

## Analysis Method Notice

# Percentage Compliance with RRAILS Sepsis Six Bundle Delivered within One Hour (Interim Data Source)

This notice describes an Analysis Method that has been developed for use in the production of published national outcome indicators, performance measures and/or currencies, which are derived directly from NHS Wales data.

The Analysis Method has been reviewed by the Analysis Methodologies Group and its output submitted to the Welsh Information Standards Board (WISB) for potential accreditation.

*It should be noted that, where the data flow on which the analysis is being undertaken has not been reviewed by WISB (see 'Status of WISB Data Standards Assurance' below), accreditation of the analysis method **cannot** be interpreted as an approval of the underlying data standards or the quality of the data used.*

*It is recognised that formal review and/or assurance of the data flow may have been undertaken by other bodies, where those data are being formally published; for example, as 'Official Statistics'. In such circumstances, users of this method are advised to contact the relevant organisations should they require further information on the underlying quality of the specified data source.*

For further details about the group, including Terms of Reference and membership, please visit the following website:

<http://howis.wales.nhs.uk/sites3/page.cfm?orgid=742&pid=56696>

**WISB Reference:** ISRN 2018 / 004

Please address enquiries about this Analysis Method the NHS Wales Informatics Service Data Standards Team.

E-mail: [data.standards@wales.nhs.uk](mailto:data.standards@wales.nhs.uk) / Tel: 029 2050 2539

<b>WISB Analysis Method Appraisal Assessment</b>	<p><b>Accredited</b> This Analysis Method has been appraised by WISB and is felt to:</p> <ul style="list-style-type: none"> <li>• Meet the specified indicator requirement, in that it is suitable for its calculation / derivation;</li> <li>• Is reproducible by organisations, where appropriate.</li> </ul>
<b>WISB Analysis Method Appraisal Outcome(s)</b>	

<b>Status of Data Standards Assurance</b>	<p><b>WISB Reviewed</b> The data used in this Analysis Method are based on data item standards that have been through the Information Standards Assurance Process.</p>
<b>WISB Decision</b>	<p><b>Approved</b></p>
<b>Data Standards Assurance Outcome(s)</b>	

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**Indicator**

Two separate indicators to be reported:

1. Percentage of in-patients with a positive sepsis screening who have received all elements of the 'Sepsis Six' first hour care bundle within one hour of positive screening
2. Percentage of patients who presented to the Emergency Department with a positive sepsis screening who have received all elements of the 'Sepsis Six' first hour care bundle within one hour of positive screening

**Target:**

12 month improvement trend

(Improvement to be measured against each individual health board's own performance)

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**Rationale / Context**

Sepsis is a life threatening condition and is one of the most common, least recognised illnesses in the developed world. NHS Wales organisations have introduced a number of initiatives to reduce hospital mortality, incidence of severe sepsis, the utilisation of critical care resources and organisational costs:

- Adoption on the National Early Warning System (NEWS) and standardised sepsis screening tool which enables hospital staff to assess whether patients are developing potentially life threatening illnesses, meaning that treatment can be given much earlier.
- Patients are being treated with the Sepsis Six care bundle.
- 1000 Lives Plus Rapid Response to Acute Illness (RRAILS) Programme which ensures systems for identifying, escalating and responding to the acute deterioration in patient conditions associated with sepsis.

This measure relates to the compliance with the Sepsis Six Care Bundle which supports the rapid delivery of basic aspects of treatment and care to reduce mortality and increase survival.

Complies with recommendations of:

- NCEPOD 'Just Say Sepsis' study (2015)
- Welsh Government Patient Safety Alert 'The Prompt Recognitions and Initiation of Treatment for Sepsis in All Patients' (2014)
- NICE Clinical Guidance 50 (2007)

Relates to the 1000 Lives Improvement Campaign:

<http://www.1000livesplus.wales.nhs.uk/home>

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**Data Source(s)**

Welsh Government's 'Compliance with Sepsis Six Bundle within 1 Hour' data monitoring return

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**Definitions:****Definitional Guidance:****Data Items:**

n/a

## **Terms:**

n/a

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## **Detailed Specification**

The Welsh definition of positive sepsis screening is NEWS => 3 PLUS 2 or more SIRS criteria PLUS suspicion of infection.

Numerator: Patients who have received all of the elements of the 'Sepsis Six' first hour care bundle within one hour of positive sepsis screening. These elements are:

1. Oxygen: High flow 15 L/min via non-rebreathe mask. Target saturation > 94%
2. Blood Cultures: Take at least one set plus all relevant blood tests e.g. FBC, U&E, LFT, clotting, glucose. Consider urine/ sputum/ swab samples
3. IV Antibiotics: As per Health Board guidance
4. Fluid Resuscitate: If hypotensive give boluses of 0.9% saline or Hartmann's 20 ml/kg up to max of 60 ml/kg
5. Serum lactate: and Hb: ABG. Ensure Hb>7g/dl
6. Commence fluid balance/consider catheterisation

All of these elements are to be completed within one hour (59 minutes, 59 seconds) following a positive screening.

