Resources to support the adoption of the National Early Warning Score

National Early Warning Score (NEWS2)

Physiological parameter	Score						
	3	2	1	0	1	2	3
Respiration rate (per minute)	≤8		9–11	12–20		21–24	≥25
SpO₂ Scale 1(%)	≤91	92–93	94–95	≥96			
SpO₂ Scale 2(%)	≤83	84–85	86–87	88–92 ≥93 on air	93–94 on oxygen	95–96 on oxygen	≥97 on oxygen
Air or oxygen?		Oxygen		Air			
Systolic blood pressure (mmHg)	≤90	91–100	101–110	111–219			≥220
Pulse (per minute)	≤40		41–50	51–90	91–110	111–130	≥131
Consciousness				Alert			CVPU
Temperature (°C)	≤35.0		35.1–36.0	36.1–38.0	38.1–39.0	≥39.1	

Royal College of Physicians

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This information can be made available in alternative formats, such as easy read or large print, and may be available in alternative languages, upon request. Please contact the Clinical Policy Unit – england.clinicalpolicy@nhs.net

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1 Introduction

Who is this resource pack for?

This resource pack is aimed specifically at professionals involved in or leading the implementation of NEWS2 within an acute or ambulance trust.

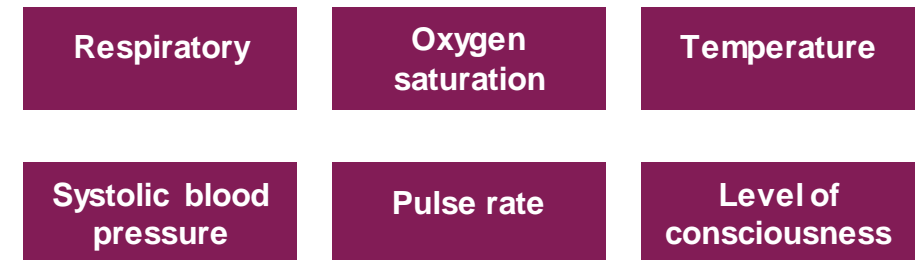## What is the aim of the resource pack?

To provide access to tools and resources which support optimum planning and delivery of NEWS2 implementation.

To illustrate practical examples of how NEWS2 is being implemented across the country, demonstrating the benefits of using NEWS2 and encouraging adoption within trusts.

2 What is NEWS?

The National Early Warning Score (NEWS) is a well validated track-and-trigger early warning score system that is used to identify and respond to patients at risk of deteriorating. It is based on a simple scoring system in which a score is allocated to physiological measurements already taken when patients present to, or are being monitored in healthcare settings. The following six simple physiological parameters are included in the scoring system:

