

Sepsis, septicaemia, or blood poisoning is the body's response to an infection. It is estimated to kill more people than breast, bowel, and prostate cancer put together.<sup>1,2</sup> The Centre for Maternal and Child Enquiries (CMACE) found in 2011 sepsis to be the commonest direct cause of maternal death in the UK.<sup>3</sup> Not only is it the mortality associated with sepsis but the long-lasting effect on its survivors that has significant social and economic impact.<sup>2</sup>

Early recognition, and thus intervention has been accepted as being key to preventing deaths from sepsis.<sup>4</sup> This has been acknowledged in secondary care and over the past 10 years, sepsis care bundles<sup>5</sup> (a selected set of interventions that when delivered as a group are more effective than the individual components in treating sepsis), have been introduced alongside early warning scores (EWS). Sepsis has now even become a political topic with the health secretary, Jeremy Hunt, announcing in the press at the beginning of 2015, that the government wanted to tackle sepsis and make it as important to the NHS as *Clostridium difficile* and meticillin-resistant *Staphylococcus aureus*.<sup>1</sup> Plans from which included '... an audit of practice in every GP surgery in England by March 2015 and a new tool for GPs to diagnose sepsis'<sup>1</sup> in children <5 years old. This is in part a response to the Parliamentary and Health Service Ombudsman's report into the death of a 3-year-old boy in 2010, Sam Morrish.<sup>6</sup> This document highlighted the failure of both primary and secondary care to recognise this child's deterioration and the seriousness of his condition.

#### SECONDARY CARE INVESTMENT

Sam became unwell in the community and the families first point of contact was the GP practice, not secondary care, yet this is where the focus of action has lay. Secondary care bundles and care pathways have been developed and implemented with supporting teams of healthcare professionals such as intensivists, critical care outreach teams, and even sepsis nurses. This has been assisted by electronic monitoring of vital signs which alert staff when patients' vital signs trigger on the EWS, providing these teams with early detection of patients in a deteriorating state in order to facilitate early intervention and prevent significant harm or even death.

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With such huge investment in secondary care into this devastating condition the focus is now shifting to primary care. Community healthcare does not have many of the luxuries afforded to the hospital setting, which is more controlled with patient contact being over the course of hours and days rather than just minutes. GP and advanced nurse practitioner appointment times are 10 minutes on average in which time a thorough assessment must be carried out, not only of history but, essentially, of vital signs (not mere 'observations').

Vital signs are just that: vital. In a fit and healthy individual, blood pressure and pulse will often remain stable as the cardiovascular system is able to compensate.<sup>7</sup> Often the first vital sign that begins to change and allow this essential 'early detection' is the respiratory rate.<sup>7,8,9</sup> A complete set of vital signs, including ascertaining urine output is key to establishing how the patient is currently and how to best manage the condition.

Again, The Ombudsman findings in Sam Morrish's case highlighted this. It concluded that the decision making process should be founded upon evidence, documentation, and the implementation of National Guidelines.

#### LOOKING FORWARD

The subject of sepsis has now been included in annual 'Hot topic' updates for GPs, thus increasing its awareness. Nationally the profile of sepsis is being raised both publicly and politically and being championed in the UK by the Sepsis

Trust.<sup>10</sup> In 2015 the first annual Sepsis Trust conference in Nottingham was both well supported and received. Attending healthcare professionals came from such diverse backgrounds as surgeons, medics, nurses, paramedics, GPs, and politicians. Internationally, recognition of the importance of condition is being focused annually through World Sepsis day, 13 September.

Nationally the Sepsis Trust has supported the development and implementation of the Sepsis Six in hospital but has also produced a simple tool for use in primary care.<sup>9</sup> It is a clear, quick, and easy to use checklist for practitioners in assessing patients at risk and expediting referral to secondary care as appropriate using a common language. This also ensures patients have a nationally consistent approach to their care.

The National Patient Safety Agency published a patient safety alert in September 2014 for ambulance trusts and GPs to develop a 'robust action plan' ... 'to achieve compliance' by no later than 31 October 2014.<sup>11</sup> The three steps identified were: first, to ensure staff have access to accurate and up-to-date sepsis screening tools for both adults and children and increased awareness of the condition. Second, all key staff to be made aware of this patient alert (from the National Patient Safety Alert). Third, sharing of good practice and developing further local initiatives relating to sepsis based on the deterioration page Patient Safety First Website.<sup>12</sup>

Implementation of The National Early

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Warning Score (NEWS) ensures parity of care across all trusts and CCGs using a standardised tool. All six parameters are those vital signs readily measurable in the primary care setting.<sup>8</sup> The vital signs are:

- respiratory rate;
- heart rate;
- temperature;
- systolic blood pressure;
- conscious level; and
- oxygen saturations.

Most electronic software packages in use in primary care have a vital signs template, which acts a useful *aide memoire* to complete. These will also take the data inputted across all other templates, which can also help support QOF (Quality Outcomes Framework).

A full set of vital signs also allows community practitioners to compare patients current functioning against a baseline, helping to identify trends such as deterioration, albeit across a longer time frame than secondary care. This is especially important when monitoring a patient in primary care if they do not meet the referral criteria.

Many software programmes such as EMIS Web show trending reports of vital signs. This can pick up early exacerbations but also season variations helping clinicians

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and individual patients identify trigger points, and adjusting management plans accordingly.

In the future we could see this software developing to reflect the NEWS score as a quick ‘press of the button’ feature to save manually referring to the algorithm.

#### CONCLUSION

The focus on sepsis is growing and primary care has a key part to play. Assessment and the prompt referral of patients on to definitive care where appropriate, is key in order to save lives.

This can be best achieved using familiar assessment skills including testing for a complete set of vital signs, and supported by simple national tools aimed at primary care such as those from the Sepsis Trust.

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##### Provenance

Commissioned, not externally peer reviewed.

DOI: 10.3399/bjgp16X683905

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