based upon the SBAR (Situation, Background, Assessment and Recommendation) tool. These forms provide a commonly understood template for communication about patients with an increased NEWS score.

The clinical teams at the health board are able to demonstrate the effectiveness of the introduction of NEWS and the other communication tools by using a two minute safety briefing to measure compliance with the RRAILS Admission, Recognition, Response and Sepsis Six bundles.

Top Tip!

Asking frontline staff about the biggest challenges they face each day, then looking for ways to tackle them, quickly involves staff in finding solutions.
See pages 36-41.

The Principles of Nursing Practice

Royal College of Nursing

F Nurses and nursing staff have up-to-date knowledge and skills, and use these with intelligence, insight and understanding in line with the needs of each individual in their care.

Building the drivers for change

The introduction of a new way of working has led to a significant reduction in the number of patients developing pressure ulcers in Wales. The strength of the evidence-based interventions is that they are applied intelligently and consistently.

Nigel Broad is the Senior Charge Nurse on Anglesey Ward in Morriston Hospital, Swansea which piloted the successful SKIN bundle approach to reduce the occurrence of pressure ulcers.

Pressure ulcers are a common problem for patients who have limited mobility, who sit or lie in one position for long periods of time. They can reduce blood flow and cause severe tissue damage and even result in death.

Treating pressure ulcers is also costly – it has been estimated that they cost 4p in every pound of the NHS budget.

The SKIN bundle focuses on four key areas: the Surface (the mattress or chair being used by the patient), Keep moving the patient, Incontinence and Nutrition (and hydration).

"Pressure ulcers can be eliminated by making the SKIN bundle 'part of the ward fabric'," says Nigel.

"Pressure ulcers can be eliminated by making the SKIN bundle 'part of the ward fabric."

Nigel Broad (second from the right) and the team at Morriston Hospital celebrating 365 days without a pressure ulcer on their ward.

"A lot of people don't realise pressure ulcers are a big issue. But the impact on the patient is devastating, with prolonged management of dressings; and in some cases needing major reconstructive surgery for the ulcer.

"This can mean a lengthy stay in hospital - sometimes a couple of months at any one time. Pressure ulcers can also lead to death, a well known example is the late actor, Christopher Reeve."

"The SKIN bundle is a simple tool to use and is obviously effective when used properly. This has clear measurable improvements for the quality of care we provide for the patient."

Top Tip!

The first step to producing a driver diagram is to gather evidence of what works. See the 'Preventing Hospital Acquired Pressure Ulcers' diagram on page 25.

The Principles of Nursing Practice

Royal College of Nursing

G Nurses and nursing staff work closely with their own team and other professionals, making sure patients' care and treatment is co-ordinated, is of a high standard and has the best possible outcome.

Delivering improvement through team development

Nurses in Hywel Dda Health Board have taken the lead in improving treatment and care co-ordination for people who have had a stroke, through the introduction and monitoring of care bundles.

Lorraine Jones, Senior Nurse Manager in Bronglais Hospital, Aberystwyth, says: "The care bundles are used for patients receiving treatment following a stroke, starting with assessment in our accident and emergency department. The second bundle of care continues when patients are moved onto the acute stroke unit, and follows on in care related to their rehabilitation."

Components of the care bundles include ensuring CT scanning is undertaken within a specific timeframe, commencing aspirin therapy and assessing the patient's ability to swallow food and drink appropriately to ensure the patient is safe and receive nutrition and hydration according to their need.

Data relating to the care bundles is logged in real-time, so it can be audited quickly. This helps all members of the multi-disciplinary team know what care patients have received and ensures that patients receive clinically effective and timely treatment.

"Gathering the data helps us improve the care patients receive, including medical, nursing and therapy care.

"Using the care bundle approach, we can gather the evidence of each patient's treatment and work towards solving any deficits," says Lorraine.

"Gathering the data helps us improve the care patients receive, including medical, nursing and therapy care. We can examine the complete patient journey and make changes to any parts that are not working well."

"We implemented the bundles using an approach that involved all the disciplines - the therapists, nurses and medical staff - and it has given us a consistent approach to implementing a high standard of stroke care using the available evidence."

Top Tip!

To achieve improvement across a whole organisation there needs to be teamwork and strong leadership.
See pages 36-41.

The Principles of Nursing Practice

Royal College of Nursing

H Nurses and nursing staff lead by example, develop themselves and other staff, and influence in a way care is given in a manner that is open and responds to individual needs.

Introducing changes in small, but reliable ways

We all understand the importance of hand hygiene - particularly within a hospital environment. However, the need to introduce and sustain actions to support the practice can be more challenging. That's why it's important to do small scale trials to identify what works - and what doesn't.

Liz Waters, Lead Nurse in Infection Prevention and Control in Aneurin Bevan Health Board, knows just how challenging it is to ensure hospital staff always wash their hands.

Her Health Board is working to maintain 95% compliance with hand hygiene. "Good hand hygiene makes such a big impact on patient safety, yet changes have to be made and everyone needs to be on board to ensure that it happens," says Liz.

"If you don't wash your hands and your equipment then someone will die from a hospital acquired infection. It's that simple. Washing your hands has to become a habitual part of the job."

Liz has introduced a number of initiatives at the Royal Gwent Hospital in Newport and Nevil

"By working with one healthcare worker, on one shift, in one day it seemed to get the message through and has now spread more widely."

Liz Waters

Hall Hospital in Abergavenny, as part of a dedicated programme to improve hand hygiene rates and reduce hospital acquired infections. The key, she believes is to start small, and to encourage hand washing by using a PDSA (Plan, Do, Study, Act) cycle to ensure you succeed.

"Starting small seems to be the key," says Liz. "We also have to ensure staff can access a sink or the alcohol gel - which may be difficult. By working with one healthcare worker, on one shift, in one day it seemed to get the message through and has now spread more widely."

Top Tip!

Testing allows the opportunity to adapt actions to particular settings.
See pages 26-27.

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Improving care, delivering quality

1000 LIVES O FYWYDAU

The Quality Improvement Guide
Nursing Edition

Improving the quality and safety of healthcare for our patients is a key priority for nurses and the nursing profession. And around Wales, nurses have been at the forefront of many of the successful new ways of working introduced by the 1000 Lives Plus programme.

This guide outlines the methodology which underpins 1000 Lives Plus and contains examples of nursing innovation that have already been successfully implemented using its consistent approach. Linked with the RCN Principles of Nursing Practice and Clinical Leadership programme, we believe this guide will play a key role in equipping nurses to make changes in their working environment to continue improving patient care.

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
- Spreading change

Published by 1000 Lives Plus, the national improvement programme supporting organisations and individuals to deliver the highest quality and safest healthcare for the people of Wales.

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