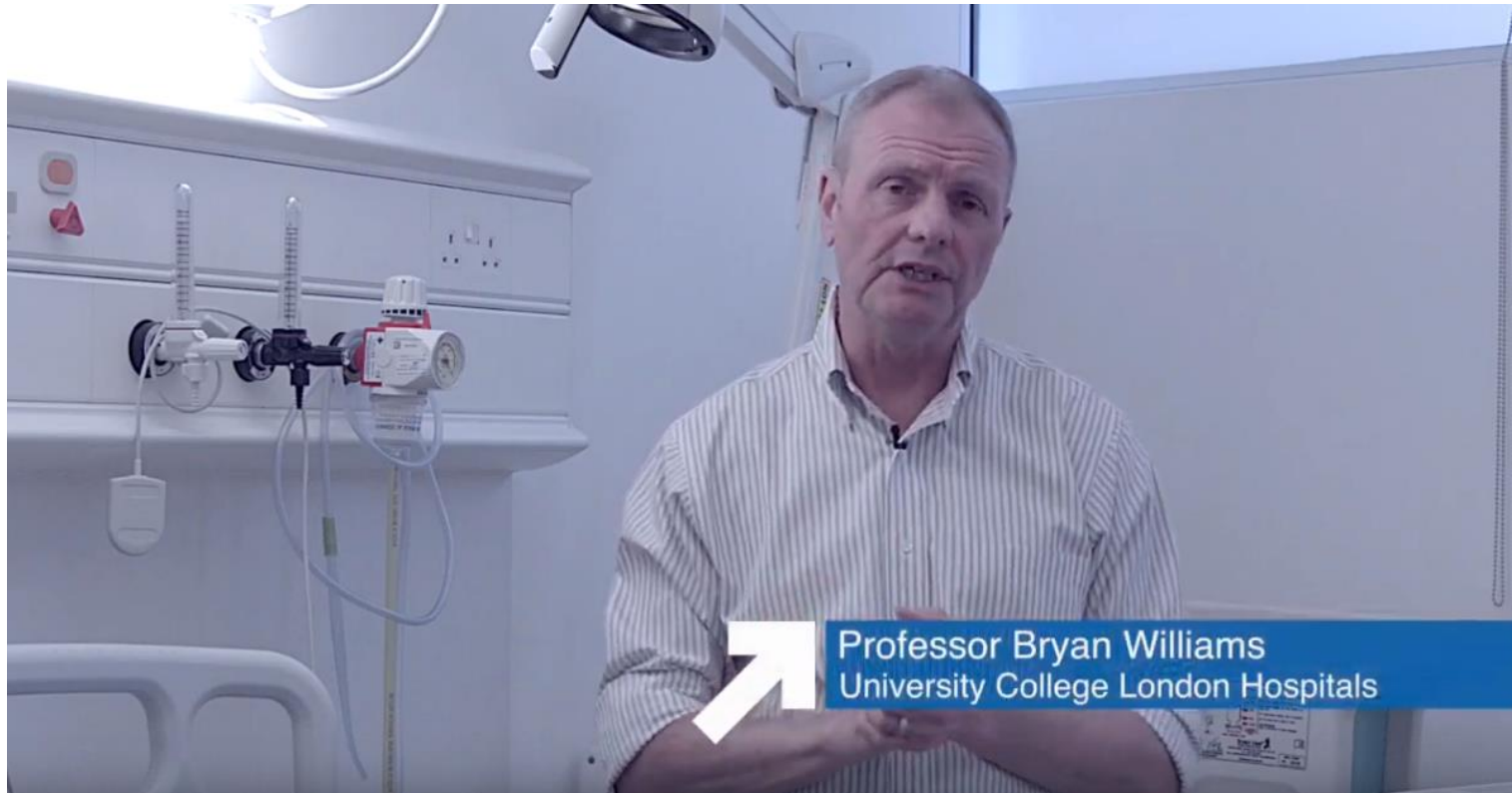|		
Respiratory	Oxygen saturation	Temperature
Systolic blood pressure	Pulse rate	Level of consciousness

A score (0-3) is allocated to each physiological parameter, the magnitude of the score reflecting how extreme the parameter varies from the norm. An additional 2 points are given for people requiring oxygen, giving an aggregate (total) of 0-20. A high NEWS does not provide a diagnosis; but it helps identify a sick patient who is deteriorating and requires urgent clinical review in a standardised way.

The Royal College of Physicians (RCP) recommend that sepsis should be considered in any patient with a NEWS of 5 or more. However, NEWS should be used alongside clinical judgement, as a high score for some individuals, i.e. those at the end of their life may need to be actioned differently.

3 Recent changes to NEWS2

NEWS has recently been updated (NEWS2). This short film featuring Professor Bryan Williams (one of the founders of NEWS), looks at why it was developed; what the changes are to NEWS2; how it can be used to identify sepsis and the benefits of a standardised early warning system. Click on the picture and follow the link to YouTube to play the film.

4 NEWS2 changes continued

NEWS2 & Sepsis Changes

Hypercapnic subchart

A+B SpO₂ Scale 1	≥96		1
	94–95		2
	92–93		3
	≤91		
SpO₂ Scale 2† Use Scale 2 if target range is 88–92%, eg in hypercapnic respiratory failure	≥97 on O₂		2
	95–96 on O₂		1
	93–94 on O₂		
	≥93 on air		
	88–92		1
†Use Scale 2 ONLY under the direction of a qualified clinician	86–87		2
	84–85		3
	≤83%		
Inspired O₂	A=Air		
	O₂ L/min		2
	Device		

Use **Scale 2** when there is confirmed previous/current hypercapnic respiratory failure
Use **Scale 1** in all other cases

New Confusion/Delirium

D Level of consciousness	Alert
	C
	V
	P
	U

NEWS of 5 > Single parameter 3

C is New Confusion or confusion that is worse than the patient's baseline. It also represents altered mental state with a Glasgow coma scale <15

Single component 3 scores have significantly lower risk (OR 0.26) than an aggregate value of 5 (OR 1.0).

