The ‘How to Guide’ for

Reducing Harm from Deterioration

Making the safety of patients everyone’s highest priority

To find out more visit www.patientsafetyfirst.nhs.uk
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Overview of the Intervention: Reducing Harm from Deterioration

1. Number of cardiac arrests calls per month
2. Number of rapid response calls per month
3. % of rapid response calls using communication tool
4. % of patients with observations complete
5. % of patients who triggered that had an appropriate response

- Recommended Campaign measure
- Additional measure

Identify deterioration

Reduce harm from deterioration

Respond to deterioration

- Graded response strategy
- Escalation protocol
- Use communication tool

Record physiological observations

Competence in recording/understanding physiological observations (appropriate to level of care being provided)

Track and trigger system
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General Introduction

All over the world, including in the UK, health care workers are proving that patient safety can be greatly improved and many complications or harm events that were previously considered unavoidable actually are avoidable. They are in fact, redefining what is acceptable in terms of patient safety.

The purpose of each of the Patient Safety First interventions is to provide you with a focus on which to begin or progress improvements in patient safety in your organisation. Each proposed intervention has an underpinning evidence base that identifies the need for change and how its elements can help you on a journey that will make a real impact on rates of patient harm and death.

The proposed elements, suggested changes and associated measures discussed in this document are not exhaustive; rather, a basis on which to start making a difference in the given area. It also provides a sound methodical approach that can be applied repeatedly in other improvement efforts you may wish to initiate.

The content of this guide will never be considered to be final. Regular reviews will be conducted to update it with new evidence, initiatives and key learning from organisations participating in the Patient Safety First campaign. Your suggestions for improvement and case studies are welcomed; please share your learning with your local campaign contact or contact us direct via the Patient Safety First website www.patientsafetyfirst.nhs.uk.
Reducing Harm from Deterioration

Background
This document is aimed at team members involved in implementing changes to reduce harm from deterioration. It may also provide a useful overview for the following:

- Relevant service managers
- Senior managers/executives supporting the work and monitoring its progress
- Service improvement personnel who may be required to provide improvement or change management expertise in relation to the work.

Patients who are admitted to hospital believe that they are entering a place of safety and they, their families and carers, have a right to believe that they will receive the best possible care. They should feel confident that, should their condition deteriorate, they are in the best place for prompt and effective treatment.

However, some patients who are, or become, acutely unwell in hospital may receive suboptimal care.


*The National Confidential Enquiry into Patient Outcome and Death. NCEPOD 2005.*


Analysis of 576 deaths reported to the National Patient Safety Agency’s (NPSA) National Reporting and Learning System (NRLS) over a one year period (2005) identified that 11 per cent were as a result of deterioration not recognised or acted upon (n = 66). There were a number of points where the process could fail including not taking observations, not recognising early signs of deterioration, not communicating observations causing concern and not responding to these appropriately.


A large proportion of patients who suffer cardio-respiratory arrest in hospital have recognisable changes in routine observations during the preceding twenty-four hours including changes in vital signs, level of consciousness and oxygenation. One study showed that 60% of primary events investigated (deaths, cardiac arrests and unplanned ICU admissions) were preceded by documented abnormal physiology.


Action taken during these early stages can prevent deterioration progressing to cardiac arrest.


The National Confidential Enquiry into Patient Outcome and Death (2005) reported similar findings to the above and admission to an Intensive Care Unit (ICU) was thought to have been avoidable in 21% of cases. Furthermore, communication failures between teams contributed to delays in referrals and in delivering appropriate essential care, which contributed to increased morbidity and mortality.

In July 2007 the National Institute for Health and Clinical Excellence (NICE) issued guidelines on the monitoring and treatment of acutely ill patients in hospital. They offer advice on the care of adult patients who are or become acutely ill whilst in hospital, and advise how serious problems can be avoided by monitoring patients regularly and taking appropriate action if they show signs of becoming worse.


The National Patient Safety Agency (NPSA) also undertook a programme of work which aimed to identify the underlying causes and contributing factors in deterioration incidents and explore how these factors interrelate. The purpose of this report was to illustrate why deterioration incidents happen and help NHS staff working in acute hospitals to improve patient safety.


Now, with the impetus of this Campaign, this intervention How to Guide seeks to support staff to embed this learning, in particular, key elements of the guidance from NICE.
Implementing Reducing Harm from Deterioration

This intervention addresses six key areas relating to deterioration:

• Physiological observations should be recorded for all adult patients in acute hospital settings
• Physiological observations should be recorded and acted upon by staff who have been trained to undertake these procedures and understand their clinical relevance
• Physiological track and trigger systems should be used
• There should be a graded response strategy
• An escalation protocol should be in place
• A communication tool should be used.

The Quick Guide to Implementing Improvement
If you have started working through this accompanying document’s list in ‘Getting Started’ you should have a team in place that is committed to reducing harm from deterioration. Many hospitals will already have teams in place responsible for reviewing procedures relating to deterioration and the care of acutely unwell patients. Where this is the case it may be useful to review its membership after having read the Quick Guide and make an assessment as to whether additional clinical or improvement expertise would be helpful. Gather the team together and work through the following questions based on the approach outlined in its earlier section ‘The Model for Improvement’.

