

UK NEQAS Microbiology User Day- Portugal

Scoring and Performance in UK NEQAS Bacteriology Schemes

Christine Walton

Lisbon and Oporto
15 and 16 October 2008

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Biagnostica - Portugal





EDWARDS
Model 1000
Serial 1000
Date 10/10/00
1000

EDWARDS
Model 1000
Serial 1000
Date 10/10/00
1000

EDWARDS
Model 1000
Serial 1000
Date 10/10/00
1000

HSV-2 1/10
HSV-2 14/5/01
HSV-2 1/10
HSV-2 1/10

Warning - Avertissement - Warnung
Attention - Manuechering

Caution: Hot Surfaces
Do not touch the interior of the oven or the samples inside. The interior of the oven and the samples inside may become very hot during operation. To avoid injury, do not touch the interior of the oven or the samples inside until they have cooled down.



Scheme participation 2008

Portugal – Bacteriology

- General Bacteriology 53
- Antimicrobial susceptibility 53
- Community Medicine 70

Mean performance with common pathogens in the General Bacteriology scheme [2003-2008]

Pathogen	Number sent	Percentage fully correct	
		Portugal	All
<i>Staphylococcus aureus</i>	4	97	99
Group A streptococci	4	95	97
<i>Streptococcus pneumoniae</i>	5	97	99
<i>Klebsiella pneumoniae</i>	2	81	93
<i>Pseudomonas aeruginosa</i>	2	100	95

Mean performance with important pathogens in the General Bacteriology scheme

Pathogen	Number sent	Percentage fully correct	
		Portugal	All
<i>Pasteurella multocida</i>	2	55%	77%
<i>Neisseria meningitidis</i>	4	91%	95%
<i>Burkholderia cepacia</i>	2	87%	95%
<i>Neisseria gonorrhoeae</i>	5	77%	90%
<i>Haemophilus influenzae</i>	2	91%	95%

Mean Performance with faecal pathogens in the General Bacteriology scheme

Faecal pathogen	Number sent (scored specimens)	Percentage fully correct	
		Portugal	All
<i>Salmonella</i> spp.	10	90%	97%
<i>Shigella</i> spp.	11	89%	94%
<i>Campylobacter jejuni</i>	6(5)	59%	88%
<i>Clostridium difficile</i> (tox +ve)	6(4)	83%	91%
<i>Salmonella</i> + <i>Shigella</i>	6(3)	56%	77%

Comparison of performance with common pathogens – Community Medicine

Pathogen	Number sent	Percentage fully correct	
		Portugal	All
Group A streptococcus	2	94%	95%
<i>Streptococcus pneumoniae</i>	3	81%	85%
<i>Pseudomonas aeruginosa</i>	1	95%	94%

Comparison of performance with faecal pathogens – Community Medicine

Pathogen	Number sent	Percentage fully correct	
		Portugal	All
<i>Shigella sonnei</i>	1	71%	76%
<i>Salmonella</i> spp.	2	75%	81%
<i>Campylobacter jejuni</i>	2	10%	41%

Cumulative score information

Identification

Total number of specimens sent to you for **UK NEQAS for Community medicine** over the last 4 distributions is 8
Specimen numbers 8589 8590 8668 8669 8817 8818 8960 8961 have been analysed and scored.

Number of reports returned and scored 8
Number of specimens reported as not examined (not scored) 0
Number of specimens received too late for analysis (not scored) 0
Number of specimens for which no report was received (scored as 0) 0
Your cumulative score for these specimens was 16 out of a possible total of 16

The mean score calculated from the reports returned by ALL laboratories was 12.36 (with a standard error of 2.93)
Your performance rating for **UK NEQAS for Community medicine [Identification]** (i.e. the number of standard errors by which your cumulative score lies above or below the mean) for ALL laboratories is 1.24

Antimicrobial susceptibility testing

Total number of specimens sent to you for **UK NEQAS for Community medicine** over the last 4 distributions was 8
Specimen numbers 8591 8592 8670 8671 8819 8820 8962 8963 have been analysed and scored
Your cumulative score for the specimen/test combinations that you reported was 79 out of a possible 79
The mean score calculated from the reports returned by ALL laboratories testing the specimen/test combinations you examined was 71.40 (with a standard error of 2.04)
Your performance rating for **UK NEQAS for Community medicine [Susceptibility]** (i.e. the number of standard errors by which your cumulative score lies above or below the mean) for ALL laboratories is 3.73.

A performance rating of more than 1.96 standard errors below the mean indicates possible poor performance.
Cumulative scores may change if participants' results are amended.

