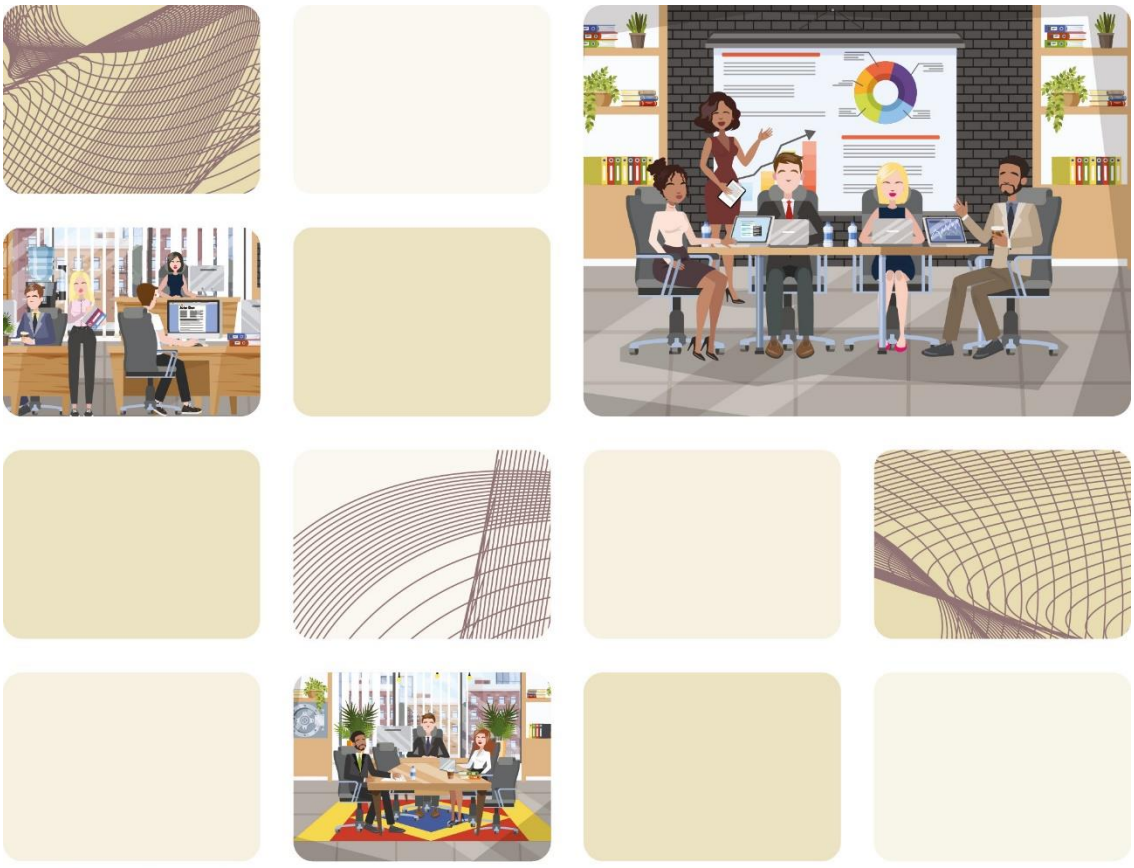
UK Health Security Agency

UK Standards for Microbiology Investigations

Review of users' comments received by Joint working group for syndromic algorithms

S 12 Sepsis and systemic or disseminated infections



National Institute for Health and Care Excellence (NICE) has renewed accreditation of the process used by the **UK Health Security Agency** to produce **UK Standards for Microbiology Investigations (UK SMIs)**. The renewed accreditation is valid until **30 June 2026** and applies to guidance produced using the processes described in '**UK Standards for Microbiology Investigations Development Process' (2021)**. The original accreditation term began on 1 July 2011.

This publication was created by UK Health Security Agency (UKHSA) in partnership with the partner organisations.

Recommendations are listed as ACCEPT/ PARTIAL ACCEPT/DEFER/ NONE or PENDING

Issued by the Standards Unit, Specialised Microbiology and Laboratories, UKHSA

Consultation: 16/11/2021 – 29/11/2021
Version of document consulted on: S12 dzj+

Whole document

Comment number: 1

Date received: 19/11/2021
Laboratory or organisation name: UK Sepsis Trust

Sepsis is more a dysregulated host response to an infection than a systemic or disseminated infection. Perhaps "Sepsis, and severe, systemic or disseminated infections" might be a better subtitle?

