NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

NICE guidelines

Equality impact assessment

Suspected sepsis: recognition, diagnosis and early management (update)

The impact on equality has been assessed during guidance development according to the principles of the NICE equality policy.

1.0 Checking for updates and scope: before scope consultation (to be completed by the Developer and submitted with the draft scope for consultation)

1.1 Is the proposed primary focus of the guideline a population with a specific communication or engagement need, related to disability, age, or other equality consideration? Y/N If so, what is it and what action might be taken by NICE or the developer to meet this need? (For example, adjustments to committee processes, additional forms of consultation.)
No

1.2 Have any potential equality issues been identified during the check for an update or during development of the draft scope, and, if so, what are they?
This EIA document is an addendum to EIAs from two recent updates of NG51 Sepsis: recognition, diagnosis and early management (which both published in January 2024). It should be read in conjunction with the EIAs conducted for the previous updates which can be accessed here. This EIA will only cover potential equality issues related to the scope of this further update of NG51 (2025) which is considering recommendations on the use of rapid antigen tests for diagnosing infection, indicators of organ hypoperfusion, intravenous (IV) fluids and vasopressors. This document has been compiled based on the June 2022 EIA and the May 2023 EIA undertaken for the previous updates of NG51 and subsequent review of potential equalities issues by the committee responsible for this further update (2025) of NG51. This update focuses on addressing items raised by the

Committee responsible for the current update of NG51 which focuses on the recommendations pertaining to the use of rapid antigen tests for diagnosing infection, indicators or organ hypoperfusion, IV fluids and vasopressors:

- Age

  The population for this update is a NEWS2 population. NEWS2 is for people aged over 16 years, therefore the recommendations being considered in this update will not include people aged under 16 years. However, people aged under 16 are included in current recommendations and these recommendations will remain unchanged in the updated guideline.

  The original EIA for NG51 (2016) highlighted that diagnosis of sepsis may be delayed as symptoms such as confusion may not be considered as indicators of an acute problem in groups such as the elderly.

  At the committee meeting (on 13/07/23) it was highlighted that older age is risk factor for Sepsis. NICE CKS (2020) highlights that being over 75 years of age and being very frail are risk factors for sepsis (NICE CKS, 2020). NICE CKS (2020) highlights that age-specific mortality rates were higher at the extremes of age, with the rate in infants under one year being similar to that in people aged 60 years and over (NICE CKS, 2020).

  No additional equalities issues were identified for age within this EIA for this update of NG51. The Committee agreed that the additional prevalence and risk associated with sepsis in older people identified in previous updates should be considered in this update (2025).

- Disability

  At the committee meeting (on 13/07/23) it was noted that people with a learning disability, people with cognitive impairment (for example dementia) and people with communication difficulties may face additional challenges when describing symptoms, this could lead to further difficulties in ascertaining a diagnosis of suspected sepsis. Specific consideration may need to be given to people with a learning disability, people with cognitive impairment (for example dementia) and people with communication difficulties when developing recommendations.

  No new equalities issues were identified for disability within this EIA for this update (2024) of NG51.

- Gender reassignment

None

- Pregnancy and maternity

  The NEWS2 should not be used for women who are or have recently been pregnant. The 2024 update of NG51 did not consider this population and this update (2025) will not consider this population. However, these populations are included in current recommendations and these recommendations will remain in the guideline when this update is completed.

  No new equalities were identified for pregnancy and maternity within this update (2025) of NG51.

- Race

  No issues were identified during the June 2022 update. At the committee meeting for the May 2023 update (on 13/07/23) it was outlined that people from minority ethnic groups may be at greater risk of sepsis. There is limited UK data that highlights this trend for sepsis specifically, but in terms of broader infectious diseases there is evidence from the USA which suggests that ethnic minorities experience infectious diseases at higher rates (Ayorinde et al 2023). Further evidence from the USA highlights a persistent variability in clinical outcomes across racial groups, with higher rates of morbidity and mortality in sepsis in minority ethnic groups linked to healthcare disparity (DiMeglio et al 2018). This disparity could be linked to a lack of awareness of the need to adjust test results to consider differences between racial groups, leading to poorer care for these groups. For example, some pulse oximetry devices have been reported to overestimate oxygen saturation levels in people with darker skin, which may lead to them not being treated when treatment is needed unless an adjustment is made in interpreting the test results; or difficulties in seeing a rash associated with sepsis or in estimating perfusion from skin colour in people with darker skin.

