NHS England

Second sepsis action plan

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Second Sepsis Action Plan

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1 Policy statement

This action plan brings together the work on sepsis that is being taken forward nationally in the NHS in England. The over-arching purpose is to improve the prevention, early diagnosis and prompt treatment of sepsis in order to reduce the mortality and morbidity that it causes. Members of the cross-system Sepsis Board have committed to deliver these actions in a coordinated and aligned manner.

2 Introduction

I am delighted to introduce this second sepsis action plan. The successful implementation of the previous action plan is a tribute to the contributions made by the individual members of the cross-system Sepsis Board and the organisations that they represent.

All of us have seen the direct impact that sepsis has had on patients and their families and are well aware of the triumphs and tragedies associated with prompt or late diagnosis. More than half of the emergency admissions in some hospitals are patients with infections, and many of these either present with sepsis or are at risk of sepsis if their infection is not treated promptly. The themes that still need to be addressed and the actions proposed here are all things that we believe will have a positive impact to reduce the burden of sepsis.

The strength of working together in the Sepsis Board is that we can ensure that the separate pieces of work that we are engaged in can be aligned properly so we deliver coherent messages to the system and thus facilitate a common approach to managing our patients. I want to pay particular tribute to the work of the UK Sepsis Trust, a small charity whose staff have worked tirelessly to raise the profile of sepsis as an important cause of death and disability that is so often amenable to effective treatment.

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Medical Director for Clinical Effectiveness
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3. Background

Sepsis is a common cause of serious illness and death, with an estimated 123,000 cases in England each year and 37,000 deaths. The majority of the deaths occur in frail elderly patients with multiple comorbidities who are less able to withstand serious infections. However there continue to be reports of tragic deaths of children and relatively fit people in whom sepsis was not recognised and treated quickly enough. The early treatment of sepsis is not complicated or expensive, involving iv antibiotics along with iv fluids and supplemental oxygen where appropriate, and the 'number needed to treat' is approximately 3 to prevent one death.

In 2015, the Cross-System Sepsis Programme Board was established to drive the change required for quality improvement in the prompt identification and treatment of sepsis, with the aim of improving patient outcomes and reducing mortality and morbidity associated with sepsis. The Board is made up of stakeholders from across the health and care landscape, the UK Sepsis Trust, Royal Colleges, patients and expert clinicians. In December 2015, the Cross System Sepsis Action Plan was published which contained a summary of the key actions that health and care organisations across the country would undertake.

Following on from the successful delivery of the outputs of the 2015 Action Plan, a new Action Plan has been produced by the Cross System Sepsis Board, to identify further actions which will be undertaken to enable continuing improvements in sepsis care across England over the next year. We will be liaising with other work programmes, to ensure a fully aligned approach to the related issues of sepsis, antimicrobial resistance and Gram negative blood stream infections.

4. List of agreed themes and actions

Below is a list of themes and actions that organisations represented on the cross systems Sepsis Board are planning:

Theme	Action
Prevention	Continue to roll out the free flu and meningitis vaccines to primary care school children, and roll out further to secondary school children.
	Support wider implementation of the pneumonia care bundle.
	Identify at risk groups and develop information about sepsis for them.
Improving identification and treatment of patient across the whole pathway	Support the implementation of the CCG Improvement Assessment Framework sepsis indicator, working with NHS Right Care and STP partnerships.
	Work with GP software providers to update their sepsis alert algorithms.
	Support the NHS 111 pilot work on clinical remote assessment of sick children.
Safety Netting	Produce NHS branded 'spotting serious illness in children' leaflet/online resource aimed at patients and parents and designed to support conversations about sepsis between healthcare staff and patients/parents, e.g. Royal Cornwall model for midwives, Devon model for health visitors.
	Embed safety netting among all healthcare professionals assessing patients with infections.
	Promote the implementation of a range of educational resources on sepsis produced by Health Education England and Royal Colleges.
	Ensure a specific focus on sepsis education for staff groups such as community pharmacists, community nurses, health visitors and healthcare assistants in care homes.
Education	Include sepsis in the curricula for relevant resuscitation courses such as ALS.
	Consider sepsis certification as part of the postgraduate education programme for pharmacists.
Standards and Reporting	Standardise the use of the National Early Warning Score (NEWS) in the assessment of acute deterioration.
	Agree a practical operational definition of sepsis that reflects NICE guidance.
	Support implementation of the new coding to improve accuracy of sepsis recording.
	Further analyse the sepsis and 'reducing impact of serious infections' CQUIN data to assess their impact on prompt identification and treatment of sepsis.
	Ensure the sepsis CQUIN data, currently available on Unify2, is also made available via the PHE Fingertips web portal.
	Continue the roll out of the GRASP fever audit tool in GP practices.
	Evaluate the possible development of a virtual registry for sepsis.

