GIG CYMRU NHS WALES | Bwrdd Iechyd Prifysgol Cwm Taf Morgannwg University Health Board

AGENDA ITEM
7.7

QUALITY & SAFETY COMMITTEE

SEPSIS COMPLIANCE IMPROVEMENT PLAN

Date of meeting	18/01/2022
FOI Status	Open/Public
If closed please indicate reason	Not Applicable - Public Report
Prepared by	Dr Richard Jones
Presented by	Dr Dom Hurford, Interim Medical Director
Approving Executive Sponsor	Executive Medical Director
Report purpose	FOR NOTING

Engagement (internal/external) undertaken to date (including receipt/consideration at Committee/group)		
Committee/Group/Individuals	**Date**	**Outcome**
RADAR committee	(06/11/2021)	NOTED
Executive Leadership Group	(04/01/2022)	APPROVED

ACRONYMS	
RADAR	Recognition of Acute Deterioration and Resuscitation
NEWS	National Early Warning Score

SITUATION/BACKGROUND

1.1 The purpose of this report is to provide Quality and Safety Committee with an overview of governance and activity across CTMUHB in relation to the recognition, escalation and early treatment of Sepsis.

1.2 Sepsis is one of the leading causes of Acute Deterioration and therefore our response to the acutely deteriorating patient has Sepsis at its core.

1.3 The attached report describes the CTMUHB approach to Acute Deterioration with Reference to:

- The governance infrastructure in place for our Acute Deterioration programme.
- The Acute Deterioration work plan with a focus on sepsis.
- Compliance with the Welsh Government Sepsis Guidelines (2017) and the monthly requirement to provide them with Sepsis Metrics.

SPECIFIC MATTERS FOR CONSIDERATION BY THIS MEETING (ASSESSMENT)

To note the Governance and quality response;

2.1 Structures

2.1.1 The improvement in CTMUHB governance arrangements since 2019 with the formation of the Recognition of Acute Deterioration and Resuscitation Committee (RADAR) and ILG sub-RADAR subgroups.

2.1.2 Recognition of the impact and progress made with Acute Deterioration (AD) programme through the appointment of a Clinical Lead (medical) and an AD Lead (nursing).

2.1.3 The essential role of the Critical Care outreach team and the progress made towards establishing 24/7 service equity on all the acute sites across CTMUHB.

2.2 Acute Deterioration Processes

2.2.1 Updating and embedding NEWS Cymru to have a structured and unified approach across CTMUHB in all clinical areas to allow rapid objective detection of deterioration.

2.2.2 Awareness of our NEWS and Escalation Procedure that provides best practice guidance to health care professionals in determining and identifying patients within our care who are at risk of becoming unwell or presenting with abnormal physiological status.

2.2.3 The current use of a Sepsis Screening tool and the Sepsis improvement workplan, Sepsis Working group and proposed sepsis screening tool (appendix 1 of attached position report).

2.3 Outcomes and assurances

2.3.1 The establishment of audit and feedback processes to monitor and improve performance eg NEWS Cymru compliance audit, analysis of rapid response and cardiac arrest calls to monitor effectiveness

of identification, escalation, and response to acute deterioration within CTMUHB

2.3.2 Standardisation of rapid response emergency call throughout CTMUHB.

2.3.3 Progress with the establishment of 24/7 Critical Care Outreach (CCOT) services on each acute site. Services are now 24/7 at RGH and POW. PCH is currently at 12/7 service which is anticipated to become 24/7 following the induction of newly recruited staff by March 2022.

2.3.4 Establishment of CCOT standard operating procedures.

2.3.5 Compliance status with Welsh Government Sepsis Guidelines 2017.

3 KEY RISKS/MATTERS FOR ESCALATION TO BOARD/COMMITTEE

3.1 Structural

3.1.1 Recurrent funding needs to be identified for Acute Deterioration and Resuscitation Medical and Nursing leads.

3.1.2 Critical Care Outreach teams being pulled/redeployed to cover other areas impacting on

- clinical rapid response to the acutely deteriorating patient and severe sepsis.
- education and training for Sepsis+ NEWS Cymru,
- measurement/audit of sepsis compliance.