What are we trying to achieve?
In order to agree your aim you need to understand the current state. Find out if you are already using any of the intervention components as standard. If any are in place, perform a quick audit to find out your current level of compliance. This helps you to set a realistic timeframe for your goal. An example of an aim statement could be:

_We will reduce in-hospital cardiac arrest and mortality rate by 30% within 1 year by focusing on earlier recognition and treatment of the deteriorating patient._

_In 1 year, 95% or more of all admitted patients will be having all of their physiological observations completed and recorded._

_Appendix 1 shows Salford Royal Hospital’s ‘Quality strategy for management of the acutely unwell’, which demonstrates how the programme of work is aligned to their aim of reducing cardiac arrests._
**How will we know a change has been an improvement?**

Measurement is the only way to know whether a change represents an improvement.

**Create your operational definition.** It is critical that teams determine some set of criteria by which they will define any terms included in their aim statement. Once this has been established, all stakeholders will share a common understanding of what exactly qualifies and what does not. For example, if you are using the goal above relating to physiological observations, you will need to determine exactly which observations must be completed or at what point a patient becomes ‘admitted’. Likewise, if necessary, the team should determine its own inclusion/exclusion criteria.

**Decide what measures will inform you of your progress and how you are going to collect them.** There are three measures for this intervention that require reporting to Patient Safety First via the online extranet site:

- The number of cardiac arrests per month
- The number of rapid response calls per month
- The percentage of rapid response communications performed with the chosen communication tool.

<table>
<thead>
<tr>
<th>Measure</th>
<th>How to calculate</th>
<th>Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of cardiac arrest calls per month</td>
<td>• Total number of cardiac arrests during the month</td>
<td>• Obtain from easiest source ie someone who already collects this data; rapid response co-ordinator, hospital switchboard</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Report data monthly</td>
</tr>
<tr>
<td>Number of calls for rapid response per month</td>
<td>• Monthly number of calls for a response to patients who have prompted: 1. EWS triggers 2. staff concerns though no triggers</td>
<td>• Rapid response co-ordinator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Report data monthly</td>
</tr>
</tbody>
</table>
### Measure: Percentage of rapid response communications performed with SBAR (or RSVP or other chosen communication tool)

**How to calculate**
- Determine the numerator: the number of calls to team using tool
- Determine the denominator: the number of calls to team
- Calculate the percent of calls using tool by dividing the numerator by the denominator and multiply the result by 100

**Guidance**
- Obtain data from outreach/rapid response team
- This is a YES/NO outcome. Count calls where the communication was used

However there are other measures that you could use in addition to inform you of the impact of implementing the intervention.

### Measure: Percentage of patients with observations complete

**How to calculate**
- Determine the numerator: the number of patients in the sample with all observations complete
- Determine the denominator: the total number of patients reviewed
- Calculate the percent of observations completed by dividing the numerator by the denominator and multiplying the result by 100

**Guidance**
- Can be done as part of random case note review using the UK Global Trigger Tool*
- Sampling could be performed to obtain this data
- Remember this is a YES/NO outcome – only patients with all observations complete are recorded as a YES
- This is a measure also used in Productive Ward. (Releasing Time to Care, NHS Institute for Innovation and Improvement)
Measure | How to calculate | Guidance
--- | --- | ---
Percentage of patients that triggered, who received an appropriate response | • Determine the numerator: the number of patients in the sample who triggered and received an appropriate response  
• Determine the denominator: the total number of patients reviewed  
• Calculate the percent of observations completed by dividing the numerator by the denominator and multiplying the result by 100 | • Can be done as part of random case note review using the UK Global Trigger Tool*  
• Sampling could be performed to obtain this data  
• Remember this is a YES/NO outcome – only patients who triggered and received appropriate response are recorded as compliant

*All organisations participating in the Patient Safety First campaign will be undertaking random case note review using the Global Trigger Tool and reporting data on number of harm events monthly.

You could also consider:
- Number of emergency admissions to critical care
- Time between admission and initial deterioration
- Appropriateness of ICU admission
- Could ICU admission have been averted.

Some teams have preferred to use a sampling approach to assess measures such as observations complete. For example, some teams use spot checks three times per week, whereas other teams have chosen assessments of compliance at designated times. Regardless of the method, be sure to maintain the standard over time for accurate results.

A table of the measures implemented by Salford Royal Hospital can be found in Appendix 2.

**Post updates to results regularly and prominently.** Enthusiasm for the project will wane over time if clinical staff perceive that the leadership’s enthusiasm has diminished. It is essential to regularly update all involved staff in the work on the monthly level of compliance and the monthly change in the number of cardiac arrests etc. Not only will this show dedication to the project but when the momentum becomes apparent, clinical staff will be aware of the progress.

**Comparing measures between hospitals.** The practice of comparing rates of disease entities or patterns of therapy across institutions is commonly known as ‘benchmarking.’ Benchmarking, while commonly utilised to track performance, may not be a valid method to compare performance between facilities because of differences in patient population, resource availability, or severity of illness.
Fortunately, none of the work required to reduce harm from deterioration requires a comparison of rates between hospitals. As long as you establish methods in your organisation to determine the patterns and methods of your regular data collection, your results will be consistent over time with respect to your own performance and your own improvement, which is the primary interest.

Any benchmarking should be based on improvement, rather than comparing rates. If you learn of a hospital that has significantly improved, based on data and using the same measure over time, then learn from their work! Even if they are using a different definition from your hospital or treat some different populations, there will still be value in finding out what practices and changes they used to achieve their results.

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

Making this initiative fit into the patterns and habits in your hospital is essential. Teams will be most effective if they engage doctors, nurses, and relevant others to work with them to develop key aspects of the implementation. Where possible, try to fit new actions alongside ones that are already established. This increases the likelihood that they will be remembered and therefore carried out.