AMR	Ensure alignment and consistent messaging with AMR work – new national initiative to reduce Gram negative bacteraemia by half by 2020. This work is led by NHS Improvement and is focusing in 2017/18 on reducing E. coli BSIs, almost half of these arise from urinary tract infections.
Source Control	Identify the common presentations of sepsis where there is a focus of infection that requires source control (e.g. drainage of an abscess) and develop educational materials to spread the understanding of the need for source control.
Support the U&E care team with NHS Digital	Support the work of the Urgent &Emergency Care team with NHS Digital and 111 to facilitate appropriate shared access to healthcare records. e.g. access to primary care record for a healthcare professional assessing a frail elderly care home resident, or a 111 clinician assessing a child remotely who has previously been seen recently by their GP.
NICE sepsis Quality Standards	Feedback on the consultation and promote the Quality Standard when published (due autumn 2017).
Stakeholder mapping	Scope out the roles of all relevant stakeholders in the above: first by identifying which members of the cross-system Sepsis Board can contribute to each of the actions, and second by engaging with wider stakeholders e.g. professional and managerial leaders both nationally and locally via regions and STP footprints.
Patient Involvement	Ensure patient/carer involvement is integral to the sepsis work programme.
Celebrating achievements and good practice	Develop case studies and a web repository to demonstrate good practice and share lessons learned in improving prompt identification and treatment of sepsis.
Learning from deaths	Link with the Learning from Deaths team in NHS Improvement. The Learning from Deaths programme is an opportunity for provider organisations to review their deaths from sepsis (a typical cause of potentially preventable death) and develop actions to reduce the risks for future patients. Trust Boards have to report regularly on their learning from deaths from Q3 2017/8 and include improvement actions in their Quality Accounts from 2018.
Deteriorating patient	Link with the work of NHS Improvement and the Patient Safety Collaborative on acute deterioration.
Horizon scanning	Ensure horizon scanning is undertaken to inform future decision making. This also includes looking at what future biomarkers for sepsis may be available.

5. Supporting detail for each theme

5.1 Prevention

Existing work such as improving hand hygiene and good care of catheters and long lines reduces infection risk and thus lowers the chance of sepsis. Some groups are at increased risk of infections that can lead to sepsis. These include children, pregnant women and older people with multiple comorbidities.

NHS England commissions an extending range of immunisation programmes, offered systematically against flu, pneumococcal pneumonia and meningitis, including:

a. Pneumococcal vaccination (for over 65s)
b. Flu vaccination (for over 65s)
c. Flu vaccination (for those in risk groups)
d. Flu vaccination (for children aged two to eight)
e. Men B vaccination (for children)
f. Hib/Men C vaccination (for children)
g. Men ACWY vaccination (13-14 year olds)

5.2 Improving identification and treatment of sepsis patients across the whole pathway

CCG-IAF

The CCG Improvement Assessment Framework (IAF) indicator on sepsis is due to be published in autumn 2017. The indicator is intended to encourage CCGs to develop and potentially fund a strategy to raise awareness of sepsis and the use of NEWS amongst healthcare practitioners in health services they commission. CCGs will be expected to demonstrate and evidence that they have done this. HEE has provided and will maintain a set of educational resources to do this and it is expected that these will be referenced and promoted.

CQUIN

From April 2017 to March 2019 the CQUIN indicators on sepsis and antimicrobial resistance have been combined into a single indicator focussed on reducing the impact of serious infections. This continues to include measurement of prompt identification and antibiotic treatment for sepsis, as well as a senior review by day 3 to ensure that inappropriate antibiotic treatment is not continued.

GRASP-fever tool

The IAF will also signpost to the NHS England GRASP-fever tool. This is a free tool for GPs and enables practices to review their clinical management of young children presenting with a fever. It will help to increase the use of the traffic light system for identifying risk of serious illness recommended by NICE, leading to improvements in care, better identification of those at risk of serious infection and improved assessment of cases for admission.

Access to the tool is available at:
https://www.nottingham.ac.uk/primis/tools-audits/tools-audits/grasp-suite/grasp-fever.aspx

NHS England is supporting the roll-out of the indicator and the GRASP-fever tool, working with NHS RightCare and STP partners.

5.3. Safety Netting

The NICE Quality Standards on sepsis due to be published in September 2017 are likely to include a requirement for “safety netting”. This means that where a patient with an infection has been clinically assessed and thought not to have sepsis, the patient/carer is given information on what to look out for that should prompt them to seek further clinical assessment. The GP software providers have been asked to include sepsis safety-netting resources that GPs can pass on to patients/carers, especially the parents of children with infections.

NHS England has worked with the Health Innovation Network (HIN) to produce two safety netting videos.

