a guide to support
implementation of the

national
consensus
statement:

essential elements for recognising and
responding to clinical deterioration

recognising
+ responding
TO CLINICAL DETERIORATION

NSQHS
STANDARDS

contents

about the implementation guide

It has long been established that serious adverse events such as cardiac arrest and unplanned intensive care admission can occur as the result of unrecognised or under-treated clinical deterioration.[1–3] Early recognition of clinical deterioration, followed by prompt and effective action, can minimise adverse outcomes such as cardiac arrest, and decrease the number of interventions required to stabilise patients whose condition deteriorates in hospital.[4]

An approach that focuses on the needs of the patient across the complex systems of healthcare delivery is needed to ensure that patients whose condition deteriorates in hospital receive appropriate and timely care.

The *Guide to Support Implementation of the National Consensus Statement: Essential Elements for Recognising and Responding to Clinical Deterioration* (the implementation guide) helps health professionals put systems in place to ensure that clinical deterioration is recognised and responded to appropriately in hospitals throughout Australia.

what is the consensus statement?

The *National Consensus Statement: essential elements for recognising and responding to clinical deterioration* (the consensus statement) describes eight elements that are essential for a prompt and reliable response to clinical deterioration. The consensus statement reflects the agreed views of experts in the field, as well as published evidence. Each essential element describes a number of specific systems and processes of care that need to be in place to successfully recognise and respond to clinical deterioration. These elements are the foundations for providing safe, high-quality care for patients whose condition is deteriorating in acute care facilities.

The eight essential elements in the consensus statement are:

CLINICAL PROCESSES

1. Measurement and documentation of observations

2. Escalation of care

3. Rapid response systems

4. Clinical communication

ORGANISATIONAL PREREQUISITES

5. Organisational supports

6. Education

7. Evaluation, audit and feedback

8. Technological systems and solutions.

In April 2010, all Australian health ministers endorsed the consensus statement as the national approach for recognising and responding to clinical deterioration in acute care facilities in Australia.

CONSENSUS STATEMENT GUIDING PRINCIPLES

Nine guiding principles underpin the consensus statement and describe how systems for recognising and responding to clinical deterioration should apply.

1. Recognising patients whose condition is deteriorating and responding to their needs in an appropriate and timely way are essential components of safe and high-quality care.

2. Recognition and response systems must apply to all patients, in all patient care areas, at all times.

3. Primary responsibility for caring for the patient rests with the attending medical officer or team. Recognition and response systems should therefore promote effective action by ward staff and the attending medical officer or team. This includes calling for emergency assistance when required.

4. Effectively recognising and responding to deterioration requires appropriate communication of diagnosis, including documentation of diagnosis in the health care record.

5. Effectively recognising and responding to deterioration requires development and communication of plans for monitoring of observations and ongoing management of the patient.

6. Recognition of and response to deterioration requires access to appropriately qualified, skilled and experienced staff.

7. Recognition and response systems should encourage a positive, supportive response to escalation of care, irrespective of circumstances or outcome.

8. Care should be patient focused and appropriate to the needs and wishes of the individual and their family or carer.

9. Organisations should regularly review the effectiveness of the recognition and response systems they have in place.

how should the consensus statement be implemented?

The consensus statement sets out agreed practice for recognising and responding to clinical deterioration. To achieve this, healthcare facilities need to have systems in place to address all elements of the consensus statement.

Recognition and response systems should be developed considering local circumstances. The focus of these systems is to ensure that all patients who deteriorate receive an immediate and appropriate treatment response. Facilities may need additional resources such as equipment, personnel, education and training to ensure patients receive appropriate and timely care.

The implementation guide provides information to support system changes, along with examples, links and accompanying online resources relating to each of the essential elements from the consensus statement.

Improving systems for recognising and responding to clinical deterioration can be challenging. It requires leadership, redesign of clinical processes, effective governance systems, education, and processes for evaluation across multiple clinical areas.

Health professionals need to review current activities to ensure that system improvements take place. Undertaking the tasks described in the implementation guide will help to ensure that each of the essential elements in the consensus statement is in operation and working effectively.

WHAT SERVICES AND FACILITIES SHOULD BE INVOLVED?

A complete, system-wide approach is needed to ensure that processes for recognising and responding to clinical deterioration are established in acute care facilities in Australia. Clinical governance systems should ensure that the essential elements described in the consensus statement are in place and operating effectively. Implementation of the consensus statement requires action at different levels, including in individual wards and clinical areas, across entire hospital services and facilities, within local hospital networks, and at national, state and territory levels.

HOW SHOULD IMPLEMENTATION BE APPROACHED?

Approaches to implementation will vary across different acute care settings. Statewide services and private hospital groups may establish overarching policies and systems – such as escalation systems or education programs – that apply to all facilities for which they are responsible. Where there is a statewide approach, healthcare facilities will need to work within these frameworks to improve recognition and response systems. However, some facilities may need to develop systems locally.

Successful implementation may require significant organisational change. There are many frameworks that could be used to manage change successfully within an organisation, facility or clinical area. Regardless of the framework used, those who are leading the implementation process should consider strategies for:

- engaging with the key people affected by the change

- obtaining high level and influential support for the change

- developing a plan for resourcing the change

- developing a communication plan that allows information and feedback to flow in both directions

- ensuring that plans remain flexible and able to incorporate feedback as implementation progresses.

WHO SHOULD BE INVOLVED?

A range of health professionals share the responsibility for establishing and maintaining recognition and response systems. These include health service boards, executives, owners, health service managers, clinicians, educators and people with responsibility for policy and quality improvement.

Whether systems are developed on a statewide or local basis, facilities may need to establish local project teams to oversee, plan and coordinate implementation and evaluation of recognition and response systems. Consideration needs to be given to the individual roles and resources of each facility – and each clinical area within a facility – during the implementation process. Project teams should include representation from across the range of health professionals responsible for recognition and response systems. In addition, involving patients, families and carers as partners in these processes brings benefits in terms of improved services and higher satisfaction.[5]

Table 1 outlines the overarching roles and responsibilities of different healthcare participants in recognising and responding to clinical deterioration and implementing the essential elements from the consensus statement. Roles and responsibilities specific to each essential element are also described throughout the implementation guide.

table 1 › OVERARCHING ROLES AND RESPONSIBILITIES OF HEALTHCARE PARTICIPANTS IN RECOGNISING AND RESPONDING TO CLINICAL DETERIORATION

Healthcare participant	Examples of associated positions	Roles and responsibilities
CONSUMERS, PATIENTS, FAMILIES AND CARERS		• Disclose relevant information to assist the healthcare team • Participate in developing the healthcare plan • Communicate concerns to the healthcare team • Use communication pathways and systems designed to escalate care • Participate in governance, planning and evaluation of recognition and response systems as appropriate
NON-CLINICAL WORKFORCE	Diet aides, wardspeople, ancillary staff, cleaners	• Communicate concerns to the healthcare team • Participate in education related to escalation protocols • Participate in evaluating escalation protocols
CLINICAL WORKFORCE	Nurses, doctors, allied health professionals	• Follow systems for recognising and responding to clinical deterioration • Inform patients, families and carers about observation monitoring and escalation processes • Participate in education programs and maintain appropriate knowledge and skill levels • Model high-quality care – lead by example • Seek help when unsure • Advocate for patients, families and carers • Provide appropriate care during episodes of clinical deterioration • Participate in and work as a team • Ensure systems related to processes of care are performing correctly, report incidents and act on gaps
EDUCATORS	Nursing, medical and allied health educators	• Educate the clinical and non-clinical workforce about recognising and responding to clinical deterioration • Evaluate the success of education programs in improving recognition of and response to clinical deterioration • Model high-quality care – lead by example • Ensure systems related to processes of care are performing correctly, report incidents and act on gaps • Develop and maintain a positive safety culture • Communicate successes and problems to the healthcare team • Follow systems for recognising and responding to clinical deterioration
HEALTH PROFESSIONALS WITH RESPONSIBILITY FOR POLICY OR QUALITY IMPROVEMENT	Quality improvement officers/facilitators, patient safety officers/coordinators, resuscitation coordinators	• Develop, implement and evaluate policies and procedures associated with recognition and response systems • Establish mechanisms for identifying and managing risks associated with the operation of recognition and response systems • Establish quality improvement systems to continuously improve recognition and response systems • Participate in governance committees for recognition and response to clinical deterioration

table 1 ▸ CONTINUED...

Healthcare participant	Examples of associated positions	Roles and responsibilities
HEALTH SERVICE MANAGERS	Nurse unit managers, clinical services coordinators, allied health managers, project managers, medical managers, department heads, accreditation managers, quality risk managers	• Incorporate elements from the consensus statement into service plans • Develop high-level, system-wide approaches to policy and procedure • Establish governance structures to support monitoring, compliance and ongoing development of recognition and response systems • Provide resources to support recognising and responding to clinical deterioration including clinical processes, education, evaluation and technology systems • Ensure systems related to processes of care are performing correctly, report incidents and act on gaps • Provide sufficient well-functioning equipment and tools (e.g. clinical forms, observation equipment) • Monitor and manage individual clinician and team performance • Ensure appropriate skill mix and staffing levels • Model high-quality care – lead by example • Develop and maintain a positive safety culture • Support health professionals to develop and maintain knowledge and skills • Communicate successes and problems to the healthcare team
HEALTH SERVICE BOARDS, EXECUTIVES AND OWNERS	Chief executives, general managers, medical directors, nursing directors, directors of clinical services, senior medical coordinators	• Lead and support the development of organisational systems for recognising and responding to clinical deterioration • Incorporate elements from the consensus statement into strategic plans • Develop high-level, system-wide approaches to policy, procedure, education and governance structures for recognising and responding to clinical deterioration • Provide resources to support systems for recognising and responding to clinical deterioration

HOW WILL THE IMPLEMENTATION GUIDE HELP?

The reasons for failing to recognise and respond to clinical deterioration are complex. Multiple factors contribute to this problem, including:[6]

- lack of agreement on issues such as observation and assessment monitoring, communication and escalation practices

- no processes of care, such as a lack of formal structures or systems in place to enable recognition and response to clinical deterioration, or an absence of agreed communication pathways, decision support tools, observation monitoring and escalation policies

- lack of resources and tools, such as lack of equipment to provide care; insufficient resources to educate health professionals, provide adequate clinical supervision, and evaluate and improve systems of care; no infrastructure or tools to support timely recognition

- lack of knowledge, such as health professionals not understanding the significance of altered physiological parameters and assessments, not understanding systems for escalating care, lacking clinical skills to provide emergency assistance

- no systems to support monitoring, evaluation and improvement, such as governance systems not including processes for ongoing monitoring, no systems for reporting performance and making improvements.

The implementation guide has been designed to help identify the factors that contribute to the failures of recognition and response systems – in specific clinical areas or across whole facilities – and help organisations to develop solutions to address these factors.

THE IMPLEMENTATION GUIDE PROVIDES:

- information to help interpret the eight essential elements from the consensus statement

- guidance on the roles and responsibilities of different health professionals in implementing recognition and response systems

- evidence of the need for change related to each essential element

- a tool to identify what systems for recognising and responding to clinical deterioration are or are not in place, or what systems are in place but are not operating effectively

- strategies to help address each essential element and the factors that contribute to failure of recognition and response systems, including knowledge and education requirements, resources and processes of care.

who should use the implementation guide?

The guide is targeted at health professionals who are responsible for developing or implementing some or all of the systems required for effectively recognising and responding to clinical deterioration. This may include senior executives, health service managers, clinicians, educators or people with responsibility for policy or quality improvement.

The guide has been developed in a way that allows health professionals to approach implementation from the perspective of the whole facility, an individual ward or a specific clinical area.

how do the *national safety and quality health service standards* complement implementation of the consensus statement?

Sustained and continuous improvement to the Australian healthcare system has become the focus of a national reform agenda. In November 2010, Australian health ministers endorsed health safety and quality accreditation reforms proposed by the Australian Commission on Safety and Quality in Health Care (the Commission). One of the key components of these reforms is the *National safety and quality health service standards* (the standards).

The standards focus on areas that are essential to improving the safety and quality of patient care. The standards provide explicit statements of the expected level of safety and quality of care to be delivered to patients by health service organisations. They also provide a means of assessing performance.

The standards provide a quality assurance mechanism for health service organisations to ensure that minimum standards of safety and quality are met. They also provide a quality improvement mechanism for health services that have achieved the minimum requirements.

Implementing each of the essential elements from the consensus statement – by undertaking the tasks and actions recommended throughout the implementation guide – will assist facilities to meet several of the standards, particularly *Standard 9: Recognising and responding to clinical deterioration in acute health care*. Appendix A relates the actions and tasks included in the implementation guide to this standard.

Standard 1: Governance for safety and quality in health service organisations, and *Standard 2: Partnering with consumers*, need to be applied to all ten standards.

national safety and quality health service standards

1. Governance for safety and quality in health service organisations

2. Partnering with consumers

3. Preventing and controlling healthcare associated infections

4. Medication safety

5. Patient identification and procedure matching

6. Clinical handover

7. Blood and blood products

8. Preventing and managing pressure injuries

9. Recognising and responding to clinical deterioration in acute health care

10. Preventing falls and harm from falls.

what other resources are available to support implementation of the consensus statement?

Tools, examples and resources such as fact sheets to support implementation of the consensus statement are available in the appendices of the guide and on the Commission's web site. A number of additional documents have also been prepared, which draw on the information included in this guide.

A series of six quick-start guides has been developed to provide an easy access point for individuals and for facilities where there has been limited focus on establishing or improving rapid response systems to date. The guides focus on the key actions required to implement the elements of the consensus statement and meet the standard for recognising and responding to clinical deterioration.

HOW THE IMPLEMENTATION GUIDE WAS DEVELOPED

The implementation guide was developed by:

- conducting focus groups and surveys of health professionals to identify implementation needs related to the consensus statement

- reviewing the literature relevant to each essential element and topic

- collecting case examples and tools used in practice in a range of settings

- consulting with experts.

A working party provided advice on content, structure and guide design. Membership included clinicians, quality managers, private hospital representatives, government agencies and consumers with knowledge and experience in rural and metropolitan health care.

The Commission's Recognising and Responding to Clinical Deterioration Advisory Committee also provided advice on the content and structure of the guide. Health professionals who contributed to the development of the implementation guide are listed in the acknowledgements on page 331.

THE FUTURE OF THE IMPLEMENTATION GUIDE

The implementation guide will be updated and amended in the future. The Commission welcomes users' suggestions about the guide.

Please email your suggestions and feedback to:
mail@safetyandquality.gov.au

Or leave your comments on the Commission's web site:
www.safetyandquality.gov.au

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how to use the implementation guide

The implementation guide gives health professionals information, tools and resources to implement the essential elements from the consensus statement. Health professionals are encouraged to use a change improvement model appropriate to their facility to provide a structured and systematic process for implementation of the tasks and actions described in the guide.

structure of the implementation guide

The guide is structured according to the eight essential elements in the consensus statement.

Each section of the guide contains information about the:

- rationale and evidence for the inclusion of each essential element

- goals of each essential element

- tasks required to reach each goal

- evidence or rationale for each task

- actions required to complete each task.

The guide also has three appendices that will help support implementation. Appendix A relates the actions and tasks included in the implementation guide to *Standard 9: Recognising and responding to clinical deterioration in acute health care*. Appendix B contains specifications for measures that can be used for local evaluation and quality improvement processes. Appendix C contains links to useful web sites, tools and resources.

clinical processes

⊙ element 1
Measurement and documentation of observations

⊙ element 2
Escalation of care

⊙ element 3
Rapid response systems

⊙ element 4
Clinical communication

organisational prerequisites

⊙ element 5
Organisational supports

⊙ element 6
Education

⊙ element 7
Evaluation, audit and feedback

⊙ element 8
Technological systems and solutions

how to use the implementation guide

STEP 1 Use the information in this step to identify people's roles and responsibilities for each essential element within your facility. Identify how each essential element applies to you, your facility, and specific clinical areas.

STEP 2 Use the self-assessment and planning tool to identify gaps in your systems for each essential element, and develop an action plan. Prioritise your changes.

STEP 3 Use the information and resources in the implementation guide to help design and implement your action plan. For each task, the following actions may be required: Decide, Develop, Resource, Educate and Evaluate.

STEP 1

Who is responsible?
How does this element apply to your role(s)?
What clinical areas does this element apply to?

Step 1 describes how each essential element applies to a facility, including the different clinical areas that need systems in place to recognise and respond to clinical deterioration.

This step also describes the roles and responsibilities of different groups of health professionals in developing and implementing recognition and response systems for each essential element. This information helps health professionals who are responsible for implementation to identify key stakeholders.

STEP 2

Use the self-assessment and planning tool to identify gaps in your systems for each essential element, and develop an action plan.

Prioritise your changes.

Step 2 includes includes self-assessment and planning tools that are an essential part of using this guide. The tools allow facilities and clinical areas to assess their performance and make an action plan for each essential element.

The tools are designed to help ensure whole facilities, wards or individual clinical areas identify:

- what systems for recognising and responding to clinical deterioration are or are not in place, or what systems are in place but are not operating effectively

- the reasons (barriers) why these systems may not be in place or operating effectively

- the actions that are needed to address system problems and the barriers that have been identified.

how to use the implementation guide

STEP 2

Achieving each essential element involves several tasks. Within each of these tasks, there are five core questions to consider.

- Agreement – do health professionals agree on the basis for the task, the best way to perform the task, and who is responsible?

- Process or policy – are processes in place, or do policies exist, to achieve the task?

- Resources – does the facility have the necessary resources to achieve the task?

- Knowledge – are clinical and non-clinical health professionals educated about the importance of the task?

- Systems to support monitoring and evaluation – does the facility conduct audits, reviews or evaluations to ensure the task is performed properly?

These questions are specified for each task in the self-assessment and planning tool. Work through each question and record your answers, specifying the documents or data that prove the facility meets the criteria. This will identify the barriers to implementation in the facility or clinical area.

Follow the instructions in the tool to complete the action plan, which links the barriers with specific actions to address them.

The self-assessment and planning tool also acts as a navigator, directing health professionals to information in the implementation guide to address the identified barriers.

Actions that are low cost, easy to implement and have high impact may be a useful starting point for implementation. Facilities may also prefer to prioritise tasks that are required to meet the standards.

STEP 3

Use the information and resources in the guide to help to implement your action plan.

For each task, the following actions may be required:
Decide, Develop, Resource, Educate and Evaluate.

Step 3 describes the tasks and actions that may be needed to meet the goals of each essential element and successfully address the barriers identified in Step 2. Once the need for a task or action has been identified using the self-assessment tool, use the information, links and accompanying online resources in the guide to assist with implementation.

The actions within each task are structured according to the framework below.

| DECIDE | DEVELOP | RESOURCE | EDUCATE | EVALUATE |

The types of actions included within this framework and the barriers these actions address are summarised on the following page.

STEP 3 — action framework used in the implementation guide

| DECIDE | DEVELOP | RESOURCE | EDUCATE | EVALUATE |

Action framework		Barrier identified from the self-assessment and planning tool
DECIDE	actions address ▶ ▶ ▶	Lack of agreement
DEVELOP	actions address ▶ ▶ ▶	Lack of process/policy
RESOURCE	actions address ▶ ▶ ▶	Lack of resources and tools
EDUCATE	actions address ▶ ▶ ▶	Lack of knowledge
EVALUATE	actions address ▶ ▶ ▶	Lack of monitoring and evaluation

Some of the actions from Step 3, for example developing a policy for using monitoring plans, need to be agreed at a whole facility level. Other actions, such as documenting monitoring plans, will occur at the patient's bedside. Understanding the roles and responsibilities identified in Step 1 is essential for understanding how the different actions should be approached.

Implementation tips are provided throughout this guide to help you plan your change improvement process. Consider if the tips and strategies are applicable to your environment before incorporating them into your action plan.

A summary of tasks and actions is provided at the end of each essential element. The summary outlines who is responsible for undertaking the actions, and how the actions relate to the recommendations in the consensus statement and the standards.

Once you have identified the gaps in your current systems and undertaken the tasks and actions from the implementation guide, you can repeat the self-assessment process using the self-assessment and planning tool to check that your changes have met the consensus statement recommendations.

01
02
03
04
05
06
07
08

⊙ essential element 1

MEASUREMENT AND DOCUMENTATION OF OBSERVATIONS

measurement and documentation of observations

the problem

Clinicians do not always measure the appropriate observations to identify clinical deterioration.

Patients in acute care settings often go for extended periods without observations being monitored.

Clinicians sometimes fail to recognise and respond appropriately to abnormal observations.

goals of this essential element

Patients have appropriate physiological observations and assessments monitored to recognise and respond to clinical deterioration.

Patients' physiological observation and assessment monitoring needs are clearly communicated among members of the healthcare team.

Abnormal physiological observations are easily identified from observation charts.

Patients' physiological observations can be tracked over time, with clear triggers for when care should be escalated.

what you need to do

Measure and document core physiological observations with appropriate frequency and for the appropriate duration of the patient's admission.

Document a monitoring plan for each patient.

Use observation charts designed using human factors principles that incorporate track and trigger systems.

common terms used in this essential element

Human factors: 'The environmental, organisational and job factors of humans interacting with systems, as well as the physiological and psychological characteristics which influence behaviour at work.'[1]

Monitoring plan: a plan outlining the minimum observation and assessment requirements for a patient in an acute care setting. May be an individualised plan documented in the patient record or a standardised policy or pathway applying to a group of patients. This includes the required frequency (times per day) and duration (number of days) of physiological observation monitoring.

Observations: the core physiological observations required to identify clinical deterioration (blood pressure, heart rate, level of consciousness, oxygen saturation, respiratory rate and temperature).

Track and trigger systems: systems designed to provide clinicians with an objective decision-making process for recognising and responding to altered physiological observations.[2]

consensus statement recommendations

essential element 1: measurement and documentation of observations

1.1   Observations should be taken on all patients in acute care settings.

1.2   Observations should be taken on patients at the time of admission or initial assessment.

1.3   For every patient, a clear monitoring plan should then be developed that specifies the physiological observations to be recorded and the frequency of observations, taking into account the patient's diagnosis and proposed treatment.

1.4   The frequency of observations should be consistent with the clinical situation of the patient. For the majority of patients in an acute health care facility, observations should be taken at least once per eight hour shift. In some clinical circumstances more frequent or less frequent observations will be appropriate and this should be documented in the monitoring plan.

1.5   The frequency of observations should be reconsidered and possibly modified according to changes in clinical circumstances.

1.6   Physiological observations should include:

- respiratory rate

- oxygen saturation

- heart rate

- blood pressure

- temperature

- level of consciousness.

In some circumstances, and for some groups of patients, some observations will need to be measured more or less frequently than others, and this should be specified in the monitoring plan.

1.7   The minimum physiological observations should be documented on a structured tool such as an observation chart.

1.8   Observation charts should display information in the form of a graph. An observation chart should include:

- a system for tracking changes in physiological parameters over time

- thresholds for each physiological parameter or combination of parameters that indicate abnormality

- information about the response or action required when thresholds for abnormality are reached or deterioration identified

- the potential to document the normal physiological range for the patient.

1.9   Clinicians may choose to document other observations and assessments to support timely recognition of deterioration. Examples of additional information that may be required include fluid balance, occurrence of seizures, pain, chest pain, respiratory distress, pallor, capillary refills, pupil size and reactivity, sweating, nausea and vomiting, as well as additional biochemical and haematological analyses.

STEP 1 roles and responsibilities

Who is responsible?
How does this element apply to your role(s)?
What clinical areas does this element apply to?

A variety of health professionals are involved in measuring and documenting observations to recognise and respond to clinical deterioration. To change practice and improve systems, health professionals need to determine who will be responsible for undertaking the tasks required for this essential element.

The frequency of observations should be consistent with the clinical situation of the patient. For the majority of patients in an acute health care facility, observations should be taken at least once per eight hour shift. In some clinical circumstances more frequent or less frequent observations will be appropriate and this should be documented in the monitoring plan.

01
02
03
04
05
06
07
08

table 2 ▸ ROLES AND RESPONSIBILITIES RELATING TO MEASURING AND DOCUMENTING OBSERVATIONS

Clinical areas involved in measuring and documenting observations	People involved in measuring and documenting observations	
	Role	**Responsibility**
All acute care areas of a facility need to have systems in place to ensure observations and assessments are measured and documented. This includes: • emergency departments • intensive care units or high dependency units • general wards and specialty areas • maternity units • paediatric units • mental health units • operating theatre recovery units • other clinical areas where patients receive acute care treatments	Consumers, patients, families and carers	• Alert clinicians to any worries or concerns • Participate in developing observation and monitoring policies
	Non-clinical workforce	• Alert clinicians to abnormal observations and assessments, and any worries or concerns
	Clinical workforce	• Follow agreed practices for measuring and documenting physiological observations • Participate in education • Participate in evaluating practices and policies • Ensure agency and locum clinicians are aware of observation practices and policies before delegating care to them
	Educators	• Develop education programs to promote understanding of physiological observations (normal and abnormal) • Train clinicians on observation practices and policies and the significance of abnormal observations • Participate in evaluating observation practices and policies

	Health professionals with responsibility for policy or quality improvement	• Develop policies and procedures for:
		  – minimum standards for measuring physiological observations
		  – minimum standards for measuring other observations and assessing specific patient groups (e.g. maternity, mental health)
		  – documenting an individualised monitoring plan for each patient
		
		• Develop data measures and undertake audits of observation and assessment practices

	Health service managers	• Develop agreed practices and policies for measuring physiological observations with appropriate frequency and duration • Train clinicians on observation monitoring practices and policies and the significance of abnormal observations • Lead and support review of staffing levels and clinical supervision, if these affect observation monitoring practices • Participate in evaluating observation monitoring practices • Ensure agency and locum clinicians are aware of observation monitoring practices and policies before delegating care to them

table 2 ▸ CONTINUED...

| Clinical areas involved in measuring and documenting observations | People involved in measuring and documenting observations | |
	Role	Responsibility
	Health service boards, executives and owners	• Assign responsibility, personnel and resources to support development, implementation and evaluation of: – practices and policies for measuring physiological observations – training on observation policies and practices – barriers to better monitoring practices, such as inadequate equipment and staffing levels • Support managers to implement protocols and policies in their areas

⚙ implementation tip

Developing systems for monitoring and documenting observations

- To improve systems for measuring and documenting observations, medical, nursing and allied health teams need to agree on the frequency and duration of observations and assessments, and on processes to communicate and modify observation frequencies, if required. Be sure to seek representation from these different clinical teams when developing systems for measuring and documenting observations

- Clinicians are often concerned about disturbing patients to conduct observations and assessments at night. Remember to work with night staff when developing observation measurement policies. By stimulating interest and clarifying concerns in different clinical areas, you can promote a culture that is conducive to change

- Observations are often documented on a variety of charts. For example, physiological observations may initially be recorded on a general observation chart, but may then be recorded on a blood observation chart when a patient receives blood products. Collect all charts used to document observations before starting work on this essential element. This will help you identify clinical areas and practices that need to change

- National clinical guidelines can help identify observations and assessments that are needed for specific clinical conditions. Identify any guidelines that are relevant to your clinical area.

STEP 2 self-assessment and planning tool

Use the self-assessment tool to identify gaps in your systems for measuring and documenting observations and develop an action plan.

Prioritise your changes.

The self-assessment and planning tool has been designed to assess one clinical area, or an entire facility's current practice, in relation to this essential element. A modifiable electronic version of this tool, and other supporting tools to help answer the self-assessment questions, are available on the Commission's web site.

The action plan for this essential element begins on page 27. Follow the instructions in the self-assessment and planning tool to complete the action plan.

NAME OF WARD OR AREA BEING ASSESSED:

⊙ task 1

Measure and document core physiological observations with appropriate frequency and duration

Data or documentation that proves the criteria have been met

Type of data or name of document

AGREEMENT Are you measuring the core physiological observations that identify clinical deterioration (i.e. temperature, heart rate, blood pressure, respiratory rate, oxygen saturation, level of consciousness)?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of agreement' in your action plan	
PROCESS OR POLICY Do you have guidelines and policies outlining the minimum frequencies and duration of core physiological observation measurements in all acute care areas?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of process/ policy' in your action plan	
RESOURCES Have you got enough equipment to measure physiological observations?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of resources' in your action plan	
Do you have enough clinicians and is there appropriate clinical supervision?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of resources' in your action plan	
KNOWLEDGE Do clinicians understand the significance of core physiological observations?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of knowledge' in your action plan	
SYSTEMS TO SUPPORT MONITORING AND EVALUATION Do you audit to ensure complete sets of core physiological observations are measured?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of monitoring and evaluation' in your action plan	
Do you audit to ensure core physiological observations are measured with appropriate frequency and duration?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of monitoring and evaluation' in your action plan	
Do you audit clinicians' practice regarding the techniques of physiological observation measurement?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of monitoring and evaluation' in your action plan	

Where is it kept?	Are these policies/processes/resources operating as planned? Does your data demonstrate effective operation at all times?
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan

NAME OF WARD OR AREA BEING ASSESSED:

⊙ task 2
Document a monitoring plan for each patient

		Data or documentation that proves the criteria have been met
		Type of data or name of document

AGREEMENT Have you reached agreement on additional observations and assessments for specific patient groups (e.g. renal, respiratory, maternity)?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of agreement' in your action plan	
PROCESS OR POLICY Do you have policies or guidelines outlining additional observations and assessments for specific patient groups?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of process/ policy' in your action plan	
Do you have a process for documenting a clear monitoring plan for each patient in all areas?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of process/ policy' in your action plan	
RESOURCES Is there enough equipment to measure additional observations and assessments?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of resources' in your action plan	
KNOWLEDGE Do clinicians understand the significance of observations and assessments for specific patient groups and treatments?	☐ **YES** ▸ fill in next two columns ☐ **NO** ▸ tick 'Lack of knowledge' in your action plan	
Are clinicians educated on the process for developing a clear monitoring plan for each patient?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of knowledge' in your action plan	
SYSTEMS TO SUPPORT MONITORING AND EVALUATION Do you audit to ensure each patient has a documented monitoring plan?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of monitoring and evaluation' in your action plan	
Do you audit the content of monitoring plans to ensure they meet policy or guideline requirements?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of monitoring and evaluation' in your action plan	

Where is it kept?	Are these policies/processes/resources operating as planned? Does your data demonstrate effective operation at all times?
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
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	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
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	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan

01 02 03 04 05 06 07 08

NAME OF WARD OR AREA BEING ASSESSED:

⊙ task 3
Use observation charts designed using human factors principles that incorporate a track and trigger system

Data or documentation that proves the criteria have been met

Type of data or name of document

AGREEMENT Have you decided on the type of track and trigger system to use?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of agreement' in your action plan	
PROCESS OR POLICY Have trigger thresholds and responses been developed?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of process/ policy' in your action plan	
RESOURCES Has your track and trigger system been incorporated into an observation chart designed using human factors principles?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of resources' in your action plan	
KNOWLEDGE Do clinicians know how to use these charts?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of knowledge' in your action plan	
SYSTEMS TO SUPPORT MONITORING AND EVALUATION Do you audit clinical areas to identify if the correct charts are being used?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of monitoring and evaluation' in your action plan	
Do you monitor incidents and critical events to identify problems with observation charts?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of monitoring and evaluation' in your action plan	

Where is it kept?	Are these policies/processes/resources operating as planned? Does your data demonstrate effective operation at all times?
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan

01 02 03 04 05 06 07 08

action plan ▸ MEASUREMENT AND DOCUMENTATION OF OBSERVATIONS

NAME OF WARD OR AREA BEING ASSESSED:

what do you need to do?

how will you do it?

Task not yet achieved	Why has this task not been achieved (barriers)? What actions are needed?	Go to the recommended section of this guide for information on tasks and actions. List the tools and resources from the guide to address this gap here. Also consider other resources that may be available to you to address this gap.
⊙ task 1 Measure and document core physiological observations with appropriate frequency and duration	▢ Lack of agreement ▸ **DECIDE** ▸ p33 ▢ Lack of process/policy ▸ **DEVELOP** ▸ p34 ▢ Lack of resources ▸ **RESOURCE** ▸ p36 ▢ Lack of knowledge ▸ **EDUCATE** ▸ p38 ▢ Lack of monitoring and evaluation ▸ **EVALUATE** ▸ p40	
OTHER POSSIBLE BARRIERS:		
⊙ task 2 Document a monitoring plan for each patient	▢ Lack of agreement ▸ **DECIDE** ▸ p44 ▢ Lack of process/policy ▸ **DEVELOP** ▸ p45 ▢ Lack of resources ▸ **RESOURCE** ▸ p47 ▢ Lack of knowledge ▸ **EDUCATE** ▸ p48 ▢ Lack of monitoring and evaluation ▸ **EVALUATE** ▸ p49	
OTHER POSSIBLE BARRIERS:		
⊙ task 3 Use observation charts designed using human factors principles that incorporate a track and trigger system	▢ Lack of agreement ▸ **DECIDE** ▸ p54 ▢ Lack of process/policy ▸ **DEVELOP** ▸ p56 ▢ Lack of resources ▸ **RESOURCE** ▸ p57 ▢ Lack of knowledge ▸ **EDUCATE** ▸ p60 ▢ Lack of monitoring and evaluation ▸ **EVALUATE** ▸ p61	
OTHER POSSIBLE BARRIERS:		

OTHER COMMENTS AND PLANS:

Use the information from the self-assessment and planning tool to complete the action plan. The action plan links the barriers identified by the self-assessment and planning tool with specific actions, tools and resources to address them.

Who will be responsible?	When will this happen? Consider undertaking actions that are low cost, easy to implement and support meeting the *National safety and quality health service standards* first.

information and resources

Use the information and resources in this guide to help implement your action plan.

For each task, the following actions may be required: Decide, Develop, Resource, Educate and Evaluate

Each of the tasks for this essential element is discussed in detail in this section. Each task includes a brief summary of its importance and a series of actions that can be taken to complete it. Links to resources are included in Appendix C and additional tools to support implementation are available on the Commission's web site.

key tasks
for measurement and documentation of observations

⊙ task 1
Measure and document core physiological observations with appropriate frequency and duration

⊙ task 2
Document a monitoring plan for each patient

⊙ task 3
Use observation charts designed using human factors principles that incorporate a track and trigger system

why this task is important

This task is needed because:

- physiological observations play a significant role in detecting clinical deterioration; abnormalities may occur early or late in the deterioration process, or at any time during a patient's acute hospital admission

- correct observations to identify clinical deterioration are not always measured

- patients in acute care settings often go for prolonged periods without having physiological observations measured.

Several factors contribute to observations not being measured or documented in acute care areas, including:[3]

- no clear agreement on the correct physiological observations to identify clinical deterioration

- lack of research and guidelines to guide optimal frequencies and duration

- poor communication of patient monitoring needs among healthcare teams

- differences in clinical judgement

- varying views on the importance of measuring physiological observations

- fluctuating staffing levels.

Multiple studies and adverse events have shown that patients in acute care settings often go for prolonged periods without having physiological observations measured.[4-6] This can mean that clinical deterioration may not be recognised, and treatment may be delayed.

learning from coronial inquests

The importance of regular observations

Vanessa Anderson was a 16-year-old girl admitted to hospital suffering a closed head injury. She had been in considerable pain and received multiple doses of opioid medications, which the coroner determined led to her death from a respiratory arrest.

'Observations were due again at 4:00 am; however, the nurse decided not to do these observations because Vanessa had been neurologically unchanged when she conducted the observations at around 2:00 am. At around 5:30 am the nurse entered Vanessa's room and found her unresponsive. An emergency was called and CPR administered. The treatment was unsuccessful and Vanessa was certified as being Life Extinct at 6:35 am.'[7]

It is common practice to reduce the frequency of observation monitoring after a patient has been in hospital for several days, or as a patient is nearing discharge. However, this practice may result in clinical deterioration going unrecognised, as its occurrence is difficult to predict. Clinical deterioration can occur at any time during a patient's hospital admission.[8]

Hospitalisation places patients at risk of complications other than those related to their presenting diagnosis (e.g. pulmonary embolism, hospital-acquired infections). Ongoing measurement of observations and assessments is therefore necessary to detect clinical deterioration and other possible complications.

The optimal frequency and duration for measuring physiological observations is not known. Frequencies often vary due to differences in an individual clinician's judgement, poor communication among teams, varying views on the importance of observations and lack of guidelines to inform practice.[3,9–11]

practice point

Deaths in acute care

An audit of 778 deaths across three acute care hospitals in Australia identified that death occurred:[8]

- on the day of admission   10.3%
- on day 1   16.6%
- after 2–7 days   33.7%
- after 8–14 days   16.6%
- after more than 14 days   22.9%

Of these deaths, 29.4% occurred without a treatment-limiting decision such as a 'do not resuscitate' order in place, highlighting the potential for unexpected clinical deterioration.

practice point

Variations in the frequency of physiological observation measurement

A 700-bed specialist tertiary referral hospital in Australia surveyed nurses to examine the beliefs and current practices related to observation measurement.

The survey results (shown below) identified 22 reported variations in physiological observation monitoring times when it was specified that observations were to be measured four times a day. Several nurses working on the same ward reported using different frequencies.

The results demonstrate that prolonged periods of time can occur between measurements of observations, and that variations in practice currently exist.

1.	06:00	10:00	16:00	20:00
2.	06:00	11:00	16:00	21:00
3.	06:00	11:00	16:00	22:00
4.	06:00	12:00	18:00	22:00
5.	06:00	10:00	16:00	22:00	← 12-hour gap
6.	08:00	12:00	16:00	20:00
7.	08:00	12:00	18:00	20:00
8.	06:00	10:00	14:00	18:00
9.	02:00	09:00	16:00	20:00
10.	09:00	14:00	16:00	20:00
11.	06:00	10:00	16:00	21:00
12.	06:00	14:00	18:00	20:00
13.	06:00	12:00	18:00	24:00	← 14-hour gap
14.	10:00	14:00	18:00	20:00
15.	06:00	10:00	14:00	20:00
16.	06:00	11:00	16:00	20:00
17.	06:00	10:00	15:00	20:00
18.	06:00	10:00	15:00	21:00
19.	06:00	11:00	16:00	22:00
20.	06:00	11:30	16:00	21:30	← 13-hour gap
21.	06:00	10:00	16:00	24:00
22.	10:00	14:00	18:00	21:00

A. Jones, Royal Prince Alfred Hospital, personal communication, 2011

Facilities also need to ensure that clinical areas are measuring the correct physiological observations to identify clinical deterioration. Several studies have demonstrated that an abnormal respiratory rate is one of the most sensitive indicators of clinical deterioration and unplanned intensive care unit admissions; however, it is one of the most frequently omitted measurements.[4,6,12–13] Similarly, level of consciousness is often not measured or documented with adequate frequency or duration.[4] This increases the risk of clinical deterioration going unrecognised and treatments being delayed.

how to complete this task

| DECIDE | DEVELOP | RESOURCE | EDUCATE | EVALUATE |

task 1 – measure and document core observations with appropriate frequency and duration

DECIDE	▶ ▶ ▶	Reach agreement on the core physiological observations to be measured
DEVELOP	▶ ▶ ▶	Develop policies outlining the minimum frequency and duration for measurement of core physiological observations
RESOURCE	▶ ▶ ▶	Provide equipment for monitoring physiological observations Ensure staffing levels are adequate and appropriate clinical supervision is provided
EDUCATE	▶ ▶ ▶	Educate clinicians on measurement and interpretation of core physiological observations
EVALUATE	▶ ▶ ▶	Audit current practices regarding the measurement and documentation of physiological observations

DECIDE

REACH AGREEMENT ON THE CORE PHYSIOLOGICAL OBSERVATIONS TO BE MEASURED

Clinicians often have varying views on the physiological observations required to recognise clinical deterioration. Agreeing on this issue is an important step towards identifying clinical deterioration.

A growing body of evidence demonstrates the association between abnormal physiological observations and assessments, and critical illness and serious adverse events.[11,14]

National Consensus Statement recommendation

CORE PHYSIOLOGICAL OBSERVATIONS

The *National Consensus Statement: Essential elements for recognising and responding to clinical deterioration* draws on evidence about the association between abnormal physiology and subsequent adverse outcomes. The consensus statement recommends that the core physiological observations for recognising clinical deterioration are:

- respiratory rate

- oxygen saturation

- heart rate

- blood pressure

- temperature

- level of consciousness.

Abnormalities in any of the core physiological observations may indicate that a patient's condition is deteriorating. All facilities need to ensure that acute care areas measure this core set of physiological observations. This practice should be agreed by clinicians, health professionals with responsibility for policy or quality improvement, and health service managers within an organisation.

DEVELOP

DEVELOP POLICIES OUTLINING THE MINIMUM FREQUENCY AND DURATION FOR MEASUREMENT OF CORE PHYSIOLOGICAL OBSERVATIONS

The consensus statement recommends that the frequency of observations should be consistent with the clinical situation of the patient. For the majority of patients in an acute health facility, observations should be taken at least once per eight-hour shift.

Some patients may require more or less frequent observations, depending on their current clinical situation, treatment goals and requirements. For example, when the goal is to provide comfort and dignity to patients who are dying, observations may be measured less frequently.

Policies and guidelines that outline the minimum frequencies for measuring and documenting observations can improve monitoring practices.[6]

practice point

Policies about the measurement of observations can improve monitoring practices

A retrospective observational study of patient observation charts from two wards in an Australian hospital found that most physiological observations were documented more frequently in the ward that had a policy outlining measurement requirements.[6]

	Frequency of observation readings per day	
	WARD A (MEDICAL, NO POLICY)	WARD B (SURGICAL, OBSERVATION POLICY)
All observations	3.0	5.0
Blood pressure	3.8	5.5
Heart rate	3.8	5.0
Respiratory rate	1.3	0.5
Temperature	3.0	5.0

Acute care areas need to develop policies that outline the minimum frequency (times per day) and duration (number of days) of physiological observation monitoring. Health professionals who are responsible for clinical governance of recognition and response systems would usually develop these policies (see *Essential element 5: Organisational supports* for further information on clinical governance systems). Policies may be developed for a whole facility, or within individual wards or clinical areas.

Observation frequencies may vary between clinical areas based on differences in patient populations, clinical conditions and treatment requirements. Clinical areas may have several observation policies, depending on the number and types of clinical conditions and treatments they manage.

Clinical areas that are likely to need policies with different frequencies for physiological observation monitoring include:

• emergency departments

• general wards (medical and surgical)

• high-dependency, coronary care and intensive care units

• theatres and recovery units

• specialist units (e.g. paediatrics, mental health, neurology, renal, maternity, oncology, diagnostic radiology).

PROVIDE EQUIPMENT FOR MONITORING PHYSIOLOGICAL OBSERVATIONS

ENSURE STAFFING LEVELS ARE ADEQUATE AND APPROPRIATE CLINICAL SUPERVISION IS PROVIDED

Equipment for measuring physiological observations should be readily available and in good working order. Lack of equipment may delay measurement of physiological observations and management of clinical deterioration. Clinical areas should establish systems for regular checking and maintenance of observation monitoring equipment.

Reduced staffing levels can prevent health professionals from measuring physiological observations with adequate frequency.[3] Nurses report regularly missing patient fluid intake and output, and being unable to regularly check patients due to insufficient staff.[10] Lower staffing levels overnight can mean that patients do not have observations measured for more than eight hours.[3] Clinical areas need to consider if staffing levels affect their ability to measure physiological observations, and develop strategies to address this problem.

Adequate clinical supervision and effective communication within the healthcare team is important to ensure the correct physiological observations are measured, recognised and responded to.[3] Clinical areas should develop processes to ensure health professionals receive adequate clinical supervision, including those who are casual or from an agency.

Clinicians who are not familiar with local observation monitoring practices should be informed of the minimum frequency and core observations to be measured before caring for patients. This process may be delegated to the person in charge of a clinical area to allow both direct and indirect supervision. These practices should be clearly defined in local work procedures, and form part of education and orientation programs in each clinical area.

Clinical areas need to consider if staffing levels affect their ability to measure physiological observations, and develop strategies to address this problem.

practice point

Defining clinical supervision

The Australian Nursing and Midwifery Council sets out definitions for clinical supervision:[15]

- "Direct clinical supervision *is when the supervisor is present and personally observes, works with, guides and directs the person being supervised.*"

- "Indirect supervision *is when the supervisor works in the same facility or organisation as the supervised person, but does not constantly observe their activities. The supervisor must be available for reasonable access. What is reasonable will depend on the context, the needs of the consumer and the needs of the person who is being supervised.*"

implementation tip

Orientation checklist for observations

Checklists are a reliable, high-impact intervention for improving safety.[16] A one-page orientation checklist can be used by those responsible for orienting casual clinicians or those from an agency to clinical areas. As part of your checklist, include:

- core physiological observations to be measured

- observation monitoring frequencies

- who to report abnormal physiological observations to.

These steps will help reduce the risk of clinical deterioration going unrecognised in your clinical area.

EDUCATE CLINICIANS ON MEASUREMENT AND INTERPRETATION OF CORE PHYSIOLOGICAL OBSERVATIONS

Recognising the significance of altered physiological observations is complex, and develops from integrating knowledge with clinical experience. Monitoring patient observations is often delegated to the most junior nurses, who may have been taught to undertake observations, but may not have the skills or training to interpret the results.[3] Clinicians may also regard observation monitoring as a 'task' and undervalue its importance.[3,10] This is demonstrated by the case review below.

case review

Monitoring observations of paediatric patients

A four-month-old baby, Sarah Cook, was admitted to a tertiary hospital for a hemi-nephrectomy. The following is a summary of events that occurred after her surgery.

Time	Event
11:30	Baby Sarah transferred to the recovery room and was noted to be irritable and unsettled. It was difficult to attend to a full set of physiological observations when she arrived in recovery.
11:40	Sarah was noted to be peripherally cool, but had a temperature of 36ºC. Nurses were unable to obtain an oxygen saturation measurement, as she was unsettled and screaming. A blood pressure reading could not be obtained [not palpable]; however, it was assumed that the equipment was faulty. Slight ooze was noted on Sarah's wound dressing, and her abdomen was soft.
11:45	Sarah was noted to be hungry and a trial of fluids was given. Sarah settled for short periods. Nurses had been informed that Sarah usually settled following breast feeding, so a decision was made to return her to the ward to enable her mother to breast feed her.
12:15	On admission to the ward, Sarah was cool to touch. Oxygen saturation was unrecordable. Sarah was irritable. A warm blanket was applied and her blood glucose level was measured. At this point Sarah became unresponsive, bradycardic, and had no audible breathing. Cardiopulmonary resuscitation was started.
12:30	A blood gas measurement showed that Sarah's haemoglobin was 60 g/L, and the drain site was noted to be bleeding. Her abdomen was distended and firm.

Facilities need to identify which clinicians are suitably trained for measuring physiological observations, and incorporate this information into policies and training programs. This will ensure that clinicians are made aware of individual roles and responsibilities.

Education on the significance of physiological observations (normal and abnormal) and measurement practices should be a priority for every clinical area. This should include information on:

- core physiological observations and their role in identifying clinical deterioration

- the need for policies on monitoring practices

- the minimum frequency of physiological observations

- the minimum duration of physiological observations

- the clinician to report or escalate abnormal physiological observations to

- the person responsible for orientation of new, relief or agency clinicians on observation monitoring policies in each clinical area.

Education on measurement and interpretation of physiological observations may be delivered as part of facility-wide education programs, or within individual clinical areas. Strategies to provide this education may include:

- self-directed learning packages

- competency-based skills assessment

- face-to-face structured learning courses

- peer review.

See *Essential element 6: Education* for more information about education methods and programs that can be used to provide this education.

Where physiological observation practices fall outside policy requirements, individual clinicians should receive feedback through a supportive and validated process such as peer review. This ensures that optimal observation practices are maintained, promotes learning, and reduces the risk of clinical deterioration being unrecognised in the future.

comments from colleagues

Use of education to change practice

'The scope of the education needs to target every group. It has helped us shift culture because nobody feels that they are being targeted'.

Nurse unit manager, focus groups, 2010

Education on the significance of physiological observations (normal and abnormal) and measurement practices should be a priority for every clinical area.

EVALUATE

AUDIT CURRENT PRACTICES REGARDING THE MEASUREMENT AND DOCUMENTATION OF PHYSIOLOGICAL OBSERVATIONS

All clinical areas should audit physiological observation practices. Audits may occur as part of a facility-wide audit program, or through quality improvement activities in individual clinical areas.

Audits should be based on the area's observation policy or policies, and should evaluate whether core physiological observations are measured:

- accurately

- according to minimum frequencies

- for the minimum duration.

Two types of audit may be useful: observational and documentation. Observational audit can assist to determine clinicians' practices regarding the techniques of physiological observation measurement. Documentation audit measures compliance with policy regarding minimum frequency and duration of core physiological observations.

Audit tools for evaluation of current practices related to the measurement and documentation of observations are available on the Commission's web site. Specifications for quality measures regarding completion and frequency of observations are in Appendix B.

Healthcare teams should receive the audit data, and strategies should be developed to address barriers or deficiencies in physiological observation measurement practices.

Healthcare teams should receive the audit data, and strategies should be developed to address barriers or deficiencies in physiological observation measurement practices.

⚙ implementation tip

Auditing observation and monitoring practices

- Audit and feedback is an effective strategy for changing behaviour. Remember to undertake a baseline audit before implementing your observation policy

- After physiological observation measurement policies have been introduced, initial audits should be relatively frequent (e.g. fortnightly) and results should be displayed for staff to see

- Audits should sample different staff allocation areas to ensure results reflect the ward's or unit's overall monitoring practices. For example, you could audit all even bed numbers, or odd bed numbers

- Once observation measurement practices are consistent with policy recommendations, reduce the frequency of audits (e.g. every 3–6 months).

why this task is important

This task is needed because:

- additional observations and assessments can indicate clinical deterioration and may need to be measured for specific clinical conditions

- it is difficult for all clinicians to identify which assessments and observations are needed to detect deterioration for each clinical condition

- processes are needed to ensure that relevant observations and assessments are made for each patient and communicated among the healthcare team.

Not all clinicians have enough knowledge and experience to identify the assessments and observations (other than core physiological observations) needed to detect clinical deterioration. Understanding the significance of altered assessments and observations can be complex, given the vast array of abnormalities that can occur.

Clinical deterioration may be indicated by additional observations such as pain, respiratory distress, pallor, capillary refill, pupil size and reactivity, sweating, nausea and vomiting, as well as alterations in biochemical and haematological markers.

case review

Escalating pain, vomiting and haematological markers as signs of clinical deterioration

Ruth Wright, a 71-year-old woman, was admitted to hospital with abdominal pain and diarrhoea. Her white cell count was 17×10^9/L. An abdominal X-ray showed no bowel obstruction. She was given clear fluids and intravenous therapy. The following is a summary of events.

Time	Event
23:30	Patient requested pain relief. Tramadol and paracetamol given.
24:00	Patient vomited medication, still requesting analgesia. Resident medical officer ordered 100 mg tramadol intramuscularly, same given.
04:45	Patient crying in pain, pointing to abdominal area, rolling around the bed. RMO notified, phone order received for 5 mg morphine, 20 mg hyoscine butylbromide, same given.
12:00	Phone call from pathology: patient's white cell count 37×10^9/L. Patient's abdomen distended.
16:30	Patient's blood pressure 92/60 mmHg, abdomen blue and mottled, medical emergency team called.
17:00	Urgent laparotomy performed for ischaemic bowel. Bowel wall was extensively gangrenous, secondary to acute mesenteric ischaemia. There was a loss of peristalsis. The damaged bowel was not resectable or viable.

Clinicians can only recognise and respond to clinical deterioration if appropriate observations and assessments are measured with adequate frequency. This also relies on the healthcare team's knowledge, experience and critical thinking.

learning from coronial inquests

Critical thinking about potential causes of deterioration

Vicki Greeuw was a 45-year-old woman involuntarily admitted to a psychiatric hospital. She was taking a number of drugs that can cause constipation, and had a documented history of previous abdominal pain and constipation. Vicki died 11 days after her admission. It was found on post mortem that Vicki had aspirated vomit after developing a bowel obstruction due to faecal impaction.

'It would appear obvious from the massive extent of the faeces that if at any stage during her period of involuntary admission the deceased had been competently physically examined her gross state of constipation would have been discovered and action would have been taken to remedy the situation. Evidence at the inquest, however, revealed that the deceased was never physically examined by any doctor prior to the day of her death.'[17]

Identifying observations and assessments for measurement (other than core physiological observations) requires a team approach that draws on each clinician's knowledge, experience and critical thinking skills. A clear monitoring plan for each patient is needed to ensure that:

- appropriate observations and assessments are monitored, considering the patient's diagnosis and proposed treatments

- the frequency of observations and assessments is suitable, considering the patient's clinical condition and proposed treatment plan

- the monitoring requirements for each patient are clearly communicated to all members of the healthcare team.

comments from colleagues

Clinical deterioration for long-term patients

'The ones who are day cases – they're easy. It's the medical patients – it's day 30, no one has checked their electrolytes and their potassium because they have been in for 30 days and they have been stable and that's when staff switch off. That's when you get problems.'

Role unknown, focus groups, 2010

how to complete this task

| DECIDE | DEVELOP | RESOURCE | EDUCATE | EVALUATE |

task 2 – document a monitoring plan for each patient

DECIDE	▶ ▶ ▶	Agree on additional observations and assessments for specific patient groups
DEVELOP	▶ ▶ ▶	Develop policies or guidelines outlining additional observations and assessments for specific patient groups and treatments Develop and implement processes for documenting a clear monitoring plan for each patient
RESOURCE	▶ ▶ ▶	Provide equipment to measure additional observations and assessments
EDUCATE	▶ ▶ ▶	Educate clinicians on observations and assessments relevant to specific patient groups and treatments Educate clinicians on processes for documenting a clear monitoring plan for each patient
EVALUATE	▶ ▶ ▶	Audit documentation of monitoring plans

AGREE ON ADDITIONAL OBSERVATIONS AND ASSESSMENTS FOR SPECIFIC PATIENT GROUPS

Different clinical conditions and treatments need different observations and assessments to detect clinical deterioration, and to monitor treatment. Clinicians need to agree on additional observations and assessments – and the frequency of these – that specific patient groups need.

Standardising care improves the likelihood of patients having appropriate observations and assessments measured for their clinical condition.[18–19] National clinical guidelines often provide minimum requirements for observations and assessments for specific clinical conditions. Using these guidelines will help clinicians agree on minimum standards for observations and assessments for specific patient groups and treatments.

Different clinical conditions and treatments need different observations and assessments to detect clinical deterioration, and to monitor treatment. Clinicians need to agree on additional observations and assessments – and the frequency of these – that specific patient groups need.

⚙ implementation tip

Clinical practice guidelines

The Australian Clinical Practice Guidelines Portal was developed to help Australian health professionals access high-quality, evidence-based clinical practice guidelines via a single entry point. The portal is an initiative of the National Institute of Clinical Studies, an institute of the National Health and Medical Research Council.

The portal provides links to clinical practice guidelines for use in Australian healthcare settings. Each guideline is assessed according to rigorous selection criteria.

www.clinicalguidelines.gov.au

TASK 2 ▸▸ STEP 3 ▸▸ ESSENTIAL ELEMENT 1 ▸▸

01
02
03
04
05
06
07
08

DEVELOP

DEVELOP POLICIES OR GUIDELINES OUTLINING ADDITIONAL OBSERVATIONS AND ASSESSMENTS FOR SPECIFIC PATIENT GROUPS AND TREATMENTS

DEVELOP AND IMPLEMENT PROCESSES FOR DOCUMENTING A MONITORING PLAN FOR EACH PATIENT

Policies or guidelines should be developed once agreement has been reached on the additional observations and assessments for specific patient groups and treatments. The policies or guidelines should specify which additional observations and assessments are to be undertaken, how often, and by whom. These policies may apply to patient care in one or several clinical areas within a facility.

Clinical areas will then need to individualise care by developing processes for documenting a clear monitoring plan for each patient throughout the duration of their admission to an acute care facility. For many clinical areas, this will be a new process that will require changes to existing work practices. When designing these processes, clinical areas need to consider the following questions.

- Which member(s) of the healthcare team will prepare and document the monitoring plan?

- Where during the patient's journey will monitoring plans be prepared and documented?

- How will minimum observation and assessment requirements (from policy or guidelines) be incorporated into the monitoring plan?

- What format will be used to document monitoring plans?

- How frequently will monitoring plans be reviewed and updated, and who will document any changes?

Clinical pathways, diagnostic order sets and care bundles aim to ensure correct observations and assessments are made, and provide an effective method for integrating evidence into practice.[18–20] Many of these tools are already available in facilities, and should be used where possible.

Clinical areas will then need to individualise care by developing processes for documenting a clear monitoring plan for each patient throughout the duration of their admission to an acute care facility.

practice point

Use of monitoring plans in a critical care area

An observation policy, which outlines the need for each patient to have a clear monitoring plan documented on admission, is in place in the emergency department. It is the responsibility of the nurse and the medical officer caring for the patient to prepare the monitoring plan together at initial assessment, taking into consideration the current observations, provisional diagnosis and proposed treatment plans.

The monitoring plan is documented on a specific section of the patient's emergency care plan document. The plan is reviewed and modified (if required) on team rounds, which occur three times per 24 hours, or if the patient's observations deteriorate.

All clinicians are aware of the policy, as they were required to read and sign the policy when it was first implemented. All new staff receive information on this process when they begin work in the department.

The department also uses a cardiac and stroke clinical pathway, which outlines the minimum physiological observations and other assessments (e.g. electrocardiograph, biochemistry, pupil size) required to detect clinical deterioration in these patient groups. This pathway forms the basis of the monitoring plan for these patients. The frequency of observations and assessments is reviewed and increased (if required) during team rounds, or if the patient's clinical condition deteriorates.

The department conducts quarterly audits of observation and assessment monitoring as part of its safety and quality program to ensure compliance with this process.

implementation tip

Care bundles

A care bundle is a small but critical set of processes determined by evidence of the highest quality. The processes may include observations and assessments, as well as specific interventions that improve patient outcomes for a specific diagnostic group. A variety of care bundles have been developed, including sepsis management, sepsis resuscitation, transient ischaemic attack and stroke, acute coronary syndrome and chronic obstructive pulmonary disease.

Care bundles are used widely overseas and are becoming more common in Australia. Facilities may like to use care bundles as part of a patient's monitoring plan to support appropriate observation and assessment of specific diagnostic groups. Examples of care bundles are available from:

National Institute of Clinical Studies:
www.nhmrc.gov.au/nics

Institute for Healthcare Improvement:
www.ihi.org/IHI

RESOURCE

PROVIDE EQUIPMENT TO MEASURE ADDITIONAL OBSERVATIONS AND ASSESSMENTS

Equipment for measuring additional observations and assessments should be readily available and in good working order. Lack of equipment may delay measurement of observations and management of clinical deterioration. Clinical areas should establish systems for regular checking and maintenance of equipment.

Lack of equipment may delay measurement of observations and management of clinical deterioration.

comments from colleagues

Missing observations because of missing equipment

'When we audited for complete sets of observations, we often found bits missing, and they [nurses] are telling me that it is because they had to wait for equipment, so they did what they could, and they were waiting to take the temperature or measure the saturations.'

Nurse unit manager, focus groups, 2010

EDUCATE CLINICIANS ON OBSERVATIONS AND ASSESSMENTS RELEVANT TO SPECIFIC PATIENT GROUPS AND TREATMENTS

EDUCATE CLINICIANS ON PROCESSES FOR DOCUMENTING A CLEAR MONITORING PLAN FOR EACH PATIENT

Clinicians need education and training to understand observations and assessments that are relevant to specific patient groups and clinical treatments. This includes the new and continuing workforce.

Clinicians also need to understand the importance of each patient having a clear monitoring plan, and the agreed processes for developing such a plan. These processes should be incorporated into orientation programs or other educational forums.

Clinicians need education and training to understand observations and assessments that are relevant to specific patient groups and clinical treatments.

EVALUATE

AUDIT DOCUMENTATION OF MONITORING PLANS

All clinical areas should conduct audits of patient monitoring plans. These may be undertaken with audits of the frequency and duration of observations. Audits should be based on the content of policies or guidelines, and should evaluate whether:

- a monitoring plan exists for each patient

- core physiological observations are included in the monitoring plan

- observations and assessments for specific patient groups and individual patient requirements are included in the monitoring plan

- observations and assessments are planned according to minimum frequencies and duration, and measured according to the monitoring plan

- monitoring plans are reviewed and updated according to policy

- observations and assessments are being measured as specified in the monitoring plan.

