BACTERIOLOGY PROFICIENCY TESTING PROGRAM

General Category

May 1, 2007

This report summarizes the results of the proficiency test administered May 1, 2007 to laboratories in the General Bacteriology category.

If you have any questions or comments, please contact either: Mrs. Deborah Baker
Dr. Wendy Archinal
Dr. Ronald Limberger

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Bacteriology Proficiency Testing Program

GENERAL INFORMATION

The Bacteriology Proficiency Testing Program. Three proficiency testing events are given annually, each consisting of a minimum of five specimens. In order to successfully complete a test event, participating laboratories must achieve a score of 80% or greater. Unsuccessful performance in the testing program is defined as a score of less than 80% on two of three consecutive test events.

Authentication. The presence and identity of the organism(s) in each specimen must be confirmed by at least 80% of the referee or participating laboratories. Referee laboratories are selected from New York State participating laboratories (located throughout the State) with acceptable and reproducible levels of performance. Sample vials are subjected to extensive quality control testing in our laboratory during preparation and storage.

Grading System. Laboratories are to process proficiency test specimens in the same manner as patient specimens. Thus, laboratories are responsible for identifying test isolates to the same level as performed on patient isolates. If your laboratory speciates an organism on special request, then you must also speciate it in the proficiency test; consider speciation to have been requested on all reportable isolates. In addition, laboratories are not responsible for culturing any test samples from specimen sources which they do not process. Information regarding your laboratory's reporting protocol was provided to us in the questionnaire previously distributed to all laboratories. Any changes in reporting protocol must be received by our office prior to the mailout date for proficiency testing for that information to be considered in grading.

Our testing format is in compliance with HCFA CMS guidelines as specified in the regulations of CLIA '88. One-half of our samples require identification of all organisms present. The other half requires that only the pathogenic organism(s) be reported. We recognize the potential for any organism to be pathogenic depending on the clinical condition of the patient. However, our samples are designed so that only well-established pathogens should be reported.

Tests are graded in strict adherence to HCFA CMS guidelines, as specified in the regulations of CLIA '88. Each of the specimens receives a score as determined by the following formula:

$$(a + b)/(c + d + e) \times 100\%$$

a = # correct identifications
b = # correct antibiotic susceptibility results (if applicable)
c = # possible identifications
d = # possible antibiotic susceptibility results (if applicable)
e = # additional organisms reported

Grades for each sample are then averaged to determine the final grade for this testing event. The minimum passing grade for each test event is 80%.

Disclaimer

The use of brand and/or trade names in this report does not constitute an endorsement of the products on the part of the Wadsworth Center or the New York State Department of Health.

Notes of Interest

Manual of Clinical Microbiology, 9th Edition
The latest edition of this reference book is now available from ASM Press. Ordering information for this and other reference materials can be found at http://estore.asm.org or by calling 800-546-2416.

Bacteriology Questionnaires
Please make sure that the information on your laboratory's Bacteriology Questionnaire is accurate. If you need a copy of your questionnaire for review, please contact our office at 518-474-4177 or email us at bacti@wadsworth.org. Please note that proficiency test results are graded in accordance with information on the questionnaire. **Grades will not be revised due to incorrect information on the questionnaire.**

New Director of Bacteriology Laboratory
Kimberlee Musser, Ph.D. is the new director of the Wadsworth Center's Bacteriology Laboratory. Please find her letter of introduction on the following page.

Letter of Introduction from New Bacteriology Director

Dear Microbiology Laboratory Director:

I would like to introduce myself. I was recently promoted to the position of Director of the Bacteriology Laboratory at the Wadsworth Center, NYSDOH. I came to Wadsworth Center in 1998 and since 2002 I have directed the Molecular Bacteriology Laboratory, which designs and validates rapid molecular assays to detect bacteria. I will continue to oversee that laboratory as well as the other sections of Bacteriology focused on culture reference methods and molecular typing as we continue to strive to offer the most advanced and comprehensive testing available.

As your reference laboratory, we hope to keep our relationship with your laboratory open so we can continue to understand issues you face and testing you would like to see available at our laboratory. Additionally, we would like to continue to develop educational and training materials through the Proficiency Testing program and workshops in the future. We had a successful Bacteriology Workshop in April and we hope to continue to offer training sessions regarding the identification of difficult-to-identify bacteria, as well as molecular testing, the Clinical Laboratory Evaluation Program (CLEP) approval process, or other topics that would be of interest to your laboratory.

My contact information is listed below. Please call or email me to discuss any issues or questions regarding our procedures or our laboratory. Our doors are always open for tours. If you and/or your supervisory staff are interested in seeing what we do here, please don't hesitate to let me know. I look forward to hearing from you and hopefully meeting you in the future.