  No new equalities issues were identified for race within this EIA for this update (2025) of NG51 and the committee have outlined that the issues raised associated with sepsis regarding race outlined from previous EIAs should be considered in this update (2024).

- Religion or belief

  None

- Sex

None

- Sexual orientation

  None

- Socio-economic factors

  No issues were identified in the June 2022 update. At the committee meeting for the May 2023 update (on 13/07/23) it was outlined that socio-economic factors may have an impact on the recognition, diagnosis, and early management of sepsis. Evidence suggests that lower socio-economic status (as well as gender, old age and frailty) can contribute to an increase in mortality and intensive care unit admission in patients with sepsis (Sheikh et al 2022). More generally, people living in lower socioeconomic areas have a lower life expectancy than the general population but there is limited UK data that highlights this trend for sepsis specifically although in terms of broader infectious diseases, antimicrobial resistance, and incomplete/delayed vaccination there is evidence which suggests that people in inclusion health groups and with lower socioeconomic status are consistently at higher risk (Ayorinde et al 2023). There is non-UK (USA) evidence that suggests that the incidence of sepsis disproportionately affects individuals with low socioeconomic status and increases the risk of poorer outcomes (Minejima et al 2021). Evidence suggests that there are increased barriers to care access for people with low socioeconomic status which include cost, transportation, poor health literacy and lack of social network which potentially contributes to the identified disproportionate impacts felt by this group. The committee agreed that socio-economic factors should be considered in this update.

  No new equalities issues were identified for socio-economic factors within this EIA for this update (2025) of NG51 and the committee have outlined that the issues raised associated with sepsis regarding socio-economic factors outlined from previous EIAs should be considered in this update (2025).

- Other definable characteristics:

  No new equalities issues were identified for other definable characteristics within this EIA for this update (2025) of NG51.

  The EIA for NG51 (2016) highlighted that ‘history taking’ is very important in the process of identifying sepsis, and that people with communication difficulties or those who do not speak English may not be able to give a history. This was

raised again during the June 2022 update, and the need to have specific consideration for people who do not speak English or whose first language is not English was raised. This was also included in the EIA for the May 2023 update and applies to this update (2025) which focuses on updating recommendations on the use of rapid antigen tests for diagnosing infection. At committee (on 13/07/23) 3 further populations were identified which are also relevant to this 2025 update:

- **Newly arrived migrants (including refugees, asylum seekers and unaccompanied asylum-seeking children, irregular migrants)**. There is limited UK evidence that highlights a trend for these populations regarding additional sepsis risks. Non-UK evidence (Danish) highlights that vulnerability towards blood stream infections varies based on migrant status, but overall refugees had a higher risk of bloodstream infections (Nielsen et al 2021). These populations will often embark on arduous journeys and combined with often precarious living and housing circumstances may impact their nutrition and their immune system contributing to increased risk of developing sepsis and making infection source identification and control challenging. This risk may be further increased if they have poor access to healthcare services (Rudd et al 2018). This trend is likely to vary between countries due to differences in immigration patterns, vaccine status, variations in rates of antimicrobial resistance, as well as the impact of previous childhood disease. The committee agreed that these populations should be considered in this update.
- **People experiencing homelessness**. People experiencing homelessness are more likely to delay seeking care and there is non-UK evidence (USA) to suggest that they are more likely to die following an admission for severe sepsis which is linked to the increased likelihood of delayed presentation (Shahryar et al 2014). More generally those experiencing homelessness are more likely to have poor physical and mental health, be more vulnerable to issues associated with alcohol and drug use and can experience significant barriers to accessing health services which given the need for timely management if sepsis is suspected can result in greater adverse outcomes. The committee agreed that people experiencing homelessness should be considered in this update.
- **People with low levels of health literacy:** Health literacy entails people's knowledge, motivation, and competence to access, understand, appraise, and apply health information to make judgments and take decisions in everyday life concerning healthcare, disease prevention, and health promotion to maintain or improve quality of life during their life course. PHE/UCL Institute of Health Equity (2015) highlight that anyone could have low health literacy. However, it is central to health