A quality measure for compliance with monitoring plans is included in Appendix B.

Healthcare teams should have access to audit data, and strategies should be developed to address barriers or deficiencies in observation and assessment practices.

comments from colleagues

Local ownership of problems and strategies for improvement

'I think because the initial baseline audit was done – we saw what practice was (and it was terrible) and we identified that there were gaps in documentation. People were a little bit wary of that – they didn't believe that respiratory rate was not filled in – when you present the evidence and people have to think again about what their working practice is and they have to think [about the] safety of the patient, and then you start to see some change. With the front line clinicians this is where it starts. They have to see what's happening now – it just can't be this great message from above.'

Nurse unit manager, focus groups, 2010

why this task is important

This task is needed because:

- poorly designed observation charts reduce clinicians' ability to recognise abnormal physiological observations

- understanding the significance of altered physiological observations and initiating appropriate care is a complex process

- an objective decision-making process helps to ensure altered physiological observations and assessments are recognised and responded to.

Observation charts are tools for documenting, monitoring and communicating changes in physiological observations. The charts play a key role in recognising and responding to clinical deterioration.

Until recently, there has been very little research on the optimal design of observation charts and their effect on clinician performance. Observation chart design varies considerably within Australia. In the past, most observation charts were developed by individual hospitals, with little consideration to the design and its effect on usability and patient outcomes.[21]

Human factors research demonstrates that observation chart design affects clinicians' ability to accurately document and identify abnormal physiological measurements. Charts identified as having a better design tend to yield fewer errors and shorter decision times in simulation experiments.[22–23]

↻ practice point

What are human factors principles?

Human factors are 'concerned with the understanding of interactions among humans and other elements of a system, and the profession that applies theory, principles, data and methods to design in order to optimize human well-being and overall system performance.'[24]

Problems that affect the usability of observation charts include colour, font size, page layout, information layout, language and labelling, use of scales and graphs, integration of track and trigger systems, photocopying legibility and low-light legibility.[21]

⚙ practice point

The impact of chart design on the identification of abnormal physiology

Identify the abnormal physiological observations in the observation chart below.
How many abnormalities did you find?
How long did it take you to identify them?

DATE / TIME	T	P	R	BP	SPO$_2$/0^2 L/min	Sedation	Pain
	36.5	74	12	138 82	97	1	0
	36.9	83	14	135 78	98	1	0
	37.2	70	13	132 86	96	1	0
	36.8	76	16	138 82	98	1	0
	37.8	68	12	126 72	98	1	0
	36.3	80	14	116 75	97	1	0
	37	82	14	126 82	98	1	0
	38.9	95	11	137 78	97	1	0
	37.5	86	14	127 80	98	1	0
	37.8	97	17	120 75	97	1	0
	38.3	90	21	110 80	98	1	0
	37.9	89	26	113 80	96	1	0
	39.7	118	26	85 60	94	1	0

Now review the same physiological observations in the chart below. How many abnormalities did you find? Did you identify the signs of clinical deterioration more quickly and easily using this chart?
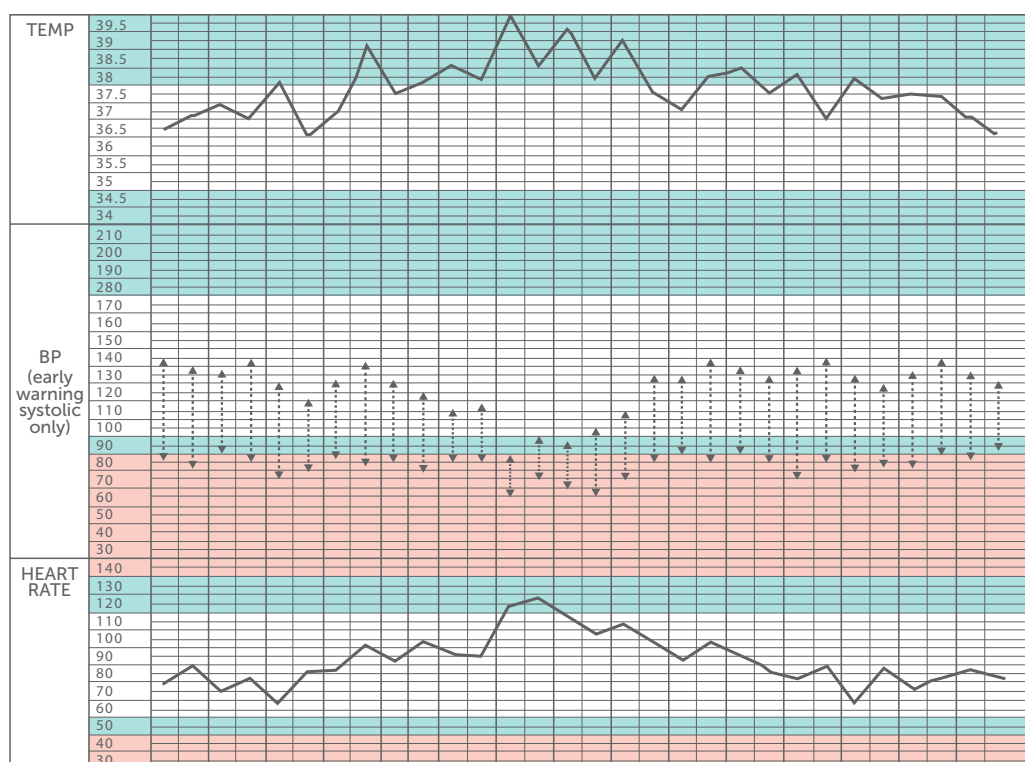
Chart design has significant impact on clinician performance, and on clinicians' ability to recognise and respond to clinical deterioration.[21]

The design of observation charts is important for identifying altered physiological observations. However, understanding the significance of these abnormalities and initiating appropriate care is a complex process, which depends on individual knowledge, critical thinking and past experiences.

Track and trigger systems – also known as early warning systems – were developed to provide an objective decision-making processes for recognising and responding to altered physiological observations and assessments.[2] These systems have had variable success in predicting admission to critical care, hospital mortality and cardiac arrest.[11]

In general, track and trigger systems provide:[11,25]

- a system for tracking changes in physiological parameters over time

- thresholds for each parameter or combination of parameters that indicate abnormality

- the response or action required when thresholds are reached or deterioration is identified.

Incorporating track and trigger systems into observation charts streamlines the processes of tracking physiological observations and triggering a set response. The system can operate at the point of care, and clinicians do not need to rely on memory to recall trigger parameters and responses.

how to complete this task

| DECIDE | DEVELOP | RESOURCE | EDUCATE | EVALUATE |

task 3 – use observation charts designed using human factors principles that incorporate a track and trigger system

DECIDE	▶ ▶ ▶	Decide on the type of track and trigger system to be used
DEVELOP	▶ ▶ ▶	Develop trigger thresholds and responses, considering available resources and different patient groups
RESOURCE	▶ ▶ ▶	Incorporate track and trigger systems into an observation chart designed using human factors principles
EDUCATE	▶ ▶ ▶	Educate clinicians on the use of observation and response charts
EVALUATE	▶ ▶ ▶	Audit clinical areas where observation and response charts are used Monitor incidents and critical events to identify problems with observation charts

DECIDE ON THE TYPE OF TRACK AND TRIGGER SYSTEM TO BE USED

There are several hundred track and trigger systems available for adult and paediatric populations.[26] Many Australian hospitals use these systems, and work is underway in Australia to develop track and trigger systems for other patient groups.

Decisions on the type of track and trigger system to use are usually made by a group of health professionals, including those with responsibility for policy and quality improvement, managers, hospital executives, and private hospital owners. These decisions are usually made as part of local clinical governance processes for recognition and response systems (see *Essential element 5: Organisational supports* for further information on clinical governance systems). Some statewide services and private hospital groups have decided what type of track and trigger system their facilities will use, and health professionals in these groups will need to use the prescribed system. Links to information about statewide charts are included in Appendix C.

The National Institute for Health and Clinical Excellence in the United Kingdom has identified three types of track and trigger systems.[11]

1. Single-parameter systems: periodic observations of selected physiological parameters are compared with a simple set of criteria with predefined thresholds. A response algorithm is activated when any threshold is reached. A common type of single-parameter system in Australia is the calling criteria for a medical emergency team.

2. Aggregate scoring systems: weighted scores are assigned to values of physiological parameters and compared with predefined trigger thresholds. The modified early warning score (MEWS) is one of the most common aggregated scoring systems. These systems are more complex than single parameter systems, and usually require measurement of a number of parameters and calculation of a score.[11,27] These systems can be prone to human calculation errors, but this can be addressed by automated electronic systems such as handheld computers.[11]

3. Combination systems: single-parameter and aggregate scoring systems systems used in combination.

A common type of single-parameter system in Australia is the calling criteria for a medical emergency team.

Systems vary in the type and number of physiological measures included. Most systems use a core set of parameters: heart rate, respiratory rate, blood pressure, consciousness, temperature, oxygen saturation and urine output. Others are more complex and include parameters that are not routinely measured on general wards, such as base excess, creatinine, and blood oxygen and carbon dioxide pressure.[11,27] There is also variation in the cut-off points that trigger a response (the trigger thresholds), the weighting of measures and scoring algorithms.

It is difficult to compare different track and trigger systems – a large number of systems are available that have been developed in different ways.[27] Reviews of track and trigger systems have found that performance of most systems is imperfect, with questions raised about their validity and reliability in accurately identifying patients whose condition will deteriorate. Despite the results of such reviews and a lack of consensus on which system to use, national and international patient safety organisations and experts recommend using track and trigger systems to improve the recording of observations and avoid delays in recognising and responding to clinical deterioration.[11,25]

practice point

What's in a name?

The name of a track and trigger system, such as modified early warning score (MEWS), does not necessarily mean that all MEWS will have the same physiological scores and trigger thresholds. In the United Kingdom, MEWS scores and thresholds can vary considerably between hospitals.

Despite a lack of consensus on which systems to use, national and international patient safety experts recommend using track and trigger systems to improve the recording of observations and avoid delays in recognising and responding to clinical deterioration.

DEVELOP TRIGGER THRESHOLDS AND RESPONSES, CONSIDERING AVAILABLE RESOURCES AND DIFFERENT PATIENT GROUPS

Thresholds in a track and trigger system are a single physiological parameter, observation or assessment, or a group of parameters, that trigger escalation of care and clinical response. Thresholds and responses need to be developed with consideration of treatment and monitoring needs of the patient, the level of physiological abnormality each threshold represents, and locally available resources.

Some statewide services and private hospital groups in Australia have set trigger thresholds. Facilities need to ensure that local trigger thresholds and responses are consistent with any decisions made by these jurisdictions. In some cases, local facilities can make changes to trigger thresholds after a consultation process and agreement.

As a minimum, track and trigger systems should include measurement of the core physiological parameters required to detect clinical deterioration: heart rate, respiratory rate, systolic blood pressure, level of consciousness, oxygen saturation and temperature.

Developing trigger thresholds and associated responses is a complex process. Facilities developing their own thresholds will need to identify the threshold for each parameter, and consider the:

- treatments and timeframe required to respond to trigger thresholds

- appropriate skill level of the responder to safely manage the clinical deterioration

- resources available to safely manage the clinical deterioration and possible treatment.

This process will provide a graded response according to the level of physiological abnormality. This is explored in detail in *Essential element 2: Escalation of care*.

Thresholds in a track and trigger system are a single physiological parameter, observation or assessment, or a group of parameters, that triggers escalation of care and clinical response.

01
02
03
04
05
06
07
08

RESOURCE:

INCORPORATE TRACK AND TRIGGER SYSTEMS INTO AN OBSERVATION CHART DESIGNED USING HUMAN FACTORS PRINCIPLES
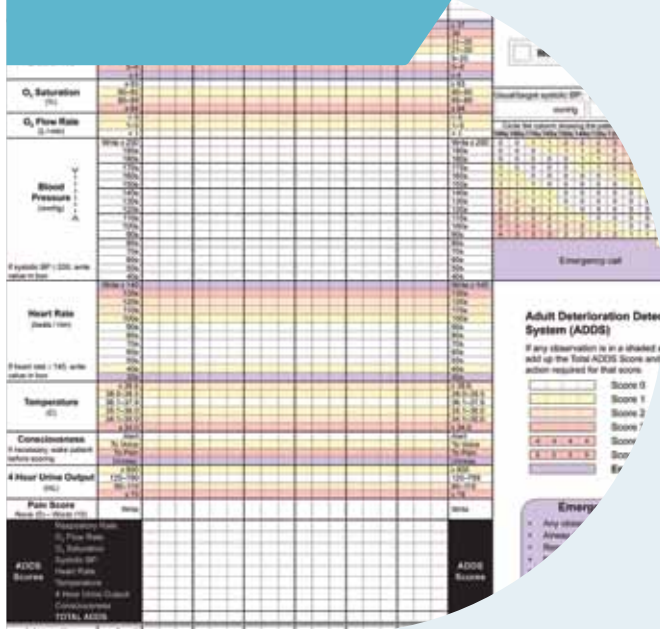
The Australian Commission on Safety and Quality in Health Care (the Commission), in partnership with Queensland Health and the University of Queensland, has designed a number of observation and response charts based on human factors principles.

The observation and response charts allow facilities to incorporate the specific details of their track and trigger system – including thresholds and responses – into a chart with optimal design characteristics for recognition and response to clinical deterioration.

practice point

Human factors usability principles for observation charts

The usability principles that have driven the design of the Commission's observation and response charts are as follows.[28]

- Page layout: avoid including information that is rarely needed and would lead to clutter; lay out the page to match the user's task as naturally as possible; use a landscape layout to maximise the amount of information that the user can attend to.

- Information layout: present the exact information the user needs at the exact time and place it is needed; display the most important information at the top left of the page in decreasing order of importance.

- Recording observations: ensure that data points for two observations cannot be confused; provide enough space to accurately record information and ensure trends are clear; use clear and descriptive labels.

- Integration of track and trigger systems: include clear instructions for use of the track and trigger system; keep information relevant to the track and trigger system close together; ensure that the basic functionality of the system is understandable in one hour.

- Language and labelling: use clear expressions; avoid abbreviations that could be misinterpreted.

- Cognitive and memory load: avoid information that needs to be compared or transcribed over more than one area of a page or multiple pages; where possible, provide options to circle or tick rather than write information.

- Use of fonts: avoid fonts that are too small (less than 11 point) or too large (12 or 14 point); avoid fonts that can slow reading (serif fonts, capitalisation); only use one font.

- Use of colour: use colour in a meaningful way; ensure that colours are distinguishable for colourblind users; ensure that the chart does not look too busy by using no more than five colours (including white, text and logos).

- Photocopying legibility: ensure the chart (particularly the observation measurements) is legible at a range of photocopier settings.

- Low light legibility: ensure that the chart is legible in realistic low light settings.

Five observation and response charts have now been developed:

- adult deterioration detection system (ADDS): an aggregate weighted scoring system with a single parameter emergency response category

- adult deterioration detection system (ADDS with blood pressure table): an aggregate weighted scoring system with a single parameter emergency response category, including a look up table regarding the patient's normal blood pressure

- single-parameter system with four response categories (increased surveillance, senior nurse review, clinical review, emergency call)

- single-parameter system with two response categories (clinical review or emergency call)

- single-parameter system with one response category (emergency call).

implementation tip

Customising observation and response charts

The observation and response charts provided by the Commission should be considered as templates because they need to be customised for local use. The Commission's work with the observation and response charts focused on the design of the chart, and each chart needs to be customised according to the clinical and organisational systems in place within each facility. Each chart contains trigger thresholds and response actions; however, these should be considered as placeholders only. Facilities should go through the processes described in *Essential element 2: Escalation of care* to identify appropriate trigger thresholds and responses for their circumstances.

Although the clinical and organisational aspects of the observation and response charts need to be customised for local use, the Commission **does not recommend making changes to the design** of the charts. The charts have been designed with the benefit of human factors expertise to ensure that they are user friendly, and fit for the purpose of supporting accurate and timely recognition of clinical deterioration.

The University of Queensland has prepared a developer's guide that discusses each part of an observation and response chart in detail.[28] It describes what should and should not be changed in a chart to maintain the human factors principles and patient safety benefits. Reading and understanding the developer's guide is essential for correctly incorporating local information into the observation and response charts. The developer's guide should be used when customising the charts for local use. If further design changes are made to observation and response charts, it is important to demonstrate that the changes will not have a detrimental impact on patient safety.

Decisions about observation charts generally occur at a facility level, following consultation with the health professionals responsible for clinical governance of recognition and response systems (see *Essential element 5: Organisational supports* for further information on clinical governance systems).

Some statewide jurisdictions and private hospital groups in Australia have developed and implemented observation charts for use in their facilities. Facilities need to ensure that any actions they take to change their existing observation charts are consistent with any decisions or programs about observation charts that may be in place within these jurisdictions.

Where there is no statewide or similar chart, and facilities need to have their own chart, the Commission strongly recommends using one of the five observation and response charts that have been designed according to human factors principles. It should be noted that these charts are currently the subject of research regarding their use in a clinical environment, and they should be regarded as drafts at this stage. They are likely to change following research conducted by the Commission in 2011–12.

All observation and response charts are available from the Commission's web site, along with regular updates on the ongoing research.

The observation and response charts are general adult observation charts. The charts themselves (particularly the template and design principles) may be useful for a variety of clinical areas, including general wards, mental health units, emergency departments, paediatric units and maternity units. Other speciality clinical areas may choose to use these charts in combination with supplementary charts to record additional observations such as neurological observations.

implementation tip

Observation charts for paediatric and maternity settings

Observation charts specifically for paediatric patients have been developed in Australia. The trigger thresholds in these charts vary according to the age of the child.

In New South Wales, a series of paediatric charts have been developed as part of the Between the Flags program. These are single parameter charts with three response categories, and align with the standard adult general observation (SAGO) chart that is in place across NSW.

In Queensland, the children's early warning tool (CEWT) is a chart with an aggregate weighted scoring system built in. The chart was designed according to human factors principles and has been the subject of a prospective trial regarding the trigger thresholds used.

In the Australian Capital Territory, paediatric charts have been developed as part of the COMPASS program. These charts are available from the COMPASS web site (www.health.act.gov.au/c/health?a=sp&did=11025490).

There is now a focus on the development of charts and track and trigger systems that can be used in a maternity setting, and these states and territories are undertaking work in this area.

EDUCATE CLINICIANS ON THE USE OF OBSERVATION AND RESPONSE CHARTS

Clinicians need education on how to use observation and response charts. This should include a skills-based component that allows clinicians to use the chart and the trigger response system.

implementation tip

Plotting patient observations

A powerful way to demonstrate the value of new observation and response charts with built in trigger thresholds is to plot the physiological observations of patients on new and old charts. Identify patients who may have had an adverse outcome associated with a failure to recognise clinical deterioration, or a delayed call to a medical emergency team. Plot their observations for a period of time before the call or adverse outcome. Generally, it will be much easier to identify deterioration with the new chart. This will show where action could have been taken earlier to intervene and potentially stabilise the patient.

Clinicians need education on how to use observation and response charts.

EVALUATE

AUDIT CLINICAL AREAS WHERE OBSERVATION AND RESPONSE CHARTS ARE USED

MONITOR INCIDENTS AND CRITICAL EVENTS TO IDENTIFY PROBLEMS WITH OBSERVATION CHARTS

Observation charts that have not been designed according to human factors principles are commonly used in certain situations, such as when the frequency of observations increases (e.g. during blood transfusions). This practice may increase the risk of unrecognised clinical deterioration, and can delay responses if the charts do not have track and trigger systems.

Observation and response charts can be used as general observation charts in most clinical areas. Facilities should audit relevant clinical areas to ensure they are using observation charts that meet the requirements of the consensus statement and the *National safety and quality health service standards* (the standards).

Incidents and critical events may also identify problems with observation chart design or use. Facilities should monitor these events as part of their evaluation processes.

Incidents and critical events may also identify problems with observation chart design or use. Facilities should monitor these events as part of their evaluation processes.

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
⊙ **task 1** **Measure and document core physiological observations with appropriate frequency and duration**	**DECIDE** Reach agreement on the core physiological observations to be measured	Health professionals with responsibility for policy or quality improvement Clinicians	1.6 Physiological observations should include: • respiratory rate • oxygen saturation • heart rate • blood pressure • temperature • level of consciousness	9.3.1 When using a general observation chart, ensure that it: • includes the capacity to record information about respiratory rate, oxygen saturation, heart rate, blood pressure, temperature and level of consciousness graphically over time
	DEVELOP Develop policies outlining the minimum frequency and duration for measurement of core physiological observations	Health service managers Health professionals with responsibility for policy or quality improvement Clinicians	1.1 Observations should be taken on all patients in acute care settings 1.2 Observations should be taken on patients at the time of admission or initial assessment 1.4 The frequency of observations should be consistent with the clinical situation of the patient. For the majority of patients in an acute health facility, observations should be taken at least once per eight hour shift 1.5. The frequency of observations should be reconsidered and possibly modified according to changes in clinical circumstances	9.1.2 Policies, procedures and/or protocols for the organisation are implemented in areas such as: • measurement and documentation of observations
	RESOURCE Provide equipment for monitoring physiological observations Ensure staffing levels are adequate and appropriate clinical supervision is provided	Health service executive and owners Health service managers	5.1 A formal policy framework regarding recognition and response systems should exist and should include include issues such as: • roles and responsibilities • resources for the rapid response system, such as staff and equipment	N/A

summary of tasks and actions for essential element 1

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
⊙ **task 1** **Measure and document core physiological observations with appropriate frequency and duration**	**EDUCATE** Educate clinicians on measurement and interpretation of core physiological observations	Educators Health service managers Clinicians	6.2 All doctors and nurses should be able to: • understand and interpret abnormal physiological parameters and other abnormal observations	1.4.1 Orientation and ongoing training programs provide the workforce with the skill and information needed to fulfil their safety and quality roles and responsibilities 1.4.2 Annual mandatory training programs to meet the requirements of these standards 1.4.3 Locum and agency workforce have the necessary information, training and orientation to the workplace to fulfil their safety and quality roles and responsibilities 1.4.4 Competency-based training is provided to the clinical workforce to improve safety and quality
	EVALUATE Audit current practices regarding the measurement and documentation of core physiological observations	Health professionals with responsibility for policy or quality improvement Health service managers	7.1 Data should be collected and reviewed locally and over time regarding the implementation and effectiveness of recognition and response systems	9.3.2 Mechanisms for recording physiological observations are regularly audited to determine the proportion of patients that have complete sets of observations recorded in agreement with their monitoring plan 9.3.3 Action is taken to increase the proportion of patients with complete sets of recorded observations, as specified in the patient's monitoring plan
⊙ **task 2** **Document a monitoring plan for each patient**	**DECIDE** Agree on additional observations and assessments for specific patient groups	Health professionals with responsibility for policy or quality improvement Clinicians	1.9 Clinicians may choose to document other observations and assessments to support timely recognition of deterioration	N/A

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
⊙ **task 2** **Document a monitoring plan for each patient**	**DEVELOP** Develop policies or guidelines outlining additional observations and assessments for specific patient groups and treatments Develop and implement processes for documenting a clear monitoring plan for each patient	Health professionals with responsibility for policy or quality improvement Health service managers Clinicians	1.3 For every patient, a clear monitoring plan should be developed that specifies the physiological observations to be recorded and the frequency of observations, taking into account the patient's diagnosis and proposed treatment	1.7.1 Agreed and documented clinical guidelines and/or pathways are available to the clinical workforce
	RESOURCE Provide equipment to measure additional observations and assessments	Health service boards, executives and owners	5.1 A formal policy framework regarding recognition and response systems should exist and include issues such as: • roles and responsibilities • resources for the rapid response system, such as staff and equipment	N/A
	EDUCATE Educate clinicians on observations and assessments relevant to specific patient groups and treatments Educate clinicians on processes for documenting a clear monitoring plan for each patient	Educators Health service managers Clinicians	6.2 All doctors and nurses should be able to: • systematically assess a patient • undertake tasks required to properly care for patients who are deteriorating, such as developing a clinical management plan, writing plans and actions in the healthcare record and organising appropriate follow up	1.4.1 Orientation and ongoing training programs provide the workforce with the skill and information needed to fulfil their safety and quality roles and responsibilities 1.4.2 Annual mandatory training programs to meet the requirements of these standards 1.4.3 Locum and agency workforce have the necessary information, training and orientation to the workplace to fulfil their safety and quality roles and responsibilities 1.4.4 Competency-based training is provided to the clinical workforce to improve safety and quality

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
	EVALUATE Audit documentation of monitoring plans	Health service managers Health professionals with responsibility for policy or quality improvement	7.1 Data should be collected and reviewed locally and over time regarding the implementation and effectiveness of recognition and response systems	N/A
⏺ **task 3** Use observation charts designed according to human factors principles that incorporate a track and trigger system	**DECIDE** Decide on the type of track and trigger system to be used	Health professionals with responsibility for policy or quality improvement Clinicians Health service managers	1.8 Observation charts should display information in the form of a graph. An observation chart should include: • a system for tracking changes in physiological parameters over time	N/A
	DEVELOP Develop trigger thresholds and responses, considering available resources and different patient groups	Health professionals with responsibility for policy or quality improvement Clinicians Health service managers	1.8 Observation charts should display information in the form of a graph. An observation chart should include: • thresholds for each physiological parameter or combination of parameters that indicate abnormality • information about the response or action required when thresholds for abnormality are reached or deterioration identified	9.3.1 When using a general observation chart, ensure that it: • includes thresholds for each physiological parameter or combination of parameters that indicate abnormality • specifies the physiological abnormalities and other factors that trigger the escalation of care
	RESOURCE Incorporate track and trigger systems into an observation chart designed using human factors principles	Health professionals with responsibility for policy or quality improvement Health service managers	1.7 The minimum physiological observations should be documented in a structured tool such as an observation chart	9.3.1 When using a general observation chart, ensure that it: • is designed according to human factors principles

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
◉ task 3 **Use observation charts designed according to human factors principles that incorporate a track and trigger system**	**EDUCATE** Educate clinicians on the use of observation and response charts	Educators Health service managers	6.2 All doctors and nurses should be able to: • undertake tasks required to properly care for patients who are deteriorating, such as developing a clinical management plan, writing plans and actions in the healthcare record and organising appropriate follow up	1.4.1 Orientation and ongoing training programs provide the workforce with the skill and information needed to fulfil their safety and quality roles and responsibilities 1.4.2 Annual mandatory training programs to meet the requirements of these standards 1.4.3 Locum and agency workforce have the necessary information, training and orientation to the workplace to fulfil their safety and quality roles and responsibilities 1.4.4 Competency-based training is provided to the clinical workforce to improve safety and quality
	EVALUATE Audit clinical areas where observation and response charts are used Monitor incidents and critical events to identify problems with observation charts	Health professionals with responsibility for policy or quality improvement Health service managers	7.1 Data should be collected and reviewed locally and over time regarding the implementation and effectiveness of recognition and response systems	9.2.2 Deaths or cardiac arrests for a patient without an agreed treatment-limiting order (such as not for resuscitation or do not resuscitate) are reviewed to identify the use of the recognition and response systems, and any failures in these systems

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◉ essential element 2

ESCALATION OF CARE

escalation of care

the problem

Understanding how to respond to abnormal physiological measurements is a complex process. It can be difficult for health professionals to know when and who to call.

Delays in responses to clinical deterioration are associated with poorer outcomes for patients.

Responses to clinical deterioration can be incorrect or delayed if an escalation protocol is not available.

Patients have experienced delays in treatment, despite families identifying and reporting concerns of clinical deterioration to members of the healthcare team.

goals of this essential element

Each facility and clinical area is aware of the care it can safely provide, including when and how to escalate care locally, or to another facility.

Patients receive appropriate care and/or emergency assistance when abnormal physiological observations and assessments occur.

Patients' needs and wishes are respected when planning care and responding to clinical deterioration.

Patients, families and carers can escalate care.

what you need to do

Provide an escalation policy tailored to the role and characteristics of the facility.

Develop an escalation protocol that provides a graded response to abnormal physiological observations and include it in the escalation policy.

Consider advance care directives and treatment-limiting decisions when escalating care.

Provide a process to enable patients, families and carers to escalate care.

common terms used in this essential element

Advance care directive: instructions that consent to, or refuse, the future use of specified medical treatments (also known as health care directive, advance plan or other similar terms).

Escalation policy: a document outlining the principles and processes for escalating care for patients whose condition is deteriorating. This includes information on a facility's escalation protocol, levels of care that can be provided locally, and when care should be escalated to another facility. All escalation procedures and protocols are linked to the policy statement.

Escalation protocol: a document that describes the actions required for different levels of abnormal physiological measurements or other observed deterioration. The escalation protocol contains details of a facility's chosen track and trigger system and is linked to the escalation policy.

Track and trigger systems: systems designed to provide clinicians with an objective decision-making process for recognising and responding to altered physiological observations.

Treatment-limiting decisions: orders, instructions or decisions that involve the reduction, withdrawal or with-holding of specified medical treatments.

Triggers: abnormalities in physiological observation measurements, aggregated scores or other clinical assessments that require an escalation of care according to the escalation protocol.

consensus statement recommendations

essential element 2: escalation of care

2.1 A formal documented escalation protocol is required that applies to the care of all patients at all times.

2.2 The escalation protocol should authorise and support the clinician at the bedside to escalate care until the clinician is satisfied that an effective response has been made.

2.3 The escalation protocol should be tailored to the characteristics of the acute care facility, including consideration of issues such as:

- size and role (such as whether a tertiary referral centre or small community hospital)
- location
- available resources (such as staffing mix and skills, equipment, remote telemedicine systems, or external resources such as ambulances)
- potential need for transfer to another facility.

2.4 The escalation protocol should allow for a graded response commensurate with the level of abnormal physiological measurements, changes in physiological measurements or other identified deterioration. The graded response should incorporate options such as:

- increasing the frequency of observations
- appropriate interventions from the nursing and medical staff on the ward
- review by the attending medical officer or team
- obtaining emergency assistance or advice
- transferring the patient to a higher level of care locally, or to another facility.

2.5 The escalation protocol should specify:

- the levels of physiological abnormality or abnormal observations at which patient care is escalated
- the response that is required for a particular level of physiological or observed abnormality
- how the care of the patient is escalated
- the personnel that the care of the patient is escalated to, noting the responsibility of the attending medical officer or team
- who else is to be contacted when care of the patient is escalated
- the timeframe in which a requested response should be provided
- alternative or back up options for obtaining a response.

2.6 The way in which the escalation protocol is applied should take into account the clinical circumstances of the patient, including both the absolute change in physiological measurements and abnormal observations, as well as the rate of change over time for an individual patient.

2.7 The escalation protocol may specify different actions depending on the time of day or day of the week, or for other circumstances.

2.8 The escalation protocol should allow for the capacity to escalate care based only on the concern of the clinician at the bedside in the absence of other documented abnormal physiological measurements ('staff member worried' criterion)

2.9 The escalation protocol should allow for the concerns of the patient, family or carer to trigger an escalation of care.

2.10 The escalation protocol should include consideration of the needs and wishes of patients with an advanced care directive or where other treatment-limiting decisions have been made.

2.11 The escalation protocol should be promulgated widely and included in education programs.

STEP 1 roles and responsibilities

Who is responsible?
How does this element apply to your role(s)?
What clinical areas does this element apply to?

A variety of health professionals are involved in escalation of care to respond to clinical deterioration. To change practice and improve systems, health professionals need to determine who will be responsible for undertaking the tasks required for this essential element.

table 3 ▸ ROLES AND RESPONSIBILITIES RELATING TO ESCALATION OF CARE

Clinical areas involved in escalation of care	People involved in people involved in escalation of care	
	Role	Responsibility
An escalation policy should apply across the entire facility. The policy should be operational in: • emergency departments • intensive care units or high dependency units • general wards and specialty areas • maternity units • paediatric units • mental health units • operating theatre recovery units • other clinical areas where patients receive acute care treatments (e.g. outpatient departments, ambulatory care)	Consumers, patients, families and carers	• Use agreed escalation policies when concerns exist • Participate in developing escalation protocols and policies
	Non-clinical workforce	• Use agreed escalation policies when concerns exist • Participate in developing information and processes for the non-clinical workforce to escalate care when concerned
	Clinical workforce	• Understand and follow escalation protocols and policies • Use track and trigger systems and escalate care until satisfied with the response • Educate patients, families and carers on the escalation system • Participate in developing, implementing and evaluating escalation protocols and policies

	Educators	• Develop and implement education for health professionals related to:
		  – escalation protocols and policies
		  – track and trigger systems
		  – patient and family escalation of care
		• Develop and implement education programs for patients, family and carers on how to escalate care
		• Participate in evaluating escalation protocols and policies

	Health professionals with responsibility for policy or quality improvement	• Define the type of care each service can provide, considering their roles and characteristics (e.g. equipment), and include in the escalation policy
		• Include information about retrieval services and processes for external transfer of patients in the escalation policy
		• Decide on the number of levels of abnormality the escalation protocol will use
		• Develop trigger thresholds that specify a minimum of two levels of abnormality for each of the following patient groups:
		  – medical and surgical patients
		  – paediatric patients
		  – obstetric patients
		• Develop responses for each trigger threshold relevant to the level of abnormality
		• Develop and implement evaluation processes for this essential element
		• Develop and implement a process for clinicians to contact the patient's attending medical officer or senior hospital executive
		• Develop and implement a system for patients, families and carers to escalate care
		• Involve the clinical and non-clinical workforce, patients, families and carers in developing escalation policies

table 3 ▸ CONTINUED...

| Clinical areas involved in escalation of care | People involved in people involved in escalation of care | |
	Role	Responsibility
	Health service managers	• Implement, evaluate and improve escalation protocols and policies • Educate the clinical and non-clinical workforce on the use of escalation protocols and policies • Authorise and support clinicians, and patients, families and carers, to escalate care until they are satisfied with the response

	Health service boards, executives and owners	• Assign responsibility, personnel and resources to support development, implementation and evaluation of:
		
		  – an escalation policy tailored to the characteristics of the acute care facility
		
		  – an escalation protocol that provides graded response to clinical deterioration in all acute care areas
		
		  – systems for patients, families and carers to escalate care
		
		• Support managers to implement these protocols and policies in their areas
		
		• Authorise and support clinicians, patients, families and carers to escalate care until they are satisfied with the response

⚙ implementation tip

Developing escalation policies and protocols

• Escalation protocols require supportive information to operate effectively, including a clear statement of the services each clinical area can provide. This information forms part of the facility's overall escalation policy

• Deciding on the type of track and trigger system to use requires agreement within wards and clinical areas across the entire facility

• Triggers and responses may also vary between clinical areas, depending on the level of care each area provides and the available resources. Identify clinicians from each specialty area who have the knowledge and skills to help reach agreement on these decisions

• Patients, families and carers are an important source of information when developing escalation policies. Remember to involve patients, families or carers in this work.

STEP 2 self-assessment and planning tool

Use the self-assessment tool to identify gaps in your systems for escalation of care and develop an action plan.

Prioritise your changes.

The self-assessment and planning tool has been designed to assess one clinical area, or an entire facility's current practice, in relation to this essential element. A modifiable electronic version of this tool, and other supporting tools to help answer the self-assessment questions, are available on the Commission's web site.

The action plan for this essential element begins on page 83. Follow the instructions in the self-assessment and planning tool to complete the action plan.

NAME OF WARD OR AREA BEING ASSESSED:

⊙ task 1 **Develop an escalation policy tailored to the role and characteristics of the facility**	Data or documentation that proves the criteria have been met
	Type of data or name of document
AGREEMENT Is there agreement on which clinical conditions you can safely manage?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of agreement' in your action plan	
Is there agreement on what services can be provided or are available (internal and external)?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of agreement' in your action plan	
PROCESS OR POLICY Is there a policy outlining: • the level of care you can safely provide • when care should be escalated to a higher level locally or to another facility • the location and availability of services (internal and external)?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of process/ policy' in your action plan	
RESOURCES Are resources available to transfer patients to a higher level of care locally, or to another facility?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of resources' in your action plan	
KNOWLEDGE Do clinicians receive education on the escalation policy?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of knowledge' in your action plan	
SYSTEMS TO SUPPORT MONITORING AND EVALUATION Are deaths, adverse events and external transfers reviewed and evaluated?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of monitoring and evaluation' in your action plan	

Where is it kept?	Are these policies/processes/ resources operating as planned? Does your data demonstrate effective operation at all times?
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan

NAME OF WARD OR AREA BEING ASSESSED:

◉ task 2

Develop an escalation protocol that provides a graded response to abnormal physiological observations and include in the escalation policy

Data or documentation that proves the criteria have been met

Type of data or name of document

AGREEMENT

Is there agreement on the type of track and trigger system to use?

☐ **YES** ▸ Fill in next two columns

☐ **NO** ▸ Tick 'Lack of agreement' in your action plan

Does this system specify a minimum of two levels of abnormality?

☐ **YES** ▸ Fill in next two columns

☐ **NO** ▸ Tick 'Lack of agreement' in your action plan

PROCESS OR POLICY

Are trigger thresholds available for each level of abnormality?

☐ **YES** ▸ Fill in next two columns

☐ **NO** ▸ Tick 'Lack of process/ policy' in your action plan

---

Have you included a trigger to escalate care based only on clinical concern?

☐ **YES** ▸ Fill in next two columns

☐ **NO** ▸ Tick 'Lack of process/ policy' in your action plan

---

Are processes in use that enable clinicians to escalate care until they are satisfied?

☐ **YES** ▸ Fill in next two columns

☐ **NO** ▸ Tick 'Lack of process/ policy' in your action plan

---

RESOURCES

Are responses for each trigger threshold available?

☐ **YES** ▸ Fill in next two columns

☐ **NO** ▸ Tick 'Lack of resources' in your action plan

Is there access at all times (either on site or in close proximity) to a clinician who can practise advanced life support?

☐ **YES** ▸ Fill in next two columns

☐ **NO** ▸ Tick 'Lack of resources' in your action plan

KNOWLEDGE

Do clinicians receive education on the escalation protocol?

☐ **YES** ▸ Fill in next two columns

☐ **NO** ▸ Tick 'Lack of knowledge' in your action plan

Is a flow diagram of the escalation protocol available at the point of care?

☐ **YES** ▸ Fill in next two columns

☐ **NO** ▸ Tick 'Lack of knowledge' in your action plan

SYSTEMS TO SUPPORT MONITORING AND EVALUATION

Is the effectiveness of escalation protocols, trigger thresholds and responses evaluated?

☐ **YES** ▸ Fill in next two columns

☐ **NO** ▸ Tick 'Lack of monitoring and evaluation' in your action plan

Where is it kept?	Are these policies/processes/resources operating as planned? Does your data demonstrate effective operation at all times?
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan

NAME OF WARD OR AREA BEING ASSESSED:

⏱ **task 3** **Consider advance care directives and treatment-limiting decisions when escalating care**		**Data or documentation that proves the criteria have been met** **Type of data or name of document**
AGREEMENT Is there agreement on how advance care directives are identified?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of agreement' in your action plan	
PROCESS OR POLICY Is there a process to individualise trigger thresholds and responses for patients for whom treatment-limiting decisions have been made?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of process/ policy' in your action plan	
RESOURCES Are tools for documenting advance care directives available?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of resources' in your action plan	
Are tools for documenting treatment-limiting decisions available?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of resources' in your action plan	
Are tools for documenting individualised escalation protocols available?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of resources' in your action plan	
KNOWLEDGE Do clinicians receive education on advance care directives, treatment-limiting decisions and individualised escalation protocols?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of knowledge' in your action plan	
SYSTEMS TO SUPPORT MONITORING AND EVALUATION Are advance care directives, treatment-limiting decisions and individualised escalation protocols evaluated?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of monitoring and evaluation' in your action plan	

Where is it kept?	Are these policies/processes/resources operating as planned? Does your data demonstrate effective operation at all times?
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan

NAME OF WARD OR AREA BEING ASSESSED:

⊙ task 4 — Provide a process to enable patients, families and carers to escalate care	Data or documentation that proves the criteria have been met — Type of data or name of document
AGREEMENT Is there agreement on the criteria and method for patients, families and carers to escalate care?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of agreement' in your action plan	
PROCESS OR POLICY Are processes available for informing patients, families and carers how to escalate care?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of process/ policy' in your action plan	
RESOURCES Does a clinician(s) capable of assessing, providing initial therapeutic interventions and escalating care to health professionals with advanced life support skills, respond to escalation calls triggered by patients, families and carers?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of resources' in your action plan	
KNOWLEDGE Do clinicians receive education on escalation systems for patients, families and carers?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of knowledge' in your action plan	
SYSTEMS TO SUPPORT MONITORING AND EVALUATION Are patient, family and carer escalation systems evaluated?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of monitoring and evaluation' in your action plan	

Where is it kept?	Are these policies/processes/resources operating as planned? Does your data demonstrate effective operation at all times?
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan

action plan ▸ ESCALATION OF CARE

NAME OF WARD OR AREA BEING ASSESSED:

what do you need to do?

how will you do it?

Task not yet achieved	Why has this task not been achieved (barriers)? What actions are needed?	Go to the recommended section of this guide for information on tasks and actions. List the tools and resources from the guide to address this gap here. Also consider other resources that may be available to you to address this gap.
⊙ task 1 Develop an escalation policy tailored to the role and characteristics of the facility	☐ Lack of agreement ▸ D E C I D E ▸ p88 ☐ Lack of process/policy ▸ D E V E L O P ▸ p89 ☐ Lack of resources ▸ R E S O U R C E ▸ p91 ☐ Lack of knowledge ▸ E D U C A T E ▸ p92 ☐ Lack of monitoring and evaluation ▸ E V A L U A T E ▸ p93	
OTHER POSSIBLE BARRIERS:		
⊙ task 2 Develop an escalation protocol that provides a graded response to abnormal physiological observations and include in the escalation policy	☐ Lack of agreement ▸ D E C I D E ▸ p97 ☐ Lack of process/policy ▸ D E V E L O P ▸ p99 ☐ Lack of resources ▸ R E S O U R C E ▸ p102 ☐ Lack of knowledge ▸ E D U C A T E ▸ p105 ☐ Lack of monitoring and evaluation ▸ E V A L U A T E ▸ p107	
OTHER POSSIBLE BARRIERS:		
⊙ task 3 Consider advance care directives and treatment-limiting decisions when escalating care	☐ Lack of agreement ▸ D E C I D E ▸ p112 ☐ Lack of process/policy ▸ D E V E L O P ▸ p113 ☐ Lack of resources ▸ R E S O U R C E ▸ p114 ☐ Lack of knowledge ▸ E D U C A T E ▸ p116 ☐ Lack of monitoring and evaluation ▸ E V A L U A T E ▸ p116	
OTHER POSSIBLE BARRIERS:		
⊙ task 4 Provide a process to enable patients, families and carers to escalate care	☐ Lack of agreement ▸ D E C I D E ▸ p120 ☐ Lack of process/policy ▸ D E V E L O P ▸ p122 ☐ Lack of resources ▸ R E S O U R C E ▸ p123 ☐ Lack of knowledge ▸ E D U C A T E ▸ p124 ☐ Lack of monitoring and evaluation ▸ E V A L U A T E ▸ p125	
OTHER POSSIBLE BARRIERS:		
OTHER COMMENTS AND PLANS:		

Use the information from the self-assessment and planning tool to complete the action plan. The action plan links the barriers identified by the self-assessment and planning tool with specific actions, tools and resources to address them.

Who will be responsible?	When will this happen? Consider undertaking actions that are low cost, easy to implement and support meeting the *National safety and quality health service standards* first

information and resources

Use the information and resources in this guide to help implement your action plan.

For each task, the following actions may be required: Decide, Develop, Resource, Educate and Evaluate

Each of the tasks for this essential element is discussed in detail in this section. Each task includes a brief summary of its importance and a series of actions that can be taken to complete it. Links to resources are included in Appendix C and additional tools to support implementation are available on the Commission's web site.

key tasks
for escalation of care

⊙ task 1
Develop an escalation policy tailored to the role and characteristics of the facility

⊙ task 2
Develop an escalation protocol that provides a graded response to abnormal physiological observations and include in the escalation policy

⊙ task 3
Consider advance care directives and treatment-limiting decisions when escalating care

⊙ task 4
Provide a process to enable patients, families and carers to escalate care

why this task is important

This task is needed because:

- delays in diagnosis and treatment can occur if clinicians are unable to locate or access the services a patient needs

- each acute care facility has different resources and therefore different capacities to safely manage and care for patients with different clinical conditions

- an escalation policy informs and supports escalation of care during clinical deterioration.

An appropriate and timely response to clinical deterioration relies on clinicians' knowledge of the treatment patients need, and the availability and location of services to provide the treatment. Clinical deterioration can mean that new care and new treatments are needed, which may not be available in the clinical area or facility that the patient is currently in. Similarly, facilities may not have access to appropriately skilled clinicians to provide the care that particular conditions require.

Patients may experience delays in receiving the care they need if clinicians are unsure of:

- the types of clinical conditions a facility has the capacity to manage

- where to locate the services needed to provide care (internal and external)

- how to access each service.

An escalation policy provides this information.

Escalation policies need to consider the size and role of each facility, and its location and available resources. They should also specify when a patient's care should be escalated to another facility. Most tertiary hospitals can provide access to specialist services and higher levels of care, such as high-dependency and intensive care units. However, smaller rural and metropolitan hospitals are likely to need systems to escalate care to external service providers. Delays in treatment can occur in the absence of clear criteria for escalating care.

learning from coronial inquests

Consequences of delayed action

Kieran Watmore was a fit and previously healthy 17-year-old admitted to a regional hospital for treatment of severe tonsillitis. His oxygen saturation was recorded as 88% at 2:00 am but no action was taken. Kieran was declared dead at 7:42 am.

'The deceased should not have died when he did and had robust action been taken at the time of his ongoing deterioration, which commenced at some time after 10:00 pm and was manifest by 2:00 am, he would not have died when he did.'[1]

01
02
03
04
05
06
07
08

how to complete this task

DECIDE	DEVELOP	RESOURCE	EDUCATE	EVALUATE

task 1 – develop an escalation policy tailored to the role and characteristics of the facility		
DECIDE	▶ ▶ ▶	Identify clinical services and resources available (internal and external) Decide on the type of service each clinical area or facility can provide
DEVELOP	▶ ▶ ▶	Develop information to be included in the escalation policy
RESOURCE	▶ ▶ ▶	Provide resources for transferring patients to a higher level of care locally, or to another facility
EDUCATE	▶ ▶ ▶	Educate clinicians on the escalation policy
EVALUATE	▶ ▶ ▶	Review deaths, adverse events and external transfers

DECIDE

IDENTIFY CLINICAL SERVICES AND RESOURCES AVAILABLE (INTERNAL AND EXTERNAL)

DECIDE ON THE TYPE OF SERVICE EACH CLINICAL AREA OR FACILITY CAN PROVIDE

Each facility, or clinical area within a facility, should undertake a brainstorming exercise to identify the clinical services and resources that are available (internal and external) and decide on the type of care that can be safely provided. This process requires senior executives, managers and clinicians from all professions to consider:

- the types of clinical conditions staff are trained for, and skilled at managing

- the equipment available to diagnose, monitor and provide ongoing treatment for each clinical condition.

If necessary, processes must be in place to allow the timely transfer of a patient to another facility. This is necessary when clinical areas and facilities do not have clinicians trained and skilled at managing specific types of conditions, or when they do not have the equipment necessary to diagnose, monitor or provide ongoing treatment for specific conditions.

⟳ practice point

What conditions or level of care can your facility manage?

Facilities should consider a range of clinical conditions and access to services when deciding on the level of care that can safely be provided. These can be grouped into the broad categories shown below.

Paediatrics
- Orthopaedics
- Surgery
- Neurology
- Trauma
- Neonates
- High dependency/intensive care

Neurology
- Intracranial haemorrhage
- Ischaemic stroke
- Surgery

Renal
- Peritoneal dialysis
- Haemodialysis

Diagnostics
- Magnetic resonance imaging (MRI)
- Computer tomography (CT)
- Ultrasound
- X-ray
- Angiography

Obstetrics
- High-risk pregnancies
- Caesarean

Other
- Surgery (emergency, trauma, elective)
- Oncology
- Orthopaedics
- Intensive care, cardiology and emergency units
- Bariatric care
- Trauma

DEVELOP

DEVELOP INFORMATION TO BE INCLUDED IN THE ESCALATION POLICY

The decisions made on the level and type of service that can safely be provided will inform the escalation policy. Information from each clinical area should outline:

- the level of care that can be safely provided

- when care of the patient should be escalated to a higher level of care, either locally or to another facility

- the location of services (internal and external), including times of operation and how to make contact, including the location of diagnostic services and contact details of specialist clinicians.

This information must be reviewed periodically and updated, as changes to services occur. The following practice point provides an example of how a rural facility might communicate the location and operation times of services in an escalation policy.

Escalation policies need to consider the size and role of each facility, its location and available resources. They should also specify when a patient's care should be escalated to another facility.

⟳ practice point

Example of summary of clinical services provided and how to contact them

Facilities should consider a range of clinical conditions and access to services when deciding on the level of care that can safely be provided. These can be grouped into the broad categories shown below.

Type of service	Location and hours of operation	How to access this service	Process for transfer to external facility
ADULT ORTHOPAEDICS	On-site 24 hour service	Contact orthopaedic registrar #999 or orthopaedic surgeon on call (see medical roster available in ward areas)	Contact orthopaedic registrar **#999** or orthopaedic surgeon on call (see medical roster available in ward areas)
PAEDIATRIC ORTHOPAEDICS	On-site 24 hour service	Phone **9999 999 999** Area paediatric roster also available www.medicalroster	Admitting orthopaedic specialist must accept care. Discuss transfer requirements with accepting clinician
NEUROLOGY/ NEUROSURGERY All intracranial haemorrhage to be discussed with neurosurgeon urgently	On-site management of ischaemic stroke Admit general medicine Off-site neurology phone consultation available if required Off-site management of intracranial haemorrhage: contact neurologist and neurosurgeon urgently	Neurology phone **0800 2100** Neurosurgical phone **2100 0800** Area neurology roster also available www.medicalroster	Admitting neurologist/ neurosurgeon must accept care. Discuss transfer requirements with accepting clinician
GENERAL MEDICINE	On-site 24 hour service	Contact general medicine registrar on call #999 (see medical roster available in ward areas)	
RADIOLOGY	Monday–Friday 0800–2100 hrs 2100–0800 hrs Saturday, Sunday and public holidays 0900–2100 hrs 2100hrs–0900 hrs	Radiology ext: **9999** On call technician **9999 999 999** Radiology ext: **9999** On call technician **9999 999 999**	MRI available from Local Diagnostics (external) Mon–Sat 0900–1700 hrs Ph: **(99) 9999 9999** Urgent MRI – call tertiary hospital **(99) 9999 9999**

01
02
03
04
05
06
07
08

RESOURCE

PROVIDE RESOURCES FOR TRANSFERRING PATIENTS TO A HIGHER LEVEL OF CARE LOCALLY, OR TO ANOTHER FACILITY

Facilities need to ensure that resources are available to safely transfer patients to a higher level of care locally, or to other sites. Processes for transfer should be included in the escalation policy to prevent delays and ensure that patients are transferred safely, with suitably skilled clinicians and equipment to manage their condition.

The escalation policy should include information on:

- the types of services available to transfer patients (intra-hospital transfers, hospital transport, ambulance services, specialist critical care retrieval services)

- the level of care each transfer service provides

- when and how to contact the service

- who is required to contact the service.

It is useful to include a flow diagram that summarises the process for identifying which service to use.

practice point

Minimum standards for the intra-hospital transport of critically ill patients

The Australian and New Zealand College of Anaesthetists, the Joint Faculty of Intensive Care Medicine and the Australasian College for Emergency Medicine have developed minimum standards for the transport of critically ill patients. The standards outline the key principles for the safe transport of patients, including administrative requirements, equipment, monitoring, education and evaluation requirements. The standards can be accessed from:

http://www.acem.org.au/media/policies_and_ guidelines/min_stand_intrahosp_crit_ill.pdf

http://www.anzca.edu.au/resources/professional documents/ps52.html

comments from colleagues

Liaising with retrieval services can help development of the escalation policy

I get the point that people may call too soon, but we can always say, yeah we don't need to come yet and once they're in our system we've got a pretty good means of following that patient and chasing and directing them to better things. Time and time again we've got someone who clearly, typically has a head injury where they… it's screamingly obvious that they're too sick for the local facility, but we're not contacted until the diagnosis is made when we don't need a diagnosis to address this most of the time.'

Medical director, retrieval service, focus groups, 2010

'I see our involvement as making sure calling for that retrieval is occurring in the right part of the escalation process. My role would very much be to advise on… calling us at this point is way too late, you need to bring it back to this point. That is the role I see I can play.'

Focus group facilitator: 'You've raised a good point. Facilities may come up with an escalation plan and perhaps not realise they need to be calling retrieval services earlier.'

'I think it's essential that we're involved, as the local health service did, by inviting myself along to their discussions. The initial draft for the regional hospitals in the district suggested calling us way too early for non-life-threatening immediate critical transfer. So it works both ways, sometimes facilities might come up with wanting to call for an aircraft way too early, and other times it might be too late.'

Nurse educator, retrieval services, focus groups, 2010

EDUCATE CLINICIANS ON THE ESCALATION POLICY

Clinicians need education on the content of escalation policies to ensure they are understood and used appropriately. Education can be provided during orientation, in morbidity and mortality meetings, during individual peer review, and as part of other programs about deteriorating patients.

implementation tip

Supporting education on escalation policies

- Facilities may like to consider inviting local retrieval services to provide education on external transfers and retrievals

- Keep a copy of your escalation policy near emergency equipment. It can be referred to quickly and easily during episodes of clinical deterioration, helping to reinforce and remind staff of the escalation process.

Education can be provided during orientation, in morbidity and mortality meetings, during individual peer review, and as part of other programs about deteriorating patients.

01
02
03
04
05
06
07
08

EVALUATE

REVIEW DEATHS, ADVERSE EVENTS AND EXTERNAL TRANSFERS

All clinical areas should review deaths, adverse events, and unplanned internal and external transfers to higher level care facilities to identify whether the escalation policy has been followed, or if improvements are needed. Key questions to ask include the following:

• Was the escalation policy followed?

• Were there any delays in accessing internal services?

• Were there any delays in accessing external services?

Facilities will need to identify barriers to the use of the escalation policy and access to services, and develop strategies for improvement. Depending on the barriers, strategies for improvement may include process redesign, additional resources, further information on availability of clinical services, or education on the correct use of the escalation policy.

Facilities will need to identify barriers to the use of the escalation policy and access to services, and develop strategies for improvement.

implementation tip

Escalation and retrieval services

Facilities should consider asking retrieval services to participate in evaluating escalation policies. This may involve establishing communication pathways for raising concerns, or including retrieval services in peer review processes such as morbidity and mortality meetings.

STEP 3 — task 2

DEVELOP AN ESCALATION PROTOCOL THAT PROVIDES A GRADED RESPONSE TO ABNORMAL PHYSIOLOGICAL OBSERVATIONS AND INCLUDE IN THE ESCALATION POLICY

why this task is important

This task is needed because:

- patients who deteriorate can experience delays in treatment if clinicians are unsure of the levels of physiological abnormality at which care should be escalated

- a graded response to abnormal physiological observations provides treatment to patients earlier, potentially minimising the interventions required to stabilise them.

Understanding when and how to respond to abnormal physiological measurements is a complex process. It requires knowledge of:

- which measurements indicate abnormality for a patient

- appropriate treatment for the abnormality

- which clinicians have the skills to provide this treatment

- who is available to provide this treatment, considering the time of day or day of the week

- how to contact the appropriate clinicians

- the appropriate timeframe for clinicians to respond

- alternative or backup options for obtaining a response.

It can be difficult for clinicians – especially those who are new to a facility – to successfully navigate the system and respond appropriately to varying degrees of abnormal physiological observations or assessments.

Track and trigger systems help with this process by providing clinicians with an objective decision-making process for recognising and responding to altered physiological observations or assessments (see *Essential element 1: Measurement and documentation of observations*). These systems form part of the escalation protocol, and should be included in the facility's overall escalation policy.

Track and trigger systems specify different levels of abnormal physiological parameters, or combinations of parameters that indicate abnormality, and outline the response or action required when abnormalities are reached or deterioration is identified.[2] A graded response to abnormal physiological parameters aims to provide clinical care and treatments to patients during the early stages of clinical deterioration, before the onset of critical illness and serious adverse events.

Many Australian hospitals use track and trigger systems in escalation protocols that identify only one level of abnormality – the high or emergency level that commonly corresponds to medical emergency team (MET) criteria. However, patients who receive a MET call have a greater risk of dying in hospital than patients who do not.[3] This emphasises the importance of early intervention to prevent deterioration and the need for MET calls to be made. By identifying lower levels of abnormality and including these in escalation protocols, facilities can treat patients whose condition is deteriorating earlier, potentially improving outcomes and minimising the interventions needed to stabilise them.[4]

A graded response to abnormal physiological parameters aims to provide clinical care and treatments to patients during the early stages of clinical deterioration, before the onset of critical illness and serious adverse events.

STEP 3 task 2

DEVELOP AN ESCALATION PROTOCOL THAT PROVIDES A GRADED RESPONSE TO ABNORMAL PHYSIOLOGICAL OBSERVATIONS AND INCLUDE IN THE ESCALATION POLICY

practice point

Levels of abnormality

The National Institute for Health and Clinical Excellence in the United Kingdom identifies three levels of abnormality in physiological parameters and assessments. Graded responses to clinical deterioration are then developed based on these levels of abnormality. Examples are provided below.

Level of abnormality	Response
LOW	Increased frequency of observations and senior nurse review
MEDIUM	Urgent call to the healthcare team with primary responsibility for the patient Simultaneous call to clinicians with core competencies for acute illness. This could include an advanced practice nurse or a specialist trainee in an acute medical or surgical specialty.
HIGH	Emergency call to team with critical care competencies and diagnostic skills. The team should include a doctor with advanced airway management and resuscitation skills who is skilled in assessing critically ill patients. This should be an immediate response.

All patients with cardiac arrest, threatened airway or seizure require immediate emergency assistance, bypassing the graded response system. These patients receive immediate treatment in the same way as patients who have been identified as having a high level of abnormality.[5]

The figure below demonstrates the various levels of abnormality and examples of graded responses.

