Trust Guideline for the use of the Critical Illness Risk Assessment Tool National Early Warning Score version 2 (NEWS 2) in Adult Patients and Recording of Physiological Observations

A Clinical Guideline

For use in:	All ward areas with adult patients (excluding Obstetrics of gestation over 22 weeks)
By:	Any staff that undertake or interpret physiological observations.
For:	All adult patients including pregnant patients under 22 weeks gestation.
Division responsible for document:	Surgical Directorate
Key words:	Acute Deterioration, NEWS2, Early Warning Score, Call-out Cascade, Physiological observations
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Date of approval:	24 February 2022
Ratified by or reported as approved to (if applicable)**:**	Clinical Safety and Effectiveness Sub-board
To be reviewed before:	24 February 2025
To be reviewed by:	Author
Reference and / or Trust Docs ID No:	7502
Version No:	12
Compliance links: *(is there any NICE related to guidance)*	NICE (2007) Acutely Ill patients in hospital: recognition of and response to acute illness in adults in hospital (Clinical guideline 50). London
If Yes - does the strategy/policy deviate from the recommendations of NICE? If so why?	No

This guideline has been approved by the Trust's Recognise and Respond Team as an aid to the diagnosis and management of relevant patients and clinical circumstances. Not every patient or situation fits neatly into a standard guideline scenario and the guideline must be interpreted and applied in practice in the light of prevailing clinical circumstances, the diagnostic and treatment options available and the professional judgement, knowledge and expertise of relevant clinicians. It is advised that the rationale for any departure from relevant guidance should be documented in the patient's case notes.

The Trust's guidelines are made publicly available as part of the collective endeavour to continuously improve the quality of healthcare through sharing medical experience and knowledge. The Trust accepts no responsibility for any misunderstanding or misapplication of this document.

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Version and Document Control:

Version Number	Date of Update	Change Description	Author
12	24/02/2022	Amendments of electronic observations. Change from paper charts. NEWS2 trigger reset to a frequency of observations, and escalation reset.	Shailesh Shah and Katie Heathcote

This is a Controlled Document

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Quick reference guideline

All adult patients must have a complete set of observations (respiratory rate, pulse, blood pressure, level of consciousness (ACVPU), temperature and oxygen saturations) performed on admission. An increasing number of abnormal observations can be associated with poor outcome and a higher mortality as they reflect underlying physiological abnormalities (Goldhill et al 2005, NICE CG50, RCP 2017). Historically, both the recognition of the deteriorating ward patient and their treatment has been found to be sub-optimal (Garrard and Young 1998, McQuillan et al 1998).

The implementation of track and trigger scoring systems was recommended by NICE (CG50 2007) to recognise and respond to deterioration. The implementation of a track and trigger system has been found to reduce the incidence of unexpected in-hospital death (Bunkenborg et al 2014). There have been variations nationally with the form of the scoring system since this guidance was initially published. Recognising that there is a lack of standardisation across the NHS has led to a concern over potential lack of embedding of using tack and trigger systems effectively. This has culminated in the production and mandating of the National Early Warning Score (NEWS) version 2 (RCP 2017)

Patients for active treatment should have an NEWS2 score calculated initially and for each set of observations undertaken. This will act as a summary of any abnormal values and thus act to alert nursing and medical staff to a patient's potential for deterioration ((RCP 2017)

A NEWS2 score will be recorded on the patient's ward electronic observations system (WebV). Patients must have their full set of observations and NEWS2 score recorded a minimum of 12 hourly, if not producing a triggering score. Those patients whose observations lead to a recording of a NEWS2 score of 1 or above trigger the clinical response cascade.

This contains detailed instructions for nursing and medical staff. The responsibilities of each member of staff who may potentially be involved in identifying or managing the 'triggering' patient are set out in this guideline.

The steps within the NEWS 2 Call-out-cascade ensure the patient receives:

a) assessment by the registered nurse in charge

b) involvement of the ward co-ordinator

c) an increased frequency of monitoring

d) rapid medical assessment if scoring 3 or more in any one parameter or an aggregate score greater than 5.

e) Senior doctor review (Speciality Trainee and above) and Recognise and Respond Team referral if NEWS2 score 7 or more

The instructions for following the use of the NEWS2 trigger Cascade (Appendix B & C) - Trustdocs Id: 15855

In some circumstances it may be decided at a senior level (i.e. by an experienced registered nurse or member of medical staff) that a decreased frequency is acceptable ((Appendix F)) NICE 2007).

The National Early Warning Score version 2 (NEWS2) is a track and trigger scoring system based on the aggregation of recorded physiological parameters, i.e. patient observations, to determine patients' physiological derangement and risk of acute deterioration. Changes in physiological observations are seen in the hours preceding admission to critical care, cardiac arrests and in-hospital death, most often in respiratory rate and mental function (Subbe et al 2005, Smith et al 2013). Implementation of a critical illness risk assessment tool aids identification of patients at risk of acute physiological deterioration (Subbe 2001, Bunkenborg et al 2014). It also facilitates rapid medical assessment and an increased level of monitoring. NICE (2007) recommends the use of such tools, also known as "track and trigger systems", on all adult patients in acute hospital settings. In 2012 The Royal College of Physicians produced the National Early Warning Score (NEWS), in an attempt to produce a standardised nationally used scoring system. Comparison of NEWS2 to 33 other nationally used physiological scoring systems found it to be the most accurate in predicting negative in-hospital outcomes (Smith et al 2013). It has also been validated in multiple areas within acute and community healthcare facilities to identify the at risk patient.

Deficiencies with the NEWS2 score have been identified. It is known to be inaccurate in patients with spinal cord injury, due to disruption of the autonomic system. It does not provide accuracy in pregnant patients due to known changes in physiology. Furthermore, in those patients with underlying chronic lung disease it has been shown to over-score these patients leading to excessive triggering. An update of the NEWS2 system has been produced in 2017 which has been taken up by NHS England and NHS improvements and mandated to be implemented in all healthcare areas to ensure universality in the approach to and language used for the deteriorating patient.

Objective

To provide guidance on the recording of physiological observations and the use of a critical illness risk assessment tool. Furthermore, this guideline advises on the action to take when a patient is at risk of acute physiological deterioration.

The NEWS2 Call-out-cascade has clear objectives:

1) Identifying an appropriate level and frequency of monitoring
2) Prompt nursing assessment and action to implement simple measures to improve patient's condition or decision to call Dr.
3) Rapid medical review of deteriorating patients
4) Early senior medical involvement if the patient is;
    i. identified early as at high risk for deterioration
    ii. remains unwell or deteriorates despite initial treatment
    iii. needing consideration for referral to other specialist areas
5) Early consideration and identification of Sepsis as the cause for triggering score

6) Identifying urine output and risk of acute kidney injury in the acutely unwell/deteriorating patient.
7) Identification of ceiling of treatment, clarification of resuscitation status for deteriorating patients, with clearly documented management plans.
8) To encourage referral to the Recognise and Respond Team for advice, support and intervention in managing the deteriorating ward patient.