inequalities as disadvantaged or vulnerable groups are most at risk for example those from more disadvantaged socioeconomic groups, migrants and people from ethnic minorities, older people, people with long term health condition, disabled people (including those who have long-term physical, mental, intellectual or sensory impairment). People with low levels of health literacy are potentially more likely to have not engaged in vaccination programmes and thus may be more vulnerable to developing sepsis and potentially delay seeking care if sepsis is suspected. Low health literacy was associated with a decreased likelihood of using preventative health measures, and in one review this was associated with those aged 65 years and over (older age has been identified as a risk factor for sepsis). People with low literacy levels may face challenges in understanding information leaflets relating to their care or recognise the signs and symptoms of sepsis if they develop. The committee agreed that people with low levels of health literacy should be considered in this update.

1.3 What is the preliminary view on the extent to which these potential equality issues need addressing by the Committee?

The following potential equality issues will be considered for the key questions included in this update of NG51. The following issues were identified in the June 2022 update but also apply to this update which focuses on making new recommendations or updating existing recommendations on rapid antigen testing, indicators of organ hypoperfusion, intravenous fluid therapy and vasopressors:

- Disability (including people with a learning disability, people with cognitive impairment and people with communication difficulties) and people who do not speak English or whose first language is not English: specific recommendations may need to be made for these groups.

- Age and pregnancy and maternity: The recommendations being updated in this guideline will not consider people under 16 years, pregnant women or women who were recently pregnant. These population groups are included in current recommendations within NG51and that will remain unchanged in the guideline.

- Age (older age and frailty), race, socio-economic factors, newly arrived migrants (including refugees, asylum seekers and unaccompanied asylum-seeking children, irregular migrants), people experiencing homelessness and people with low levels of health literacy: specific recommendations or references within recommendations may need to be made for these groups.

1.3 What is the preliminary view on the extent to which these potential equality issues need addressing by the Committee?
The Committee were invited to make any additional comments on the EIA prior to scope consultation (October 2023). No additional equalities issues were raised beyond those outlined in section 1.2 and 1.3. A committee member did raise that the reference to those at ‘high’ and ‘moderate’ risk of severe illness or death from sepsis in review questions on organ hypoperfusion, and vasopressors was not accurate and whilst not an equalities issue per se had the potential to miss populations at ‘low’ risk of severe illness and death from sepsis who would potentially benefit from these interventions. The review questions were amended to address this observation.

Completed by Developer: James Jagroo

Date: 16/01/2024

Approved by NICE quality assurance lead: Sara Buckner

Date: 17/01/2024

2.0 Checking for updates and scope: after consultation (to be completed by the Developer and submitted with the revised scope)

2.1 Have any potential equality issues been identified during consultation, and, if so, what are they?
A stakeholder (n=1) raised concerns regarding possible conflicts in sepsis scoring that may occur for health care settings that do not use NEWS2 for their 16+ population and questioned how this could be addressed in the scope of the guideline. This could impact the identification and subsequent management and treatment of sepsis based on age. A stakeholder (n=1) raised that the consideration of reasonable adjustments was important and needed to be recognised in the scope more explicitly. Reference was made to people with a disability including those with a learning disability and people with autism, their greater risk of severe illness or death from sepsis and how the consideration of reasonable adjustments could address some of this increased risk. A stakeholder (n=1) highlighted the need to give consideration around communication and those who are non-verbal specifically. The suggestion being that those who are non-verbal could be at greater risk of severe illness or death from sepsis and that the consideration of communication could address some of this increased risk. Stakeholders (n=3) highlighted the increased risk of severe illness or death from sepsis in those with a disability including those with a learning disability and people with autism. The stakeholders highlighted the potential for underestimating the level of risk of severe illness or death from sepsis in people with a learning disability or autistic people and the need for the scope and guideline to acknowledge this. A stakeholder (n=1) provided UK-based data highlighting the interaction of socioeconomic deprivation and other risk factors including severe frailty and being housebound which are more prevalent with age, as being associated with an increase of sepsis and 30-day mortality in England.