**Physiological observations should be recorded for all adult patients in acute hospital settings**, including patients in the emergency department for whom a clinical decision to admit has been made. This should be done at the time of their admission or initial assessment.

In addition, there should be a **clear written monitoring plan** that specifies which physiological observations should be recorded and how often. The plan should take account of the:

- Patient’s diagnosis
- Presence of co-morbidities
- Agreed treatment plan.

Admission documentation completed by the admitting medical staff should indicate clearly the observations to be carried out and the frequency with which they should be done. At this early stage, ceilings of therapy should also be established for patients who are acutely ill and who will not benefit from an escalation of therapy beyond ward based care. This may require training for admitting medical and nursing staff and be assisted by the use of a standard admissions pro-forma which includes a section to indicate frequency of observations.

Recording of physiological observations is seen as a basic element of providing nursing care and yet it is frequently performed unreliably. Both the NCEPOD report ‘An acute problem’ and the NPSA’s PSO 5 report highlight cases in which observations were not performed frequently enough in the period before cardio-respiratory arrest or death; in particular, respiratory rates were omitted.
Hospitals who began monitoring their reliability in recording physiological observations such as Safer Patients Initiative or Productive Ward sites have also found observations may be incomplete, or not carried out with the necessary frequency. Many such sites have noted that recording of the respiratory rate is frequently absent, despite its importance in alerting staff to deterioration in patient condition.

Many of these same sites however, have had significant success in improving the reliability of recording observations; some have found that a programme of training for nursing staff has been necessary to increase the reliability of observations to an adequate level.

Case Study: Luton & Dunstable Hospital NHS Hospital Trust
The adequacy of routine observations was insufficient to support testing out a method of EWS at the Luton & Dunstable hospital. The recording of respiratory rates in particular had declined, while temperature, pulse rate and blood pressure recording was only about 70% reliable.

Re-education of nursing staff across the trust in the accurate measurement and recording of basic observations was necessary. This training was cascaded through ward managers and re-measurement of the adequacy of observations, by random chart and case-note review was undertaken before a further attempt was made to test the EWS.

A simple colour-banded chart was introduced on which the observations were recorded in the normal way; action being mandatory if two observations fall in the yellow band or one falls in the red band (see Appendix 3). Training in the importance of each component of these charts, with emphasis on the respiratory rate, was rolled out across the trust. Facilitation of any member of staff to raise an alert to a physiological deterioration in observations was emphasised. This dramatically improved the reliability of observations.

A decision was made to set up a critical care outreach service, as during testing the use of the EWS charts it became obvious that a major problem in dealing with patients who triggered a response was timely availability of on-call medical staff. There were also concerns that the most junior medical staff did not always have the experience necessary to deal adequately with the problem.

The Outreach team consisted initially of two critical care senior nurses, providing a Monday to Friday service. Ward nursing staff were instructed to call the outreach team if the patient’s own medical team were not available within 30 minutes. The team documented their assessments of the patients and the interventions required, proactively assist with the identification of management plans, and refer to intensivists as required. The team also undertake follow-up visits of all patients discharged from critical care and education of medical and nursing staff.
A survey evaluating the outreach service, highlighted how overwhelmingly beneficial the multidisciplinary team felt the team were in supporting nurses caring for critically ill patients on the general ward. This is evident as the numbers of calls per month to the service have been increasing since the service was introduced. The chart shows two dramatic increases in the use of the outreach team; the first relates to a drive in education of the staff about the EWS system, the second to the provision of the service throughout the 24-hour period.

Physiological observations should be recorded and acted upon by staff who have been trained to undertake these procedures and understand their clinical relevance. This training should include assessment against competencies in monitoring, measurement, interpretation and prompt response appropriate to the level of care they are providing.

Relevant local guidelines and protocols for topics such as physiological observation frequency and response strategies lay an important foundation for educating staff in the desired practices, but these alone will not guarantee improved outcomes. Education and training should be provided to ensure staff have the necessary knowledge and competencies, and they should be assessed to ensure they can demonstrate these.

The Department of Health (DH) has developed a framework of core competencies and skills that need to be held by teams caring for acutely ill patients. These have been developed by leading expert clinicians from a range of organisations and professions. The framework is designed to assist in the development of appropriate training and educational programmes necessary to equip clinical staff with the required skills. The framework should be available on the DH website from Autumn 2008. Competencies for recognising and responding to acutely ill patients in hospital. www.dh.gov.uk/en/index.htm.

Competency documents
Some hospitals have competency documents in place which may be used for induction of staff new to the hospital or area. Some hospitals use such documents for all nursing staff and have customised these for the different levels of staff. Where such documents are in use, the elements important to this intervention could be incorporated to ensure all staff
are familiar with the local practices and have demonstrated the necessary competence in performing, recording, understanding and responding to clinical observations.

**Track and trigger systems**
Whatever method of tracking is chosen, it is vital that staff are trained in the use of the system. A training package with examples and simple self-assessment exercises can be cascaded via nurse managers and may also be run in association with ALERT courses etc. Medical staff should also be trained in the use of, and response to, the track and trigger system so that they understand the implications of a call based on a patient triggering the system.

**Training should be appropriate to grade**
Where observations are carried out by health care assistants it is important that training includes a basic understanding of the importance and implications of physiological measurements as well as practical training in undertaking the measurements.

Examples of training courses:
- AIM course [www.gmskillsinstitute.nhs.uk/#/aimcourse/4515409031](http://www.gmskillsinstitute.nhs.uk/#/aimcourse/4515409031)
- SMART course (Student Management of Acute [illness] Recognition and Treatment) [www.gmskillsinstitute.nhs.uk](http://www.gmskillsinstitute.nhs.uk)
  
  Contacts: Wayne Robson W.Robson@shu.ac.uk or Dr Robin Lewis r.p.lewis@shu.ac.uk.