Denominator: All patients who screen positive for sepsis following the use of a screening tool based upon the all Wales definition.

In-patients and patients who presented via Emergency Department are to be reported separately.

- Patients are to be reported under the heading of either in-patient or emergency department based upon where the positive assessment was made.
- In-patients are all patients not admitted electively and any patients admitted electively with the intention of staying in hospital for at least one night (this is also referred to as ordinary admissions). It includes: those admitted with this intention that leave hospital for any reason without staying overnight and; those admitted with the intention of leaving hospital the same day but who for any reason stay overnight (Data Dictionary).
- In-patients excludes patients currently in critical care beds.
- Patients who presented via the Emergency Department includes all emergencies that are not a direct admission. Therefore, it includes admission to an Accident & Emergency, Minor Injuries Unit, Medical Assessment Units, etc. Note: Due to variation across health boards, a Medical Assessment Unit is defined by the type of care it provides and not by its location (for instance some Medical Assessment Units are in APC whilst other are in A&E).

Data is to be reported by provider. It will be presented on an all Wales basis and at a health board level. Data will NOT be used to make organisational comparisons.

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## **Calculation:**

### **Numerator**

1. The number of in-patients who have received all elements of the 'Sepsis Six' first hour care bundle within one hour of positive sepsis screening. Compliance may be recorded for elements not delivered providing the rationale for non-delivery is documented and valid.
2. The number of patients who presented to the Emergency Department who have received all elements of the 'Sepsis Six' first hour care bundle within one hour of positive sepsis screening.

Compliance may be recorded for elements not delivered providing the rationale for non-delivery is documented and valid.

**Denominator**

1. The number of in-patients who screen positive for sepsis.
  2. The number of patients who presented to the Emergency Department who screen positive for sepsis
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**Reporting Format / Frequency**

Reporting Frequency	Monthly
Time Delay of Reported Data?	Data to be reported by health boards by 10 working days after the month end or 14 <sup>th</sup> of the following calendar month.

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**Discussion Points / Areas for Future Development**

*This section details any areas the Analysis Methodologies Group felt needed further consideration / review by the 'owner' of the method.*

08.02.17 - Analysis Methodologies Group requested clarification on whether an emergency patient who gets admitted straight away, gets reported in the emergency count or the in-patient count.

17.02.17 - The Rapid response to Acute Illness Learning Set (RRAILS) Lead confirmed that it is unlikely that any patient will be admitted so quickly that they will not be picked up in the ED. Therefore this should not present any difficulties.

**Appendix A – Additional Information:** Reporting Template – Compliance with sepsis six bundle within one hour

<b>Reporting Schedule</b>	<b>Monthly</b>
<b>Health Board</b>	
<b>Date of Report</b>	
<b>Completed By</b>	
<b>Contact Number</b>	
<b>E-mail Address</b>	

**Reporting Template:** The percentage of patients with a positive screening for sepsis in both inpatients and emergency A&E who have received all 6 elements of the 'sepsis six' bundle within 1 hour.

**Submission Date:** 10 working days after month end or 14th of the following month.

**Return form to:** [hss.performance@wales.gsi.gov.uk](mailto:hss.performance@wales.gsi.gov.uk)

**To Note:** This is an improvement measure with no target. Delivery will be measured on monthly improvement against each individual health board's own performance. It is inappropriate to compare delivery across health boards until a national system is fully embedded.

<b>Inpatients (excluding patients currently in critical care beds)</b>	<b>April 2016</b>	<b>May 2016</b>	<b>June 2016</b>	<b>July 2016</b>	<b>Aug 2016</b>	<b>Sept 2016</b>	<b>Oct 2016</b>	<b>Nov 2016</b>	<b>Dec 2016</b>	<b>Jan 2017</b>	<b>Feb 2017</b>	<b>Mar 2017</b>	<b>Total</b>
<b>The number of patients identified as positive to sepsis screening requiring a new response in a 24 hour period</b>													<b>0</b>
<b>Number who received all six elements of the sepsis bundle within 1 hour</b>													<b>0</b>
<b>% compliance</b>													
<b>Number of patients who received a positive screening for sepsis but did not receive a diagnosis of sepsis</b>													<b>0</b>

<b>Emergency</b>	<b>April 2016</b>	<b>May 2016</b>	<b>June 2016</b>	<b>July 2016</b>	<b>Aug 2016</b>	<b>Sept 2016</b>	<b>Oct 2016</b>	<b>Nov 2016</b>	<b>Dec 2016</b>	<b>Jan 2017</b>	<b>Feb 2017</b>	<b>Mar 2017</b>	<b>Total</b>
<b>The number of patients identified as positive to sepsis screening requiring a new response in a 24 hour period</b>													<b>0</b>
<b>Number who received all six elements of the sepsis bundle within 1 hour</b>													<b>0</b>
<b>% compliance</b>													
<b>Number of patients who received a positive screening for sepsis but did not receive a diagnosis of sepsis</b>													<b>0</b>

**Appendix B – SQL Code** (where applicable)

n/a