NHS England & RCP Sepsis definition

Suspected Sepsis = NEWS 5 + Clinical Judgement

*Most hospitals that have made the transition from NEWS to NEWS2 have not experienced any significant problems during the transition.

5 Why is this important?

Meet Paul from North Somerset, who made a quick and full recovery from sepsis as a result of NEWS being communicated at every handover of care. This video highlights how NEWS was used to support clinical decision-making, appropriate prioritisation and planning across the pathway and improve patient safety. Click on the picture and follow the link to Vimeo to play the film.

Credit: West of England AHSN case study

6 What is the national requirement?

In April 2018, NHS England, NHS Improvement and the Royal College of Physicians issued a joint patient safety alert (PSA) mandating all acute and ambulance trusts to transition to NEWS2 by March 2019.

PSA actions for trusts to deliver

1. Bring this alert to the attention of all those with a leadership role in responding to patient deterioration, including critical care outreach teams.
2. Identify a NEWS2 champion to act as the main contact with NHS England - email their contact details to england.clinicalpolicy@nhs.net.
3. Identify or establish a new board reporting committee with the required representation to plan the adoption of NEWS2, including membership from wider local workstreams that support safer care for deteriorating patients, including those with sepsis.
4. Identify actions required to ensure, by March 2019, there is trust-wide adoption of NEWS2 and share examples of local challenges and best practice with the NEWS2 network on request.

7 Encouraging the adoption of NEWS2: 2015-2019 CQUIN - 'Reducing the impact of serious infections'

The goal of the CQUIN 'Reducing the impact of serious infections (Antimicrobial Resistance and Sepsis)' is to reduce the impact of serious infections. It aims to support timely identification and treatment for sepsis and a reduction of clinically inappropriate antibiotic prescription and consumption. The CQUIN will help to encourage adoption of NEWS2 in acute trusts.

During 18/19, acute and emergency units should be transitioning to use NEWS2 to support screening of patients. By Q4 of 2018/19, payment will only be made if over 90% of screened cases have utilised NEWS2 (where it is appropriate to use NEWS2).

The overall deadline for acute and ambulance trusts to transition to NEWS2 is March 2019, however the CQUIN is part of the way NHS England are encouraging providers to make the switch – so if they are using NEWS2 sooner (i.e. by Q4 of 2018/19), they will be financially rewarded.

8 NEWS2 education and training resources

There is a dedicated online training resource aimed at professionals using NEWS2.

The website provides training on how to complete the forms and effectively operate the NEWS2 system.

It remains free to NHS staff, with a new option for NHS organisations to embed the learning in their own learning management systems or directly through ESR/OLM.

RCP recommends this training to all staff working with NEWS2.

9 Health Education England NEWS2 learning packages: coming soon

A new Health Education England (HEE) webpage will be launched soon, which will host:

- A learning session for healthcare staff in secondary care settings, which can be used in multi-professional context and also incorporated into Foundation Year 1 Doctors' training.

- A learning session for healthcare staff working in community settings.

For more information visit HEE's NEWS e-learning resources.

10 Improvement methodology

There is a whole science to managing a change process or facilitating service improvements.

To help you manage the process in implementing NEWS2, the next few pages of this pack provide tips and links to useful tools and resources.

Tips to help you achieve success

Right people involved and engaged from the start (i.e. frontline clinicians)	**Involve your local QI or transformation colleagues**	**Have an executive sponsor working alongside you**
Clear aim statement – what you want to achieve and by when	**Planning, monitoring and control**	**A real understanding of the current issue / problem**
Collect data and metrics to measure improvement	**Clear links to local and national objectives**	**Include patients and carers in the work**
Communicate effectively using the most appropriate channels to promote the work	**Celebrate your successes, however large or small**	**Culture – understand readiness for change and levels of engagement / team relationships**

Improvement methodology – useful tools and resources

Summary

[First steps towards quality improvement: a simple guide to improving services](#)
This resource provides those involved at any level in improving health or social care with the information needed to take the first steps towards making quality improvements, thus giving improvement projects the best possible chance of success.