Broad recommendations for the NEWS2 in the recognition of patients at risk of deterioration and cardio-respiratory arrest.

All adult patients in acute hospital setting have full sets of observations and a completed NEWS2 score with each set of observations. A NEWS2 ≥1 requires compliance with the 'Call-out-cascade' as (see Appendix B & C) for all ward areas (apart from paediatrics and obstetrics in patients of >22 weeks gestation).

All clinical and ward areas of the Trust using this track and trigger scoring system will have initially been offered education by the implementation team on:

a) Use of the scoring system
b) Accurate observation recording
c) Interpretation of data
d) Physiology and early signs of critical illness

Use of NEWS2 is supported by an educational program to ensure effective integration of the score into ward practice and patient care. The NEWS2 and the call-out cascade are also detailed within the Resuscitation corporate and mandatory training updates.

Continuing education for nursing, medical and Allied Health Professionals (AHP) within such areas should be regarded as an integral component of the system.

Physiological observations should include respiratory rate, pulse, blood pressure, level of consciousness, temperature and oxygen saturations. It is important to carry out complete sets of observations as this facilitates early detection of deterioration in the patient (McQuillan et al 1998). Similarly, Duckitt et al (2007), found that respiratory rates of >19 bpm, heart rates of >101 bpm, systolic BP of <100 mmHg, temperature of <35.4^{o}C, O2 saturations of <97% and disturbed level of consciousness were all associated with increased mortality. The monitoring of hourly urine output should also be considered in any patients who are at risk of deterioration.

Accurate observation recording:

***Temperature*:** See Trust Care Guidance sheet on "General needs of inpatient - temperature" for more detail.

Blood pressure: The blood pressure should be measured using the correct size cuff and by a consistent method, either manually or with a blood pressure machine. However, if the patient has an irregular rhythm on manual pulse, or is known to have atrial fibrillation, then blood pressures should always be recorded manually. **Only the SBP value determines a score on NEWS2.**

Pulse: The pulse should always be checked manually for rate, strength and regularity as these qualities will not be discerned by either a pulse oximeter or blood pressure machine. The pulse can be checked normally at a radial site, or if unable to palpate there, it may be necessary to try brachial, carotid or femoral sites. If an irregular pulse is observed. and is a new finding, this should be reported to medical staff.

Respiratory rate: To be recorded for a whole minute, whilst counting the pulse, so that the patient is unaware of what you are counting and does not change their respiratory pattern.

Oxygen saturations (SpO2)**:** Use a pulse oximeter to measure oxygen saturations on all patients regardless of whether they are receiving oxygen therapy. Place pulse oximeter on a warm digit, leave on for the duration of the observations and read last. Be aware of the errors that can occur in reading if the probe is in direct sunlight or artificial light (it may be necessary to put that hand under a blanket away for direct light to get an accurate reading). Nail varnish or false acrylic nails may also cause inaccurate reading so it may be necessary to plan to remove nail varnish or in the meantime choose an ear probe for measurement of oxygen saturations. Patients with increased skin pigmentation are liable to have falsely elevated oxygen saturations on pulse oximetry (Soderling et al 2020) and so, close attention should be paid to whether other parameters (heart rate and respiratory rate) change. The patient should have a target saturation level identified and prescribed on EPMA and identified on their electronic observation chart.

The target saturations then influence the SpO2 scale that the patient is scored upon. Patients in whom there is no known or suspicion of underlying lung pathology that would lead to chronic hypoxaemia should have their oxygen saturation targets set at >96% - Scale 1. Those with suspected or known chronic lung disease or chronic relative hypoxaemia should have their oxygen saturation target set at 88-92% - Scale 2. This then translates to the target oxygen saturation (SpO2) scale the patient is placed on. If placed on SpO2 scale 1, then SpO2 scale 2 on the observation chart should be struck through and vice versa. This should be included in the nursing and doctor handover. Depending on which SpO2 scale the patient is placed on, a deviation from the target will score and will warrant either nursing or doctor review as per the call-out cascade. (British Thoracic Society 2008). Cuthbertson et al (2007) found that saturation changes could indicate the start of deterioration in some patients up to 48 hours before ICU admission.

Level of consciousness: Using the. A.C.V.P.U. Score assessing the best response to stimuli (i.e. the patient is **A**lert, **newly/increasingly** **C**onfused, responds to **V**oice, responds to **P**ainful stimuli, is **U**nconscious) (1). (See appendix A). Deterioration in level of consciousness has been found to be an independent predictor of mortality (Goodacre et al 2006). The presence of any deviation from a known baseline of Alert scores a 3 in the NEWS2 and so triggers an urgent review within 30 minutes, this will be a score of 3 in one parameter and therefore a trigger in itself. Deterioration in conscious level, especially P or U needs immediate medical help, as the patient's airway may be at risk.

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Pain: The pain score is calculated by directly assessing the patient on a Numerical Visual Analogue Scale (VAS) and/or asking the patient to grade the severity of their pain on a scale of 0 to 3. Zero being no pain at all, 1 being mild pain, 2 moderate and 3 severe pain. The scale is present on the NEWS2 chart and is required to be documented at each set of observations. When the presence of pain is identified, attempts must be made to

manage the symptoms and consider use of the Clinical Guideline for the Assessment of Pain in Acute In-Patient Settings (Trust Docs 14912). This score **DOES NOT** contribute to the aggregated NEWS2 score.

Urine output and Acute Kidney Injury (AKI): Although not an integral part of NEWS2 scoring, awareness of urine output and fluid balance is essential in the management of the acutely unwell patient as a key indicator of potential acute kidney injury (AKI). When any patient begins to trigger a score on the call-out cascade, consideration of a urinary catheter should be made, and urine output measurement should be undertaken on a fluid balance chart. A urine output of less than 0.5mls / kg / hr may indicate that the kidneys are not being perfused adequately and this, in turn, may be a reflection on adequacy of perfusion of other vital organs (ALERT 2003). Consideration of risk of AKI are highlighted on the observation chart and recommend fluid balance monitoring, urine dipstick, blood tests to measure renal function and if AKI is present, using the trust AKI bundle (Trust Docs 10899). When a patient's NEWS2 score is 7 or greater, then a urinary catheter should be placed with 1 hourly urine output measurements.

Sepsis: Any patient identified as triggering a NEWS2 score requiring initiation of the call-out-cascade, must have sepsis considered as the primary source of deranged physiology. The identification of additional sepsis red-flags (non-blanching rash, skin changes, reduced urine output, chemotherapy, immunosuppression) should be sought and if infection thought to be the cause of the NEWS2 score of >5 or 3 in any single parameter, the Sepsis 6 treatment tool must be used and the use of the sepsis emergency kit (bottom drawer of all inpatient resuscitation trolleys) and should be considered.