Scoring for bacteriology schemes

Table 1. Single 'core' or 'advanced' pathogen

Response	core	advanced
Unexpected pathogen	-1	-1
Negative result	0	0
Unnamed/unspecified micro-organism	0	0†
Correct genus only	0	2
Correct direct toxin result	2	2
Correct species *	2	2
Correct species but incorrect serotype / toxin	0	1
Incorrect species	0	1
Incorrect genus	0	0
Additional unexpected pathogen	-1	-1

* With or without the correct serotype / toxin result

† 'Unnamed anaerobe' specified scored as 1

Categorisation of pathogens for scoring

BACTERIA and FUNGI

List of bacteria and fungi distributed and categorised as 'core' or 'advanced' organisms in accordance with the General Bacteriology scoring scheme criteria.

Core	Advanced
<i>Aeromonas hydrophila</i>	<i>Actinomadura madurae</i>
<i>Arcanobacterium haemolyticum</i>	<i>Acinetobacter lwoffii</i>
<i>Bacteroides fragilis</i>	<i>Acinetobacter baumannii</i>
Beta haem. streptococcus group A, B, C, G	<i>Actinomyces israelii</i>
<i>Candida albicans</i>	<i>Actinomyces odontolyticus</i>
<i>Clostridium bif fermentans</i>	<i>Agrobacter radiobacter</i>
<i>Clostridium difficile</i>	<i>Aspergillus flavus</i>
<i>Clostridium perfringens</i>	<i>Aspergillus fumigatus</i>
<i>Clostridium septicum</i>	<i>Aspergillus niger</i>
<i>Clostridium sporogenes</i>	<i>Bacillus cereus</i>
<i>Clostridium tetani</i>	<i>Bacillus subtilis</i>
<i>Corynebacterium diphtheriae</i>	<i>Bordetella parapertussis</i>
<i>Corynebacterium striatum</i>	<i>Bordetella pertussis</i>
<i>Corynebacterium ulcerans</i>	<i>Burkholderia cepacia</i>
<i>Cryptococcus neoformans</i>	<i>Campylobacter coli</i>
<i>Enterococcus faecalis</i>	<i>Campylobacter jejuni</i>
<i>Enterococcus faecium</i>	<i>Candida krusei</i>
<i>Enterococcus gallinarum</i>	<i>Candida parapsilosis</i>
<i>Erysipelothrix rhusiopathiae</i>	<i>Candida tropicalis</i>
<i>Escherichia coli</i> O157	<i>Capnocytophaga canimorsus</i>
<i>Haemophilus influenzae</i>	<i>Cardiobacterium hominis</i>
	<i>Clostridium novyi</i>

On my report some results were not scored, why?

- Some organisms are never scored; for example *Pleisiomonas shigelloides*
- Sometimes a specimen is excluded from scoring :
 - educational e.g.
 - due to lack of a consensus result by the referee laboratories e.g.
 - undetected quality control issue

GB specimens not scored

Challenging organisms	Species	Genus	Incorrect genus	Negative
<i>Capnocytophaga canimorsus</i>	32%	29%	23%	4%
<i>Rothia mucilaginosa</i>	41%	6%	33%	1.5%
<i>Bacillus cereus</i>	40%	37%	1.7%	14%

GB specimens not scored

Educational specimens	Species	Genus	Negative
<i>Pleisomonas shigelloides</i>	79%	0.7%	15.3%
<i>Fusobacterium necrophorum</i>	75%	7%	6.5%
<i>Clostridium sporogenes</i>	27%	33%	3%

Other reasons for considering altering a result or score

Disagreement with scoring scheme	Discuss rationale, if strong disagreement refer to Panel at next meeting, score stands in meantime
UK NEQAS error in interpretation or allocation of score	Modify score
Transposition of specimens/results	Score stands
Apparent false positive/false negative with kit serum (participants may argue that this is the correct result given by their kit)	Investigate reasons, consult manufacturer, individual scores stand unless decision made to alter all scores with relevant kit
Information (or lack of it) supplied with EQA specimen resulted in different and inappropriate action compared with normal treatment of equivalent clinical specimen	Not examined
Transposition of results: for routine specimens results are automatically transferred from analyser to report.	Ask for copy of analyser output and automated report. Modify score
Specimens not received	Not examined

On receipt of specimens

- Is the specimen relevant to your normal practice?
 - Type of specimen, clinical information
- Treat the specimens as you would an equivalent patient specimen
 - Same staff, same tests, routine methods
- Keep records of your results to help investigate any errors
- Keep any remaining specimen

On receipt of intended results

- Compare your results with the intended results
- Decide if repeat specimens are needed
- Decide if immediate action is necessary or whether to wait for the distribution report (usually 7-10 days)

On receipt of the individual report

- Did other participants have a problem with the specimen?
- Are there relevant comments?
- Review results with all staff including successes
- Keep records of your reviews and the reasons for any decisions made

Thank you

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