Sincerely,

Kimberlee Musser, Ph.D.

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Laboratory Guidance for the detection of KPC-producing organisms

For the past 4 to 5 years, hospitals in New York City have been combating the problem of carbapenem resistance in numerous species of *Enterobacteriaceae*, most commonly *Klebsiella pneumoniae*. Recent evidence suggests this is not a phenomenon unique to *K. pneumoniae* and isolates with carbapenem resistance have been found throughout New York State and across the country (data from the Centers for Disease Control and Prevention).

This new mechanism of resistance is a plasmid-mediated carbapenemase called the ***K****lebsiella* ***p****neumoniae* **c**arbapenemase or KPC. It is a β-lactamase enzyme that hydrolyzes all carbapenems: imipenem, meropenem, and ertapenem. KPC activity is not equal against all carbapenems; in general, the KPC enzyme is most active against ertapenem, followed by meropenem, and finally imipenem. This enzyme also confers resistance to all other β-lactam agents including the extended spectrum cephalosporins.

Given the resulting severity of infection associated with *Klebsiella pneumoniae* that harbors this enzyme and the variable nature with which the phenotype may be identified in the laboratory, recommendations are presented below to allow for clinical microbiology laboratories to be able to detect these organisms.

1) Screen for the presence of the KPC enzyme using nonsusceptibility to **ertapenem** as the indicator of the carbapenemase. It is recommended to screen all *K. pneumoniae* isolates, but laboratories may chose to screen all *Enterobacteriaceae*. Ertapenem should be tested regardless of whether or not it appears on the hospital formulary for treatment of infections. Any testing methodology is acceptable: MIC, E-test, disk diffusion, or automated susceptibility systems. Most automated systems have ertapenem incorporated into their antimicrobial susceptibility panels. Nonsusceptibility to carbapenems, including ertapenem, can also be mediated by mechanisms other than KPC, e.g., the combination of an AmpC-type β-lactamase and porin loss. Therefore, a confirmatory test for KPC-mediated resistance is recommended (see recommendation 2).

2) A **confirmatory DNA test** should be performed on any isolates that are resistant to ertapenem to establish the presence of the KPC gene. Confirmatory testing need only be performed in the initial stages of testing in order for the facility to fully understand the incidence and scope of the problem. Once the presence of the enzyme is documented, laboratories may rely on the above screening method to reliably predict the presence of the enzyme. This molecular testing is offered at the Wadsworth Center and testing should be coordinated through your hospital infection control practitioner and the New York State epidemiologists.

It is recommended that the treating physician be notified of the presence of this enzyme either through written or verbal communication with the laboratory, but there are currently no guidelines requiring reporting of the presence of this enzyme. Once a KPC producing organism has been identified, treatment options are very limited. It is recommended that susceptibility testing be performed for polymyxin-B or colistin and tigecycline as these may be agents that a physician might use for treatment.

If you have any questions regarding these guidelines, please contact Dr. Kim Musser, Nellie Dumas, or Donna Kohlerschmidt in the Wadsworth Center Bacteriology Laboratories at (518) 474-4177.

MAY 1, 2007 TEST EVENT

Number of Participating Laboratories:

Receiving specimens	**227**	
Returning results	**227**	**(100%)**

Grade Distribution		
Score	Number	Percent
100%	188	82.8
90 – 99%	8	3.5
80 – 89%	26	11.5
70 – 79%	3	1.3
< 70%	2	0.9

BACTERIOLOGY - GENERAL
MAY 1, 2007
ANSWER KEY

Specimen No. 1 - Stool (Pathogens Only)
Escherichia coli O157:H7 / *Escherichia coli* O157

Specimen No. 2 – Cerebrospinal fluid (All Organisms)
Neisseria meningitidis

Specimen No. 3 – Tissue - Aerobic / Anaerobic (All Organisms Reported)
Clostridium perfringens
Enterobacter cloacae

Specimen No. 4 – Wound (Pathogens Only) and Antibiotic Susceptibility
Staphylococcus aureus

Susceptibility of *S. aureus* to:	Oxacillin - Susceptible
	Vancomycin - Susceptible

Specimen No. 5 – Sputum (Pathogens Only)
Streptococcus pneumoniae

***Chlamydia* Specimen**
Positive for *Chlamydia trachomatis*

Direct Antigen Detection

A (Throat)	Negative for Group A *Streptococcus*
C (Genital)	Positive for Group B *Streptococcus*

REFEREE LABORATORY RESULTS

Specimen Number	Referee Laboratory Responses	Percent*
1	*Escherichia coli O157:H7 / E.coli* O157	90
	No enteric pathogens	10
2	*Neisseria meningitidis*	100
3	*Clostridium perfringens*	100
	Enterobacter cloacae	100
4	*Staphylococcus aureus*	100
5	*Streptococcus pneumoniae*	100

* Based on responses of 10 referee laboratories

Specimen Number 1 - Stool (Pathogens Only)

This simulated stool sample contained *Escherichia coli* O157:H7. This organism was reported by 90% of the referee laboratories. Of the participating laboratories that culture stool specimens for *E. coli* O157, 83% recovered this organism. An additional 3% reported that the specimen was positive for shiga toxin.

