SPSP Acute Adult Programme Deteriorating Patient Change Package

Improvement Hub
Enabling health and
social care improvement

Introduction

Welcome to the deteriorating patient change package

The aim of the deteriorating patient change package is to provide evidence-based guidance to support the early recognition and response to patient deterioration in acute hospital settings. A change package consists of a number of high-level outcomes supported by activities that when tested and implemented, bring about improvement. It brings together what is known about best practices and processes based on evidence from literature, research, and the experiences of others.

Why have we developed this change package?

This change package is for acute hospital teams participating in deteriorating patient improvement work. It will support teams to use quality improvement methods to improve the cardiac arrest rate within their service.

How it was developed?

This change package was co-designed with clinical and quality improvement experts from NHS boards. The clinical experts were from disciplines such as nursing and medicine. Expert Reference Groups (ERG) were convened in October 2020 with representation from across NHS Scotland. A benefit with working in a virtual space was the inclusion and contribution from colleagues in remote, rural and island NHS boards.

Contents and how to use the package

What is included in this change package?

- driver diagram
- change ideas
- guides, tools and signposts to the supporting evidence and examples of good practice, and
- guidance to support measurement

Guidance on using this change package

This change package is a resource to support NHS boards with improvement in the early recognition and response to patient deterioration. It is not expected for teams to work simultaneously on all aspects of the driver diagram. It is designed to assist teams in the identification of areas for improvement relevant to their local context. The change ideas and measures are not exhaustive and it is expected that teams will develop their own to support their identified areas for improvement. We would encourage teams to seek support from their local quality improvement teams in the development of additional measures if required.

Using this package

We have made this an interactive document, if you click on the primary/secondary driver it will take you to additional information including tools and resources relating to that driver. At the top of each page of the secondary drivers, there is an arrow and home button . The arrow button will take you back to the primary driver page and the home button will take you to the main driver diagram page.

Project aim

Setting a project aim

All quality improvement projects should have an aim that is **S**pecific, **T**ime bound, **A**ligned to the NHS board's objectives and **N**umeric (STAN).

The national aim for SPSP Acute Adult Deteriorating Patient:

A reduction in Cardiopulmonary Resuscitation rate, in acute care, by September 2023

Driver diagram and change ideas

What is a driver diagram?

A driver diagram visually presents an organisation or teams' theory of how an improvement goal will be achieved. It articulates which parts of the system need to change, in which way and includes ideas of how to make this happen. It is used to help plan improvement projects and ensure team engagement.

The primary drivers are the key components of the system that need to change to deliver the aim. The secondary drivers are the processes that influence the primary drivers. Changing the processes outlined in the secondary drivers should change the primary drivers and deliver the aim.

Change ideas

Change ideas are specific practical changes the project team can make to alter the processes in the secondary drivers.
The following pages provide a list of change ideas for the early recognition and response to patient deteriorating. They are grouped by the primary driver that they influence. Project teams should select change ideas to implement. A range of change ideas will be needed to ensure there are changes to all primary drivers.

This change package does not contain an exhaustive list of change ideas. Project teams can also generate their own change ideas that will help drive change in the secondary drivers. One way of generating ideas is to use the question "How might we?" For example, "How might we engage with patients and their families to improve the experience of care when in hospital?"

Deteriorating Patient Driver Diagram 2021

Healthcare Improvement Scotland

SCOTTISH PATIENT SAFETY PROGRAMME

What are we trying to achieve…	We need to ensure…	Which requires…
A reduction in Cardiopulmonary Resuscitation rate, in acute care, by September 2023	Recognition of acute deterioration	Observations using NEWS2
		Clinical concern
	Standardised structured response to acute deterioration	Timely review by appropriate decision maker
		Screening for causes of acute deterioration
		Treatment escalation planning
		Regular review and triage
	Safe communication across care pathways*	Anticipatory care planning
		Patient and family inclusion in decision making*
		Communication between primary and acute care
		Use of standardised communication tools*
		Management of communication in different situations*
	Leadership to support a culture of safety at all levels*	Psychological safety*
		Staff wellbeing*
		Safe Staffing*
		System for learning*