2.2 Have any changes to the scope been made as a result of consultation to highlight potential equality issues?
In response to stakeholder comments and Committee discussions the scope now has an additional review question focused on the ‘Risk factors for sepsis’. This

question will focus on understanding and establishing which groups of people have a higher risk of developing sepsis. This question will consider the issues raised regarding people with disabilities including learning disabilities and autism; the issues and data provided regarding the interaction of socioeconomic deprivation and other risk factors as well as other protected and other definable characteristics.

At the committee meeting (09/01/2024) the Committee discussed whether PCR tests were out of scope. Discussion centred around the rapidness of tests in the context of the importance of time to sepsis diagnosis and the potential impacts on outcomes to an individual with suspected sepsis. The Committee outlined based on their experience and expertise that having results within 6 hours was key and agreed that whilst there are other tests, the consideration of the diagnostic accuracy, and the clinical and cost-effectiveness of rapid PCR tests to identify underlying infections and for guiding treatment in those with suspected sepsis was key and it has been added for consideration along with rapid antigen tests, to review question 1 and 2. Committee were in agreement that this addition does not present any equalities issues.

The Committee reviewed the stakeholder comments regarding possible conflicts in sepsis scoring that may occur for health care settings that do not use NEWS2 for their 16+ population. The Committee acknowledged the point made but concluded that this was not an equalities issue. The Committee highlighted that NEWS2 is already in use in most NHS acute care settings, Emergency Departments, ambulance services and mental health facilities in England and felt that its use to evaluate risk of severe illness or death from sepsis in these settings would further improve consistency in the detection of and response to acute illness due to sepsis (for people for whom the NEWS2 can be used), at no further cost. The Committee highlighted in the future, we plan to review the use of the paediatric early warning score (PEWS) and maternity early warning score (MEWS) tools and will consider making recommendations on them in the guideline when evidence indicates that they perform better than the existing risk stratification tools for these populations in NG51 Suspected sepsis, or when they are more widely adopted across the NHS.

On review of the stakeholder comments regarding ‘reasonable adjustments’ and ‘communication’ it was felt that there was no need to make specific reference to these items in the scope as they would be considered during the guideline development phase of the work. These items are not excluded from the scope of this work and the EIA (section 1.2) has acknowledged these factors as something that needs to be considered (under ‘disability’ and ‘other definable characteristics: health literacy’) during guideline development as part of committee discussions and when considering the outputs of evidence reviews.

On review of the stakeholder comments it was felt that there was no need to make specific reference to people with disabilities including those with learning disabilities and autism as they are not an excluded population and are included in the scope (under 'Who the guideline covers'), which outlines that guideline review question 1 to 6 covers all people aged 16 or over in acute hospital and ambulance settings, except people who are or have recently been pregnant and review question 7 will cover risk factors for all people at risk of developing sepsis.

2.3 Have any of the changes made led to a change in the primary focus of the guideline which would require consideration of a specific communication or engagement need, related to disability, age, or other equality consideration? If so, what is it and what action might be taken by NICE or the developer to meet this need? (For example, adjustments to Committee processes, additional forms of consultation)
No

Updated by Developer: James Jagroo

Date: 19/01/2024

Approved by NICE quality assurance lead: Sara Buckner

Date: 20/01/2024

3.0 Guideline development: before consultation (to be completed by the Developer before consultation on the draft guideline)