[Improvement leaders' guide - improvement knowledge and skills - general improvement skills](#)
This Improvement leaders' guide describes different types of knowledge and skills that will help in making improvements for patients and provides guidance in developing relevant improvement knowledge and skills.

[Promoting and sustaining improvement: what works?](#)
This document describes the contributing factors that can have an impact on improvement work. The guidance covers topics such as sustainability and spread, challenges, emerging thinking, adoption and creating an attraction for change.
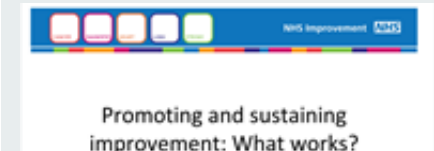
[The facilitator's toolkit - tools, techniques and tips for effective facilitation](#)
This toolkit contains ideas on making sessions more productive and exercises to make sessions more interesting and memorable. Topics include: icebreakers; encouraging group discussion; overcoming constraints; and reviewing the session. The toolkit includes top tips for facilitation.

[Making data count](#)
This practical, interactive guide is suitable for those working at all levels in the NHS, from ward to board, and will show you how to make better use of your data.

Stakeholder involvement: an overview
An overview of stakeholder tools to help you understand which ones to use in order to best involve key groups and understand and act on their perspectives.

Leading improvement: an overview
An introduction to what leadership is and its importance in increasing quality and patient/ service user experience at lower cost.

Leading improvement framework
A model derived from research from the NHS which examined the knowledge, skills and capabilities that leaders need to achieve relevant and sustainable improvements.

Sustainability model and guide
Provides practical advice on how you might increase the likelihood of sustainability for your improvement project.

Suspicion of sepsis (SOS) dashboard for outcomes measurement
A national dashboard of SOS codes (emergency admissions with infection that can cause sepsis) provides insight into the numbers of emergency admissions, rates of survival, and lengths of stay linked with a range of different factors. The data are provided over a number of years to facilitate measurement of the impact of improvement strategies, focussed on the use of measurement in improvement to support local teams in determining the innovations to be shared and in identifying best practice.

Quality, service improvement and redesign (QSIR)
The QSIR programmes focus on service improvement and are delivered to a range of staff involved in healthcare.
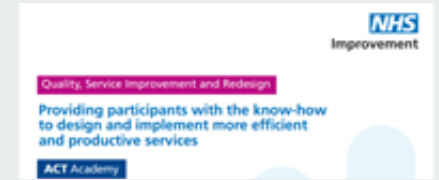
11 Case studies

This webinar ([play recording](#)) provides an overview of two trusts that have implemented NEWS2 including details on their approach, challenges, what worked, what helped the process to be a success and lessons learnt.

The Hillingdon Hospitals NHS Foundation Trust	Warrington and Halton Hospitals NHS Foundation Trust

Royal Liverpool and Broadgreen University Hospitals Trust: creating a digital future

Liverpool is a leader in digital care and innovation. Fundamental to Digital Liverpool is their involvement in NHS England's Global Digital Exemplar (GDE) programme.

A GDE is an internationally recognised NHS provider delivering exceptional care, efficiently, through the use of world-class digital technology and information. Exemplars will share their learning and experiences to enable other trusts to follow in their footsteps as quickly and effectively as possible.

As part of the GDE programme, Liverpool have Implemented an electronic NEWS2 (e-NEWS2) to support the rapid assessment of acute-illness severity and identify critical conditions such as sepsis at an early stage.

You can find out more about Liverpool's involvement in the GDE on the Royal Liverpool and Broadgreen University Hospital's website.

12 Key things to consider when using NEWS2

- NEWS2 assists but does not replace clinical judgement.
- The trend in the observations and NEWS2 over time is very important (the track-and-trigger).
- Reliable response and escalation of NEWS2 is equally important.

- The frequency of observations and review/escalation is based upon the aggregate NEWS2 - this should be increased/escalated if there is concern.
- NEWS2 should not be used as the sole criterion for prioritisation of patients.
- Consideration of the response to treatment is crucial in managing unwell patients.
- The recording of the baseline NEWS2 and observations (particularly oxygen saturations in those with respiratory disease) are extremely useful in helping interpret the significance of the current score.