Essentials of Safe Care

Primary Driver
Recognition of acute deterioration

Secondary	Change ideas			
Observations using NEWS2	NEWS2 implementation	Standardised process for frequency of observations	Staff training in NEWS2 scoring	Consider implementation of electronic track and trigger system
Clinical concern	Standardised process to escalate all staff clinical concern	Standardised process to escalate patient and family concern		

Recognition of acute deterioration

Healthcare Improvement Scotland | Every Person Every Time SCOTTISH PATIENT SAFETY PROGRAMME

Observations using NEWS2 | NEWS2 implementation | Standardised process for frequency of observations | Staff training in NEWS2 scoring | Consider implementation of electronic track and trigger system

Evidence and Guidelines:

National Early Warning Score (NEWS) 2 Royal College of Physicians, 2017

Evaluation and Improvement of the National Early Warning Score (NEWS2) for COVID-19: a multi-hospital study BMC Med 19, 23 (2021) Carr E, et al.

National Early Warning Score Systems that Alert to Deteriorating Adult Patients in Hospital National Institute for Health and Care Excellence (NICE), 2020

Electronic Track and Trigger Literature Search Healthcare Improvement Scotland, 2020

Tools and Resources:

SPSP Acute Adult Early Warning Scoring: A Digital Solution in this Digital Age NHS Fife, Healthcare Improvement Scotland, 2020

National Early Warning Score - NEWS2 e-learning Module TURAS, NHS Education for Scotland

Recognition of acute deterioration

Clinical concern

Standardised process to escalate all staff clinical concern

Standardised process to escalate patient and family concern

Evidence and Guidelines:

Patient Perceptions of Deterioration and Patient and Family Activated Escalation Systems Journal of Clinical Nursing, 2017, Guinane S, et al.

Nurses' Worry or Concern and Early Recognition of Deteriorating Patients on General wards in Acute Care Hospitals: a systematic review Crit Care, 2015, Douw G, et al.

The Fifth Vital Sign? Nurse Worry Predicts Inpatient Deterioration within 24 Hours JAMIA Open, 2019, Romero-Brufau S, et al.

Tools and Resources:

REACH - Patient and Family Activated Escalation Hunter New England Health, New South Wales Government.

Primary Driver
Standardised structured response

Secondary drivers	Change ideas			
Timely review by appropriate decision maker	Timely clinical review from identification of deterioration	Staff training focused on trigger, escalation and response process		
Screening for causes of acute deterioration	Use of generic response process for acute deterioration	Think Sepsis and Sepsis Six implementation	Delirium screening and response	Acute kidney injury response and review
Treatment escalation planning	Standardised treatment and escalation planning	Standardised DNACPR completion and communication	Frailty screening across care pathways	SPICT to identify limited reversibility (Supportive & Palliative Care Indicators Tool)
Regular review and triage	Standardised structured ward rounds			

Standardised structured response

Timely review by appropriate decision maker

Timely clinical review from identification of deterioration

Staff training focused on trigger, escalation and response process

Evidence and Guidelines:

SIGN Guideline 139: Care of Deteriorating Patients Healthcare Improvement Scotland, 2014

Acutely Ill Adults in Hospital: Recognising and Responding to Deterioration National Institute for Health and Care Excellence (NICE), 2007

Recognising and Responding to Clinical Deterioration: Background Paper Australian Commission on Safety and Quality in Healthcare, 2008

The Response to Patient Deterioration in the UK National Health Service — A Survey of Acute Hospital Policies Resuscitation, 2019

Do Either Early Warning Systems or Emergency Response Teams Improve Hospital Patient Survival? A Systematic Review Resuscitation, 2013, McNeill G and Bryden D

Interventions to Reduce Mortality From In-Hospital Cardiac Arrest: A Mixed-Methods Study National Institute for Health Research, 2019, Hogan H et al

Tools and Resources:

SPSP Acute Adult Deteriorating Patient Improvement Programme Healthcare Improvement Scotland

Standardised structured response

Healthcare Improvement Scotland | Scottish Patient Safety Programme

Screening for causes of acute deterioration | Use of generic response process for acute deterioration | Think Sepsis and Sepsis Six implementation | Acute kidney Injury response and review | Delirium screening and response

Evidence and Guidelines:

A Multifaceted Quality Improvement Programme to Improve Acute Kidney Injury Care and Outcomes in a Large Teaching Hospital BMJ Quality Improvement Reports, 2017, Ebah L et al.