Education on the National Early Warning Score version 2 Tool:

- The NEWS2 scoring system will be implemented in all appropriate patient ward/ areas with 'NEWS2 Cascade trainers/Link Nurses' identified for each ward (a Health Care assistant (HCA) and a Registered Nurse (RN)).
- All staff will complete the RCP NEWS2 e-learning via ESR with a compliance aim of 90%.
- Ongoing support and education to reinforce the usage of the tool will be provided by ward cascade trainers
- Staff are encouraged to attend a Assess, Communicate, Treat (ACT) Study Day, an ALERT course, a Health Care Assistants Study Day or BEACH course, held by

the Recognise & Respond Team. This introduces the NEWS2 outlines the principles of monitoring and identification of the deteriorating patient.

- Staff new to the trust and to an area using the NEWS2, should undergo training and be made aware of the system by ward staff, cascade trainers or, via request, from the Recognise & Respond Team nurses.
- The Nurse Bank Clinical Tutor will ensure that new bank nurses within the Trust are competent in the use of NEWS2.
- Each department should ensure new doctors are introduced to NEWS2 at induction with the NEWS2 e-learning tool used as part of the mandatory training.

Use of the National Early Warning Score version 2:

- Information regarding NEWS2 and the Call-out-cascade should be easily accessible on the ward.
- All adult, non-obstetric patients, (or those under 22 weeks of gestation) should have an NEWS2 calculated for each full set of observations undertaken

Exceptions to this may be those patients that are put onto a palliative care pathway when it may be appropriate to discontinue observations and the use of the NEWS2.

- Exceptions when incomplete sets of observations are allowable are;
    - if a patient requires a lying and standing BP recording
    - If the BP is being checked manually because of abnormal reading via an electronic blood pressure machine.
- If the patient has had a <u>reduction</u> of oxygen therapy and only saturations and respiratory rate are being checked.

Use of the Call-Out Cascade:

<u>NEWS2 trigger of 1 to 4</u>

- Any patient, whose observations generate an NEWS2 score of >1 should be reviewed by a Registered Nurse (RN).
- The RN will inform the ward co-ordinator if concerned.
- Special attention must be placed on those patients whose score increases from zero to >1.
- Nursing interventions are to be put into place and documented in the patient care record.
- The RN (with or without the ward co-ordinator) can determine the frequency of observations necessary for the patient (a minimum of 6 hourly is recommended) and whether or not doctor review is warranted.
- Care team should consider if urine output measurement is required.
- If a nursing student or healthcare assistant is performing the observations escalation to the RN must be indicated in the patient care record. They are not to document the actions taken on triggering patients.

NEWS2 trigger of 3 in a single parameter

The RN must review the patient and:

- Initiate appropriate nursing interventions.
- Increase the observation frequency to a minimum of 1 hourly.
- Inform the ward co-ordinator.
- Request medical review, to occur within 30 minutes using the SBARD communication tool.
- The RN should document their decision and actions on the observation chart.
- Care team should consider if urine output measurement is required.
- Must consider if sepsis may be a contributing factor. Consider use of Sepsis Emergency Kit (located in the bottom drawer of the resuscitation trolley).

NEWS2 trigger of 5 to 6

The RN must review the patient and:

- Initiate appropriate nursing interventions.
- Increase the observation frequency to a minimum of 1 hourly.
- Inform the ward co-ordinator immediately.
- Request medical review, to occur within 30 minutes SBARD communication tool.
- The RN should document their decision and actions on the observation chart and should consider if urine output measurement is required.
- Must consider if sepsis may be a contributing factor. Consider use of Sepsis Emergency Kit (located in the bottom drawer of the resuscitation trolley).
- Consider if Recognise & Respond Team referral warranted (call x4444).
- There should be clarification and documentation of the resuscitation status and the ceiling of treatment.

NEWS2 trigger of 7 or more

The RN must immediately:

- Assess patient.
- Instigate any nursing interventions required.
- Inform the ward co-ordinator.
- There should be a referral to the Recognise & Respond Team, call x4444.
- Request a medical review at a specialist registrar level, who should attend urgently.
- The RN should document their decision and actions on the observation chart.
- Continuous monitoring in an appropriate clinical environment should be initiated.

- Urine output measurement should be instigated with an indwelling urinary catheter.
- Consideration of Consultant-to-Consultant referral to the Critical Care Medical Team.
- There should be clarification and documentation of the resuscitation status and the ceiling of treatment on the ReSPECT form.
- Must consider if sepsis may be a contributing factor. Consider use of Sepsis Emergency Kit (located in the bottom drawer of the resuscitation trolley).

Delta NEWS2 (rapid rise in NEWS2 score of >4 (i.e. previous NEWS2 0, current NEWS2 score 4)

- As per NEWS 2 trigger 1-4.
- Refer to the Recognise & Respond Team (x4444).
- There should be clarification and documentation of the resuscitation status and the ceiling of treatment.

If help is needed urgently and the patient continues to deteriorate and immediate review is required then consider putting out a cardiac arrest call (2222) or, if a Critical Care Medical referral is required then bleep 0012 (Critical Care registrar).

Out of Hours Actions

Between the hours of 20.00 – 08.00 the RN should contact the Recognise & Respond Team by calling x4444 and a referral via the H@N referral system, recording the NEWS2 score and appropriate urgency. The Site Sister (SS) will then triage this call to the most appropriate member of H@N Team. The allocated staff member must review the patient within 30 minutes of being informed of the triggering score if deemed urgent by the nurse, 3 in any single parameter or 5-6.

Between the hours of 20.00 – 08.00 if timely review (within 30 mins) does not occur in response to initial request, please contact the Recognise & Respond Team on x4444 or bleep the H@N Site Sister/Charge Nurse directly on Bleep 1242.

The nurse in charge must liaise with the nurses responsible for that patient and agree the appropriate level of observation recording.

When treatment has been given, if the score has fallen below the initial trigger or 4, the observations and NEWS2 should be documented, up to 4 hourly, for at least the next 24 hours. Any further triggers of the NEWS2 must be reported again.

Where the FY1 has been unable to reduce the NEWS2 score of a patient, they must seek advice from their senior medical colleagues.

More senior medical staff at FY2 level or above may determine that the present score is acceptable while current treatment plans are in progress and document this decision in the notes. In this case the trigger score may be reset at a higher level.