3.1.3 Lack of accommodation for training in NEWS, Acute Deterioration, Sepsis, Rapid Response and resuscitation

3.1.4 Ongoing administration support for ILG RADAR meetings.

3.2 Process/Outcome

3.2.1 Pace of progress limited by the current resource for acute deterioration.

3.2.2 Implementation barriers as staff not being able to attend training due to current workplace pressures

3.2.3 Barrier to compliance due to clinical pressures - 80% of suspected sepsis cases are located in our Emergency departments and Admission Units. Pressures in these areas make timely delivery of care and documentation of care a challenge

3.2.4 Need for IT infrastructure support to create a digital NEWS and Sepsis tool

3.2.5 Inability of clinical teams to visualise data collected around compliance. Need for Performance and Informatics resource / time to develop a real-time dashboard for frontline staff, senior clinicians and governance groups.

3.2.6 Need for Communications support to promote implementation, engage all staff groups and to advertise good practice.

4 IMPACT ASSESSMENT

Quality/Safety/Patient Experience implications	Yes (Please see detail below)
Related Health and Care standard(s)	Timely Care
	If more than one Healthcare Standard applies please list below:
Equality Impact Assessment (EIA) completed - Please note EIAs are required for <u>all</u> new, changed or withdrawn policies and services.	No (Include further detail below) Not applicable
Legal implications / impact	There are no specific legal implications related to the activity outlined in this report.
Resource (Capital/Revenue £/Workforce) implications / Impact	There is no direct impact on resources as a result of the activity outlined in this report.
Link to Strategic Goals	Improving Health

5 RECOMMENDATION

That Quality & Safety Committee

- **NOTE** the content of this report.
- **RECOGNISE** the role of a RADAR Clinical Lead and an Acute Deterioration Lead to rive improvement in this area.
- **RECOGNISE** the essential role that the Critical care outreach teams have in both the response to acute deterioration and the education of others.

CTMUHB Sepsis Position Update
December 2021.

Purpose

The purpose of this report is to provide Quality and Safety committee with an overview of governance and activity across CTMUHB in relation to the recognition, escalation and early treatment of Sepsis.

Situation

Sepsis is a complication of infection in which a dysregulated host response is associated with organ dysfunction and increased risk of death.
It is estimated that there are in the region of 5000 'suspected sepsis' admissions per year in Wales, with a mortality of 7.2%.
Early recognition and response to Sepsis improves outcome.

Sepsis is one of the leading causes of Acute Deterioration and therefore our response to the acutely deteriorating patient has Sepsis at its core.

This report describes the CTMUHB approach to Acute Deterioration and Sepsis with reference to:

- The governance infrastructure in place for our Acute Deterioration programme.
- The Acute Deterioration work plan with a focus on sepsis.
- Compliance with the Welsh Government Sepsis Guidelines (2017) and the monthly requirement to provide them with Sepsis Metrics.

Background

In 2019 CTMUHB received a Peer Review of Acute Deterioration Services report (Ref 1) with a set of recommendations regarding areas for improvement.
The Peer review of Acute Deterioration Services is both a quality assurance and quality improvement programme that assesses the quality of the service being delivered by multi-disciplinary teams and local health boards in Wales. This assessment is set against a framework of local and national guidelines, Patient Safety Alerts and the overall Health and Care Standards for Wales and is underpinned by the principles of Prudent Healthcare.
Sepsis is a specific area of focus of the Acute Deterioration programme.

Also in 2019, the former CTUHB commissioned an external review of Resuscitation Services (Ref 2), where it was noted that governance arrangements regarding the Resuscitation Committee needed to be more robust.

