	The Welsh NHS Confederation's written response to the Health, Social Care and Sport Committee's inquiry into sepsis.
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Introduction

1. The Welsh NHS Confederation welcomes this opportunity to respond to the Health, Social Care and Sport Committee's inquiry into sepsis. The Welsh NHS Confederation represents the seven Local Health Boards, three NHS Trusts and Health Education and Improvement Wales (HEIW). We support our members to improve health and wellbeing by working with them to deliver high standards of care for patients and best value for taxpayers' money. We act as a driving force for positive change through strong representation and our policy, influencing and engagement work.

2. This response will address each of the inquiry's Terms of Reference in turn.

Terms of Reference

a) What understanding is there about sepsis incidence, how sepsis is presenting to services, and outcomes from sepsis?

3. The incidence of sepsis is a notoriously difficult area to have robust data because sepsis is a syndrome – it comes about when a number of symptoms consistently occur together. Therefore, the coding is not specific for incidences of sepsis. Moreover, some patients will die with sepsis, whereas others will die from sepsis. Achieving a clear picture of the outcomes from sepsis is similarly complicated because coding data is on diagnosis or death, not the cause of death. It is expected that this will improve once the Medical Examiner Service and database is in place, which is anticipated to be in operation and accessible across Wales by April 2021.

4. The National Early Warning Scores (NEWS) is a life-saving assessment and communication tool embedded as standard practice in secondary care in Wales which seeks to detect sepsis in a timely manner. In 2013, NHS Wales became the first large healthcare system in the UK and Ireland to implement NEWS as standard practice in all secondary care hospitals, and in 2016, the Global Sepsis Alliance recognised the work of NHS Wales for its sepsis awareness and education initiatives at the Global Sepsis Awards. In March 2019, 'NEWS in your Community' was launched by 1,000 Lives Improvement (from the 25th November, 1000 Lives Improvement will be relaunching as "Improvement Cymru"). The programme was communicated as a single language for assessing sickness across primary, secondary and community care, empowering and giving confidence to junior NHS staff to raise concerns and escalate treatment at an early stage.

5. 1,000 Lives Improvement suggest that as many as 80% of incidences of sepsis originate in non-hospital settings. It is widely acknowledged that early detection and timely administration of appropriate antibiotics in the secondary care setting are the most important factors in the outcomes of people who live with sepsis. However, the initial signs and symptoms are frequently non-specific, which can lead to a delay in diagnosis. Some Health Boards have developed processes that seek to identify patients who present at Emergency Departments with common signs of sepsis, including hypotension; patches of discoloured skin; breathing difficulties; and abnormal heart functions. From the moment of presentation onwards, it is a matter of clinical judgement as to how that person is treated. Some Health Boards provide monthly data on sepsis screening programmes in compliance with Sepsis Six – a bundle of medical therapies drawn from international guidelines designed to reduce mortality in patients with sepsis. Sepsis Six emerged out of the Surviving Sepsis Campaign and was developed by the UK Sepsis Trust in 2006.

6. Critical Care Outreach Teams (CCOTs) have been developed in some Health Board areas to deliver the education and training guidelines regarding sepsis, particularly the importance of early detection and diagnosis. The main role of CCOTs is to identify and institute treatment in patients who are deteriorating within hospital settings but outside of intensive care units (ICUs), either to prevent admission to an ICU, or to ensure that admission to a critical care bed happens in a timely manner to ensure best outcome. Other potential benefits include enabling discharges from an ICU by supporting the continuing recovery of discharged patients on other hospital wards.

7. Variation in clinical engagement and resource challenges associated with delivering the necessary training exercises mean that CCOTs are not in operation on all wards/units 24 hours-a-day in Wales. These challenges are not unique to NHS Wales: NICE recognised these challenges in 'Chapter 27: Critical Care Outreach Teams' in March 2018'.

b) Public and professional awareness of sepsis

8. Sepsis awareness is an ongoing educational process, but it is felt that public awareness of sepsis has improved greatly in recent years. Key stakeholders that have brought about this increased awareness have included the Surviving Sepsis Campaign (SSC) - a global initiative to bring together professional organisations in reducing mortality from sepsis. The purpose of the SSC is to create an international collaborative effort to improve the treatment of sepsis and reduce the high mortality rate associated with the condition.

9. The UK Sepsis Trust has also contributed a great amount to increasing public awareness of sepsis in recent years. An example of a UK Sepsis Trust-led initiative in this space has been their partnership with the Iceland Foods Charitable Foundation in which the UK Sepsis Trust's logo was printed on the labels of all bottles of milk sold at Iceland stores. The initiative launched in May 2019 in Scotland, the North of England and North Wales and is set to continue until the end of the calendar year. The UK Sepsis Trust continue to

encourage Iceland shoppers to take photographs of the labels and share them on social media using the hashtag #*IcelandSepsis.*

10. The Joint Royal Colleges Ambulance Liaison Committee (JRCALC) suggests there is insufficient evidence to make a robust recommendation in favour of, or against, pre-hospital antibiotic therapy (excluding meningococcal septicaemia where benzylpenicillin is administered). However, as approximately 50% of patients with sepsis arrive at Emergency Departments by ambulance, there is an important window of opportunity. In 2018, 54 paramedics at Cardiff and Vale UHB were trained to take blood cultures and administer antibiotics to patients identified with 'red flag sepsis'. This was a feasibility study in which 118 patients were allocated to two trial arms over a six-month period. Analysis of anonymised data from the Secure Anonymised Information Linkage (SAIL) is currently underway. As this was a feasibility study, the data will not provide definitive evidence on the effectiveness of pre-hospital antibiotics for sepsis, but the study team anticipate that the data will inform the potential for a larger multi-centre study that would aim to test the effectiveness of pre-hospital antibiotics. Increasing the number of paramedics to take blood cultures and administer antibiotics in this way means they can discuss potential signs and symptoms of sepsis not only with patients, but also their families, and signpost them to useful sources of information and advice e.g. Sepsis Trust UK's website, thereby increasing public awareness.