Special Instructions for NEWS2 frequency of observations and escalation:

- Resetting the frequency of observations and escalation **must only be done once a patient has been reviewed.**
- It must take into account their baseline (prior to admission) and how their observations/NEWS2 scores have progressed throughout their admission.
- The frequency of observations and escalation is reset by identifying a new frequency and clinical reasoning for this.
- The reset is based on the bedside clinician's review of the patient and contextualised decision making. The NEWS2 Special Instructions is documented on the NEWS2 Special Instructions form and put in the front of the Patient Care Record. (Appendix F)
- Decisions on escalation planning and ReSPECT discussions should take place in all patients and when documenting are-set.
- Worked Examples:

Example 1;

- A patient with dementia presents increased confusion and chest pain. She is diagnosed with a myocardial infarction. Her oxygen targets are set to scale 1 (>96%). She has a Respiratory Rate of 16, Oxygen Saturations of 97% in air, SBP 120mmHg, Pulse rate 76bpm, and Confusion on her ACVPU score. This scores a total of 3, with 3 in a single parameter.
- 0(RR) + 0(SpO2 scale 1) + 0(Oxygen) + 0(SBP) + 0(P) + 3(Confusion) = 3
- This would then trigger 1 hourly observation and an urgent medical review due to a score of "3 in single parameter." We could argue that the confusion is chronic (though accept that it is worse than usual) and should not in itself lead to further triggers. The admitting team (AMU) or parent team (Cardiology) would then reset the frequency of observations and escalation to reflect the underlying physiology based on previous/baseline observations;
- ***"This patient is known to have dementia. The acute myocardial infarction has made this confusion worse, but her conscious level on an ACVPU scale remains at "C". The rest of her parameters are in keeping with her otherwise normal physiology.***
  Therefore a score of 'C" on ACVPU is normal for this patient. Do not continue one hourly observations and reduce to 4-hourly. Escalate if any further deterioration."

Example 2;

- A chronically cachectic patient with COPD and on long term oxygen therapy who is known to have low blood pressure at baseline presents with an infective exacerbation of COPD and acute delirium, who has had their oxygen target set to SpO2 scale 2 (88-92%), with the following observations – O2 88% on FiO2 28% via venture mask, Respiratory Rate 24, Systolic Blood pressure (SBP) 94mmHg, Pulse Rate 96bpm and acute confusion would score 10;
- Brake down = 2(RR) + 0(SpO2 scale 2) + 2(Oxygen) + 2(SBP) + 1(P) + 3(Confusion) = 10
- This then would trigger continuous observations, emergency medical team review and Recognise & Respond Team review – this would persist for the patient potentially throughout the in-hospital stay.
- The initial admitting team (AMU) or admitting parent team (Respiratory) would then reset the triggers in each parameter to reflect the patient's underlying physiology based on previous/baseline observations;
- ***"This patient is known to be on long term oxygen therapy and have chronically low bloods pressure.***

Therefore, normal physiology for this patient includes oxygen dependency and a systolic blood pressure of 90-100mmHg. Continue to score SpO2 on scale 2. Continue observations 1 hourly for 4 hours to ensure stability at this reset – and if stable throughout, reduce to 4-hourly observations."

- The reset **must** be specific to the patient
- Resetting of the frequency of observations and escalation should be performed, by a senior doctor at ST3 and above.
- If the reset occurs overnight, it **must** be reviewed by the parent team during normal working hours.
- The frequency should ensure sufficient to identify further deterioration.
- The reset and a clear treatment plan should be documented in the patient's medical notes using the NEWS2 special instructions form (accessible via Trust Document ID 16032. (Appendix F)).
- It should be reviewed at least every 24 hours.
- The re-set and the date and time on which it was re-set should be documented in the medical notes, on the nursing handover sheet and an advisory entered onto electronic observations
- The patient must continue to be monitored and deterioration must be escalated.
- Doctors ST3 and above should agree any specialist referrals and where this is not deemed necessary, should clarify and document escalation aims and/ or resuscitation status on the ReSPECT form
- The Recognise & Respond Team are available for additional support for any patient causing concern, whether or not they are triggering an NEWS2 (x4444).

Duties of individual staff groups within the NEWS2 Cascade and in carrying out observations.

HCA/Student Nurse:

- To perform the full sets of observations accurately and at the frequency directed.
- To report any patient with a NEWS2 score of 1 or more to the registered nurse who is accountable for that patient.
- To report oxygen saturations outside the patients target range, or below 96% if target saturations not identified,

Registered Nurse:

- To ensure that observations are being recorded with the appropriate frequency
- To report any abnormal observations to the ward co-ordinator and patient's parent medical team if appropriate.
- To review the frequency of observations on any patient triggering a NEWS2 score of 1 or above at a minimum of 4 hourly.

- To report any patient with an NEWS2 score of 3 in any one parameter or 5 and above (or a trend towards an increasing score) or more to the parent team in a timely manner using the SBARD tool (or Site Sister/Charge Nurse out of hours).
- Document the date and time of calling the parent team/Recognise & Respond Team and bleep number.
- To consider initiation of urine output measurement and discuss with parent clinician. If monitoring fluid balance, then ensure that such charts are kept accurate and up to date.
- Ensure parent team review of frequency of observations and escalation reset performed within the preceding 24hrs.

Ward Co-ordinator:

- To ensure that the presence of any "triggering" patients on the ward are communicated to appropriate staff and entered onto the Nurse Handover.
- To assess any patient who scores an NEWS2 of 1 or more: review observations frequency, consider any appropriate nursing interventions and consider whether medical review is needed.
- To ensure that any patient with a NEWS2 score of 3 in any one parameter or 5 and above (or a trend towards an increasing score) is referred to the appropriate doctor immediately. However, between the hours of 20.00 and 08.00 the Recognise & Respond Team x4444 and a referral via Hospital at night (H@N) Site Sister/Charge Nurse (bleep 1242), they will triage the call to the most appropriate member of the H@N team and request review of the patient.
- To consider whether the patient may need referral to the Recognise & Respond Team x4444.
- To ensure that the patient receives a review by own team doctor and within 30 minutes if alerting concern or scoring 3 in any one parameter or 5 and above. If the appropriate doctor is not able to attend within that time, refer the patient to a higher level within the team.
- To ensure that observations are being recorded with the appropriate frequency.
- Ensure parent team review of trigger reset performed within the preceding 24hrs.

Foundation Year and Core Speciality Year 1-2 Doctors:

- To assess patient and document a management plan.
- To attend within 30 minutes of an urgent referral, a NEWS2 score of 3 in any one parameter or 5 and above.
- Document date and time of review and initiate treatment.
- Make clear monitoring and management plan, seeking advice from seniors as appropriate. This should be done on admission and considered as part of any review.
- Consider urine output measurement and AKI.
- Consider sepsis as a primary cause for trigger.

- Consider whether referral to The Recognise & Respond Team is needed.
- If NEWS2 score remains elevated following initial treatment, then inform seniors.
- To document review and plans clearly, including a monitoring plan.
- To ensure that the team specialist registrar or consultant is informed of any NEWS2 score of 7 or more.