Some hospital Trusts such as Barts & The London have addressed the educational gaps by creating their own training courses. Their courses advocate training multidisciplinary teams as opposed to training targeted at professional silos. Advantages of programmes such as these include creating a fuller understanding of the differing roles, building a team approach as well the ability to customise content to incorporate local policies and systems.

The need for an appropriately experienced ward leader who is able to maintain an overview of the wellbeing of all patients on the ward and to provide support and guidance to junior staff should not be underestimated.

**Physiological track and trigger systems should be used to monitor all adult patients in acute hospital settings**
A track and trigger system can only be effective if observations are reliable. Physiological observations should be monitored at least every 12 hours, unless a decision has been made at a senior level to increase or decrease this frequency for an individual patient. The frequency of monitoring should increase if abnormal physiology is detected (as outlined in the recommendation on graded response strategy) and a track and trigger system is an effective way of prompting this.
Many such systems are available. Multiple parameter or aggregate weighted scoring systems are thought to be more sensitive and specific in detecting the deteriorating patient than single-parameter systems. However the system chosen must be simple enough to be used reliably in everyday practice. For example, charts that are colour coded assist untrained staff in realising when pre-defined physiological norms have been breached. There is some evidence that electronic data entry may be even more effective where available. A number of paediatric early warning scoring systems have been developed and are in use in some departments. Where these are in use they need to be age specific due to the varying physiology. Obstetric charts are also available.

Some patients with comorbidities do not fit the physiological pre set norms and there needs to be some way with any track and trigger system of re setting physiological norms for the various patient groups, for example, the Chronic Obstructive Pulmonary Disease patient with a higher respiratory rate and lower oxygen saturation than other patient groups. In these instances agreement must be reached between nursing and medical staff about acceptable ranges or specific parameters for individual patients and appropriate action to take when observations fall outside those limits.

If no track and trigger system is currently in use then such a system should be introduced.

If you currently have a track and trigger system in use you should:

• Check it conforms to NICE guidance. If it does not it should be replaced

• Find out how reliably it is being used. If it is not having the intended impact then getting feedback from users will help to uncover why. If for example, staff are having difficulties or making errors with an aggregated scoring system, it may be better to replace it with a system that is slightly less technically accurate but will be used more reliably.

Whichever system you implement, we recommend testing on a small scale before full implementation, using the Plan-Do-Study-Act (PDSA) cycle described in the accompanying Campaign document ‘The Quick Guide to Implementing Improvement’. If you are auditing a current system, the PDSA cycle is equally useful in terms of identifying issues and refining your processes.

**Case Study: The Amber Project, East Somerset NHS Trust**

An internal informal audit revealed that whilst the MEWS system had been implemented, the MEWS scores were inconsistently applied, ‘In particular, patients who were at risk of deterioration were not being identified by the ward team for priority observation’.

A patient-at-risk protocol was developed to compliment the existing MEWS system based on a traffic light system (green – level 0, amber – levels 1 and 2, and red – level 3). The aim of the project was to identify those patients classified as ‘amber’ and a protocol was developed specifically for this patient group.
Positive outcomes included:

- Improvement in the quality and frequency of ward based physiological observations
- Many benefits perceived by staff including: aided prioritisation, faster medical response time, better allocation of staff and placement of patients
- All wards reporting numbers of ‘amber’ patients on a daily basis. Where this exceeds the average, the team assess then advise managers on the suitability of staffing levels and skill mix.

Helen Ryan; Catherine Cadman; Linda Hann. Setting standards for assessment of ward patients at risk of deterioration. British Journal of Nursing; Nov 11-Nov 24, 2004; 13, 20; ProQuest Nursing & Allied Health Source pg. 1186.

There should be a graded response strategy for patients identified as being at risk of clinical deterioration which should be agreed and delivered locally. It should consist of the following three levels:

<table>
<thead>
<tr>
<th>Low-score group</th>
<th>Increased frequency of observations and the nurse in charge alerted.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium-score group</td>
<td>Urgent call to team with primary medical responsibility for the patient. Simultaneous call to personnel with core competencies for acute illness. These competencies can be delivered by a variety of models at a local level, such as a critical care outreach team, a hospital-at-night team or a specialist trainee in an acute medical or surgical specialty.</td>
</tr>
<tr>
<td>High-score group</td>
<td>Emergency call to team with critical care competencies and diagnostic skills. The team should include a medical practitioner skilled in the assessment of the critically ill patient, who possesses advanced airway management and resuscitation skills. There should be an immediate response.</td>
</tr>
</tbody>
</table>

All staff need to be aware of the graded response strategy. It needs to be easily available so that it can be referred to and any necessary action taken without delay.

A critical care outreach team, rapid response team or medical emergency team who have the appropriate skills for dealing with rapidly deteriorating patients should have training as one of their functions, educating ward and medical staff in these skills.

Training programmes should be run on a rolling basis as staff change frequently. Training and accreditation records should be kept. Uptake of such training and assessment should be monitored.
Questions to ask of your team

- What are your current guidelines for reacting to changing observations?
- Has a critical care outreach, rapid response or medical emergency team been established? What are the criteria for calling the team? How effectively is the team used?
- Does the present system conform to NICE guidance?