Recommended action

ACCEPT: with some additional changes.

Comment number: 2

Date received: 29/11/2021
Laboratory or organisation name: IBMS

The IBMS would also like it to be noted that there are several grammatical errors in the document that require correction prior to release. As had been noted before on previous occasions it may be worth noting to the SMI Working Groups (authors) that pre-editing should be reviewed prior to consultation to maintain professional integrity of the documents for consultation.

The following grammatical errors were found throughout UK SMI S 12: sepsis and other systemic and disseminated infections:

Words and letters missing.
Spaces missing between words.
Reference numbers not put in brackets as is standard practice.
Abbreviations not defined. It is standard and correct practice to use the whole name or subject matter followed by the abbreviation in brackets where the name or subject first appears and then to subsequently use just the abbreviation.
Italics not being used where it is standard and correct practice i.e. Latin names.

Recommended action

ACCEPT: Amendments made.

Comment number: 3

Date received: 26/11/2021
Laboratory or organisation name: Royal College of GPs

I've had no response to this except GPs saying they don’t do blood cultures. I had a read through and it looks fine to me!

Recommended action

NONE.

Comment number: 4

Date received: 29/11/2021
Laboratory or organisation name: British In Vitro Diagnostics Association (BIVDA)

The document is minimal on identifying new and emerging technologies to aid with sepsis diagnosis. As an example, the document does not cover the diagnostic capability using transcriptomics for patient/host response on infection. Furthermore, the document does not adequately cover rapid point of care testing (POCT) also available to aid sepsis diagnosis. Point of care products allow for rapid diagnosis (in some cases as quickly as within 30 mins), meaning patients can be treated faster and have a better prognosis as indicated within the Sepsis 6 pathway. We would encourage these be included in the scope of the document. This is key area of the management of infections and is a newly evolving area for diagnosis to identify outcomes both within the laboratory and at point of care.

This sector of diagnostics is rapidly evolving, with new innovations being introduced to the market regularly. There is no mention within this document of innovative products and the benefits they could bring to patients. Inclusion of reference to innovative technologies would bring this document in line with other government publications which encourage innovation for diagnostics in the UK.

In a number of places throughout the document, blood is referred to as a sample type. Samples may be from whole blood, serum, plasma or from blood cultures, so further differentiation within the document may be beneficial to clarify this.

The literature review seems comprehensive in regards to the number of publications that were considered (n=173) but has a surprising very low number of recent publications with nothing after 2018 (3 from 2016, 4 from 2017, 3 from 2018). This would need to be updated to ensure conclusions are still valid and recent advancements have not been missed.

Generally, the references used to evidence scientific data on sepsis and other disseminated infections were historical, with most of the references being over 10 years old. Many more recently publications are available on this area, and we would welcome more up to date scientific evidence.

The conclusions go on to state that there is insufficient data in this area, which we believe is not accurate.

Recommended action

1. ACCEPT: It is the view of the working group that transcriptomics does not yet have a clinical platform and is currently a research tool. Availability of point of care testing has been added to the document
2. ACCEPT: Availability of new systems added to the document
3. ACCEPT: Clarification made
4. ACCEPT: References updated.

Scope of document

Comment number: 5

Date received: 19/11/2021
Laboratory or organisation name: UK Sepsis Trust

See comment regarding subtitle above. Sepsis is not necessarily either a systemic or disseminated infection, rather it is a host response to a (sometimes simple) infection

Recommended action

1. ACCEPT: with some additional changes.

Comment number: 6

Date received: 29/11/2021
Laboratory or organisation name: IBMS

Consider rewording “The UK SMI does not address the detection of parasites, viral load testing or Mycobacterium species” to The UK SMI does not address the detection of parasites, Mycobacterium species or viral load testing.

Recommended action

ACCEPT: Amendment made.

Background

Comment number: 7

Date received: 19/11/2021
Laboratory or organisation name: UK Sepsis Trust

Add 'or invasive infection of other body fluids'? e.g. CSF culture can't identify bacteraemia.