Registrar / Consultant:

- As above for FY1 and FY2, plus:
- Consider referral for specialist input.
- Consider special instructions and reset the frequency of observations and escalation and clearly document reasons and parameters. If re-set performed overnight, then parent team SpR/consultant must review reset trigger within 24 hours.
- Clarify resuscitation status and escalation of treatment plan and document on the ReSPECT form.

The Registrar should discuss with the responsible consultant any patient who is not responding to treatment and/or if a transfer to a higher care area is thought to be necessary).

Use of NEWS2 in the Emergency department and on transfers is described in Appendix E.

Resuscitation Guidelines:

It is essential to identify those patients

- For whom cardio-pulmonary arrest is an anticipated terminal event and in whom cardiopulmonary resuscitation (CPR) is inappropriate.
- Patients who do not want to be treated with CPR.

Link to: Trust policy for the management of Cardio-pulmonary Resuscitation in Adults

Further escalation

In the event of failure of escalation due to unavailability of parent teams, including the responsible Consultant, the Medical Director or representative should be contacted.

Recognise and Respond Team Nurses:

- To respond to referrals via phone within 30 minutes and speak to the referrer to gain further information in order to be able assess whether simple telephone advice required or whether the patient condition warrants immediate assessment and attendance of the team. Give advice on monitoring and immediate management on the initial telephone referral prior to attending the patient.
- Assess the patient and initiate monitoring and treatment (within limits of competence). Document management plan in collaboration with patient's own nursing, medical team and other allied health care professionals.
- Liaise with senior members of nursing and medical teams as appropriate.

- Offer support to nursing team/junior doctors in continuing to manage patient in the ward area if this is deemed appropriate.

Site Managers and Site Sisters / Charge Nurses:

- To respond to referrals via bleep within 30 minutes and make an initial response based on assessment of urgency of patient's condition.
- Give advice on monitoring and immediate management on the initial telephone referral prior to attending the patient.
- Assess the patients monitoring and treatment needs and delegate the appropriate level of medical staff/ nursing staff to review, expecting that they will aim to review within 30 minutes.
- Document management plan in collaboration with patient's own nursing, medical team and other allied health care professionals.
- Liaise with senior members of nursing and medical teams as appropriate.
- Offer support to nursing team/junior doctors in continuing to manage patient in the ward area if this is deemed appropriate.

It is suggested that the Trust's SBARD communication tool is used when making referrals between team members (Appendix D) to aid clarity of communication. A brief version of this is available on the reverse of the observation chart.

Process for Monitoring Compliance

The process for monitoring compliance is detailed in the monitoring compliance table Appendix G

Surveillance will be undertaken by the own ward areas/divisions to examine the observation recording and correct documentation of the NEWS2. Results will be fed back to senior nursing staff in each area and an action plan requested from them to respond to these results. There is also a continual surveillance audit program of the NEWS2 triggering episodes undertaken by the own ward areas/divisions. These results are reported to senior nursing and medical staff. They are part of the Matrons performance dashboard and are discussed with ward specific matrons with the Director of Nursing.

Summary of development and consultation process undertaken before registration and dissemination

The authors listed above updated this guideline on behalf of the Recognise & Respond Team. During its review it was circulated for comment to all relevant consultants, senior nurses and members of the Recognise and Respond Committee

Distribution list / dissemination method

The authors listed above updated this guideline on behalf of the Recognise & Respond Team.
Copies of the document are to be found in:

- The Trust Intranet

References/ source documents

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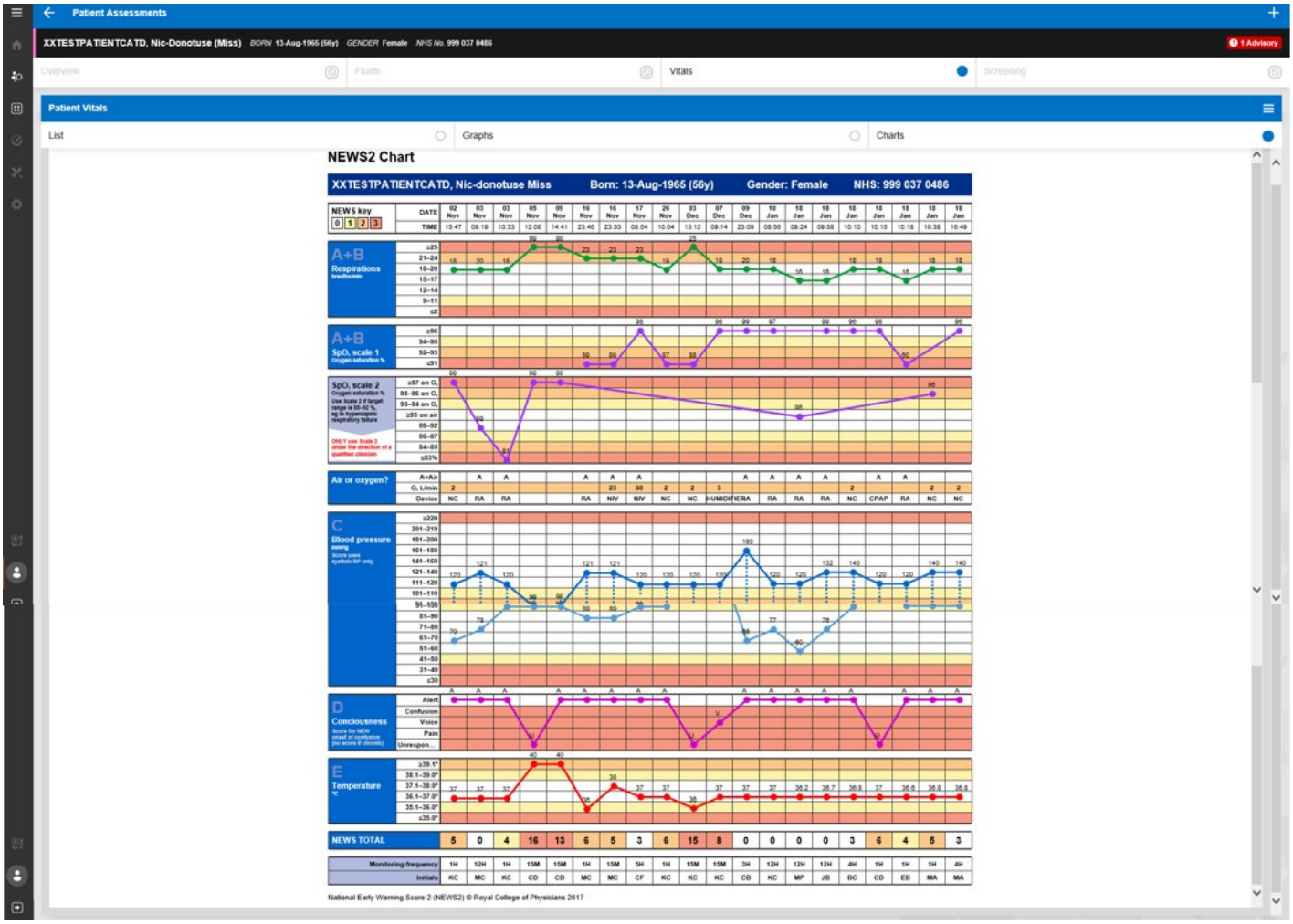
Appendix (A)