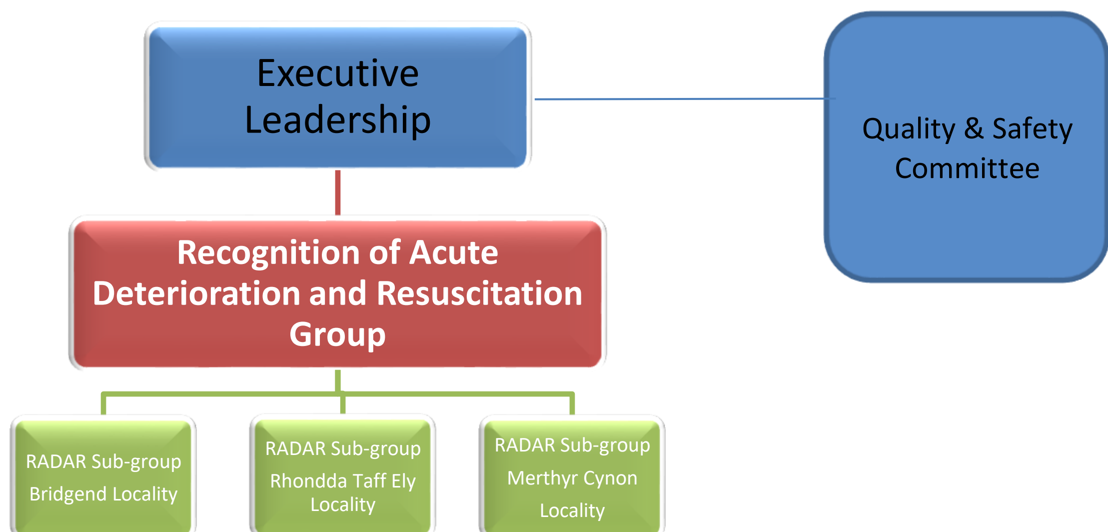
The review team felt that the service should focus more on identifying the organisation's training requirements in relation to the deteriorating patient.

Governance and Quality Response

1. **Structures**
2. **Acute Deterioration Processes**
3. **Outcomes and assurance**

1.1 RADAR

In response to recommendations from both reviews, and practice in other health boards, a new CTMUHB governance infra-structure was created in bringing together resuscitation and acute deterioration (including sepsis) under the consideration of one committee – Recognition of Acute Deterioration and Resuscitation (RADAR) (Ref 3).



Sepsis is a key area of focus of the work plan for this committee.

Two key clinical appointments have been made to lead, direct and co-ordinate RADAR activity:

- Medical Clinical Lead x 2 sessions/ week.
- Acute Deterioration Lead Nurse WTE Band 8A. (*key recommendation from Peer Review (1))

These posts are currently funded on a fixed term basis until March 2022. They are funded jointly by the ILGs who have all indicated their support for 2022-2023, however the funding will be included in their recurring overspends.

1.2 Critical Care Outreach Service

In order to provide a 24-hr response to acute deterioration the Critical Care Outreach teams have been expanded

Current Outreach establishment

- Princess of Wales Hospital 7WTE (2x band 7,5x band 6)24/7
- Royal Glamorgan Hospital 7WTE (5x band 7,2x band 6)24/7
- Prince Charles Hospital 7WTE (1xband 7, 6x band 6) 12/7*

The expansion of the teams allows critical care outreach presence at all rapid response calls. The establishment of 7 WTE per site allows for a vital teaching role to be included, which supports the provision of training on acute deterioration, NEWS, sepsis and acute kidney injury (AKI).

2 Acute Deterioration Processes

2.1 NEWS Guidance

The focus of work is to have a structured and unified approach across Cwm Taf Morgannwg University Health board (CTMUHB) in the areas set out in the Welsh Government (WG) Task and Finish group report on provision of critical care outreach services in Wales (Ref 4), and compliance with Welsh Government Sepsis (2017) guidelines (ref 5) including the use of the National Early Warning Score (*NEWS*) in all clinical areas to allow rapid objective detection of deterioration.

As a direct result of the work led by the Clinical Lead and the Acute deterioration lead posts, NEWS charts have been updated in alignment with NEWS2 principles and rolled out as 'NEWS Cymru' charts (ref 7) standardised across all acute and community hospitals in CTMUHB. Specific education and training to support the standardisation has been provided to all staff and incorporated into existing training programmes e.g. Health care support worker induction training and our resuscitation training programmes.

2.2 NEWS and Escalation Procedure

This clinical procedure has been produced to provide Cwm Taf Morgannwg University Health Board (CTMUHB) best practice guidance to health care professionals in determining and identifying patients within our care who are at risk of becoming unwell or presenting with abnormal physiological status.