LOW ABNORMALITY
– increase frequency of observations

MEDIUM ABNORMALITY
– call to healthcare team

HIGH ABNORMALITY
– call to rapid response provider

THE SLIPPERY SLOPE

EMERGENCY
– cardiac arrest team

WELL

PATIENT CONDITON

DEAD

TIME
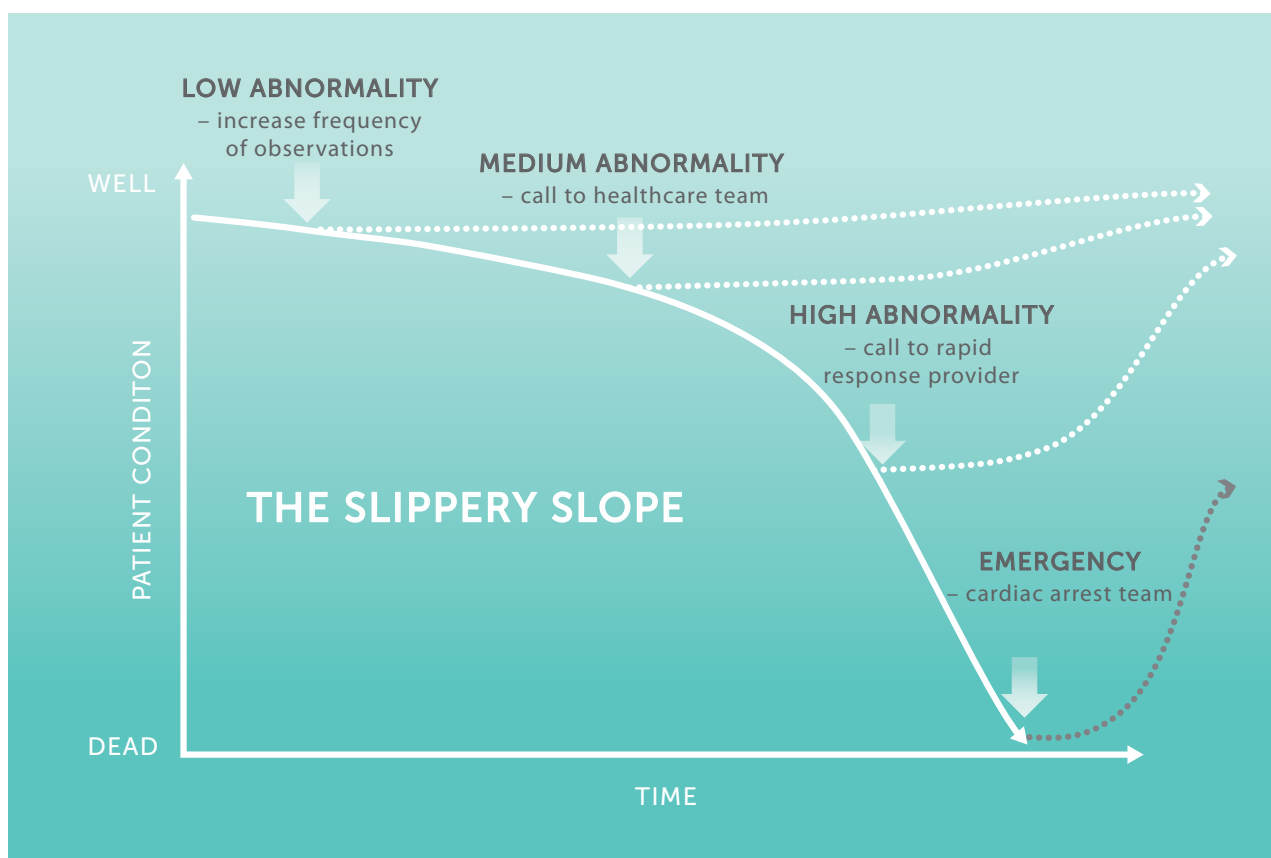
Adapted from C. Pain, NSW Clinical Excellence Commission, personal communication, 2010

how to complete this task

| DECIDE | DEVELOP | RESOURCE | EDUCATE | EVALUATE |

task 2 – develop an escalation protocol that provides a graded response to abnormal physiological measurements and include in the escalation policy

DECIDE	▶ ▶ ▶	Decide on the number of levels of abnormality to be used with your chosen track and trigger system
DEVELOP	▶ ▶ ▶	Develop trigger thresholds for each level of abnormality Include a trigger to escalate care based only on concern Develop processes enabling clinicians to escalate care until they are satisfied
RESOURCE	▶ ▶ ▶	Develop responses for each level of abnormality, considering patient needs and local resources
EDUCATE	▶ ▶ ▶	Educate clinicians on the escalation protocol Provide a flow diagram of the escalation protocol at the point of care
EVALUATE	▶ ▶ ▶	Evaluate the effectiveness of trigger thresholds and responses

① 01
② 02
③ 03
④ 04
⑤ 05
⑥ 06
⑦ 07
⑧ 08

DECIDE

DECIDE ON THE NUMBER OF LEVELS OF ABNORMALITY TO BE USED WITH YOUR CHOSEN TRACK AND TRIGGER SYSTEM

Before developing graded responses to abnormal physiological measurements, health professionals need to determine the type of track and trigger system they will use (single parameter, aggregated scoring or combination system). Information on different types of track and trigger systems is included in *Essential element 1: Measurement and documentation of observations*.

Many track and trigger systems with different numbers of levels of abnormality are available. Comparisons between systems are difficult, and the ideal number of levels of abnormality to improve patient outcomes is not known. However, there is evidence that delays in calling for emergency assistance are associated with poorer outcomes,[4] and the consensus statement recommends that systems use two or more levels of abnormality to promote early identification and management of clinical deterioration.[2]

Two different examples of track and trigger systems are provided in the following practice point. They include the level of physiological abnormality associated with each trigger threshold and the responses required.

Many track and trigger systems with different numbers of levels of abnormality are available. Comparisons between systems are difficult, and the ideal number of levels of abnormality to improve patient outcomes is not known.

Integration of different levels of abnormality and graded responses within two track and trigger systems

Level of abnormality	Physiological observations	Range of physiological observations that correspond to the graded level of abnormality	Type of track and trigger system		
			Single parameter system	Aggregated scoring system	
				Scoring	Response
LOW	Respiratory rate	25–29 breaths per minute	Patients with one or more observations in these ranges are reviewed by a senior nurse	Each observation that falls in these ranges scores 1 point	Add all scores together to find the total score for the patient

Total scores of 4–5 require senior nurse review

Total scores of 6–7 require registrar review

Total scores of ≥8 require rapid response system call |
	Oxygen saturation	90–94%			
	Systolic blood pressure	100–109 or 170–199 mmHg			
	Heart rate	110–119 beats per minute			
	Temperature	≤35 °C or 38.1–39.0 °C			
	Consciousness	Responsive to voice			
MEDIUM	Respiratory rate	5–9 or 30–35 breaths per minute	Patients with one or more observations in these ranges are reviewed by the registrar	Each observation that falls in these ranges scores 2 points	Add all scores together to find the total score for the patient

Total scores of 4–5 require senior nurse review

Total scores of 6–7 require registrar review

Total scores of ≥8 require rapid response system call system call |
	Oxygen saturation	85–89%			
	Systolic blood pressure	90–99 or ≥200 mmHg			
	Heart rate	40–49 beats per minute or 120–139 beats per minute			
	Temperature	≥39.1 °C			
	Consciousness	Responsive to pain			
HIGH	Respiratory rate	≤4 or ≥36 breaths per minute	Patients with one or more observations in these ranges require a rapid response system call	Each observation that falls in these ranges scores 3 points	Add all scores together to find the total score for the patient

Total scores of 4–5 require senior nurse review

Total scores of 6–7 require registrar review

Total scores of ≥8 require rapid response system call |
	Oxygen saturation	≤84%			
	Systolic blood pressure	≤89 mmHg			
	Heart rate	≤30 beats per minute or ≥140 beats per minute			
	Temperature	NA			
	Consciousness	Unresponsive			
EMERGENCY	Any respiratory arrest, cardiac arrest, threatened airway or prolonged seizure requires an emergency response call.				

01
02
03
04
05
06
07
08

STEP 3 task 2

DEVELOP AN ESCALATION PROTOCOL THAT PROVIDES A GRADED RESPONSE TO ABNORMAL PHYSIOLOGICAL OBSERVATIONS AND INCLUDE IN THE ESCALATION POLICY

DEVELOP

DEVELOP TRIGGER THRESHOLDS FOR EACH LEVEL OF ABNORMALITY

INCLUDE A TRIGGER TO ESCALATE CARE BASED ONLY ON CONCERN

DEVELOP PROCESSES THAT ENABLE CLINICIANS TO ESCALATE CARE UNTIL THEY ARE SATISFIED

The types, values and ranges of physiological observations and assessments that are used as trigger thresholds vary considerably.

Generally, developing trigger thresholds is the responsibility of the facility's clinical governance system for recognising and responding to clinical deterioration.

practice point

Differences in trigger threshold values

A review of trigger threshold values in 19 different observation charts in use throughout Australia identified the following ranges for a **normal** respiratory rate.

Number of breaths per minute	
8–20	10–20
8–24	10–24
8–36	10–25 (two charts)
8–28	10–30
8–30	11–20
9–20 (three charts)	11–29
9–19	12–20
9–23	15–20

Generally, developing trigger thresholds is the responsibility of the facility's clinical governance system for recognising and responding to clinical deterioration (for further information on clinical governance systems, see *Essential element 5: Organisational supports*).

Some statewide services, health boards and private hospital groups may set values for trigger thresholds. However, if a facility's evaluation demonstrates that thresholds lack the specificity and sensitivity to detect clinical deterioration, health professionals should consult with statewide services and private hospital groups to refine and improve trigger threshold parameters. Links to statewide and other programs are included in Appendix C.

Facilities that do not have trigger values set by statewide services or private hospital groups should develop local trigger thresholds, considering the responses required to treat the abnormality and the resources available at each site. Thresholds should be reviewed regularly to optimise specificity and sensitivity.

When developing trigger thresholds, health professionals need to consider the different patient groups their facility caters for. General medical, general surgical, paediatric and obstetric patients need different trigger thresholds, as physiological observations and assessments that signify clinical deterioration will vary between these groups. Specialist clinical areas may also need different trigger thresholds.

Patients may also show signs of clinical deterioration other than the observations and assessments commonly included in track and trigger systems. Signs of clinical deterioration may include increasing severity of pain, changes in colour or changes in perfusion. Trigger thresholds should therefore also include criteria for clinicians to escalate care based only on the fact that they are worried about the patient's condition.

General medical, general surgical, paediatric and obstetric patients need different trigger thresholds, as physiological observations and assessments that signify clinical deterioration will vary between these groups.

practice point

The 'worried' criterion for medical emergency team calls

A retrospective study of 3189 medical emergency team (MET) calls across six hospitals over six months compared 'objective' calls based on abnormalities in vital signs with 'subjective' calls where clinicians were worried about the patient.[6]

Twenty nine percent of MET calls were subjective; this was the most common reason for the call. Clinicians who made subjective calls were most commonly worried about patients' breathing or respiratory related problems (35%). Of the remaining subjective calls, 17% involved multiple reasons for being worried, including respiratory distress, deterioration in vital signs that was insufficient to call the MET, chest pain and being generally unwell.

Outcomes for patients with objective versus subjective MET calls differed significantly. The proportion of patients who suffered a cardiac arrest immediately after the MET call was significantly greater in the group that received the objective call (7.6%) compared with the subjective call (1.1%). This suggests that the clinical judgement demonstrated by the use of the 'worried' criterion is valuable, and supports early identification of patients at risk of adverse outcomes.

Trigger thresholds significantly affect workplace practices and resource use. Lower trigger thresholds may increase the number of response calls – which may mean that additional resources are needed to address them – but potentially identify deteriorating patients earlier. The key to balancing resource demand is to identify the right responder(s) (review by a senior nurse, doctor or MET) for the treatment that each trigger threshold is likely to require.

implementation tip

A facility's role and resources: considerations for developing trigger thresholds

When developing trigger thresholds, facilities need to consider their role (e.g. tertiary referral centre or small community hospital) and the resources they are capable of providing. Factors that could influence a decision to implement lower trigger thresholds include limited equipment, the time it takes for specialist trained clinicians to attend and the probability that patients who deteriorate will need escalation to another facility. These factors may be particularly relevant for rural and remote facilities.

01
02
03
04
05
06
07
08

Trigger thresholds and responses should be developed together, considering the different patient groups and the various responses from each clinical area. A mapping exercise may help develop trigger thresholds and responses, along with reviewing thresholds from existing systems. A tool to assist with this process is available on the Commission's web site.

Details of trigger thresholds should be included in observation charts (see *Essential element 1: Measurement and documentation of observations*) and the escalation protocol.

implementation tip

Trigger threshold checklist

- As a minimum, include thresholds for the core physiological observations in your track and trigger system

- Include a trigger for clinicians to escalate care if they are worried

- Trigger thresholds may differ between patient groups such as obstetrics, paediatrics, general medicine and general surgery

- Ensure observation and assessment trigger thresholds appropriately correspond to the level of physiological abnormality

- Consider lower trigger thresholds for rural or remote facilities.

Clinicians have different levels of knowledge, skill and clinical experience. These differences may lead to variations in clinical judgement, proposed treatment plans and capabilities for managing deteriorating patients. Facilities should develop mechanisms to enable clinicians to escalate care until they are satisfied that the patient is receiving the right care in the right time frame. These mechanisms should allow clinicians to:

- call for emergency assistance at any time, even in the presence of the attending medical officer or other senior clinician. This should be viewed as an opportunity for clinicians to collaborate on the plan of care and provide 'another set of eyes' to assess the patient's clinical condition and contribute to the treatment plan

- contact the patient's attending medical officer or senior hospital executive when clinical issues are unresolved.

Facilities should include these processes in the escalation policy and training programs.

implementation tip

Resolving issues relating to escalation of care

Primary responsibility for patient care rests with the attending medical officer or team. The attending medical officer must therefore be made aware of any unresolved problems relating to escalation responses. Develop a process where any clinician can contact the patient's attending medical officer or senior hospital executive when issues are unresolved. This reduces the number of hierarchical steps that may delay patients receiving the care they need. The process also helps resolve the problem or concern, promotes interdisciplinary teamwork and places the patient's safety as the key priority.

Clinicians have different levels of knowledge, skill and clinical experience. These differences may lead to variations in clinical judgement, proposed treatment plans and capabilities for managing deteriorating patients.

DEVELOP RESPONSES FOR EACH LEVEL OF ABNORMALITY, CONSIDERING PATIENT NEEDS AND LOCAL RESOURCES

To develop a graded response system, facilities need to consider the appropriate response for each level of abnormality, and the locally available resources. Facilities may like to undertake a mapping exercise to consider the responses that should be associated with each level of abnormality. This exercise should consider patients' needs and the availability of resources at different times of the day and days of the week. A tool for this purpose is available on the Commission's web site.

Responses to each level of abnormality should consider:

- the clinical circumstances associated with each abnormal physiological parameter or combination of parameters, or other triggers

- the appropriate actions to take in response to these clinical circumstances

- the time required to undertake these actions

- the resources available and the resources required to undertake these actions.

Options for responses include:[2]

- increasing the frequency of observations

- appropriate interventions from nurses on the ward

- review by the attending medical officer or team

- calling the rapid response team

- transferring the patient to a higher level of care locally, or to another facility.

Similar clinical areas are likely to have similar trigger thresholds; however, graded responses within a facility may vary slightly due to differences in resources and work practices. This concept is demonstrated by the differences in the medium and emergency responses in the practice point overleaf.

This exercise should consider patients' needs and the availability of resources at different times of the day and days of the week.

STEP 3 task 2

DEVELOP AN ESCALATION PROTOCOL THAT PROVIDES A GRADED RESPONSE TO ABNORMAL PHYSIOLOGICAL OBSERVATIONS AND INCLUDE IN THE ESCALATION POLICY

practice point

Same trigger thresholds, different local practices

A paediatric aggregated scoring track and trigger system has been developed for use throughout a hospital. The trigger thresholds are the same, but the responses are slightly different depending on where the patient is located in the facility. This variation is due to differences in work practices and the availability of resources in each clinical area.

Level of abnormality	Aggregated scoring system	Response in ED	Response in paediatric ward
LOW	Score 0–1	• Discuss any concerns with nurse in charge • 4/24 observations	• Discuss any concerns with nurse in charge • 4/24 observations
MEDIUM	Score 2–3	• Notify ED RN in charge • Increase frequency of observations to every 15 minutes • Start advanced life support management as per ED policies and advanced practice roles • Call over intercom for ED MO assigned to patient to review within 30 minutes • Escalate to next level if patient's condition deteriorates further or if timely review does not occur	• Notify RN in charge • Increase frequency of observations to every 15 minutes • Start basic life support, measure other assessments as necessary • Contact patient's attending medical officer or team (after hours, call paediatric registrar) • Team to review patient within 30 minutes • Escalate to next level if patient's condition deteriorates further or if timely review does not occur
HIGH/EMERGENCY	Score ≥4	• Call 'emergency category 1' over intercom • ED MO allocated to resuscitation room to attend immediately • ED MO assigned to patient to attend immediately • ED RN in charge to attend immediately • Start emergency management as per ED policies	• Call the MET • RN in charge to contact patient's medical team to attend (or medical registrar if after hours) • Increase frequency of observations to every 5 minutes • Start basic life support measures

ED = emergency department; MET = medical emergency team; MO = medical officer; RN = registered nurse

Rural and isolated facilities may need to consider both on site and external resources for emergency responses – such as ambulance services or local general practitioners – to ensure appropriate numbers of suitably qualified clinicians are available.

In cases where patients need to be transferred to another site to receive further emergency assistance, facilities need to provide appropriate care to support them until such assistance is available.[2] This may influence the skills needed by the response team, or require strategies for accessing additional clinicians when such situations arise.

practice point

Ambulance service as a response in your escalation protocol

The Clinical Emergency Response System (CERS) Assist initiative was developed by NSW Ambulance and NSW Health to help respond to emergencies at rural and remote public healthcare facilities. These facilities can request clinical assistance to manage a rapidly deteriorating patient until further local resources or medical retrieval services become available.

NSW Ambulance responds to a facility's CERS Assist call by providing additional basic life support assistance (cardiopulmonary resuscitation, airway management and automated defibrillation).

implementation tip

Graded response checklist

- Include frequency of observations and other treatment requirements in your responses for each level of abnormality

- Ensure access at all times to a clinician who can provide advanced life support, either on site or in close proximity

- Ensure graded responses are developed for each clinical area, considering local work practices and available resources, and remember that responses may vary

- Consider the availability of external resources when developing responses in rural or remote facilities

- Support clinicians to trigger an emergency response at any time

- Support clinicians to contact the patient's attending medical officer or senior hospital executive when unresolved clinical issues exist.

EDUCATE

EDUCATE CLINICIANS ON THE ESCALATION PROTOCOL

PROVIDE A FLOW DIAGRAM OF THE ESCALATION PROTOCOL AT THE POINT OF CARE

Clinicians (including those who are casual, new and permanent) need education and training to understand the escalation protocol and their individual roles and responsibilities. This should include education on:

• the levels of abnormality

• trigger thresholds and the 'worried' criterion

• processes for escalating care until satisfied

• the care that each clinician is expected to provide

• professional behaviour in successfully operating escalation systems.

Escalation protocols can be complex, involving multiple steps and a variety of communication pathways.

comments from collegues

Clinicians with a response role need to understand their responsibilities

'I think what they [responders to escalation protocols] possibly need to know more about is escalation of care and the responsibility there. That's where our current system still falls down. We've got systems in place that say you need to ring this person. But you ring that person and they don't want to know or they are not contactable. So it's about these people being actively involved in that escalation process.'

Resuscitation coordinator, focus groups, 2010

Escalation protocols can be complex, involving multiple steps and a variety of communication pathways. A flow diagram summarising this process provides clinicians with a quick reference tool that can be kept in clinical areas to support correct use of the escalation protocol.

practice point

Example of a flow chart for an escalation protocol

The following flow chart of an escalation protocol is for a hospital that uses a track and trigger system that requires calculation of an aggregate score called the Physiologically Unstable Patient (PUP) score.

Apply PUP 'Total Score' to the corresponding algorithm

Any patients staff are seriously worried about

1	2-4	5
Inform nurse in charge	**DAY TIME**	For any patient of concern or with a score of 5 or more call 888 and ask for
Increase frequency of observations to two-hourly or more frequently if required	Inform nurse in charge	
	Contact Patient at Risk (PAR) Team (*3570)	**medical emergency team**
	Repeat observations within half hour	
	If PUP score unchanged contact the patient's HO (or Reg if HO not available)	**OR**
	Place PUP sticker in clinical notes	
	Continue half hourly observations until team RMO review	**surgical emergency team**
	Team RMO to review within one hour, formulate and document plan	
	If team RMO not available call team consultant	

AFTER HOURS

If unable to contact on call RMO and PUP score remains between 2 and 4 contact the PAR Team

- Patient rapidly deteriorating
- Active bleeding
- Respiratory distress
- Fall in systolic BP > 50 mmHg
- Sudden fall in level of consciousness
- Seizures prolonged or repeated
- Marked hypoglycemia
- Large/sudden change in vital signs

If the patient is in cardiac or respiratory arrest call the

Cardiac Arrest Team 888

Adapted from: A. Pirret, Counties Manukau District Health Board, personal communication, 2011

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DEVELOP AN ESCALATION PROTOCOL THAT PROVIDES A GRADED RESPONSE TO ABNORMAL PHYSIOLOGICAL OBSERVATIONS AND INCLUDE IN THE ESCALATION POLICY

EVALUATE

EVALUATE THE EFFECTIVENESS OF TRIGGER THRESHOLDS AND RESPONSES

When reviewing the effectiveness of trigger thresholds, it is important to consider if the system is correctly identifying patients who are deteriorating. The practice point below provides some information about how the concepts of sensitivity and specificity apply to recognition and response systems.

⟳ practice point

Sensitivity and specificity

In relation to systems for the recognition and response to clinical deterioration, the term sensitivity refers to the ability to correctly identify a patient who is deteriorating. The more sensitive a test or set of diagnostic criteria, the lower the rate of 'false negatives' (patients who are deteriorating being missed). Specificity refers to the ability to correctly identify those who are not deteriorating. The more specific a test or set of diagnostic criteria, the higher the rate of 'true negatives' (patients who are not deteriorating).

$$\text{sensitivity} = \frac{\text{number of true positives}}{\text{number of true positives} + \text{number of false negatives}}$$

$$\text{specificity} = \frac{\text{number of true negatives}}{\text{number of true negatives} + \text{number of false positives}}$$

Sensitivity is important as it supports the identification of patients who are deteriorating. However, a trigger threshold with a high sensitivity can lead to false positives, where patients are identified who are not deteriorating. Specificity is also important, as it prevents response teams seeing patients who do not require assessment or treatment – with the danger of missing some patients who are deteriorating.[7]

A balance between sensitivity and specificity is required for trigger thresholds and early warning scores to work effectively. When the purpose of this process is to identify patients who are deteriorating, it is generally preferable to have trigger thresholds with a higher sensitivity, as this increases the chances of identifying patients who are actively deteriorating.[7]

Escalation responses should be evaluated to ensure that response times, equipment, clinicians with specific skills and other resources are appropriate for each level of abnormality.

Evaluation may also include collecting and reviewing information from complaints, unplanned admissions to intensive care, cardiac arrest calls and unexpected deaths. Health professionals should ask:

- how successfully the triggers identify the presence or absence of clinical deterioration

- if the responders can effectively manage the level of abnormality

- if the escalation protocol is used correctly

- if the escalation protocol operates as planned (i.e. are there any practical difficulties).

The practice point below illustrates the different evaluation points for recognition and response systems.

Escalation responses should be evaluated to ensure that response times, equipment, clinicians with specific skills and other resources are appropriate for each level of abnormality.

practice point

Evaluation points associated with trigger thresholds and responses

Patient whose condition is deteriorating	Triggers detect clinical deterioration	Recognition of clinical deterioration	Response treatment	Clinical outcomes

How successful are triggers at identifying clinical deterioration?

How appropriate is the response?

How effective is the response? What are the outcomes for patients?
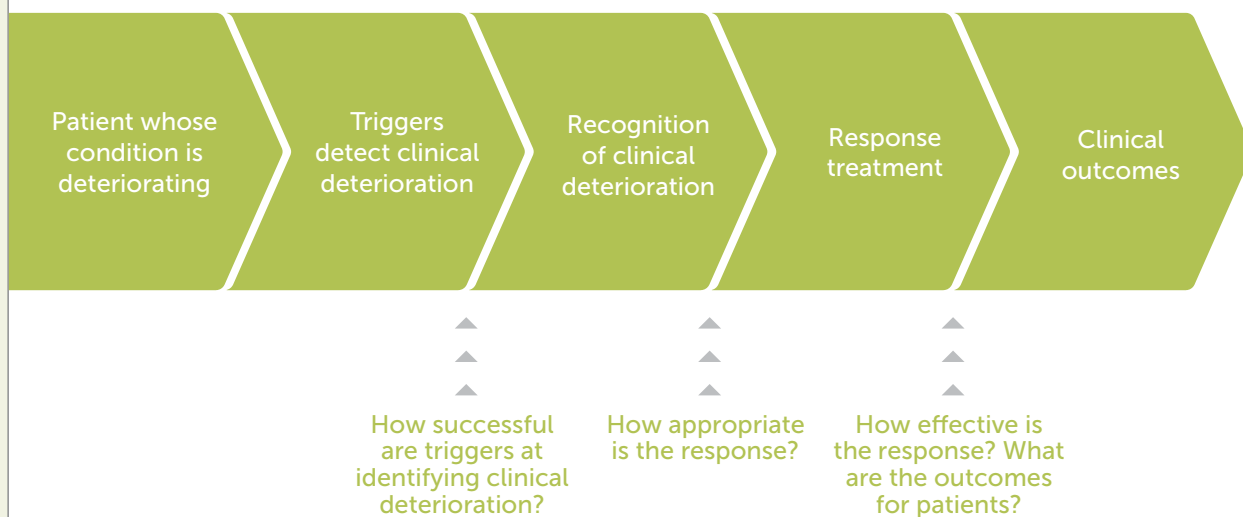
Adapted from National Institute for Health and Clinical Excellence[5]

Trigger thresholds and responses may need to be refined over time, based on evaluation and changes in resources. Additional information on evaluating systems for recognising and responding to clinical deterioration is provided in *Essential element 7: Evaluation*, audit and feedback. Specifications for quality measures regarding escalation of care are included in Appendix B.

why this task is important

This task is needed because:

- all patients have the right to receive or refuse life-sustaining treatments

- patients may receive unwanted care and treatments if processes for identifying and communicating advance care directives and treatment-limiting decisions are not available.

Patients may develop plans for their end-of-life care that include an advance care directive, which contains instructions about consent to, or refusal of, specified medical treatments in the future. The plans become effective in situations when a person is no longer able to communicate or make decisions.[8]

practice point

Implementing a formal advance care planning program improves end-of-life care

A randomised controlled trial of the introduction of a program from the United States called Respecting Choices involved 309 elderly patients at an Australian hospital. End-of-life care and patient and family satisfaction were significantly improved. For the 56 patients who died while the trial was underway, the following results were found.[9]

	Intervention group	Control group
Wishes known and followed	86%	30%
Wishes unknown	10%	63%
Wishes known but not followed	3%	7%
End-of-life decision-making		
None – died suddenly	21%	23%
Involved in decision-making	58%	37%
Not involved in decision-making	21%	30%
Family member satisfaction with quality of death		
Very satisfied	83%	48%
Satisfied	7%	30%
Not satisfied	10%	22%
Family member perception of patient's satisfaction with quality of death		
Very satisfied	86%	37%
Satisfied	4%	37%
Not satisfied	10%	26%

Although advance care directives are becoming more common, not all patients will have developed such a plan or discussed their end-of-life preferences with their family or carer before their condition deteriorates. Clinical deterioration may occur unexpectedly, and patients may lose their decision-making capacity before their wishes for the use of life-sustaining treatments are known. In these circumstances, clinicians may need to talk with the patient's family or the person responsible for the patient about end-of-life care and the appropriateness of future escalation responses should the patient deteriorate further.

Clinicians need to consider advance care preferences and any treatment-limiting decisions (such as 'not for resuscitation' orders, or limitations on escalation such as 'not for antibiotics' or 'not for intubation') that patients may have requested or require, when planning and providing escalation of care responses.

practice point

Recognising and responding to clinical deterioration and end-of-life care

There is increasing evidence that medical emergency teams (METs) are playing a major role in end-of-life care planning in Australia. Several studies have identified that approximately 10% of MET calls result in the documentation of a new treatment limitation.[3,10–11]

One study of 713 MET calls to 559 patients over a 12 month period found that a 'not for resuscitation' order would have been appropriate for 23% of patients.[12] In 4% of these cases, the MET documented this order as part of the call. Another study found that 35% of patients who died in hospital with a 'not for resuscitation' order in place had a MET call at some point in their admission.[13]

It has been suggested that METs are becoming involved in end-of-life care planning when active management has been unsuccessful, and when advance care planning has been delayed or sub-optimal.[13]

implementation tip

How to improve end-of-life care planning

A systematic review of interventions to improve palliative and end-of-life care revealed that multicomponent interventions increase advance care directives. Research suggests that 'engaging patient values, involving skilled facilitators, and involving patients, family and clinicians can increase the rates and effectiveness of communication about late life goals and advanced care planning.'[14]

Clinical deterioration may occur unexpectedly, and patients may lose their decision-making capacity before their wishes for the use of life sustaining treatments are known.

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how to complete this task

| DECIDE | DEVELOP | RESOURCE | EDUCATE | EVALUATE |

task 3 – consider advance care directives and treatment-limiting decisions when escalating care

DECIDE	▶ ▶ ▶	Decide how advance care directives will be identified
DEVELOP	▶ ▶ ▶	Develop processes to individualise trigger thresholds and responses for patients whose condition or preferences limit treatment
RESOURCE	▶ ▶ ▶	Provide tools for documenting advance care directives, treatment-limiting decisions and individualised escalation protocols
EDUCATE	▶ ▶ ▶	Educate health professionals on advance care directives, treatment-limiting decisions and individualised escalation protocols
EVALUATE	▶ ▶ ▶	Evaluate escalation policies that consider advance care directives and treatment-limiting decisions

DECIDE HOW ADVANCE CARE DIRECTIVES WILL BE IDENTIFIED

Escalation policies should include processes to identify patients who have advance care directives when they present to the facility. This is particularly important for emergency departments, where treatments for clinical deterioration often begin, and where there is likely to be access to family to obtain information about a patient's treatment preferences.

Establishing processes for identifying advance care directives may require changes to admission procedures and education for the clinical and non-clinical workforce on individual roles and responsibilities. Clinical governance systems for recognition and response systems play a key role in developing these processes (for further information on clinical governance systems, see *Essential element 5: Organisational supports*).

Facilities may inform patients and families about the collection of information on advance care directives. Once a patient's advance care directive has been identified, an individualised escalation protocol can be developed.

Where advance care directives are developed during a patient's admission, facilities need to ensure that this process involves the attending medical officer or team, so that changes to treatments (including modifications to trigger thresholds) can be made and communicated to all clinicians caring for the patient.

⚙ implementation tip

Supporting early identification of advance care directives

Strategies for ensuring advance care directives are identified on admission include:

- displaying posters and brochures in areas where patients enter the acute care system that explain the importance of telling health professionals about advance care directives

- incorporating reminders into admission paperwork that prompt health professionals to ask if the patient has an advance care directive

- incorporating reminders into the documentation process for a patient's individual monitoring plan

- educating health professionals and familiarising them with advance care directives to promote discussions with patients and families.

▸▸ TASK 3

▸▸ STEP 3

▸▸ ESSENTIAL ELEMENT 2

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DEVELOP

DEVELOP PROCESSES TO INDIVIDUALISE TRIGGER THRESHOLDS AND RESPONSES FOR PATIENTS WHOSE CONDITION OR PREFERENCES LIMIT TREATMENT

Escalation policies should allow individualised escalation protocols for patients whose condition or preferences will limit treatment.

Individualised protocols may be developed before clinical deterioration occurs (e.g. in response to an advance care directive on admission), when a life-limiting diagnosis is made, or if unexpected deterioration makes treatment-limiting decisions necessary.

Individualised protocols should be made by members of the healthcare team, in consultation with the attending medical officer, the patient (where possible) or the family. Protocols should provide information on the:

- modifications to physiological observation thresholds triggering escalation of care

- clinician or healthcare team to contact when trigger thresholds are reached

- appropriate treatment options, considering whether the deterioration is reversible or non-reversible.

The case review provides an example of an individualised escalation protocol in operation.

case review

A patient known to the palliative care team

Joanne O'Riley is 54-years-old and was diagnosed with lung cancer two months ago. She is known to the palliative care team.

Joanne was admitted to hospital unexpectedly for drainage of a pleural effusion. On presentation to hospital, Joanne and her specialist discussed end-of-life care. Joanne decided that in the event of cardiac arrest, she did not wish to receive cardiopulmonary resuscitation.

Her specialist had documented an individualised escalation protocol for Joanne, based on her wishes and the need to modify triggers for respiratory rate because of her increased rate at rest. The trigger value for respiratory rate was set higher than the usual trigger value used in the facility. All other triggers for escalating care remained the same.

On day two of her admission, Joanne's heart rate had increased to 140/min, triggering an emergency response. Joanne was found to have acute pulmonary oedema, a potentially reversible condition related to her cancer. She was treated with intravenous frusemide and her condition improved over the next few days. Joanne was discharged home three days later with her family.

PROVIDE TOOLS FOR DOCUMENTING ADVANCE CARE DIRECTIVES, TREATMENT-LIMITING DECISIONS AND INDIVIDUALISED ESCALATION PROTOCOLS

Advance care directives provide patients with a way to communicate their end-of-life wishes to families, carers and healthcare teams. Facilities should encourage the development and documentation of advance care directives, as this ensures patients' preferences are identified and reduces the likelihood of communication breakdown and inappropriate healthcare treatment.

Tools and processes for documenting advance care directives should be developed according to the facility's usual clinical governance processes (for further information, see *Essential element 5: Organisational supports*). Many states have legislation and policy governing the development and documentation of advance care directives, which should be referred to as part of the development process. Links to resources about advance care planning are included in Appendix C.

Facilities should encourage the development and documentation of advance care directives, as this ensures patients' preferences are identified and reduces the likelihood of communication breakdown and inappropriate healthcare treatment.

implementation tip

Respecting Patient Choices

Respecting Patient Choices® is an Australian program that provides information, training and resources for health professionals to help them discuss, record and document advance care planning with patients. The program is being implemented in many Australian hospitals with the support of the Victorian Department of Department of Health and the Commonwealth Department of Health and Ageing.

More information and resources are available on the program's web site: www.respectingpatientchoices.org.au

Facilities also need tools for documenting treatment-limiting decisions and individualised escalation protocols to ensure that patients receive appropriate treatments and responses if clinical deterioration occurs. Protocols should be documented in healthcare records using a tool specially designed to capture this information. This information should be updated with changes in a patient's condition or preferences.

Tools should include any state legislation or policy requirements for documentation of treatment-limiting plans, which may include:[8]

- proof that treatment options were discussed

- the people involved in the discussion

- the patient's wishes (if known)

- the specific goals of therapy

- any agreed treatment limitations

- any modified triggers needed to escalate care

- appropriate treatments to be provided, considering possible causes of deterioration (reversible and non-reversible)

- the clinicians or healthcare teams to contact when thresholds are reached

- the frequency of physiological observations and other assessments

- a review date for treatment-limiting plans (if appropriate).

practice point

Forms for documenting resuscitation status could be improved

The content of standardised order forms for recording 'not for resuscitation' (NFR) status varies widely. A study of 62 forms used in public hospitals across Australia found the following information included on NFR forms.[15]

Patient's diagnosis	39%
Reason(s) for issuing the NFR order	56%
Date of next review	45%
Name (handwritten) and signature of patient/proxy	26%
Name and signature of medical practitioner issuing order	92%
Name and signature of witness (besides issuing medical practitioner)	29%
Documentation of discussion with the patient	81%
Documentation of reasons for not discussing decision with patient	10%
Documentation of discussion with the family	73%
Documentation of nursing staff informed of decision	63%
Documentation of consultant informed of decision	48%
Documentation of level of intended intervention in partial NFR orders	53%

EDUCATE

EDUCATE HEALTH PROFESSIONALS ON ADVANCE CARE DIRECTIVES, TREATMENT-LIMITING DECISIONS AND INDIVIDUALISED ESCALATION PROTOCOLS

Health professionals need education on the legal requirements and processes associated with advance care planning and treatment limitations. As a minimum, this should include information on:

• legal and professional roles and responsibilities

• ethics and advocacy roles

• documentation and communication processes.

Senior clinicians who are experienced in treatment-limiting and advance care planning discussions with patients and families should mentor junior clinicians and provide skill-based communication training.

Education programs should include processes for developing individualised escalation protocols for patients with treatment limitations.

EVALUATE

EVALUATE ESCALATION POLICIES THAT CONSIDER ADVANCE CARE DIRECTIVES AND TREATMENT-LIMITING DECISIONS

Facilities need to ensure that escalation protocols communicate the treatment needs of the patient, and provide enough detail for clinicians to detect and respond appropriately to signs of clinical deterioration.

It is important to evaluate the satisfaction of patients, family and carers with escalation policies that consider advance care directives and treatment-limiting decisions. Methods to do this could include patient satisfaction surveys, semi-structured interviews, focus groups and monitoring of complaints.

Facilities may also like to evaluate staff perceptions of escalation policies that consider advance care directives and treatment-limiting decisions.

why this task is important

This task is needed because:

- patients experience delays in treatment, despite families identifying and reporting concerns about clinical deterioration to the healthcare team

- patients, families and carers are ideally placed and are skilled at recognising clinical deterioration.

In Australia and internationally, investigations into adverse events have shown that appropriate treatment has been delayed, even when families have identified and reported concerns about clinical deterioration to the healthcare team.[16–17] Patients and families may identify signs of clinical deterioration – including in other patients – but not have immediate access to the healthcare team, which delays treatment.

case review

Unplanned intensive care unit admission

Anita Brown is a 35-year-old woman who was admitted to a tertiary hospital ward with neutropenic sepsis. Her mother was very concerned and remained with her throughout the day and night. On multiple occasions, she expressed concerns to staff about Anita's increasing respiratory rate and visible deterioration. Despite frequent reviews by nursing staff and junior and senior specialist medical staff, Anita's condition continued to deteriorate. Her physiological observations met the criteria to activate the medical emergency team for more than 24 hours, but the team was not called.

It was not until 36 hours after admission that ward nursing staff referred Anita to an intensive care liaison nurse. The intensive care liaison nurse immediately made a medical emergency call and Anita was transferred to intensive care where she was rapidly intubated and ventilated. If the family's concerns had been acted on and the patient's care escalated earlier, a prolonged intensive care unit admission and significant distress for the patient and family may have been prevented.

Families and carers are ideally placed to identify signs of clinical deterioration because:

- the patient is well known to them, allowing subtle changes or signs of clinical deterioration to be identified by the family before being identified by the healthcare team

- they spend time with the patient, providing additional surveillance to that provided by the healthcare team.

The findings of the coroner's investigation below confirm the vital role that families play in recognising clinical deterioration.

learning from coronial inquests

Recognising the role families can play in identifying deterioration

Mr Giovanni Bertoncini was admitted to hospital for severe abdominal pain in 2002. He was 72-years-old. Family members became concerned that his condition was deteriorating, and that he was suffering from more pain than appeared to be recognised by the healthcare team. After Mr Bertoncini's death in hospital, the coroner reported:[17]

'In the context of this case in determining whether the condition of the deceased was deteriorating, in addition to the recording of regular observations, it would have been helpful if more regard had been paid by staff to the family's opinion that the condition of the deceased was deteriorating. The deceased's wife had been with him constantly (except at night) and was well placed to notice changes in his condition.'[17]

Escalation policies and protocols should enable patients, families and carers to trigger escalation of care. This concept is relatively new in Australia. However, many hospitals in the United States have implemented processes to ensure that patients and families can escalate care when they recognise clinical deterioration.[18–19] Links to resources and information developed by hospitals in the United States, and new programs in Australia, are available in Appendix C.

Escalation of care by patients, families and carers acts in a similar way to escalation protocols triggered by health professionals. When patients and families identify deterioration, have concerns, or if there is confusion about what is happening with care, they are able to trigger a call that brings members of the healthcare team to the patient's bedside. The healthcare team can then assess the situation, provide emergency assistance and resolve any concerns.

Providing a process for patients, families or carers to escalate care provides an additional layer of safety, and recognises the role of patients, families and carers as part of the wider healthcare team.

practice point

Impact of patient and family escalation systems on rapid response calls

In hospitals where patient, family and carer escalation of care has been established, the number of calls by patients, families and carers has not resulted in an unmanageable increase in calls to the rapid response system. Examples of the number of calls reported include 25 in two years,[18] 42 in 23 months,[20] 12 in six months[21] and 69 in six months.[22] One study found that family concern was noted as the reason for a MET call in 5% of calls, and that families directly activated only two calls in a 12 month period.[23]

practice point

Improvements can result from tragedy

In the United States, a strong driver for the establishment of processes to allow patients, families and carers to escalate care has been the deaths of children in hospital. One of the most well known cases is that of Josie King, an 18-month-old girl who died in a paediatric intensive care unit due to incorrect administration of narcotics. Concerns were raised by Sorrel King, Josie's mother, and not acted on by clinicians. Following Josie's death, the King family worked with hospitals to develop processes for patient, family and carer escalation of care.

Another case is that of Lewis Blackman, a 15-year-old boy admitted for elective surgery. He died following clinical deterioration, despite repeated requests by his mother to contact a senior physician. Following Lewis' death, the Lewis Blackman Hospital Patient Safety Act 2005 was enacted in South Carolina. The Act requires hospitals to provide mechanisms to enable patients to promptly and independently access assistance for the resolution of their personal medical care.

Further information can be found at:

www.josieking.org

www.scstatehouse.gov/sess116_2005_2006/bills/3832.htm

www.lewisblackman.net

how to complete this task

DECIDE	DEVELOP	RESOURCE	EDUCATE	EVALUATE

task 4 – provide a process to enable patients, families and carers to escalate care

DECIDE	▶ ▶ ▶	Decide on triggers for patient, family and carer escalation of care Decide how the response will be activated
DEVELOP	▶ ▶ ▶	Develop processes for informing patients, families and carers of how to escalate care
RESOURCE	▶ ▶ ▶	Provide a response when patients, families and carers escalate care
EDUCATE	▶ ▶ ▶	Educate health professionals about escalation processes for patients, families and carers
EVALUATE	▶ ▶ ▶	Evaluate escalation processes for patients, families and carers

DECIDE

DECIDE ON TRIGGERS FOR PATIENT, FAMILY AND CARER ESCALATION OF CARE

DECIDE HOW THE RESPONSE WILL BE ACTIVATED

Facilities need to decide on the triggers for patients, families and carers to escalate care. As a minimum, this should allow escalation to occur:

- if there is a belief that a patient is not receiving the medical attention they feel is necessary

- if there is concern with what is happening

- when there is confusion over what needs to be done in a critical situation.[16]

The system may be activated by a number of different mechanisms. However, it is important that patients, families and carers do not need to request information or assistance to obtain help. Methods for activating the system may include calling an emergency number from the patient's bedside telephone or any internal hospital telephone, or by using the emergency call button or similar mechanism located in the clinical area. In some cases, a designated telephone that is only used for patient and family escalation calls has been established.[24]

In addition, facilities may like to develop other processes that enable patients, families or carers to talk to the attending medical officer or team responsible for the patient.

Links to resources that can assist with the planning of patient and family escalation processes are available in Appendix C.

implementation tip

Developing escalation processes for patients, families and carers

- Remember to involve patients, families and carers when developing triggers and processes for activating the system.

- Remember to provide information on the location (e.g. ward, room and bed number) close to the activation point, so that patients, families and carers can identify and report their location within the hospital when calling for assistance.

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⟳ practice point

Examples of names for patient and family escalation processes

Giving the patient and family escalation system a specific name may help patients and families understand the purpose of the system. In Australia, the Between the Flags program in New South Wales is introducing a patient and family escalation system called **REACH**.

RECOGNISE – have you noticed a worrying change in your own or your loved one's condition?

ENGAGE – inform the nurse that is looking after you or your loved one.

ACT – if your concern is not responded to, or you or your loved one is getting worse, act.
Ask to speak to the nurse in charge and request a clinical review.

CALL – if you are still concerned, call the emergency response team.

HELP – help is on its way.

Other examples from hospitals in the United States include:[24]

- Family Activated Safety Team (FAST)

- Family Initiated Rapid Response and Safety Team (FIRRST)

- Family Initiated Rapid Support Team (FIRST)

- Family Initiated Rapid Screening Team (Call FIRST)

- Patient/Family Initiated Rapid Response Team

- Condition HELP / Condition H

- Code Care

- Partners in Care

- Together Caring for Your Family as our Own

- We're Here to Help.

DEVELOP

DEVELOP PROCESSES FOR INFORMING PATIENTS, FAMILIES AND CARERS OF HOW TO ESCALATE CARE

For the system to work effectively, patients, families and carers need information on how to use the escalation process. This information should be provided on admission to the facility and reinforced throughout the patient's stay.

Strategies for informing patients, families and carers of escalation processes include:

- educating all patients and family members about the escalation process on admission, and providing a brochure that outlines how care is escalated

- reinforcing the message during daily healthcare team rounds

- displaying signs or posters that describe how to escalate care in all patients' rooms

- displaying signs or posters in public areas to remind patients and visitors about the process

- displaying stickers that show the number to call on telephones (if this method is used to call the responders)

- broadcasting information about the system on patient television and audio services.

Links to examples of resources that have been used to provide information to patients and families are included in Appendix C.

For the system to work effectively, patients, families and carers need information on how to use the escalation process. This information should be provided on admission to the facility and reinforced throughout the patient's stay.

RESOURCE

PROVIDE A RESPONSE WHEN PATIENTS, FAMILIES AND CARERS ESCALATE CARE

Clinicians who respond to a call from a patient, family or carer should be able to assess the patient, give initial therapeutic interventions and escalate care to a clinician with advanced life support skills if required.

Responses should be developed locally, consider the availability of resources, and details included in the facility's escalation policy. Responses may include the attendance of:

- the patient's attending medical officer or team

- rapid response providers

- a group of alternative clinicians

- a single clinician.

Patient, family and carer escalation is triggered because of concerns regarding a patient's condition, current treatment or care. Therefore, an important part of the escalation response is to facilitate communication between the healthcare team and the patient, family or carer. This may include organising for the patient or family to meet with the attending medical officer or team to discuss care and treatment options.

Patient, family and carer escalation is triggered because of concerns regarding a patient's condition, current treatment or care. Therefore, an important part of the escalation response is to facilitate communication between the healthcare team and the patient, family or carer.

EDUCATE

EDUCATE HEALTH PROFESSIONALS ABOUT ESCALATION PROCESSES FOR PATIENTS, FAMILIES AND CARERS

The concept of patients and families escalating care is relatively new to Australia. To enable these systems to develop, health professionals need education about the purpose of such initiatives, as well as information on their roles and responsibilities when a patient, family or carer triggers escalation of care.

Some facilities have developed scripted information for training. These scripts describe how to introduce and explain the escalation system to a patient, family member or carer.

Links to more information about tools that can be used to educate health professionals are available in Appendix C.

To enable these systems to develop, health professionals need education about the purpose of such initiatives, as well as information on their roles and responsibilities when a patient, family or carer triggers escalation of care.

EVALUATE

EVALUATE ESCALATION PROCESSES FOR PATIENTS, FAMILIES AND CARERS

Evaluating patient, family and carer escalation processes will identify any barriers to using the system, and ensure that strategies are developed and implemented to promote successful use of the system.

If health professionals believe the system is not working efficiently, their response to patient, family or carer escalation may be inadequate. The caller may also feel uncomfortable with the response they receive.

The success of these systems relies on the patient, family or carers being comfortable with the process of escalating care, and feeling that their concerns are adequately addressed by the responding clinician.

Key points to consider when evaluating systems for patient, family and carer escalation of care include:

- the level of awareness that patients, families and carers demonstrate on how to use the escalation process

- satisfaction of the patient, family and carer with the mechanism for escalation and responses provided

- satisfaction of health professionals in relation to the escalation system (process, roles and responsibilities)

- the number of times patient, family or carer escalation of care events occur

- reasons for triggering escalation of care

- patient outcomes following an escalation of care response.

Methods for obtaining this information may include:

- surveys or semi-structured interviews of patients, families and carers to determine the level of awareness of the escalation system

- focus groups

- audits of medical records.

Specifications for some quality measures concerning patient, family and carer escalation of care are included in Appendix B.

> **If health professionals believe the system is not working efficiently, their response to patient, family or carer escalation may be inadequate. The caller may also feel uncomfortable with the response they receive.**

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
⊙ **task 1** **Develop an escalation policy tailored to the role and characteristics of the facility**	**DECIDE** Identify clinical services and resources available (internal and external) Decide on the type of service each clinical area or facility can provide	Health service managers Health professionals with responsibility for policy or quality improvement Clinicians	2.1 A formal documented escalation protocol is required that applies to the care of all patients at all times 2.3 The escalation protocol should be tailored to the characteristics of the acute health care facility, including consideration of issues such as: • size and role (such as whether a tertiary referral centre or small community hospital) • location • available resources (such as staffing mix and skills, equipment, remote telemedicine systems, external such as ambulances)	1.8.3 Systems exist to escalate the level of care when there is an unexpected deterioration in health status 9.1.2 Policies, procedures and/or protocols for the organisation are implemented in areas such as: • escalation of care 9.4.1 Mechanisms are in place to escalate care and call for emergency assistance
	DEVELOP Develop information to be included in the escalation policy	Health professionals with responsibility for policy or quality improvement Health service managers Clinicians	2.1 A formal documented escalation protocol is required that applies to the care of all patients at all times	9.5.1 Criteria for triggering a call for emergency assistance are included in the escalation policies, procedures and/or protocols
	RESOURCE Provide resources for transferring patients to to a higher level of care locally, or to another facility	Health service executive and owners Health service managers	2.3 The escalation protocol should be tailored to the characteristics of the acute health care facility, including consideration of issues such as: • potential need for transfer to another facility 3.7 In cases where patients need to be transferred to another site to receive emergency assistance, appropriate care needs to be provided to support them until such assistance is available	N/A

summary of tasks and actions for essential element 2

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
⊙ **task 1** **Develop an escalation policy tailored to the role and characteristics of the facility**	**EDUCATE** Educate clinicians on the escalation policy	Health service managers Educators Clinicians	2.11 The escalation protocol should be promulgated widely and included in education programs 6.1 All clinical and non-clinical staff should receive education about the local escalation protocol relevant to their position. They should know how to call for emergency assistance if they have any concerns about a patient, and know that they should call under these circumstances. This information should be provided at the commencement of employment and as part of regular refresher training	1.4.1 Orientation and ongoing training programs provide the workforce with the skill and information needed to fulfil their safety and quality roles and responsibilities 1.4.2 Annual mandatory training programs to meet the requirements of these standards 1.4.3 Locum and agency workforce have the necessary information, training and orientation to the workplace to fulfil their safety and quality roles and responsibilities 1.4.4 Competency-based training is provided to the clinical workforce to improve safety and quality
	EVALUATE Review deaths, adverse events and external transfers	Health professionals with responsibility for policy or quality improvement Clinicians Health service managers	7.1 Data should be collected and reviewed locally and over time regarding the implementation and effectiveness of recognition and response systems 7.3 Systems should be evaluated to determine whether they are improving the recognition of and response to clinical deterioration 7.7 Information about the effectiveness of the recognition and response systems may also come from other clinical information such as incident reports, root cause analyses, cardiac arrest calls and death reviews. A core question for every death review should be whether the escalation criteria for the rapid response system was met, and whether care was escalated appropriately	9.2.2 Deaths or cardiac arrests for a patient without an agreed treatment-limiting order (such as not for resuscitation or do not resuscitate) are reviewed to identify the use of the recognition and response systems, and any failures in these systems 9.4.2 Use of escalation processes, including failure to act on triggers for seeking emergency assistance, are regularly audited 9.4.3 Action is taken to maximise the appropriate use of escalation processes 9.5.2 The circumstances and outcome of calls for emergency assistance are regularly reviewed

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
⊙ **task 2** **Develop an escalation protocol that provides a graded response to abnormal physiological measurements and include in the escalation policy**	**DECIDE** Decide on the number of levels of abnormality to be used with your chosen track and trigger system	Health professionals with responsibility for policy or quality improvement Clinicians Health service managers	2.4 The escalation protocol should allow for a graded response commensurate with the level of abnormal physiological measurements, changes in physiological measurements or other identified deterioration	9.3.1 When using a general observation chart, ensure that it: • includes the capacity to record information about respiratory rate, oxygen saturation, heart rate, blood pressure, temperature and level of consciousness graphically over time • includes thresholds for each physiological parameter or combination of parameters that indicate abnormality 9.5.1 Criteria for triggering a call for emergency assistance are included in the escalation policies, procedures and/or protocols
	DEVELOP Develop trigger thresholds for each level of abnormality Include a trigger to escalate care based only on concern Develop processes enabling clinicians to escalate care until they are satisfied	Health professionals with responsibility for policy or quality improvement Clinicians Health service managers	2.2 The escalation protocol should authorise and support the clinician at the bedside to escalate care until the clinician is satisfied that an effective response has been made 2.5 The escalation protocol should specify: • the levels of physiological abnormality or abnormal observations at which patient care is escalated 2.8 The escalation protocol should allow for the capacity to escalate care based only on the concern of the clinician at the bedside, in the absence of other documented abnormal physiological measurements ('staff member worried' criterion)	9.3.1 When using a general observation chart, ensure that it: • specifies the physiological abnormalities and other factors that trigger the escalation of care 9.4.1 Mechanisms are in place to escalate care and call for emergency assistance 9.5.1 Criteria for triggering a call for emergency assistance are included in the escalation policies, procedures and/or protocols

summary of tasks and actions for essential element 2

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
⊙ **task 2** **Develop an escalation protocol that provides a graded response to abnormal physiological measurements and include in the escalation policy**	**RESOURCE** Develop responses for each level of abnormality, considering patient needs and local resources	Health professionals with responsibility for policy or quality improvement Clinicians Health service managers	2.5 The escalation protocol should specify: • the levels of physiological abnormality or abnormal observations at which patient care is escalated • the response that is required for a particular level of physiological or observed abnormality • how the care of the patient is escalated • the personnel that care of the patient is escalated to, noting the responsibility of the attending medical officer or team • who else is to be contacted when care of the patient is escalated • the timeframe in which a requested response should be provided • alternative or back up options for obtaining a response 2.7 The escalation protocol may specify different actions depending on the time of day or day of the week, or for other circumstances	9.4.1 Mechanisms are in place to escalate care and call for emergency assistance 9.4.3 Action is taken to maximise the appropriate use of escalation processes
	EDUCATE Educate clinicians on the escalation protocol Provide a flow diagram of the escalation protocol at the point of care	Health service managers Educators Clinicians Health professionals with responsibility for policy or quality improvement	2.11 The escalation protocol should be promulgated widely and included in education programs 6.1 All clinical and non-clinical staff should receive education about the local escalation protocol relevant to their position. They should know how to call for emergency assistance if they have any concerns about a patient, and know that they should call under these circumstances	9.2.2 Deaths or cardiac arrests for a patient without an agreed treatment-limiting order (such as not for resuscitation or do not resuscitate) are reviewed to identify the use of the recognition and response systems, and any failures in these systems 9.4.2 Use of escalation processes, including failure to act on triggers for seeking emergency assistance, are regularly audited

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
⊙ task 2 Develop an escalation protocol that provides a graded response to abnormal physiological measurements and include in the escalation policy			This information should be provided at the commencement of employment and as part of regular refresher training	9.4.3 Action is taken to maximise the appropriate use of escalation processes 9.5.2 The circumstances and outcome of calls for emergency assistance are regularly reviewed
	EVALUATE Evaluate the effectiveness of trigger thresholds and responses	Health service managers Health professionals with responsibility for policy or quality improvement	7.1 Data should be collected and reviewed locally and over time regarding the implementation and effectiveness of recognition and response systems 7.5 Regular audits of triggers and outcomes should be conducted for patients who are the subject of calls for emergency assistance. Where these data are available, this could include longer term outcomes for patients (such as 30 and 60 day mortality)	9.4.2 Use of escalation processes, including failure to act on triggers for seeking emergency assistance, are regularly audited 9.2.1 Feedback is actively sought from the clinical workforce on the responsiveness of the recognition and response systems 9.5.2 The circumstances and outcome of calls for emergency assistance are regularly reviewed
⊙ task 3 Consider advance care directives and treatment-limiting decisions when escalating care	**DECIDE** Decide how advance care directives will be identified	Health professionals with responsibility for policy or quality improvement Clinicians Health service managers	2.10 The escalation protocol should include consideration of the needs and wishes of patients with an advance care directive or where other treatment-limiting decisions have been made	9.8.1 A system is in place for preparing and/or receiving advance care plans in partnership with patients, families and carers
	DEVELOP Develop processes to individualise trigger thresholds and responses for patients whose condition or preferences limit treatment	Health professionals with responsibility for policy or quality improvement Clinicians Health service managers	2.6 The way in which the escalation protocol is applied should take into account the clinical circumstances of the patient, including both the absolute change in physiological measurements and abnormal observations, as well as the rate of change over time for an individual patient	1.18 Implementing processes to enable partnership with patients in decisions about their care, including informed consent to treatment 9.8.2 Advance care plans and other treatment-limiting orders are documented in the patient clinical record

summary of tasks and actions for essential element 2

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
⊙ task 3 **Consider advance care directives and treatment-limiting decisions when escalating care**	**RESOURCE** Provide tools for documenting advance care directives, treatment-limiting decisions and individualised escalation protocols	Health service managers Health professionals with responsibility for policy or quality improvement	4.4 There should be adequate communication and discussion about the wishes of the patient regarding advance care planning, resuscitation and other active treatment	1.7.1 Agreed and documented clinical guidelines and/or pathways are available to the clinical workforce 9.8.2 Advance care plans and other treatment-limiting orders are documented in the patient clinical record
	EDUCATE Educate health professionals on advance care directives, treatment-limiting decisions and individualised escalation protocols	Educators Clinicians	6.2 All doctors and nurses should be able to: • understand the importance of, and discuss, end-of-life care planning with the patient, family and/or carer	1.4.1 Orientation and ongoing training programs provide the workforce with the skill and information needed to fulfil their safety and quality roles and responsibilities 1.4.2 Annual mandatory training programs to meet the requirements of these standards 1.4.3 Locum and agency health professionals have the necessary information, training and orientation to the workplace to fulfil their safety and quality roles and responsibilities 1.4.4 Competency-based training is provided to the clinical workforce to improve safety and quality
	EVALUATE Evaluate escalation policies that consider advance care directives and treatment-limiting decisions	Health professionals with responsibility for policy or quality improvement Health service managers	7.1 Data should be collected and reviewed locally and over time regarding the implementation and effectiveness of recognition and response systems	9.5.2 The circumstances and outcome of calls for emergency assistance are regularly reviewed

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
⊙ **task 4** **Provide a process to enable patients, families and carers to escalate care**	**DECIDE** Decide on triggers for patient, family and carer escalation of care Decide how the response will be activated	Patients, families and carers Health professionals with responsibility for policy or quality improvement Clinicians Health service managers	2.9 The escalation protocol should allow for the concerns of the patient, family or carer to trigger an escalation of care	9.9.1 Mechanisms are in place for a patient, family member or carer to initiate an escalation of care response
	DEVELOP Develop processes for informing patients, families and carers how to escalate care	Patients, families and carers Health professionals with responsibility for policy or quality improvement Clinicians Health service managers Educators	4.3 Information about deterioration should be communicated to the patient, family or carer in a timely and ongoing way 4.4 There should be adequate communication and discussion about the wishes of the patient regarding advance care planning, resuscitation and other active treatment	1.18.3 Mechanisms are in place to align the information provided to patients with their capacity to understand 9.9.2 Information about the system for family escalation of care is provided to patients, families and carers
	RESOURCE Provide a response when patients, families and carers escalate care	Health service boards, executives and owners Health service managers Clinicians		1.18.1 Patients and carers are partners in the planning for their treatment 9.7.1 Information is provided to patients, families and carers in a format that is understood and meaningful. The information should include: • the importance of communicating concerns and signs/symptoms of deterioration, which are relevant to the patient's condition, to the clinical workforce • local systems for responding to clinical deterioration, including how they can raise concerns about potential deterioration

summary of tasks and actions for essential element 2

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
	EDUCATE Educate health professionals about escalation processes for patients, families and carers	Patients, families and carers Health service managers Educators Clinicians	6.2 All doctors and nurses should be able to: • communicate information about clinical deterioration in a structured and effective way to the attending medical officer or team, to clinicians providing emergency assistance, and to patients, families and carers	1.4.1 Orientation and ongoing training programs provide the workforce with the skill and information needed to fulfil their safety and quality roles and responsibilities 1.4.2 Annual mandatory training programs to meet the requirements of these standards 1.4.3 Locum and agency workforce have the necessary information, training and orientation to the workplace to fulfil their safety and quality roles and responsibilities 1.4.4 Competency-based training is provided to the clinicall workforce to improve safety and quality
	EVALUATE Evaluate escalation processes for patients, families and carers	Patients, families and carers Health service managers Health professionals with responsibility for policy or quality improvement Clinicians	7.1 Data should be collected and reviewed locally and over time regarding the implementation and effectiveness of recognition and response systems	1.20.1 Data collected from patient feedback systems are used to measure and improve health services in the organisation 9.9.3 The performance and effectiveness of the system for family escalation of care is periodically reviewed 9.9.4 Action is taken to improve the system performance for family escalation of care

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⊙ essential element 3

RAPID RESPONSE SYSTEMS

rapid response systems

the problem

There is a narrow window of time in which to provide treatment to reverse or reduce the amount of physiological damage associated with severe clinical deterioration.