The required response to changes in observations, and the escalation policy, must be clear and unambiguous; ideally it will be printed on the observation chart. A change in status from one level to another should be recorded, along with the action taken in response. It should be reinforced to nursing staff that they should call for help if they are concerned about a patient whether or not the patient’s observations have changed significantly. It is vital that the reaction from responding staff to any call is supportive and in no way condescending.

The patient’s own medical team should be called, along with a call to the outreach or emergency team where available. The addition of a critical care outreach team, rapid response team or medical emergency team recognises that ward or speciality doctors may not be immediately available or have the appropriate skills for dealing with rapidly deteriorating patients.

Some hospitals have found that members of the cardiac arrest team are able to act as the Medical Emergency Team (MET) and respond to calls to the high scoring group; a separate bleep tone or call may be necessary to differentiate MET calls from cardiac arrest calls.

An escalation protocol should be in place which supports the response strategy and empowers nursing staff by providing time scales and procedures for escalation of concern. An example of an escalation policy can be found in Appendix 4.

Does an escalation policy exist? If so it should be reviewed to ensure it has clear criteria for calling and a simple process for initiating the response. It should also outline clear lines of responsibility and timescales.

Staff should be able to articulate their responsibilities and the action to be taken for each level of risk. The response may be displayed on the observation chart.

There should be a Trust-wide system for contacting the rapid response, outreach or medical emergency team. Most Trusts use a separate bleep number for the response team whilst some use the cardiac arrest system, stating that there is a medical emergency and naming the ward or department.
A very recent rigorous evaluation of outreach services in critical care (Project SDO/74/2004) has concluded that both quantitatively and qualitatively, there are some positive effects of outreach teams. The study found that they facilitate connectivity, reduce communication difficulties and enhance the delivery of care across organisational, professional and speciality boundaries, and may in this way, create an important culture change leading to improved quality of care (improved recognition of acute deterioration, initial management and escalation of treatment). See [www.sdo.nihr.ac.uk/sdo742004.html](http://www.sdo.nihr.ac.uk/sdo742004.html).

A communication tool should be used for all patients to escalate concern between team members

The tool discussed in this section is SBAR (Situation-Background-Assessment-Recommendation) but there are others which are widely used such as RSVP (Reason-Story-Vital Signs-Plan). An example of the RSVP tool can be found in *Appendix 5*.

Most of the information about SBAR in this section has been taken and adapted from the No Delays Achiever area of the NHS Institute for Innovation and Improvement website. The full text is available at [www.nodelaysachiever.nhs.uk/ServiceImprovement/Tools/IT138_SBAR+-+SituationBackgroundAssessmentRecommendation.htm](http://www.nodelaysachiever.nhs.uk/ServiceImprovement/Tools/IT138_SBAR+-+SituationBackgroundAssessmentRecommendation.htm).

**Background**

Originally used in the military and aviation industries, SBAR was developed for healthcare by Dr M Leonard and colleagues from Kaiser Permanente in Colorado, USA. In one health care setting, the incidence of harm to patients fell by 50 per cent after implementing SBAR.

**What is SBAR?**

SBAR is an easy-to-remember mechanism that you can use to:

- Frame conversations, especially critical ones, requiring a clinician’s immediate attention and action. It can add clarity to an emergency call to a sleeping senior colleague for advice about patient management. When woken in the night it can take some time to absorb facts and respond. This is greatly aided by a clear presentation of the situation, the background, the assessment and the proposed treatment
- Clarify what information should be communicated between members of the team, and how to formulate it with the right level of detail
- Anticipate the information needed by colleagues and encourage assessment skills
- Develop teamwork and foster a culture of patient safety.
The tool consists of standardised prompt questions within four sections, to ensure that staff are sharing concise and focused information. It allows staff to communicate assertively and effectively, reducing the need for repetition.

Examples of the SBAR tool can be found in Appendix 6–7. In addition it is worth noting the following:

A – Assessment: If you do not have an assessment, don’t be afraid to say so. You could say ‘I’m not sure what the problem is, but I am worried.’

R – Recommendation: Know what you would like to happen by the end of the conversation. Any order that is given on the phone should be repeated back to ensure accuracy. The request for direct help should be made clear as part of the recommendation so there is no misunderstanding; particularly important in situations where staff may be uncomfortable such as those who are inexperienced or who need to communicate up the hierarchy. The use of Recommendation prevents the hit and miss process of ‘hinting and hoping’.

Implementing SBAR
Incorporating SBAR or other communication tool may seem simple, but it takes considerable training. It can be very difficult to change the way people communicate, particularly with senior staff.

How will we know a change has been an improvement?
There is one recommended measure that requires reporting to Patient Safety First via the on line extranet site:

<table>
<thead>
<tr>
<th>Measure</th>
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<th>Guidance</th>
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</table>
| Percentage of rapid response communications using SBAR (or RSVP, or other chosen communication tool) | • Determine the numerator: the total number of rapid response calls made using the tool  
| | • Determine the denominator: the total number of rapid response calls  
| | • Calculate the percent compliance by dividing the numerator by the denominator and multiplying the result by 100 | • Use local audit  
| | | • Remember this is a YES/NO outcome – only calls made using the tool are recorded as a YES  
| | | • For each phone call received, ask the rapid response team to note down whether the person making the call uses SBAR in relaying the information  
| | | • Report data monthly |

A copy of the audit tool used by Cardiff and Vale NHS Trust can be found in Appendix 8.
Using the PDSA cycle:

- Work with one doctor who is supportive and agree that the next time you need to make an urgent call you will use the tool.
- Ensure you have a copy of the tool to hand. Keep it by the unit phone or in your pocket at all times. When the time comes to use it you want to be able to find it.
- Use the tool.
- When appropriate discuss together how it felt from both sides of the conversation. Incorporate suggestions for improvement. For example if you could not find the tool, discuss how you could ensure it was always available.