The procedure specifically provides a framework through which doctors, registered nurses, healthcare assistants and allied healthcare professionals are informed of their responsibilities in relation to: -

- the minimum standards for monitoring patient's physiological observations
- recording and communicating the results of the monitoring of such physiological observations
- the minimum actions and referral route that must be taken in accordance with the NEWS scoring system

2.3 Sepsis Screening Tool

Suspicion of infection PLUS a NEWS score of 3 or more should lead to a patient being screened for sepsis using a sepsis-screening tool.
Screening tools are used to help clinicians make a judgement on a likely diagnosis at the bedside in a timely manner. Waiting many hours for microbiological confirmation is obviously not an option.
There are several tools used for screening a patient for Sepsis. They have varying sensitivities and specificities and no individual tool is ideal.
Tools that are too sensitive over-estimate the likelihood of sepsis and lead to many people being over-treated with antibiotics and fluids. This in itself is harmful but added to this is the risk that treating a non-septic patient as septic leads to the true diagnosis being missed e.g.: heart failure, pancreatitis etc.
Tools that are too specific under-estimate the likelihood of sepsis leading to patients not receiving essential, early antibiotics.
Tools that are overly complicated are difficult for staff to follow and are not practical in most clinical situations as presenting cases seldom conform to rigid protocols.

Up to now in CTMUHB we have used the Triple Trigger tool (ref 8) where a combination of NEWS≥3, Suspicion of infection and 2 out of 4 SIRS criteria gives a positive likelihood of sepsis. (SIRS =Systemic inflammatory response syndrome.)
Our historical tool fits these recommendations however using SIRS criteria to screen for sepsis has long been considered an unspecific means of screening. E.g: SIRS criteria such as tachycardia and an increased respiratory rate can be seen in many other clinical syndromes.

NICE has produced an extensive clinical guideline covering all age ranges and clinical settings with some complex treatment algorithms based on whether patients are stratified into high, moderate, or low risk of sepsis.(ref 9)

Current work is considering a move to an algorithm like the NICE one and take on board the recent Surviving Sepsis Campaign recommendation to categorize patients as Probable, Possible or Low risk of sepsis.

2.4 Welsh Government Reporting

Welsh Government requires the reporting of defined sepsis metrics to be used for quality improvement purposes.

Data is requested on patients from the Emergency Department and from Inpatients.

- number of those who test positive to sepsis screening
- number of those who had the Sepsis6 treatment bundle within 1 hour.
- how many of those tested positive to sepsis screening but then went on to NOT have a diagnosis of sepsis. I.e., false positive cases.

It is important to know these false positive cases as it tells us which patients were treated 'inappropriately' with the Sepsis6 bundle. (The number is thought to be around the 4% mark).

The data is available for the individual ILGs and the UHB combined.
Our Outreach team fill in and collect the forms and place them on a database. The Outreach teach are usually the only ones who, when called to a sick patient, fill in the forms.
We consequently potentially miss a number of cases that should be screened for sepsis (it is estimated we are only screening 25% of the total).

3 Outcomes / Assurance

3.1

- A NEWS Cymru audit has been developed and standardised for use within the secondary and community sites. The compliance data is circulated to each ward manager and senior nurses with actions to improve poor compliance.
- Critical Care Outreach (CCOT) Standard Operating Procedure (ref 6) has been developed to standardise operational arrangements for the CCOT services within Cwm Taf Morgannwg University Health Board and ensure the efficient and appropriate use of the team.
- Standardised competencies for outreach teams have been defined.

- RADAR has received assurance that the critical care outreach workforce has been increased to 7 WTE on each site so that the response to acute deterioration is currently 24/7 at RGH and POW and will be in place from March 2022 in PCH* following induction of newly recruited staff, complying with Welsh Government recommendations.
- Standardisation of a rapid response emergency call throughout CTMUHB.
- Audit development to analyse the rapid response emergency and cardiac arrest calls and provide information that will monitor effectiveness of identification, escalation, and response to acute deterioration within CTMUHB

3.2 Compliance with Welsh Government Sepsis Guidelines 2017 (ref 5)

WG sepsis guideline	CTMUHB status
NEWS should be used as the standard early warning score in all adult patients.	compliant
A NEWS of ≥3 plus the suspicion of infection should trigger the use of a sepsis screening tool.	This is an integral part of the new Health Board Sepsis Screening tool
A NEWS of ≥6 plus the suspicion of infection should prompt immediate senior medical review and the delivery of the Sepsis6 bundle.	This is an integral part of the new Health Board Sepsis Screening tool
All elements of the Sepsis6 bundle should be delivered within 1 hour of a positive screening for sepsis unless there is a valid reason to do otherwise	This is an integral part of the response to a positive sepsis screen and is the main process measure that we aspire to.
The use of screening and diagnostic tools should never replace the application of appropriate and timely clinical judgment	This is emphasized on our NEWS observation charts and our Sepsis Screening tool.