1) Spotting the signs of sepsis:
http://app.wipster.io/Review/Cd9LDQCHPKVVlzCJK3QkFJEUWdgbKWJXD4JSgNZfOjzZuDERQ

2) Caring for children with fever at home:
http://app.wipster.io/Review/CeBLDQDCgu4eq8VDLbVHe8lqJ8139Wb7LgVTJ8bZxcs9AXCo4w

Following examples from Cornwall and Devon, NHS England and Public Health England will work with maternity networks and Health Visitors to ensure resources such as leaflets and on-line educational material are used by midwives and health visitors to help parents recognise serious illness in children and know what to do if they think their child is seriously ill.

5.4 Education

We are focussing in particular on education and training for community pharmacists, community nurses, health care assistants and health visitors. Health Education England has developed educational modules on sepsis for community pharmacists and HCAs. Implementation of the CCG IAF indicator on sepsis will help embed the use of these educational resources. In addition the regular inclusion of sepsis within relevant resuscitation courses will help to embed knowledge about sepsis among hospital clinicians.

5.5 Standards and Reporting

Sepsis guidance implementation advice for adults

NICE guidance on sepsis was published in 2016 and provides an evidence-based approach to recognising and initiating treatment for suspected sepsis. However some front line staff have found it complex and difficult to translate this guidance into practice and this was reflected in a survey by the National Patient Safety Collaborative Sepsis Cluster.

On behalf of the cross-system Sepsis Board we brought together experts to develop a proposal to facilitate the practical implementation of the NICE sepsis guidance. NICE supports this implementation advice as a pragmatic approach that recognises clinical judgement as a critical component of the assessment for sepsis.

The sepsis guidance implementation advice for adults is due to be published in September 2017.

NICE Quality Standard

NICE also recently consulted on a set of Quality Standards on sepsis. The draft proposes that people should be assessed carefully and anyone considered at high risk of sepsis should have a senior clinical review and start appropriate treatment within one hour of being identified. The consultation has closed and the final version of the Quality Standard is expected to be published in September 2017.

NEWS

Adoption of the National Early Warning Score (NEWS) has recently received endorsement from the National Quality Board for use in the acute sector including for patients with physical deterioration in mental health hospitals and in ambulance services. A prospective evaluation of the use of NEWS in primary care as a means to communicate acute illness severity as part of emergency referral would be of value. The Royal College of Physicians is shortly publishing a revision to the NEWS score and this will need to be embedded within educational material and in curricula.

Sepsis CQUIN results

The Sepsis CQUIN included data from patients in emergency departments in 2015, and in 2016 in-patients suffering acute deterioration were added.

Trusts that take up the CQUIN are expected to report a random sample of patients presenting each month (at least 50).

The CQUIN is already delivering change. NHS England data shows:

- An increase in Emergency Department assessment for sepsis from 52% to 87% since the CQUIN started in April 2015; timely treatment increased from 49% to 62% in the same period.

- In-patient assessment for sepsis (which started in 2016) increased from 62% to 75% in the first year of this CQUIN and timely treatment has increased from 60% to 64% for these patients.

Coding

In April 2017, NHS Digital published new guidance on coding for sepsis. The new coding guidance is expected to lead to improved reporting of sepsis by recording sepsis in the patient notes. NHS Digital is working closely with the NHS England cross-system sepsis programme board to further develop and refine the coding guidance over the next year.

Improving measurement

The historic variability of sepsis coding along with the fact that there is a spectrum from mild infection through to life-threatening sepsis makes it difficult to accurately determine the true impact of sepsis both on individuals and on use of healthcare resources. An evaluation is being undertaken on the best way to address this issue, whether by developing a virtual sepsis registry or by linkage between existing datasets.

6. Conclusion

Many actions are already under way to improve the prompt recognition and treatment of sepsis and this paper describes these and further planned actions. We aim to continue the coordinated approach that is enabling the NHS in England to provide coherent education and guidance to healthcare staff treating patients who may have sepsis, and we hope to develop better ways to measure the true impact of sepsis. By liaising closely with colleagues working on other related programmes, such as those on antimicrobial resistance and on Gram negative bloodstream infections, we hope to identify new ways to accurately distinguish patients with sepsis who need prompt hospital treatment with IV antibiotics and separately reliably identify people who do not need these interventions.

7. List of organisations represented on the cross system sepsis board

NHS England
NHS Improvement
Representative of patients, carers and the public
Representative of acute physicians
Representative of training grade doctors
UK Sepsis Trust
Department of Health
Care Quality Commission (CQC)
National Institute for Health and Care Excellence (NICE)
NHS Digital
Health Education England
Public Health England (PHE)
CCG representative
Royal Pharmaceutical Society
Ambulance services representative
Academy of Medical Royal Colleges
Royal College of Surgeons
Royal College of Pathologists
Royal College of Emergency Medicine
Royal College of Nursing
Royal College of Physicians
Royal College of General Practitioners
Royal College of Paediatrics and Child Health
Academic Health Science Network for the North West Coast, representing AHSNs