Physiological parameter	Score 3	2	1	0	1	2	3
Respiration rate (per minute)	≤8		9–11	12–20		21–24	≥25
SpO_2 Scale 1 (%)	≤91	92–93	94–95	≥96			
SpO_2 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	



If NEWS2 score is ≥ 1 follow NEWS2 Call-Out-Cascade

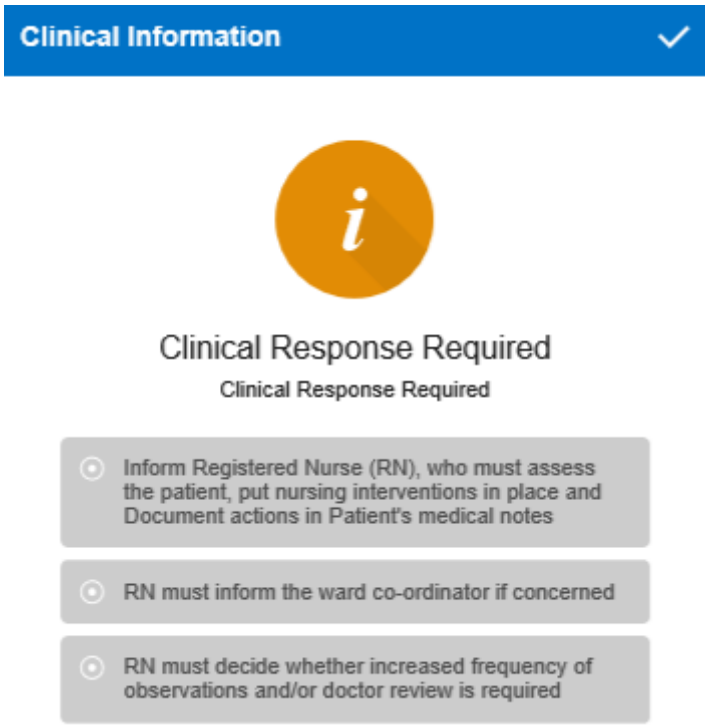
Appendix (B)

National Early Warning Score Version 2 (NEWS2) '*Call-out-cascade*'

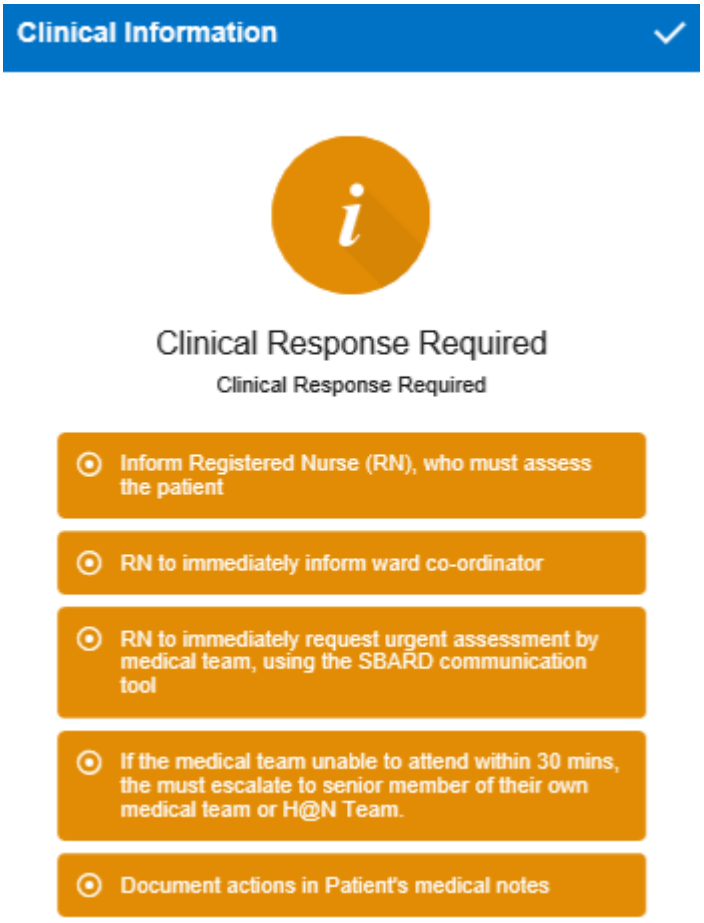
Clinical response to the NEWS2 trigger thresholds		
NEWS2 SCORE	**Frequency of monitoring**	**Clinical Response**
0	**Minimum 12 hourly**	• Continue routine NEWS2 monitoring
Total 1-4	**Minimum 4-6 hourly** Consider urine output	• Inform Registered Nurse (RN), who must assess the patient, put nursing interventions in place and document actions on observation chart • RN must inform the ward co-ordinator if concerned • RN must decide whether increased frequency of observations and /or doctor review is required
3 in single parameter THINK SEPSIS	**Minimum 1 hourly** Consider urine output	• Inform Registered Nurse (RN), who must assess the patient • RN to inform ward co-ordinator and medical team, who will review and decide whether escalation of care is necessary • Document actions on observation chart
Total 5 or more **URGENT** Response threshold THINK SEPSIS	**Minimum 1 hourly** Consider urine output	• Inform Registered Nurse (RN), who must assess the patient • RN to immediately inform ward co-ordinator • RN to immediately request urgent assessment by medical team, using the SBARD communication tool • If the medical team unable to attend within 30 mins, they must escalate to senior member of their own medical team or H@N Team (as detailed below). Document actions on the observation chart
Consider referral to the Critical Care Outreach Nursing Team Bleep 0805 for advice and support		
Total 7 or more EMERGENCY response threshold THINK SEPSIS	**Continuous monitoring of vital signs Including urine output**	• Inform Registered Nurse (RN), who must assess the patient • RN to immediately inform ward co-ordinator who must attend and assess patient immediately • RN to refer to medical team (Specialist Registrar level) using SBARD • Escalate to Consultant level and consider whether Critical Care Medical Referral required (via a Consultant to Consultant referral) • Consider transfer of care to clinical environment with monitoring facilities (coronary care / high dependency/intensive care units)
Refer to the Critical Care Outreach Nursing Team Bleep 0805 or H&N Team for advice and support		
Help needed urgently?		If the patient's condition continues to deteriorate and prompt medical review required, consider putting a cardiac arrest call out (2222) or if Critical Care Medical referral required Bleep 0012