1. Work is now focused on standardization of the Sepsis Pathway and a Sepsis Improvement Work plan is underway (appendix 1)

Risks

Structural

- Recurrent funding needs to be identified for Acute Deterioration and Resuscitation Medical and Nursing leads.
- Critical Care Outreach teams being pulled/ redeployed to cover other areas impacting on
    - clinical rapid response to the acutely deteriorating patient and severe sepsis.
    - education and training for Sepsis+ NEWS Cymru,
    - measurement/audit of sepsis compliance
- Lack of accommodation for training in NEWS, Acute Deterioration, Sepsis, Rapid Response, and resuscitation
- Ongoing administration support for ILG RADAR meetings.

Process/Outcome

- Pace of progress limited by the current resource for acute deterioration.
- Implementation barriers as staff not being able to attend training due to current workplace pressures
- Barrier to compliance due to clinical pressures
- Need for IT infrastructure to create a digital NEWS and Sepsis tool
- Inability of clinical teams to visualise data collected around compliance. Need for Performance and Informatics resource / time to develop a real-time dashboard for frontline staff, senior clinicians and governance groups.
- Need for Communications support to promote implementation, engage all staff groups and to advertise good practice.

Recommendations to each of the risks above

- Quality & Safety Committee **NOTE** the content of this report.

Refs
Appendix 1 – Sepsis workplan
Appendix 2 – Sepsis working group TOR

"A number of reference documents as referred to on page 13 have been saved in the documents folder on Admincontrol for this meeting. This

supporting information provides the reader with evidence for what is being asserted and to explain areas in more detail should they need it. If you do not have access to Admincontrol please contact the author of the paper or the meeting secretariat".

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References:

1	CTUHB Peer review report:	2	Resuscitation Services review
3	RADAR TOR	4	WG critical care rpt
5	WG sepsis guidelines	6	CCOT SOP
7	NEWS chart	*8*	Example of Triple Trigger tool:
9	NICE CG51 Guideline extract:	*10*	Example of a Sepsis return to Welsh Government:
11 Surviving Sepsis campaign ref https://journals.lww.com/ccmjournal/Fulltext/2021/11000/Surviving_Sepsis_Campaign__International.21.aspx			

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Appendix 1:Sepsis Improvement workplan

CTM UHB Sepsis Improvement Plan (PHASE 1)										
SUBJECT	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Standard Operating Procedure	1	2	3	4	5	6	7	8	9	10
Draft Sepsis Standard Operating Procedure										
Working Group										
Develop a sepsis working group										
Invite a nursing /medical represenative from each ILG										
Set frequency of meetings										
Decide TOR										
Establish sepsis links										
Sepsis Tool										
Review sepsis tools , UK sepsis trust/NICE/ SIRS										
Decide on changes										
Draft sepsis tool										
Agree draft						Trial Period				
Printing of Sepsis tool										
Trial of Sepsis Chart						JAN 10 22				
Communication										
Circulate sepsis tool to ILG RADAR for comment										
Consultation with wider LHB clinicians, posters, bulletins										
Circulate sepsis tool to RADAR committee for comment										
Improvement plan submitted to Quality and Safety committee										
Audit										
Discuss sepsis audit requirements										
Draft audit proforma										
Collaborate with audit team to upload to AMaT										
Test audit										
Education										
Identify education leads within each ILG as a train the trainer approach										
Identify trainers within Emergency Deaprtments and admission units										
Standardsie a presentation with audio										
Scope education requiremnets for CTM										
start education as train the trainer										
Evaluation of trial										
Evaluate trial								Evaluation		
Feedback Results										
Make changes										
Procurement										
Cost Sepsis tool										