….and UTIs and intra-abdominal infection? (more prevalent than septic arthritis)

Recommended action

1. ACCEPT: Amendment made
2. ACCEPT: Amendment made

Comment number: 8

Date received: 29/11/2021
Laboratory or organisation name: IBMS

Increasing numbers of commercial systems are becoming available that can detect specific bacterial and fungal pathogens and their more important resistance…

The meaning of the sentence is unclear, consider rewording:
In some clinical settings, namely critically ill and significantly immunocompromised patients, targeted investigation for certain viral and fungal causes are indicated.

Recommended action

NONE: The working group was of the opinion that the meaning of the sentence was clear.

Section 4.4.2 Neonatal sepsis

Comment number: 9

Date received: 06/12/2021
Laboratory or organisation name: MSTAG

Define early and late onset please for neonatal sepsis.

Recommended action

ACCEPT: Amendment made.

Section 4.5.1 Community acquired infection

Comment number: 10

Date received: 19/11/2021

Laboratory or organisation name: UK Sepsis Trust

Have we defined zoonosis yet? Didn't spot it!

Recommended action

ACCEPT: Amendment made.

Section 4.5.6 Infective endocarditis

Comment number: 11

Date received: 19/11/2021
Laboratory or organisation name: UK Sepsis Trust

C. burnetii, - Why single this organism out? Just asking. Other organisms causing endocarditis can be detected in blood?

Would it be helpful/ useful to state that S bovis can be associated with an underlying GI malignancy?

Recommended action

1. ACCEPT: Amendment made.
2. ACCEPT: Amendment made

Comment number: 12

Date received: 23/11/2021
Laboratory or organisation name: NHS Lothian

Streptococcus bovis (S. bovis biotype 1 may also be referred to as S. gallolyticus subsp. gallolyticus) (46)
The correct wording would be "S. gallolyticus subsp. gallolyticus- may also be referred to as S. bovis biotype 1" We should use current taxonomy with a reference to the old and not perpetuate out of date nomenclature as the norm.

Prosthetic valve endocarditis
Would include a reference to Mycobacteria after the Mycobacterium chimerae outbreak - there may still be patients at risk of Mycobacterium chimerae infection. Would suggest "in culture negative PVE consider Mycobacteria and Moulds such as Asperguilus as possible causes."

Recommended action

1. ACCEPT: Amendment made.
2. ACCEPT: Amendment made

Section 4.5.8 Immunocompromised patients

Comment number: 13

Date received: 19/11/2021
Laboratory or organisation name: UK Sepsis Trust

Is it worth mentioning that even relative neutropenia increases risk?

Recommended action

ACCEPT: Amendment made.

Section 4.5.10 Viral sepsis

Comment number: 14

Date received: 19/11/2021
Laboratory or organisation name: UK Sepsis Trust

I think we should include a section on SARS-CoV-2 sepsis here - happy to help?

Recommended action

ACCEPT: Link to V58 – SARS-CoV-2 serology added under section for viral sepsis.

Section 4.6.1 Automated blood culture analysers

Comment number: 15

Date received: 19/11/2021
Laboratory or organisation name: UK Sepsis Trust

Excellent to see recommendation here!

Recommended action

NONE. With reference to placing blood culture bottles on analyser ideally within a maximum of 4 hours.

Comment number: 16

Date received: 29/11/2021
Laboratory or organisation name: IBMS

Blood cultures should be placed on the continuous monitoring blood culture machine 24 hours a day, as soon as possible after collection and ideally within a maximum of 4hours.

This may be difficult for smaller, more rural labs or those in networks with blood culture capability at significant distances

Recommended action

ACCEPT: Amended to ‘Blood cultures should where possible be placed on the continuous monitoring blood culture machine’.

Section 4.6.2 Molecular and other technologies

Comment number: 17

Date received: 19/11/2021
Laboratory or organisation name: UK Sepsis Trust

Do we need an inclusion on moving toward near patient molecular techniques e.g. for legionella?

Recommended action

ACCEPT: Molecular and other technologies section expanded.

Comment number: 18

Date received: 29/11/2021
Laboratory or organisation name: Werfen UK

There is no mention of technologies that use whole blood (not blood culture) collected in EDTA. T2MR is a molecular test using whole blood and should be taken at the same time as a blood culture however this sample cannot be analysed using the blood from the blood culture bottle. It must be collected into an EDTA tube.

Recommended action

ACCEPT: Amendment made.