Not all hospitals in Australia have well coordinated processes in place to provide rapid emergency assistance.

goals of this essential element

Patients who meet criteria for a rapid response call receive immediate and appropriate emergency assistance.

Patients receive emergency assistance that is based on current national resuscitation guidelines and other evidence.

Rapid response providers are proficient at providing emergency assistance, as well as clinical teaching and mentorship to other health professionals.

what you need to do

Provide a rapid response system capable of delivering specialised, timely emergency assistance to patients whose condition is deteriorating.

Ensure rapid response systems operate in partnership with, and as an extension of, the healthcare team.

common terms used in this essential element

Rapid response system: the system for providing emergency assistance to patients whose condition is deteriorating.

Rapid response provider: the clinical team or individual responsible for providing emergency assistance to patients whose condition is deteriorating.

consensus statement recommendations

essential element 3: rapid response systems

3.1   Some form of rapid response system should exist to ensure that specialised and timely care is available to patients whose condition is deteriorating.

3.2   Criteria for triggering the rapid response system should be included in the escalation protocol.

3.3   The nature of the rapid response system needs to be appropriate to the size, role, resources and staffing mix of the acute care facility.

3.4   The clinicians providing emergency assistance as part of the rapid response system should:

- be available to respond within agreed timeframes
- be able to assess the patient and provide a provisional diagnosis
- be able to undertake appropriate initial therapeutic intervention
- be able to stabilise and maintain the patient pending definitive disposition
- have authority to make transfer decisions and to access other care providers to deliver definitive care.

3.5   As part of the rapid response system, there should be access at all times to at least one clinician, either on-site or in close proximity, who can practice advanced life support.

3.6   The clinicians providing emergency assistance should have access to a staff member of sufficient seniority to make treatment-limiting decisions. Where possible, these decisions should be made with input from the patient, family and the attending medical officer or team.

3.7   In cases where patients need to be transferred to another site to receive emergency assistance, appropriate care needs to be provided to support them until such assistance is available.

3.8   When a call is made for emergency assistance, the attending medical officer or team should be notified as soon as practicable that the call has been made, and where possible they should attend to support and learn from the clinicians providing assistance.

3.9   All opportunities should be taken by the clinicians providing emergency assistance to use the call as an educational opportunity for ward staff and students.

3.10   The clinicians providing emergency assistance should communicate in an appropriate, detailed and structured way with the attending medical officer or team about the consequences of the call, including documenting information in the healthcare record.

3.11   Events surrounding the call for emergency assistance and actions resulting from the call should be documented in the health care record and considered as part of ongoing quality improvement processes.

Who is responsible?
How does this element apply to your role(s)?
What clinical areas does this element apply to?

A variety of health professionals are involved in developing and implementing rapid response systems. To improve systems for providing emergency assistance, health professionals need to determine who will be responsible for undertaking the tasks required for this essential element.

Clinical areas involved in rapid response systems	People involved in rapid response systems	
	Role	**Responsibility**
All acute care areas of a facility need to provide emergency assistance using a rapid response system for patients who deteriorate. This includes: • emergency departments • intensive care units or high dependency units • general wards and speciality areas • maternity units • paediatric units • mental health units • operating theatre recovery units • other clinical areas where patients receive acute care treatments	Consumers, patients, families and carers	• Alert clinicians to any worries or concerns • Participate in developing rapid response systems
	Non-clinical workforce	• Participate in education and training programs related to rapid response system use and emergency assistance • Use the rapid response system correctly
	Clinical workforce	• Use the rapid response system correctly • Participate in education and training programs related to rapid response system use and emergency assistance • Participate in evaluating the rapid response system • Participate in identifying the roles and responsibilities of the clinicians who provide the rapid response and the clinicians who activate the system
	Educators	• Provide education and training using simulation or supervised clinical activities related to emergency assistance • Train rapid response providers in educational techniques and mentorship skills • Participate in evaluating the rapid response system
	Health professionals with responsibility for policy or quality improvement	• Develop trigger thresholds and responses for providing emergency assistance • Identify roles and responsibilities of the rapid response providers and the clinicians who activate the system, and include in the escalation policy • Provide a flow diagram summarising the rapid response system in the escalation policy and clinical areas • Develop treatment protocols or algorithms that incorporate national resuscitation guidelines and other sources of current evidence • Develop process of care and outcome measures for ongoing evaluation of the rapid response system • Participate in evaluating the rapid response system • Participate in education and training programs related to rapid response system use and emergency assistance
	Health service managers	• Ensure emergency equipment undergoes regular maintenance and checks • Provide ongoing access to training programs for clinicians responsible for providing emergency assistance • Ensure equipment for providing emergency assistance and methods for delivering this equipment to the patient's bedside are available • Participate in education and training programs related to rapid response system use and emergency assistance

table 4 ▸ CONTINUED...

Clinical areas involved in rapid response systems	People involved in rapid response systems	
	Role	
	Health service boards, executives and owners	• Assign responsibility, personnel and resources to support development, implementation and evaluation of a rapid response system • Provide managers with support to implement rapid response system protocols and processes in their areas • Lead, develop and support strategies to ensure optimal use of the system • Ensure ongoing access to training programs for clinicians responsible for providing emergency assistance • Participate in education and training programs related to rapid response system use and emergency assistance

⚙ implementation tip

Developing and implementing rapid response systems

• Rapid response systems form one component of a facility's graded escalation response, and should therefore be developed as part of the overall escalation policy. Use the information and examples in *Essential element 2: Escalation of care*, as well as the information in this essential element, to develop and review your rapid response systems.

• Acute care facilities that need to establish a rapid response system will require information on the resources available for providing emergency assistance (e.g. clinical and non-clinical workforce mix and skills, equipment, remote telemedicine systems, external resources such as ambulances) at different times of the day and days of the week. This information may help facilities decide which type of rapid response system they use, and will help identify any additional resource requirements.

• To provide effective emergency assistance, rapid response systems need to be well integrated into clinical areas, operating as an extension of the care provided by the healthcare team. Be sure to seek representation from doctors, nurses and allied health professionals from different clinical areas when developing these systems. This will help facilitate agreement on the various roles and responsibilities associated with operation of the system.

• Continuous evaluation and ongoing education of the clinical and non-clinical workforce in the use of rapid response systems are essential to their successful integration and operation. Therefore, health professionals responsible for providing education, clinical skills training, evaluation and governance should be involved in developing rapid response systems.

2 self-assessment and planning tool

Use the self-assessment tool to identify gaps in your rapid response systems and develop an action plan.

Prioritise your changes.

The self-assessment and planning tool has been designed to assess one clinical area, or an entire facility's current practice, in relation to this essential element. A modifiable electronic version of this tool, and other supporting tools to help answer the self-assessment questions, are available on the Commission's web site.

The action plan for this essential element begins on page 147. Follow the instructions in the self-assessment and planning tool to complete the action plan.

NAME OF WARD OR AREA BEING ASSESSED:

⏱ task 1

Provide a rapid response system capable of delivering specialised, timely emergency assistance to patients whose condition is deteriorating

Data or documentation that proves the criteria have been met

Type of data or name of document

AGREEMENT

Is there agreement on the type of rapid response system model to use?

☐ **YES** ▸ Fill in next two columns

☐ **NO** ▸ Tick 'Lack of agreement' in your action plan

Have roles and responsibilities of rapid response providers been decided?

☐ **YES** ▸ Fill in next two columns

☐ **NO** ▸ Tick 'Lack of agreement' in your action plan

PROCESS OR POLICY

Is there a protocol that outlines use of the rapid response system?

☐ **YES** ▸ Fill in next two columns

☐ **NO** ▸ Tick 'Lack of process/ policy' in your action plan

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Are details of this protocol included in the facility's escalation policy?

☐ **YES** ▸ Fill in next two columns

☐ **NO** ▸ Tick 'Lack of process/ policy' in your action plan

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Are emergency assistance treatment protocols and algorithms available?

☐ **YES** ▸ Fill in next two columns

☐ **NO** ▸ Tick 'Lack of process/ policy' in your action plan

Where is it kept?	Are these policies/processes/resources operating as planned? Does your data demonstrate effective operation at all times?
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan

NAME OF WARD OR AREA BEING ASSESSED:

⊙ **task 1** **Provide a rapid response system capable of delivering specialised, timely emergency assistance to patients whose condition is deteriorating**		**Data or documentation that proves the criteria have been met** **Type of data or name of document**
RESOURCES Is there access, at all times, to a clinician who can practise advanced life support?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of resources' in your action plan	
Are equipment and pharmaceuticals for providing emergency assistance available?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of resources' in your action plan	
Is this equipment functional and well maintained?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of resources' in your action plan	
KNOWLEDGE Have rapid response providers received training to provide emergency assistance?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of knowledge' in your action plan	
Have rapid response providers received training in clinical teaching and mentorship?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of knowledge' in your action plan	
SYSTEMS TO SUPPORT MONITORING AND EVALUATION Are systems for evaluating the rapid response system in place?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of monitoring and evaluation' in your action plan	

Where is it kept?	Are these policies/processes/resources operating as planned? Does your data demonstrate effective operation at all times?
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan

NAME OF WARD OR AREA BEING ASSESSED:

⊙ task 2 **Ensure rapid response systems operate in partnership with, and as an extension of, the healthcare team**		Data or documentation that proves the criteria have been met Type of data or name of document
AGREEMENT Have roles and responsibilities for clinicians who activate the rapid response system been decided?	☐ **YES** ▶ Fill in next two columns ☐ **NO** ▶ Tick 'Lack of agreement' in your action plan	
PROCESS OR POLICY Do clinicians use agreed communication processes when clinical deterioration occurs?	☐ **YES** ▶ Fill in next two columns ☐ **NO** ▶ Tick 'Lack of process/ policy' in your action plan	
Are these processes included in the escalation policy or similar document?	☐ **YES** ▶ Fill in next two columns ☐ **NO** ▶ Tick 'Lack of process/ policy' in your action plan	
RESOURCES Is there a health professional with overall responsibility for the rapid response system?	☐ **YES** ▶ Fill in next two columns ☐ **NO** ▶ Tick 'Lack of resources' in your action plan	
KNOWLEDGE Do clinicians receive education on use of the rapid response system?	☐ **YES** ▶ Fill in next two columns ☐ **NO** ▶ Tick 'Lack of knowledge' in your action plan	
SYSTEMS TO SUPPORT MONITORING AND EVALUATION Are rapid response providers included in departmental evaluation processes (e.g. morbidity and mortality meetings)?	☐ **YES** ▶ Fill in next two columns ☐ **NO** ▶ Tick 'Lack of monitoring and evaluation' in your action plan	
Are health professionals' awareness and perceptions of the rapid response system evaluated?	☐ **YES** ▶ Fill in next two columns ☐ **NO** ▶ Tick 'Lack of monitoring and evaluation' in your action plan	

Where is it kept?	Are these policies/processes/resources operating as planned? Does your data demonstrate effective operation at all times?
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan

action plan ▶ RAPID RESPONSE SYSTEMS

NAME OF WARD OR AREA BEING ASSESSED:

what do you need to do?		how will you do it?
Task not yet achieved	**Why has this task not been achieved (barriers)?** **What actions are needed?**	Go to the recommended section of this guide for information on tasks and actions. List the tools and resources from the guide to address this gap here. Also consider other resources that may be available to you to address this gap.
⊙ **task 1** Provide a rapid response system capable of delivering specialised, timely emergency assistance to patients whose condition is deteriorating	☐ Lack of agreement ▶ D E C I D E ▶ p152 ☐ Lack of process/policy ▶ D E V E L O P ▶ p155 ☐ Lack of resources ▶ R E S O U R C E ▶ p157 ☐ Lack of knowledge ▶ E D U C A T E ▶ p159 ☐ Lack of monitoring and evaluation ▶ E V A L U A T E ▶ p161	
OTHER POSSIBLE BARRIERS:		
⊙ **task 2** Ensure rapid response systems operate in partnership with, and as an extension of, the healthcare team	☐ Lack of agreement ▶ D E C I D E ▶ p167 ☐ Lack of process/policy ▶ D E V E L O P ▶ p169 ☐ Lack of resources ▶ R E S O U R C E ▶ p171 ☐ Lack of knowledge ▶ E D U C A T E ▶ p172 ☐ Lack of monitoring and evaluation ▶ E V A L U A T E ▶ p173	
OTHER POSSIBLE BARRIERS:		

OTHER COMMENTS AND PLANS:

Use the information from the self-assessment and planning tool to complete the action plan. The action plan links the barriers identified by the self-assessment and planning tool with specific actions, tools and resources to address them.

Who will be responsible?	When will this happen? Consider undertaking actions that are low cost, easy to implement and support meeting the *National safety and quality health service standards* first

information and resources

Use the information and resources in this guide to help implement your action plan.

For each task, the following actions may be required: Decide, Develop, Resource, Educate and Evaluate

Each of the tasks for this essential element is discussed in detail in this section. Each task includes a brief summary of its importance and a series of actions that can be taken to complete it. Links to resources are included in Appendix C and additional tools to support implementation are available on the Commission's web site.

key tasks
for rapid response systems

⊙ task 1
Provide a rapid response system capable of delivering specialised, timely emergency assistance to patients whose condition is deteriorating

⊙ task 2
Ensure rapid response systems and providers operate in partnership with, and as an extension of, the healthcare team

STEP **3** > task 1

PROVIDE A RAPID RESPONSE SYSTEM CAPABLE OF DELIVERING SPECIALISED, TIMELY EMERGENCY ASSISTANCE TO PATIENTS WHOSE CONDITION IS DETERIORATING

why this task is important

This task is needed because:

- serious adverse events, including death, can occur if rapid emergency assistance is not provided to patients whose condition is deteriorating

- rapid response systems have been shown to reduce in-hospital cardiac arrests, unplanned intensive care unit admissions, morbidity and mortality.

When severe clinical deterioration occurs, it is important to ensure that appropriate emergency assistance or advice is available before an adverse event, such as a cardiac arrest, occurs.[1] Rapid response systems provide this emergency response, and have been shown to reduce in-hospital cardiac arrests, unplanned intensive care unit admissions, morbidity and mortality.[2–8]

learning from coronial inquests

The importance of providing timely emergency assistance

Mr Norman Steele was a 63-year-old man admitted to a rural hospital after collapsing at work. Despite severe and persistent hypotension, and severe abdominal and lower back pain, Mr Steele was not seen by a doctor until seven hours after his admission. There was further delay in referring the patient to a tertiary hospital and the Royal Flying Doctor Service. Mr Steele died from a ruptured abdominal aneurysm 12 hours after his presentation to hospital, while still awaiting transfer.

'By contrast in a major hospital, such as Royal Perth Hospital, a systolic blood pressure reading of less than 90 would have required the nurse taking the reading to contact the medical emergency team (MET).'[9]

'In the present case if there had been such a MET system in place, that system would have not only ensured that the deceased was seen more quickly than was in fact the case, it would have also served to emphasise the gravity of his condition by identifying it as a medical emergency. Implementation of such a system may have saved the deceased's life.'[9]

Rapid response systems provide emergency assistance as part of the graded response set out in a facility's escalation protocol. These systems have been used in many healthcare facilities overseas and throughout Australia. However, evidence suggests that these systems are often under-used.[10]

Rapid response systems are complex and require resources for emergency assistance, data collection and administrative support. Data collection and analysis are essential components of the system, as they identify areas for improvement (process and patient outcomes) and will help drive system changes to ensure optimal use. Similarly, administrative support is needed to ensure resources are available for providing emergency assistance, and to support the day to day running of the system. Further information on the organisational requirements that underpin effective operation of rapid response systems is in *Essential element 5: Organisational supports*. Specifications for quality measures that can be used for evaluation are included in Appendix B.

Acute care facilities cater for different types of clinical conditions and patient types (e.g. adult, maternity, paediatric), and differ in the availability of resources such as equipment, clinician skills and staff numbers. The availability of these resources also fluctuates depending on the time of day or day of the week. These factors will influence how a facility's rapid response system operates. However, the focus is to ensure that patients receive the immediate emergency assistance they need.

Specialised rapid response systems such as acute stroke teams, interventional cardiology teams, obstetric and paediatric teams may exist in some facilities.[11] Other rapid response system models are beginning to emerge from rural and remote facilities that use a variety of staffing compositions, including doctors from emergency or anaesthetics, advanced clinical nurses, general practitioners and ambulance services.

STEP 3 > **task 1**

PROVIDE A RAPID RESPONSE SYSTEM CAPABLE OF DELIVERING SPECIALISED, TIMELY EMERGENCY ASSISTANCE TO PATIENTS WHOSE CONDITION IS DETERIORATING

practice point

An example of a rapid response system in a rural facility

A 25-bed rural acute care facility is located 90 minutes from the nearest regional hospital. The hospital is staffed by visiting general practitioners who undertake daily rounds of the hospital and participate in an on call roster for emergencies when off site.

The hospital has a small emergency department, and policies and protocols are in place to enable nursing staff trained in rural and remote nursing to initiate advanced life support (ALS) when the visiting general practitioner is off site. At least one nurse trained in ALS is rostered in the emergency department at all times.

A rapid response system is in operation in the emergency department and the ward. A set of abnormal physiological parameters trigger the emergency response system, which requires the nurse caring for the patient to press the emergency buzzer and begin basic life support whenn a patient breaches the trigger threshold.

If the call for emergency assistance occurs on the ward, a nurse from the emergency department responds to assess the patient and commence treatment under the rural clinical guidelines. The nurse in charge of the hospital also attends and is responsible for contacting the visiting general practitioner if they are off site at the time of the emergency call. The visiting general practitioner on call is then required to review the patient within 15 minutes.

If the rapid response system call occurs in the emergency department, a registered nurse from the ward attends the emergency department to provide extra clinical assistance for the emergency department nurse who is trained in ALS. The nurse in charge of the hospital also attends and is responsible for contacting the visiting general practitioner if they are off site at the time of the emergency call. The visiting general practitioner on call is then required to review the patient within 15 minutes.

how to complete this task

DECIDE >	DEVELOP >	RESOURCE >	EDUCATE >	EVALUATE

task 1 – provide a rapid response system capable of delivering specialised, timely emergency assistance to patients whose condition is deteriorating

DECIDE	▶ ▶ ▶	Decide which rapid response system model to implement Decide on the roles and responsibilities of rapid response providers
DEVELOP	▶ ▶ ▶	Include details of the rapid response system in the escalation protocol and policy Develop emergency assistance treatment protocols
RESOURCE	▶ ▶ ▶	Ensure access, at all times, to a clinician who can practise advanced life support Ensure pharmaceuticals and functioning equipment are available to provide emergency assistance
EDUCATE	▶ ▶ ▶	Educate rapid response providers to provide emergency assistance Educate rapid response providers in clinical teaching and mentorship
EVALUATE	▶ ▶ ▶	Evaluate the effectiveness of the rapid response system

DECIDE WHICH RAPID RESPONSE SYSTEM MODEL TO IMPLEMENT

DECIDE ON THE ROLES AND RESPONSIBILITIES OF RAPID RESPONSE PROVIDERS

Decisions about which type of rapid response system to implement would usually be made by health professionals responsible for clinical governance of recognition and response systems (see *Essential element 5: Organisational supports* for further information). Health professionals may find it useful to review different rapid response systems to identify one that suits the size, role, resources and staffing mix of their own facility. The purpose of rapid response systems is to ensure that all patients who deteriorate receive an immediate and appropriate response. Additional resources may be needed to ensure this can occur, and this should be a key consideration when deciding which rapid response system to implement.

Several models for the provision of rapid emergency assistance to deteriorating patients are used internationally and in Australia. These include medical emergency teams, rapid response teams, critical care outreach teams and intensive care liaison nurses.

Rapid response systems most commonly vary in the:

- type of physiological parameter used to trigger a rapid response

- value of the trigger threshold that triggers a rapid response

- composition of the response system

- scope of practice of the rapid response providers

- type of clinical care provided by the rapid response providers.

The practice point overleaf outlines some of the characteristics of different rapid response systems currently in use internationally and throughout Australia.

The purpose of rapid response systems is to ensure that all patients who deteriorate receive an immediate and appropriate response.

TASK 1

STEP 3

ESSENTIAL ELEMENT 3

01
02
03
04
05
06
07
08

STEP 3 ▷ **task 1**

PROVIDE A RAPID RESPONSE SYSTEM CAPABLE OF DELIVERING SPECIALISED, TIMELY EMERGENCY ASSISTANCE TO PATIENTS WHOSE CONDITION IS DETERIORATING

↻ practice point

Characteristics of rapid response systems

MEDICAL EMERGENCY TEAMS (MET)

This rapid response team can:

- prescribe therapy
- provide advanced airway management interventions
- establish central vascular access
- begin an intensive care unit (ICU) level of care at the bedside.[12]

These teams are usually led by a doctor.

Note: many health professionals and publications use the terms 'medical emergency team' and 'rapid response team' interchangeably. However, the staffing composition of these models may vary between facilities and may include nurse led teams, combined medical and nursing teams, or combinations that include other clinicians such as respiratory therapists.[12]

ICU LIAISON AND CRITICAL CARE OUTREACH (CCO)

The role role of ICU liaison nurses and CCO teams varies, but generally includes:[13]

- provision of critical care services to patients on general wards
- follow up of patients discharged from ICU
- formal and informal education of ward staff
- audit and evaluation of liaison or outreach activity.

ICU liaison nurses and CCO teams are usually trained to provide a rapid emergency response. They also assist in the identification and treatment of high-risk patients on the wards before a critical crisis occurs.

OTHER MODELS

Many facilities do not have access to intensive care nurses or medical specialists to enable a MET or CCO rapid response system. This has prompted the development of other systems for providing emergency assistance such as:

- using nursing or medical staff from an emergency department who are trained in advanced life support
- developing advanced practice nursing roles capable of providing emergency assistance in accordance with statewide health policies and procedures
- using local general practitioners or visiting medical officers
- using local ambulance services.

Once a rapid response system has been decided, facilities should identify and outline the roles and responsibilities of the providers, considering their scope of practice, and include this information in the facility's policy, and education and training programs.

As a minimum, the outline of the roles and responsibilities of rapid response providers should identify:

- who is responsible for ensuring that the equipment for providing emergency assistance will reach the patient
- who is responsible for directing and coordinating the multiple activities and treatments needed when providing emergency assistance
- who is responsible for communicating the consequences of the call to the healthcare team
- who has authority to make transfer decisions and access other clinicians as required
- who is responsible for making treatment-limiting decisions, and how to contact this person
- who is responsible for documenting the care provided
- who is responsible for contacting and discussing clinical deterioration with the patient, family and carer.

The implementation tip on the following page provides one example of the minimum roles and responsibilities of medical emergency team members when providing emergency assistance. An important aspect of these responsibilities is the use of triggers to identify when further escalation of care and communication with an intensivist is required.

All rapid response calls should be used as an opportunity to provide education for ward staff and students.

implementation tip

Example of roles and responsibilities when managing a medical emergency team (MET) call[15]

- Determine the aetiology of the deterioration
- Document the events surrounding the MET call (a preformatted sticker can be placed in the healthcare record for this purpose)
- Organise a management plan and appropriate medical follow up
- Ensure automatic medical referral for a surgical patient subject to a MET call for a medical reason in cases where the patient remains on the ward
- Communicate to the parent unit (or their cover) that the MET call has occurred
- Ensure review of the patient by an intensivist for a patient requiring two MET reviews in a seven day period (compulsory)
- Communicate with the intensivist if any of the following criteria are fulfilled. The:
    - patient remains unstable following initial resuscitation
    - patient requires intensive care unit (ICU) or high-dependency unit (HDU) admission
    - patient may require ICU or HDU admission in the future
    - patient has been admitted to ICU or HDU during this hospital admission
    - members of the MET are unsure how to manage the patient (i.e. the members of the MET are worried about the patient).

As part of their roles and responsibilities, rapid response providers need to understand the importance of modelling behaviours that encourage use of the system. All rapid response providers need to approach rapid response calls as an opportunity to educate and support clinicians and students.[16] This approach is vital, as nurses are less likely to activate the rapid response system if they feel unsupported or de-skilled in any way.[10]

practice point

Improving use of the medical emergency team (MET)

A literature review of the factors that affect nurses' effective use of the MET indicated that positive responses or behaviours by MET members towards nursing staff acted as a major encouragement to effective use of the system.[10]

A friendly and approachable manner from MET members also improved ward nurses' recognition of the indicators of early deterioration, leading to earlier MET activation.[10]

implementation tip

Leading successful rapid response teams

Hospitals that quickly and successfully adopted a new rapid response system displayed the following characteristics:[17]

- leadership that was described by nurses as being visibly 'out there', actively seeking input and addressing the nurses' concerns about the rapid response system
- clear unambiguous messages from leaders that the rapid response system was not optional and that it should be activated whenever indicated by the patient's condition
- effective initial training about calling criteria and procedures
- emphasis on supportive working relationships between rapid response providers and ward nurses
- unconditional support from doctors for use of the system.

DEVELOP

INCLUDE DETAILS OF THE RAPID RESPONSE SYSTEM IN THE ESCALATION PROTOCOL AND POLICY

DEVELOP EMERGENCY ASSISTANCE TREATMENT PROTOCOLS

Rapid response systems form part of a facility's escalation protocol. Details of how the system operates should also be included in the facility's escalation policy. This information should include the:

- triggers for emergency assistance

- method for activating the rapid response system

- responses, including who should attend and in what time frame

- roles and responsibilities of each clinician

- evaluation and governance arrangements.

A flow diagram summarising the process for activating the rapid response system should also be included in the escalation protocol and made available in all clinical areas (see *Essential element 2: Escalation of care* for information about escalation policies and protocols).

Treatment protocols and algorithms should be developed to outline the clinical care and therapies for conditions that need emergency treatment. These protocols help clinicians make suitable assessments and implement appropriate, evidence based treatments.

Treatment protocols and algorithms should incorporate national resuscitation guidelines and other sources of current evidence. These protocols and algorithms should be used in education and skill development programs to provide guidance for clinicians who are responsible for providing emergency assistance.

Treatment protocols and algorithms should be developed to outline the clinical care and therapies for conditions that need emergency treatment. These protocols help clinicians make suitable assessments and implement appropriate, evidence based treatments.
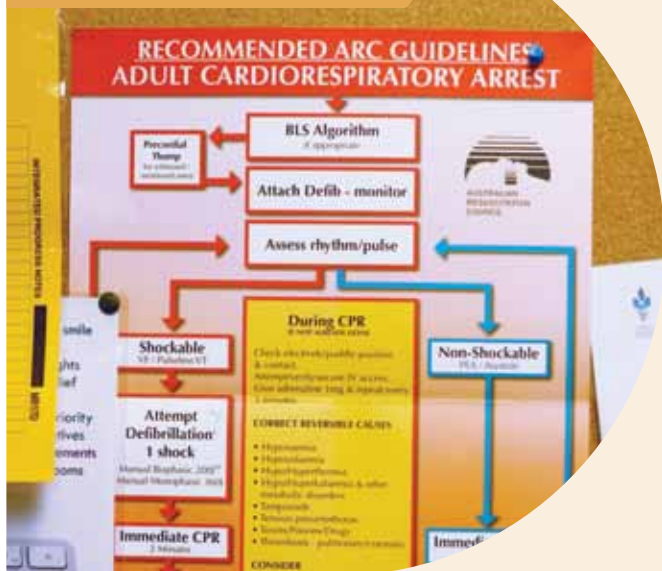
practice point

Guidelines to inform treatment protocols

A range of guidelines exist that can be used to inform the development of treatment protocols for rapid response systems.

AUSTRALIAN RESUSCITATION COUNCIL

The Australian Resuscitation Council is a voluntary coordinating body that represents all major groups involved in the teaching and practice of resuscitation. It is sponsored by the Royal Australasian College of Surgeons and the Australian and New Zealand College of Anaesthetists.

The council has produced a variety of basic and advanced life support treatment flow charts and guidelines. These are available to download from **www.resus.org.au**

INTERNATIONAL LIAISON COMMITTEE ON RESUSCITATION

The International Liaison Committee on Resuscitation (ILCOR) was formed in 1992 to provide a forum for liaison between principal resuscitation organisations worldwide. ILCOR undertakes a range of activities, including producing statements that reflect international consensus on specific issues related to resuscitation.

ILCOR's most recent publication, European Resuscitation Council Guidelines for 2010, is based on the most recent International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science with Treatment Recommendations. These guidelines provide treatment algorithms for resuscitation of babies, children and adults, and represent a widely accepted view on safe and effective resuscitation. The guidelines include information on basic and advanced life support, initial management of acute coronary syndromes, cardiac arrest in special circumstances such as drowning, the principles of education, and ethics in end-of-life decisions.

A copy of the guidelines is available from **www.erc.edu**

THE SURVIVING SEPSIS CAMPAIGN

The Surviving Sepsis Campaign is spearheaded by the European Society of Intensive Care Medicine, International Sepsis Forum and Society of Critical Care Medicine. Its aims are to improve the diagnosis, survival, and management of patients with sepsis. Care bundles and guidelines have been developed with input from international critical care societies, including the Australian and New Zealand Intensive Care Society. While there is controversy regarding some of the specific recommendations,[18–19] the principles of treating shock early, focusing on protocolised resuscitation and appropriate monitoring, and the timely administration of appropriate antibiotics are supported by available evidence. These recommendations may be useful in informing treatment protocols for deteriorating patients in whom sepsis is suspected.

A link to the guidelines and further information is available from **www.survivingsepsis.org**

implementation tip

Medical emergency team (MET) syndromes

A review of the calling criteria and clinical causes of 400 MET calls in a teaching hospital in Australia identified the most common reasons for initiating a call as:[15]

- hypoxia (41%)
- hypotension (28%)
- altered conscious state (23%)
- tachycardia (19%)
- increased respiratory rate (14%)
- oliguria (8%).

Infection, pulmonary oedema and arrhythmias were the most common clinical causes for the calls. This information may guide facilities in developing treatment protocols and algorithms.

STEP 3 ▶ task 1

PROVIDE A RAPID RESPONSE SYSTEM CAPABLE OF DELIVERING SPECIALISED, TIMELY EMERGENCY ASSISTANCE TO PATIENTS WHOSE CONDITION IS DETERIORATING

RESOURCE

Where clinicians with advanced life support skills are located off site, response times need to be rapid so that patient safety and care is not compromised.

ENSURE ACCESS, AT ALL TIMES, TO A CLINICIAN WHO CAN PRACTISE ADVANCED LIFE SUPPORT

ENSURE PHARMACEUTICALS AND FUNCTIONING EQUIPMENT ARE AVAILABLE TO PROVIDE EMERGENCY ASSISTANCE

Facilities need to ensure that rapid response systems provide access to a clinician who can practise advanced life support. All facilities will need to develop and maintain rosters or systems to enable access to this clinician at all times.

The clinician should be either on site or in close proximity to the acute care facility. Where clinicians with advanced life support skills are located off-site, response times need to be rapid so that patient safety and care is not compromised. This may require early contact of the clinician during episodes of patient deterioration, or if response times are prolonged, the capacity to have the clinician on-site.

Additional nurses and doctors may require training in advanced life support in order to ensure rapid response systems can provide this level of care 24-hours per day and during periods of staff absence, such as unexpected illness. Development of advanced clinical practice roles for rural and remote nurses may also be required to ensure emergency assistance can be provided.

⚙ implementation tip

Advanced clinical practice nursing roles

The following web sites provide information related to different advanced clinical practice nursing roles to provide emergency assistance.

Rural adult emergency clinical guidelines, 3rd edition (NSW Health)
www.health.nsw.gov.au/policies/gl/2010/pdf/ GL2010_003.pdf

A framework for the intensive care unit liaison nurse in Victorian health services
www.health.vic.gov.au/criticalcare/icu_nurse.pdf

Health management protocols for nurse practitioners: Queensland health facilities
www.health.qld.gov.au/ocno/nurseprac/hmp_qh.asp

Primary clinical care manual 2009, 6th edition (Queensland Health)
www.health.qld.gov.au/pccm

When implementing rapid response systems, facilities need to consider what equipment is required for assessing, monitoring and treating severe deterioration. Consider where the equipment is located, and who is responsible for obtaining and restocking the equipment.

Equipment for providing emergency assistance must be adequately maintained to provide safe and effective emergency assistance. Regular equipment safety checks are essential and should occur frequently, with ongoing monitoring for compliance to ensure that checks are being done. The practice point below demonstrates the importance of monitoring compliance with emergency equipment safety checking procedures.

practice point

Improving performance by changing the way equipment is organised

A hospital undertook an audit of emergency equipment and pharmaceutical safety checking procedures. The audit identified that:

- checks were incomplete and some pharmaceuticals were out of date
- 80% of staff felt it was not their role to 'check the trolley'
- there was often a 2-hour delay between use and restocking, as the trolley was located away from the ward
- equipment was messy and difficult to find.

The emergency trolley was reorganised and equipment refined as part of a quality improvement project. Additional trolleys were purchased and emergency equipment was stored in the same location and manner in every trolley throughout the hospital. Photographs of the trolley layout were provided to help staff with safety checking processes.

The project resulted in:

- a cost saving of $4260.60 from the review of equipment and pharmaceuticals
- 90% compliance with safety checks by staff
- reduced time taken to check the trolley and equipment, from 2 hours to 14 minutes.

J.Wade, Cabrini Health, personal communication, 2010

implementation tip

Emergency equipment

An alternative option to storing all emergency equipment and pharmaceuticals on cardiac arrest trolleys is for rapid response team members to bring equipment relevant to their advanced roles in a back-pack or trolley.

The perceived advantage of this approach is that rapid response system members can:

- regularly review equipment needs
- ensure adequate stocks
- guarantee that equipment is always ready and available for use.

The following image shows one example of an emergency trolley for providing emergency assistance. The list of the trolley contents is available on the Commission's web site.

D. Jones, Austin Hospital, personal communication, 2010

01
02
03
04
05
06
07
08

EDUCATE

EDUCATE RAPID RESPONSE PROVIDERS TO PROVIDE EMERGENCY ASSISTANCE

EDUCATE RAPID RESPONSE PROVIDERS IN CLINICAL TEACHING AND MENTORSHIP

Education and training are essential if clinicians are to provide safe and appropriate emergency assistance to deteriorating patients. As a minimum, all clinicians who provide emergency assistance – individually or as part of a team – need education and training that includes information and practical exercises on:

- accessing the clinician trained in advanced life support if they are not already part of the rapid response

- performing a rapid initial assessment of the patient to identify immediately life-threatening conditions

- performing basic resuscitation skills

- undertaking a detailed evaluation of the crisis

- using monitoring and other equipment

- initiating therapies, either within the scope of practice or in consultation with another suitably qualified clinician

- communication and teamwork

- considering legal and ethical issues related to emergency assistance, treatment-limiting decisions, advance care directives and end-of-life care

- recognising clinical conditions that may require patient transfer to another clinical area or facility.[11,15,20]

The education and training should include theory and some form of simulation or supervised clinical activity to ensure that clinicians are proficient in the clinical skills required to provide emergency assistance.[20] Rural and remote facilities that do not have access to simulation-based training may consider developing partnerships with larger facilities that enable clinicians to access their services on a regular basis to maintain their emergency skills.

Knowledge and skill retention declines within three to six months of basic and advanced life support training.[20] Clinicians need refresher training to maintain knowledge and skills, although the optimal frequency for this training is still unclear.[20] Facilities need to either develop processes for identifying clinicians who need retraining (such as through frequent assessment of performance), or develop regular mandatory training schedules to ensure the knowledge and skills to provide emergency assistance are maintained.[20]

⟳ practice point

Advantages of simulation training

Simulation is one method for training clinicians in the provision of emergency assistance. Advantages include the following:[21]

- *'No risk to patients*

- *Many scenarios can be presented, including uncommon but critical situations in which a rapid response is needed*

- *Participants can see the results of their decisions and actions; errors can be allowed to occur and reach their conclusion (in real life a more capable clinician would have to intervene)*

- *Identical scenarios can be presented to different clinicians or teams*

- *The underlying causes of the situation are known*

- *With mannequin based simulators clinicians can use actual medical equipment, exposing limitations in the human-machine interface*

- *With full re-creations of actual clinical environments complete interpersonal interactions with other clinical staff can be explored, and training on teamwork, leadership, and communication provided*

- *Intensive and intrusive recording of the simulation session is feasible, including audiotaping, videotaping, and even physiological monitoring of participants (such as electrocardiography or electroencephalography); there are no issues of patient confidentiality – the recordings can be preserved for research, performance assessment, or accreditation.'*

implementation tip

Debriefing and calls for emergency assistance

Debriefing is a technique to assist individuals and teams to reflect on and improve performance. It is focused on the needs of the participants and is designed to be non-threatening. Teams should consider including debriefing practice during training, as well as after calls for emergency assistance, to review and improve performance.

implementation tip

Rating medical emergency teamwork performance

Effective emergency assistance requires technical and non-technical skills such as communication and teamwork.

A non-technical observation tool called the Team Emergency Assessment Measure (TEAM) has undergone pilot testing in Australia and appears to be a valid and reliable tool for assessing teamwork in resuscitation teams.[22] Facilities may like to use this tool when educating and evaluating rapid response system teams.

Clinicians who are responsible for providing advanced life support will need to gain accreditation and proficiency in these clinical skills. Various training programs are available for advanced life support accreditation. Links to some of these courses are provided in the implementation tip below.

All rapid response providers have a responsibility to use emergency response calls as an educational opportunity for other health professionals and students. It is important that rapid response providers interact with and teach other clinicians using appropriate techniques and mentoring strategies. This will require education and training, and facilities should therefore encourage rapid response providers to improve their teaching and training skills. Strategies may include attendance at preceptor workshops, or training to run simulation and skill development programs.

implementation tip

Advanced life support

The following web sites have information on advanced life support education and training. Many public and private health services also provide advanced life support training.

Australian Resuscitation Council **www.resus.org.au**

Queensland Ambulance Service **www.ambulance.qld.gov.au/firstaid/medical.asp**

The College of Nursing **www.nursing.edu.au/Home**

Australian College of Critical Care Nurses **www.acccn.com.au**

Royal Australasian College of Surgeons **www.surgeons.org/racs/education--trainees/skills-training**

Australian and New Zealand College of Anaesthetists **www.anzca.edu.au/trainees/courses**

Australian College of Rural and Remote Medicine **www.acrrm.org.au**

Advanced Paediatric Life Support **www.apls.org.au**

Teamwork and communication are also important for the safe delivery of emergency assistance. All clinicians who provide emergency assistance should have an opportunity to develop and practise these skills. Each rapid response call should be used to reflect on teamwork and communication practices, and be viewed as an opportunity to identify areas and strategies for improvement.

EVALUATE

EVALUATE THE EFFECTIVENESS OF THE RAPID RESPONSE SYSTEM

When first implementing a rapid response system, it is important to trial the system before setting a 'go live' date. This process is an important first step for ensuring the system operates as planned. It clarifies whether communication processes are working effectively, and identifies if all members of the system know their roles and responsibilities. A trial will also provide opportunities for further education.

Trial the system before setting a 'go live' date. This process is an important first step for ensuring the system operates as planned. It clarifies whether communication processes are working effectively, and identifies if all members of the system know their roles and responsibilities.

⚙ implementation tip

Rapid response call data collection forms

Good data is crucial to evaluating the effectiveness of rapid response systems (see *Essential element 7: Evaluation, audit and feedback*). Rapid response call data collection must be a streamlined process. If data collection forms are poorly designed or overwhelmingly detailed, compliance in filling them out may be poor and the quality of data may be compromised.

To optimise compliance with data collection about rapid response calls, you should:

- ensure data collection forms are quick and easy to complete (e.g. use tick boxes)
- ensure data collection forms are readily available
- assign responsibility for completing data collection forms to a specified member of the rapid response team
- design the form to collect information in the order that it is gathered (e.g. according to the handover or physical assessment framework in use).

An example of a rapid response team data collection form can be found on the Commission's web site.

Many studies have identified that rapid response systems are often underused by staff, delaying patients' access to emergency assistance.[10] Therefore, evaluation should include process measures (i.e. is the system performing as expected or desired?) and outcome measures (i.e. did the system have an impact on patient outcomes?).[11]

Process measures may include:

- appropriateness of the trigger thresholds for activating the rapid response system (see *Essential element 2: Escalation of care* for further details)

- reasons for triggering activation (this may inform the development of treatment protocols)

- failures or delays in activating the rapid response system (e.g. number of cardiac arrests and unplanned transfers to higher levels of care where the system should have been activated, but was either not activated or activation was delayed)

- time from activation of the rapid response system to response (this will be particularly useful during early implementation of the system)

- transfer times from ward to higher level care

- team performance and clinician satisfaction with the rapid response system

- daily variations in calls to the rapid response system (e.g. time of day and day of the week that calls are made).

Outcome measures may include:

- number of rapid response system calls

- adverse events and clinical incidents or near misses

- number of rapid response system calls to patients within 24 hours of admission

- cardiac arrest rates

- number of deaths in patients who do not have a 'not for resuscitation order' or other treatment limitation

- number of unplanned transfers to higher level care

- number of intensive care unit readmissions

- number of repeat rapid response system calls for the same patient.

Many of these outcome measures are often reported per 1000 hospital admissions or separations. This enables comparisons between organisations and the current literature.

Evaluation of the rapid response system should also include review of equipment, restocking practices and compliance with emergency treatment protocols and algorithms. As a minimum, emergency assistance treatment protocols and algorithms should be evaluated annually to ensure compliance with current national guidelines and evidence.

Specifications for some quality measures that can be used when evaluating rapid response systems are available in Appendix B.

implementation tip

ILCOR data collection recommendations

In 2007, the International Liaison Committee on Resuscitation (ILCOR) developed a consensus statement identifying the core data elements for monitoring, reporting and conducting research on medical emergency teams, critical care outreach and rapid response systems. This information is designed to help hospitals collect the most meaningful data to optimise system interventions and improve patient outcomes.

A link to this data collection tool is included in Appendix C.

why this task is important

This task is needed because:

- rapid response systems are not always activated, despite patients showing signs of severe clinical deterioration

- poor use of rapid response systems places patients at risk of increased mortality and morbidity

- clinical care can be fragmented if clinicians are not aware of their roles and responsibilities when providing emergency assistance.

Patients whose condition is deteriorating need timely and appropriate emergency care. There should be a seamless transition in care between the healthcare team – who are familiar with the patient's clinical problems, preferences and treatment requirements – and clinicians who provide emergency assistance.

Rapid response systems need to operate as an extension of the care provided by individual clinical areas and clinicians to ensure patients receive appropriate care. However, rapid response systems can be met with scepticism, and are often underused.[11]

Effective use of rapid response systems requires all members of the healthcare team to understand the system's purpose and benefits. Nurses with less experience in emergency situations are more anxious about activating rapid response systems.[10,23] Similarly, clinicians may respond negatively towards staff who activate rapid response systems if they do not understand the purpose and benefits for patients.[23]

Effective use of rapid response systems requires all members of the healthcare team to understand the system's purpose and benefits.

learning from coronial inquests

Dangers of not understanding the rapid response system

Susannah McLevie was a 38-year-old woman who developed a post-partum bacterial infection. She developed fever, hypotension and severe pain following the delivery of her healthy baby girl. Despite meeting the hospital medical emergency call criteria on at least two occasions, no call was made. Within 28 hours of delivering her baby, Susannah died after attempts at resuscitating her from asystolic arrest were unsuccessful.

The nurse reported she 'was not aware of the Code Blue criteria and because the deceased had not collapsed and was able to talk, she did not consider that her condition was sufficiently serious to warrant the calling of a medical emergency.'[24]

'I recommend that training for both medical and nursing practitioners should provide greater focus on appreciation of the significance of vital sign observations and a proper understanding of the criteria which constitute a medical emergency.'[24]

Effective teamwork requires good communication, respect and courtesy. Rapid response providers must operate in partnership with the healthcare team to ensure that patients receive the timely emergency assistance and ongoing care they require. Poor communication between rapid response providers and other clinicians, or uncooperative behaviour, will reduce team effectiveness and potentially hinder the rapid response.

In some cases, rapid response systems may be activated without the healthcare team being made aware of the call. This has the potential to fragment care, and places patients at risk of delays in follow-up care and treatments (e.g. review and treatment of diagnostics such as pathology and X-rays). These delays can contribute to further episodes of clinical deterioration.

case review

Fragmented patient care

Mr Alan Richards was a 59-year-old man admitted for repair of his inguinal hernia. Several hours after his return from theatre, Mr Richards' blood pressure dropped to 85/35 mmHg and his heart rate increased. Nurses activated the rapid response system. Mr Richards was assessed, found to be hypovolaemic and was administered a bolus of IV fluids; his current IV fluid rate was also increased. His blood pressure improved to 105/65 mmHg. The rapid response team documented their actions in Mr Richards' healthcare record, but they did not inform the attending medical officer or healthcare team of the call.

Mr Richards' IV fluids finished and nurses started the next bag. Four hours later, Mr Richards' blood pressure had dropped to 82/37 mmHg and he began to complain of central chest heaviness. Nurses activated the rapid response system again; another bolus of IV fluids was administered, which resolved his chest heaviness, and bloods for pathology were taken. The attending medical officer and the healthcare team were then contacted. Mr Richards' ongoing fluid management plan was revised at this time. Another medical review was scheduled in one hour to monitor his response and review his pathology results.

It is possible that Mr Richards may not have needed the second rapid response call if the attending medical officer or healthcare team had been informed of the first call, which would have provided an opportunity to review his response and the ongoing management of IV fluids.

It is important to consider practical ways to foster effective team relationships between rapid response providers and healthcare teams on the ward. A lack of teamwork can contribute to poor outcomes for patients. In New South Wales, the coroner's report into the death of a 16–year-old girl, Vanessa Anderson, triggered a Special Commission of Enquiry led by Peter Garling.[25] Commissioner Garling made a number of recommendations that referred to the need for healthcare professionals to develop more effective ways of working in teams. He said in his report that 'a new model of teamwork will be required to replace the old individual and independent "silos" of professional care.'[25]

It is important to consider practical ways to foster effective team relationships between rapid response providers and healthcare teams on the ward. A lack of teamwork can contribute to poor outcomes for patients.

TASK 2 · STEP 3 · ESSENTIAL ELEMENT 3

01
02
03
04
05
06
07
08

PAGE 165

practice point

TeamFirst: A framework for effective teams

Healthcare teams are complex, and teamwork can be compromised by issues such as uncertainty regarding role expectations or failure to use common processes. It can be helpful to map the interrelated components of healthcare provision and use practical tools to foster effective teamworking practices. The TeamFirst framework illustrated below was developed as a way to support healthcare teams to identify and develop ways to work together more effectively. It has been successfully implemented in a number of hospitals.

TEAMFIRST FRAMEWORK AND PRACTICAL TOOLS

NUM role redefined Interdisciplinary leadership (nursing, medical and allied health)

Uniforms
Name badges
Ward notices
Ward rounds

Care planning with objectives
Care navigation

LEADERSHIP AND GOVERNANCE

TEAM STRUCTURE AND DYNAMICS

CARE PLANNING AND CO-ORDINATION & DELIVERY

Handover checklists
Standard observation chart

STANDARD PROTOCOLS AND PROCEDURES

PATIENT EXPERIENCE

Asking, listening and responding
Complaints management

EXCELLENT CARE

INFORMATION ACCESS

PATIENT SAFETY AND QUALITY SYSTEMS

Electronic medical record
Decision support

Incident reporting and review
Risk register
Prioritisation

EDUCATION, TRAINING AND SUPERVISION

SUPPORT SERVICES AND EQUIPMENT

WORKFORCE MANAGEMENT

Core skills training

Supplies management
Prioritisation of equipment

Rostering for seniority
Skill balance

C. Pain, NSW Clinical Excellence Commission, personal communication, 2011

how to complete this task

| DECIDE | DEVELOP | RESOURCE | EDUCATE | EVALUATE |

task 2 – ensure rapid response systems operate in partnership with, and as an extension of, the healthcare team

DECIDE	▶ ▶ ▶	Define the roles and responsibilities of clinicians who activate the rapid response system
DEVELOP	▶ ▶ ▶	Develop agreed communication processes and include in the escalation policy or similar document
RESOURCE	▶ ▶ ▶	Ensure there is a health professional with overall responsibility for the rapid response system
EDUCATE	▶ ▶ ▶	Educate clinicians on use of the rapid response system
EVALUATE	▶ ▶ ▶	Include rapid response providers in evaluation processes Evaluate clinicians' awareness and perception of the rapid response system

DECIDE

DEFINE THE ROLES AND RESPONSIBILITIES OF CLINICIANS WHO ACTIVATE THE RAPID RESPONSE SYSTEM

Each member of the healthcare team has different roles and responsibilities after activation of the rapid response system. Identifying and defining these roles and responsibilities may help to reduce confusion, promote teamwork, and ensure emergency assistance and ongoing patient care is provided.

It is important for facilities to identify the roles and responsibilities of ward nurses and the attending medical officer or team when developing rapid response systems. This process should involve clinicians from areas where the rapid response system will operate, as well as rapid response providers.

Important roles and responsibilities of ward nurses, attending medical officers and teams to be included in escalation policies or similar documents may include:[1]
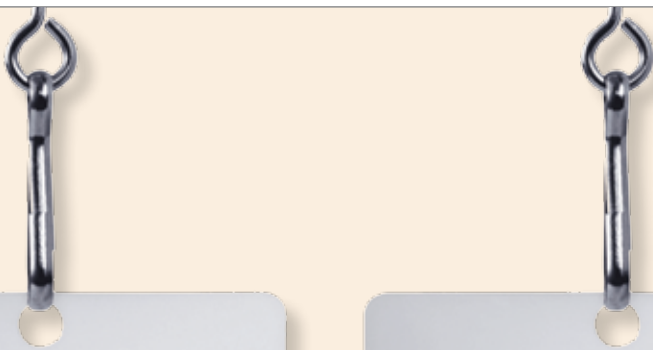
- remaining with the patient and starting further assessments, basic life support and other therapies while waiting for the rapid response team to arrive

- providing a structured handover of information on the clinical condition of the patient and reasons for activating the system to the clinicians providing emergency assistance

- ensuring the attending medical officer or team attends, where possible, to assist and to learn from the rapid response team.

This information should also be incorporated into education programs and orientation sessions for rapid response systems.

It is important for facilities to identify the roles and responsibilities of ward nurses and the attending medical officer or team when developing rapid response systems.

⚙ implementation tip

Documenting roles of clinicians who activate the rapid response system

Consider displaying agreed roles and responsibilities at the point of care. One way of doing this could be to provide clinicians with cards that can be hung on a lanyard outlining the responses required after activation of the system. An example of such a card follows.

Actions to consider while awaiting assistance

NURSE TO CONSIDER:

- Give O^2
- Sit patient upright
- Assess level of consciousness
- Check blood sugar level
- 12 lead ECG
- Review analgesia
- Review drug charts
- Calculate fluid balance

Actions to consider while awaiting assistance

DOCTOR TO CONSIDER:

- Review vital sign trends
- CPR status
- IV access
- Fluids
- ABG
- Full bloods
- CXR
- Electrolyte replacement

01
02
03
04
05
06
07
08

DEVELOP

DEVELOP AGREED COMMUNICATION PROCESSES AND INCLUDE IN THE ESCALATION POLICY OR SIMILAR DOCUMENT

Effective communication processes promote teamwork and play an important role in ensuring rapid response systems are seamlessly integrated into usual processes of care. Communication is discussed in more detail in *Essential element 4: Clinical communication*.

Rapid response providers and attending medical officers and teams need to agree on processes for communication before implementing rapid response systems. It is important for rapid response providers to notify the attending medical officer or team as soon as practical after a rapid response call. This ensures patient care is planned in partnership with the clinicians who have primary responsibility for the patient, and who are familiar with the patient's clinical problems, preferences and treatments.

When developing agreed communication processes, health professionals should consider:

- which rapid response provider will communicate with the attending medical officer or team

- the minimum amount of information to be communicated

- what to do if they cannot contact the medical officer or team.

Rapid response providers and clinicians on the ward should use a structured communication tool to ensure effective transfer of information. This may include use of a mnemonic device or documentation tool. Verbal communication and documentation in the patient's healthcare record must be comprehensive, outlining the emergency assistance provided, abnormal results, results pending, and an agreed monitoring and management plan.

⚙ implementation tip

Communicating the activation of a medical emergency team (MET) call

This is an example of a form that is is printed as an A5 sticker to be placed in the patient's notes after the activation of a MET call.

> **This patient had a MET call at:**
>
> _ _ : _ _ hours on   _ _ / _ _ / _ _ _ _
>
> Attended by: ICU Reg Dr _____
>
>   ICU RN   _____
>
>   Med Reg Dr _____
>
> Reason for call:
>
> Plan: Transfer to ICU / HDU / Other (circle)
>
>   Remain on the ward and for follow up by:
>
> Dr: Position:
>
> Parent unit notified (Dr _____) at:
>
> _ _ : _ _ hours on   _ _ / _ _ / _ _ _ _
>
> Issues to be addressed by parent unit:
>
> 1.
>
> 2.
>
> See full MET notes below...
>
> Name & Position (eg HMO/Reg):
>
> Signature

D. Jones, Austin Hospital, personal communication, 2011

practice point

Example of a rapid response system communication agreement

There are two members on this hospital's rapid response team. During usual hospital business hours, the team comprises a doctor and a nurse. After hours, two registered nurses – one of whom is trained in advanced life support – form the rapid response team.

The rapid response team registered nurse:

- listens to handover from ward staff on why the call has been made
- contacts or delegates responsibility to someone for contacting the attending medical officer or healthcare team to notify them of the call, and inform them that their attendance at the patient's bedside is required
- provides handover to the receiving ward/clinical area or retrieval team if the patient requires transfer, using the structured mnemonic ISBAR (introduction, situation, background, assessment, recommendation).

The rapid response system doctor or advanced life support nurse:

- listens to handover from ward staff on why the call has been made
- liaises with the attending medical officer (in person or via phone) as soon as possible to report assessment findings and treatments
- documents emergency assessment, treatments and ongoing plans in the patient's healthcare record
- provides handover to the receiving ward/clinical area or retrieval team if the patient requires transfer, using the structured mnemonic ISBAR.

The registered nurse from the ward responsible for the patient:

- provides handover to the rapid response team on their arrival using the structured mnemonic ISBAR
- delegates responsibility to someone for contacting the patient's family or carer
- documents all treatments provided during the rapid response call on the resuscitation form
- documents the events leading up to the rapid response call in the patient's healthcare record.

The attending medical officer or healthcare team must ensure that they document sufficient information in the patient's healthcare record as part of the general care of the patient. This enables rapid response providers to identify the patient's history, presenting and ongoing problems, and any treatment-limiting decisions that have been made.

No system is without errors or problems. Therefore, it is important that rapid response providers and the healthcare team agree in advance on processes for communicating and addressing any issues that may arise. Facilities should develop communication processes to enable clinicians to discuss the management of patient deterioration and operation of the rapid response system. This may include regular meetings, or less formal processes, such as informal ward visits. This planned approach may help promote a culture of teamwork and help to quickly resolve any problems that may arise.

No system is without errors or problems. Therefore, it is important that rapid response providers and the healthcare team agree in advance on processes for communicating and addressing any issues that may arise.

RESOURCE

ENSURE THERE IS A HEALTH PROFESSIONAL WITH OVERALL RESPONSIBILITY FOR THE RAPID RESPONSE SYSTEM

Ensuring there is a health professional with responsibility for the day-to-day operation of the rapid response system provides a mechanism for making sure resources, education and evaluation are considered, and resolving any immediate problems with the system. This is an essential part of the clinical governance framework for recognition and response systems. More detail about the governance requirements for recognition and response systems is included in *Essential element 5: Organisational supports*.

The responsible health professional also plays a key role in ensuring successful integration of the rapid response system, acting as a conduit between healthcare teams and the rapid response system.

Ensuring there is a health professional with responsibility for the day-to-day operation of the rapid response system provides a mechanism for making sure resources, education and evaluation are considered, and resolving any immediate problems with the system.

EDUCATE

EDUCATE CLINICIANS ON USE OF THE RAPID RESPONSE SYSTEM

All members of the healthcare team should understand the importance and benefits of activating the rapid response system when they identify clinical deterioration. Similarly, clinicians also need to know:

• when to activate the rapid response system

• how to activate the rapid response system

• what to do while waiting for the emergency response

• how to assist the rapid response providers.

Education and training programs should consider the role and clinical skills associated with each clinician's scope of practice.

All clinicians working in acute care facilities should receive this education when they begin their employment. Rapid response systems are activated more often when clinicians receive ongoing education on the principles, theory, and purpose of the system.[10] Facilities should therefore provide ongoing education on the use of the rapid response system, such as during morbidity and mortality meetings, peer review, and other educational forums.

Rapid response systems are activated more often when clinicians receive ongoing education on the principles, theory and purpose of the system.

EVALUATE

INCLUDE RAPID RESPONSE PROVIDERS IN EVALUATION PROCESSES

EVALUATE CLINICIANS' AWARENESS AND PERCEPTION OF THE RAPID RESPONSE SYSTEM

Including rapid response providers in evaluation processes – such as clinical reviews, morbidity and mortality meetings, and other peer review processes – promotes a team approach to managing clinical deterioration and confirms the important role that rapid response providers play in providing care to patients.

This team approach provides opportunities to draw from each clinician's areas of expertise, helps all parties to understand how various clinical areas operate, and enables communication and identification of solutions for any system problems that may arise.

Ensuring clinicians have access to evaluation data from rapid response systems is also important. Data feedback provides clinicians with an opportunity to engage with the system, and may help promote ownership of any problems that arise from evaluation of the system.

One of the most important measures of the success of a rapid response system is its use by clinical areas. Many studies describe the behaviours, attitudes and circumstances that influence nurses' use of rapid response systems. The practice point on the following page describes some of the factors that encourage and inhibit use of rapid response systems – this may help facilities communicate desired behaviours to health professionals. A staff evaluation survey based on these factors is available on the Commission's web site.

This team approach provides opportunities to draw from each clinician's areas of expertise, helps all parties to understand how various clinical areas operate, and enables communication and identification of solutions for any system problems that may arise.

practice point

Factors that have an impact on nurses' effective use of the medical emergency team (MET)

Facilities should strive to achieve a culture that encourages and rewards nurses for activating the rapid response system. The following factors either encourage or discourage use of the MET by nurses.[10]

FACTORS THAT ENCOURAGE NURSES TO ACTIVATE THE MET

- Ongoing education on the MET system

- Expertise from clinical experience and more than five years' clinical experience

- Positive responses or behaviours by MET members

- Positive support by ward doctors

- Positive support by ward nurses

- Familiarity and knowledge of the patient

- Heavy workload that encouraged nurses to call for additional assistance.

FACTORS THAT DISCOURAGE NURSES ACTIVATING THE MET

- Lack of education on the MET system

- Inexperience, lack of confidence and less than five years' clinical experience

- Negative responses or behaviours by MET members

- Allegiance to the attending medical officer or team and/or negative responses or behaviours demonstrated by the attending medical officer or team in relation to MET activation

- Negative responses from ward nurses

- Unfamiliarity with the patient, which may delay activation of the MET

- High nurse stress levels as a result of unmanageable workloads.