Once you have a process that works:

- Start introducing the tool to other nurses and doctors. Doing this gradually enables you to keep refining the process until it suits your team and your area.
- Make time for team discussion, reflection and refinement of the tool.
- If it is proving successful, the next step is to get this into people’s everyday habits, so it becomes ‘the way things are done around here’.

Hospitals using SBAR have found the following useful:

- Notepads or paper with the tool printed on them
- Pocket cards
- Stickers on or next to telephones to act as a visual prompt
- Including use of SBAR in any competency documents, induction packs or introduction sheets for temporary staff
- Ensuring people feel it’s okay to prompt each other using your agreed framework. For example ‘Can I make sure I understand you, what is your recommendation here?’
- Sticking or attaching your SBAR/RSVP sticker or note in the patient records as documentation of the call made – a helpful reference for the responder and other team members.

Finally, disseminate your good practice to other teams by modelling the communication behaviour you’re aiming for from them.
References and Useful Links

Other resources are available on the Campaign website: www.patientsafetyfirst.nhs.uk.

Goldhill DR, McNarry AF, Mandersloot G and McGinley A. A physiologically-based early warning score for ward patients: the association between score and outcome. Anaesthesia. 2005 Jun;60(6):547-553.


Salford Royal Hospitals NHS Foundation Trust
Appendix 1
Quality strategy for management of the acutely unwell

- Leadership attention
- Clearly defined protocols
- Root cause analysis & learning
- Psychological safety
- Simulation

- High risk patients identified
- Standardised processes for essential obs
- 100% compliance with observation policy
- Uninterrupted observations
- De-escalation policy adherence
- Care of the dying

- Immediate response to deterioration
- Increased ward level capability
- Optimal patient management – step up / down
- Routine review of step down patients
- Support strategy for assistance
- Open and receptive to all queries

- Right patient, right place, right time
- Efficient handovers & transfers
- Increased understanding of systems
- Cascade of command
- Patient engagement in redesign

Principles for all stages:
System wide education & training for each primary driver
Measurement & feedback
Adherence to NICE guidance
<table>
<thead>
<tr>
<th>Measures</th>
<th>Definition</th>
<th>Sample</th>
<th>Accountable</th>
<th>Collection / Submission date</th>
<th>Commencement date</th>
<th>Numerator</th>
<th>Denominator</th>
<th>SPC Chart</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of arrest calls</td>
<td>Total number of arrest calls excluding A&amp;E, CCU, ICU</td>
<td>100% daily</td>
<td>1 year of baseline data [from April 07]</td>
<td></td>
<td></td>
<td>calls</td>
<td>-</td>
<td>C chart</td>
</tr>
<tr>
<td>Arrest rate</td>
<td>Arrests divided by bed days</td>
<td>100% 15th</td>
<td>1 year of baseline data [from April 07]</td>
<td></td>
<td></td>
<td>calls</td>
<td>bed days</td>
<td>U chart</td>
</tr>
<tr>
<td>% survival post arrest</td>
<td>% survival post arrest = number of patients following arrest call who are subsequently discharged alive</td>
<td>100% 1st</td>
<td>1 year of baseline data [from April 07]</td>
<td>Total number discharged</td>
<td></td>
<td>Total number of survivors of arrests</td>
<td>P chart</td>
<td></td>
</tr>
<tr>
<td>% correctly completed EWS</td>
<td>% correctly completed observations = number of patients for whom EWS are done according to NICE Guidance for first 72h of admission</td>
<td>1st month April 08</td>
<td>number with all recorded measures correct</td>
<td>Number reviewed</td>
<td>Number reviewed</td>
<td>P chart</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% correctly completed O2 sat</td>
<td>% correctly completed observations = number of patients for whom O2 sats are done according to NICE Guidance for first 72h of admission</td>
<td>1st month April 08</td>
<td>number with all recorded measures correct</td>
<td>Number reviewed</td>
<td>Number reviewed</td>
<td>P chart</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOS in critical Care (relative risk)</td>
<td>LOS in critical care = average length of stay in ICU, Surgical &amp; Medical HDU for all patients</td>
<td>1st month January</td>
<td>1 year of baseline data [from April 07]</td>
<td>Actual LOS</td>
<td></td>
<td>Predicted LOS</td>
<td>Individuals</td>
<td></td>
</tr>
<tr>
<td>% patients appropriately placed on care of the dying pathway</td>
<td>% of patients who are appropriately placed on COD pathway at least 24 h prior to death</td>
<td>1st 10 deaths in the calendar month</td>
<td>15th / 1st month May 08</td>
<td>Number of appropriate COD pathway</td>
<td>10 notes reviewed</td>
<td>Number surveyed</td>
<td>P chart</td>
<td></td>
</tr>
<tr>
<td>Staff confidence with acutely unwell patients</td>
<td>Number of ward based nursing staff [band 5 or above] scoring 8/10 in personal report from questionnaire</td>
<td>20 randomly selected individuals from intervention wards</td>
<td>15th month/1st month April 08</td>
<td>Number scoring 8 or more</td>
<td>Number surveyed</td>
<td>P chart</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interval to critical care admission</td>
<td>Time from early warning score of 5 (signaling a need for escalation) to admission to Critical care bed</td>
<td>1st 10 patients in the calendar month</td>
<td>1st month April 08</td>
<td>Time of admission to critical care minus the time of the first documented EWS of 5 or more</td>
<td>Individuals</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix 3
Colour banded chart
Appendix 4

Luton & Dunstable Hospital NHS Foundation Trust.