Comment number: 19

Date received: 26/11/2021
Laboratory or organisation name: bioMerieux

Please see here a review worth considering (DOI: 10.1093/cid/ciw649) where data from 31 studies (5,920 patients) showed the use of rapid molecular technologies was associated with a significant lower risk of mortality mRDT as compared to conventional microbiology methods, a decreased Time to effective therapy by a weighted mean difference of -5.03 h and a decreased length of stay by -2.48 days. Rapid PCR-based blood culture identification panels have showed benefits to established

Antimicrobial Stewardship Programs (Wenzler E., et al. Am J Health Syst Pharm. 2018; Banerjee R, et al., Clin Infect Dis. 2015; MacVane SH, Nolte FS, J Clin Microbiol 2016, Verroken A., et al., PLoS One. 2019) - it would certainly be useful to review and comment on this topic

Molecular technologies have the potential to be used near-patient potentially maximising their benefits. This aspect had been taken into consideration in the document.

Recommended action

ACCEPT: Amendment made.

Section 4.7 Algorithm 1

Comment number: 20

Date received: 19/11/2021
Laboratory or organisation name: UK Sepsis Trust

Review antimicrobials within 48 hours……..or as soon as microbiological results are available?

Recommended action

ACCEPT: Amendment made.

Comment number: 21

Date received: 29/11/2021
Laboratory or organisation name: Werfen UK

T2MR should be collected at the same time as blood culture and/or biomarker tests. The sample can then be analysed either in the microbiobiology lab (or in special cases) at point of care.

Recommended action

NONE.

Comment number: 22

Date received: 23/11/2021
Laboratory or organisation name: Member of the public

Very easy to follow and clear

Recommended action

NONE.

Section 4.8 Algorithm 2

Comment number: 23

Date received: 23/11/2021
Laboratory or organisation name: Member of the public
Again very clear to follow

Recommended action

NONE.

Section 5 Pre laboratory processes

Comment number: 24

Date received: 29/11/2021
Laboratory or organisation name: Werfen UK

Please could we add - whole blood collected in EDTA for T2MR (T2 magnetic resonance)

Recommended action

ACCEPT: Amendment made.

Comment number: 25

Date received: 19/11/2021
Laboratory or organisation name: UK Sepsis Trust

Should we therefore be recommending 2% CHG in 70% IPA? Apologies if I've missed this

Recommended action

ACCEPT: with addition of ‘Follow local guidance’.

Comment number: 26

Date received: 06/12/2021
Laboratory or organisation name: MSTAG

CE/CA marked change for future proofing.

Recommended action

ACCEPT: Amendment made.

Comment number: 27

Date received: 23/11/2021
Laboratory or organisation name: NHS Lothian

If a patient is septic and has suspected endocarditis it is still possible to get blood cultures that can be interpreted using the DUKE criteria "all of three or a majority of four separate cultures of blood (with first and last sample drawn 1 h apart".
I would suggest three sets with the first set and last set drawn an hour apart cf BSAC endocarditis guidelines J Antimicrob Chemother 2012; 67: 269 â€“289

I would suggest a caveat - "in patients with prosthetic valves and skin flora coming up in the blood cultures, up to six blood cultures in total can help determine whether this is a contaminant or continuous bacteraemia. In PVE do not automatically dismiss anything as a contaminant for example Cutibacterium acnes has been reported to cause PVE."

Recommended action

ACCEPT: Amendment made.

Comment number: 28

Date received: 24/11/2021
Laboratory or organisation name: IBMS

Some systems have specific paediatric bottles.

Recommended action

ACCEPT: Amendment made.

Comment number: 29

Date received: 29/11/2021

Laboratory or organisation name: Werfen UK

T2MR samples should be treated as urgent and nor refrigerated

Recommended action

ACCEPT: Amendment made to follow manufacturer's instruction when testing on EDTA sample is referenced.

Comment number: 30

Date received: 06/12/2021
Laboratory or organisation name: MSTAG

*Samples should not be refrigerated or placed in a pre incubator….*contradictory with page 12 where the information was non committal.

Recommended action

ACCEPT: Amendment made for clarity.

Comment number: 31

Date received: 06/12/2021
Laboratory or organisation name: MSTAG

Reference to typhoid and paratyphoid work performed in a MSC under CL3 conditions are redundant as they are hazard group 3.

Recommended action

ACCEPT: Amendment made.