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
⊙ **task 1** **Provide a rapid response system capable of delivering specialised, timely emergency assistance to patients whose condition is deteriorating**	**DECIDE** Decide which rapid response system model to implement Decide on the roles and responsibilities of rapid response providers	Health service executive and owners Health service managers Health professionals with responsibility for policy or quality improvement Clinicians	3.1 Some form of rapid response system should exist to ensure that specialised and timely care is available to patients whose condition is deteriorating 3.3 The nature of the rapid response system needs to be appropriate to the size, role, resources and staffing mix of the acute health care facility 3.4 The clinicians providing emergency assistance as part of the rapid response system should: • be available to respond within agreed timeframes. • be able to assess the patient and provide a provisional diagnosis • be able to undertake appropriate initial therapeutic intervention • be able to stabilise and maintain the patient pending definitive disposition	9.1.2 Policies, procedures and/or protocols for the organisation are implemented in areas such as: • establishment of a rapid response system
	DEVELOP Include details of the rapid response system in the escalation protocol and policy Develop emergency assistance treatment protocols	Health service managers Health professionals with responsibility for policy or quality improvement Clinicians	3.2 Criteria for triggering the rapid response system should be included in the escalation protocol 3.4 The clinicians providing emergency assistance as part of the rapid response system should: • be able to undertake appropriate initial therapeutic intervention • be able to stabilise and maintain the patient pending definitive disposition	9.5.1 Criteria for triggering a call for emergency assistance are included in the escalation policies, procedures and/or protocols

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
⊙ **task 1** **Provide a rapid response system capable of delivering specialised, timely emergency assistance to patients whose condition is deteriorating**			3.6 The clinicians providing emergency assistance should have access to a staff member of sufficient seniority to make treatment-limiting decisions. Where possible, these decisions should be made with input from the patient, family and the attending medical officer or team 3.7 In cases where patients need to be transferred to another site to receive emergency assistance, appropriate care needs to be provided to support them until such assistance is available	
	RESOURCE Ensure access, at all times, to a clinician who can practise advanced life support Ensure pharmaceuticals and functioning equipment are available to provide emergency assistance	Health service executive and owners Health service managers Clinicians	3.5 As part of the rapid response system there should be access, at all times, to at least one clinician, either on-site or in close proximity, who can practise advanced life support 5.7 Organisations should have systems in place to ensure that the resources required to provide emergency assistance (such as equipment and pharmaceuticals) are always operational and available	9.6.2 A system is in place for ensuring access at all times to at least one clinician, either on-site or in close proximity, who can practise advanced life support
	EDUCATE Educate rapid response providers to provide emergency assistance Educate rapid response providers in clinical teaching and mentorship	Health service managers Educators Clinicians	3.9 All opportunities should be taken by the clinicians providing emergency assistance to use the call as an educational opportunity for ward staff and students 6.3 As part of the rapid response system, competency in advanced life support should be ensured for sufficient clinicians who provide emergency assistance to guarantee access to these skills according to local protocols	1.4.1 Orientation and ongoing training programs provide the workforce with the skill and information needed to fulfil their safety and quality roles and responsibilities 1.4.2 Annual mandatory training programs to meet the requirements of these standards 1.4.4 Competency-based training is provided to the clinical workforce to improve safety and quality

summary of tasks and actions for essential element 3

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
⏺ **task 1** **Provide a rapid response system capable of delivering specialised, timely emergency assistance to patients whose condition is deteriorating**				9.6.2 A system is in place for ensuring access at all times to a least one clinician, either on-site or in close proximity, who can practise advanced life support
	EVALUATE Evaluate the effectiveness of the rapid response system	Health professionals with responsibility for policy or quality improvement Health service managers Clinicians	3.11 Events surrounding the call for emergency assistance and actions resulting from the call should be documented in the healthcare record and considered as part of ongoing quality improvement processes 7.1 Data should be collected and reviewed locally and over time regarding the implementation and effectiveness of recognition and response systems 7.4 The following data should be collected for each call for emergency assistance that is made to the rapid response system: • patient demographics • date and time of call, response time and stand down time • the reason for the call • the treatment or intervention provided • outcomes of the call, including disposition of the patient	9.2.1 Feedback is actively sought from the clinical workforce on the responsiveness of the recognition and response systems 9.5.2 The circumstances and outcome of calls for emergency assistance are regularly reviewed
⏺ **task 2** **Ensure rapid response systems operate in partnership with, and as an extension of, the healthcare team**	**DECIDE** Define the roles and responsibilities of clinicians who activate the rapid response system	Health professionals with responsibility for policy or quality improvement Health service managers Clinicians	6.2 All doctors and nurses should be able to: • initiate appropriate early interventions for patients who are deteriorating • respond with life-sustaining measures in the event of severe or rapid deterioration, pending the arrival of emergency assistance	1.3.1 Workforce are aware of their delegated safety and quality roles and responsibilities 1.3.3 Agency or locum workforce are aware of their designated roles and responsibilities

summary of tasks and actions for essential element 3

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
⊙ **task 2** **Ensure rapid response systems operate in partnership with, and as an extension of, the healthcare team**			• communicate information about clinical deterioration in a structured and effective way to the attending medical officer or team, to clinicians providing emergency assistance, and to patients, families and carers	
	DEVELOP Develop agreed communication processes and include in the escalation policy or similar document	Health professionals with responsibility for policy or quality improvement Health service managers Clinicians	3.8 When a call is made for emergency assistance, the attending medical officer or team should be notified as soon as practicable that the call has been made, and where possible they should attend to support and learn from the clinicians providing assistance 3.10 The clinicians providing emergency assistance should communicate in an appropriate, detailed and structured way with the attending medical officer or team about the consequences of the call, including documenting information in the health care record	9.1.2 Policies, procedures and/or protocols for the organisation are implemented in areas such as: • communication about clinical deterioration
	RESOURCE Ensure there is a health professional with overall responsibility for the rapid response system	Health service boards, executives and owners Health service managers	5.6 A formal governance process (such as a committee) should oversee the development, implementation and ongoing review of recognition and response systems	9.6.2 A system is in place for ensuring access at all times to at least one clinician, either on-site or in close proximity, who can practise advanced life support

summary of tasks and actions for essential element 3

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
◑ **task 2** **Ensure rapid response systems operate in partnership with, and as an extension of, the healthcare team**	**EDUCATE** Educate clinicians on use of the rapid response system	Clinicians Educators Health service managers	6.1 All clinical and non-clinical staff should receive education about the local escalation protocol relevant to their position. They should know how to call for emergency assistance if they have any concerns about a patient, and know that they should call under these circumstances. This information should be provided at the commencement of employment and as part of regular refresher training	1.4.1 Orientation and ongoing training programs provide the workforce with the skill and information needed to fulfil their safety and quality roles and responsibilities 1.4.2 Annual mandatory training programs to meet the requirement of these standards 1.4.3 Locum and agency workforce have the necessary information, training and orientation to the workplace to fulfil their safety and quality roles and responsibilities 1.4.4 Competency-based training is provided to the clinical workforce to improve safety and quality
	EVALUATE Include rapid response providers in evaluation processes Evaluate clinicians' awareness and perception of the rapid response system	Health service managers Health professionals with responsibility for policy or quality improvement Clinicians	7.1 Data should be collected and reviewed locally and over time regarding the implementation and effectiveness of recognition and response systems 7.8 As part of the implementation of new systems, feedback should be obtained from frontline staff about the barriers and enablers to change. Issues and difficulties regarding implementation should be considered for different settings	9.2.1 Feedback is actively sought from the clinical workforce on the responsiveness of the recognition and response systems 9.5.2 The circumstances and outcome of calls for emergency assistance are regularly reviewed

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essential element 4

CLINICAL COMMUNICATION

clinical communication

the problem

Effective clinical communication about patient deterioration is a complex process. It includes knowing who to contact when a patient's condition deteriorates, what information is important to convey, and how to convey this information effectively.

Poor written and verbal communication between clinicians is a leading cause of adverse events in health care.

Many hospitals in Australia do not have clear policies related to communication.

Patients can experience delays in receiving the treatment they need if agreed communication processes are not in place.

Patients, families and carers often identify signs of deterioration and report this to clinicians, but little action may be taken.

goals of this essential element

Verbal and written information to support recognition and response to clinical deterioration is comprehensive, timely and accurate.

Patient, family and carer concerns about possible deterioration are valued and acted on by clinicians.

what you need to do

Develop agreed communication processes (written and verbal) to support recognition and response systems.

Develop systems for communicating with patients, families and carers about possible deterioration.

common terms used in this essential element

Handover: 'the transfer of professional responsibility and accountability for some or all aspects of care for a patient, or group of patients, to another person or professional group on a temporary or permanent basis.'[1]

Mnemonic: memory devices that help recall larger pieces of information, especially in the form of lists such as characteristics, steps, stages, parts or phases. They can include phrases, acronyms, and rhymes.

consensus statement recommendations

essential element 4: clinical communication

4.1 Formal communication protocols should be used to improve the functioning of teams when caring for a patient whose condition is deteriorating.

4.2 The value of information about possible deterioration from the patient, family or carer should be recognised.

4.3 Information about deterioration should be communicated to the patient, family or carer in a timely and ongoing way.

4.4 There should be adequate communication and discussion about the wishes of the patient regarding advanced care planning, resuscitation and other active treatment.

4.5 Structured handover processes, including documentation of handovers, should be used for all patients.

4.6 The handover protocol used should include information about the most recent observations and clinical assessment.

4.7 Handover procedures should include the identification of patients who are deteriorating and communication of information that is relevant to their management.

STEP 1 roles and responsibilities

Who is responsible?
How does this element apply to your role(s)?
What clinical areas does this element apply to?

A variety of health professionals are involved in developing and implementing communication processes to improve recognition and response to clinical deterioration. To change practice and improve clinical communication systems, it is necessary to determine who will be responsible for undertaking the tasks required for this essential element.

table 5 ▸ ROLES AND RESPONSIBILITIES RELATING TO CLINICAL COMMUNICATION

Clinical areas involved in communicating about clinical deterioration	People involved in communicating about clinical deterioration	
	Role	Responsibility
All acute care areas in a facility need to have effective clinical communication processes in place to support recognition and response systems. This includes: • emergency departments • intensive care units/high dependency units • general wards and speciality areas • maternity units • paediatric units • mental health units • operating theatre recovery units • other clinical areas where patients receive acute care treatments	Patients, families and carers	• Participate in developing communication processes to support recognition and response to clinical deterioration • Participate in agreed communication processes to support recognition and response systems
	Non-clinical workforce	• Participate in developing communication processes to support recognition and response to clinical deterioration • Participate in agreed communication processes to support recognition and response systems
	Clinical workforce	• Participate in developing communication processes to support recognition and response to clinical deterioration • Follow agreed communication processes and protocols • Educate patients, families and carers on agreed communication processes to support recognition and response systems • Educate other clinicians, including those who are casual or from an agency, on local communication processes and protocols related to recognition and response systems • Respond to concerns from patients, families and carers related to clinical deterioration • Participate in education related to communication processes • Participate in evaluating communication processes and protocols
	Educators	• Educate the clinical and non-clinical workforce on communication processes and protocols related to recognition and response systems • Participate in evaluating communication processes and protocols
	Health professionals with responsibility for policy or quality improvement	• Decide when and how communication for events related to recognition and response systems should occur • Develop minimum standards for the content and methods for communicating key patient events associated with clinical deterioration and recognition and response systems • Develop tools to support communication events • Identify opportunities for communicating with patients, families and carers about possible deterioration • Develop processes for communicating with patients, families and carers about clinical deterioration • Evaluate communication related to recognition and response systems
	Health service managers	• Provide ongoing access to training for the clinical and non-clinical workforce on communication processes and protocols related to recognition and response systems • Evaluate communication related to recognition and response systems

table 5 ▸ CONTINUED...

	People involved in communicating about clinical deterioration	
Clinical areas involved in communicating about clinical deterioration	**Role**	**Responsibility**

	Health service boards, executives and owners	• Assign responsibility, personnel and resources to support development, implementation and evaluation of:
		
		  – minimum standards, including roles and responsibilities, for communication associated with clinical deterioration and recognition and response systems
		
		  – tools for communication (written and verbal) between health professionals
		
		  – tools for informing patients, families and carers of agreed communication processes
		
		  – education and training programs to improve communication related to recognition and response systems
		
		• Provide managers with support to implement communication processes and protocols in their areas

⚙ implementation tip

Developing communication processes and protocols

- Communication processes may need to vary between clinical areas due to differences in staffing composition, environment and resources. It is important that facilities consider different clinical areas such as emergency departments, paediatrics and maternity when identifying and deciding on communication processes. Seek representation from clinicians in these different areas throughout your project

- A major barrier to implementing changes to communication processes is scepticism about whether there is a problem with the processes already in place.[2] Gather evidence related to processes such as clinical handover to help communicate the need for change. Use information from this guide and collect patient stories and local incidents to help determine the extent of the problem, and to prepare clinicians for change

- The Australian Commission on Safety and Quality in Health Care has developed the *OSSIE Guide to Clinical Handover Improvement* and the accompanying *Implementation Toolkit for Clinical Handover Improvement* to help facilities review and develop effective handover practices. Facilities are encouraged to use these resources in partnership with the recommendations from this implementation guide to help develop effective handover processes that are specific to recognising and responding to clinical deterioration

- Patients, families and carers should be involved in processes to improve communication about clinical deterioration. They bring insights about their experiences of receiving care and suggestions about how communication may be more effective.

STEP 2 self-assessment and planning tool

Use the self-assessment tool to identify gaps in your systems for clinical communication and develop an action plan.

Prioritise your changes.

The self-assessment and planning tool has been designed to assess one clinical area, or an entire facility's current practice, in relation to this essential element. A modifiable electronic version of this tool, and other supporting tools to help answer the self-assessment questions, are available on the Commission's web site.

The action plan for this essential element begins on page 191. Follow the instructions in the self-assessment and planning tool to complete the action plan.

self-assessment tool ▸ CLINICAL COMMUNICATION

NAME OF WARD OR AREA BEING ASSESSED:

⊙ **task 1** **Develop agreed communication processes (written and verbal) to support recognition and response systems**	**Data or documentation that proves the criteria have been met** **Type of data or name of document**
AGREEMENT Is there agreement about when verbal and written communication associated with recognition and response systems is required?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of agreement' in your action plan	
Is it clear how this communication should occur (e.g. face-to-face, phone)?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of agreement' in your action plan	
PROCESS OR POLICY Are roles and responsibilities related to communication available and included in the escalation policy or similar document?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of process/ policy' in your action plan	
RESOURCES Are tools for communication available (e.g. mnemonics, documentation templates)?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of resources' in your action plan	
Do these tools include recent observations, assessments and patient wishes?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of resources' in your action plan	
KNOWLEDGE Is training available for clinicians on communication processes?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of knowledge' in your action plan	
SYSTEMS TO SUPPORT MONITORING AND EVALUATION Are communication processes evaluated?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of monitoring and evaluation' in your action plan	

Where is it kept?	Are these policies/processes/resources operating as planned? Does your data demonstrate effective operation at all times?
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan

self-assessment tool ▸ CLINICAL COMMUNICATION

NAME OF WARD OR AREA BEING ASSESSED:

⏱ task 2 Develop systems for communicating with patients, families and carers about possible deterioration		Data or documentation that proves the criteria have been met Type of data or name of document
AGREEMENT Have you decided on opportunities for communicating with patients, families and carers about possible deterioration?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of agreement' in your action plan	
PROCESS OR POLICY Have you developed agreed processes for this communication?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of process/ policy' in your action plan	
RESOURCES Are resources available for informing patients, families and carers of communication processes?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of resources' in your action plan	
KNOWLEDGE Do clinicians receive training on patient, family and carer communication?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of knowledge' in your action plan	
SYSTEMS TO SUPPORT MONITORING AND EVALUATION Are patient, family and carer experiences evaluated?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of monitoring and evaluation' in your action plan	

Where is it kept?	Are these policies/processes/resources operating as planned? Does your data demonstrate effective operation at all times?
	☐ **YES** ▶ WELL DONE! Continue to monitor ☐ **NO** ▶ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▶ WELL DONE! Continue to monitor ☐ **NO** ▶ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▶ WELL DONE! Continue to monitor ☐ **NO** ▶ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▶ WELL DONE! Continue to monitor ☐ **NO** ▶ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▶ WELL DONE! Continue to monitor ☐ **NO** ▶ Why not? What are the barriers? Add these to your action plan

action plan ▸ CLINICAL COMMUNICATION

what do you need to do?

how will you do it?

Task not yet achieved	Why has this task not been achieved (barriers)? What actions are needed?	Go to the recommended section of this guide for information on tasks and actions. List the tools and resources from the guide to address this gap here. Also consider other resources that may be available to you to address this gap.
⊙ **task 1** Develop agreed communication processes (written and verbal) related to recognition and response systems	▢ Lack of agreement ▸ **D E C I D E** ▸ p197 ▢ Lack of process/policy ▸ **D E V E L O P** ▸ p198 ▢ Lack of resources ▸ **R E S O U R C E** ▸ p200 ▢ Lack of knowledge ▸ **E D U C A T E** ▸ p205 ▢ Lack of monitoring and evaluation ▸ **E V A L U A T E** ▸ p207	
OTHER POSSIBLE BARRIERS:		
⊙ **task 2** Develop systems for communicating with patients, families and carers about possible deterioration	▢ Lack of agreement ▸ **D E C I D E** ▸ p211 ▢ Lack of process/policy ▸ **D E V E L O P** ▸ p212 ▢ Lack of resources ▸ **R E S O U R C E** ▸ p214 ▢ Lack of knowledge ▸ **E D U C A T E** ▸ p215 ▢ Lack of monitoring and evaluation ▸ **E V A L U A T E** ▸ p216	
OTHER POSSIBLE BARRIERS:		

OTHER COMMENTS AND PLANS:

Who will be responsible?	When will this happen? Consider undertaking actions that are low cost, easy to implement and support meeting the *National safety and quality health service standards* first

information and resources

Use the information and resources in this guide to help implement your action plan.

For each task, the following actions may be required: Decide, Develop, Resource, Educate and Evaluate

Each of the tasks for this essential element is discussed in detail in this section. Each task includes a brief summary of its importance and a series of actions that can be taken to complete it. Links to resources are included in Appendix C and additional tools to support implementation are available on the Commission's web site.

key tasks
for clinical communication

⊙ task 1
Develop agreed communication processes (written and verbal) to support recognition and response systems

⊙ task 2
Develop systems for communicating with patients, families and carers about possible deterioration

why this task is important

This task is needed because:

- poor communication is a leading cause of adverse events in health care

- knowing who to contact when a patient's condition deteriorates, what information is important to convey, and how to convey this information effectively, is a complex process

- patients can experience delays in receiving the treatment they need if agreed communication processes are not in place

- clinical treatment decisions are based on knowledge of a patient's current condition.

Successful operation of recognition and response systems requires written and verbal communication associated with abnormal physiological observations and assessments, rapid response system calls, advance care directives, patient transfers, treatment-limiting decisions, and information about deterioration from patients, families and carers.

Some of the most important contributing factors to adverse events in health care are lack of handover processes, insufficient or poor communication techniques during handover, and inadequate clinical documentation.[1] Poor communication also poses risks to patient safety when patients are transferred between clinical areas, and during critical events such as rapid response system calls.[3]

Poor verbal and written communication between clinicians can result in discontinuity of care, delays in treatment, adverse events, and increased morbidity and mortality.[4] Practices such as not reading documentation may also contribute to adverse events and clinical deterioration not being recognised and acted on.

learning from coronial inquests

The importance of effective communication when deterioration occurs

Joan Dennison was a 78-year-old woman who died after the diagnosis of her mechanical small bowel obstruction was missed. She presented at the emergency department of a small hospital without on site surgical registrar coverage. Mrs Dennison's case was discussed by telephone with the on-call registrar at a neighbouring facility and she was discharged home. Mrs Dennison died two days later from sepsis and aspiration. At the inquest, the coroner found that:

'Serious failings in the level of communication between the doctors occurred. It is irresistibly the case that Mrs Dennison should never have been discharged from hospital…Mrs Dennison's death was avoidable.'[5]

Important information can be overlooked if clinicians are not aware of their roles and responsibilities related to communication. It is important to develop agreed communication processes to enable clinicians to understand how to communicate information about clinical deterioration, and who to communicate it to.

comments from colleagues

Everybody has a role in communication

'A lot of times we do get information from families: "You know dad – he's really confused." … We're picking up a lot more information than just going in and saying "Hi, how are you going. Yep; the patient's fine." So for us it's about clearly documenting. It's about having a process that you know you can go somewhere and there's clear communication of any issues that have been identified. We have the same issues. We've passed things on and we're not sure it's passed on and acted on. We're not seeing the patient for eight hours of a day. We're seeing them for maybe half an hour or an hour depending on how we're working with them… so until we come back and see that patient we don't know what's been followed up.'

Occupational therapist, focus groups, 2010

Clear agreement on communication practices (written and verbal) and standardised practices such as mnemonics may improve team performance and ensure that the correct information is conveyed at the right time, to the right person, for the right reasons. Information that is important for recognising and responding to clinical deterioration may be overlooked during routine clinical handover.[6]

practice point

What gets communicated at handover?

A review of the reliability of information contained in the clinical handover of 246 patients identified that the following issues were communicated in only 17-18% of handovers:[6]

- investigations that had not been undertaken
- results pending
- ongoing treatment
- complications.

In the past, clinical handover processes have been varied and highly individualised, and until recently there has been no evidence base to determine their optimal content, process and information tools.[1] The development of standardised handover communication processes – some of which are included in the *OSSIE Guide to Clinical Handover Improvement* – has demonstrated significant improvements in the exchange of information between clinicians. The guide is now regarded as a minimum standard for safe practice in Australia.[1] Links to resources about clinical handover are available in Appendix C.

practice point

Mnemonics

Mnemonics are memory devices that help recall of larger pieces of information, especially in the form of lists such as characteristics, steps, stages, parts or phases. They can include phrases, acronyms and rhymes.

Mnemonics use association as a way of remembering, providing a structured process to recall information or data. Many hospitals in Australia use mnemonics to help with the structure and content of clinical handover. Examples of these include:

SHARED
(Situation, History, Assessment, Risk, Expectation, Documentation)

ISOBAR
(Identify, Situation, Observation, Background, Agree to a plan, Readback)

ISBAR
(Identify, Situation, Background, Assessment, Recommendation)

SBAR
(Situation, Background, Assessment, Request/recommendation)

Agreed processes for communicating clinical deterioration to patients, families and carers are also required. Families and carers want to be informed when clinical deterioration occurs. Failure to do this may cause families to feel they have been denied time together, missing out on precious moments when a patient may still have been able to communicate. Delays in acknowledging clinical deterioration can also lead to a perception that the service may be withholding critical information.[7] For hospitals with systems in place that allow patients and families to call a rapid response team or other clinicians directly, communication issues often underlie the escalation of care.[8–10]

comments from patients, families and carers

Families want to know about clinical deterioration

'We wanted to know if [my son] knew….what's going to happen to him, if [he] knew he was going to surgery, we wanted to know what happened, what happened between those hours that I went – we all had been there on Wednesday evening, they sent us home. What happened between 9 o'clock and 12 o'clock? I want to know.'

100 Patient Stories Project data (from research funded by the Commission)

how to complete this task

| DECIDE | DEVELOP | RESOURCE | EDUCATE | EVALUATE |

task 1 – develop agreed communication processes (written and verbal) to support recognition and response systems

DECIDE	▶ ▶ ▶	Decide when and how communication to support recognition and response systems occurs
DEVELOP	▶ ▶ ▶	Develop roles and responsibilities for communication events to support recognition and response systems
RESOURCE	▶ ▶ ▶	Provide tools to support communication associated with recognition and response systems Include information about recent observations, assessments and patient wishes
EDUCATE	▶ ▶ ▶	Educate clinicians on communication associated with recognition and response systems
EVALUATE	▶ ▶ ▶	Evaluate communication processes

DECIDE

DECIDE WHEN AND HOW COMMUNICATION TO SUPPORT RECOGNITION AND RESPONSE SYSTEMS OCCURS

Facilities need to work with clinicians to identify when and how communication should occur to support recognition and response systems.

Events where written or verbal communication is required to support recognition and response systems include:

- reporting abnormal observations and assessments

- concern about a patient's clinical condition

- patient deterioration that requires a rapid response system call

- clinical handover between staff, such as at shift changes and meal breaks

- transfer of a patient who has deteriorated to another clinical area or facility.

Handover procedures should include identifying patients who are deteriorating or are at risk of deterioration. This enables clinicians to prioritise care and review deteriorating patients in a timely manner.

Patients who have had a recent rapid response call should be discussed during shift change handovers. Facilities may develop agreed communication triggers, such as elevated early warning scores or other high risk scenarios, to identify patients whose condition needs further discussion.

Agreement on communication processes for advance care plans and other treatment-limiting decisions is important to ensure patients receive the right care and treatment in accordance with their wishes. Further information on improving these processes is available in *Essential element 2: Escalation of care*.

It is also important to consider how communication will take place. Face-to-face communication provides more opportunities to clarify information, and can provide education and promote team-building.[1] However, verbal communication alone without supporting documentation relies heavily on memory and is considered high risk.[1] Facilities may need to consider more than one method of communication for each event.

↻ practice point

Triggers to prompt detailed discussion during handover

The following triggers were developed in a rural facility to help doctors identify patients whose care required detailed discussion during clinical handover. Triggers included:

- all patients in the emergency department awaiting review or pending admission
- any patients who had a rapid response system call in the last 12 hours
- any patients with pending diagnostic tests or pathology results that may result in, or require, immediate changes to their medical management plan
- any patient for whom there is worry or concern.

DEVELOP ROLES AND RESPONSIBILITIES FOR COMMUNICATION EVENTS TO SUPPORT RECOGNITION AND RESPONSE SYSTEMS

Once facilities have identified when and how communication to support recognition and response systems occurs, agreement must be reached on each clinician's roles and responsibilities for communicating key information. This information should be included in the escalation policy or similar document.

Clinicians have different roles in patient care, with each role focusing on different patient assessments, treatment and management practices. Roles and responsibilities for communication need to clearly identify:

- which clinicians should communicate information

- what information each clinician is responsible for communicating

- how the communication should occur (e.g. written, face-to-face, phone).

A team-based approach to communication may be appropriate and should be explored. This approach may be useful following rapid response system calls, when a large amount of information is recalled and communicated. Each member of the team can contribute and cross-check information to ensure it is correct and understood by the recipient.

A team-based approach to communication may be appropriate and should be explored. This approach may be useful following rapid response system calls, when a large amount of information is recalled and communicated.

implementation tip

The benefits of brainstorming

An effective method for reaching agreement on roles and responsibilities for communication processes is to undertake a brainstorming exercise with members of the healthcare team. Brainstorming exercises enable teams to generate a high volume of ideas and information in only a few minutes without criticism or judgement. This process encourages participation and teamwork and is an effective method for getting a large group of people to work together.

Information on different clinicians' roles and responsibilities should be aligned with each communication event identified. Reaching agreement on these communication processes will help reduce the risk of overlooking critical information.[11]

Agreed communication processes may be applicable to an entire facility, for example information for transferring a patient to an external facility may be the same for all acute areas. However, other communication process may vary between clinical areas due to differences in staffing composition and resources. It is important that facilities consider different clinical areas and departments when identifying and agreeing on roles and responsibilities for communication.

implementation tip

Communication agreement checklist

Facilities may like to brainstorm using the following checklist to help develop agreed roles and responsibilities related to communication for recognising and responding to clinical deterioration. Consider each event from a different health discipline's perspective and clinical area, and ask:

- What information should be communicated?

- Who should be informed?

- How should communication occur (verbal or written or both)?

- Who is responsible for the communication?

Communication events to consider include:

- reporting abnormal observations and assessments

- worry or concern about a patient's clinical condition

- patient deterioration that requires a rapid response system call

- clinical handover during shift changes, meal breaks etc

- clinical deterioration and communication with the patient, family, carer and healthcare team

- transfer of a patient who has deteriorated to another clinical area or facility

- identification of and discussions related to advance care plans and other treatment-limiting decisions.

PROVIDE TOOLS TO SUPPORT COMMUNICATION ASSOCIATED WITH RECOGNITION AND RESPONSE SYSTEMS

INCLUDE INFORMATION ABOUT RECENT OBSERVATIONS, ASSESSMENTS AND PATIENT WISHES

Facilities need to provide clinicians with tools to support effective communication. A large amount of information is communicated to a range of clinicians when clinical deterioration occurs. If the information is not comprehensive, relevant and clearly understood by the receiver, this poses risks to patient safety.

Communication related to clinical deterioration can be greatly improved using a structured protocol or mnemonic. This enables clinicians to recall important information, reduces the likelihood of information being missed, and helps communicate information in a clear, logical and precise manner.[1] Links to resources about communication, including clinical handover, are available in Appendix C.

A large amount of information is communicated to a range of clinicians when clinical deterioration occurs. If the information is not comprehensive, relevant and clearly understood by the receiver, this poses risks to patient safety.

Case review

Clinical handover in mental health settings

Tasmania's Mental Health Services North has implemented a handover tool, ISBARR, to improve the handover of information about mental health clients. The tool is used both in community and inpatient settings.

I – Identification

S – Situation

B – Background

A – Assessment

R – Risk assessment

R – Recommendations

Below is a worked example of using the tool in practice.

I	▶ ▶ ▶	Claire, 43-year-old divorced female with two adult children
S	▶ ▶ ▶	Brought in by daughter (Marlene) Recurrence of bipolar affective disorder – mania Admitted on 20/10/08 on an involuntary order Lives alone in rented accommodation – disability pension Collateral history from daughter – ceased sodium valproate approx 6 weeks ago, until then had functioned well in the community No history of violence Social drinker (1–2 red wines on occasional weekends) Denies illicit drug use
B	▶ ▶ ▶	Past history of admissions (X4), last admitted 2008 – similar presentation Non insulin dependent diabetic – diet controlled
A	▶ ▶ ▶	Appears stated age, dressed in bright coloured clothing inappropriate for weather Intrusive, hyperactive, poor response to direction Delusional belief – she is having affair with prime minister Orientated to person-time-place Poor insight, judgement and non acceptance of illness Speech rapid rate, pressured flight of ideas Rates mood 20/10 elated Affect – inappropriately smiling Does not appear to be experiencing perceptual disturbances Memory untested No current physical issues – blood sugar level diet controlled Good family support
R	▶ ▶ ▶	Previously assaulted staff when presented as manic Currently no sign of irritability Poor food and fluid intake Sexual disinhibition At risk of exploitation from unknown males Over inflated belief of physical ability
R	▶ ▶ ▶	To be nursed in the high dependency unit for her safety To be given finger food and fluids encouraged, twice daily blood sugar checks Closely monitor medication Repeat sodium valproate

F. Kamphuis, Department of Health and Human Services, Tasmania, personal communication, 2011

Verbal communication only – compared with verbal communication with some form of supporting documentation – relies heavily on memory and is a high risk scenario.[1] The practice point below provides an example of the importance of documenting clinical handover.

practice point

The importance of documenting clinical handover

A study using simulated nursing handover cycles compared the rate of data loss when handing over information in three styles – verbally, with note taking, and with a combination of a typed data sheet and verbal handover.[12] The same data points were to be handed over in five handover cycles, each separated by an hour. Data loss was measured by counting the number of data points that were not handed over in each cycle.

When using verbal communication alone, data loss was almost complete after the first handover cycle. With note taking (the traditional handover style), approximately 30% of data were lost at the first handover and nearly 60% were lost by the fifth. When handovers used the combination of a pre-prepared data sheet and verbal handover, data loss was less than 5% throughout all five cycles.

Physiological observations and other clinical assessments provide a clear indication of a patient's clinical condition and the presence of deterioration. Handover and documentation protocols or mnemonics must therefore include information about the patient's most recent observations and assessments to ensure clinical deterioration is not missed. This information should include:

- observations and assessments, including details of the patient's individual monitoring plan and latest measurements or findings (normal and abnormal)

- abnormal diagnostic tests or pathology results

- results pending (e.g. pathology, radiology)

- current treatments

- modifications to usual escalation protocols (if applicable)

- advance care directives and treatment-limiting decisions.

Observations reported in the protocol may vary between clinical areas based on the types of patients and role of the clinical unit (e.g. neonatal intensive care vs. general medical ward). It may be helpful for clinical areas to develop a list of the minimum observations and assessments to be communicated as part of the handover or documentation protocol.

⟳ practice point

Making communication about observations easy

The LIME (Logical Information Made Easy) communication tool was developed by one hospital using the ISOBAR handover mnemonic. It is used by clinicians who receive information about patients who are deteriorating. The tool was designed to allow reported observations to be graphically documented in the same format as the hospital's track and trigger system.

Government of Western Australia
Department of Health

Telephone Communication Record – Clinician Receiving

Surname		MRN	
Given Name		DOB	Sex
Address			Post Code

I — IDENTITY

Time _____   Date _____

Clinician _____   Phone Number _____
Ward _____   Room _____
ETA _____   Transport Mode _____

S — SITUATION

Problem _____

O

Observation Chart ⟶

B — BACKGROUND

Age _____   Weight _____
Diagnosis _____
Past Medical History _____

Test Results _____

Medications _____

A — AGREE TO A PLAN

Examine _____

Investigate _____

Management _____

Medication Orders _____

Change Parameters _____

Report Back to Clinician   ☐ YES   ☐ NO

R — READ BACK

Confirm: _____

Print name: _____

Signature: _____

Designation: _____

Respiratory Rate (breaths/ min)	≥36
	30 -35
	25 -29
	20 - 24
	15 - 19
	10 - 14
	5 - 9
	≤4
O₂ Saturation (%)	≥95
	90 -94
	85 - 89
	≤84
O₂ Flow Rate (L/min)	L/Min
	Mask/NP
Blood Pressure (mm HG)	Write ≥ 200
	190s
	180s
	170s
	160s
	150s
	140s
	130s
	120s
	110s
Score Systolic BP	100s
	90s
	802
	702
	60s
	50s
If Systolic BP>200, write value in box	40s
Heart Rate (beats / min)	Write ≥ 140
	130s
	120s
	110s
	100s
	90s
	80s
	70s
	60s
	50s
	40s
	30s
Temperature (C)	≥39.0
	38.5
	38.0
	37.5
	37.0
	36.5
	36.0
	35.5
	≤35.0
Consciousness	Alert
	To Voice
	To Pain
	Unresp.
Urine Output (mL / hour)	≥30
	≤29
Pain Score	8 -10
	4 -7
	0 -3

LOGICAL INFORMATION MADE EASY

TELEPHONE COMMUNICATION RECORD

J. Porteous, West Australian Country Health Service, personal communication, 2011

Handover and documentation protocols or mnemonics must also include information about the patient's wishes regarding advance care planning and any other treatment-limiting decisions. This will act as a trigger to discuss the information, ensuring the patient's wishes are communicated and avoiding confusion about the care required if clinical deterioration occurs. Further information on tools for communicating end-of-life care and advance care directives can be found in *Essential element 2: Escalation of care*.

Protocols and mnemonics can also be used to improve the quality of clinical documentation. The practice point below demonstrates the positive effect of a structured documentation tool on communication associated with medical emergency team reviews.

⟳ practice point

Improving medical documentation with a standardised form to record medical emergency team (MET) reviews

An Australian hospital introduced a standardised form to document MET reviews, as well as education of the MET's medical and intensive care clinicians.[13] The intervention significantly improved documentation of MET call details.

Documentation about the MET call	Improvement in documentation rate post implementation (only statistically significant results included)
Date and time of MET call	24 %
Staff member making the call	32 %
Who attended the call	31 %
Differential diagnosis	16 %
Investigations performed	19 %
Discussions and referrals	24 %
Doctor's name	13 %

EDUCATE

EDUCATE CLINICIANS ON COMMUNICATION ASSOCIATED WITH RECOGNITION AND RESPONSE SYSTEMS

Clinicians need to be aware of their responsibilities for communication practices associated with patients whose clinical condition is deteriorating.

Communication requirements should be incorporated into education programs for escalation protocols and recognition and response systems.

comments from colleagues

The need for education about how to communicate effectively

'I think we actually get very little education on how, what we should be writing. Honestly, I don't think I actually knew. On my first few days I had no idea what to write. So I just copied information from other places where it was already documented and tried to pick up a few bits and pieces on the ward round…. And when things are quick as well, you just don't know. There should be a few standard things that should be documented. I think the nursing notes are actually better than ours. They are more standardised. But we have no standardisation whatsoever. Very important things are said on the ward round which aren't documented because they are not sort of said formally enough to be documented. It's hard to stop your registrar and go, the heart rate is 110 should we document that we are happy with that. At the end of the day that would save people a lot of time, the nursing staff time, because they would know what is ok.'

Medical resident, focus groups 2010

Communication requirements should be incorporated into education programs for escalation protocols and recognition and response systems. Health professionals should be informed of requirements regarding communication when they start employment, when changes to agreed practices are made, and if gaps in communication practices are identified. Strategies for improving communication practices include audit and feedback of clinical documentation practices, peer review, observation using video or trained observers, and scenario-based simulation training.[14]

implementation tip

TeamSTEPPS®:
Assuring optimal teamwork in clinical settings

TeamSTEPPS® is an evidence based teamwork training system developed by the United States Department of Defense Patient Safety Program in collaboration with the Agency for Healthcare Research and Quality (AHRQ). TeamSTEPPS® offers a flexible, evidence based toolkit to improve patient safety through improved communication and other teamwork skills.

TeamSTEPPS® promotes competence in four core areas.[15]

- Team leadership – the ability to direct and coordinate activities of team members, assess team performance, assign tasks, develop team knowledge and skills, motivate team members, plan and organise, and establish a positive team atmosphere

- Situation monitoring (or mutual performance monitoring) – the capacity to develop common understandings of the team environment and apply appropriate strategies to monitor teammate performance accurately

- Mutual support (or backup behaviour) – the ability to anticipate other team members' needs and to shift workload among members to achieve balance

- Communication – the efficient exchange of information and consultation with other team members, including the patient.

The South Australian Department of Health and the Australian Commission on Safety and Quality in Health Care undertook a pilot study in 2009 examining the content and validity of TeamSTEPPS® in Australia. The program has since been adapted for the Australian context.
Further information can be requested from:
safetyandqualitysa@health.sa.gov.au

practice point

Training in teamwork can improve clinical outcomes

Education programs can have significant effects on the quality and reliability of health care. The Veterans Health Administration in the United States implemented a national team training program and studied the program's effect on patient outcomes in a retrospective health services cohort study.[16]

The training allowed surgical staff (surgeons, anaesthetists, nurse anaesthetists, nurses and technicians) to train as a team using crew resource management theory from aviation, which was adapted for health care. Clinicians were trained to challenge each other when they identified safety risks and conduct checklist guided preoperative briefings and postoperative debriefings. They also implemented communication strategies such as recognising 'red flags', developing rules of conduct for communication, stepping back to reassess a situation, and communicating effectively during care transitions.

After controlling for baseline differences, the 74 trained facilities experienced a significant decrease of 18% in observed mortality (RR 0.82; 95% CI 0.76–0.91; P = 0.01) compared with a 7% decrease among the 34 facilities that had not undergone training (RR 0.93; 95% CI 0.80–1.06; P = 0.59). A dose response relationship for completion of additional quarters of the training program was also demonstrated. For every quarter of the training program completed, a reduction of 0.5 deaths per 1000 procedures occurred (95% CI 0.2–1.0; P =0.001).

EVALUATE

EVALUATE COMMUNICATION PROCESSES

Methods for evaluating communication processes include observation, structured interviews or surveys, focus groups, peer review, audit, and review of adverse events, near misses and complaints.

Observation can include using video or simply recording information using a pen and paper. Information and links to resources for collecting observational data can be found in the *Implementation Toolkit for Clinical Handover Improvement*, which is available on the Commission's website.

Structured interviews may help identify strategies for improvement. Information on this process and links to resources for developing interview questions are also available in the *Implementation Toolkit for Clinical Handover Improvement*.

Audits of clinical documentation by peers and feedback to individuals, or a group of clinicians, can identify deficiencies in clinical documentation and improve practice.[17] A tool that can be used to audit medical documentation is available on the Commission's web site.

All clinical areas should also review adverse events to identify any communication problems and areas for improvement. Key questions include:

• Was the agreed communication process followed (e.g. did clinical handover occur, was the agreed mnemonic used, did the right people participate)?

• Were there any gaps in the information that was communicated?

• How could communication be improved?

Facilities need to identify any barriers to the use of communication protocols and develop strategies for improvement. Strategies may include process redesign, additional tools to support communication (e.g. mnemonics, scripts, documentation tools), and further education.

Specifications for a quality measure about communication are available in Appendix B.

implementation tip

Documentation audits

Documentation associated with systems for recognising and responding to clinical deterioration should be audited to ensure agreed processes are followed and content is correct.

Documentation suitable for audit includes:

• rapid response system clinical documentation

• general medical and nursing documentation

• transfer and retrieval information

• documentation of advance care directives and treatment-limiting decisions.

why this task is important

This task is needed because patients, families and carers may recognise and report signs of deterioration to clinicians without any action being taken.

learning from coronial inquests

The importance of listening to family concerns

Jezelle Gordon was a generally healthy one-year-old girl who presented at a rural health facility with a very fast respiratory rate, a fever and tachycardia. Despite her parents expressing great concern and making repeated requests for further action to be taken, Jezelle was sent home with oral antibiotics to treat a respiratory tract infection. She was brought back to the facility the next day in respiratory distress, with low oxygen saturations and showing clinical signs of a severe bilateral pneumonia. Jezelle was declared dead that evening.

'Mrs Yeeda was clearly of the view that there was something wrong with her baby's chest which warranted investigation…The point of concern is not simply the fact that Dr Besse rejected the request of Mrs Yeeda that her baby's chest be X-rayed, Mrs Yeeda was asking in effect for further investigations to be conducted as she was very concerned about the health of her baby and no such investigations were conducted.'[18]

Patients, families and carers are ideally placed to identify signs of clinical deterioration. Families and carers know the patient well, and can often identify subtle changes or signs of clinical deterioration before these signs are identified by the healthcare team. Families and carers also spend time with patients, providing additional surveillance to that provided by the healthcare team.

Case review

Outcomes of patient and family escalation calls

The University of Pittsburgh Medical Center has reported that 69% of patient, family and carer escalation calls may have prevented adverse events.[19]

An example of the impact that a family escalation call can have is as follows:

A referral to the patient and family escalation system was made when a patient's wife raised concerns about the patient's restlessness and abnormal breathing.[10] The patient's wife said that the nurses on the ward were not concerned with the patient's condition, and she felt that they were too busy. An assessment by the critical care outreach team found that the early warning score had been calculated incorrectly and was too low, and the patient was septic and in sputum retention. The patient's tracheostomy was cleaned and redressed, investigations ordered and antibiotics commenced after consultation with the patient's healthcare team.

Adverse events internationally and in Australia have demonstrated delays in patients receiving appropriate treatment, despite families identifying and reporting concerns of clinical deterioration to the healthcare team.[18,20] Health professionals must value and act on information provided by patients, families and carers to ensure that clinical deterioration is recognised and responded to.

comments from patients, families and carers

The importance of considering information from patients and families about clinical deterioration

'With everything that went on I was readmitted another four times after the initial one and I had a lot of run-ins, not run-ins, but words with a few doctors and nurses, because they just – I just felt they weren't listening. I kept saying, you know, there's something wrong, there's something wrong and they just kept feeding me up on painkillers and I kept saying, no, don't keep giving me these because you're masking the fact that something's wrong, you know. I haemorrhaged twice, I had a heart attack, I was rushed in for an emergency operation which was a curette because they'd left so much placenta in there.'

100 Patient Stories Project data (from research funded by the Commission)

practice point

The benefits of partnerships with patients and consumers

Patient-centred care is recognised as an element of high quality health care in its own right, and there is strong evidence that it can lead to improvements in clinical quality and outcomes by increasing safety, cost effectiveness, and patient, family and staff satisfaction.

Studies have demonstrated significant benefits from such partnerships in clinical quality and outcomes, the experience of care, and the business and operations of delivering care.

Clinical benefits associated with better patient experience and patient-centred care include:

- decreased mortality[21]
- decreased readmission rates[22]
- decreased rates of healthcare acquired infections[23]
- reduced length of stay[24]
- improved adherence to treatment regimens[25]
- improved functional status.[24]

Operational benefits include lower costs per case, improved liability claims experiences and increased staff satisfaction and retention rates.[26]

how to complete this task

DECIDE	DEVELOP	RESOURCE	EDUCATE	EVALUATE

task 2 – develop systems for communicating with patients, families and carers about possible deterioration

DECIDE	▶ ▶ ▶	Decide on opportunities for communicating with patients, families and carers about possible deterioration
DEVELOP	▶ ▶ ▶	Develop agreed processes for this communication
RESOURCE	▶ ▶ ▶	Provide resources to inform patients, families and carers of the communication processes
EDUCATE	▶ ▶ ▶	Educate clinicians on patient, family and carer communication
EVALUATE	▶ ▶ ▶	Evaluate patient, family and carer experiences

▸ TASK 2

▸ STEP 3

▸ ESSENTIAL ELEMENT 4

① 01
② 02
③ 03
④ 04
⑤ 05
⑥ 06
⑦ 07
⑧ 08

DECIDE

DECIDE ON OPPORTUNITIES FOR COMMUNICATING WITH PATIENTS, FAMILIES AND CARERS ABOUT POSSIBLE DETERIORATION

Clinical areas should identify opportunities to improve communication between clinical staff and patients, families and carers about possible deterioration. This proactive and patient-centred approach to care may help confirm physical assessment findings or obtain additional information about a patient's clinical presentation or problem. Opportunities for communication may include:

• on presentation to an acute care area

• at regularly scheduled intervals throughout a patient's hospital admission

• daily, during healthcare team rounds

• at any time, by establishing agreed communication processes for patients, families or carers to escalate care.

Clinical areas should identify opportunities to improve communication between clinical staff and patients, families and carers about possible deterioration.

↻ practice point

What does patient and family centred care look like?

Patient-centred care is 'an approach to the planning, delivery, and evaluation of health care that is grounded in mutually beneficial partnerships among healthcare providers, patients and families.'[27] The Institute for Patient and Family Centered Care describes four core concepts in patient and family centred care.[28]

• Dignity and respect – Health professionals listen to and honour patient and family perspectives and choices. Patient and family knowledge, values, beliefs and cultural backgrounds are incorporated into the planning and delivery of care

• Information sharing – Health professionals communicate and share complete and unbiased information with patients and families in ways that are affirming and useful. Patients and families receive timely, complete and accurate information so they can effectively participate in care and decision-making

• Participation – Patients and families are encouraged and supported in participating in care and decision-making at the level they choose

• Collaboration – Patients, families, health professionals and healthcare leaders collaborate in policy and program development, implementation and evaluation; facility design, professional education, and delivery of care.

DEVELOP AGREED PROCESSES FOR THIS COMMUNICATION

Bedside rounds provide one opportunity for patients, families and carers to discuss concerns about clinical deterioration and management plans.

Clinicians should consider how communication with patients, families and carers will occur (e.g. face-to-face, by phone) and who will participate.

Bedside rounds provide one opportunity for patients, families and carers to discuss concerns about clinical deterioration and management plans. Steps for improving these opportunities include:

- considering privacy and confidentiality, and how this might affect the process of conducting bedside rounds

- agreeing on processes to maintain privacy and confidentiality; this may include obtaining consent to participation in bedside rounds

- developing information for patients, families and carers that outlines the philosophy of care and policy for bedside rounds

- identifying a process for undertaking the round.

   Consider including:[28]

  – who will lead

  – introductions from team members

  – purpose of the visit (teaching, care and treatment review, or other purpose)

  – asking for insight and observations from patients or family members

  – explaining the care plan

  – asking for any questions.

Facilities may like to use an existing communication mnemonic and modify it to suit communication during patient, family and carer team rounds. An example of how this might be achieved is provided in the implementation tip overleaf.

implementation tip

Supporting communication with patients, families and carers

The table below provides an example of how an existing mnemonic (ISBAR) can be used to support communication with patients, families and carers during bedside rounds.

INTRODUCTION	Introduce self and explain purpose of visit
	Obtain verbal consent from the patient for participation in bedside rounds
	Introduce patient, family and carer
	Introduce clinical team
SITUATION	Explain the current situation (e.g. stable, unstable)
BACKGROUND	Provide summary of background (e.g. presenting problem, current problems, number of days in hospital)
	Ask the patient, family or carer to discuss any concerns about background information or the current problem
	Use this as an opportunity to confirm information and premorbid condition
ASSESSMENT: ASK THE PATIENT, FAMILY AND CARER	Ask: what has the patient, family or carer identified? Are there any changes or concerns?
	What are the current assessment findings?
	Discuss and explain these findings with the patient, family or carer
RECOMMENDATION	Recommend a plan
	Reach agreement on this plan with the patient, family or carer

implementation tip

Example of undertaking bedside rounds

The acute stroke team (medical registrar, nursing, occupational therapist, speech pathologist, social worker, dietitian and rehabilitation specialist) hold 'stroke rounds' with patients, families and carers twice a week at a set time in addition to the daily ward round. Patients and families receive a brochure on admission that invites them to attend.

The team shares responsibility for leading the round, and rotates this role between the different health professionals. Rounds occur at the bedside, with the patient's permission. Consent is obtained from the 'person responsible' if the patient is unable to provide consent.

The stroke rounds are an opportunity for the team to discuss physical assessment findings and seek clarification from family members or carers about these findings (such as premorbid conditions). The rounds have helped identify subtle physiological changes that the healthcare team may not have identified, and helped with care planning and discharge requirements.

PROVIDE RESOURCES TO INFORM PATIENTS, FAMILIES AND CARERS OF THE COMMUNICATION PROCESSES

Facilities should develop resources on agreed communication processes and provide them to patients, families and carers. Resources may include brochures and posters, or information broadcast on internal hospital media systems. Links to resources that have been developed to inform patients and families are included in Appendix C.

Information should include:

- the important role that patients, families and carers play in providing information to the healthcare team

- when agreed communication processes occur (times, locations)

- which clinicians participate in these processes

- alternative methods for communicating concerns to the healthcare team

- ways of providing feedback on these communication processes.

Patients, families and carers should be involved in developing information and resources about communication processes.

Patients, families and carers should be involved in developing information and resources about communication processes.

EDUCATE

EDUCATE CLINICIANS ON PATIENT, FAMILY AND CARER COMMUNICATION

Educate all clinicians about the skills that patients, families and carers display in identifying signs of clinical deterioration. Case examples are powerful tools for illustrating this skill and should be used in education programs about recognition and response to clinical deterioration. To support the development of partnerships between patients and clinicians, the Commission also recommends involving patients and families as teachers, rather than solely as cases to be studied.[29]

Clinicians should receive training and support to continuously improve their communication skills. This may involve role play and modelling of behaviours from peers. Facilities may consider providing this education when they are developing systems to enable patients, families and carers to escalate care.

Clinicians should receive training and support to continuously improve their communication skills. This may involve role play and modelling of behaviours from peers.

↻ practice point

Best buys for improving the experience of patients

The Picker Institute Europe reviewed the body of evidence for strategies to engage patients in their care.[30] According to the review, the most effective ways, or 'best buys' to improve patient experience are patient centred consultation styles, communication training for clinicians, and patient feedback (e.g. surveys, focus groups, complaints) with public reporting of performance. The review found that communication skills training for clinicians can lead to improved communication, reduced anxiety and greater patient satisfaction.

EVALUATE

EVALUATE PATIENT, FAMILY AND CARER EXPERIENCES

Evaluating patient, family and carer experiences will demonstrate the effectiveness of systems for communicating with patients, families and carers. This may be achieved through surveys, semi-structured interviews or focus groups. In the evaluation, include questions that explore the values, attitudes and actions of clinicians in response to information provided by patients, families and carers about possible deterioration.

Monitoring and investigating complaints and adverse events will also highlight any problems in communication between the healthcare team, patients, families and carers.

In the evaluation, include questions that explore the values, attitudes and actions of clinicians in response to information provided by patients, families and carers about possible deterioration.

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
⊙ **task 1** **Develop agreed communication processes (written and verbal) to support recognition and response systems**	**DECIDE** Decide when and how communication to support recognition and response systems occurs	Patients, families and carers Health professionals with responsibility for policy or quality improvement Clinicians Health service managers	4.3 Information about deterioration should be communicated to the patient, family or carer in a timely and ongoing way 4.4 There should be adequate communication and discussion about the wishes of the patient regarding advance care planning, resuscitation and other active treatment	9.1.2 Policies, procedures and/or protocols for the organisation are implemented in areas such as: • communication about clinical deterioration
	DEVELOP Develop roles and responsibilities for communication events to support recognition and response systems	Patients, families and carers Health professionals with responsibility for policy or quality improvement Clinicians Health service managers	4.5 Structured handover processes, including documentation of handovers, should be used for all patients 5.1 A formal policy framework regarding recognition and response systems should exist and should include issues such as: • communication processes	1.3.1 Workforce are aware of their delegated safety and quality roles and responsibilities 9.1.2 Policies, procedures and/or protocols for the organisation are implemented in areas such as: • communication about clinical deterioration
	RESOURCE Provide tools to support communication associated with recognition and response systems. Include information about recent observations, assessments and patient wishes	Health service managers Clinicians Health professionals with responsibility for policy or quality improvement	4.1 Formal communication protocols should be used to improve the functioning of teams when caring for a patient whose condition is deteriorating 4.5 Structured handover processes, including documentation of handovers, should be used for all patients 4.6 The handover protocol used should include information about the most recent observations and clinical assessment 4.7 Handover procedures should include the identification of patients who are deteriorating and communication of information that is relevant to their management	6.1.1 Clinical handover policies, procedures and/or protocols are used by the workforce and regularly monitored 6.2.1 The workforce has access to documented structured processes for clinical handover

summary of tasks and actions for essential element 4

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
⊙ task 1 **Develop agreed communication processes (written and verbal) to support recognition and response systems**	**EDUCATE** Educate clinicians on communication associated with recognition and response systems	Health service managers Educators Clinicians	6.2 All doctors and nurses should be able to: • communicate information about clinical deterioration in a structured and effective way to the attending medical officer or team, to clinicians providing emergency assistance and to patients, families and carers • undertake tasks required to properly care for patients who are deteriorating, such as developing a clinical management plan, writing plans and actions in the healthcare record and organising appropriate follow up	1.4.1 Orientation and ongoing training programs provide the workforce with the skill and information needed to fulfil their safety and quality roles and responsibilities 1.4.2 Annual mandatory training programs to meet the requirement of these standards 1.4.3 Locum and agency workforce have the necessary information, training and orientation to the workplace to fulfil their safety and quality roles and responsibilities
	EVALUATE Evaluate communication processes	Patients, families and carers Clinicians Health professionals with responsibility for policy or quality improvement Health service managers	7.1 Data should be collected and reviewed locally and over time regarding the implementation and effectiveness of recognition and response systems	6.3.1 Regular evaluation and monitoring processes for clinical handover are in place
⊙ task 2 **Develop systems for communicating with patients, families and carers about possible deterioration**	**DECIDE** Decide on opportunities for communicating with patients, families and carers about possible deterioration	Patients, families and carers Clinicians Health professionals with responsibility for policy or quality improvement Health service managers	4.2 The value of information about possible deterioration from the patient, family or carer should be recognised 4.3 Information about deterioration should be communicated to the patient, family or carer in a timely and ongoing way	1.18.1 Patients and carers are partners in the planning for their treatment 1.18.4 Patients and carers are supported to document clear advance care directives and/or treatment-limiting orders

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
⊙ task 2 Develop systems for communicating with patients, families and carers about possible deterioration	**DEVELOP** Develop agreed processes for undertaking this communication	Patients, families and carers Health professionals with responsibility for policy or quality improvement Clinicians Health service managers	4.3 Information about deterioration should be communicated to the patient, family or carer in a timely and ongoing way 4.4 There should be adequate communication and discussion about the wishes of the patient regarding advance care planning, resuscitation and other active treatment	9.1.2 Policies, procedures and/or protocols for the organisation are implemented in areas such as: • communication about clinical deterioration
	RESOURCE Provide resources informing patients, families and carers of the communication processes	Health professionals with responsibility for policy or quality improvement Health service managers Clinicians	4.3 Information about deterioration should be communicated to the patient, family or carer in a timely and ongoing way 4.4 There should be adequate communication and discussion about the wishes of the patient regarding advance care planning, resuscitation and other active treatment	9.7.1 Information is provided to patients, families and carers in a format that is understood and meaningful. The information should include: • the importance of communicating concerns about signs/symptoms of deterioration, which are relevant to the patient's condition, to the clinical workforce • local systems for responding to clinical deterioration, including how they can raise concerns about potential deterioration
	EDUCATE Educate clinicians on patient, family and carer communication	Patients, families and carers Clinicians Health service managers Educators	6.2 All doctors and nurses should be able to: • communicate information about clinical deterioration in a structured and effective way to the attending medical officer or team, to clinicians providing emergency assistance and to patients, families and carers • understand the importance of, and discuss, end-of-life care planning with the patient, family and/or carer	1.4.1 Orientation and ongoing training programs provide the workforce with the skills and information needed to fulfil their safety and quality roles and responsibilities 1.4.2 Annual mandatory training programs to meet the requirement of these standards 1.4.3 Locum and agency workforce have the necessary information, training and orientation to the workplace to fulfil their safety and quality roles and responsibilities

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
	EVALUATE Evaluate patient, family and carer experiences	Patients, families and carers Clinicians Health professionals with responsibility for policy or quality improvement Health service managers	7.1 Data should be collected and reviewed locally and over time regarding the implementation and effectiveness of recognition and response systems	1.20.1 Data collected from patient feedback systems are used to measure and improve health services in the organisation

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essential element 5

ORGANISATIONAL SUPPORTS

organisational supports

the problem

Systems for recognising and responding to clinical deterioration will not be successful or sustainable without organisational support and executive and clinical leadership.

Lack of effective clinical governance frameworks may reduce a facility's ability to identify risks, and to monitor, maintain and improve recognition and response systems.

goals of this essential element

Systems for identifying risks, and evaluating and continuously improving recognition and response systems, are established within facilities.

Accountability for development, evaluation and improvement of recognition and response systems is clearly identified within a facility.

what you need to do

Provide a clinical governance framework to support systems for recognising and responding to clinical deterioration.

common terms used in this essential element

Clinical governance: a framework for ensuring 'organisations are accountable for continuously improving the quality of their services and safeguarding high standards of care. This is achieved by creating an environment in which there is transparent responsibility and accountability for maintaining standards and by allowing excellence in clinical care to flourish.'[1]

Continuous improvement: 'systematic, ongoing efforts to raise an organisation's performance, measured against a set of standards or indicators.'[1]

consensus statement recommendations

essential element 5: organisational supports

5.1 A formal policy framework regarding recognition and response systems should exist and should include issues such as:

- governance arrangements
- roles and responsibilities
- communication processes
- resources for the rapid response system, such as staff and equipment
- training requirements
- evaluation, audit and feedback processes
- arrangements with external organisations that may be part of the rapid response system.

5.2 This policy framework should apply across the acute health care facility, and identify the planned variations in the escalation protocol and responses that might exist in different circumstances (such as for different times of day).

5.3 Any new recognition and response systems or procedures should be integrated into existing organisational safety and quality systems to support their sustainability and opportunities for organisational learning.

5.4 Recognition and response systems should encourage staff to react positively to escalation of care, irrespective of circumstances or outcome.

5.5 Appropriate policies and documentation regarding advance care directives, treatment-limiting decisions and end-of-life decision-making are critical in ensuring that the care delivered in response to deterioration is consistent with appropriate clinical practice and the patient's expressed wishes.

5.6 A formal governance process (such as a committee) should oversee the development, implementation and ongoing review of recognition and response systems. If a committee has this role, it should:

- have appropriate responsibilities delegated to it, and be accountable for its decisions and actions
- monitor the effectiveness of interventions and education
- have a role in reviewing performance data
- provide advice about the allocation of resources
- include consumers, clinicians, managers and executives.

5.7 Organisations should have systems in place to ensure that the resources required to provide emergency assistance (such as equipment and pharmaceuticals) are always operational and available.

STEP 1 roles and responsibilities

Who is responsible?
How does this element apply to your role(s)?
What clinical areas does this element apply to?

Clinical governance frameworks for recognition and response systems should be established across all clinical areas and form part of the overall safety and quality governance framework of a facility. These frameworks should have the capacity to monitor and continuously improve operation of recognition and response systems, and care at the patient's bedside.