Escalation protocol:

Call the outreach nurse bleep 666 if you are concerned about the patient even if the patient has not triggered the early warning system (EWS).

Use the SBAR tool to communicate your concerns.

Patients triggering the EWS:

1. **Low Score patient:** If any of the vital signs are in the yellow area inform nurse in charge & repeat the observation within 30 minutes and compare with the patient’s normal observations. **Review ongoing frequency of observations required.**

2. **Medium Score patient:** If any vital signs are in the red or any 2 are in yellow (including the neurological observations), or O₂ saturations below 90% please bleep the Doctor responsible for the patient. **State that you have identified a patient at risk.** At the same time bleep the Outreach Nurse. If neither the Doctor nor the Outreach Nurse is able to attend within 30 minutes bleep the patient’s Registrar. If the patient’s Registrar is unable to attend bleep the Anaesthetic Registrar on bleep 700. **Review ongoing frequency of observations required.**

3. **If patient triggers one or more parameters:** Heart Rate >90, Respiratory Rate >20, Temperature >38.3°C or <36°C then use Sepsis Screening Tool to access patient and consider monitoring blood glucose.

4. **High Score patient:** If the blood pressure and the neurological assessment fall in the red then call the Medical Emergency Team (MET) immediately. The MET consists of medical and anaesthetic registrars. **Review ongoing frequency of observations required.** To call the MET dial 2222 stating you have a medical emergency, and the ward.

General Notes:

1. At night call the Outreach Team bleep holder (bleep 666). The Anaesthetic ST 1/2 holds the bleep from 10pm to 6am. Inform the night manager/sister when possible.

2. If the patient triggers the neurological assessment commence the patient on a GCS chart.

3. If systolic blood pressure is >210mmHg document the value in figures.

4. Commence a fluid chart if the patient’s systolic blood pressure falls below 90 mmHg.

5. Document any action taken in the patient’s health records or the nursing assessment. Document who was informed e.g.: Doctor Outreach Nurse.

Pain Score:

6. Ask the patient “What is your pain score on a scale of 0-10, where 0 is no pain and 10 is the worst pain imaginable on movement?”.

7. Document the pain score following administration of analgesia.

Document identified triggers & action taken in grid below:

<table>
<thead>
<tr>
<th>DATE &amp; TIME</th>
<th>TEMP</th>
<th>PULSE</th>
<th>RESP</th>
<th>B/P</th>
<th>O₂ SATS</th>
<th>NEURO</th>
<th>GCS DONE BY</th>
<th>NURSE INFORMED</th>
<th>ACTION TAKEN</th>
</tr>
</thead>
</table>

To find out more visit www.patientsafetyfirst.nhs.uk
## Appendix 5
An example of the RSVP tool

<table>
<thead>
<tr>
<th></th>
<th>Good Practice</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>R</strong></td>
<td><strong>Reason</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. State the identity of caller</td>
<td>I am ...(Nurse A)</td>
</tr>
<tr>
<td></td>
<td>2. Check that you are speaking to the correct person</td>
<td>Is that ...(Doctor B?)</td>
</tr>
<tr>
<td></td>
<td>3. State patient’s name and location</td>
<td>I am worried about Mrs Jones in bed 3, because...</td>
</tr>
<tr>
<td></td>
<td>4. State the reason for the call</td>
<td>1. This is what I think the problem is: &lt;the problem seems to be cardiac, infection, etc.&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. I am not sure what the problem is, but the patient is deteriorating</td>
<td>2. The patient seems to be unstable and may get worse, we need to do something now</td>
</tr>
<tr>
<td><strong>S</strong></td>
<td><strong>Story</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>State:</td>
<td>Mrs Jones is a 50-year-old woman, who was admitted with a 24-hour history of wheezing and becoming breathless. She has had asthma for 10 years. She has never smoked. She has been improving since admission with nebulisers, but now she seems very tired and unwell and is breathing very fast and shallowly</td>
</tr>
<tr>
<td></td>
<td>1. Background information about the patient</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Reason for admission</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Relevant past medical history</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. The patient’s resuscitation status</td>
<td></td>
</tr>
<tr>
<td><strong>V</strong></td>
<td><strong>Vital Signs</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vital signs are:</td>
<td>Mrs Jones has a respiratory rate of 34, pulse of 110, Sats of 88% on 15 litres of oxygen through a rebreathe mask. She is V on the AVPU scale. Her early warning score has gone up from 3 to 5 in the past hour</td>
</tr>
<tr>
<td></td>
<td>Temperature</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pulse rate and rhythm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Blood pressure <strong><strong>/</strong></strong>__</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Breathing rate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Conscious level, mental state</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Capillary refill time</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sweating?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SaO2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FiO2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Urine output</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Early warning score</td>
<td></td>
</tr>
<tr>
<td><strong>P</strong></td>
<td><strong>Plan</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A. My plan is....</td>
<td>Please...</td>
</tr>
<tr>
<td></td>
<td>OR</td>
<td>1. I’m not sure what I should do next and I am concerned about her. Please come to see Mrs Jones now</td>
</tr>
<tr>
<td></td>
<td>B. What is your plan?</td>
<td>2. Talk to the patient or family about resuscitation status.</td>
</tr>
<tr>
<td></td>
<td>Say what is required from the receiver of the call</td>
<td>3. Ask the on-call registrar to see Mrs Jones now</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Transfer Mrs Jones to critical care</td>
</tr>
</tbody>
</table>

Appendix 6
Tayside Hospitals SBAR Tool (Reverse side)

Staff should use SBAR in all communications relating to clinical matters.