11. Professional awareness of sepsis has improved in recent years, but there is still a need for further training and education initiatives. There is continuing debate among clinicians around the precise definition of sepsis and what parameters should be used to 'trigger' the sepsis bundle treatment process. Further education and training are also needed to establish clearer 'lines to take' on issues such as the regularity of medication reviews after treatment has commenced (e.g. whether medication should be reviewed as soon as six hours after the course of treatment has begun, or whether 24 hours or longer should be allowed).

12. Sepsis education was included in the Welsh Ambulance Service NHS Trust's (WAST) 2018/19 mandatory training day for clinical staff, and an 'Understanding Sepsis' e-learning package has been live on WAST's e-learning platform since July 2019. This modular package aims to improve staff understanding, recognition, treatment and management of patients experiencing early symptoms of sepsis. The e-learning package consists of three modules: the first module provides the user with an introduction to sepsis and the associated pathophysiology, as well as UK statistics about the prevalence of sepsis; module two contains information relating to recognition, signs and symptoms of sepsis and the use of tools such as NEWS and paediatric observation priority score (POPS) for the identification of the deteriorating patient; and the final module contains the suggested management and treatment of sepsis as per the JRCALC guidelines. The modules take approximately 20 minutes each to complete and each one is followed by an online multiple choice questionnaire assessment.

c) Identification and management of sepsis in out-of-hospital settings, including use of relevant screening tools/guidance, and the referral process between primary/secondary care

13. Given such a large percentage of incidences of sepsis occur outside hospital settings, it is important that there is a common language between community-based and acute services. In other words, if treatment cannot be initiated or is ineffective in the community setting, it is important that the patient's acuity and condition are communicated to secondary care staff in a language that is immediately understood. This is a greater challenge than may first be envisaged given the difficult-to-spot nature of the symptoms of sepsis and the pace at which a patient's condition can deteriorate.

14. In Aneurin Bevan UHB, staff are developing a Community Deteriorating Patient Policy which aims to ensure that all patients cared for within community settings receive an appropriate level of vital signs monitoring, NEWS score and sepsis screening (when indicated) with escalation and appropriate care. This has involved training District Nurses and Community Resource Teams (CRTs) to take observations and calculate a NEWS. The training has also extended to care homes to support staff in spotting potential signs and symptoms of sepsis/acute deterioration.

15. Community hospitals at Cwm Taf Morgannwg UHB are also responding to sepsis identification in this way through the Rapid Response to Acute Illness Learning Set (RRAILS). RRAILS is a national programme focussed on reducing harm and variation among patients either at risk of, or experiencing, acute deterioration. Work is ongoing to bring this awareness into General Practitioners' surgeries by educational study days.

d) Identification/management of sepsis in acute (hospital) setting

16. Health Boards have been involved in the RRAILS programme for a number of years, which has supported early identification of sepsis and treatment. In most cases, this has been led by CCOTs in acute settings and there is increasing evidence to suggest that this emerging model is reducing the demand for critical care beds across the system.

17. Identification of sepsis is carried out through standardised observations, a patient's NEWS, screening/'trigger' tools and professional judgement. Some Health Boards are working towards electronic recording of observations for inpatients in acute hospital settings and engaging in conversations around what other "triggers" should be used for escalation and treatment. Clarity about the parameters to be used on an All-Wales level is therefore important, so the electronic data capture can be set up and training undertaken without it being changed shortly afterwards.

e) The physical and mental impact on those who have survived sepsis, and their needs for support

18. The physical impact on survivors of sepsis is often life-changing and can include chronic fatigue, hair loss, poor memory, expressive dysphagia and the loss of one or more limbs. It is important to recognise that these physical impacts often have an adverse impact on

the mental health and wellbeing of sepsis survivors too, which can include severe anxiety, depression, and a sense of helplessness and a loss of independence, particularly for patients who have experienced losing a limb. These are the thoughts and feelings of people who have survived sepsis through training events and workshops organised by Health Boards across Wales.

19. The General Provision for Intensive Care Standards (GPICS) state that a follow-up appointment lasting 20-30 minutes should be offered at two-month, six-month and 12-month intervals for patients considered to have a high post-discharge risk of being readmitted following treatment for sepsis. These standards are considered largely aspirational. In consultation with clinicians in Wales and those working in effective critical care units elsewhere in the UK, it has been suggested that patients with a length of stay greater than four days are offered a follow-up appointment two months after discharge from critical care with further appointments thereafter provided on the basis of need. Given that a significant proportion of those who have survived sepsis also experience ongoing physical and mental health issues, it is felt that this is a more person-centred, needs-based approach to the delivery of services. NHS Wales organisations also recognise the invaluable support provided by the UK Sepsis Trust (and UK Sepsis Trust Wales) to survivors of sepsis through frequent support groups, which are delivered across Wales.