E-obs warnings **Appendix C**

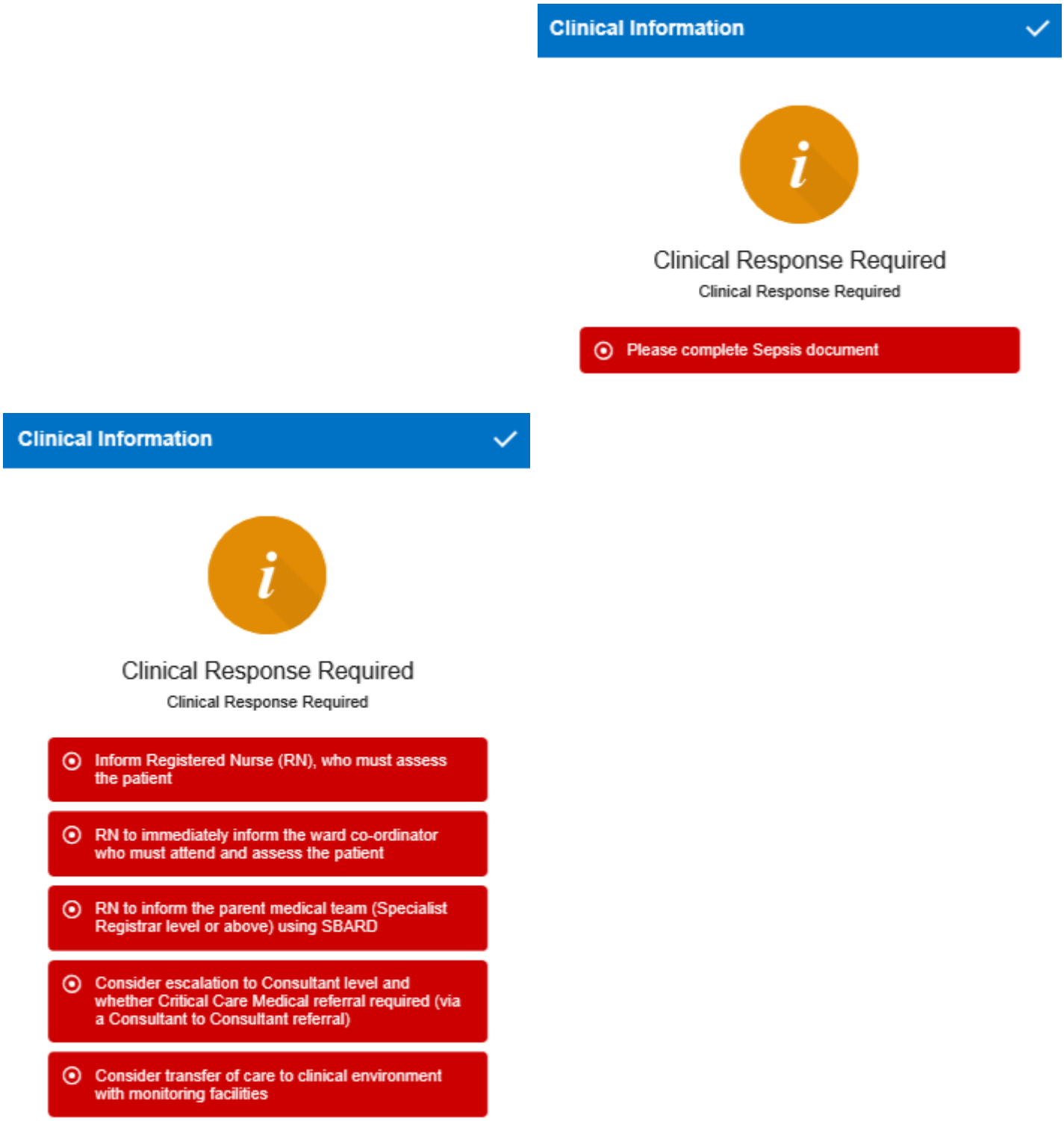
NEWS>3



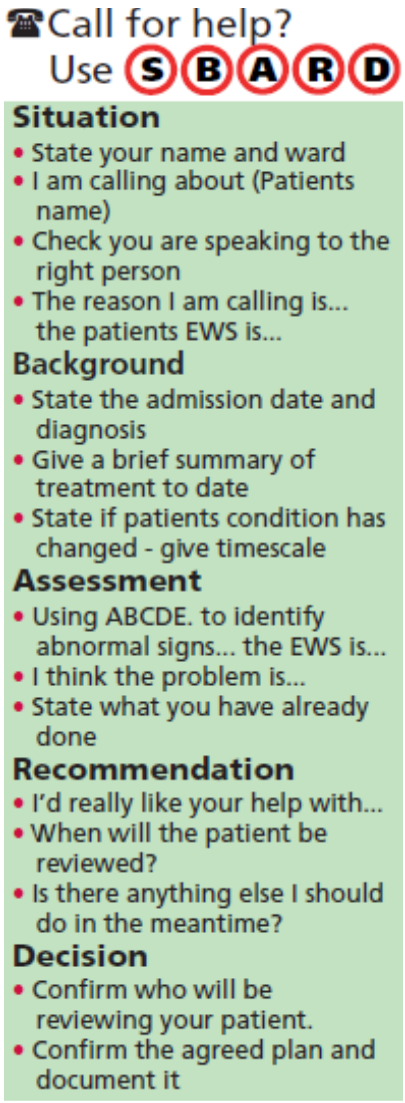
NEWS>5 or 3 in any 1 category



NEWS>7


Clinical Information
Clinical Response Required
Clinical Response Required
Please complete Sepsis document
Clinical Information
Clinical Response Required
Clinical Response Required
Inform Registered Nurse (RN), who must assess the patient
RN to immediately inform the ward co-ordinator who must attend and assess the patient
RN to inform the parent medical team (Specialist Registrar level or above) using SBARD
Consider escalation to Consultant level and whether Critical Care Medical referral required (via a Consultant to Consultant referral)
Consider transfer of care to clinical environment with monitoring facilities

Appendix (D)
SBARD Communication Tool



The Trust advocates the use of a communication tool Trust-wide known as SBARD. Following initial training of staff this can be used by members of the multi-disciplinary team when communicating with each other during handovers or over the phone and when making referrals and requesting assistance. Its aim is to help the speaker to communicate in a logical and clear sequence whilst including all necessary information and omitting verbiage. It should help to convey the urgency of a situation and be used as an integral part of the escalation process. It lends itself to use by both registered nurses when contacting a doctor to request a review when a patient is triggering on the NEWS2, and by junior doctors seeking senior help in managing a deteriorating patient. The person receiving the message or handover should find that it helps them to prioritise their workload if the tool has been used correctly.

The acronym SBARD stands for:

S- Situation

B- Background

A- Assessment

R- Response

D- Decision

More information on SBARD is available on the Patient Safety webpage on the Intranet and laminated posters and mouse mats have been provided to all adult ward areas to assist staff in its usage. A brief version of SBARD is also available on the reverse of the observation chart.