Definition - Situation, Assessment, Recommendation

Early Warning Score 4 or more or new red risk or concern with a patient's condition

Inform Nurse in Charge - Immediately
Establish Urgency of Clinical Situation
Initiate Treatment/Intervention

Nurse in Charge unable to initiate Treatment/Intervention

Determine level of clinician required
Contact AHP Practitioner
State the appropriate response time based on urgency and clinical situation

Clinician/AHP Practitioner unable to provide
Review treatment within required response time
or Patient De-escalation

Call appropriate Registrar for immediate review

Patient re-assessed and treatment initiated

NO

Patients clinical condition/score improves

NO

Continue treatment and SEWS score as required

Pain Assessment & Management Guidelines

Pain Score: 0 = No Pain
1 = Mild Pain
2 = Moderate Pain
3 = Severe Pain

Nurses Notified (S/C)
1 = 1st nurse notified
2 = 2nd nurse notified
3 = 3rd nurse notified

SBAR Record

Date
Time
Situation / Background
Recommendation / Action
Initials

Management Plan / Local Exclusions

Date
Management of SEWS Observations
Signal

www.patientsafetyfirst.nhs.uk
## Appendix 7
Example of SBAR tool. Luton & Dunstable Hospital NHS Foundation Trust

### SBAR report to Doctor or Outreach Nurse about a critical situation

<table>
<thead>
<tr>
<th>Situation</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am calling about &lt;patient name and location&gt;. Consultant</td>
</tr>
<tr>
<td>The patient’s resuscitation status is &lt;For Resus ? Not For Resus &gt;</td>
</tr>
<tr>
<td>The problem I am calling about is _____________________________________ The patient was admitted with</td>
</tr>
<tr>
<td>□ I am afraid the patient is going to arrest.</td>
</tr>
</tbody>
</table>

### Background
The patient’s mental status is:
- □ Alert and oriented to person, place and time.
- □ Confused and □ cooperative or □ non-cooperative
- □ Agitated
- □ Lethargic but conversant and able to swallow
- □ Drowsy and not talking clearly and possibly not able to swallow
- □ Comatose. Eyes closed. Not responding to stimulation.

### Observations are:
- Blood pressure _____ / _____, Pulse _____, Respiration _____ and temperature _____
- Blood Glucose Oral Intake
- Pain = Site / Duration
- I am concerned about the:
  - Observations in the red or yellow bands on the obs chart
  - □ Blood pressure because it is □ over 200 or □ less than 100 □or 30 mmHg below usual
  - □ Pulse because it is □ over 130 or □ less than 50
  - □ Respiration because it is □ less than 10 or □ over 28.
  - □ Temperature because it is □ less than 35.5 or □ over 38.0
  - □ Conscious level / general condition is deteriorating
  - □ Urine Output =

### The skin is:
- □ Warm and dry
- □ Pale / Clammy
- □ Sweaty
- □ Extremities are cold
- □ Extremities are warm

The patient □ is not or □ is on oxygen.
- □ The patient has been on ______ (l/min) or (%) oxygen for ______ minutes (hours)
- □ The oximeter is reading ______%
- □ The oximeter does not detect a good pulse and is giving erratic readings.

### Assessment
- □ I think the problem is ........
- □ I don’t know what the problem is but patient is deteriorating
- □ The patient has fallen on the ward

### Recommendation
- □ I would like you to see the patient within the next 30 minutes
- □ I would like you to see the patient now
- □ I would like approval of my course of action which is..............................

### Are any tests needed:
- □ Do you need any test?

### If a change in treatment is ordered then ask:
- □ How often do you want observations done?
- □ If the patient does not get better when would you want us to call again?

---

Call initiated by Nurse To

---

To find out more visit www.patientsafetyfirst.nhs.uk
### Appendix 8
Cardiff and Vale Trust’s SBAR Audit tool

<table>
<thead>
<tr>
<th>SBAR - Reporting a Sick Patient - Communication Audit Audit Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Date:</strong></td>
</tr>
<tr>
<td><strong>Ward:</strong></td>
</tr>
<tr>
<td><strong>Situation</strong></td>
</tr>
<tr>
<td>Identity of individual reporting</td>
</tr>
<tr>
<td>Location of patient</td>
</tr>
<tr>
<td>Name of patient causing concern</td>
</tr>
<tr>
<td>Brief summary of problem</td>
</tr>
<tr>
<td>Is this problem acute</td>
</tr>
</tbody>
</table>

| **Background**                                               |
| Concise summary of reason for admission                      |
| Summary of treatment to date                                 |
| All baseline observations BP Pulse Resps Sats LOC BM Temp    |
| Previous observations BP Pulse Resps Sats LOC BM Temp        |

| **Assessment**                                              |
| Nurses assessment of situation if possible Yes / No          |
| EWS score                                                   |

| **Recommendation**                                          |
| Did the nurse make any recommendations Yes / No              |
| If yes, what                                                |----------------------------------------------------------------|
|                                                              |
| Did MRRT make any recommendations Yes / No                  |
| If yes, what                                                |----------------------------------------------------------------|
|                                                              |
| Any feedback given Yes / No                                 |
| Time spent on feedback                                      | --- |
| Comments                                                    |----------------------------------------------------------------|
|                                                              |