3.1 Have the potential equality issues identified during the scoping process been addressed by the Committee, and, if so, how?
This EIA document is an addendum to EIAs from two recent updates of NG51 Sepsis: recognition, diagnosis and early management (which both published in January 2024). It should be read in conjunction with the documents for equality issues conducted for the previous updates which can be accessed here. Age (those under 16) and pregnancy and maternity: the scope for this update does not include people under 16 years, women, trans men and non-binary people who are pregnant or planning to become pregnant. Race: During development of the reviews related to hypoperfusion the committee discussed mottling as a marker for septic shock in dark-skinned populations. Based on the committee's experience and expertise they felt that the issue of skin colour in the use of mottling as a clinical perfusion marker in black and brown skinned populations should be considered. As a consequence of stakeholder comments on the scope and the development of this EIA an additional question was added to the scope of this update on the factors or groups of factors lead to a higher risk of developing sepsis. The findings of this review, combined with the committee expertise and discussion contributed to the development of recommendations to ensure that practitioners should be aware of the possible greater risk for sepsis for people from Black backgrounds as well as those from south Asian backgrounds. Disability (including people with a learning disability, people with cognitive impairment and people with communication difficulties); people who do not speak English or whose first language is not English; newly arrived migrants (including refugees, asylum seekers and unaccompanied asylum-seeking children, irregular migrants) and people with low levels of health literacy: As a consequence of stakeholder comments on the scope an additional question was added to the scope of this update on factors or groups of factors lead to a higher risk of developing sepsis. The findings of the review were discussed by the committee and highlighted that people with learning disabilities, dementia and severe mental illness may be at greater risk of there being a delay in the recognition of sepsis due to the potential difficulties in communicating symptoms and therefore are at greater risk of delayed presentation or not being able to access services; and that practitioners should tailor their care accordingly towards these groups, such as offering face-to-face consultation. The committee reflected that the issues regarding difficulties with communication could also be a factor for those for whom

3.1 Have the potential equality issues identified during the scoping process been addressed by the Committee, and, if so, how?
English is not their first language, newly arrived migrants and people with low levels of health literacy. Age (older age and frailty), socio-economic factors, newly arrived migrants (including refugees, asylum seekers and unaccompanied asylum-seeking children, irregular migrants), people experiencing homelessness and people with low levels of health literacy: As a consequence of stakeholder comments on the scope an additional question was added to the scope of this update focused on factors or groups of factors that lead to a higher risk of developing sepsis. The committee considered the findings of this review and noted that the associations outlined were not necessarily direct risk factors for sepsis but were risk factors for becoming unwell more generally. The committee noted that alcohol use problems could lead to poorer health outcomes and an increased risk of developing sepsis.

3.2 Have any **other** potential equality issues (in addition to those identified during the scoping process) been identified, and, if so, how has the Committee addressed them?
The committee discussed the evidence presented in the context of the issues identified during the scoping process. No further additional issues were identified during development.

3.3 Have the Committee's considerations of equality issues been described in the guideline for consultation, and, if so, where?
Yes. The guideline cross refers to NICE guidance on Patient experience in adult NHS services, Babies, children and young people's experience of healthcare, Shared decision making and Decision making and mental capacity which all seek to focus attention on the individual in front of healthcare professionals and to enable and support individuals to actively participate in the care they receive as far as is possible.

3.3 Have the Committee's considerations of equality issues been described in the guideline for consultation, and, if so, where?
The committee have further emphasised the need for shared decision making with the individual and where appropriate their family/carers and their existing medical team, before starting critical care. . An existing recommendation specified the need to take extra care when assessing people who might have sepsis if there is difficulty in taking their history, for example people with English as a second language or people with communication difficulties (such as autism, cognitive impairment, learning disabilities, severe mental health conditions or brain injury). Cognitive impairment and brain injury was added for comprehensiveness. An existing recommendation that outlines a list of factors to take into account that may be indicative of a higher risk of sepsis and has been added to. This recommendation now makes additional reference to people with severe frailty; people with severe mental health conditions, dementia or learning disabilities; people living in deprived areas; people from Black and ethnic minority backgrounds.

3.4 Do the preliminary recommendations make it more difficult in practice for a specific group to access services compared with other groups? If so, what are the barriers to, or difficulties with, access for the specific group?
No

3.5 Is there potential for the preliminary recommendations to have an adverse impact on people with disabilities because of something that is a consequence of the disability?
No

3.6 Are there any recommendations or explanations that the Committee could make to remove or alleviate barriers to, or difficulties with, access to services identified in box 3.4, or otherwise fulfil NICE's obligation to advance equality?
Not applicable.