Appendix (E)

Instructions for the use of the NEWS2 in the Emergency Department

An NEWS2 score is recorded on a complete set of observations on admission to ED, and the NEWS2 score is documented.

Duties of individual staff groups within the ED department in carrying out observations.

Roles and Responsibilities

Assessment Nurse: To perform initial set of observations (T, P, R, BP, ACVPU, Oxygen saturations) and calculate a NEWS2 score, documenting frequency of observations and decision regarding which chart is to be used (re: neurological or normal observation chart). The NEWS2 score should be expressed every time the patient is handed over within the department.

Observation chart choice;
On admission the assessment nurse will make a clinical decision as to which type of observations are required and choose the relevant observation chart on an individual basis.

To aid the decision see the lists below

Ward Observation Chart;

- Chest pain
- Abdominal pain
- Back pain
- 'Unwell'
- Sepsis/fever
- Collapse
- Falls/injuries (no head injury)
- Self-harm
- Pregnancy

Neurological Observation Chart

- Head injuries
- CVA
- Drug/Alcohol OD
- Acute confusion
- Seizures
- Altered conscious level unless normal for patient

Urgent Care Centre and Minors Nurses: To perform relevant observations in these areas, a minimum of 3 hourly and set of admission observations within 1 hour of discharge.

If the ACVPU changes on the normal observations chart then document changes and inform the team leader, nurse in charge, senior Dr and change to a neurological observation chart for regular assessment of conscious level.
Rapid Assessment Team (RATs) Coordinator: To obtain handover from ambulance crew / assessment nurse, liaise with Assessment nurse re: observations on arrival, prioritising care and doctor assessment. To assist assessment nurses in decision making re: Neuro obs / obs chart. To be accessible for senior nurse review.

Trolley Bay Coordinator (Nurse in Charge): To be aware of conditions of patients within the department, prioritising care accordingly. To be accessible for senior nurse review

Team Leader (Green / Blue): To have an understanding and knowledge of each patient in the team, initiating frequent team 'catch-ups'.
Liaising with Trolley Bay coordinator with concerns of patient's condition.
To make sure observations are undertaken and that frequency is adhered to and to increase frequency if condition changes.

Resus Team: To undertake full sets of observations (which need to be documented 1 hourly-minimum). If NEWS 2 increases document action and inform nurse coordinator and senior doctor.

RATs Nursing Staff: Document observations fully, inform RATs coordinator of patient's condition / EWS / observations prior to transfer to Trolley Bay / clinic / Resus. Increasing / reducing frequency if condition changes.

Team Members: Document observations at requested frequency. If any changes or concerns inform team coordinator/ TB coordinator/ nurse in charge.

- **If NEWS2 Score 3 in any one parameter or 5 and above for registered nurse escort to ward.**

A decision regarding the most appropriate place of treatment for these patients must be made by a senior member of staff.

- If patients are triggering an NEWS2 score of 3 in any one parameter or ≥ 5 they require medical review with a clearly documented management plan NEWS2 score ≥ 7 then patient requires immediate Senior Medical review, to inform nurse in charge so decision regarding best location to be cared for in ED Dept. can be made.
- A clearly documented monitoring plan should be in place.

Prior to transfer from the department

- All patients should have a complete set of observations and documented NEWS2 within an hour prior to transfer.

- If patients are triggering a NEWS2 score of 3 in any one parameter or ≥ 5 they require medical review with a clearly documented management plan in place prior to transfer.
- NEWS2 score ≥ 7 then patient requires immediate Senior Medical review, to inform nurse in charge so decision regarding best location to be cared for in ED Dept. can be made. A registered nurse must escort patients from the department who are triggering a NEWS2 score of 3 in any one parameter or ≥ 5 and the receiving ward must be made aware.

A clearly documented monitoring plan should be in place

Appendix F:
Special Instructions for NEWS2

Clinical Response to the NEWS2 Trigger Thresholds

NEWS2 score	Frequency of monitoring	Clinical Response
0	**Minimum 12 hourly**	• Continue routine NEWS2 monitoring
Total 1-4	**Minimum 4-6 hourly** Consider urine output	• Inform Registered Nurse (RN), who must assess the patient, put nursing interventions in place and document actions on observation chart • RN must inform the ward co-ordinator if concerned • RN must decide whether increased frequency of observations and/or doctor review is required
3 in a single parameter **THINK SEPSIS**	**Minimum 1 hourly** Consider urine output	• Inform Registered Nurse (RN), who must assess the patient • RN to immediately inform ward co-ordinator and parent team, who will review and decide whether escalation of care is necessary • Document actions in the medical notes.
Total 5 or more **URGENT** Response threshold **THINK SEPSIS**	**Minimum 1 hourly** Consider urine output	• Inform Registered Nurse (RN), who must assess the patient • RN to immediately inform ward co-ordinator • RN to immediately request urgent assessment by the parent team using the SBARD communication tool. • If the medical team are unable to attend within 30 minutes, they must escalate to a senior member of their own medical team or Recognise & Respond Team (as detailed below). Document actions in the medical notes.
Consider referral to the Recognise & Respond Team x4444 for advice and support		
Total 7 or more **EMERGENCY** response threshold **THINK SEPSIS**	**Continuous monitoring of vital signs. Including urine output.**	• Inform Registered Nurse (RN), who must assess the patient • RN to immediately inform ward co-ordinator who must attend and assess the patient • RN to inform the parent team (Specialist Registrar level or above) using SBARD • Consider escalation to Consultant level and whether Critical Care referral required (Consultant to Consultant) • Consider transfer of care to clinical environment with monitoring facilities
Refer to the Recognise & Respond Team x4444 for advice and support		

For a Medical Review Day or Night	
Day Time – 08:00 – 20:00hrs	Bleep the parent team, if no one attends within 30 minutes contact Recognise & Respond Team x4444 and refer on Recognise & Respond Referral System. Document your actions in the medical notes.
Night Time – 20:00 – 08:00hrs	Refer to the Recognise & Respond Team x4444 and refer on h@n referral system marking as URGENT. Document actions in the medical notes.

Bleep:

Date	Time	(only valid if signed and dated)

If NEWS2 special instruction changes during review a new form must be completed

Call for help?
S – Situation / State your name, ward, patient name and the reason for your call
B – Background / State admission date, diagnosis and brief summary of treatment to date
A – Assessment / Use ABCDE to identify abnormal signs, state what you think the problem is
R – Recommendation / State what you want help with and if you should do anything further
D – Decision / Confirm who will be reviewing your patient and document it

Trust Guideline for the use of the Critical Illness Risk Assessment Tool National Early Warning Score version 2 (NEWS 2) in Adult Patients and Recording of Physiological Observations

Appendix G:

New AIMS audits to be added