Briefing for the Public Petitions Committee

**Petition Number:** PE1621

**Main Petitioner:** James Robertson

**Subject:** Sepsis Awareness, Diagnosis and Treatment

Calls on the Parliament to urge the Scottish Government to raise the awareness of Scottish Health Professionals and public of the early signs of Sepsis.

### Background

Sepsis is a life threatening condition that arises when the body’s response to an infection injures its own tissues and organs. Sepsis can lead to shock, multiple organ failure and death ([UK Sepsis trust](https://www.uksepsistrust.org/)).

- **Sepsis:** is a life-threatening organ dysfunction caused by a deregulated host response to infection.

- **Septic shock:** is a subset of sepsis in which underlying circulatory and cellular/metabolic abnormalities are profound enough to substantially increase mortality.

- A number of terms used to refer to sepsis such as sepsis syndrome have become redundant over time and others, such as septicemia, are considered to be overly narrow.

  Source: [Third International Consensus Definitions for Sepsis and Septic Shock](https://www.annalsofals.com/article/S0959-813X(01)00517-9/abstract)

### Prevalence

The [UK Sepsis Trust](https://www.uksepsistrust.org/) estimates that there are are 150,000 cases of sepsis in the UK each year which results in 44,000 deaths. The [Cross-system Sepsis Programme Board](https://www.crosssystemsepsisboard.scotnhsft.scotnhsft.scot/) puts this estimate at 102,000 people developing sepsis each year, with around 36,800 deaths as a result.

ISD Scotland does not routinely publish data on the number of sepsis cases in Scotland.

The International Statistical Classification of Diseases and Related Health Problems (ICD-10) is a detailed index of diseases and injuries that is
developed and released by the World Health Organisation\(^1\). As it is a classification of diseases, sepsis (which is an infection) does not sit in one category but potentially in over 300 codes. Simply looking at cases of septicaemia would potentially give a large undercount of the condition\(^2\).

In Scotland, streptococcal septicaemia and other septicaemia accounted for 397 deaths in 2015\(^3\).

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<tbody>
<tr>
<td>Streptococcal septicaemia</td>
<td>15</td>
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<td>20</td>
<td>15</td>
<td>8</td>
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<tr>
<td>Other septicaemia</td>
<td>382</td>
<td>405</td>
<td>407</td>
<td>366</td>
<td>435</td>
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Source: National Records of Scotland (NRS) - Vital Events - Deaths.

**Guidelines**

The [Scottish Intercollegiate Guidelines Network](https://www.sign.ac.uk) (SIGN) develops evidence based clinical practice guidelines for the NHS in Scotland. Sepsis is referred to in SIGN guideline 139 *Care of deteriorating patients*. It notes that people who screen positively for sepsis should be started on the Sepsis Six care pathway, unless their treatment plan indicates otherwise\(^4\).

Sepsis is covered in more depth in the National Institute for Health and Care Excellence (NICE) guidance 51, *Sepsis: recognition, diagnosis and early management*, which was published in July 2016. This covers the recognition, diagnosis and early management of sepsis for all populations. It focuses on identifying people with suspected sepsis, risk factors for sepsis, management and treatment of sepsis and training and education. NICE clinical guidelines have no formal status in Scotland, though they may be referred to NHS Boards for information.

**Recent Developments**

The [Scottish Patient Safety Programme](https://www.scottishpatient-safety.org.uk) (SPSP) is a national initiative that aims to improve the safety and reliability of healthcare and reduce harm. Sepsis is a core work stream of SPSP. The National Clinical Lead for SPSP has stated:

“*The work undertaken by clinical and improvement teams in NHS Scotland has supported a measurable improvement in outcomes for*

\(^1\) ISD Scotland. *Coding & Terminology Systems*.
\(^2\) ISD Scotland. Personal correspondence.
\(^3\) As discussed above looking at incidence of septicaemia could result in an underestimation of cases of sepsis.
\(^4\) The management of sepsis after admission to hospital usually involves three treatments and three tests, known as the “sepsis six”. These should be initiated by the medical team within an hour of diagnosis ([NHS Choices](https://www.nhs.uk/conditions/sepsis-what-is-it)).
patients with latest data demonstrating a 20% relative risk reduction in mortality from sepsis across Scotland’s acute hospitals. This significant achievement is underpinned by widespread uptake of the National Early Warning Scoring (NEWS) as a means to identify deteriorating patients.\(^{5}\)

In 2014, a National Early Warning Scoring System (NEWS) calculator and Sepsis Screening Tool app was launched in collaboration with the Scottish Patient Safety Programme.\(^{6}\)

The SPSP ran a sepsis and venous thromboembolism (VTE) collaborative from January 2012 to December 2014. The collaborative included all regional NHS boards, the National Waiting Times Centre and the Scottish Ambulance Service. The overall aims of the programme were to optimise patient care, and reduce harm and mortality. Local teams were tasked with implementing sustainable improvement in pilot wards, then initiating the wider spread of improvement.\(^{7}\) An evaluation of the collaborative reported that it helped raise awareness and promote improvement in sepsis and VTE across Scotland. The challenges faced by sites on the ground in their improvement work on sepsis and VTE were very different, and were not all amenable to improvement by local project teams.