Comment number: 32

Date received: 06/12/2021
Laboratory or organisation name: MSTAG

….venting of blood culture bottles) must be……. Ideally – not must, with regard to blood culture venting, according to HSE-risk assessments? Problems with cabinet availability.

Recommended action

ACCEPT: Amendment made.

Section 6 Laboratory processes

Comment number: 33

Date received: 26/11/2021
Laboratory or organisation name: UKHSA PHL Birmingham

SMI states that negative bottles from automated systems should be subcultured if clinically indicated. Could you please clarify what counts as being 'clinically indicated'?

Recommended action

ACCEPT: sentence deleted.

Comment number: 34

Date received: 23/11/2021
Laboratory or organisation name: Member of the public

Very understanding

Recommended action

NONE.

Comment number: 35

Date received: 29/11/2021
Laboratory or organisation name: Werfen UK

Could EDTA for T2MR testing be added here?

Recommended action

ACCEPT: Molecular and other technologies section expanded.

Comment number: 36

Date received: 26/11/2021
Laboratory or organisation name: UKHSA PHL Birmingham

Currently, our practice is to subculture onto one blood agar in CO2, CLED, chocolated blood agar, and one blood agar incubated anaerobically. Is this an acceptable alternative to using specific anaerobic agar (FAA)?

Recommended action

NONE.

Comment number: 37

Date received: 26/11/2021
Laboratory or organisation name: UKHSA PHL Birmingham

In the case of a bottle having a positive growth curve but no growth on culture, is sending the blood culture for molecular testing e.g., 16S PCR an acceptable alternative?

Recommended action

NONE.

Comment number: 38

Date received: 29/11/2021
Laboratory or organisation name: Thermo Fisher Scientific

There is a lack of reference to rapid antimicrobial susceptibility testing options that are available other than EUCAST rapid disc methodology.

Further, the rapid disc method is quoted as "The European Committee on Antimicrobial Susceptibility Testing (EUCAST) RAST method (129) has been shown to provide reliable antimicrobial susceptibility testing results for relevant antimicrobial agents and bloodstream infection pathogens after 4 to 6 hours of incubation"

According to their website this is 4,6 and 8 hours. The process is more labour intensive than other commercially rapid antimicrobial susceptibility testing, requires multiple read times, and is more limited in drug-bug combinations. As per the rapid methods section that only includes molecular ID, it would be more balanced and educational report if summarising not just EUCAST option.

Recommended action

ACCEPT: Antimicrobial susceptibility testing section expanded to refer technologies used to provide rapid antimicrobial susceptibility testing (AST).

Comment number: 39

Date received: 26/11/2021
Laboratory or organisation name: bioMerieux

Recent technology now enables MIC results direct from positive blood cultures - this methodology has however not been commented on in this report.

Recommended action

ACCEPT: Antimicrobial susceptibility testing section expanded to refer technologies used to provide rapid antimicrobial susceptibility testing (AST).

Section 7 Post laboratory processes

Comment number: 40

Date received: 19/11/2021
Laboratory or organisation name: UK Sepsis Trust

Positive results…..to whom and how? Do we need to be explicit e.g. 'by telephone call to responsible admitting clinician'?

Recommended action

NONE: It is the view of the working group that reporting to whom and how should be decided at a local level.

Comment number: 41

Date received: 26/11/2021
Laboratory or organisation name: UKHSA PHL Birmingham

Does 'reporting of supplementary investigations' refer to antimicrobial susceptibility testing only?

Recommended action

NONE: Not only for antimicrobial susceptibility testing, can be for 16S, 18S or PVL.

Section Appendix A

Comment number: 42

Date received: 26/11/2021
Laboratory or organisation name: bioMerieux

Investment:
'they do not assume that the pathology service is required to invest in specific equipment, but encourage the optimal use of the resources already in place.'

The comment is rather discouraging- the key role of Diagnostics has been emphasised during the recent pandemic and is now clear that new technologies can rapidly and accurately identify infections and inform the appropriate antimicrobial usage in turn improving patient outcomes. Trusts should at least be encouraged to explore what technology, in their particular workflow, could bring benefits to their patients. This is also in contradiction with the…….

Recommended action

NONE.

Section Appendix B

Comment number: 43

Date received: 29/11/2021
Laboratory or organisation name: Werfen UK

Please could we add molecular to summary table 1.
This test is collected and run less or equal to 4 hours. A final result will then be available to the clinician in 3-5 hours.

Recommended action

NONE.