A variety of health professionals are involved in developing and implementing clinical governance frameworks. However, health service boards, executives and owners are responsible for ensuring these frameworks are established and operating effectively.

table 6 ▸ ROLES AND RESPONSIBILITIES RELATING TO CLINICAL GOVERNANCE SYSTEMS

Clinical areas involved in clinical governance systems	People involved in people involved in clinical governance systems	
	Role	**Responsibility**
This essential element applies to all acute care areas in a facility. Clinical governance frameworks for recognition and response systems should form part of a facility's overall safety and quality governance framework.	Consumers, patients, families and carers	• Participate in governance of recognition and response systems, for example: – design and improvement of recognition and response systems – policy development – education – evaluation
	Non-clinical workforce	• Report risks associated with operation of recognition and response systems • Comply with recommendations and systems determined by the governance framework (e.g. policy and procedure) • Participate in governance of recognition and response systems, for example: – design and improvement of recognition and response systems – policy development – education – evaluation
	Clinical workforce	• Develop, implement and evaluate recognition and response systems as required • Report risks associated with operation of recognition and response systems • Comply with recommendations and systems determined by the governance framework (e.g. policy and procedure) • Participate in governance of recognition and response systems, for example: – design and improvement of recognition and response systems – policy development – education – evaluation
	Educators	• Educate the clinical and non-clinical workforce on their roles and responsibilities associated with recognition and response systems (e.g. policy, reporting risks) • Design education programs to improve operation of recognition and response systems • Comply with recommendations and systems determined by the governance framework (e.g. policy and procedure) • Participate in governance of recognition and response systems, for example: – design and improvement of recognition and response systems – policy development – education – evaluation

table 6 ▸ CONTINUED...

| | People involved in people involved in clinical governance systems | |
Clinical areas involved in clinical governance systems	Role	Responsibility

	Health professionals with responsibility for policy or quality improvement	• Be aware of individual roles and responsibilities for governance of recognition and response systems and undertake these responsibilities
		
		• Participate in governance of recognition and response systems, for example:
		  – design and improvement of recognition and response systems
		  – policy development
		  – education
		  – evaluation
		
		• Develop, implement and evaluate recognition and response systems as per agreed governance roles and responsibilities
		
		• Comply with recommendations and systems determined by the governance framework (e.g. policy and procedure)

	Health service managers	• Participate in developing and operating governance frameworks for recognition and response systems, such as:
		  – design and improvement of recognition and response systems
		  – policy development
		  – education
		  – evaluation
		
		• Be aware of individual roles and responsibilities for governance of recognition and response systems, enforce and undertake these responsibilities
		
		• Develop, implement and evaluate recognition and response systems as per agreed governance roles and responsibilities
		
		• Encourage health professionals to participate in governance of recognition and response systems
		
		• Authorise and support clinical staff to escalate care until satisfied that an effective response has been made
		
		• Comply with recommendations and systems determined by the governance framework (e.g. policy and procedure)

	Health service boards, executives and owners	• Ensure that effective clinical governance frameworks for recognition and response systems are in place and operating effectively
		
		• Provide leadership to establish, support and maintain a culture that focuses on improving recognition and response systems
		
		• Assign responsibility, personnel and resources to develop, implement and evaluate clinical governance frameworks to support:
		  – escalation processes
		  – rapid response systems and provision of emergency assistance
		  – monitoring and documenting observations
		  – clinical communication
		  – advance care directives, treatment-limiting decisions and end-of-life decision-making

table 6 ▸ CONTINUED...

People involved in clinical governance systems		
Clinical areas involved in escalating care	**Role**	**Responsibility**
	Health service boards, executives and owners continued...	• Develop terms of reference or policy for governance frameworks outlining the roles and responsibilities of the people involved • Include consumers, patients, families, carers and the clinical and non-clinical workforce in governance frameworks • Develop processes to enable all health professionals to provide input into governance frameworks • Provide managers with support to implement recognition and response systems and processes in their areas • Authorise and support clinicians to escalate care until satisfied that an effective response has been made

⚙ implementation tip

Establishing and maintaining clinical governance systems

• Executive and board leadership is a key component of effective clinical governance. Representation or endorsement for clinical governance frameworks from Health service boards, executives and owners is essential for recognition and response systems to be successful

• Governance committees should include health professionals who have the skills to help achieve performance goals, and undertake the roles and responsibilities outlined in the clinical governance framework

• Recognition and response systems operate across all acute care areas. Seek representation from a variety of clinical areas and professional groups when clinical governance systems are being developed

• Consider how consumers, patients, families and carers can be included in your clinical governance frameworks

• Communicate your plans to establish clinical governance frameworks. Invite and encourage participation – be inclusive rather than exclusive. Involving health professionals who express an interest can facilitate acceptance of outcomes and avoid conflict.

STEP 2 ▶ self-assessment and planning tool

Use the self-assessment tool to identify gaps in your clinical governance systems and develop an action plan.

Prioritise your changes.

Clinical governance frameworks for recognition and response systems must be capable of identifying risks, identifying and acting on performance data, and continuously improving the quality of patient care in each area within a facility. The self-assessment and planning tool has been designed to assess an entire facility's current practice related to this essential element. However, a key consideration during this process is to identify if existing frameworks have the capacity to monitor and improve care in each clinical area.

A modifiable electronic version of this tool, and other supporting tools to help answer the self-assessment questions, are available on the Commission's web site.

The action plan for this essential element begins on page 233. Follow the instructions in the self-assessment and planning tool to complete the action plan.

self-assessment tool ▸ ORGANISATIONAL SUPPORTS

NAME OF FACILITY BEING ASSESSED:

⏱ **task 1** **Provide a clinical governance framework to support systems for recognising and responding to clinical deterioration**		**Data or documentation that proves the criteria have been met** **Type of data or name of document**
AGREEMENT Has a committee or individual with governance responsibility been identified for recognition and response systems?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of agreement' in your action plan	
PROCESS OR POLICY Have terms of reference, roles and responsibilities for the governance committee or individual been developed?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of process/ policy' in your action plan	
Have policies for recognition and response systems been developed and included in the governance framework?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of process/ policy' in your action plan	
RESOURCES Are consumers, clinicians, managers and executives included in the governance framework?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of resources' in your action plan	
Do the governance frameworks include an advisory component for the allocation, prioritisation and maintenance of relevant resources?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of resources' in your action plan	
KNOWLEDGE Do health professionals know how to participate and provide input into governance frameworks?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of knowledge' in your action plan	
SYSTEMS TO SUPPORT MONITORING AND EVALUATION Is the effectiveness of the governance frameworks for recognition and response systems evaluated?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of monitoring and evaluation' in your action plan	

Where is it kept?	Are these policies/processes/ resources operating as planned? Does your data demonstrate effective operation at all times?
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan

action plan ▸ ORGANISATIONAL SUPPORTS

NAME OF FACILITY BEING ASSESSED:

what do you need to do?

how will you do it?

Task not yet achieved	Why has this task not been achieved (barriers)? What actions are needed?

Go to the recommended section of this guide for information on tasks and actions. List the tools and resources from the guide to address this gap here. Also consider other resources that may be available to you to address this gap.

⊙ task 1

Provide a clinical governance framework to support systems for recognising and responding to clinical deterioration

- ☐ Lack of agreement ▸ **DECIDE** ▸ p240
- ☐ Lack of process/policy ▸ **DEVELOP** ▸ p243
- ☐ Lack of resources ▸ **RESOURCE** ▸ p246
- ☐ Lack of knowledge ▸ **EDUCATE** ▸ p247
- ☐ Lack of monitoring and evaluation ▸ **EVALUATE** ▸ p248

OTHER POSSIBLE BARRIERS:

OTHER COMMENTS AND PLANS:

Use the information from the self-assessment and planning tool to complete the action plan. The action plan links the barriers identified by the self-assessment and planning tool with specific actions, tools and resources to address them.

Who will be responsible?	When will this happen? Consider undertaking actions that are low cost, easy to implement and support meeting the *National safety and quality health service standards* first

STEP 3 information and resources

Use the information and resources in this guide to help implement your action plan.

For each task, the following actions may be required: Decide, Develop, Resource, Educate and Evaluate

The task for this essential element is discussed in detail in this section. The task includes a brief summary of its importance and a series of actions that can be taken to complete it. Links to resources are included in Appendix C and additional tools to support implementation are available on the Commission's web site.

key tasks
for organisational supports

⊙ task 1
Provide a clinical governance framework to support systems for recognising and responding to clinical deterioration

why this task is important

This task is needed because:

- systems are required to continuously evaluate and improve recognition and response systems

- actual and potential risks related to recognition and response systems need to be identified, controlled and managed

- accountability for the operation, evaluation and improvement of recognition and response systems should be clearly identified within a facility.

Each healthcare facility in Australia is responsible for ensuring that their systems for recognising and responding to clinical deterioration are operational and effective. Incorporating recognition and response systems into existing clinical governance frameworks, or establishing new frameworks to govern these systems, helps to ensure this occurs systematically.

Good governance focuses on two main requirements of a facility.[2]

- Performance – the organisation uses its governance arrangements to contribute to its overall performance and the delivery of its goods, services or programs

- Conformance – the organisation uses its governance arrangements to ensure it meets the requirements of the law, regulations, published standards and community expectations of probity, accountability and openness.

Clinical governance is described as 'a system through which organisations are accountable for continuously improving the quality of their services and safeguarding high standards of care. This is achieved by creating an environment in which there is transparent responsibility and accountability for maintaining standards and allowing excellence in clinical care to flourish.'[1]

Each healthcare facility in Australia is responsible for ensuring that their systems for recognising and responding to clinical deterioration are operational and effective. Incorporating recognition and response systems into existing clinical governance frameworks, or establishing new frameworks to govern these systems, helps to ensure this occurs systematically.

practice point

Governance frameworks are interrelated

National, state, facility and departmental clinical governance frameworks are interrelated. They all have important roles and responsibilities in providing comprehensive governance of recognition and response systems.

state level
Statewide health departments or private ownership groups provide guidelines on key governance processes for recognition and response systems. These may include policy requirements, evaluation methods, and improvements such as key performance indicators and reporting frameworks.

facility level
The executive or board ensures that recognition and response systems comply with national and state policy and other legislative requirements. They also ensure that there is a policy framework to support the delivery of safe, high quality care. Successful operation, monitoring and improvement of performance are key concerns for clinical governance at a facility level.

national level
The National Safety and Quality Health Service Standards include standards for recognising and responding to clinical deterioration, safety and quality governance, and partnering with consumers. Assessment against these standards will be mandatory from January 2013 for high risk services such as hospitals.

departmental/ward/ unit level
Departmental directors and nurse unit managers ensure that policies and procedures for recognition and response systems are operational at the point of care. Key concerns for clinical governance at this level include implementing recognition and response systems, educating health professionals, monitoring compliance, improving quality and reporting on performance.

Including recognition and response systems in clinical governance frameworks within facilities allows a coordinated and systematic approach to caring for patients with deteriorating conditions. These frameworks provide systems for accountability for resources, evaluation, education, policy development and system improvements. They also allow clinicians, managers, consumers, patients, families and carers to share responsibility for planning, developing and delivering safe, high-quality care.

Clinical governance frameworks allow transparency within a facility, because information about systems of care can be articulated to all internal and external stakeholders. Specifically, clinical governance frameworks for recognition and response systems aim to provide:[3–4]

- a mechanism for maintaining accountability

- a process for monitoring and improving clinical and operational performance

- a system for identifying and managing risks

- an opportunity to partner with patients, families and carers in developing, evaluating and reviewing these systems

- a mechanism for setting and maintaining clinical and professional standards for recognising and responding to clinical deterioration

- a process for monitoring the development of a knowledgeable and skilled clinical workforce.

Effective clinical governance needs a supportive culture, as well as transparent processes and methods for improvement.[5] Leadership, ethical conduct and a strong performance culture are fundamental components of successful quality and safety activities and governance systems.[2–3,6–7] To help develop such a culture, ensure clear and consistent communication of recognition and response system objectives to health professionals, management and external stakeholders.[2]

practice point

Principles of governance

The overarching principles of effective governance include the following.[2,4]

- Accountability – Healthcare facilities, and the individuals within them, are responsible for their decisions and actions, and submit themselves to appropriate external scrutiny. All parties have a clear understanding of those responsibilities, and have clearly defined roles through organised structures

- Transparency and openness – Consumers, patients, families and carers can have confidence in the decision-making processes and actions of healthcare facilities, in the management of their activities, and in the individuals within them. Meaningful consultation and communication of full, accurate and clear information leads to effective and timely action, and enables facilities to demonstrate accountability

- Leadership – Strong leadership sets the 'tone at the top', and is critical to achieving an organisation-wide commitment to good governance. This includes setting the vision of the governance system, providing clear, timely and direct communication, and ensuring access to appropriate resources to support the system

- Efficiency – The best use of resources to further the aims and objectives of the facility, with a commitment to evidence based strategies for improvement.

how to complete this task

DECIDE	DEVELOP	RESOURCE	EDUCATE	EVALUATE

task 1 – provide a clinical governance framework to support systems for recognising and responding to clinical deterioration

DECIDE	▶ ▶ ▶	Decide where responsibility for clinical governance of recognition and response systems lies within the facility
DEVELOP	▶ ▶ ▶	Develop roles and responsibilities for health professionals operating within the clinical governance framework Develop policies for recognition and response systems and include them in the clinical governance framework
RESOURCE	▶ ▶ ▶	Include representation from executives, clinicians, managers, consumers, patients, families and carers in clinical governance frameworks Advise on allocating, prioritising and maintaining resources
EDUCATE	▶ ▶ ▶	Ensure health professionals know how to participate and provide input into clinical governance frameworks
EVALUATE	▶ ▶ ▶	Evaluate the effectiveness of the clinical governance framework for recognition and response systems

DECIDE

DECIDE WHERE RESPONSIBILITY FOR CLINICAL GOVERNANCE OF RECOGNITION AND RESPONSE SYSTEMS LIES WITHIN THE FACILITY

Health service executives are responsible for ensuring that recognition and response systems are developed, implemented and operating as planned within a facility. A facility's clinical governance framework provides the mechanism for this.

To operate effectively, clinical governance frameworks need the following.
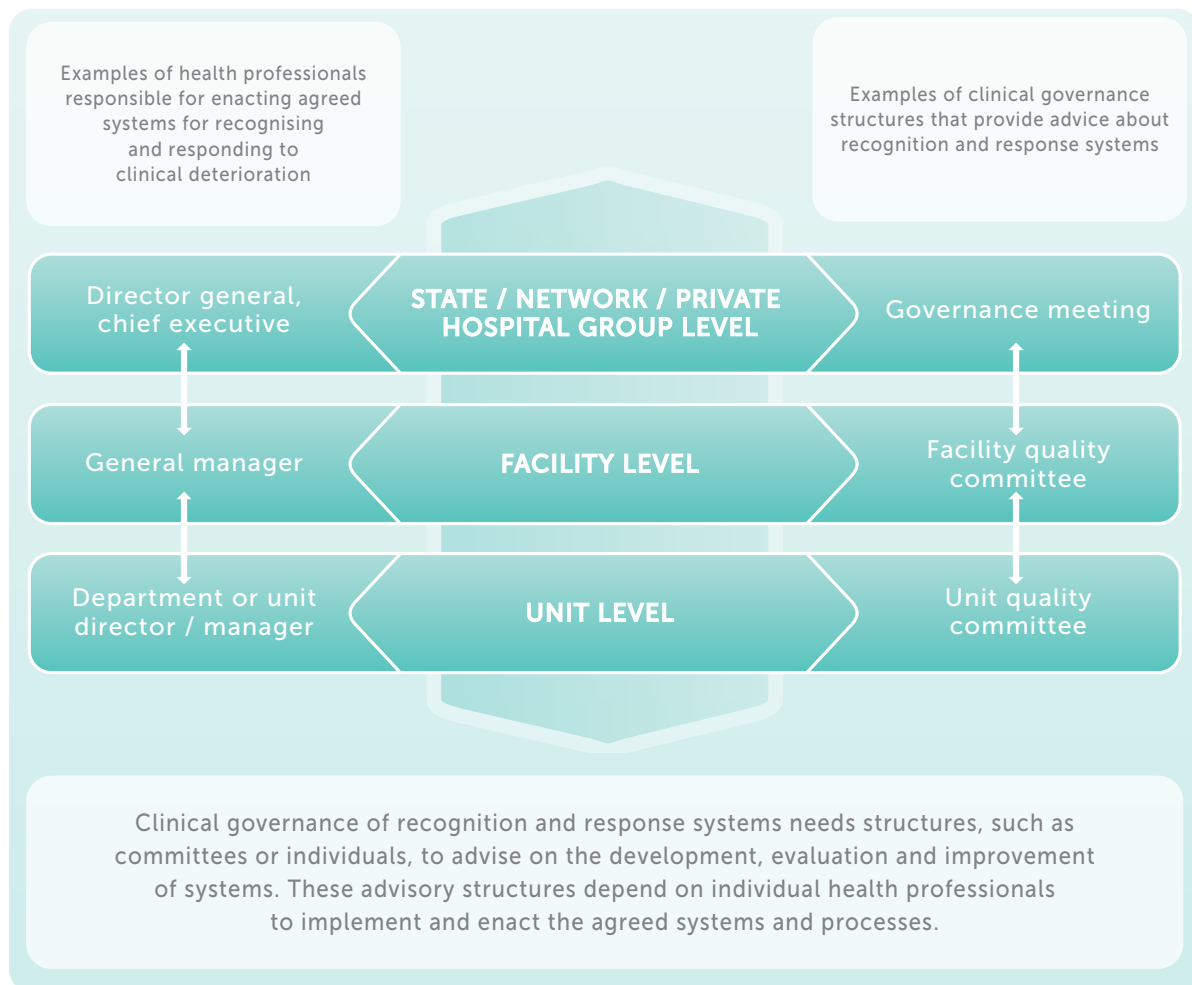
- Advisory clinical governance structures: these may be committees or individuals within a facility who provide advice about developing, evaluating and improving the performance of recognition and response systems. Identifying these advisory structures is a key responsibility of health service executives

- Line management: accountability should be developed and aligned for the development, maintenance and improvement of rapid response systems. Managers are responsible for ensuring that systems for recognising and responding to clinical deterioration (such as observation monitoring practices) are implemented, evaluated and operating effectively in their clinical area

- Compliance: health professionals need to act in accordance with the agreed systems and processes for recognising and responding to clinical deterioration, considering their scope and role within a facility. For example, educators are responsible for developing, implementing, evaluating and improving education programs associated with recognition and response systems.

Clinical governance of recognition and response systems occurs at several different levels, including at the national level; within a state, hospital network or private hospital group; and at the facility, ward and unit level. A facility's clinical governance framework should have the capacity to obtain data and information about system operation from the level of wards or clinical areas, and report this data to external bodies as required. Similarly, a facility may receive recommendations or direction from external bodies such as statewide services, health networks or private hospital groups.

A facility's clinical governance framework should have the capacity to obtain data and information about system operation from the level of wards or clinical areas, and report this data to external bodies as required.

TASK 1 ▸▸ STEP 3 ▸▸ ESSENTIAL ELEMENT 5 ▸▸

01
02
03
04
05
06
07
08

PAGE 241

practice point

The relationship between operational line management and advisory clinical structures in a clinical governance framework

The illustration below shows how clinical governance frameworks depend on operational line management, advisory clinical structures and individual health professionals to perform their roles and responsibilities. It also shows the operational relationship between different levels of governance.

Examples of health professionals responsible for enacting agreed systems for recognising and responding to clinical deterioration

Examples of clinical governance structures that provide advice about recognition and response systems

Director general, chief executive	STATE / NETWORK / PRIVATE HOSPITAL GROUP LEVEL	Governance meeting
General manager	FACILITY LEVEL	Facility quality committee
Department or unit director / manager	UNIT LEVEL	Unit quality committee

Clinical governance of recognition and response systems needs structures, such as committees or individuals, to advise on the development, evaluation and improvement of systems. These advisory structures depend on individual health professionals to implement and enact the agreed systems and processes.

Adapted from a model by C.Pain, NSW Clinical Excellence Commission, personal communication, 2011.

Health service executives need to identify suitable advisory committees or individuals and form clinical governance frameworks that allow recognition and response systems to be developed, monitored and continuously improved. The frameworks may include one or more committees (such as a quality and safety committee, or a resuscitation committee) that oversee some or all of the components of the recognition and response system. In some cases, the advisory frameworks may include one or more individuals with responsibilities in these areas.

A useful strategy for ensuring advisory clinical governance frameworks are in place is to map key requirements for the governance of recognition and response systems against existing committees or individuals with clinical governance responsibilities. If no suitable advisory clinical governance framework can be identified, facilities may need to establish new structures or redefine roles and responsibilities within existing governance frameworks. This mapping will ensure that all components of recognition and response systems are included in the clinical governance framework.

⚙ implementation tip

Examples of clinical governance frameworks in different settings

Following is an example of two different approaches to the advisory clinical governance structure for recognition and response systems. Hospital 1 is a large teaching hospital and Hospital 2 is a small rural facility. Each has established a framework with clearly defined roles and responsibilities for the governance of their recognition and response system.

Component of recognition and response system	Advisory clinical governance location	
	Hospital 1 - Large teaching hospital	Hospital 2 - Small rural facility
Monitoring and documentation of observations	Departmental quality committees	Recognition and response clinical governance committee
Escalation of care (internal and external) Patient, family and carer escalation Track and trigger systems	Emergency response committee	
Rapid response system (operation and associated education)	Emergency response committee	
Education (clinical communication, physical assessment, clinical deterioration)	Clinical workforce development committee Nursing peer review committee Medical peer review committee	

DEVELOP

DEVELOP ROLES AND RESPONSIBILITIES FOR HEALTH PROFESSIONALS OPERATING WITHIN THE CLINICAL GOVERNANCE FRAMEWORK

DEVELOP POLICIES FOR RECOGNITION AND RESPONSE SYSTEMS AND INCLUDE THEM IN THE CLINICAL GOVERNANCE FRAMEWORK

Once hospital executives have decided where responsibility for clinical governance of recognition and response systems lies within a facility, individual roles and responsibilities should be developed to enable health professionals to carry out the activities of the clinical governance framework.

These activities should meet the key principles from the *National safety and quality health service standard 1: Governance for safety and quality in health service organisations*. Table 7 uses the framework from this standard, providing examples of activities that facilities should undertake to ensure recognition and response systems are operational and continuously improved.

Individual roles and responsibilities should be developed to enable health professionals to carry out the activities of the clinical governance framework.

Criteria for the *National safety and quality health service standard 1*	Examples of activities for recognition and response systems undertaken within a clinical governance framework
1. GOVERNANCE AND QUALITY IMPROVEMENT SYSTEMS There are integrated systems of governance to actively manage patient safety and quality risks	Maintain accountability for the use of recognition and response systems by: • developing agreed reporting lines to ensure performance data is considered by clinicians, managers, health service executives and boards • developing mechanisms for reviewing and addressing poor clinical performance fairly and in a timely manner, in accordance with local policies and procedures • encouraging and supporting staff to escalate care, in accordance with recognition and response system policy
	Collect and review data in all acute care areas to enable evaluation of key activities such as: • monitoring and documenting observations • escalation of care, and use of systems to provide emergency assistance • advance care directives, treatment-limiting and end-of-life decision-making • clinical communication • education and training • morbidity and mortality
	Undertake continuous improvement strategies in response to performance data. This should include regularly reviewing key performance targets, developing action plans, prioritising improvement areas, and providing support when implementing improvement strategies
	Participate in accreditation processes relevant to recognition and response systems
	Maintain and communicate a focus on patient safety and high-quality care by: • encouraging and acknowledging clinical effectiveness and high-performing teams • focusing on learning and improving systems by communicating information about risks and successful strategies throughout an organisation • engaging with clinicians to identify and resolve problems (e.g. executive leadership clinical rounds or forums) • reporting recognition and response system strategies and outcomes via newsletters, minutes of meetings, staff meetings or alternative forums
	Review performance data and consider resource needs. This includes ensuring that the resources required to provide emergency assistance (such as equipment and pharmaceuticals) are always operational and available. This may require audits and equipment checklists
2. CLINICAL PRACTICE Care provided by the clinical workforce is guided by current best practice	Plan, develop, implement, evaluate and revise: • guidelines and clinical standards based on current evidence and best practice • policies, procedures and protocols Guidelines, standards and policies may be related to: • escalation processes (internal and external) • protocols to provide emergency assistance • monitoring and documenting observations • clinical communication • advance care directives, treatment-limiting and end-of-life decision-making Review evidence for new technologies for recognition and response systems Provide advice and prioritise the purchase and allocation of these resources

TASK 1 ▸▸   STEP 3 ▸▸   ESSENTIAL ELEMENT 5 ▸▸

01
02
03
04
05
06
07
08

table 7 ▸ CONTINUED...

Criteria for the *National safety and quality health service standard 1*	Examples of activities for recognition and response systems undertaken within a clinical governance framework
3. PERFORMANCE AND SKILLS MANAGEMENT Managers and the clinical workforce have the right qualifications, skills and approach to provide safe, high-quality health care	Plan, develop, implement and evaluate education and training programs. Examples include education related to: • basic and advanced life support • monitoring and documenting observations • escalation protocols • physical assessment • clinical communication • simulation, mentorship and education principles Develop mechanisms for reviewing and addressing poor clinical performance fairly and in a timely manner, in accordance with local policies and procedures
4. INCIDENT AND COMPLAINTS MANAGEMENT Patient safety and quality incidents are recognised, reported and analysed, and this information is used to improve safety systems	Report, investigate and analyse incidents, including near misses. This could include any component of recognition and response systems (e.g. clinical handover processes, rapid response system use, escalation of care) Identify, analyse and respond to consumer, patient, family and carer complaints about observation monitoring and documentation, escalation of care and clinical communication Review incidents related to recognition and response systems, and consider resource needs Incorporate information from incidents and complaints into planning processes for recognition and response systems
5. PATIENT ENGAGEMENT AND RIGHTS Patients rights are respected and their engagement in their care is supported	Partner with consumers, patients, families and carers to review and develop recognition and response systems. This includes involving consumers, patients, families and carers in: • governance structures such as committees • policy development and decision-making • clinical standard development • evaluation • clinical education and training

Facilities may like to incorporate these roles and responsibilities into terms of reference and/or policies related to clinical governance frameworks for recognition and response systems.

One of the key roles of clinical governance frameworks for recognition and response systems is the development, implementation, evaluation and revision of policies. These policies should meet current legislative requirements, be based on clinical evidence (where available), and outline the expected operation and performance of recognition and response systems. Suggested minimum policy requirements for successful operation of recognition and response systems are included throughout this implementation guide and can be identified by undertaking the self-assessment in Step 2 of each essential element.

National Consensus Statement recommendation

The *National Consensus Statement: Essential Elements for Recognising and Responding to Clinical Deterioration* recommends that policies to support recognition and response systems should capture:[8]

• governance arrangements

• specific roles and responsibilities

• communication processes

• resources for the rapid response system, such as staff and equipment

• training requirements

• evaluation, audit and feedback processes

• arrangements with external organisations that may be part of the rapid response system.

INCLUDE REPRESENTATION FROM EXECUTIVES, CLINICIANS, MANAGERS, CONSUMERS, PATIENTS, FAMILIES AND CARERS IN CLINICAL GOVERNANCE FRAMEWORKS

ADVISE ON ALLOCATING, PRIORITISING AND MAINTAINING RESOURCES

Clinicians and managers play a key role in clinical governance frameworks, because they provide input into clinical decision-making, and understand day to day care processes and how the patient is treated at the bedside.[9–10] This type of information is critical, as it helps identify barriers and risks associated with the operation of recognition and response systems. Clinicians and managers also play a role in translating agreed policy and plans into practice, making their involvement a key strategy to support improvement activities.[9]

There is increasing evidence that health systems are safer when consumers, patients, families and carers are involved in healthcare design and delivery. When healthcare executives, providers, patients and families work in partnership, quality, safety and operational outcomes improve, costs decrease, and provider and patient satisfaction increases.[11–16]

Consumers, patients, families and carers have experiences of recognition and response systems that can inform planning and improvement activities. Involving consumers, patients, families and carers in governance frameworks (such as committees and quality improvement teams) will provide insight into aspects of rapid response systems that health professionals may not otherwise consider.[17]

Systems for recognising and responding to clinical deterioration need resources to operate effectively. Clinical governance frameworks should include mechanisms for monitoring resources (e.g. equipment and pharmaceutical logs, staffing profiles). The frameworks should also provide advice on using, allocating and prioritising resources. Local performance data, and state and national safety and quality policies and standards, may help prioritise and allocate resources.

Key resources for consideration include:

- equipment – e.g. observation charts, emergency equipment, observation and monitoring equipment, pharmaceuticals

- workforce – including both the clinical and non-clinical workforce

- information management tools – e.g. incident reporting systems and databases

- education and training – e.g. provision of emergency assistance, physiological observation monitoring, knowledge of escalation protocols

- quality activities and measurement of performance – e.g. tools for measurement and data analysis, and release time for clinicians to participate in training and gathering data.

EDUCATE

ENSURE HEALTH PROFESSIONALS KNOW HOW TO PARTICIPATE AND PROVIDE INPUT INTO CLINICAL GOVERNANCE FRAMEWORKS

Many health professionals are ideally placed to identify or provide solutions to problems associated with recognition and response systems. Strong communication pathways ensure that these risks can be identified and addressed in a timely manner. Effective engagement with health professionals will also help develop a shared sense of responsibility for operation of these systems, and reinforce the goals of recognition and response systems.

It is important to ensure all health professionals can participate in the governance of recognition and response systems, and to provide information on how this participation may occur.

Strategies that facilities may like to consider include:

- using incident reporting and risk management systems to identify and report problems

- peer review activities such as mortality and morbidity meetings, and peer review involving individual clinicians. This will help to identify system issues, provide education related to recognition and response systems, and maintain performance and accountability

- developing processes for health professionals to engage with governance committees, such as through attendance at meetings, via written documentation or other processes where discussions can occur (e.g. regular 'safety walk rounds')

- advertising membership of governance committees and promoting contact and engagement with this membership. This may be via committee notice boards, staff newsletters, or during orientation programs.

⚙ implementation tip

Peer review

Peer review is the evaluation of the creative work or performance of an individual by other people in the same field.[18] Peer review should form part of the informal, voluntary or collaborative activities used by clinicians to review and support improvements in their professional and clinical practice, and to maintain and improve the quality of patient care.[19]

Peer review is an essential component of effective clinical governance systems. It plays a key role in ensuring lessons are learned from adverse events, and that change follows from such events to reduce the risk of harm and improve patient safety.[20]

Two different peer review frameworks that are useful for improving clinical systems and practices associated with systems for recognising and responding to clinical deterioration are morbidity and mortality meetings, and peer review associated with individual clinical practice. Use of these peer review frameworks has been shown to improve teamwork, compliance with clinical practice guidelines and communication practices such as documentation.

Detailed information related to peer review is available from the Australian Commission on Safety and Quality in Health Care publication *Review by Peers A Guide for Professional, Clinical and Administrative Processes*.

EVALUATE

EVALUATE THE EFFECTIVENESS OF THE CLINICAL GOVERNANCE FRAMEWORK FOR RECOGNITION AND RESPONSE SYSTEMS

Clinical governance frameworks to support recognition and response systems should be evaluated to ensure they fulfil their terms of reference, and that individuals identified in the framework perform their roles and responsibilities. Ongoing review and evaluation of these frameworks ensures that facilities identify areas for improvement, and develop strategies to address poor performance.

Statewide jurisdictions and private hospital groups in Australia may have agreed standards and processes for evaluating clinical governance frameworks for recognition and response systems. Where this is the case, facilities should follow these evaluation requirements. The Australian National Audit Office recommends evaluation of governance frameworks on an ongoing basis, and in detail every two years.[2]

For services without established evaluation standards, two types of evaluation principles can be applied to clinical governance frameworks: internal performance and accountability, and external performance and accountability.[21]

Internal performance and accountability describes how well the clinical governance framework is meeting its objectives and establishing processes to perform its roles and responsibilities. Facilities can evaluate their internal performance and accountability through processes such as:

- monitoring outcome and performance measures against desired goals and targets – have these been reached? Is compliance acceptable?

- evaluating the clinical governance structure to identify if individuals identified in the framework have fulfilled their roles and responsibilities, considering:

    – coverage – the extent to which the required activities are observed and reported

    – depth – the measure of maturity of the activities within the governance system, including the ability to evaluate change

    – flow of information – the measure of defined reporting lines and structure to ensure information is considered by relevant parties.[21]

Evaluation of internal performance and accountability may include collecting qualitative data, for example, surveys of health professionals to obtain their perceptions of how the individuals identified in the governance framework are performing their roles and responsibilities. It may also include collecting process and outcome data, such as the presence of, and compliance with, the policies for which the governance framework is accountable.[2]

External performance and accountability refers to the ability of clinical governance frameworks to demonstrate that governance arrangements are in place, and that the organisation is performing to agreed standards.[2] This could be demonstrated as part of an external accrediting process.[21]

summary of tasks and actions for essential element 5

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
⊙ **task 1** **Provide a clinical governance framework to support systems for recognising and responding to clinical deterioration**	**DECIDE** Decide where responsibility for clinical governance of recognition and response systems lies within the facility	Health service boards, executives and owners	5.6 A formal governance process (such as a committee) should oversee the development, implementation and ongoing review of recognition and response systems	1.1.1 An organisation-wide management system is in place for the development, implementation and regular review of policies, procedures and/or protocols 1.2 The board, chief executive officer and/or other higher level of governance within a health service organisation taking responsibility for patient safety and quality of care 9.1.1 Governance arrangements are in place to support the development, implementation, and maintenance of organisation-wide recognition and response systems
	DEVELOP Develop roles and responsibilities for health professionals operating within the clinical governance framework Develop policies for recognition and response systems and include them in the clinical governance framework	Health service boards, executives and owners Health service managers Clinicians Health professionals with responsibility for policy or quality improvement	5.1 A formal policy framework regarding recognition and response systems should exist and should include issues such as: • governance arrangements • roles and responsibilities 5.2 This policy framework should apply across the acute health care facility, and identify the planned variations in the escalation protocol and responses that might exist in different circumstances (such as for different times of day) 5.3 Any new recognition and response systems or procedures should be integrated into existing organisational and safety and quality systems to support their sustainability and opportunities for organisational learning	1.3.1 Workforce are aware of their delegated safety and quality roles and responsibilities 9.1.1 Governance arrangements are in place to support the development, implementation, and maintenance of organisation-wide recognition and response systems 9.1.2 Policies, procedures and/or protocols for the organisation are implemented in areas such as: • measurement and documentation of observations • escalation of care • establishment of a rapid response system • communication about clinical deterioration

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
⊙ **task 1** Provide a clinical governance framework to support systems for recognising and responding to clinical deterioration	**RESOURCE** Include representation from executives, clinicians, managers, consumers, patients, families and carers in clinical governance frameworks Advise on allocating, prioritising and maintaining resources	Health service boards, executives and owners Health service managers Clinicians Patients, families and carers	5.1 A formal policy framework regarding recognition and response systems should exist and should include issues such as: • resources for the rapid response system, such as staff and equipment • arrangements with external organisations that may be part of the rapid response system 5.7 Organisations should have systems in place to ensure that the resources required to provide emergency assistance (such as equipment and pharmaceuticals) are always operational and available	1.3.1 Workforce are aware of their delegated safety and quality roles and responsibilities 2.1.1 Consumers and/or carers are involved in the governance of the health service organisation 2.5.1 Consumers and/or carers participate in the design and redesign of health systems
	EDUCATE Ensure health professionals know how to participate and provide input into governance systems	Health service managers Health professionals with responsibility for policy or quality improvement Educators Clinicians	N/A	1.4.1 Orientation and ongoing training programs provide the workforce with the skill and information needed to fulfil their safety and quality roles and responsibilities
	EVALUATE Evaluate the effectiveness of the clinical governance framework for recognition and response systems	Health service boards, executives and owners Health service managers Health professionals with responsibility for policy or quality improvement Clinicians	5.3 Any new recognition and response systems or procedures should be integrated into existing organisational and safety and quality systems to support their sustainability and opportunities for organisational learning 7.1 Data should be collected and reviewed locally and over time regarding the implementation and effectiveness of recognition and response systems 7.6 Evaluation of the costs and potential savings associated with recognition and response systems could also be considered	1.1.1 An organisation-wide management system is in place for the development, implementation and regular review of policies, procedures and/or protocols 1.1.2 The impact on patient safety and quality of care is considered in business decision-making 1.2.1 Regular reports on safety and quality indicators and other safety and quality performance data are monitored by the executive level of governance

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
			7.10 Indicators of the implementation and effectiveness of recognition and response systems should be monitored at senior governance levels within the organisation (such as by senior executives or relevant quality committees)	1.6.1 An organisation-wide quality management system is used and regularly monitored 9.1.1 Governance arrangements are in place to support the development, implementation, and maintenance of organisation-wide recognition and response systems

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⊙ essential element 6

EDUCATION

education

the problem

Treatment of clinical deterioration will be delayed if clinicians cannot identify and interpret signs of clinical deterioration.

Patients may not receive appropriate treatment if clinicians do not have the knowledge and skills to initiate early interventions for patients who are deteriorating.

Delays in recognising and responding to clinical deterioration can occur if clinicians are unfamiliar with local protocols for escalating care.

goals of this essential element

Clinicians have the necessary skills to assess patients for signs of clinical deterioration.

Patients showing signs of clinical deterioration are identified, and receive appropriate and timely treatment.

Clinicians communicate effectively when clinical deterioration occurs, and work efficiently as a team to deliver care.

Escalation protocols are used correctly when clinical deterioration occurs.

Clinicians maintain their skills to perform their role(s) within the escalation policy.

what you need to do

Provide education to the clinical and non-clinical workforce to recognise and respond to clinical deterioration.

common terms used in this essential element

Competency-based training: 'an approach to training that places emphasis on what a person can do in the workplace as a result of training completion.'[1]

Continuing professional development: any educational activity undertaken after the completion of any formal training that assists in the maintenance and development of professional knowledge, technical skills or performance.

Peer review: 'the evaluation by a practitioner of creative work or performance by other practitioners in the same field in order to assure, maintain and/or enhance the quality of work or performance.'[2]

Simulation training: the imitation of real patients, anatomic regions, clinical tasks, and/or the real life circumstance in which health care is practiced, to train practitioners in a range of techniques and skills.[3]

consensus statement recommendations

essential element 6: education

6.1 All clinical and non-clinical staff should receive education about the local escalation protocol relevant to their position. They should know how to call for emergency assistance if they have any concerns about a patient, and know that they *should* call under these circumstances. This information should be provided at the commencement of employment and as part of regular refresher training.

6.2 All doctors and nurses should be able to:

- systematically assess a patient

- understand and interpret abnormal physiological parameters and other abnormal observations

- initiate appropriate early interventions for patients who are deteriorating

- respond with life-sustaining measures in the event of severe or rapid deterioration, pending the arrival of emergency assistance

- communicate information about clinical deterioration in a structured and effective way to the attending medical officer or team, to clinicians providing emergency assistance, and to patients, families and carers

- understand the importance of, and discuss, end-of-life care planning with the patient, family and/or carer

- undertake tasks required to properly care for patients who are deteriorating, such as developing a clinical management plan, writing plans and actions in the healthcare record and organising appropriate follow up.

6.3 As part of the rapid response system, competency in advanced life support should be ensured for sufficient clinicians who provide emergency assistance to guarantee access to these skills according to local protocols.

6.4 A range of methods should be used to provide the required knowledge and skills to staff. These may include provision of information at orientation and regular refreshers using face-to-face and online techniques, as well as simulation centre and scenario based training.

Who is responsible?
How does this element apply to your role(s)?
What clinical areas does this element apply to?

All clinicians need knowledge and skills to be able to recognise the signs of clinical deterioration, and provide appropriate care to patients when this deterioration occurs. Members of the non-clinical workforce need to know how to call for emergency assistance if they have any concerns about a patient.

To improve systems, health professionals need to determine who will be responsible for the tasks required for this essential element.

Clinical areas involved in education about recognising and responding to clinical deterioration	People involved in education about recognising and responding to clinical deterioration	
	Role	**Responsibility**
Education programs to support recognition and response to clinical deterioration should be available for the clinical and non-clinical workforce in acute care areas These programs should support health professionals to meet their individual roles and responsibilities for recognising and responding to clinical deterioration	Consumers, patients, families and carers	Participate in the development and implementation of education programs for recognition and response systems
	Non-clinical workforce	Participate in education programs about how to call for emergency assistance
	Clinical workforce	Participate in education programs to support systems for recognising and responding to clinical deterioration Be aware of individual roles and responsibilities for providing education to other clinicians to support recognition and response systems
	Educators	Develop, implement and evaluate education programs for: • escalation processes (internal and external) • rapid response systems and provision of emergency assistance • observation monitoring and documentation • teamwork • clinical communication • advance care directives, treatment-limiting and end-of-life decision-making
	Health professionals with responsibility for policy or quality improvement	Participate in education programs about how to call for emergency assistance Participate in developing, implementing and evaluating education programs to support systems for recognising and responding to clinical deterioration
	Health service managers	Participate in developing, implementing and evaluating education programs to support systems for recognising and responding to clinical deterioration Assign individual roles and responsibilities for providing education to support recognition and response systems Support the clinical and non-clinical workforce to participate in education programs for recognising and responding to clinical deterioration
	Health service boards, executives and owners	Assign responsibility, personnel and resources to develop, implement and evaluate education programs to support: • escalation processes • rapid response systems and provision of emergency assistance • monitoring and documenting observations • teamwork • clinical communication • advance care directives, treatment-limiting and end-of-life decision-making Ensure consumers, patients, families and carers are involved in these programs Ensure the clinical and non-clinical workforce receive education on the local escalation protocol Provide managers with support to ensure delivery of education programs for recognition and response to clinical deterioration

STEP 2 self-assessment and planning tool

Use the self-assessment and planning tool to identify gaps in your systems for education about recognising and responding to clinical deterioration.

Prioritise your changes.

The self-assessment and planning tool has been designed to assess an entire facility's current practice in relation to this essential element. A modifiable electronic version of this tool, and other supporting tools to help answer the self-assessment questions, are available on the Commission's web site.

The action plan for this essential element begins on page 261. Follow the instructions in the self-assessment and planning tool to complete the action plan.

self-assessment tool ▸ EDUCATION

NAME OF FACILITY BEING ASSESSED:

⏱ task 1

Provide education to the clinical and non-clinical workforce to support recognition and response systems

		Data or documentation that proves the criteria have been met
		Type of data or name of document
AGREEMENT Have you reached agreement on the education that is required?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of agreement' in your action plan	
Have you reached agreement on who should receive this education?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of agreement' in your action plan	
PROCESS OR POLICY Are education programs to support recognition and response systems available?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of process/ policy' in your action plan	
RESOURCES Do you have equipment and tools to support delivery of education programs?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of resources' in your action plan	
Can health professionals access education programs?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of resources' in your action plan	
KNOWLEDGE Are health professionals responsible for providing education skilled in educational theory and associated techniques?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of knowledge' in your action plan	
SYSTEMS TO SUPPORT MONITORING AND EVALUATION Is the effectiveness of education programs evaluated?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of monitoring and evaluation' in your action plan	

Where is it kept?	Are these policies/processes/resources operating as planned? Does your data demonstrate effective operation at all times?
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan

action plan ▸ EDUCATION

NAME OF FACILITY BEING ASSESSED:

what do you need to do?

how will you do it?

Task not yet achieved	Why has this task not been achieved (barriers)? What actions are needed?

Go to the recommended section of this guide for information on tasks and actions. List the tools and resources from the guide to address this gap here. Also consider other resources that may be available to you to address this gap.

⊙ task 1

Provide education to the clinical and non-clinical workforce to support recognition and response systems

- ☐ Lack of agreement ▸ **DECIDE** ▸ p267
- ☐ Lack of process/policy ▸ **DEVELOP** ▸ p270
- ☐ Lack of resources ▸ **RESOURCE** ▸ p272
- ☐ Lack of knowledge ▸ **EDUCATE** ▸ p274
- ☐ Lack of monitoring and evaluation ▸ **EVALUATE** ▸ p275

OTHER POSSIBLE BARRIERS:

OTHER COMMENTS AND PLANS:

Use the information from the self assessment and planning tool to complete the action plan. The action plan links the barriers identified by the self assessment and planning tool with specific actions, tools and resources to address them.

Who will be responsible?	When will this happen? Consider undertaking actions that are low cost, easy to implement and support meeting the *National safety and quality health service standards* first.

Use the information and resources in this guide to help implement your action plan.

For each task, the following actions may be required: Decide, Develop, Resource, Educate and Evaluate

The task for this essential element is discussed in detail in this section. The task includes a brief summary of its importance and a series of actions that can be taken to complete it. Links to resources are included in Appendix C and additional tools to support implementation are available on the Commission's web site.

key tasks
for education

◉ **task 1**
Provide education to the clinical and non-clinical workforce to support recognition and response systems

why this task is important

This task is needed because:

- clinicians need to know how to assess signs of clinical deterioration

- clinicians may not understand the significance of altered physiological observations and assessments

- knowledge of local escalation protocols is needed by both the clinical and non-clinical workforce to prevent delays in appropriate treatment

- clinicians need knowledge and skills to respond appropriately to clinical deterioration.

A lack of education and training is a significant factor leading to clinical deterioration going unrecognised, and may delay patients receiving appropriate and timely treatments.[4] The reasons why this occurs are complex, and may include clinicians not having sufficient knowledge, skills or experience to:[4–5]

- identify the observations and assessments that are needed to detect clinical deterioration

- identify the most appropriate frequencies for measuring observations and assessments

- accurately measure observations and undertake assessments to identify changes and abnormalities

- interpret abnormal physiological observations and assessment findings

- effectively communicate physiological changes, abnormalities and treatment plans

- identify and provide appropriate treatments for altered or abnormal findings

- correctly use track and trigger systems and local escalation protocols

- work effectively and efficiently as part of a team (e.g. when providing basic life support or implementing escalation protocols, or as part of a rapid response team).

All clinicians need continuing education to help them identify the observations and assessments needed to detect clinical deterioration, the physiology associated with abnormalities, and the importance of timely intervention.

learning from coronial inquests

The importance of understanding physiological observations and rapid response systems

A three-month-old baby, Edward Collins, presented to a rural emergency department a week after discharge from a hospital where he had been recuperating from surgery to correct a congenital heart defect. On arrival at the emergency department, Edward's observations showed a temperature of 40.2°C, a respiratory rate of 88 and a heart rate of 192. Despite meeting the hospital medical emergency criteria, Edward was sent home without medical review and died the next morning.

'While Nurse Griffin stated that she was not aware of the medical emergency criteria…as a registered nurse I am satisfied that she should have been aware of the very concerning nature of these results.'[6]

'Every nurse should know that in such a case there is an urgent need for medical input.'[6]

Education for rapid response providers must also be ongoing to improve the quality of emergency care provided to patients. Rapid response providers need to maintain skills in: assessing and treating clinical deterioration, providing advanced life support, teamwork, clinical teaching and communication.[7]

A key role of health professionals who provide emergency assistance is to provide education and training to clinical teams. Ensuring health professionals are suitably trained to provide this education is important, as evidence suggests that clinicians are less likely to activate rapid response systems if they feel unsupported or de-skilled in any way.[5]

Health professionals in rapid response teams are brought together in a crisis situation, often never having had an opportunity to work as a team before. This can affect the quality of teamwork and resuscitation performance. Simulation training can assist in improving clinical skills performance, teamwork and communication.[11–12] Communication training for rapid response providers should also include information regarding handover processes and documentation requirements.

practice point

Improving the quality of cardiopulmonary resuscitation (CPR)

Poor-quality CPR has been reported both in and out of hospital.[11,13–14] Minimising the interval between stopping chest compressions and delivering electrical cardioversion improves the chances of successful defibrillation and patient survival. A study of in-hospital CPR identified that chest compression rates were less than:[15]

- 80 per minute in 36.9% of the 30-second time segments measured
- 70 per minute in 21.7% of the 30-second time segments measured

CPR prompt or feedback devices can improve skill acquisition and retention, and should be considered during CPR training for clinicians.[14] Increasing the emphasis on non-technical skills such as leadership, teamwork, task management and structured communication is also recommended to help improve patient care and the performance of resuscitation providers.[14] Simulation training can assist in improving both technical and non-technical skills, which may help to improve patient survival and reduce potential for error.[13]

All staff should receive information about how to access local governance frameworks to participate in continuous improvement of rapid response systems. Both the clinical and non-clinical workforce must know how to report concerns and participate in developing solutions. It is also important to consider how to provide training to health professionals responsible for evaluating recognition and response systems. Skills are required in clinical audit; evaluating patient, family and carer experiences; and other evaluation methodologies to support continuous quality improvement.

how to complete this task

| DECIDE | DEVELOP | RESOURCE | EDUCATE | EVALUATE |

task 1 – provide education to the clinical and non-clinical workforce to support recognition and response systems

DECIDE	▶ ▶ ▶	Decide what education is required and who should receive this education
DEVELOP	▶ ▶ ▶	Develop and/or provide access to education programs to support clinicians to recognise and respond to clinical deterioration
RESOURCE	▶ ▶ ▶	Provide resources to support delivery and attendance at education programs
EDUCATE	▶ ▶ ▶	Educate health professionals responsible for teaching and training
EVALUATE	▶ ▶ ▶	Evaluate education programs

DECIDE

DECIDE WHAT EDUCATION IS REQUIRED AND WHO SHOULD RECEIVE THIS EDUCATION

Table 9 provides an overview of the education needed to support effective recognition and response to clinical deterioration based on the consensus statement, as well as suggestions for who should participate in this education. Specific content of education programs should always consider the scope of practice of each participant and be tailored to individual roles and responsibilities.

Facilities may choose to mandate some training programs, or analyse pre-existing knowledge, skills and performance to target education to areas where it is most needed. Information from a facility's incident management system – such as adverse events and clinical incidents related to recognition and response systems – may also identify areas where specific education is needed.

Facilities may choose to incorporate one or several topics into education programs.

Information from a facility's incident management system – such as adverse events and clinical incidents related to recognition and response systems – may also identify areas where specific education is needed.

Education requirements	Suggested key content	Who should participate in this education?
Systematic physical assessment	Primary and secondary survey techniques A systematic approach to assessing each physiological system	Clinicians, including those who are casual or from an agency
Local physiological monitoring practices	Core physiological observations and assessments that should be measured to detect clinical deterioration in a particular clinical area. This should include abnormal observations and assessments for common patient groups admitted to the clinical area (e.g. acute coronary syndromes, obstetric patients) The frequency and duration of these observations and assessments Agreed local practices for developing and documenting a monitoring plan for each patient	
Understanding and interpreting abnormal physiological observations and assessments	Physiology of abnormal physiological observations and assessments for common patient groups admitted to the clinical area (e.g. acute coronary syndromes, renal dialysis, fractures)	
Appropriate early interventions for patients who are deteriorating	Basic life support measures Increasing the frequency of observations and assessments once deterioration has been identified Undertaking additional assessments and therapies (e.g. pathology sampling or oxygen therapy) Contacting the attending medical officer or healthcare team	
Responding with life-sustaining measures in the event of severe or rapid deterioration, pending arrival of emergency assistance	Basic life support training	
Teamwork, which applies to all components of recognition and response systems such as communication, escalation of care, delivery of emergency assistance	Individual and team roles and responsibilities Communication skills Leadership skills	
Communicating information about clinical deterioration in a structured and effective way	Local protocols to aid communication (verbal and written) When and how to communicate clinical deterioration to families and carers When and how to communicate clinical deterioration to emergency response teams and the attending medical officer or team	
Advance care directives, treatment-limiting decisions and end-of-life care planning	Local policies and procedures for identifying and developing advance care directives Local policies and procedures for development and documentation of treatment-limiting decisions Suggested content and framework for discussion of advance care planning and end-of-life care plans with patients, families and carers	
Tasks required to properly care for patients who are deteriorating	Common treatments for signs of clinical deterioration (e.g. fluid resuscitation, management of arrhythmias) Clinical documentation, standards, tools such as a clinical management plan, writing plans and actions in healthcare record Organisation of appropriate follow up	

table 9 ▸ CONTINUED...

Education requirements	Suggested key content	Who should participate in this education?
Advanced life support	Should be based on national resuscitation guidelines and other sources of current evidence	Clinicians responsible for providing emergency assistance as part of the rapid response system
Local escalation policy and protocol	When to escalate care, including specific details of how the local track and trigger system and escalation protocol operate How and when to activate the rapid response system Roles and responsibilities of clinicians when providing emergency assistance When and how care of a patient should be escalated to a higher level of care locally, or to another facility Communication processes associated with escalation protocols	The clinical and non-clinical workforce, including those staff who are casual or from an agency
Clinical governance frameworks to support recognition and response systems	How to report risks, clinical incidents and adverse events How to access and engage with governance committees to support improvements to recognition and response systems	
Education to develop the training and teaching skills of health professionals	Preceptorship Peer assessment Mentoring Designing and delivering training programs Leading simulation training	Health professionals responsible for education and training, including rapid response providers
Evaluation methodologies	Different evaluation methodologies and their uses Reporting evaluation results effectively Analysis of costs and potential savings	Health professionals responsible for evaluating recognition and response systems

DEVELOP AND/OR PROVIDE ACCESS TO EDUCATION PROGRAMS TO SUPPORT CLINICIANS TO RECOGNISE AND RESPOND TO CLINICAL DETERIORATION

Education programs may be developed as part of a statewide approach or by individual facilities, depending on agreed governance arrangements, resources and local training needs. All facilities will need to ensure that educational programs are in place (or that health professionals have access to them) and that the programs include information specific to local work practices and policies to support recognition and response to clinical deterioration.

Whether education is delivered based on existing packages, or developed locally, the information provided needs to reflect local work practices and policies. Local information that needs to be included in education programs about recognition and response systems is described below.

- Physiological observation measurement: each clinician should be aware of the observations and assessments needed to detect clinical deterioration for common patient groups in their clinical area. Education should also include local processes for developing and updating individual patient monitoring plans

- Escalation protocols: education should include local roles and responsibilities for escalating care, trigger thresholds and responses, and processes for contacting the healthcare team or obtaining emergency assistance. Each clinician should be aware of the types of patients that can be safely managed in their clinical area and when care should be escalated to a higher level locally, or to another facility. The non-clinical workforce should know how to call for assistance if they have concerns about a patient

- Rapid response system operation: local practices may include how to activate the system, location of equipment, and individual roles and responsibilities of rapid response system providers and clinicians on the ward when providing emergency assistance

- Communication: each health professional should receive education on local communication protocols and practices (written and verbal) associated with recognition and response systems.

implementation tip

Education programs and packages about recognising and responding to clinical deterioration

Different educational programs and packages have been developed in Australia specifically to improve practice regarding the recognition and response to clinical deterioration. Some of these have been developed as part of statewide programs and are required for health professionals within these states. Key programs are:

- **COMPASS** – a program developed by Australian Capital Territory Health as part of the Early Recognition of the Deteriorating Patient Project. See http://health.act.gov.au/c/health?a=sp&did=11025490

- **DETECT** – a program developed by New South Wales Health as part of the Between the Flags program. See http://www.health.nsw.gov.au/initiatives/btf/index.asp

- **EPiQ** – Queensland Health have developed e-learning programs targeted at improving recognition and response to clinical deterioration for both adults and children. See http://cdes.learning.medeserv.com.au/portal/browse_CDES/EPIQ.cfm

These education programs should be given on commencement of employment (such as during orientation programs), or should occur as part of a local orientation process in a clinical area before a clinician begins caring for patients. Clinical areas may like to establish orientation checklists to help transfer this information to clinicians who are new, casual or from an agency.

Education programs that may be developed for use across multiple clinical areas or facilities include:

- systematic physical assessment

- understanding and interpreting abnormal physiological observations and assessments

- appropriate early interventions for patients who are deteriorating

- basic life support training

- advanced life support training

- teamwork and communication.

Facilities may need to consider accessing external training programs if specific training programs, such as advanced life support skills, cannot be provided locally.

Local work practices can be reinforced and knowledge and skills improved outside formal education programs. Opportunities for improvement can arise as a result of a death review or clinical incident, and should include education for all clinicians involved. Facilities may like to consider using peer review processes to identify health professionals' learning needs arising from these incidents, and to provide further education.

implementation tip

Peer review as an educational tool

Peer review refers to 'the evaluation of the creative work or performance of an individual by other people in the same field'[16] and is an effective method of identifying the learning needs of an individual or team, and providing education to support recognition and response to clinical deterioration.

Peer review can improve teamwork, clinical documentation and compliance with clinical practice guidelines.[17–19] Health professionals who act as peers during the review process can also improve their own practice.[18–21]

implementation tip

Clinical competency standards

A goal of education in recognition and response systems is to ensure health professionals can demonstrate clinical competency in a variety of areas. Health professionals responsible for education may like to use clinical competency standards developed by professional bodies, or develop competency standards locally, to clearly define performance requirements of recognition and response systems. These might include physical assessment, clinical handover and resuscitation knowledge and skills. The clearly defined criteria outlined in competency standards can then be used as a tool against which to assess clinical performance.

Multiple frameworks and methods exist to help structure clinical competency standards. One such framework groups performance criteria associated with a clinical competency into the following four domains:[22]

- interpersonal

- technical

- professional accountability and development

- clinical care delivery.

Facilities may like to use this framework to assist with structuring clinical competencies.

PROVIDE RESOURCES TO SUPPORT DELIVERY AND ATTENDANCE AT EDUCATION PROGRAMS

Examples of resources to support delivery and attendance at education programs for recognition and response systems include the following.

- Equipment: may include access to resuscitation equipment, training mannequins, observation monitoring and other equipment to support the development and teaching of clinical skills

- Tools to support training: may include educational material, presentations, workshops, competency-based assessment tools, debriefing checklists, case presentations, video or provision of observational feedback on teamwork performance, and participation of patients, families and carers in role play and teaching scenarios

- Personnel: includes educators and other health professionals to deliver education, as well as other staff to relieve clinicians who are required to attend training

- Access to external education: may include access to education programs that a facility cannot provide, such as advanced life support training, or opportunities to attend conferences and workshops. Educational outreach visits to facilities to view successful operation of systems for recognising and responding to clinical deterioration, and undertake training and mentorship, may also be useful.[23]

Educational outreach visits to facilities to view successful operation of systems for recognising and responding to clinical deterioration, and undertake training and mentorship, may also be useful.

implementation tip

Strategies for delivery of training about recognising and responding to clinical deterioration

The following points provide an overview of strategies that facilities may like to use to deliver education programs for recognising and responding to clinical deterioration.

- Simulation using mock clinical deterioration and/or arrest is a powerful tool for identifying inadequacies when responding to clinical deterioration and should form part of a facility's education program

- Case presentations that demonstrate deficiencies in recognition and response systems involve a process of 'critical reflective analysis' and have several teaching and learning advantages. Case presentations can help to orient learners to the nature of the clinical environment and the various types of situations they may encounter, and to integrate theory and practice. This can improve decision-making, critical thinking and problem solving skills, and encourage the application and synthesis of broad concepts in a safe environment[24–25]

- Local opinion leaders are individuals who are perceived by their colleagues as likeable, credible and educationally influential.[23] They are not necessarily authority figures, but they are people who clinicians trust, believe have good communication skills, and who are frequently approached for advice and guidance.[26] Seek out local opinion leaders and use their skills to assist with education and training programs

- Competency assessment is useful to assess clinical practice and skills through observation.[27–28] Specific assessment criteria help ensure the same assessment standards are set for all participants.[28–29] Participants should complete each assessment on at least three occasions in an attempt to reflect 'real life' practice and variations in patient presentations.[28–29] This strategy also supports the concept of continuous assessment, which is regarded as a fair and reliable predictor of usual practice[28–29]

- Peer assessment involves assessment of one student by another and is useful when assessing practical skills that require peer involvement.[27] This assessment process may be useful when undertaking training associated with communication and teamwork.

Case presentations that demonstrate deficiencies in recognition and response systems involve a process of 'critical reflective analysis' and have several teaching and learning advantages.

EDUCATE

EDUCATE HEALTH PROFESSIONALS RESPONSIBLE FOR TEACHING AND TRAINING

Teaching requires health professionals to have a range of skills – such as knowledge of educational theory and adult learning principles – to successfully develop and deliver education programs. Facilities should encourage and support health professionals to develop and improve their educational skills by providing:

- access to accredited training programs, such as postgraduate teaching qualifications, preceptor training, simulation, and 'train the trainer' programs

- mentorship and coaching, such as partnering with experienced educators.