Sepsis Literature and Resources List Healthcare Improvement Scotland, 2020

Does the Presence of a Urinary Catheter Predict Severe Sepsis in a Bacteraemia Cohort? Journal of Hospital Infection, 2017, Melzer M and Welch C

SIGN Guideline 157: Risk Reduction and Management of Delirium Healthcare Improvement Scotland, 2019

Clinical Practice Guideline Acute Kidney Injury (AKI) The Renal Association, 2019

Rapid Clinical Test for Delirium The 4AT

Tools and Resource

Acute Kidney Injury Toolkit Royal College of General Practitioners

Think Kidneys Campaign NHS England, UK Renal Registry

THINK Delirium Toolkit, 4AT and TIME bundle Healthcare Improvement Scotland

SPSP Acute Adult: Falls Improvement Programme Healthcare Improvement Scotland

Generic Response to Deteriorating Patients: 90 Day Learning Cycle Healthcare Improvement Scotland, 2019

Standardised structured response

Treatment escalation planning

Standardised treatment and escalation planning

Frailty screening across care pathways

SPICT™ to identify Limited Reversibility (Supportive & Palliative Care Indicators Tool)

Standardised DNACPR completion and communication

Evidence and Guidelines:

Improving Resuscitation Decisions: a Trust-Wide Initiative BMJ Open Quality, 2017, Fadel MG et al

Reducing DNACPR Complaints to Zero: Designing and Implementing a Treatment Escalation Plan Using Quality Improvement Methodology BMJ Open Quality, 2017, Shermon E et al

Impact of a Treatment Escalation/Limitation Plan on Non-Beneficial Interventions and Harms in Patients During their Last Admission Before In-Hospital Death, Using the Structured Judgment Review Method BMJ Open Quality, 2018, Lightbody CJ et al

Comprehensive Geriatric Assessment for Older Adults Admitted to Hospital Cochrane Review, 2017

Cardiopulmonary Resuscitation Decisions - Integrated Adult Policy Guidance Scottish Government, 2016

Tools and Resources:

Practising Realistic Medicine: Chief Medical Officer for Scotland: Annual Report Scottish Government, 2018

Frailty at the Front Door: Improvement Collaborative Healthcare Improvement Scotland

Silver Book II: Quality Care for Older People with Urgent Care Needs British Geriatrics Society, 2021

DNACPR Policy: Decision Making Framework NHS Scotland, 2016

Supportive and Palliative Care Indicators Tool (SPICT™) University of Edinburgh, 2019

Standardised structured response

Regular review and triage

Standardised structured ward rounds

Evidence and Guidelines:

Development and Implementation of a Structured Ward Round in Acute Adult Psychiatry BMJ Open Quality, 2018, Mattison AR and Cheeseman SJ

NICE Draft Guideline 28: Structured Ward Rounds NICE, 2017

Ward Round Template: Enhancing Patient Safety on Ward Rounds BMJ Open Quality, 2018, Gilliland et al

'Score to Door Time', A Benchmarking Tool for Rapid Response Systems: A Pilot Multi-Centre Service Evaluation Critical Care, 2011, Olglesby KJ et al

Impact of delayed admission to intensive care units on mortality of critically ill patients: a cohort study Critical Care, 2011, Cardoso LTQ et al

Tools and Resources:

Modern Ward Rounds Royal College of Physicians, 2021

CEC- Structured Ward Rounds – Patricia's Story YouTube, 2015

Primary Driver
Safe communication across care pathways

Secondary drivers	Change ideas		
Anticipatory care planning	Including ACP/TEP communication between teams	Standardisation of TEP documentation	Ensuring patient & family at heart of ACP/TEP Planning
Patient and family inclusion in decision making	Structured ward rounds	Person centered visiting	
Communication between primary and acute care	Key information summary	Immediate discharge letter	Integrated IT systems
Use of standardised communication tools	SBAR tool		
Management of communication in different situations	Hospital huddles	Ward safety huddles	Ward safety briefs

Safe communication

Anticipatory care planning

Including ACP/TEP communication between teams

Standardisation of TEP documentation

Ensuring patient & family at heart of ACP/TEP Planning

Evidence and Guidelines:

Decision Aids that Really Promote Shared Decision Making: The Pace Quickens BMJ, 2015, Agoritsas T, et al.