Comment number: 44

Date received: 26/11/2021
Laboratory or organisation name: bioMerieux

Inadequate empirical therapy is associated with increased mortality in patients with BSI (doi:10.1128/AAC.00462-11), therefore improved TAT is a critical part that should be carefully looked at. It is therefore surprising to see only one reference and this paper only looked at pre-incubation at 37 degrees. There is published evidence for improved TAT leading to improved patient outcomes, especially in the last 5 years. Here is one example (Cavalieri et al. Diagn Microbiol Infect Dis. 2019 Oct;95(2):208-21) where the use of fast ID and AST was associated with a reduction in antibiotic duration as well as patient length of stay in ICU and hospital.

'There is also the potential to enable earlier optimisation of antimicrobial use, although robust data are also lacking (2,26,35)'
This point is also critical but seems was not reviewed properly as highlighted by the fact that only 3 papers were reviewed including one from 1987. See paper above as well as another example from the UK- in this paper (https://doi.org/10.1016/j.jhin.2017.12.023) the analysis of 106 consecutive significant positive blood cultures showed that almost one-third of patients did not receive appropriate empiric antibiotic therapy and early availability of antibiotic susceptibilities would have influenced treatment in 10 (29.4%) cases.

Please consider a 2020 review (https://doi.org/10.1016/j.cmi.2019.11.017) from the ESCMID Study Group for Bloodstream Infections, Endocarditis and Sepsis (ESGBIES) concluded: ' Continuous improvement of the whole BSI diagnostic process, based on sampling quality and time to result, should be a priority to improve patient outcome and avoid unnecessary antibiotic treatment. This should be a pivotal guiding line of the European health policies.'

Recommended action

NONE.

Comment number: 45

Date received: 26/11/2021
Laboratory or organisation name: bioMerieux

(https://doi.org/10.1371/journal.pone.0208819) 'In current clinical practice, bacteraemia is considered unlikely if blood cultures have been negative for 48–72 hours. Modern BC systems have reduced this time-to-positivity (TTP), questioning whether the time frame of 48–72 hrs is still valid.' 'the probability of bacteremia, if BC had remained negative for 24 hours, was 1.8% (95% CI 1.46–2.14).'
These data are showing that reporting time should be reduced and not extended as suggested in this recommendation

Recommended action

NONE.

Comment number: 46

Date received: 19/11/2021
Laboratory or organisation name: Medical Microbiology Health and Social Care Trust

Result availability to consultant microbiologist

Would that be better as ''Result availability to Infection Specialist and/or Health care professionals caring for patient''

Recommended action

ACCEPT: Amendment made.

Comment number: 47

Date received: 26/11/2021
Laboratory or organisation name: bioMerieux

See recent paper (https://doi.org/10.1016/j.cmi.2021.09.003) showing that the limited laboratory opening hours and availability of clinical microbiologists are preventing actionable results from positively impacting stewardship. This aspect is not covered in this document.

Recommended action

NONE.

Comment number: 48

Date received: 06/12/2021
Laboratory or organisation name: MSTAG

Final negative report - Less than or equal to 5 days…..
This is vague. How much less than 5 days?

Final positive report - Some orgs flag up at 5 days therefore final positive is later than 5 days.

Recommended action

ACCEPT: Less than or equal to 5 days of completed incubation.

Financial barriers

Respondents were asked: 'Are there any potential organisational and financial barriers in applying the recommendations or conflict of interest?'.

Comment number: 49

Date received: 19/11/2021
Laboratory or organisation name: UK Sepsis Trust

No response.

Comment number: 50

Date received: 23/11/2021
Laboratory or organisation name: NHS Lothian

No

Comment number: 51

Date received: 29/11/2021
Laboratory or organisation name: Werfen UK

No, currently T2MR is the only pre blood culture molecular test that can identify a range of bacteria, fungi and resistance genes.

Comment number: 52

Date received: 23/11/2021
Laboratory or organisation name: Member of the public

None

Comment number: 53

Date received: 26/11/2021
Laboratory or organisation name: UKHSA PHL Birmingham

No

Comment number: 54

Date received: 24/11/2021
Laboratory or organisation name: IBMS

No response.

Comment number: 55

Date received: 19/11/2021
Laboratory or organisation name: Medical Microbiology Health and Social Care Trust

Probably meeting the TAT for patients on sites that do not have a microbiology laboratory on site.