Recently, a Primary Care Sepsis Collaborative has been established which hopes to provide the opportunity to develop, test and implement essential elements for prompt and reliable recognition and appropriate response to deteriorating patients in primary care. The collaborative will run from September 2016 to December 2017 and will involve NHS Highland, NHS Lothian, the Scottish Ambulance Service and NHS Greater Glasgow and Clyde.

A Sepsis Networking Day was held in Edinburgh on Friday 20th May 2016. At this meeting a set of Scottish recommendations were agreed (based on the Sepsis International Consensus Definitions Task Force revised definitions).

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\(^{5}\) Scottish Patient Safety Programme. *Statement regarding the new international consensus definition of sepsis*

\(^{6}\) NES (2014) *Introducing the NHSScotland NEWS and Sepsis Screening Tool app*

\(^{7}\) Evaluation of the Scottish Patient Safety Programme sepsis VTE collaborative: Short Report
1. The National Early Warning Score will continue to be the recommended method of identifying deteriorating patients, including those with sepsis.

2. Early Warning Scoring System trigger points for sepsis screening and management will continue to be locally defined. Screening for sepsis should be undertaken with the question – ‘could this deterioration be due to infection’.

3. Systemic Inflammatory Response (SIRS) criteria will continue to aid in the general diagnosis of infection.

4. The qSOFA criteria may be used as an adjunct to identify patients at increased risk of death.

In England, NHS England has formed a [Cross-system Sepsis Programme Board](#) which aims to take action to improve the identification, diagnosis and management of sepsis in children, young people and adults across the NHS.

The Programme Board was established to:

- Provide clinical expertise and advice on the current barriers and issues to driving quality improvement, and how these can be overcome
- Advise on the overall strategy required to drive improvement in the identification and treatment of sepsis
- Identify those areas in which efforts need to be targeted in the short, medium and long-term, making decisions and/or recommendations about those tools and levers needed to drive improvement in 2015/16, 2016/17, and beyond.

**Scottish Parliament Action**

A number of Scottish Parliament motions and questions have focused on sepsis, including:

**Motion S5M-01436: World Sepsis Awareness Day 2016**

That the Parliament notes that 13 September 2016 marked World Sepsis Awareness Day; understands that Sepsis is a life-threatening condition that arises when the body’s response to an infection injures its own tissues and organs, which can result from large infections, as well as small injuries such as cuts and bites; further understands that Sepsis leads to 44,000 deaths in the UK each year with around 2,000 of those in Scotland; considers that it is unacceptable that Sepsis is the biggest direct cause of death in UK pregnancies; acknowledges the importance of raising awareness of this illness as the UK Sepsis Trust recently revealed that one-in-three Britons have not heard about the condition and 45% of those polled could not offer an opinion on what Sepsis is, and calls for more attention and education on this condition.
Motion S4M-14301: Monklands Hospital Raises Sepsis Awareness

That the Parliament congratulates everyone at Monklands Hospital on what it considers its success in raising awareness of the condition, sepsis, on World Sepsis Day; understands that, every year, sepsis claims over 37,000 lives in the UK but that this can be greatly reduced by using the sepsis Six bundle, which has now been adopted at Monklands Hospital; understands that events on the day saw staff at the hospital raising awareness of sepsis treatment, and hopes that this will contribute to a significant reduction in sepsis-related deaths.

Question S4W-23866: Richard Simpson, Mid Scotland and Fife, Scottish Labour, Date Lodged: 07/01/2015

To ask the Scottish Government what percentage of sepsis patients in intensive care units receive antibiotics within one hour of diagnosis.

Answered by Shona Robison (20/01/2015):

This data is not collected nationally as part of the Scottish Intensive Care Audit.

Available data focuses on episodes of critical care, from interventions to outcome; please see our annual report which was published in August 2014 for more details http://www.sicsag.scot.nhs.uk/docs/SICSAG-report-2014-web.pdf?

Lizzy Burgess
SPICE
16 November 2016

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