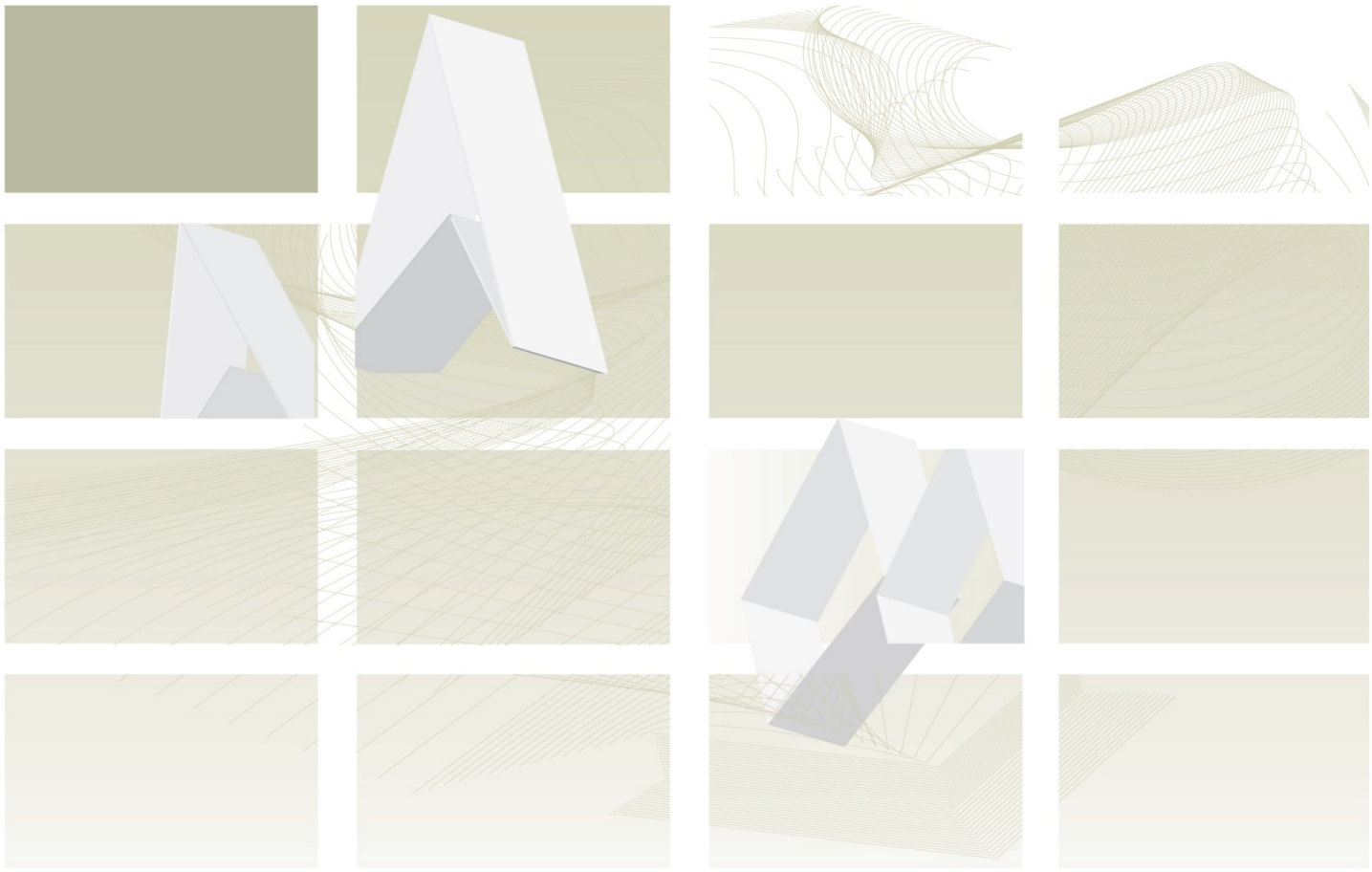
Public Health England

NHS

UK Standards for Microbiology Investigations

Review of users' comments received by
Working group for microbiology standards in clinical bacteriology

Q 1 Evaluations, validations and verifications of diagnostic tests



NICE accredited
www.nice.org.uk/accreditation

"NICE has renewed accreditation of the process used by **Public Health England (PHE)** to produce **UK Standards for Microbiology Investigations**. The renewed accreditation is valid until **30 June 2021** and applies to guidance produced using the processes described in **UK standards for microbiology investigations (UKSMIs) Development process, S9365', 2016**. The original accreditation term began in **July 2011.**"

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

Consultation: 07/09/2015 – 05/10/2015

Version of document consulted on: Q 1dy+

Proposal for changes

Comment number	1		
Date received	21/09/2015	**Lab name**	East Kent Microbiology Service
Section	All		
Comment			
I sent this round locally for comment - Everyone likes it! Comments I got back were positive for layout, clarity and flowcharts.			
Recommended action	**NONE** Many thanks for the information.		