Comment number: 56

Date received: 26/11/2021
Laboratory or organisation name: Royal College of GPs

No response.

Comment number: 57

Date received: 26/11/2021
Laboratory or organisation name: bioMerieux

N/A

Comment number: 58

Date received: 29/11/2021
Laboratory or organisation name: Thermo Fisher Scientific

No

Comment number: 59

Date received: 29/11/2021
Laboratory or organisation name: British In Vitro Diagnostics Association (BIVDA)

Funding pathways into the NHS should be taken into account for organisations to ensure appropriate resource within health institutions. For example, the appropriateness of which organisations are applicable for efficient and optimal patient management.

Health benefits

Respondents were asked: 'Are you aware of any health benefits, side effects and risks that might affect the development of this UK SMI?'.

Comment number: 60

Date received: 19/11/2021
Laboratory or organisation name:

No response.

Comment number: 61

Date received: 23/11/2021
Laboratory or organisation name: NHS Lothian

Things are well covered in the SMI

Comment number: 62

Date received: 29/11/2021
Laboratory or organisation name: Werfen UK

None

Comment number: 63

Date received: 23/11/2021
Laboratory or organisation name: Member of the public

yes

Comment number: 64

Date received: 26/11/2021
Laboratory or organisation name: UKHSA PHL Birmingham

No

Comment number: 65

Date received: 24/11/2021
Laboratory or organisation name: IBMS

No response.

Comment number: 66

Date received: 19/11/2021

Laboratory or organisation name: Medical Microbiology Health and Social Care Trust

No

Comment number: 67

Date received: 26/11/2021
Laboratory or organisation name: Royal College of GPs

No response.

Comment number: 68

Date received: 26/11/2021
Laboratory or organisation name: bioMerieux

There are patients benefits in using rapid diagnostic methods enabling rapid appropriate antimicrobial treatment

Comment number: 69

Date received: 29/11/2021
Laboratory or organisation name: Thermo Fisher Scientific

no

Comment number: 70

Date received: 29/11/2021
Laboratory or organisation name: British In Vitro Diagnostics Association (BIVDA)

Early diagnosis is the main benefit of such standards. This includes the use of point of care products, and other products which span the whole cycle of patient management from initial presentation to treatment. The NICE guidance and National Early Warning Score (NEWS2) indicate that speed of sepsis diagnosis is essential. Rapid POC and laboratory testing analysing the host response to a septic event to inform on correct antimicrobial therapy would be of great health and economic benefit. Furthermore, effective antimicrobial therapy would reduce dependence on use of antibiotics and therefore reduce AMR.

Interested parties

Respondents were asked: 'Are you aware of any interested parties we should consider consulting with on the development of this document?'

Comment number: 71

Date received: 19/11/2021
Laboratory or organisation name: UK Sepsis Trust

No response.

Comment number: 72

Date received: 23/11/2021
Laboratory or organisation name: NHS Lothian

No

Comment number: 73

Date received: 29/11/2021
Laboratory or organisation name: Werfen UK

None

Comment number: 74

Date received: 23/11/2021
Laboratory or organisation name: Member of the public

None to my knowledge. However, Infection Prevention and Control Society may be of interest IFH - The International Scientific Forum on Home Hygiene may be of interest also

Comment number: 75

Date received: 26/11/2021
Laboratory or organisation name: UKHSA PHL Birmingham

No

Comment number: 76

Date received: 24/11/2021
Laboratory or organisation name: IBMS

No response.

Comment number: 77

Date received: 19/11/2021
Laboratory or organisation name: Medical Microbiology Health and Social Care Trust

No

Comment number: 78

Date received: 26/11/2021
Laboratory or organisation name: Royal College of GPs

No response.

Comment number: 79

Date received: 26/11/2021
Laboratory or organisation name: bioMerieux

no

Comment number: 80

Date received: 29/11/2021
Laboratory or organisation name: Thermo Fisher Scientific

no

Comment number: 81

Date received: 29/11/2021
Laboratory or organisation name: British In Vitro Diagnostics Association (BIVDA)

BIVDA would be keen to contribute to any further conversations on this topic as the trade association for in vitro diagnostic organisations.

Respondents indicating they were happy with the contents of the document

Overall number of comments: 0			
Date received		**Lab name/Professional body (delete as applicable)**	
Health benefits			