Date: 14 July 2017

Dear Colleague,

The purpose of this letter is to communicate the recommended approach in Wales for the **identification and management of adults with sepsis**. This follows consultation with and requests for guidance from representatives from Health Boards, Welsh Government and professional bodies in response to recent guidance and changes in terminology\(^1,2\).

Sepsis remains the number one preventable cause of death in hospital, estimated to be responsible for the deaths of 2200 people in Wales each year. It is defined as “life-threatening organ dysfunction caused by a dysregulated host response to infection.”\(^1\)

Wales has been a global leader for the recognition of sepsis in hospital through the work of the 1000 Lives Improvement Rapid Response to Acute Illness (RRAILS) programme and steering group. This group continues to co-ordinate the national approach to the deteriorating patient in Wales.

In Wales we have standardised the recognition of deterioration with the introduction of the National Early Warning Score (NEWS). Our screening of sepsis has up to now been via an all-Wales standardised ‘triple trigger’ tool triggering at a NEWS of ≥3 together with the presence of 2 SIRS criteria and suspicion of a new infection\(^3\). Since we introduced this tool in 2013 we have seen a reduction in sepsis mortality by approximately 20% across Wales.\(^4\)

The RRAILS group now promotes the monthly reporting of defined sepsis metrics to Welsh Government by all organisations to be used for quality improvement purposes. The group has also established an **All-Wales Peer Review** to evaluate structures, processes and outcomes relating to acute clinical deterioration in every Health Board and Trust in Wales.

**The Third International Consensus (Sepsis-3) definitions\(^1\)**

These definitions focus on the more reliable *diagnosis of organ dysfunction* in patients with sepsis using a tool called SOFA (Sequential Organ Failure Assessment).

While we agree SOFA is the most reliable *diagnostic* tool we suspect that it would be a challenge to use as a bedside *screening* tool and so are not currently recommending its widespread use.

Furthermore, it is increasingly recognised in the literature\(^5\), as well as in the ongoing comparative analysis occurring in Wales, that the new bedside tool qSOFA (quick SOFA) may not be sensitive enough to use for *screening* purposes. We therefore await further validation on qSOFA before recommending its use as a *screening* tool for sepsis.

**The NICE Sepsis Guidelines (NG51)\(^2\)**

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.
We believe that Health Boards in Wales who use the well established ‘triple trigger’ screening tool and the Sepsis6 treatment bundle can be assured they do follow the ‘high risk’ pathway of the NICE algorithm. Health Boards using other sepsis screening tools will have to consider and determine whether they can be similarly assured.

We believe, along with a substantial proportion of our colleagues in NHS England\(^6\), that implementation of the ‘moderate risk’ pathway of the algorithm will be a major challenge in most healthcare settings in Wales. A potential solution to this will be a move to electronic patient records and observations in which the diagnostic algorithms are largely automated.

We welcome the incorporation in NICE guidance of acute deterioration in both the primary care setting and the paediatric patient and the RRAILS programme will set up Paediatric and Primary Care work streams to take this forward in Wales.

The Draft NICE Quality standards\(^7\)

Statement 1: People with suspected sepsis are assessed to stratify risk of severe illness or death using a structured set of observations. This standard can be met in Wales by using NEWS.

Statement 2: People with suspected sepsis in acute hospital settings and at least 1 criteria indicating high risk of severe illness or death are reviewed by a senior clinical decision-maker within 1 hour of risk being identified. This can be met in Wales by using NEWS and a sepsis screening tool.

Statement 3: People with suspected sepsis in acute hospital settings and at least 1 criteria indicating high risk of severe illness or death have antibiotic treatment within 1 hour of risk being identified. We agree that antibiotics, part of the Sepsis6 bundle, should be given within 1 hour.

Statement 4: People with suspected sepsis in acute hospital settings, at least 1 criteria indicating high risk of severe illness or death, and with lactate over 2 mmol/litre, have an intravenous fluid bolus within 1 hour of risk being identified. This also is part of the delivery of the Sepsis6 within 1 hour.

Statement 5: People who have been seen by a healthcare professional and assessed as at low risk of sepsis are given information about symptoms to monitor and how to access medical care. We agree that this constitutes good care.

Our recommendations for NHS Wales are:

- NEWS should continue to be used as the standard early warning score in all adult patients.
- A NEWS of 3 plus the suspicion of infection should trigger the use of a 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.
- 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.
- The use of screening and diagnostic tools should never replace the application of appropriate and timely clinical judgment.

On behalf of the RRAILS group:

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Mr Chris Hancock, Programme Lead
References


5. qSOFA, SIRS, and Early Warning Scores for Detecting Clinical Deterioration in Infected Patients Outside the ICU. (20 Sept 2016) Churpek et al Am J Respir Crit Care Med.