Comment number	2		
Date received	30/09/2015	**Lab name**	NHS Fife Medical Microbiology
Section	Appendix 4		
Comment			
The confusion for many people is clear difference in the meaning of validation and verifying the document would be greatly enhanced if a short statement could be included eg Verification is undertaken when a calibrated pipette is checked on a monthly basis to confirm it performs as it is expected. Where data is provided (with samples to compare) by manufacturer, verification will suffice for kit performance otherwise validation must be undertaken.			
Financial barriers			
No.			
Health benefits			
No.			
Recommended action	**NONE** The examples for validation and verification have been mentioned in the Appendix 5 of this document and it also differentiates different scenarios that can be experienced by staff in the laboratory.		

Comment number	3		
Date received	02/10/2015	**Lab name**	Dundee
Section	Several		

Comment

Parameters used in evaluations, verifications or validations of diagnostic methods the uniformity of bacterial load in the sample suggest The substance being measured (e.g. microbial load)

a. Note: these parameters are highly population dependent and influenced by the prevalence of disease. Predictive values are always affected by prevalence. This is not true of sensitivity or specificity; these are better considered as inherent to the assay. They will only be affected if the population is qualitatively different rather than quantitatively. For example, if two populations have the same prevalence but a different proportion of people in the very early phase of infection (with a low microbial load) the sensitivity and but not specificity of the assay will be different. In contrast in a situation where populations have different prevalences but similar microbial loads in the infected cases, then the sensitivity and specificity are likely to be the same. Predictive values will be different in this case. This is extremely important, and widely misunderstood, it deserves a better explanation than this.

b. Linearity I think this needs more information on appropriate measurements and perhaps a worked example in an appendix.

c. Purpose of evaluations, verifications and validations[9]. I personally think this would be clearer if merged with the definitions section.

d. ‘inappropriate panel of specimens, for example selected on the basis of results from an assay involved in the evaluation/validation

   use of a panel that is over represented with specimens that have been pre-screened by a kit that is the same as that tested within the evaluation/validation

   premature discussion or analysis of results (except by the statistician)’

   Repetition here, first should be for example, different age, risk or sex mix from expected test population. Interim analysis should only be conducted where pre-planned e.g. to ensure panel is appropriate.

e. References are useful. Could we include a hyperlink where the full texts of these are available online?

f. Regarding organisational and financial barriers: I have had great difficulties during competitive tendering processes and managed service contracts are concerned. Often the complexity and rigidity of these mean using an assay that is not performing as well as another assay from a different manufacturer simply because you are taking that manufacturer's assays as a whole package to drive costs down. Also the verifications tend to be done after the managed service contract has been agreed upon and it is too late to change. Cost and staff time constraints are also very substantial.

Financial barriers

See above.

Recommended action	a. **ACCEPT** The information in the comment 'a' has been added to the document accordingly. b. **ACCEPT** An example of linearity has been added to the document. c. **NONE** This will remain as it is in the document. It was agreed that it was useful. d. **ACCEPT** This has been updated in the document accordingly. e. **NONE** This is not within the remit of the SMI. We only include links to guidelines but not for articles and journals due to copyright reasons. f. **ACCEPT** Thanks for the information. Staff time constraints have been added to the section on cost approaches to be considered when carrying out evaluation, validation or verification.

Comment number	4		
Date received	02/10/2015	**Lab name**	HSL pathology
Section	2		
Comment			
It will be useful if numerical number recommended for sample size for statistical purpose. For example CLIA suggest 20 samples, however this may not be achievable or may not be enough. It does not have to be requirement or limitation, but something we can work toward.			
Evidence			
https://www.cms.gov/Regulations-and-Guidance/Legislation/CLIA/downloads/6064bk.pdf			
Financial barriers			
No.			
Health benefits			
No.			
Recommended action	**NONE** This is not within the remit of the SMI. It does not recommend the number of samples that should be tested when performing		

	evaluations, validations and verifications as it would be difficult to do so as the methods required will depend on the scenario, sample type and desired outcomes. The number of samples tested depends on the laboratory.

Comment number	5		
Date received	05/10/2015	**Lab name**	PHE Virus Reference Department
Section	Appendix 2 and 3		
Comment			
a. There are still references to MiDAS reports within the document, in Appendix 2 and 3 tables. As the MiDAS dedicated evaluations unit closed a few years ago, I think it would now be better to refer to evaluation reports in general. b. P.S to note that the IVDD Directive mentioned in this SMI will be replaced by the new IVDD directive currently under negotiation in the EU. This doesn't necessarily affect the current update of this Q1 document (unless just to mention it is coming), but need to be aware of this for the next update.			
Recommended action	a. **ACCEPT** This has been amended accordingly. b. **NONE** Many thanks for the information on the new IVDD Directive that is still under review in the EU.		

Respondents indicating they were happy with the contents of the document

Overall number of comments: 1			
Date received	05/10/2015	**Lab name**	Aberdeen Royal Infirmary, Medical Microbiology