13 NEWS resource implication study: South Tees overnight study

The following is demonstrated in Figure 1 on the next page.

From 8am to 8pm, 45 patients had a NEWS of 5 or more. Of those 45, 19 patients had a NEWS of 7 or more. This resulted in less than 4 patients per hour triggering a response.

Some of these patients may have a baseline NEWS that is usually elevated and some might even 'normally' have a NEWS of 5 when well - so this becomes an important consideration in who is escalated.

As 42% of patients who triggered a NEWS of 5 and 7 were >75, it is important to determine escalation plans and resus status early. Of the patients with a NEWS <5, 30% were >75, 70% <75; of the patients with a NEWS or >or=5, 42% were >75, 58% were <75.

The older patients in the study were more likely to have a higher NEWS.

For the reasons stipulated above about chronically elevated baseline NEWS and because patients sometimes can be 'well' with a transiently elevated NEWS (after a shower, or stress), 'Worry' of nursing staff has to be an additional consideration in determining who an on-call doctor sees first.

The average district hospital will have 1 (sometimes 2) junior doctors looking after the 3.75 triggers per hour. Some of these patients will deteriorate simultaneously meaning a prioritisation based on worry + delta (the deflection past baseline) needs to be factored in to who is seen first or as a priority.

South Tees overnight study Figure 1

Timeband	NEWS	≥75	Patient total (n=11)
8pm – 8am	0	11	126
	1	64	150
	2	43	130
	3	22	65
	4	14	40
	5	7	16
	6	4	10
	7	3	10
	8	3	6
	9	0	1
	>9	2	2

511 NEWS <5

45 NEWS ≥ 5

19 NEWS ≥7

3.75 triggers per hour

NEWS	Proportion >75
<5	30%
>5	42%
>7	42%

Credit: Tony Roberts

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14 Exclusions / areas of contention

- NEWS2 should not be modified from the guidance published by the RCP, to reduce variation in identification and response to deteriorating patients in England.
- NEWS2 should not be used in children (under 16 years), or pregnant women.
- NEWS2 has not been mandated for use in a community setting* – evidence is currently being assessed on its use across wider settings.
- NEWS2 has not been recommended for specialist spinal or cardiothoracic wards. **

*Though not validated in primary care, NEWS2 offers a prompt to encourage the reliable taking of physiological observations and supports clinical decision making. It offers a clear, easily communicated and well understood physiological score that the rest of the care pathway understands.

**Whilst it is understood that a specialist spinal surgery or cardiac surgical ward may have another system in place that has been tested and validated, it is expected that these wards will use NEWS2 in communication about a patient's acuity with other wards within the hospital and with local hospitals, who will be using NEWS2, and to understand the implications of NEWS2 regarding patients referred into or out of their units.

15 Work is also underway on Paediatric early warning systems too

There are no national validated early warning scores for children and young people in England despite a large amount of clinical and academic work. Different geographical areas and clinical settings have historically developed their own scores and systems to recognise and to treat very sick children. Whilst these methods may be effective and appropriate for individual settings, this has the potential to cause confusion across settings, particularly for staff, and no comparable systems exist outside of hospitals.

The Royal College of Paediatrics and Child Heath (RCPCH) together with NHS England (NHSE) and NHS Improvement (NHSI) have come together to develop a national Paediatric Early Warning System (PEWS) for England.

Single systems do exist and are in place in Scotland, Northern Ireland and in the Republic of Ireland. The aspiration is to move England closer to a national early warning system for children, akin to adults, that is appropriate and safe.

More information about the development of PEWS is available on RCPCH's website or contact england.pews@nhs.net.

16 Frequently asked questions

If you would like more information on NEWS2, please see the frequently asked questions on the NHS England website, or visit the Royal College of Physicians' website.

For general enquiries relating to NEWS2 please contact news@rcplondon.ac.uk or post a question on the NEWS2 Champions forum.

With thanks to NHS Improvement, the Royal College of Physicians, Heath Education England and the NEWS2 champions for their input and support in creating this resource pack.