Training for Medical Oncologists on Shared Decision-Making About Palliative Chemotherapy: a Randomized Controlled Trial Cochrane Library, 2019

Tools and Resources:

Anticipatory Care Planning Healthcare Improvement Scotland

My Anticipatory Care Plan Healthcare Improvement Scotland, 2018

Essential Anticipatory Care Planning Guidance and Template Scottish Government, 2020

Realistic Medicine - Working Together to Provide the Care that's Right for You NHS Education for Scotland

Scottish Partnership for Palliative Care

Always Events® NHS England

Mental Capacity Act: Care Planning Involvement and Person-centred Care Social Care Institute for Excellence, 2017

Personal Outcomes Collaboration

ReSPECT Resuscitation Council UK

Safe communication

Patient and family inclusion in decision making

Structured ward rounds

Person centered visiting

Evidence and Guidelines:

Obesity Prevention Person-centred Care: Principles for Health Professionals NICE Guideline 2016

Shared Decision Making in Realistic Medicine: What Works Scottish Government, 2019

A Comprehensive Systematic Review of Visitation Models in Adult Critical Care Units within the Context of Patient- and Family-centred Care International Journal of Evidence-Based Healthcare, 2011, Ciufo D et al.

An Evaluation of a Near Real-time Survey for Improving Patients' Experiences of the Relational Aspects of Care NIHR Journals Library, 2018, Graham C et al.

Tools and Resources:

Good Communication Techniques The Health Literacy Place

What Matters to You WMTY

Caring Conversations My Home Life Scotland

CEC - Structured Ward Rounds – Patricia's Story YouTube, 2015

Enhancing Person-centred Care Effective Practitioner, NES

Ten Essential Shared Capabilities TURAS, NES, log in required

Improving Compassionate Care Picker Institute, 2017

CollaboRATE Glyn Elwyn

Safe communication

Communication between primary and acute care

Key Information Summary

Immediate discharge letter

Integrated IT systems

Evidence and Guidelines:
SIGN Guideline 128: The SIGN Discharge Document

Tools and Resources:
Best Practice Statement for Key Information Summary (KIS) Scottish Government, 2013

Safe communication

Use of standardised communication tools

SBAR tool

Evidence and Guidelines:

Impact of the Communication and Patient Hand-off Tool SBAR on Patient Safety: A Systematic Review BMJ Open, 2018, Muller M, et al

Tools and Resource:

SBAR Tool: Situation-Background-Assessment-Recommendation Institute for Healthcare Improvement

SBAR Examples NHS Education for Scotland

SBAR-Situation-Background-Assessment-Recommendation East London NHS Foundation Trust

Improving Clinical Communication Using SBAR NHS Wales, 2012

Safe communication

Management of communication in different situations

Hospital huddles

Ward safety huddles

Ward safety briefs

Evidence and Guidelines:

CEL 19 (2013) - Patient Safety Essentials and Safety Priorities Scottish Government, 2013

Weekend Handover: Improving Patient Safety During Weekend Services Annals of Medicine and Surgery, 2020, Nagrecha R et al.

Tools and Resources:

Acute Care Toolkit 1: Handover Royal College of Physicians, 2015

Safety Briefings Institute for Healthcare Improvement

Huddles Institute for Healthcare Improvement

Structured Handover Education Project NHS Education for Scotland.