⚙ implementation tip

Applying educational theory

Adults learn in different ways and educational programs need to be designed with adult learning principles in mind. Kaufman identifies the following key principles to guide the planning of adult education programs.[30]

1. *'The learner should be an active contributor to the educational process*

2. *Learning should closely relate to understanding and solving real life problems*

3. *Learners' current knowledge and experience are critical in new learning situations and need to be taken into account*

4. *Learners should be given the opportunity and support to use self direction in their learning*

5. *Learners should be given opportunities and support for practice, accompanied by self-assessment and constructive feedback from teachers and peers*

6. *Learners should be given opportunities to reflect on their practice; this involves analysing and assessing their own performance and developing new perspectives and options*

7. *Use of role models by medical educators has a major impact on learners. As people often teach the way they were taught, medical educators should model these educational principles with their students and junior doctors. This will help the next generation of teachers and learners to become more effective and should lead to better care for patients*.'

↻ practice point

Assessment of learning

Assessment is an important aspect of the learning and teaching cycle and provides students with feedback on progress to direct future learning needs.[27]

According to Maclellan,[31] 'the quality of student learning is as high (or low) as the cognitive demand level of the assessment tasks.' Students will engage better in learning that addresses what is being assessed, rather than what the teacher portrays as important.[27]

Assessment tasks should therefore form an integral component of education and training programs to support recognition and response systems.

EVALUATE

Teaching requires health professionals to have a range of skills – such as knowledge of educational theory and adult learning principles – to successfully develop and deliver education programs.

EVALUATE EDUCATION PROGRAMS

Evaluation of education programs promotes continuous program improvement and ensures program accountability by demonstrating appropriateness, effectiveness and efficiency.[32–33]

As part of the overall planning and development of education programs, health professionals should consider how they will be evaluated before implementation. Evaluation of education programs should cover both the process of delivery of the program, as well as the outcomes that have been achieved. Evaluation questions might include whether the program:

- meets the needs of the target audience

- is delivered in a consistent way that conforms with its aims and objectives

- uses methods of delivery that optimise its impact

- has achieved its short-term aims, such as increasing knowledge or changing attitudes

- has had any impact on clinical practice or patient outcomes.

Methods for conducting evaluation may include questionnaires, observation, self-assessment tools, interviews and focus groups. The method used will depend on the aims of the education program and the purpose of the evaluation.

practice point

Potential methods for evaluating education programs

Below are some examples of methods that can be used to evaluate different aspects of education programs that are designed to support recognition and response systems.

Purpose of evaluation	Methods	What the methods provide information on
Multipurpose	Questionnaires Interviews Focus groups Clinical audit	A wide variety of topics; can be used to obtain information from different responders (e.g. program participants, patients, educators) Program outcomes, beliefs, knowledge, skills and behaviours
Assessing trainers, educators and program quality	Observations Instructor portfolios Peer review Participant questionnaires	Program structure and content, delivery methods, teacher knowledge, skills and behaviours
Assessing students	Knowledge tests Competency assessment Peer review Clinical audit	Student knowledge, skills and behaviours; methods can be used for both formative and summative evaluation

implementation tip

Using clinical competency assessments as part of program evaluation

Clinical competency assessment is useful to assess clinical practice and skills through observation.[27–28] Assessment will demonstrate if education and training has been successful, and if learning objectives have been met. Competency assessments can also demonstrate the effectiveness of an education program by providing information on the number of health professionals who are competent.

summary of tasks and actions for essential element 6

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
⊙ **task 1** **Provide education to the clinical and non-clinical workforce to support recognition and response systems**	**DECIDE** Decide what education is required and who should receive this education	Clinicians Educators Health service managers Health professionals with responsibility for policy or quality improvement	6.1 All clinical and non-clinical staff should receive education about the local escalation protocol relevant to their position. They should know how to call for emergency assistance if they have any concerns about a patient, and know that they should call under these circumstances. This information should be provided at the commencement of employment and as part of regular refresher training 6.2 All doctors and nurses should be able to: • systematically assess a patient • understand and interpret abnormal physiological parameters and other abnormal observations • initiate appropriate early interventions for patients who are deteriorating • respond with life-sustaining measures in the event of severe or rapid deterioration, pending the arrival of emergency assistance • communicate information about clinical deterioration in a structured and effective way to the attending medical officer or team, to clinicians providing emergency assistance and to patients, families and carers • understand the importance of, and discuss, end-of-life care planning with the patient, family and/or carer	1.4.1 Orientation and ongoing training programs provide the workforce with the skill and information needed to fulfil their safety and quality roles and responsibilities 1.4.2 Annual mandatory training programs to meet the requirements of these standards 1.4.3 Locum and agency workforce have the necessary information, training and orientation to the workplace to fulfil their safety and quality roles and responsibilities 1.4.4 Competency-based training is provided to the clinical workforce to improve safety and quality 9.6.1 The clinical workforce is trained and proficient in basic life support

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
⊙ task 1 **Provide education to the clinical and non-clinical workforce to support recognition and response systems**			• undertake tasks required to properly care for patients who are deteriorating, such as developing a clinical management plan, writing plans and actions in the healthcare record and organising appropriate follow up	
	DEVELOP Develop and/or provide access to education programs to support clinicians to recognise and respond to clinical deterioration	Educators Health service boards, executives and owners Health service managers Clinicians	5.1 A formal policy framework regarding recognition and response systems should exist and should include issues such as: • training requirements 6.4 A range of methods should be used to provide the required knowledge and skills to staff. These may include provision of information at orientation and regular refreshers using face-to-face and online techniques, as well as simulation centre and scenario based training	1.12.1 The clinical and relevant non-clinical workforce have access to ongoing safety and quality education and training for identified professional and personal development
	RESOURCE Provide resources to support delivery and attendance at education programs	Health service boards, executives and owners Health service managers	5.1 A formal policy framework regarding recognition and response systems should exist and should include issues such as: • training requirements	1.3.2 Individuals with delegated responsibilities are supported to understand and perform their roles and responsibilities, in particular to meet the requirements of these standards
	EDUCATE Educate health professionals responsible for teaching and training	Educators Clinicians Health service managers	5.1 A formal policy framework regarding recognition and response systems should exist and should include issues such as: • training requirements	1.4.1 Orientation and ongoing training programs provide the workforce with the skills and information needed to fulfil their safety and quality roles and responsibilities
	EVALUATE Evaluate education programs	Educators Health professionals with responsibility for policy or quality improvement	7.9 Consistent with any implementation process, information collected as part of ongoing evaluation and audit should be: • used in education and training programs	1.13.1 Analyse feedback from the workforce on their understanding and use of safety and quality systems

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◉ essential element 7

EVALUATION, AUDIT AND FEEDBACK

evaluation, audit and feedback

the problem

New systems need evaluation to establish their efficacy and determine if changes are needed to optimise performance.

Ongoing monitoring of recognition and response systems is also necessary, to track changes over time and to ensure that systems operate effectively.

goals of this essential element

All components of recognition and response systems are evaluated to assess if system aims and objectives have been achieved.

Results from evaluation of recognition and response systems are fed back to patients, families and carers; the clinical and non-clinical workforce; and managers and executives.

Recognition and response systems are continuously improved in response to evaluation data.

what you need to do

Develop evaluation, audit and feedback processes for recognition and response systems.

common terms used in this essential element

Audit: a systematic review of clinical care against a pre-determined set of criteria.

Evaluation: a systematic analysis of the merit, worth or significance of an object, system or program.[1]

Peer review: 'the evaluation by a practitioner of creative work or performance by other practitioners in the same field in order to assure, maintain and/or enhance the quality of work or performance.'[2]

Quality improvement: a cycle of continuous evaluation and adaptation of processes in order to achieve desired outcomes.

consensus statement recommendations

essential element 7: evaluation, audit and feedback

7.1 Data should be collected and reviewed locally and over time regarding the implementation and effectiveness of recognition and response systems.

7.2 Recognition and response systems should be evaluated to determine whether they are operating as planned. Evaluation may include checking the existence of required documentation, policies and protocols (such as the escalation protocol) and compliance with policy (such as completion rates of observation charts or proportion of staff who have received mandatory training).

7.3 Systems should be evaluated to determine whether they are improving the recognition of and response to clinical deterioration. Evaluation may include collecting and reviewing data about calls for emergency assistance, and adverse events such as cardiac arrests, unplanned admissions to intensive care and unexpected deaths.

7.4 The following data should be collected for each call for emergency assistance that is made to the rapid response system:

- patient demographics

- date and time of call, response time and stand down time

- the reason for the call

- the treatment or intervention provided

- outcomes of the call, including disposition of the patient.

  This information, as well as information about reviews conducted by the attending medical officer or team, should be included in the healthcare record.

7.5 Regular audits of triggers and outcomes should be conducted for patients who are the subject of calls for emergency assistance. Where these data are available, this could include longer-term outcomes for patients (such as 30 and 60 day mortality).

7.6 Evaluation of the costs and potential savings associated with recognition and response systems could also be considered.

7.7 Information about the effectiveness of recognition and response systems may also come from other clinical information such as incident reports, root cause analyses, cardiac arrest calls and death reviews. A core question for every death review should be whether the escalation criteria for the rapid response system were met, and whether care was escalated appropriately.

7.8 As part of the implementation of new systems, feedback should be obtained from frontline staff about the barriers and enablers to change. Issues and difficulties regarding implementation should be considered for different settings.

7.9 Consistent with any implementation process, information collected as part of ongoing evaluation and audit should be:

- fed back to ward staff and the attending medical officer or team regarding their own calls for emergency assistance

- fed back to the clinicians providing emergency assistance

- reviewed to identify lessons that can improve clinical and organisational systems

- used in education and training programs

- used to track outcomes and changes in performance over time.

7.10 Indicators of the implementation and effectiveness of recognition and response systems should be monitored at senior governance levels within the organisation (such as by senior executives or relevant quality committees).

STEP 1 ▷ roles and responsibilities

Who is responsible?
How does this element apply to your role(s)?
What clinical areas does this element apply to?

All facilities need to establish systems for evaluation, audit and feedback for the different components of recognition and response systems. These evaluation systems must collect data for reporting to the executive and the appropriate governance committee, and provide information on the effectiveness of recognition and response systems to the clinicians responsible for providing care to patients.

To improve recognition and response systems, health professionals need to determine who will be responsible for the tasks required for this essential element.

table 10 ▸ ROLES AND RESPONSIBILITIES RELATING TO EVALUATION, AUDIT AND FEEDBACK

Clinical areas involved in evaluation, audit and feedback	People involved in evaluation, audit and feedback	
	Role	**Responsibility**
Systems to support evaluation, audit and feedback of recognition and response system performance should be established in all acute care areas	Consumers, patients, families and carers	Participate in developing and implementing systems to evaluate recognition and response system as required
	Non-clinical workforce	Report problems with operation of recognition and response systems Participate in developing and implementing systems to evaluate recognition and response systems as required
	Clinical workforce	Participate in developing and implementing systems to evaluate recognition and response systems as required Participate in data collection for systems to evaluate recognition and response to clinical deterioration Report problems with operation of recognition and response systems Provide information on the perceived performance and satisfaction with operation of recognition and response systems
	Educators	Use evaluation data to identify education requirements of the clinical and non-clinical workforce Participate in developing and implementing systems to evaluate recognition and response systems Include results from evaluation of recognition and response systems in education programs
	Health professionals with responsibility for policy or quality improvement	Participate in developing and implementing systems to evaluate recognition and response to clinical deterioration. This includes: • developing and implementing measures and methods for data collection • collecting, analysing and reporting data • developing strategies to address deficiencies in data systems to evaluate recognition and response systems
	Health service managers	Participate in developing and implementing evaluation systems for recognising and responding to clinical deterioration Be aware of individuals' roles and responsibilities for collecting, analysing and reporting data to support evaluation of recognition and response systems Ensure that health professionals participate in evaluation systems and receive data associated with systems for recognising and responding to clinical deterioration
	Health service boards, executives and owners	Assign responsibility, personnel and resources for the evaluation of recognition and response systems Receive and analyse data results, and implement solutions to address variations in data to improve recognition and response systems Support the development and collection of data measures for each component of recognition and response systems

| Clinical areas involved in evaluation, audit and feedback | People involved in evaluation, audit and feedback | |
	Role	Responsibility
	Health service boards, executives and owners	Provide a system for the feedback of data from recognition and response systems to: • individual clinicians • clinical teams • patients, family and carers • clinical governance committees/individuals • external stakeholders as required Ensure that perceptions of and satisfaction with systems for recognising and responding to clinical deterioration are evaluated, including patients, families and carers, and the clinical and non-clinical workforce Evaluate the effectiveness of evaluation, audit and feedback processes

implementation tip

Evaluation, audit and feedback

Evaluation, audit and feedback systems need to be developed for all components of recognition and response systems. These systems must be able to collect and report on data from all acute care areas. It is important to include the clinical and non-clinical workforce during the development of evaluation systems to help identify how these processes may occur in each area.

Use national clinical guidelines and local policies to help identify or develop evaluation measures.

Ensure consumers, patients, families and carers are included in the development and implementation of evaluation systems.

STEP 2 self-assessment and planning tool

Use the self-assessment and planning tool to identify gaps in your systems for evaluation, audit and feedback.

Prioritise your changes.

The self-assessment and planning tool has been designed to assess an entire facility's current practice in relation to this essential element. A modifiable electronic version of this tool, and other supporting tools to help answer the self-assessment questions, are available on the Commission's website.

The action plan for this essential element begins on page 289. Follow the instructions in the self-assessment and planning tool to complete the action plan.

self-assessment tool ▸ EVALUATION, AUDIT AND FEEDBACK

NAME OF FACILITY BEING ASSESSED:

⊙ task 1 Develop evaluation, audit and feedback processes for recognition and response systems	Data or documentation that proves the criteria have been met Type of data or name of document
AGREEMENT Have you decided which components of recognition and response systems should be evaluated?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of agreement' in your action plan	
Have the methods for identifying risks and undertaking evaluation been identified?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of agreement' in your action plan	
Is there agreement on the data to collect, review and feed back?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of agreement' in your action plan	
PROCESS OR POLICY Are policies available outlining minimum standards for evaluation?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of process/ policy' in your action plan	
Do these policies include information on roles and responsibilities for evaluation and feedback processes?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of process/ policy' in your action plan	
RESOURCES Are tools and resources available to support evaluation and feedback?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of resources' in your action plan	
KNOWLEDGE Do health professionals responsible for undertaking evaluation receive education and training?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of knowledge' in your action plan	
Is evaluation data used in education and training programs for recognition and response systems?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of knowledge' in your action plan	
SYSTEMS TO SUPPORT MONITORING AND EVALUATION Is the effectiveness of evaluation, audit and feedback processes evaluated?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of monitoring and evaluation' in your action plan	

Where is it kept?	Are these policies/processes/resources operating as planned? Does your data demonstrate effective operation at all times?
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan

action plan ▸ EVALUATION, AUDIT AND FEEDBACK

NAME OF FACILITY BEING ASSESSED:

what do you need to do?

how will you do it?

Task not yet achieved	Why has this task not been achieved (barriers)? What actions are needed?

Go to the recommended section of this guide for information on tasks and actions. List the tools and resources from the guide to address this gap here. Also consider other resources that may be available to you to address this gap.

⊙ task 1

Develop evaluation, audit and feedback processes for recognition and response systems

☐ Lack of agreement ▸ **DECIDE** ▸ p294

☐ Lack of process/policy ▸ **DEVELOP** ▸ p300

☐ Lack of resources ▸ **RESOURCE** ▸ p301

☐ Lack of knowledge ▸ **EDUCATE** ▸ p303

☐ Lack of monitoring and evaluation ▸ **EVALUATE** ▸ p304

OTHER POSSIBLE BARRIERS:

OTHER COMMENTS AND PLANS:

Use the information from the self assessment and planning tool to complete the action plan. The action plan links the barriers identified by the self assessment and planning tool with specific actions, tools and resources to address them.

Who will be responsible?	When will this happen? Consider undertaking actions that are low cost, easy to implement and support meeting the *National safety and quality health service standards* first.

Use the information and resources in this guide to help implement your action plan.

For each task, the following actions may be required: Decide, Develop, Resource, Educate and Evaluate

The task for this essential element is discussed in detail in this section. The task includes a brief summary of its importance and a series of actions that can be taken to complete it. Links to resources are included in Appendix C and additional tools to support implementation are available on the Commission's web site.

key tasks
for evaluation, audit and feedback

⊙ task 1
Develop evaluation, audit and feedback processes for recognition and response systems

why this task is important

This task is needed because:

- information on the effectiveness of rapid response systems is required to identify areas needing improvement

- evaluation data can help identify the strategies and interventions required to improve rapid response systems

- evidence of effective operation of rapid response systems is required to demonstrate the quality of services to internal and external stakeholders.

Evaluation is a key role of a facility's clinical governance framework for recognition and response systems. Evaluation helps identify and drive system improvements, allocate and prioritise resources, identify educational needs and develop future policy.[2–4] Results from evaluation also allow facilities to demonstrate and report on the quality and performance of services to internal and external stakeholders.[3–4]

Evaluation of new systems is important to establish their efficacy and determine the changes needed to optimise performance.[5] Ongoing monitoring of recognition and response systems is also necessary, to track changes over time and to ensure that systems continue to operate effectively.[5] This may require facilities to collect information about processes of care, clinical outcomes, culture, satisfaction and financial performance. Facilities can then use this information to redesign recognition and response systems if required, or demonstrate their successful implementation and operation.

An important part of evaluating systems for recognising and responding to clinical deterioration is engaging frontline clinicians to obtain information on any barriers to using the system. Similarly, evaluating patient, family and carer perspectives and experiences provides valuable information on the personal aspects of care, identifies areas requiring improvement, and may provide solutions to rapid response system problems.[4,6]

Data obtained from evaluating recognition and response systems should be fed back to the healthcare workforce and external stakeholders as required. This may help to inform health professionals of areas that need improvement, and motivate them to change practice and participate in improvement activities.[7–9] The feedback process also contributes to a culture of transparency and accountability.

⟳ practice point

A quality problem

Problems with the quality of recognition and response systems may exist when:[6]

- care processes or outcomes do not conform to policies, procedures or best practice; or to clinical and non-clinical staff or patients' expectations. This may include not measuring observations according to local policy, or not calling for emergency assistance when trigger thresholds are breached

- practices or policies are invalid or inappropriate; that is, they do not produce health improvements for patients at reasonable costs and with patient satisfaction. This may include lack of processes to develop advance care directives and other treatment-limiting plans.

how to complete this task

DECIDE ›	DEVELOP ›	RESOURCE ›	EDUCATE ›	EVALUATE

task 1 – develop evaluation, audit and feedback processes for recognition and response systems

DECIDE	▶ ▶ ▶	Identify how information from the clinical governance framework will support evaluation, audit and feedback
		Decide which components of recognition and response systems require evaluation
		Decide which data to collect, analyse and feed back
DEVELOP	▶ ▶ ▶	Include requirements for evaluation, audit and feedback processes in recognition and response system policies
RESOURCE	▶ ▶ ▶	Provide tools and resources to support evaluation and feedback
		Use data to continuously improve systems
EDUCATE	▶ ▶ ▶	Educate health professionals responsible for undertaking evaluation
		Use evaluation data in education and training programs for recognition and response systems
EVALUATE	▶ ▶ ▶	Evaluate the effectiveness of evaluation, audit and feedback processes

DECIDE

Several areas of a facility's clinical governance framework will provide information on the operational performance of recognition and response systems. Health professionals responsible for evaluation should aim to use information obtained from each of these areas.

IDENTIFY HOW INFORMATION FROM THE CLINICAL GOVERNANCE FRAMEWORK WILL SUPPORT EVALUATION, AUDIT AND FEEDBACK

DECIDE WHICH COMPONENTS OF RECOGNITION AND RESPONSE SYSTEMS REQUIRE EVALUATION

DECIDE WHICH DATA TO COLLECT, ANALYSE AND FEED BACK

Committees or individuals with clinical governance responsibilities for recognition and response systems should decide on the:

- components of recognition and response systems that require evaluation, and the specific quality measures or evaluation questions to be answered (e.g. how effective are trigger thresholds in identifying clinical deterioration?)

- method and framework for identifying risks and evaluating performance of these components

- data to collect and the methods for obtaining, analysing and reporting this data.

Several areas of a facility's clinical governance framework will provide information on the operational performance of recognition and response systems. Health professionals responsible for evaluation should aim to use information obtained from each of these areas.

01
02
03
04
05
06
07
08

⟳ practice point

Components of a facility's clinical governance framework used to identify risks and evaluate performance of recognition and response systems

The key components of clinical governance frameworks that will identify risks and provide information on the performance of recognition and response systems are illustrated below.

clinical governance framework

Governance and quality improvement systems	Incident management system	Engagement with patients, families and carers	Performance and management systems
Audits of structure, process and outcome data measures. Surveys and other qualitative evaluation including staff perception and satisfaction with recognition and response systems.	Identification and analysis of clinical incidents, near misses and adverse events. Review and analysis of complaints.	Evaluation of perceptions and satisfaction with services and programs.	Peer review, including individual peer review and morbidity and mortality meetings. Results of educational needs analysis and evaluation of training.

Information on the risks and performance of recognition and response systems

Key components of recognition and response systems that should be evaluated are summarised in Table 11.

Essential element	System component
MEASUREMENT AND DOCUMENTATION OF OBSERVATIONS	Measurement of core physiological observations and other agreed observations according to local policy
	Patient monitoring plans
	Use of observation charts designed using human factors principles that incorporate track and trigger systems
ESCALATION OF CARE	Operation of the escalation protocol
	Effectiveness of trigger thresholds and responses
	Advance care directives, treatment-limiting decisions and individualised escalation protocols
	Patient, family and carer escalation systems
RAPID RESPONSE SYSTEMS	Operation of the rapid response system
	Health professionals' awareness and perception of the rapid response system
CLINICAL COMMUNICATION	Clinical handover
	Documentation
	Communication associated with escalation protocols and emergency assistance (written and verbal)
	Patient, family and carer experiences related to communication
CLINICAL GOVERNANCE	Effectiveness of the governance framework for recognition and response systems (internal and external evaluation)
EDUCATION	Effectiveness of education and training programs
EVALUATION, AUDIT AND FEEDBACK	Success of evaluation and feedback systems
TECHNOLOGICAL SYSTEMS AND SOLUTIONS	Impact, cost and sustainability of new technological systems

Statewide health services and private hospital groups may choose to establish minimum data collection measures, and specify the roles and responsibilities for collecting and reporting this data. Where this is the case, facilities will need to work within these frameworks when establishing evaluation, audit and feedback systems for recognising and responding to clinical deterioration.

practice point

Methods for identifying risks and undertaking evaluation

Several components of a facility's clinical governance framework provide opportunities to collect information on the operational performance of recognition and response systems. These include the incident management system, quality improvement system, performance and management system, and systems for engaging with patients, families and carers. Details of how each of these systems can be used to support evaluation are outlined below.

Incident management systems allow reporting of incidents and near misses, and support the investigation and management of these incidents. These systems can identify risks and problems associated with operational performance of all components of recognition and response systems. This can be through the reporting and investigation of a single incident or complaint, or by collating data and trends by incident types or frequencies. Incident rates are not a reliable means of evaluating performance; rather, they provide an understanding of the underlying weaknesses of systems. Data from incident management systems can be used with other evaluation data (such as data from quality improvement systems) to explore problems and identify areas for improvement.

Quality improvement systems can help collect and report performance data, develop strategies to improve system performance, and report evidence of effective implementation and program outcomes .[3–4,6] The principles of quality improvement apply to all components of recognition and response systems; however, different evaluation methods will provide different information about system performance. Two methods of particular importance are audits, and surveys and focus groups.

- Audit data – provides evidence that structures (such as policies) are in place, systems are operating as planned (process measures), and desired patient outcomes are being achieved (outcome measures). Audits form an essential part of evaluation and should occur periodically to provide evidence of continued successful operation of recognition and response systems.[3–4,6] Information obtained from audits is also required to demonstrate compliance with the *National safety and quality health service standards*

- Surveys and focus groups – provide information about patient and staff awareness and perceptions of care, and knowledge of how recognition and response systems operate. Surveys and focus groups identify barriers and enablers to change, and may be helpful when developing and implementing new systems.[3–4,6]

Performance and management systems ensure that the clinical workforce has appropriate supervision, and that a valid and reliable performance review process to support individual development is in place. Peer review is a method for evaluating the performance of an individual, and can identify risks and provide information on clinical performance (such as knowledge and skills) as well as system performance.[10] This information is useful for identifying individual and group learning needs, as well as system changes for recognition and response systems. Morbidity and mortality meetings are one example of peer review. Competency assessment can also provide information on the performance of clinical skills, such as basic life support, and is useful for providing evidence of a skilled workforce.

Engagement with patients, families and carers includes implementing processes to enable partnerships with patients in decision-making about their care, including informed consent to treatment.[11] This engagement may occur through forums, focus groups, committees or satisfaction surveys, and provides useful information on the operation of recognition and response systems. Information from these sources will demonstrate whether care is being delivered to meet patient, family and carer needs, and may include information on communication, observation and escalation processes.

Facilities need to decide on the data to collect for each component of recognition and response systems. Suggested measures, methods and tips for data collection are provided throughout this guide. Detailed specifications for quality measures that can be used to measure performance locally are included in Appendix B.

Facilities may also need to consider developing local measures. There may be differences between facilities in the way that recognition and response systems operate, the perceived barriers and enablers to successful operation that need to be explored, and the specific steps that need to be measured during the implementation of new systems.

When deciding on measures and processes for data collection, facilities need to consider:

- if the right questions are being asked – will the data collected accurately describe variations in practice and show outcomes?

- whether the data collection method is feasible, efficient and realistic.

Selecting appropriate measures is critical, as information is needed to identify gaps in agreed practice or demonstrate that systems are operating as planned; provide evidence of benefits to patients, families and carers; and demonstrate compliance with best practice and with the *National safety and quality health service standards*.

When developing measures, facilities should ensure that the data will inform system development and effective operation of recognition and response systems. The data must also be clinically important, and be objective, specific and measureable.[4]

implementation tip

Different types of measures

Three key types of data collection measures are commonly used to evaluate health services.[4]

- **Structural measures (what is needed)** – these include policies, procedures and resources (such as observation charts that include a track and trigger system) and provide information on what is needed to deliver health services

- **Process measures (what is done)** – these examine what is being done during the provision of care: for example, if patients have observations measured or if individual monitoring plans are developed. Where possible, process measures should be clearly linked to high-level evidence (such as randomised controlled trials), and shown to improve outcome measures. National clinical guidelines are useful for identifying high-quality process measures for recognition and response systems. Many guidelines outline the minimum standards and frequencies of observations and assessments for specific patient groups (e.g. mental health, respiratory, cardiac). These standards may form the basis of data collection measures in a facility. However, where guidelines are not available, health professionals will need to develop local measures based on policies and the specific processes of care they wish to evaluate

- **Outcome measures (what is achieved)** – these examine the outcomes for patients after their treatment or care. Examples include mortality rates, quality-of-life measures and patient satisfaction. Outcome measures often take considerable time to become evident or to show improvement after an intervention, and can be influenced by patient characteristics such as age, sex and comorbidities, requiring casemix adjustment.

Identifying measures to evaluate recognition and response systems requires a team approach. Involve health professionals who deliver care in the system that is under review, and professionals with expertise in measuring quality improvement. This should increase the likelihood that data collection will accurately reflect the goals of evaluation, and facilitate local ownership of the evaluation goals and process.[4]

Data obtained from evaluating the experiences of health professionals, patients, families and carers can provide information on the interpersonal aspects of care delivery (such as communication) as well as processes of care (such as escalation and response times).[4] This qualitative data can also identify barriers and enablers to successful operation of systems, and should be considered by facilities as part of evaluation, audit and feedback processes.

When designing evaluation systems, facilities need to consider local resources, and the advantages and disadvantages of different data collection methods, such as electronic or paper-based collection. Data that is burdensome or not cost effective to collect is unlikely to be collected on an ongoing basis.[4]

Different data collection methods require health professionals to have specific skills (e.g. facilitation skills for running focus groups). Different methods also require varying amounts of time to collect data, and provide different information about the operation of recognition and response systems. Facilities need to consider these issues when planning data collection processes.

Facilities may choose to collect a variety of measures during the initial phases of establishing a new system. During this time, the focus may be on process measures to ensure a system is operating as planned. However, it may be possible to reduce the frequency of data collection or the number of measures once the new system has been successfully established.

practice point

Data collection methods

Data collection must be methodologically sound to provide confidence in the measures reported. Health professionals responsible for data collection should receive training in data collection techniques. Precise definitions of the numerator and denominator for each measure should also be developed to improve the validity and reliability of information.[4]

Before audit tools, surveys and other data collection methods are introduced, they should be piloted to check their usability.

Involving a variety of health professionals in data collection may help to develop understanding of quality improvement activities, and create a sense of ownership for the operation of recognition and response systems.

INCLUDE REQUIREMENTS FOR EVALUATION, AUDIT AND FEEDBACK PROCESSES IN RECOGNITION AND RESPONSE SYSTEM POLICIES

Evaluation requirements for various components of recognition and response systems should be incorporated into local policies for recognising and responding to clinical deterioration. Information should include:

- what data will be collected and how this will be done

- who will be responsible for collecting the data

- how often the data will be collected

- who will be responsible for analysing the data

- what the reporting requirements are, including frequency of reports, links to the relevant governance committees or individuals, and other feedback processes.

It is important that evaluation results are analysed and used to continually improve and inform systems for recognising and responding to clinical deterioration.[4] Recommendations for changes to systems or other activities to support improvement (such as education) should be based on the data analysis. Implementing these recommendations is a key responsibility of the local clinical governance framework and hospital executives.

Health professionals should be encouraged to review data results and provide insight into compliance and variance issues. This may help interpret and understand results and identify suggestions for improvement. Including health professionals in this process also helps to communicate the areas needing improvement, and can motivate changes in practice and participation in improvement activities.[4–5,9]

Feedback processes that facilities may like to consider include:

- displaying data on quality boards, in safety bulletins or newsletters

- reporting evaluation results during staff meetings, morbidity and mortality meetings, and other staff forums

- providing feedback to clinicians who were responsible for patients for whom rapid response calls were received

- incorporating evaluation data into education and training programs for recognising and responding to clinical deterioration.

comments from colleagues

'All medical emergency responses are reviewed and all statistics trended. This has enabled us to review and modify our systems and has increased our understanding and awareness of managing deteriorating patients, particularly by nursing staff. This work has assisted us to identify that we need earlier warning triggers than the traditional medical response triggers (e.g. BP 90 systolic).'

Data from a survey conducted by the Commission (2010)

TASK 1

STEP 3

ESSENTIAL ELEMENT 7

01
02
03
04
05
06
07
08

RESOURCE

PROVIDE TOOLS AND RESOURCES TO SUPPORT EVALUATION AND FEEDBACK PROCESSES

USE DATA TO CONTINUOUSLY IMPROVE SYSTEMS

Evaluation systems must have processes in place for collecting and reporting data to the executive and appropriate governance committee, and for providing information to healthcare teams and rapid response providers.

To support this process, facilities need to identify the following:

- Personnel to undertake evaluation processes – may include (but not be limited to) health professionals or other support personnel to undertake audits, review unplanned intensive care unit admissions and deaths, analyse patient complaints, or undertake focus groups or surveys with health professionals, patients, families and carers.

- Data collection tools – includes audit tools, patient and staff satisfaction surveys, focus group questions, tools to assist with peer review, and analysis of deaths, near misses and critical incidents.

- Systems to support data analysis – depending on the evaluation methods chosen, facilities may need to undertake qualitative and quantitative data analysis for recognition and response systems. This requires personnel trained in analysis techniques such as frequency and trend analysis, as well as thematic analysis associated with qualitative methods. Software to support data analysis and reporting is also required, such as spreadsheets or statistical analysis packages.

- Systems to support information management and feedback processes – databases and risk management systems are useful tools for managing large volumes of information associated with performance of recognition and response systems. These systems enable data to be stored over time, analysed and displayed. Hospital information systems that allow routine extraction of information (such as hospital death rates, unplanned intensive care unit admissions and length of stay) will speed up the data collection process, and may provide information on recognition and response systems to feed back to health professionals.

Evaluation systems must have processes in place for collecting and reporting data to the executive and appropriate governance committee, and for providing information to healthcare teams and rapid response providers.

⚙ implementation tip

Visual data presentation

Graphics and visual presentation of data are useful methods for conveying information easily and quickly. Several types of analytical charts are available to communicate information from evaluation of recognition and response systems. These include histograms, Pareto charts, scatter plots, trend charts, run charts, control charts and flow charts.

Run charts (below) are particularly useful during implementation as they help to understand and visualise the impact of different interventions and tests of change that occur over time.[12]
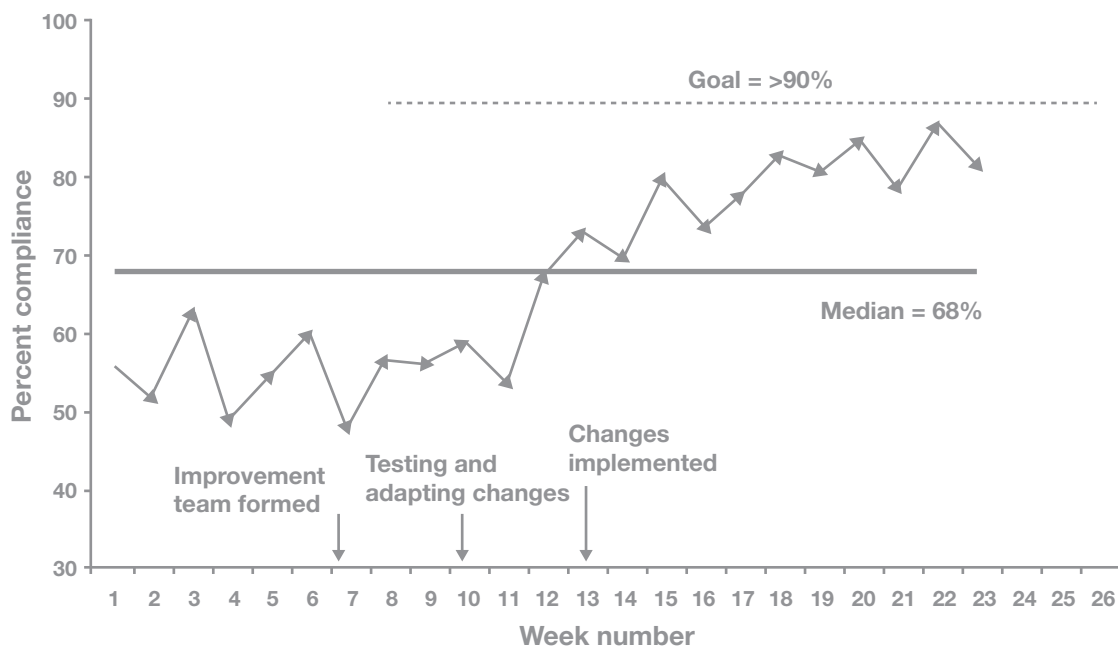
EDUCATE

EDUCATE HEALTH PROFESSIONALS RESPONSIBLE FOR UNDERTAKING EVALUATION

USE EVALUATION DATA IN EDUCATION AND TRAINING PROGRAMS FOR RECOGNITION AND RESPONSE SYSTEMS

Health professionals responsible for undertaking and analysing evaluation data need skills to perform these tasks. Sound methods for collecting data are required to ensure accuracy and reliability of the data, and confidence in the need to change health systems.[4]

Health professionals also need education and training to undertake different types of data analysis and to display data for reporting.

Evaluation data related to recognition and response systems should be used to identify health professionals' learning needs and included in education and training programs that support content delivery and application of these systems.

Health professionals responsible for undertaking and analysing evaluation data need skills to perform these tasks. Sound methods for collecting data are required to ensure accuracy and reliability of the data, and confidence in the need to change health systems.

EVALUATE THE EFFECTIVENESS OF EVALUATION, AUDIT AND FEEDBACK PROCESSES

Effective evaluation, audit and feedback systems should support the maintenance and development of high quality care, compliance with policies and procedures, and improved outcomes for patients who deteriorate clinically.[6] It is important for facilities to review the systems for evaluating the recognition and response to clinical deterioration to ensure they are working effectively. This is a key responsibility of health service executives or owners and the clinical governance framework. Evaluation of the effectiveness of evaluation, audit and feedback systems should include:

- ensuring data is collected and reported to the correct governance individual or committee

- ensuring data are fed back to ward staff and the attending medical officer or team

- reviewing activity, actions and recommendations to ensure deficiencies in data and operation of systems are addressed

- reviewing the success of changes to recognition and response systems. This may include, but is not limited to, reduction in critical incidents, improvements in patient and clinician satisfaction, presence of and adherence to policies and procedures for new systems of care.[6]

It is important for facilities to review the systems for evaluating the recognition and response to clinical deterioration to ensure they are working effectively.

summary of tasks and actions for essential element 7

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
◑ **task 1** Develop evaluation, audit and feedback processes for recognition and response systems	**DECIDE** Identify how information from the clinical governance framework will support evaluation, audit and feedback Decide which components of recognition and response systems require evaluation Decide which data to collect, analyse and feed back	Health service boards, executives and owners Health service managers Health professionals with responsibility for policy or quality improvement Clinicians	7.1 Data should be collected and reviewed locally and over time regarding the implementation and effectiveness of recognition and response system 7.2 Recognition and response systems should be evaluated to determine whether they are operating as planned. Evaluation may include checking the existence of required documentation, policies and protocols (such as the escalation protocol) and compliance with policy (such as completion rates of observation charts or proportion of staff who have received mandatory training) 7.3 Systems should be evaluated to determine whether they are improving the recognition of and response to clinical deterioration. Evaluation may include collecting and reviewing data about calls for emergency assistance, and adverse events such as cardiac arrests, unplanned admissions to intensive care and unexpected deaths 7.4 The following data should be collected for each call for emergency assistance that is made to the rapid response system: • patient demographics • date and time of call, response time and stand down time • the reason for the call • the treatment or intervention provided	9.2.1 Feedback is actively sought from the clinical workforce on the responsiveness of the recognition and response systems 9.2.2 Deaths or cardiac arrests for a patient without an agreed treatment-limiting order (such as not for resuscitation or do not resuscitate) are reviewed to identify the use of the recognition and response systems, and any failures in these systems 9.3.2 Mechanisms for recording physiological observations are regularly audited to determine the proportion of patients that have complete sets of observations recorded in agreement with their monitoring plan 9.4.2 Use of escalation processes, including failure to act on triggers for seeking emergency assistance, are regularly audited 9.5.1 Criteria for triggering a call for emergency assistance are included in the escalation policies, procedures and/or protocols 9.9.3 The performance and effectiveness of the system for family escalation of care is periodically reviewed

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
⊙ task 1 **Develop evaluation, audit and feedback processes for recognition and response systems**			• outcomes of the call, including disposition of the patient 7.5 Regular audits of triggers and outcomes should be conducted for patients who are the subject of calls for emergency assistance. Where these data are available, this could include longer-term outcomes for patients (such as 30 and 60 day mortality) 7.6 Evaluation of the costs and potential savings associated with recognition and response systems could also be considered 7.7 Information about the effectiveness of the recognition and response systems may also come from other clinical information such as incident reports, root cause analyses, cardiac arrest calls and death reviews. A core question for every death review should be whether the escalation criteria for the rapid response system was met, and whether care was escalated appropriately	
	DEVELOP Include requirements for evaluation, audit and feedback processes in recognition and response system policies	Health professionals with responsibility for policy or quality improvement Health service managers Patients, families and carers	5.1 A formal policy framework regarding recognition and response systems should exist and should include issues such as: • evaluation, audit and feedback processes	1.1.1 An organisation-wide management system is in place for the development, implementation and regular review of policies, procedures and/or protocols 9.1.1 Governance arrangements are in place to support the development, implementation, and maintenance of organisation-wide recognition and response systems

summary of tasks and actions for essential element 7

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
⊙ **task 1** **Develop evaluation, audit and feedback processes for recognition and response systems**	**RESOURCE** Provide tools and resources to support evaluation and feedback Use data to continuously improve systems	Health service boards, executives and owners Health service managers Health professionals with responsibility for policy or quality improvement Clinicians	5.1 A formal policy framework regarding recognition and response systems should exist and should include issues such as: • evaluation, audit and feedback processes 7.9 Consistent with any implementation process, information collected as part of ongoing evaluation and audit should be fed back to: • ward staff and the attending medical officer or team regarding their own calls for emergency assistance • the clinicians providing emergency assistance	1.2.1 Regular reports on safety and quality indicators and other safety and quality performance data are monitored by the executive level of governance 1.20.1 Data collected from patient feedback systems are used to measure and improve health services in the organisation 9.2.4 Action is taken to improve the responsiveness and effectiveness of the recognition and response systems 9.3.3 Action is taken to increase the proportion of patients with complete sets of recorded observations, as specified in the patient's monitoring plan 9.4.3 Action is taken to maximise the appropriate use of escalation processes 9.9.4 Action is taken to improve the system performance for family escalation of care
	EDUCATE Educate health professionals responsible for undertaking evaluation Use evaluation data in education and training programs for recognition and response systems	Educators Health professionals with responsibility for policy or quality improvement	7.9 Consistent with any implementation process, information collected as part of ongoing evaluation and audit should be: • reviewed to identify lessons that can improve clinical and organisational systems	1.4.1 Orientation and ongoing training programs provide the workforce with the skill and information needed to fulfil their safety and quality roles and responsibilities
	EVALUATE Evaluate the effectiveness of evaluation, audit and feedback processes	Health service boards, executives and owners Health service managers Health professionals with responsibility for policy or quality improvement	N/A	1.1.1 An organisation-wide management system is in place for the development, implementation and regular review of policies, procedures and/or protocols

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essential element 8

TECHNOLOGICAL SYSTEMS AND SOLUTIONS

technological systems and solutions

the problem

Delays in recognising and responding to clinical deterioration can occur due to organisational factors such as system design, and human factors such as workload and fatigue.

Technological systems and solutions to combat these issues require robust assessment of safety, efficacy and costs.

goals of this essential element

Technological systems and solutions for recognising and responding to clinical deterioration improve the care process and patient interaction.

Technological systems and solutions for recognising and responding to clinical deterioration demonstrate evidence of safety, efficacy and cost efficiency.

what you need to do

Consider using technological systems and solutions to improve recognition and response systems.

common terms used in this essential element

Health technology assessment: a multidisciplinary analysis of the 'medical, social, ethical, and economic implications of development, diffusion, and use of health technology.'[1]

Telemedicine: the remote delivery of health care using telecommunications infrastructure, for example using audiovisual technology to allow patients or clinicians in remote locations to seek specialist advice or opinions.

consensus statement recommendations

essential element 8: technological systems and solutions

8.1   Recognition and response systems should consider the inclusion of technological solutions based on evidence of efficacy and cost, as well as consideration of possible additional safety and quality risks. Unintended adverse effects should be considered by explicit study during implementation.

8.2   Technological solutions should not place a barrier between the clinician and the patient; instead they should enhance the care process and interaction.

8.3   Where technological solutions are introduced, the recognition and response systems should still conform to the elements specified in this Consensus Statement.

Who is responsible?
How does this element apply to your role(s)?
What clinical areas does this element apply to?

Technological systems and solutions may help facilities ensure that clinical deterioration is recognised sooner, and assist with communication and escalation of care.

To improve systems, health professionals need to determine who will be responsible for the tasks required for this essential element.

table 12 ▸ ROLES AND RESPONSIBILITIES RELATING TO TECHNOLOGICAL SYSTEMS AND SOLUTIONS

Clinical areas involved in technological systems and solutions	People involved in technological systems and solutions	
	Role	**Responsibility**
Technological systems and solutions need to be relevant to all acute care areas within a facility	Consumers, patients, families and carers	Participate in developing, implementing and evaluating technological systems and solutions for recognition and response systems
	Non-clinical workforce	Support the design, implementation and evaluation of technological systems and solutions for recognition and response systems by providing: • advice on system requirements, usability and compatibility with existing systems • installation and maintenance of technology systems • technical evaluation
	Clinical workforce	Use technological systems to support recognition and response systems Provide information on the design, perceived performance and satisfaction with technological systems to support recognition and response systems
	Educators	Educate the clinical and non-clinical workforce on the use of technological systems to support recognition and response systems Participate in evaluating technological systems to support recognition and response systems
	Health professionals with responsibility for policy or quality improvement	Participate in the design, implementation and evaluation of technological systems and solutions for recognition and response systems by providing: • expert advice related to patient and care delivery needs • advice on the feasibility and efficacy of proposed systems Participate in evaluating technological systems to support recognition and response systems
	Health service managers	Participate in developing and implementing technological systems to support recognition and response systems Ensure the clinical and non-clinical workforce use technological systems to support recognition and response systems Ensure the clinical and non-clinical workforce participate in evaluating technological systems to support recognition and response systems
	Health service boards, executives and owners	Assign responsibility, personnel and resources for developing, implementing and evaluating technological systems to support recognition and response systems Ensure consumers, patients, families, carers, and the clinical and non-clinical workforce are involved in developing and evaluating technological systems for recognising and responding to clinical deterioration

⚙ implementation tip

Technological systems and solutions

Involve the non-clinical workforce, such as information technology technicians and biomedical engineers, in the design, implementation and evaluation of technological systems.

Ensure consumers, patients, families and carers are included in the design, implementation and evaluation of technological systems.

Liaise with other facilities that have introduced technological systems to identify benefits, barriers and enablers.

STEP 2 ▶ self-assessment and planning tool

Use the self-assessment and planning tool to identify gaps in your systems for technological systems and solutions.

Prioritise your changes.

The self-assessment and planning tool has been designed to assess an entire facility's current practice in relation to this essential element. A modifiable electronic version of this tool is available on the Commission's website.

The action plan for this essential element begins on page 317. Follow the instructions in the self-assessment and planning tool to complete the action plan.

NAME OF FACILITY BEING ASSESSED:

⊙ task 1
Consider using technological systems and solutions to improve recognition and response systems

Data or documentation that proves the criteria have been met

Type of data or name of document

AGREEMENT Is there agreement that technological systems or solutions are appropriate?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of agreement' in your action plan	
Do current or proposed technological systems and solutions conform to the recommendations in the consensus statement?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of agreement' in your action plan	
PROCESS OR POLICY Has a business case been developed for the introduction of new technological systems and solutions?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of process/policy' in your action plan	
Are implementation and evaluation plans available for the introduction of new technological systems and solutions?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of process/policy' in your action plan	
RESOURCES Are resources available to evaluate new technological systems and solutions?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of resources' in your action plan	
Are technological systems well maintained and operational?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of resources' in your action plan	
KNOWLEDGE Have the clinical and non-clinical workforce, patients, families and carers received education on use of technological systems and solutions?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of knowledge' in your action plan	
SYSTEMS TO SUPPORT MONITORING AND EVALUATION Are systems available to evaluate and report on current or new technological systems and solutions?	☐ **YES** ▸ Fill in next two columns ☐ **NO** ▸ Tick 'Lack of monitoring and evaluation' in your action plan	

Where is it kept?	Are these policies/processes/resources operating as planned? Does your data demonstrate effective operation at all times?
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan
	☐ **YES** ▸ WELL DONE! Continue to monitor ☐ **NO** ▸ Why not? What are the barriers? Add these to your action plan

NAME OF FACILITY BEING ASSESSED:

what do you need to do?

how will you do it?

Task not yet achieved	Why has this task not been achieved (barriers)? What actions are needed?	Go to the recommended section of this guide for information on tasks and actions. List the tools and resources from the guide to address this gap here. Also consider other resources that may be available to you to address this gap.
⊙ **task 1** Consider using technological systems and solutions to improve recognition and response systems	☐ Lack of agreement ▸ D E C I D E ▸ p322 ☐ Lack of process/policy ▸ D E V E L O P ▸ p323 ☐ Lack of resources ▸ R E S O U R C E ▸ p324 ☐ Lack of knowledge ▸ E D U C A T E ▸ p325 ☐ Lack of monitoring and evaluation ▸ E V A L U A T E ▸ p326	

OTHER POSSIBLE BARRIERS:

OTHER COMMENTS AND PLANS:

Use the information from the self assessment and planning tool to complete the action plan. The action plan links the barriers identified by the self assessment and planning tool with specific actions, tools and resources to address them.

Who will be responsible?	When will this happen? Consider undertaking actions that are low cost, easy to implement and support meeting the *National safety and quality health service standards* first.

▸▸ ACTION PLAN

▸▸ STEP 2

▸▸ ESSENTIAL ELEMENT 8

① 01
② 02
③ 03
④ 04
⑤ 05
⑥ 06
⑦ 07
⑧ 08

PAGE 319

Use the information and resources in this guide to help implement your action plan.

**For each task, the following actions may be required:
Decide, Develop, Resource, Educate and Evaluate**

The task for this essential element is discussed in detail in this section. The task includes a brief summary of its importance and a series of actions that can be taken to complete it. Links to resources are included in Appendix C and additional tools to support implementation are available on the Commission's web site.

key tasks
for technological systems and solutions

⊙ **task 1**
Consider using technological systems and solutions to improve recognition and response systems

why this task is important

This task is needed because:

- new technologies can improve the safety and quality of health care

- the introduction of new technologies may have unanticipated risks and costs.

New technologies have the potential to improve all aspects of healthcare delivery, including diagnostics, treatment and administration, and can improve the safety and quality of health care by reducing the likelihood of errors.[2] New technologies can help to design better processes, minimise equipment failures, and remove some of the human or environmental factors that can contribute to adverse events and delays in recognition and response to clinical deterioration.[2] For example, it has been shown that computerised decision support can improve health professionals' performance in interpreting abnormal diagnostic results, prescribing medications and safely managing potential drug interactions.[3]

Advances in technology associated with different forms of communication, such as electronic medical records, also have the potential to support and improve recognition and response to clinical deterioration. However, not all new technologies are effective – some are costly and do not necessarily improve patient outcomes. Some may also cause harm if not used appropriately or not implemented well.[2,4] Introducing a new technology may cause new and unforeseen problems that affect workflow, working conditions, communication networks, job security, training needs and other system factors.[2] The introduction of new technologies to support recognition and response systems needs to support the work of health professionals providing care to patients, as well as being safe, cost effective and acceptable to staff, patients, families and carers.

practice point

Examples of new technologies that can improve recognition and response to clinical deterioration

- **Automated advisory vital signs monitoring** – electronic monitoring devices that automatically alert clinicians when predetermined observation thresholds are breached

- **Personal digital assistants** – mobile devices for recording observations with the ability to review from anywhere, fostering better communication of changes in a patient's condition

- **Telemedicine** – the remote delivery of health care using telecommunications infrastructure, for example using audiovisual technology to allow patients or clinicians in remote locations to seek specialist advice or opinions

- **Electronic charting and medical records** – documentation of patient information in electronic databases that allow clinicians to access information without the delays associated with paper records.

comments from colleagues

'Definitely electronic systems would help. Then from wherever we're at we can see what has been going on, or we can see a plan. Rather than spending a lot of time going back and forth, we would be able to do a lot of things on the spot and that would be able to help us target our care towards those that actually do need it.'

Resident focus groups, 2010

how to complete this task

DECIDE	DEVELOP	RESOURCE	EDUCATE	EVALUATE

task 1 – consider using technological systems and solutions to improve recognition and response systems		
DECIDE	▶ ▶ ▶	Decide if technological systems or solutions are appropriate Decide if current or new technological systems and solutions conform to the recommendations in the consensus statement
DEVELOP	▶ ▶ ▶	Develop a business case, in accordance with local policy, for the introduction of new health technologies and solutions
RESOURCE	▶ ▶ ▶	Provide resources to evaluate new technological systems and solutions Ensure technological systems are well maintained and operational
EDUCATE	▶ ▶ ▶	Educate the clinical and non-clinical workforce, patients, families and carers on the use of technological systems and solutions
EVALUATE	▶ ▶ ▶	Evaluate and report on current and new technological systems and solutions

DECIDE

DECIDE IF TECHNOLOGICAL SYSTEMS OR SOLUTIONS ARE APPROPRIATE

DECIDE IF CURRENT OR NEW TECHNOLOGICAL SYSTEMS AND SOLUTIONS CONFORM TO THE RECOMMENDATIONS IN THE CONSENSUS STATEMENT

When considering technological systems and solutions to improve recognition and response systems, facilities should first decide if new systems are needed and appropriate. This involves considering:

- whether evidence demonstrates that existing systems for delivering care are not operating effectively

- whether the introduction of new technology will further improve operational performance of recognition and response systems

- whether technological systems and solutions will provide benefits to patients and improve patient outcomes

- whether technological systems and solutions will improve the care process and interaction

- any risks (actual and potential) to the safety and quality of patient care; this should involve consideration of patient and staff perceptions of risks

- the costs of the new technology, including potential savings and cost–benefit analyses.

It is important to consider how new technologies will interface with current systems. Ensure that new systems and solutions are designed to mesh with other electronic or paper-based systems (for example patient record systems and data collection forms), and that strategies are in place to safely manage any technical problems without disruption to patient care.

When deciding if new technologies may be appropriate, facilities should also ensure solutions conform to the recommendations in the consensus statement.

learning from coronial inquests

The importance of patient record accessibility

Sparka Huntington was a 31-year-old man with a long history of mental illness. He was admitted as an involuntary patient to an inpatient facility. Sparka's community mental health records were not available and there was some confusion regarding his usual medication regime. Sparka died after a violent struggle to restrain and place him in seclusion.

'I recommend that as a matter of urgency Queensland Health develop an electronic database to enable clinicians to instantly access medical records of mental health patients who have been treated at any public health service throughout the state.'[5]

DEVELOP

DEVELOP A BUSINESS CASE, IN ACCORDANCE WITH LOCAL POLICY, FOR THE INTRODUCTION OF NEW HEALTH TECHNOLOGIES AND SOLUTIONS

Once health professionals have decided that a new health technology may be appropriate, a health technology assessment should be undertaken as part of developing a business case seeking approval for introducing the technology. The business case should include consideration of issues such as the improvement of patient safety and clinical outcomes, value for money and the feasibility of the new technology within the organisation.

Technology assessments usually involve a multidisciplinary analysis of the 'medical, social, ethical, and economic implications of development, diffusion, and use of health technology',[1,6] ensuring that:

- the transition between old and new technologies is guided by evidence and effectiveness

- funds are used to support the lowest cost healthcare interventions to achieve the maximum healthcare outcomes

- technology can be prioritised against existing healthcare interventions and other funding priorities

- patient and staff safety is maintained and improved

- the impacts of the technology on healthcare delivery and the organisation are understood.

New technological systems may also be required to meet several national or international standards, such as information security management or electronic communication in health care. The implementation tip on this page provides information on where to access Australian standards.

implementation tip

Standards Australia

Standards Australia is an independent, not for profit organisation recognised by the Australian Government as the peak nongovernment standards body in Australia. Standards Australia develops internationally aligned Australian Standards® that improve Australia's economic efficiency and international competitiveness, and contribute to community demand for a safe and sustainable environment.

Australian Standards® are published documents setting out specifications and procedures to ensure products, services and systems perform the way they were intended to and are safe and reliable. They establish a common language that defines quality and safety criteria.

A range of information to support the design and use of technological systems and solutions is available from the Standards Australia web site, including:

- guide to electronic communication in health care
- telehealth session information required for health records
- user interface requirements for the presentation of health data.

www.standards.org.au

PROVIDE RESOURCES TO EVALUATE CURRENT AND NEW TECHNOLOGICAL SYSTEMS AND SOLUTIONS

ENSURE TECHNOLOGICAL SYSTEMS ARE WELL MAINTAINED AND OPERATIONAL

Introducing new technology and solutions will require resources such as staff education and training, and technological support and maintenance, as well as resources to support data collection, analysis and reporting.

Technological systems must be well maintained and operational. Regular scheduled maintenance of systems will be needed, and staff should be informed of procedures to use if technological systems become unavailable.

These resources should be considered as part of the health technology assessment process, as well as throughout implementation and ongoing operation.

Introducing new technology and solutions will require resources such as staff education and training, and technological support and maintenance, as well as resources to support data collection, analysis and reporting.

practice point

The Virtual Critical Care Unit (ViCCU™)

The ViCCU™ is a telemedicine system (trademarked by the Commonwealth Scientific and Industrial Research Organisation) that allows real time audiovisual communication between clinicians at different hospital sites.[7]

The system was piloted in 2004 at the Blue Mountains District ANZAC Memorial Hospital (BMH) and Nepean Hospital (NH), in Sydney. The ViCCU™ linked the emergency departments of the two hospitals so that emergency physicians from NH could provide specialist assessment and advice for the management of acutely ill patients presenting to BMH.

Mixed results were found in the before and after study that evaluated the system. Patient outcomes were unchanged, but benefits were found in the patient management indicators that were measured. For example, after the pilot, there was a significant increase in the discharge of patients with moderate trauma, and increased transfers of critical care patients.

The clinicians involved in the pilot were interviewed about their perceptions of the system. Specialists at NH reported that they were able to provide decision-making support to the BMH clinicians, but also felt that their workloads had increased. Clinicians at BMH reported feeling better supported, and all agreed that the system had improved inter-hospital relationships.

01
02
03
04
05
06
07
08

EDUCATE

EDUCATE THE CLINICAL AND NON-CLINICAL WORKFORCE, PATIENTS, FAMILIES AND CARERS ON THE USE OF TECHNOLOGICAL SYSTEMS AND SOLUTIONS

As part of the introduction of any new system, health professionals will require education on:

- reasons for introducing a new technology or solution

- potential benefits

- use of the new equipment or process

- how to provide comments and suggestions on new technological solutions, including how to report problems

- how to access technological support, if required.

Depending on the type and nature of the technological system being introduced, patients, families and carers may also need education. This education may need to be provided by health professionals and supported by written information.

Depending on the type and nature of the technological system being introduced, patients, families and carers may also need education. This education may need to be provided by health professionals and supported by written information.

EVALUATE AND REPORT ON CURRENT AND NEW TECHNOLOGICAL SYSTEMS AND SOLUTIONS

Evaluating and reporting on new technological systems and solutions should be undertaken according to local policy and procedures. Piloting technological systems should be an early step in the evaluation process. Piloting can demonstrate a 'proof of concept' for the organisation and assist with the introduction and diffusion of the technology.

Useful evaluation measures to consider include the:

- impact on patient outcomes or care processes

- alignment of health technology outcomes with financial outcomes

- extent to which uptake of the technology matches the assumptions and evidence provided as part of the health technology assessment

- sustainability of the technology within the facility.

Technological solutions should not place a barrier between the clinician and the patient; instead, they should improve the care process and interaction. Therefore, facilities should also ensure that evaluation incorporates staff and patient perspectives of the new technology.

As part of the evaluation process, it is important to monitor issues such as workflow and patient safety incidents, to identify any unexpected consequences of introducing the technology. Monitoring overall process measures (e.g. calls to the rapid response system) and outcome measures (e.g. the number of unexpected deaths or cardiac arrests) is also useful when evaluating the impact of the new technology.

practice point

Bedside electronic capture of clinical observations and automated clinical alerts

Patientrack is an electronic system that allows nurses to enter patient observations into a personal digital assistant at the bedside.[8] An early warning score can be calculated and an automated alert is sent to the relevant clinician if trigger thresholds are breached. Alerts continue until the responding clinician has attended.

A study was undertaken to examine the effects of introducing the system in a United Kingdom health trust. Data was collected prior to implementation of the electronic system to determine compliance with the paper-based early warning score and escalation system and to provide a historical control for comparison.

Statistically significant improvements were seen in the accuracy of early warning score calculations and clinical attendance to patients according to the escalation protocol. Hospital length of stay was significantly reduced from a median of 9.7 days in the initial data collection period to 6.9 days after implementation of the electronic system.