Completed by Developer: James Jagroo

Date: 11/02/2025

Approved by NICE quality assurance lead: Sara Buckner

Date: 05/06/2025

4.0 Final guideline (to be completed by the Developer before GE consideration of final guideline)

4.1 Have any additional potential equality issues been raised during the consultation, and, if so, how has the Committee addressed them?
• Age One stakeholder highlighted that those aged 16 to 24 had multiple risk factors that put them at a distinct disadvantage in their care which could impact the way sepsis was identified with reference made to compensating for the effects of sepsis more than older adults. The Committee acknowledged that young adults and adolescents may initially compensate for the effects of sepsis more effectively than older adults potentially making early symptoms less obvious. As the guideline covers everyone aged 16 and over, they did not think specific reference to a 16- to 24-year-old group was required. • Disability One stakeholder pointed out that although the guideline and EHIA acknowledged increased risk of developing sepsis and delayed presentation, it does not acknowledge the increased risk of poor care and health inequalities that may be faced once a patient has presented. They suggested that more proactive adjustments to care pathways are required for these patient groups. The Committee acknowledged these issues but noted that the EHIA reflects the scope of the current update. Other NICE guidelines consider these factors. For example, CG138 (Patient experience in adult NHS services) or NG108 (Decision-making and mental capacity) include recommendations on tailoring healthcare services for each patient. One stakeholder flagged that the term learning difficulties should also be included as they differed from learning disabilities and this has now been amended. • Gender reassignment There were no comments related to gender reassignment. • Pregnancy and maternity There were no comments related to EHIA on this topic. • Race A stakeholder had commented that the risk recommendation should specify ‘Asian/Asian British, especially children of Pakistani background’, and ‘black/black British ethnicity’ and ‘children with learning disabilities’ as there is the NCMD reports that this group is at a higher risk of mortality. The Committee did not feel it was necessary to specify these as they are already considered under ‘people from Black and ethnic minority backgrounds’ and ‘people with learning difficulties’. This recommendation has been changed to include overall key factors, this includes ethnic minority.

4.1 Have any additional potential equality issues been raised during the consultation, and, if so, how has the Committee addressed them?
• Religion or belief There were no comments related to religion or belief • Sex There were no comments related to sex. • Sexual orientation There were no comments related to sexual orientation • Socio-economic factors There were suggestions to change “living in a deprived area” to “living with deprivation” so that it is more inclusive of the socioeconomic condition of an individual rather than the geographic area they live in. This has not been changed as the committee agreed that considered socioeconomic status in part but also issues of lack access to services, as well as the underlying health conditions experienced and environmental stressors within the area. • Other definable characteristics (these are examples): o refugees o asylum seekers o migrant workers o looked-after children o people who are homeless One stakeholder highlighted that homelessness had been mentioned as risk in the EHIA submitted for consultation, but this was not listed as a risk factor for recommendation for the recommendation has been amended and now includes homelessness. o prisoners and young offenders o any others identified

4.2 If the recommendations have changed after consultation, are there any recommendations that make it more difficult in practice for a specific group to access services compared with other groups? If so, what are the barriers to, or difficulties with, access for the specific group?
None were identified

4.3 If the recommendations have changed after consultation, is there potential for the recommendations to have an adverse impact on people with disabilities because of something that is a consequence of the disability?
No

4.4 If the recommendations have changed after consultation, are there any recommendations or explanations that the Committee could make to remove or alleviate barriers to, or difficulties with, access to services identified in question 4.2, or otherwise fulfil NICE's obligations to advance equality?
None were identified

4.5 Have the Committee's considerations of equality issues been described in the final guideline, and, if so, where?
Yes. Before recommendation 1.1. the guideline cross refers to NICE guidance on Patient experience in adult NHS services, Babies, children and young people's experience of healthcare, Shared decision making and Decision making and mental capacity which all seek to focus attention on the individual in front of healthcare professionals and to enable and support individuals to actively participate in the care they receive as far as is possible. The committee have emphasised the need for shared decision making with the individual and where appropriate their family/carers and their existing medical team, before starting vasopressors. The recommendations note need to take extra care when assessing people who might have sepsis if there is difficulty in taking their history, for example people with English as a second language or people with communication difficulties (such as autism, cognitive impairment, learning disabilities, severe mental health conditions or brain injury). The risk related recommendation focuses on factors that may increase the risk of developing sepsis or sepsis not being identified properly. In response to stakeholder comments this recommendation was amended to aid clarity and now includes overall areas that may increase the risk of developing sepsis with examples provided.

Updated by Developer: James Jagroo

Date: 29/07/2025

Approved by NICE quality assurance lead: Sara Buckner

Date: 30/07/2025