



# 2019 exceptional surveillance of sepsis: recognition, diagnosis and early management (NICE guideline NG51) and acutely ill adults in hospital: recognising and responding to deterioration (NICE guideline CG50)

Surveillance report

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# Surveillance decision

The NICE guidelines on [sepsis](#) and [acutely ill adults in hospital](#) will be amended to state that the early warning score NEWS2 has been endorsed by NHS England.

These changes will be addressed through editorial amendments.

## Reason for the proposal

### Current context

Early warning scores are used to improve the detection of clinical deterioration of acutely ill people in hospital. There are a number of early warning scores available including NEWS and NEWS2. The Royal College of Physicians (RCP) launched NEWS in 2012 and this has been updated to the most recent version, NEWS2. In December 2017, NEWS2 received [formal endorsement](#) from NHS England to become the early warning score for identifying acutely ill patients, including those with sepsis, in hospitals in England. There is an NHS England initiative to roll out NEWS2 across the NHS with a focus on achieving 100% coverage of acute and ambulance settings by March 2019.

NICE's guideline on sepsis was published in 2016 and provides an evidence-based approach to recognising and initiating treatment for suspected sepsis. Although the guideline recommends the use of early warning scores to assess people with suspected sepsis in acute hospital settings, no specific score is recommended. NICE's guideline on acutely ill adults in hospital includes recommendations on track and trigger systems but, again, no specific score is named in the recommendations.

Since NICE's guideline on sepsis was published, it has become apparent that there were some difficulties amongst healthcare professionals in translating the guidance into practice. In light of this, experts on sepsis representing the RCP, Royal College of GPs, NICE, Health Education England, UK Sepsis Trust, Patient Safety Collaboratives and healthcare professionals worked with NHS England to develop [implementation advice](#) in September 2017 as a unified framework to help improve adult sepsis identification and care in hospital settings. Development of this implementation advice was felt to be a pragmatic approach because NICE's guideline on sepsis did not find published evidence in order to recommend the specific use of the NEWS score including evidence for specific

cut offs.

The NEWS2 resource was considered in February 2018 by NICE with a view to formal NICE endorsement. However, it was not possible to progress this because NEWS2 is not specified in recommendations in the NICE guideline on sepsis. Instead NICE offered a statement of support for NEWS2, which reads: "NICE guidance recommends considering an early warning score to assess adults with suspected sepsis in acute hospital settings. The proposal to standardise use of the NEWS2 assessment tool across the NHS in England may help support ongoing work to reduce the impact of sepsis."

## Evidence base

### Guideline development

During the development of the NICE guideline on sepsis, evidence was reviewed for 14 different early warning scores. The review concluded that a meta-analysis was not possible due to significant variability in populations, patient outcomes and statistical measures amongst the included studies.

The guideline development group agreed that the tools are similar to each other and the evidence was not sufficient to recommend 1 tool over another although there was a view that standardisation of a tool across the country would be useful. They stated that 'overall there was a trend in the evidence suggesting that any scoring system is helpful to assess prognosis and diagnosis of a patient.' Although there were many studies reviewed and included for the different tools, only 1 study was included for NEWS.

### Surveillance review

Evidence submitted by NHS England and the RCP was considered in this exceptional surveillance review. We did not conduct a further search of the evidence in this area. Most of the studies submitted were not in a population with sepsis or did not use NEWS and, for the purpose of this review, these studies have not been included. In total, 15 new studies were considered.

Ten different assessment tools have been evaluated across all the studies. The results are very mixed with no single tool standing out as the most predictive or accurate for this population. Although there is some indication that NEWS performs well for some outcomes, the clinical relevance of these is not determined.

## Topic expert view

In this exceptional review we engaged with topic experts who were recruited to the NICE Centre for Guidelines Expert Advisers Panel to represent their speciality. We received feedback from 3 topic experts who indicated that a variety of early warning scores are currently used in practice. It was recognised that identifying when someone presents with sepsis is challenging and is much more complicated than adopting a single score, and there was a feeling that a pathway approach is warranted. There was also a concern that NEWS and NEWS2 may be resulting in more people reaching a 'trigger' level and the subsequent impact on clinical workload this could have.

## Summary

The sepsis guideline development group statement that 'the tools are similar and there is insufficient evidence to recommend 1 over another' seems to still stand given the new evidence considered through this exceptional surveillance review and therefore, there is no strong trigger from the evidence base to update the guideline.

However, there is disparity between NHS England's aim to embed NEWS2 across the NHS to improve the detection of acute illness and NICE's guideline on sepsis, which provides more cautious guidance about considering the use of an early warning score to assess people with suspected sepsis in acute hospital settings. This may be unhelpful for the system.

Recommendation 1.1.8 in the NICE guideline on sepsis will be amended to state that NEWS2 has been endorsed by NHS England. Similarly, the NICE guideline on acutely ill adults in hospital will be amended to make reference to NEWS2 as it also includes recommendations on early warning scores. The additional text is factually correct and will not change the intent of the recommendations but will bring the guidelines into alignment with current policy drivers in this area and provide a consistent message for healthcare professionals.

NICE's guideline on sepsis has a relevant research recommendation calling for validation of clinical early warning scores in pre-hospital and emergency care settings. Additionally, NICE's guideline on acutely ill adults in hospital also has research recommendations on the evaluation of early warning scores (referred to as track and trigger systems). These research recommendations will be promoted with the National Institute for Health Research as NHS England's approach of rolling out NEWS2 across the NHS may usefully

facilitate an evaluation of NEWS2 and other early warning scores in clinical practice. Evaluation in practice is also important to ensure there is no adverse impact of the roll out of NEWS2. This will be discussed with NHS England and any proposal to evaluate NEWS2 will be monitored by NICE. Further amendments to the guideline recommendations will be made if needed.

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