Making Delegation Safe and Effective : A learning resource for nurses, midwives, allied health professionals and health care support workers NHS Education for Scotland

Primary Driver
Leadership to support a culture of safety

Secondary drivers	Change ideas				
Psychological safety	Compassionate leadership at all levels	Collective leadership approach	Structured 1:1 time	Visible supportive leadership	
Staff wellbeing	Listening to the workforce and identifying improvements	Celebrate success			
Safe Staffing	Staff education & awareness	Effective rostering	Real-time staff risk assessment	Mitigation	Escalation
System for learning	Quality improvement and measurement support	Involvement of resuscitation teams in improvement work	Mortality and morbidity reviews	Multi-disciplinary review of cardiac arrests/2222 calls	Review of unplanned ICU admissions

Culture of safety

Psychological safety

Compassionate leadership at all levels

Collective leadership approach

Structured 1:1 time

Visible supportive leadership

Evidence and Guidelines:

Psychological Safety and Learning Behaviour in Work Teams Edmondson AC, 1999, Athens/institution log in required

Managing the Risk of Learning: Psychological Safety in Work Teams Edmondson AC, 2002

The 4 Stages of Psychological Safety: Defining the Path to Inclusion and Innovation Clark TR, 2020

How Can Leaders Influence a Safety Culture? Leonard M & Frankel A, 2012

CEL 19 Patient Safety Essentials and Safety Priorities Scottish Government, 2013

Tools and Resources:

Leadership Walk-rounds and Safety Conversations Healthcare Improvement Scotland

Safety Culture Discussion Tool NHS Education for Scotland

The Importance of Psychological safety – Amy Edmondson YouTube, 2020

Culture of safety

Staff wellbeing

Listening to the workforce and identifying improvements

Celebrate success

Implement national health and wellbeing outcomes 1.8.9

Evidence and Guidelines:

National Health and Wellbeing Outcomes Framework Scottish Government, 2015

Framework for Improving Joy in Work Institute for Healthcare Improvement, 2017. Please note this link will require a free registration to IHI.

COVID-19 Guides for Social Service Workers Scottish Social Services Council, 2020

National Trauma Training Programme

Tools and Resources:

National Wellbeing Hub for Health and Social Care Staff

The Scottish Social Service Council Coaching for Wellbeing Resources

Culture of safety

Healthcare Improvement Scotland | Every Person Every Time SCOTTISH PATIENT SAFETY PROGRAMME

Safe Staffing | Staff education & awareness | Effective rostering | Real-time staff risk assessment | Mitigation | Escalation

Evidence and Guidelines:

The Association Between Nurse Staffing and Omissions in Nursing Care: A Systematic Review J Adv Nurs, 2018, Griffiths P, et al.

Nurse-Patient Ratios as a Patient Safety Strategy: A Systematic Review Annals of Internal Medicine, Shekelle PG, 2013

Tools and Resources:

Coronavirus (COVID-19): Care Home Staffing and Escalation Resources Scottish Government, 2020

A Call to Learn from What Works Well Learning from Excellence

Achieving Sustainable Change NHS Education for Scotland

Staffing Workload Tools Healthcare Improvement Scotland

Safe Staffing Healthcare Improvement Scotland

Culture of safety

System for learning | Quality improvement and measurement support | Involvement of resuscitation teams in improvement work | Mortality and morbidity reviews | Multi-disciplinary review of cardiac arrests/2222 calls | Review of unplanned ICU admissions

Evidence and Guidelines:

Measuring Safety Culture The Health Foundation, 2011

The Measuring and Monitoring of Safety The Health Foundation, 2013

An Organisation Without a Memory: A Qualitative Study of Hospital Staff Perceptions on Reporting and Organisational Learning for Patient Safety Reliability Engineering & System Safety, 2015, Sujan M

Tools and Resources:

Coronavirus (COVID-19): Care Home Staffing and Escalation Resources Scottish Government, 2020

Quality Improvement Made Simple, What Everyone Should Know about Healthcare Quality Improvement The Health Foundation, 2021

Learning from Excellence

Achieving Sustainable Change NHS Education for Scotland

Measurement

Measurement is an essential part of improvement as it helps the project team understand if the changes they are making are leading to improved care. Below you will see an outline of three types of measures used in improvement and a link to the measurement framework.

Outcome measures
Outcome measures are used to understand if the changes are resulting in improvements towards the aim.

Process measures
Process measures demonstrate that change ideas are improving the underlying processes that contribute towards falls prevention.

Balancing measures
Balancing measures are used to determine if the changes are affecting things elsewhere in the system (unintended consequences).

More detailed information can be found in the measurement framework on the ihub website.

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