TASK 1

STEP 3

ESSENTIAL ELEMENT 8

01
02
03
04
05
06
07
08

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
⊙ task 1 **Consider using technological systems and solutions to improve recognition and response systems**	**DECIDE** Decide if technological systems or solutions are appropriate Decide if current or new technological systems and solutions conform to the recommendations in the consensus statement	Health service boards, executives and owners Health service managers Health professionals with responsibility for policy or quality improvement Clinicians	5.3 Any new recognition and response systems or procedures should be integrated into existing organisational and safety and quality systems to support their sustainability and opportunities for organisational learning 8.1 Recognition and response systems should consider the inclusion of technological solutions based on evidence of efficacy and cost, as well as consideration of possible additional safety and quality risks. Unintended adverse effects should be considered by explicit study during implementation 8.2 Technological solutions should not place a barrier between the clinician and the patient; instead they should enhance the care process and interaction 8.3 Where technological solutions are introduced, the recognition and response systems should still conform to the elements specified in this consensus statement	1.1.2 The impact on patient safety and quality of care is considered in business decision-making
	DEVELOP Develop a business case, in accordance with local policy, for the introduction of new health technologies and solutions	Health service managers Clinicians Health professionals with responsibility for policy or quality improvement	8.1 Recognition and response systems should consider the inclusion of technological solutions based on evidence of efficacy and cost, as well as consideration of possible additional safety and quality risks. Unintended adverse effects should be considered by explicit study during implementation	1.1.2 The impact on patient safety and quality of care is considered in business decision-making

summary of tasks and actions for essential element 8

Task	What is required?	Who is responsible?	Consensus statement recommendations	National safety and quality health service standards actions
◉ **task 1** **Consider using technological systems and solutions to improve recognition and response systems**	**RESOURCE** Provide resources to evaluate new technological systems and solutions Ensure technological systems are well maintained and operational	Health service boards, executives and owners Health service managers Clinicians Patients, families and carers	8.1 Recognition and response systems should consider the inclusion of technological solutions based on evidence of efficacy and cost, as well as consideration of possible additional safety and quality risks. Unintended adverse effects should be considered by explicit study during implementation	9.1.1 Governance arrangements are in place to support the development, implementation, and maintenance of organisation-wide recognition and response systems
	EDUCATE Educate the clinical and non-clinical workforce, patients, families and carers on the use of technological systems and solutions	Health service managers Health professionals with responsibility for policy or quality improvement Educators Clinicians	N/A	1.4.1 Orientation and ongoing training programs provide the workforce with the skill and information needed to fulfill their safety and quality roles and responsibilities 1.4.3 Locum and agency workforce have the necessary information, training and orientation to the workplace to fulfill their safety and quality roles and responsibilities 1.4.4 Competency-based training is provided to the clinical workforce to improve safety and quality 2.3.1 Health service organisations provide orientation and ongoing training for consumers and/or carers to enable them to fulfil their partnership role

summary of tasks and actions for essential element 8

Task	What is required?	Who is responsible?	Consensus statement recommendations	National Safety and Quality Health Service Standards actions
	EVALUATE Evaluate and report on current and new technological systems and solutions	Health service managers Health professionals with responsibility for policy or quality improvement Clinicians	7.6 Evaluation of the costs and potential savings associated with recognition and response systems could also be considered 7.8 As part of the implementation of new systems, feedback should be obtained from frontline staff about the barriers and enablers to change. Issues and difficulties regarding implementation should be considered for different settings 8.1 Recognition and response systems should consider the inclusion of technological solutions based on evidence of efficacy and cost, as well as consideration of possible additional safety and quality risks. Unintended adverse effects should be considered by explicit study during implementation	1.2.2 Action is taken to improve the safety and quality of patient care 9.2.1 Feedback is actively sought from the clinical workforce on the responsiveness of the recognition and response systems 9.2.4 Action is taken to improve the responsiveness and effectiveness of the recognition and response systems

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Finally, the Commission would like to thank all those who have contributed information, resources and tools for inclusion in the guide.

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acknowledgements

appendix A

ACTIONS AGAINST *NATIONAL SAFETY AND QUALITY HEALTH SERVICE STANDARD 9: RECOGNISING AND RESPONDING TO CLINICAL DETERIORATION IN ACUTE HEALTH CARE*

National standard ▸ ESTABLISHING RECOGNITION AND RESPONSE SYSTEMS

This criterion will be achieved by:	Actions required	Consensus statement element and task	
		Element	**Task**
9.1 Developing, implementing and regularly reviewing the effectiveness of governance arrangements and the policies, procedures and/or protocols that are consistent with the requirements of the National Consensus Statement	9.1.1 Governance arrangements are in place to support the development, implementation, and maintenance of organisation-wide recognition and response systems	Essential element 5: Organisational supports	Task 1: Provide a clinical governance framework to support systems for recognising and responding to clinical deterioration
	9.1.2 Policies, procedures and/or protocols for the organisation are implemented in areas such as: • measurement and documentation of observations	Essential element 1: Measurement and documentation of observations	Task 1: Measure and document core physiological observations with appropriate frequency and duration
			Task 2: Document a monitoring plan for each patient
	9.1.2 Policies, procedures and/or protocols for the organisation are implemented in areas such as: • escalation of care	Essential element 2: Escalation of care	Task 1: Develop an escalation policy that is tailored to the role and characteristics of the facility
			Task 2: Develop an escalation protocol that provides a graded response to abnormal physiological observations and include in the escalation policy
	9.1.2 Policies, procedures and/or protocols for the organisation are implemented in areas such as: • establishment of a rapid response system	Essential element 3: Rapid response systems	Task 1: Provide a rapid response system capable of delivering timely, specialised emergency assistance to patients whose condition is deteriorating
			Task 2: Ensure rapid response systems operate in partnership with, and as an extension of, the healthcare team
	9.1.2 Policies, procedures and/or protocols for the organisation are implemented in areas such as: • communication about clinical deterioration	Essential element 4: Clinical communication	Task 1: Develop agreed communication processes (written and verbal) to support recognition and response systems
			Task 2: Develop systems for communicating with patients, families and carers about possible deterioration

appendix A

ACTIONS AGAINST *NATIONAL SAFETY AND QUALITY HEALTH SERVICE STANDARD 9: RECOGNISING AND RESPONDING TO CLINICAL DETERIORATION IN ACUTE HEALTH CARE*

National standard ▸ ESTABLISHING RECOGNITION AND RESPONSE SYSTEMS

Criterion to be achieved	Actions required	Consensus statement element and task	
		Element	**Task**
9.2 Collecting information about the recognition and response systems, providing feedback to the clinical workforce, and tracking outcomes and changes in performance over time	9.2.1 Feedback is actively sought from the clinical workforce on the responsiveness of the recognition and response systems	Essential element 7: Evaluation, audit and feedback	Task 1: Develop evaluation, audit and feedback processes for recognition and response systems
		Essential element 3: Rapid response systems	Task 2: Ensure rapid response systems operate in partnership with, and as an extension of, the healthcare team
	9.2.2 Deaths or cardiac arrests for a patient without an agreed treatment-limiting order (such as not for resuscitation or do not resuscitate) are reviewed to identify the use of the recognition and response systems, and any failures in these systems	Essential element 7: Evaluation, audit and feedback	Task 1: Develop evaluation, audit and feedback processes for recognition and response systems
	9.2.3 Data collected about recognition and response systems are provided to the clinical workforce as soon as practicable	Essential element 7: Evaluation, audit and feedback	Task 1: Develop evaluation, audit and feedback processes for recognition and response systems
		Essential element 3: Rapid response systems	Task 1: Ensure rapid response systems operate in partnership with, and as an extension of, the healthcare team
	9.2.4 Action is taken to improve the responsiveness and effectiveness of the recognition and response systems	Essential element 5: Organisational supports	Task 1: Provide a clinical governance framework to support systems for recognising and responding to clinical deterioration
		Essential Element 6: Education	Task 1: Provide education to the clinical and non-clinical workforce to support recognition and response systems
		Essential Element 7: Evaluation, audit and feedback	Task 1: Develop evaluation, audit and feedback processes for recognition and response systems

Criterion to be achieved	Actions required	Consensus statement element and task	
		Element	Task
9.3 Implementing mechanism(s) for recording physiological observations that incorporate triggers to escalate care when deterioration occurs	9.3.1 When using a general observation chart, ensure that it: • is designed according to human factors principles • includes the capacity to record information about respiratory rate, oxygen saturation, heart rate, blood pressure, temperature and level of consciousness graphically over time • includes thresholds for each physiological parameter or combination of parameters that indicate abnormality • specifies the physiological abnormalities and other factors that trigger the escalation of care • includes actions required when care is escalated	Essential element 1: Measurement and documentation of observations	Task 1: Measure and document core physiological observations with appropriate frequency and duration
			Task 3: Use observation charts designed using human factors principles that incorporate a track and trigger system
		Essential element 2: Escalation of care	Task 2: Develop an escalation protocol that provides a graded response to abnormal physiological observations and include in the escalation policy
	9.3.2 Mechanisms for recording physiological observations are regularly audited to determine the proportion of patients that have complete sets of observations recorded in agreement with their monitoring plan	Essential element 1: Measurement and documentation of observations	Task 1: Measure and document core physiological observations with appropriate frequency and duration
	9.3.3 Action is taken to increase the proportion of patients with complete sets of recorded observations, as specified in the patient's monitoring plan	Essential element 5: Organisational supports	Task 1: Provide a clinical governance framework to support systems for recognising and responding to clinical deterioration
		Essential Element 6: Education	Task 1: Provide education to the clinical and non-clinical workforce to support recognition and response systems
		Essential Element 7: Evaluation, audit and feedback	Task 1: Develop evaluation, audit and feedback processes for recognition and response systems

National standard ▸ ESTABLISHING RECOGNITION AND RESPONSE SYSTEMS

Criterion to be achieved	Actions required	Consensus statement element and task	
		Element	**Task**
9.4 Developing and implementing mechanisms to escalate care and call for emergency assistance where there are concerns that a patient's condition is deteriorating	9.4.1 Mechanisms are in place to escalate care and call for emergency assistance	Essential Element 2: Escalation of care	Task 1: Develop an escalation policy tailored to the role and characteristics of the facility
		Essential element 3: Rapid response systems	Task 1: Provide a rapid response system capable of delivering timely, specialised emergency assistance to patients whose condition is deteriorating
	9.4.2 Use of escalation processes, including failure to act on triggers for seeking emergency assistance, are regularly audited	Essential element 7: Evaluation, audit and feedback	Task 1: Develop evaluation, audit and feedback processes for recognition and response systems
	9.4.3 Action is taken to maximise the appropriate use of escalation processes	Essential element 5: Organisational supports	Task 1: Provide a clinical governance framework to support systems for recognising and responding to clinical deterioration
		Essential element 6: Education	Task 1: Provide education to the clinical and non-clinical workforce to support recognition and response systems
		Essential element 7: Evaluation, audit and feedback	Task 1: Develop evaluation, audit and feedback processes for recognition and response systems
9.5 Using the system in place to ensure that specialised and timely care is available to patients whose condition is deteriorating	9.5.1 Criteria for triggering a call for emergency assistance are included in the escalation policies, procedures and/or protocols	Essential element 2: Escalation of care	Task 1: Develop an escalation policy tailored to the role and characteristics of the facility
			Task 2: Develop an escalation protocol that provides a graded response to abnormal physiological observations and include it in the escalation policy

Criterion to be achieved	Actions required	Consensus statement element and task	
		Element	**Task**
9.5 Using the system in place to ensure that specialised and timely care is available to patients whose condition is deteriorating	9.5.1 Criteria for triggering a call for emergency assistance are included in the escalation policies, procedures and/or protocols	Essential element 3: Rapid response systems	Task 1: Provide a rapid response system capable of delivering timely, specialised emergency assistance to patients whose condition is deteriorating
		Essential element 5: Organisational supports	Task 1: Provide a clinical governance framework to support systems for recognising and responding to clinical deterioration
	9.5.2 The circumstances and outcome of calls for emergency assistance are regularly reviewed	Essential element 3: Rapid response systems	Task 1: Provide a rapid response system capable of delivering timely, specialised emergency assistance to patients whose condition is deteriorating
			Task 2: Ensure rapid response systems operate in partnership with, and as an extension of, the healthcare team
		Essential element 7: Evaluation, audit and feedback	Task 1: Develop evaluation, audit and feedback processes for recognition and response systems
9.6 Having a clinical workforce that is able to respond appropriately when a patient's condition is deteriorating	9.6.1 The clinical workforce is trained and proficient in basic life support	Essential element 6: Education	Task 1: Provide education to the clinical and non-clinical workforce to support recognition and response systems
	9.6.2 A system is in place for ensuring access at all times to at least one clinician, either on-site or in close proximity, who can practise advanced life support	Essential element 3: Rapid response systems	Task 1: Provide a rapid response system capable of delivering timely, specialised emergency assistance to patients whose condition is deteriorating
		Essential element 6: Education	Task 1: Provide education to the clinical and non-clinical workforce to support recognition and response systems

appendix A

ACTIONS AGAINST *NATIONAL SAFETY AND QUALITY HEALTH SERVICE STANDARD 9: RECOGNISING AND RESPONDING TO CLINICAL DETERIORATION IN ACUTE HEALTH CARE*

National standard ▸ ESTABLISHING RECOGNITION AND RESPONSE SYSTEMS

Criterion to be achieved	Actions required	Consensus statement element and task	
		Element	**Task**
9.7 Ensuring patients, families and carers are informed about, and are supported so that they can participate in, recognition and response systems and processes	9.7.1 Information is provided to patients, families and carers in a format that is understood and meaningful. The information should include: • the importance of communicating concerns and signs/symptoms of deterioration, which are relevant to the patient's condition, to the clinical workforce • local systems for responding to clinical deterioration, including how they can raise concerns about potential deterioration	Essential element 4: Clinical communication	Task 2: Develop systems for communicating with patients, families and carers about possible deterioration
9.8 Ensuring that information about advance care plans and treatment-limiting orders is in the patient clinical record, where appropriate	9.8.1 A system is in place for preparing and/or receiving advance care plans in partnership with patients, families and carers	Essential element 2: Escalation of care	Task 3: Consider advance care directives and treatment-limiting decisions when escalating care
		Essential element 4: Clinical communication	Task 2: Develop systems for communicating with patients, families and carers about possible deterioration
	9.8.2 Advance care plans and other treatment-limiting orders are documented in the patient clinical record	Essential element 2: Escalation of care	Task 3: Consider advance care directives and treatment-limiting decisions when escalating care
		Essential element 4: Clinical communication	Task 1: Develop agreed communication processes (written and verbal) to support recognition and response systems
9.9 Enabling patients, families and carers to initiate an escalation of care response	9.9.1 Mechanisms are in place for a patient, family member or carer to initiate an escalation of care response	Essential element 2: Escalation of care	Task 4: Provide a process to enable patients, families and carers to escalate care

Criterion to be achieved	Actions required	Consensus statement element and task	
		Element	Task
9.9 Enabling patients, families and carers to initiate an escalation of care response	9.9.2 Information about the system for family escalation of care is provided to patients, families and carers	Essential element 2: Escalation of care	Task 4: Provide a process to enable patients, families and carers to escalate care
		Essential element 4: Clinical communication	Task 2: Develop systems for communicating with patients, families and carers about possible deterioration
	9.9.3 The performance and effectiveness of the system for family escalation of care is periodically reviewed	Essential element 2: Escalation of care	Task 4: Provide a process to enable patients, families and carers to escalate care
		Essential element 7: Evaluation, audit and feedback	Task 1: Develop evaluation, audit and feedback processes for recognition and response systems
	9.9.4 Action is taken to improve the system performance for family escalation of care	Essential element 5: Organisational supports	Task 1: Provide a clinical governance framework to support systems for recognising and responding to clinical deterioration
		Essential element 6: Education	Task 1: Provide education to the clinical and non-clinical workforce to support recognition and response systems
		Essential element 7: Evaluation, audit and feedback	Task 1: Develop evaluation, audit and feedback processes for recognition and response systems

Regular review of, and action on, markers of quality of care is an integral part of quality improvement. It is important to build processes into clinical governance frameworks to allow routine collection, review and action on timely and targeted data.

To support this, the Commission has provided detailed specifications for a number of measures that facilities can use to review their processes and outcomes relating to recognising and responding to clinical deterioration. The measures included in this Appendix are those that the Commission suggests are the most useful for facilities to use to enable robust evaluation of recognition and response systems.

Facilities are not required by the Commission to collect data on these measures and can choose the quality measures that best fit with their circumstances. However, the Commission suggests that all facilities should include the following key measures in their evaluation systems:

- rates of failed escalation with mortality

- unexpected in-hospital death rates

- unexpected cardiopulmonary arrest rates

- in-hospital death rates

- cardiopulmonary arrest rates

- rapid response activation rates.

Facilities may choose which additional measures to focus on depending on the stage of implementation of their recognition and response systems. For example, facilities could audit the documentation of core physiological observations and compliance with monitoring plans or policies frequently when a new observation and monitoring policy is introduced. Facilities with well-embedded systems may focus on rates of failed escalation with mortality, rapid response activation rates and unexpected in-hospital death rates as measures of ongoing performance.

The frequency of data review or audit will also vary according to the measure being used. Measures such as unexpected cardiopulmonary arrest or rates of failed escalation with mortality may be measured quarterly or biannually, while audits of the documentation of core physiological observations may be undertaken weekly or monthly. Individual clinical areas may like to consider doing 'swoop' audits of practices such as the documentation of core physiological observations where any variance from the expected standard is discussed on the spot with the relevant clinical staff.

The quality measures have been put forward to support local evaluation and quality improvement. They are not designed for performance monitoring or benchmarking. The Commission does not require collection of information about these measures. However these measures have been designed to align with the *National safety and quality health service standards*, current and proposed processes for data collection where they exist at a state and territory level, and with the rapid response system indicators included in the *Australian Council of Healthcare Standards Intensive Care Clinical Indicators Version 4*.

The quality measures have been developed using an adapted version of the Australian Institute of Health and Welfare's METeOR framework.

Facilities may choose which additional measures to focus on depending on the stage of implementation of their recognition and response systems.

Documentation of core physiological observations

IDENTIFYING AND DEFINITIONAL ATTRIBUTES

SHORT NAME:	Documentation of core physiological observations
DESCRIPTION:	The proportion of patients audited that have complete sets of core physiological observations documented as part of their last set of recorded observations.
TYPE OF QUALITY MEASURE:	Process measure
RATIONALE:	There is an increasing body of work demonstrating the association between abnormal physiological observations and the occurrence of clinical deterioration leading to critical illness and serious adverse outcomes. Facilities need to ensure that acute care areas are measuring the core physiological observations required to identify clinical deterioration
DEFINITIONS:	Admitted patient: any patient for whom the hospital accepts responsibility for the provision of inpatient care and/or treatment. Admission follows a clinical decision based upon specified criteria that a patient requires same day or overnight care or treatment.
	Complete set of core physiological observations: a set of documented observations that includes respiratory rate, heart rate, blood pressure, temperature, oxygen saturation, level of consciousness.
	Last observation set: set of observations conducted most recently before the audit and documented on the patient's observation chart or other record.
	Monitoring plan: a document that outlines the physiological observations to be measured and the frequency of this measurement

COLLECTION AND USAGE ATTRIBUTES

POPULATION:	Admitted patients who require core physiological observations to be measured according to their monitoring plan
COMPUTATION:	Percentage of last observation sets with complete sets of core physiological observations documented
	$\dfrac{\text{Numerator}}{\text{Denominator}} \times 100$
NUMERATOR:	Number of last observation sets audited with complete sets of core physiological observations documented
DENOMINATOR:	Total number of last observation sets audited

COMMENTS

COMMENTS:	A high percentage of last observation sets with complete sets of core physiological observations documented is desirable
	Data collection for this quality measure may be combined with data collection for 'Compliance with monitoring plans or policies.' There is an audit tool available on the Commission's website for this purpose
	It may be useful to audit a variety of clinical areas at different times of day to examine whether there are differences in practices
	In incomplete sets of observations, collecting data about which observation is missing can assist with targeting education sessions to improve compliance
	Collecting data for this quality measure will require review of the patient's observation chart or other records where observations are documented

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Documentation of core physiological observations

REFERENCES

REFERENCE DOCUMENTS:	
	Australian Commission on Safety and Quality in Health Care. National Consensus Statement: Essential Elements for Recognising and Responding to Clinical Deterioration. Sydney. ACSQHC, 2010
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	Jacques T, Harrison GA, McLaws M-L, Kilborn G. Signs of critical conditions and emergency responses (SOCCER): A model for predicting adverse events in the inpatient setting. *Resuscitation* 2006;69(2):175-183
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Compliance with monitoring plans or policies

SHORT NAME:	Compliance with monitoring plans and policies
DESCRIPTION:	The proportion of patients audited for whom physiological observations were measured and documented according to the specifications of the monitoring plan or policy
TYPE OF QUALITY MEASURE:	Process measure
RATIONALE:	Clinicians can only recognise and respond to clinical deterioration if appropriate observations and assessments are measured with adequate frequency Physiological observations are often not measured with sufficient frequency to detect clinical deterioration and not all clinicians may have enough knowledge and experience to identify the assessments and observations needed to detect clinical deterioration Facilities need to ensure that all acute care areas are measuring appropriate physiological observations with adequate frequency
DEFINITIONS:	Admitted patient: any patient for whom the hospital accepts responsibility for the provision of inpatient care and/or treatment. Admission follows a clinical decision based upon specified criteria that a patient requires same day or overnight care or treatment Monitoring plan or policy: a document that outlines the physiological observations to be measured and the frequency of this measurement Observations correctly documented: set of observations documented within 30 minutes of the specified frequency outlined in the monitoring plan and/or policy Physiological observations: may include measures of respiratory rate, heart rate, blood pressure, temperature, oxygen saturation, level of consciousness and/or other observations specified in the monitoring plan Complete sets of observations: physiological observations recorded against a legible time entry that include all physiological observations specified in the monitoring plan

COLLECTION AND USAGE ATTRIBUTES

POPULATION:	Patients with specified physiological observations and the frequency for monitoring identified in their monitoring plan or to whom a general monitoring policy applies who have been admitted for 24 hours or more
COMPUTATION:	Percentage of patients with complete observation sets documented according to the specified frequency $$\frac{\text{Numerator}}{\text{Denominator}} \times 100$$
NUMERATOR:	Number of patients audited who have the correct number of complete sets of observations documented according to the monitoring plan and/or policy, over the 24 hours prior to the audit
DENOMINATOR:	Total number of patients audited

Compliance with monitoring plans or policies

COMMENTS

COMMENTS:	A high percentage of patients with complete observation sets documented according to the specified frequency is desirable
	Patients who have additional observations, or observations that are recorded more frequently than specified in the monitoring plan or policy should be included in the sample and noted to have their observations correctly documented
	Data collection for this quality measure may be combined with data collection for 'Documentation of core observations'. There is an audit tool on the Commission's website for this purpose
	It may be useful to audit a variety of clinical areas to examine whether there are differences in practice in different parts of the facility
	Collecting data for this measure will require review of the patient's observation chart or other records where monitoring plans and physiological observations are documented

REFERENCES

| REFERENCE DOCUMENTS: | Australian Commission on Safety and Quality in Health Care. National Consensus Statement: Essential Elements for Recognising and Responding to Clinical Deterioration. Sydney. ACSQHC, 2010 |
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Escalation of care

IDENTIFYING AND DEFINITIONAL ATTRIBUTES

SHORT NAME:	Escalation of care
DESCRIPTION:	The proportion of patients audited that failed to have their care escalated according to the local escalation protocol
TYPE OF QUALITY MEASURE:	Process measure
RATIONALE:	Delays in escalating care can result in patient morbidity and mortality. An escalation protocol outlines the thresholds of abnormal physiological observations and/or aggregated scores that trigger an escalation of care response, and the response required when these triggers occur. Facilities need to ensure that escalation protocols are operating as planned to reduce the risk of adverse outcomes for patients
DEFINITIONS:	Admitted patient: any patient for whom the hospital accepts responsibility for the provision of inpatient care and/or treatment. Admission follows a clinical decision based upon specified criteria that a patient requires same day or overnight care or treatment Escalation protocol: protocol that sets out the organisational response required for different levels of abnormal physiological measurements or other observed deterioration Triggers: abnormalities in physiological observation measurements, aggregated scores or other clinical assessments that require an escalation of care according to the escalation protocol

COLLECTION AND USAGE ATTRIBUTES

POPULATION:	Admitted patients to whom the local escalation protocol applies
COMPUTATION:	Percentage of patients who failed to have their care escalated in accordance with the local escalation protocol $$\frac{\text{Numerator}}{\text{Denominator}} \times 100$$
NUMERATOR:	Number of patients audited with documented triggers for escalating care whose care was not escalated according to the requirements of the local protocol
DENOMINATOR:	Total number of patients audited who reached a trigger threshold

Escalation of care

COMMENTS

COMMENTS:	A low percentage of patients who failed to have their care escalated in accordance with the local escalation protocol is desirable
	Populations that have specific escalation protocols should be audited separately. These populations may include general adult and paediatric patients. If specific escalation protocols apply in other settings (such as maternity), these should also be audited separately
	Some patients may have modifications to triggers to reflect their clinical circumstances, but still require a response according to the local escalation protocol. These patients should be included in the sample
	Escalation of care should also include calls to the rapid response system where required by the protocol
	The focus of audit should be on data that can be examined objectively in retrospect, i.e. the 'worried' criterion cannot be included
	Where failures to escalate care appropriately are identified, it may be useful to conduct a more detailed review of these cases. Such a review can provide information about why the failures occurred and how systems and processes can be improved. Organisations should consider adding a new category (e.g. 'failure to escalate' or 'failure to rescue') to electronic incident reporting systems to enable identification and review of these cases
	Collecting data for this quality measure will require review of the patient's observation chart and healthcare record

REFERENCES

REFERENCE DOCUMENTS:	Australian Commission on Safety and Quality in Health Care. National Consensus Statement: Essential Elements for Recognising and Responding to Clinical Deterioration. Sydney. ACSQHC, 2010
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	Quach JL, Downey AW, Haase M, Haase-Fielitz A, Jones D, Bellomo R. Characteristics and outcomes of patients receiving a medical emergency team review for respiratory distress. *Journal of Critical Care* 2008;23:325-331

Failed escalation with mortality

IDENTIFYING AND DEFINITIONAL ATTRIBUTES

SHORT NAME:	Failed escalation with mortality
DESCRIPTION:	The rate of patients who died in hospital without a treatment-limiting decision in place and who had documented triggers for an escalation of care that were not acted on
TYPE OF QUALITY MEASURE:	Outcome measure
RATIONALE:	If patients die without limitations on treatment and with documented triggers for escalation of care that were not acted on, the recognition and response system may be operating sub-optimally. Facilities need to ensure that escalation protocols are operating as planned to reduce the risk of adverse outcomes for patients.
DEFINITIONS:	Admitted patient: any patient for whom the hospital accepts responsibility for the provision of inpatient care and/or treatment. Admission follows a clinical decision based upon specified criteria that a patient requires same day or overnight care or treatment
	Separation: the process by which an episode of care for an admitted patient ceases. This may be formal or statistical
	Treatment-limiting decision: decisions that involve the reduction, withdrawal, or withholding of life-sustaining treatment. These may include 'no cardiopulmonary resuscitation, 'not for resuscitation' and 'do not resuscitate' orders
	Escalation protocol: protocol that sets out the organisational response required for different levels of abnormal physiological measurements or other observed deterioration
	Triggers: abnormalities in physiological measurements, aggregated scores or other clinical observations that require an escalation of care according to the escalation protocol

COLLECTION AND USAGE ATTRIBUTES

POPULATION:	Admitted patients who died in hospital without a treatment-limiting decision in place
COMPUTATION:	Number of patients who died in hospital without a treatment-limiting decision in place, where there were documented triggers that should have prompted an escalation of care in the 24 hours prior to death that were not acted on per 1000 hospital separations for the time period audited $$\frac{\text{Numerator}}{\text{Denominator}} \times 1000$$
NUMERATOR:	Number of patients who died in hospital without a documented treatment-limiting decision in place, where there were documented triggers that should have prompted an escalation of care in the 24 hours prior to death that were not acted on
DENOMINATOR:	Number of patient separations in the time period audited

Failed escalation with mortality

COMMENTS

COMMENTS:	A low rate of failed escalation with mortality is desirable
	Patients who were declared dead on arrival at the hospital should be excluded
	Populations that have different rapid response system processes should be reviewed separately. These populations may include general adult and paediatric patients. If specific escalation protocols apply in other settings (such as maternity), these should also be reviewed separately
	Collecting data for this quality measure will require access to routine hospital data regarding separations and in-hospital deaths. It will also require information from the patient's healthcare record regarding the presence of treatment-limiting decisions and triggers for escalation

REFERENCES

REFERENCE DOCUMENTS:	Australian Institute of Health and Welfare Index. (Accessed 5 August 2011, at http://meteor.aihw.gov.au/content/index.phtml/itemId/327206.)
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Rapid response system activation

IDENTIFYING AND DEFINITIONAL ATTRIBUTES

SHORT NAME:	Rapid response system activation
DESCRIPTION:	The rate of rapid response system activation in a facility
TYPE OF QUALITY MEASURE:	Process measure
RATIONALE:	Monitoring the rate of rapid response system calls provides information about the effects of the rapid response system on workload
DEFINITIONS:	Admitted patient: any patient for whom the hospital accepts responsibility for the provision of inpatient care and/or treatment. Admission follows a clinical decision based upon specified criteria that a patient requires same day or overnight care or treatment
	Rapid response system: system that provides emergency assistance to patients whose condition is deteriorating
	Rapid response system call: presence of a rapid response system call record form in the patient's healthcare record or other relevant documentation
	Separation: the process by which an episode of care for an admitted patient ceases. This may be formal or statistical

COLLECTION AND USAGE ATTRIBUTES

POPULATION:	Admitted patients
COMPUTATION:	Number of rapid response system activations per 1000 hospital separations for the time period audited $$\frac{\text{Numerator}}{\text{Denominator}} \times 1000$$
NUMERATOR:	Number of rapid response system calls to patients during the time period audited
DENOMINATOR:	Number of patient separations in the time period audited

COMMENTS

COMMENTS:	Interpretation of this data will vary depending on the type of rapid response system in use. In systems where there is only one response, such as the medical emergency team, there is some evidence that increased activation rates are associated with better patient outcomes. In graded response systems there is not yet any evidence regarding the optimal rapid response system calling rate. It is possible that a high call rate is desirable, as it may indicate that patients who are rapidly deteriorating are being identified and reviewed promptly. Alternatively, a high calling rate may represent a failure of the hospital organisation to develop and implement other strategies for preventing, detecting or responding to patient deterioration
	Populations that have different rapid response system processes should be reviewed separately. These populations may include general adult, obstetric and paediatric patients. If specific escalation protocols apply in other settings (such as maternity), these should also be reviewed separately
	Collecting data for this quality measure will require information from the records of rapid response system calls and routine hospital data

Rapid response system activation

REFERENCES

REFERENCE DOCUMENTS:

Australian and New Zealand Intensive Care Society and Australian Council on Health Care Standards. Intensive care indicators clinical indicators users' manual version 4. 2011

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Sebat F. *Designing, implementing and enhancing a Rapid Response System*. Mount Prospect: Society of Critical Care Medicine, 2009

Unexpected cardiopulmonary arrest

IDENTIFYING AND DEFINITIONAL ATTRIBUTES

SHORT NAME:	Unexpected cardiopulmonary arrest rate
DESCRIPTION:	The rate of occurrence of cardiopulmonary arrest where there was no 'not for resuscitation' order
TYPE OF QUALITY MEASURE:	Outcome measure
RATIONALE:	Several studies have demonstrated that rapid response systems have resulted in significant reductions in unexpected cardiopulmonary arrest rates
DEFINITIONS:	Admitted patient: any patient for whom the hospital accepts responsibility for the provision of inpatient care and/or treatment. Admission follows a clinical decision based upon specified criteria that a patient requires same day or overnight care or treatment
	Unexpected cardiopulmonary arrest: either cardiac or respiratory arrest in the absence of a 'not for cardiopulmonary resuscitation' order
	Separation: the process by which an episode of care for an admitted patient ceases. This may be formal or statistical
	Cardiac arrest: absence of pulse, consciousness and respiratory effort, necessitating the commencement of cardiopulmonary resuscitation
	Respiratory arrest: absence of respiratory effort and the presence of palpable pulse and measurable blood pressure necessitating the commencement of artificial ventilation (either manual or mechanical)

COLLECTION AND USAGE ATTRIBUTES

POPULATION:	Admitted patients
COMPUTATION:	Number of patients who have experienced an unexpected cardiopulmonary arrest per 1000 hospital separations for the time period audited
	$$\frac{\text{Numerator}}{\text{Denominator}} \times 1000$$
NUMERATOR:	Number of patients who experienced an unexpected cardiopulmonary arrest in the time period audited
DENOMINATOR:	Number of patient separations in the time period audited

COMMENTS

COMMENTS:	A low unexpected cardiopulmonary arrest rate is desirable. It may be that this figure is influenced more by inadequate prescription of 'not for resuscitation' orders than by rapid response system processes
	Populations that have different rapid response system processes should be reviewed separately. These populations may include general adult and paediatric patients. If specific escalation protocols apply in other settings (such as maternity), these should also be reviewed separately
	Collecting data for this quality measure will require information from the records of in-hospital cardiopulmonary arrests and routine hospital data

Unexpected cardiopulmonary arrest

REFERENCES

REFERENCE DOCUMENTS:

Australian and New Zealand Intensive Care Society and Australian Council on Health Care Standards. Intensive care indicators clinical indicators users' manual version 4. 2011

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Sebat F. *Designing, implementing and enhancing a Rapid Response System*. Mount Prospect: Society of Critical Care Medicine, 2009

In-hospital deaths

IDENTIFYING AND DEFINITIONAL ATTRIBUTES

SHORT NAME:	Number of in-hospital deaths
DESCRIPTION:	The total number of patients who died in hospital
TYPE OF QUALITY MEASURE:	Outcome measure
RATIONALE:	Several studies have demonstrated that rapid response systems have resulted in significant reduction of in-hospital deaths
DEFINITIONS:	Admitted patient: any patient for whom the hospital accepts responsibility for the provision of inpatient care and/or treatment. Admission follows a clinical decision based upon specified criteria that a patient requires overnight care or treatment
	Separation: the process by which an episode of care for an admitted patient ceases. This may be formal or statistical

COLLECTION AND USAGE ATTRIBUTES

POPULATION:	Admitted patients
COMPUTATION:	Number of patients who died per 1000 hospital separations for the time period audited $$\frac{\text{Numerator}}{\text{Denominator}} \times 1000$$
NUMERATOR:	Number of patients who have died in hospital for the time period audited
DENOMINATOR:	Number of patient separations for the time period audited

COMMENTS

COMMENTS:	Patients who were declared dead on arrival at the hospital should be excluded
	Populations that have different rapid response system processes should be reviewed separately. These populations may include general adult and paediatric patients. If specific escalation protocols apply in other settings (such as maternity), these should also be reviewed separately
	Collecting data for this quality measure will require access to routine hospital data regarding separations and in-hospital deaths

REFERENCES

REFERENCE DOCUMENTS:	Australian and New Zealand Intensive Care Society and Australian Council on Health Care Standards. Intensive care indicators clinical indicators users' manual version 4. 2011
	Australian Institute of Health and Welfare Index. (Accessed 5 August 2011, at http://meteor.aihw.gov.au/content/index.phtml/itemId/327206.)
	Health Data Standards Committee 2008. National health data dictionary. Version 14. Cat. no. HWI 101. Canberra: Australian Institute of Health and Welfare
	Peberdy MA, Cretikos M, Abella BS, DeVita M, Goldhill D, Kloeck W, et al. Recommended guidelines for monitoring, reporting and conducting research on medical emergency team, outreach and rapid response systems: An Utstein-style scientific statement. Circulation 2007;116:2481-2500
	Sebat F. *Designing, implementing and enhancing a Rapid Response System*. Mount Prospect: Society of Critical Care Medicine, 2009

Unexpected in-hospital deaths

IDENTIFYING AND DEFINITIONAL ATTRIBUTES

SHORT NAME:	Unexpected in-hospital deaths
DESCRIPTION:	The total number of patients who died in hospital who did not have a treatment limiting decision in place
TYPE OF QUALITY MEASURE:	Outcome measure
RATIONALE:	Several studies have demonstrated that rapid response systems have resulted in significant reduction of in-hospital deaths
DEFINITIONS:	Admitted patient: any patient for whom the hospital accepts responsibility for the provision of inpatient care and/or treatment. Admission follows a clinical decision based upon specified criteria that a patient requires same day or overnight care or treatment Separation: the process by which an episode of care for an admitted patient ceases. This may be formal or statistical Treatment-limiting decision: decisions that involve the reduction, withdrawal, or withholding of life-sustaining treatment. These may include 'no cardiopulmonary resuscitation, 'not for resuscitation' and 'do not resuscitate' orders

COLLECTION AND USAGE ATTRIBUTES

POPULATION:	Admitted patients
COMPUTATION:	Number of patients who died per 1000 hospital separations for the time period audited $$\frac{\text{Numerator}}{\text{Denominator}} \times 1000$$
NUMERATOR:	Number of patients who died in hospital without a treatment-limiting decision in place
DENOMINATOR:	Number of patient separations in the time period audited

COMMENTS

COMMENTS:	A low rate of unexpected in-hospital deaths is desirable Patients who were declared dead on arrival at the hospital should be excluded Populations that have different rapid response system processes should be reviewed separately. These populations may include general adult and paediatric patients. If specific escalation protocols apply in other settings (such as maternity), these should also be reviewed separately Collecting data for this quality measure will require access to routine hospital data regarding separations and in-hospital deaths. It may also require reviews of the patient's healthcare record regarding the presence of treatment-limiting decisions

Unexpected in-hospital deaths

REFERENCES

REFERENCE DOCUMENTS:	Australian and New Zealand Intensive Care Society and Australian Council on Health Care Standards. Intensive care indicators clinical indicators users' manual version 4. 2011
	Australian Institute of Health and Welfare Index. (Accessed 5 August 2011, at http://meteor.aihw.gov.au/content/index.phtml/itemId/327206.)
	Health Data Standards Committee 2008. National health data dictionary. Version 14. Cat. no. HWI 101. Canberra: Australian Institute of Health and Welfare.
	Peberdy MA, Cretikos M, Abella BS, DeVita M, Goldhill D, Kloeck W, et al. Recommended guidelines for monitoring, reporting and conducting research on medical emergency team, outreach and rapid response systems: An Utstein-style scientific statement. Circulation 2007;116:2481-2500
	Sebat F. *Designing, implementing and enhancing a Rapid Response System*. Mount Prospect: Society of Critical Care Medicine, 2009

Clinical documentation after rapid response system calls

IDENTIFYING AND DEFINITIONAL ATTRIBUTES

SHORT NAME:	Clinical documentation after rapid response system calls
DESCRIPTION:	The proportion of rapid response system calls for which there is documentation in the clinical record of the details of the event
TYPE OF QUALITY MEASURE:	Process measure
RATIONALE:	Inadequate clinical documentation has been identified as an important contributing factor to adverse events in healthcare. Poor written and verbal communication between health professionals can result in discontinuity of care, delays in treatment, adverse events and increased morbidity and mortality. Poor communication also poses risks to patient safety when patients are transferred between clinical areas and during critical events such as rapid response system calls
DEFINITIONS:	Admitted patient: any patient for whom the hospital accepts responsibility for the provision of inpatient care and/or treatment. Admission follows a clinical decision based upon specified criteria that a patient requires same day or overnight care or treatment
	Evidence of clinical documentation: documentation in the healthcare record that summarises the details of the rapid response call and meets any requirements outlined in the facility's rapid response policy
	Rapid response system: system that provides emergency assistance to patients whose condition is deteriorating
	Rapid response system call: presence of either a rapid response system call record form in the patient's healthcare record or other relevant documentation

COLLECTION AND USAGE ATTRIBUTES

POPULATION:	Admitted patients who receive a rapid response system call
COMPUTATION:	Percentage of rapid response system calls for which there is a documented summary of the details of the call in accordance with the requirements of rapid response policy $$\frac{\text{Numerator}}{\text{Denominator}} \times 100$$
NUMERATOR:	Number of audited rapid response system calls for which there is a documented summary of the details of the call in accordance with the requirements of rapid response policy
DENOMINATOR:	Total number of audited rapid response system calls

COMMENTS

COMMENTS:	A high rate of clinical documentation after rapid response calls is desirable
	Evidence of clinical documentation should be assessed in accordance with the agreed documentation process outlined in the facility's rapid response policy
	Collecting data for this quality measure will require information from the records of rapid response system calls and from the patient's healthcare record

Clinical documentation after rapid response system calls

REFERENCES

REFERENCE DOCUMENTS:	
	Australian Commission on Safety and Quality in Health Care. OSSIE Guide to Clinical Handover Improvement. Sydney. ACSQHC, 2009
	Australian Institute of Health and Welfare Index. (Accessed 5 August 2011, at http://meteor.aihw.gov.au/content/index.phtml/itemId/327206.)
	National Institute for Health and Clinical Excellence. Acutely ill patients in hospital: Recognition of and response to acute illness in adults in hospital. National Institute for Health and Clinical Excellence, 2007
	Sebat F. *Designing, implementing and enhancing a Rapid Response System*. Mount Prospect: Society of Critical Care Medicine, 2009

Activation of patient, family and carer escalation

IDENTIFYING AND DEFINITIONAL ATTRIBUTES

SHORT NAME:	Patient, family and carer escalation activation
DESCRIPTION:	The rate of patient, family and carer escalation activation in a facility
TYPE OF QUALITY MEASURE:	Process measure
RATIONALE:	Systems to allow patients, families and carers to directly trigger an escalation of care are becoming more common. They provide an additional safety net for patients that complement other recognition and response systems. Monitoring the use of these systems provides information about whether they are being used by patients, families and carers, the impact on hospital resources and can identify issues that may improve care for all patients
DEFINITIONS:	Admitted patient: any patient for whom the hospital accepts responsibility for the provision of inpatient care and/or treatment. Admission follows a clinical decision based upon specified criteria that a patient requires same day or overnight care or treatment
	Patient, family and carer escalation: a system that provides assistance to a patient when concerns about clinical deterioration, care or treatment exist. The system is triggered by the patient, family or carer resulting in the attendance of an individual, or team of individuals who are capable of assessing the patient, undertaking initial therapeutic intervention and escalating care to a health professional with advanced life support skills (if required)
	Patient, family and carer escalation activation: the presence of a patient, family and carer escalation system call record form in the patient's healthcare record or other relevant documentation
	Separation: the process by which an episode of care for an admitted patient ceases. This may be formal or statistical

COLLECTION AND USAGE ATTRIBUTES

POPULATION:	Admitted patients
COMPUTATION:	Number of patient, family and carer escalation activations per 1000 hospital separations for the time period audited $\frac{\text{Numerator}}{\text{Denominator}} \times 1000$
NUMERATOR:	Number of patient, family carer escalation activations patients during the sample time period
DENOMINATOR:	Number of patient separations in the time period

COMMENTS

COMMENTS:	It is possible to interpret the results of this measure in different ways. High call rates may indicate that patients, family and carers are aware of, and comfortable to use the system. Alternatively, a high calling rate may represent a failure of the hospital organisation to develop and implement other quality improvement initiatives that prevent or detect patient deterioration. This measure should be interpreted with other quality measures and knowledge of local policies and systems
	Populations that have different processes for patient, family and carer escalation (such as adult and paediatrics) should be audited separately
	Collecting data for this quality measure will require review of records of patient, family and carer escalation. This may include all records where care is escalated, including rapid response system calls. Data for this measure will also require information about the number of hospital separations in the audit period

Activation of patient, family and carer escalation

REFERENCES

REFERENCE DOCUMENTS:	
	Australian and New Zealand Intensive Care Society and Australian Council on Health Care Standards. Intensive care indicators clinical indicators users' manual version 4. 2011
	Australian Institute of Health and Welfare Index. (Accessed 5 August 2011, at http://meteor.aihw.gov.au/content/index.phtml/itemId/327206.)
	Baird SK, Turbin LB. Condition concern: An innovative response system for enhancing hospitalized patient care and safety. Journal of *Nursing Care Quality* 2011
	Bogert S, Ferrell C, Rutledge DN. Experience with family activation of rapid response teams. *MEDSURG Nursing* 2010;19(4):215-223
	Dean BS, Decker MJ, Hupp D, Urbach AH, Lewis E, Benes-Stickle J. Condition HELP: A pediatric rapid response team triggered by patients and parents. *Journal for Healthcare Quality* 2008;30(3):28-31
	Health Data Standards Committee 2008. National health data dictionary. Version 14. Cat. no. HWI 101. Canberra: Australian Institute of Health and Welfare

Awareness of patient, family and carer escalation

IDENTIFYING AND DEFINITIONAL ATTRIBUTES

SHORT NAME:	Awareness of patient, family and carer escalation
DESCRIPTION:	The proportion of patients, family and carers that can describe the patient, family carer escalation system
TYPE OF QUALITY MEASURE:	Process measure
RATIONALE:	Successful operation and use of the patient, family and carer escalation system is closely linked to patients, family and carers understanding of when and how to activate the system. High levels of awareness suggest that the system has been well integrated within a facility
DEFINITIONS:	Admitted patient: any patient for whom the hospital accepts responsibility for the provision of inpatient care and/or treatment. Admission follows a clinical decision based upon specified criteria that a patient requires same day or overnight care or treatment
	Patient, family and carer escalation: system that provides assistance to a patient when concerns about clinical deterioration, care or treatment exist. The system is triggered by the patient, family or carer resulting in the attendance of an individual, or team of individuals who are capable of assessing the patient, undertaking initial therapeutic intervention and escalating care to a health professional with advanced life support skills (if required)

COLLECTION AND USAGE ATTRIBUTES

POPULATION:	Admitted patients, visiting family members and carers who consent to provide information
COMPUTATION:	Percentage of patients, family members and carers aware of the patient, family and carer escalation system
	$$\frac{\text{Numerator}}{\text{Denominator}} \times 100$$
NUMERATOR:	Number of patients, family and carers surveyed who are aware of the patient, family and carer escalation system
DENOMINATOR:	Number of patients, family and carers in the sample

COMMENTS

COMMENTS:	A high percentage of patients, family and carers who are aware of the patient, family and carer escalation system is desirable
	Populations that have different processes for patient, family and carer escalation (such as adult and paediatrics) should be audited separately
	Collecting data for this quality measure will require the collection of information from patients, families and carers. This could be done through short surveys at discharge or during rounds. Appropriate approvals (such as from a human research ethics committee) may be needed for this activity

Awareness of patient, family and carer escalation

REFERENCES

REFERENCE DOCUMENTS:	
	Australian Institute of Health and Welfare Index. (Accessed 5 August 2011, at http://meteor.aihw.gov.au/content/index.phtml/itemId/327206.)
	Baird SK, Turbin LB. Condition concern: An innovative response system for enhancing hospitalized patient care and safety. *Journal of Nursing Care Quality* 2011
	Bogert S, Ferrell C, Rutledge DN. Experience with family activation of rapid response teams. *MEDSURG Nursing* 2010;19(4):215-223
	Dean BS, Decker MJ, Hupp D, Urbach AH, Lewis E, Benes-Stickle J. Condition HELP: A pediatric rapid response team triggered by patients and parents. *Journal for Healthcare Quality* 2008;30(3):28-31
	Health Data Standards Committee 2008. National health data dictionary. Version 14. Cat. no. HWI 101. Canberra: Australian Institute of Health and Welfare.

Key organisations

INTERNATIONAL ORGANISATIONS

Agency for Healthcare Research and Quality
www.ahrq.gov

Canadian Patient Safety Institute
www.patientsafetyinstitute.ca

Institute for Healthcare Improvement
www.ihi.org

National Patient Safety Agency
www.npsa.nhs.uk

National Institute for Health and Clinical Excellence
www.nice.org.uk

Patient Safety First
www.patientsafetyfirst.nhs.uk

Picker Institute
www.pickerinstitute.org

NATIONAL ORGANISATIONS

Australian Commission on Safety and Quality in Healthcare
www.safetyandquality.gov.au

Department of Health and Ageing
www.health.gov.au

STATE AND TERRITORY ORGANISATIONS

Australian Capital Territory: ACT Health
www.health.act.gov.au

New South Wales: NSW Department of Health
www.health.nsw.gov.au

NSW Clinical Excellence Commission
www.cec.health.nsw.gov.au

Northern Territory:
Northern Territory Department of Health and Families
www.health.nt.gov.au

Queensland: Queensland Health
www.health.qld.gov.au

Patient Safety and Quality Improvement Service
www.health.qld.gov.au/chi/psq/

South Australia: SA Health
www.sahealth.sa.gov.au

Tasmania: Department of Health and Human Services
www.dhhs.tas.gov.au

Victoria: Department of Health
www.health.vic.gov.au

Victorian Quality Council
http://www.health.vic.gov.au/qualitycouncil/index.htm

Western Australia: Western Australian Department of Health
www.health.wa.gov.au

Office of Quality and Safety, Western Australia
www.safetyandquality.health.wa.gov.au

Introductory resources

RECOGNISING AND RESPONDING TO CLINICAL DETERIORATION

Acutely ill patients in hospital guidelines
http://guidance.nice.org.uk/CG50

National Consensus tatement: Essential elements for recognising and responding to clinical deterioration
www.safetyandquality.gov.au

Safer care for the acutely ill patient:
Learning from serious incidents
www.nrls.npsa.nhs.uk/resources/?EntryId45=59828

CHANGE IMPROVEMENT

Australian Commission on Safety and Quality in Health Care, The challenge of implementation: The theory and science of changing practice to improve health care (Windows into Safety and Quality 2011, Chapter 2)
www.safetyandquality.gov.au

Australian Resource Centre for Healthcare Innovations
http://www.archi.net.au/resources/moc/making-change

Institute for Healthcare Improvement
Register at **www.ihi.org** (free), then log in so that you can access documents on the IHI web site.
Change improvement
Engaging physicians in quality improvement

National Health and Medical Research Council, barriers to using evidence
www.nhmrc.gov.au/nics/materials-and-resources/materials-and-resources-subject/-subject-barriers-using-evidence

National Health and Medical Research Council, implementing guidelines
www.nhmrc.gov.au/nics/materials-and-resources/materials-and-resources-subject/-subject-guideline-implementation

TOOLS

Implementation tips engaging clinicians
www.qualityandsafety.gov.au

Self-assessment and action planning tools
www.qualityandsafety.gov.au

Tips from the real world - health professionals share their experiences of implementing recognition and response systems
www.qualityandsafety.gov.au

Essential element 1 – Measurement and documentation of observations

TRACK AND TRIGGER OBSERVATION CHARTS

Adult deterioration detection system observation charts, Australian Commission on Safety and Quality in Healthcare
www.safetyandquality.gov.au

Adult track and trigger observation chart, Western
Australian Country Health Service
**www.safetyandquality.health.wa.gov.au/docs/clinical_
deterioration/MR140A_AdultObsRespChart.pdf**

Obstetric track and trigger chart, Western
Australian Country Health Service
**www.safetyandquality.health.wa.gov.au/docs/clinical_
deterioration/MR140B_AdultObsRespChart-Obstetric.pdf**

Between the Flags, New South Wales Health
**http://nswhealth.moodle.com.au/DOH/DETECT/
content/00_worry/when_to_worry_07.htm**

Compass, Australian Capital Territory Health Register (free) at:
**http://health.act.gov.au/professionals/general-
information/compass/registration** then log in so that
you can access observation charts for general adult,
maternity and paediatric settings.

Children's Early Warning Tool (CEWT), Patient Safety
and Quality Improvement Service
www.health.qld.gov.au/chi/psq/

HUMAN FACTORS

ACSQHC commissioned reports on human
factors regarding observation charts
www.safetyandquality.gov.au

World Health Organisation, Human Factors in Patient Safety
**www.who.int/patientsafety/research/methods_measures/
human_factors/human_factors_review.pdf**

CARE BUNDLES AND CLINICAL GUIDELINES

Clinical practice guidelines
www.clinicalguidelines.gov.au

National Institute of Clinical Studies
www.nhmrc.gov.au/nics

National Institute for Health and Clinical Excellence (UK)
http://pathways.nice.org.uk

TOOLS

Observation equipment stocktake
www.qualityandsafety.gov.au

Observations, monitoring and escalation of care audit tool
www.qualityandsafety.gov.au

Essential element 2 – Escalation of care

TRACK AND TRIGGER SYSTEMS

Between the Flags, New South Wales
**www.health.nsw.gov.au/initiatives/btf/index.asp
www.cec.health.nsw.gov.au/programs/between-the-flags**

Compass, Australian Capital Territory
Register (free) at: **http://health.act.gov.au/professionals/
general-information/compass/registration** then log in
so that you can access information, tools and resources for
the Compass program.

Office of Safety and Quality, Western Australia
**www.safetyandquality.health.wa.gov.au/initiatives/
clinical_deterioration.cfm**

Institute for Healthcare Improvement, resources related
to rapid response systems
Register at **www.ihi.org** (free), then log in so that
you can access documents on the IHI website

ADVANCE CARE PLANNING

Australian Health Ministers Advisory Council, Draft National
Framework for Advance Care Directives in Australia
www.hwlebsworth.com.au/acdframework

Respecting Patient Choices program (Australia)
www.respectingpatientchoices.org.au

Respecting Choices program (United States of America)
http://respectingchoices.org

Palliative Care Australia, advance care planning in aged care
**http://agedcare.palliativecare.org.au/Default.
aspx?tabid=1178**

Palliative Care Australia, position statement
on advance care planning
**http://www.palliativecare.org.au/Portals/46/PCA%20
Advance%20Care%20Planning%20Position%20
Statement.pdf**

National Health Service (United Kingdom),
advance care planning guidelines
**www.endoflifecareforadults.nhs.uk/publications/
advance-care-planning-national-guideline**

PATIENT AND FAMILY ESCALATION INFORMATION, TOOLS AND RESOURCES

Cincinnatti Children's Hospital family-centered rounds
www.cincinnatichildrens.org/about/fcc/rounds/default.htm

Institute for Family and Patient Centered Care
www.ipfcc.org

Institute for Healthcare Improvement, resources related
to the Family Activated Safety Team (FAST)
Register at **www.ihi.org** (free), then log in so that
you can access documents on the IHI web site.

Maryland Patient Safety Center, Condition H toolkit
**www.marylandpatientsafety.org/html/collaboratives/
condition_h/toolkit/index.**

The Josie King Foundation
www.josieking.org

The Lewis Blackman story
www.lewisblackman.net

University of Pittsburgh Medical Center,
information regarding Condition H
**http://www.upmc.com/aboutupmc/qualityinnovation/
centerforqualityimprovementandinnovation/pages/
conditionh.aspx**

INTRA-HOSPITAL TRANSPORT GUIDELINES

College of Intensive Care Medicine
www.cicm.org.au

Royal Flying Doctor Service
www.flyingdoctor.org.au

TOOLS

Escalation mapping tool
www.safetyandquality.gov.au

Observations, monitoring and escalation of care audit tool
www.safetyandquality.gov.au

Essential element 3
- Rapid response systems

DATA COLLECTION

International Liaison Committee on Resuscitation, consensus
statement on core data collection for rapid response systems
http://circ.ahajournals.org/content/116/21/2481.full

BASIC AND ADVANCED LIFE SUPPORT GUIDELINES

Australian Resuscitation Council
www.resus.org.au

International Liaison Committee on Resuscitation
www.ilcor.org/en/home

ADVANCED LIFE SUPPORT TRAINING

Australian Resuscitation Council
www.resus.org.au

Queensland Ambulance Service
www.ambulance.qld.gov.au/firstaid/medical.asp

The College of Nursing
www.nursing.edu.au/Home

Australian College of Critical Care Nurses
www.acccn.com.au

Royal Australasian College of Surgeons
**www.surgeons.org/racs/education--trainees/
skills-training**

Australian and New Zealand College of Anaesthetists
www.anzca.edu.au/trainees/courses

Australian College of Rural and Remote Medicine
www.acrrm.org.au

Advanced Paediatric Life Support
www.apls.org.au

TOOLS

Rapid response case report form
www.safetyandquality.gov.au

Rapid response survey
www.safetyandquality.gov.au

Essential element 4
— Clinical communication

CLINICAL HANDOVER

Australian Commission on Safety and Quality in Health
Care, resources related to clinical handovers
www.safetyandquality.gov.au

Australian Commission on Safety and Quality in Health Care,
Resource Portal for the Implementation Toolkit for Clinical
Handover Improvement
www.safetyandquality.gov.au

Institute for Healthcare Improvement, Clinical Handover
and Patient Safety Literature Review
Register at **www.ihi.org** (free), then log in so that
you can access documents on the IHI web site.

New South Wales and South Australian Department
of Health, ISBAR app
itunes.apple.com/au/app/isbar/id465890292?mt=8

PATIENT CENTRED COMMUNICATION

Australian Commission on Safety and Quality in Health Care,
Patient-centred care: Improving quality and safety through
partnerships with patients and consumers
www.safetyandquality.gov.au

Clinical Excellence Commission, Partnering with
patients program
**www.cec.health.nsw.gov.au/programs/
partnering-with-patients#overview**

Institute for Healthcare Improvement, White paper:
achieving an exceptional patient and family experience
of inpatient hospital care
Register at **www.ihi.org** (free), then log in so that
you can access documents on the IHI web site.

Joint Commission, Advancing Effective Communication,
Cultural Competence, and Patient- and Family-Centered Care
**www.jointcommission.org/assets/1/6/
ARoadmapforHospitalsfinalversion727.pdf**

Joint Commission, resources related to effective communication
**http://www.jointcommission.org/assets/1/6/
EffectiveCommunicationResourcesforHCOsrevised.pdf**

Planetree and Picker Institute, Patient-Centered
Care Improvement Guide
www.patient-centeredcare.org

TEAMWORK

TeamSTEPPS®, South Australia Health
**www.sahealth.sa.gov.au/wps/wcm/connect/
public+content/sa+health+internet/about+us/
safety+and+quality/communications+and+teamwork/
teamstepps**

TeamSTEPPS®, Victorian Quality Council pilot project
**www.health.vic.gov.au/qualitycouncil/activities/
teamstepps.htm**

TOOLS

Communication agreement planning tool
www.safetyandquality.gov.au

Medical documentation audit tool
www.safetyandquality.gov.au

Essential element 5 – Organisational supports

CLINICAL GOVERNANCE

Australian Commission on Safety and Quality in Health Care,
National Safety and Quality Health Service Standards
www.safetyandquality.gov.au

Australian National Audit Office, Building Better Governance
www.apsc.gov.au/publications07/bettergovernance.pdf

National Health Service (UK), Patient involvement and public
accountability: A report from the NHS future forum
www.avma.org.uk/data/files/future_forum_report.pdf

Victorian Healthcare Association, clinical governance resources
**http://www.vha.org.au/clinicalgovernanceresources.html
http://www.vha.org.au/clinicalgovernance.html**

TOOLS

Governance and project implementation checklist
www.safetyandquality.gov.au

Essential element 6 – Education

EDUCATION PROGRAMS

ACT Health, Compass
Register (free) at: **http://health.act.gov.au/professionals/
general-information/compass/registration**
then log in so that you can access information about
the Compass education program

NSW Between the Flags, DETECT
http://nswhealth.moodle.com.au/DOH/DETECT/content/

PEER REVIEW

ACSQHC commissioned literature review
www.safetyandquality.gov.au

Essential element 7 — Evaluation, audit and feedback

GENERAL RESOURCES

Australian National Audit Office
www.anao.gov.au

Australian Institute of Health and Welfare,
national health statistics and information
www.aihw.gov.au

Healthcare Quality Improvement Partnership, Guide to using
quality improvement tools to drive clinical audits
**www.hqip.org.uk/assets/Guidance/Guide-to-Using-
Quality-Improvement-Tools-to-Drive-Clinical-Audits-
HQIP.PDF**

**RAPID RESPONSE SYSTEM DATA COLLECTION
(ALSO SEE APPENDIX B)**

Australian Council on Healthcare Standards,
Intensive Care indicators users manual
www.anzics.com.au/safety-quality/achs-indicators

International Liaison Committee on Resuscitation,
consensus statement on core rapid response
system data collection
http://circ.ahajournals.org/content/116/21/2481.full

TOOLS

Evaluation planning tool
www.safetyandquality.gov.au

Essential element 8 - Technological systems and solutions

GENERAL RESOURCES

Department of Health and Ageing, health technology
assessment web page
www.health.gov.au/hta

National E-health Transition Authority, electronic
health records
www.nehta.gov.au

Australian Commission on Safety and Quality in Health Care

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