Enterobacter cloacae and *Proteus mirabilis* were included in this specimen as nonpathogenic flora.

Those laboratories that were unable to recover *E. coli* O157 from this sample should investigate this issue and, if necessary, request another sample for remedial purposes. One possible source of error is that there were two sorbitol-negative organisms in this sample. Since organisms other than *E. coli* O157 can also produce sorbitol-negative colonies on sorbitol MacConkey (SMAC) agar, careful examination of the plate is necessary to distinguish differences in colony morphology. In the case of this sample, *P. mirabilis* also grew on SMAC agar as a sorbitol-negative colony but two types of sorbitol-negative colonies were clearly distinguishable. Use of CT-SMAC agar (SMAC with cefixime and tellurite) will inhibit growth of *Proteus* and other coliforms but may also inhibit some strains of *E. coli* O157. Additionally, laboratories should ensure that they are screening adequate numbers of sorbitol-negative colonies to determine if they are *E. coli*; it is recommended that a minimum of four sorbitol-negative colonies be screened from CT-SMAC plates.[1, 2]

[1] York, Mary K. and Patricia Rodrigues-Wong. 2004. Fecal Culture for Aerobic Pathogens of Gastroenteritis. 3.8.1.1. *In* Isenberg, H.D. (ed.) Clinical Microbiology Procedures Handbook, 2nd edition, volume 1. ASM Press, Washington, DC.

2 Karch, H. et al. 1996. Isolation of enterohemorrhagic *Escherichia coli* O157 strains from patients with hemolytic-uremic syndrome by using immunomagnetic separation, DNA-based methods and direct culture. J. Clinical Microbiology. 34:516-519.

Methods of identification used by laboratories reporting:
***Escherichia coli* O157:H7 / *E. coli* O157**

bioMerieux Vitek GNI +	42
Dade Behring MicroScan Gram Neg ID	40
bioMerieux API 20E	17
bioMerieux Vitek 2 GN	12
Remel RIM *E. coli* O157:H7	12
Oxoid *E. coli* O157 Latex	5
No test method specified	4
Conventional biochemicals	3
Hardy Diagnostics *E. coli* Pro O157	3
Remel Wellcolex *E. coli* O157	3
BD Phoenix	2
Pro-Lab Prolex *E. coli* O157	2
BD BBL Crystal Enteric/Nonfermenter	1
BD BBL Enterotube II	1
Dade Behring MicroScan Rapid Gram Neg	1
Difco O157 Antisera	1
Meridian ImmunoCard *E. coli* O157 Plus	1
RiboPrinter	1
TOTAL	**151**

No enteric pathogens isolated (did not recover *E. coli* O157)	**26**
Do not test for *E. coli* O157	**14**

***Escherichia coli*, sorbitol negative**

Dade Behring MicroScan Gram Neg ID	5
bioMerieux API 20E	3
bioMerieux Vitek GNI +	3
TOTAL	**11**

Specimen source (stool) not tested	**10**

Positive for Shiga toxin

Meridian Premier EHEC kit	6
Remel Prospect Shiga-toxin *E. coli* (STEC)	1
TOTAL	**7**

Possible / Presumptive *E. coli* O157

Dade Behring MicroScan Gram Neg ID	2
BD BBL Crystal Enteric/Nonfermenter	1
bioMerieux Vitek GNI +	1
TOTAL	**4**

Escherichia coli

bioMerieux API 20E	1
Conventional biochemicals	1
TOTAL	**2**

***Campylobacter* species**

Conventional biochemicals	**1**

Specimen No. 2 – Cerebrospinal fluid (All Organisms)

This simulated CSF specimen contained *Neisseria meningitidis*. This organism was correctly identified by all referee laboratories and by all of the participating laboratories that process CSF cultures.

Methods of identification used by laboratories reporting:

Neisseria meningitidis

Remel RapID NH	72
bioMerieux API NH	41
bioMerieux Vitek NHI	32
Dade Behring MicroScan HNID	27
Conventional biochemicals	23
bioMerieux Vitek 2 NH	3
BD BBL Crystal Neisseria/Haemophilus	2
16S rDNA sequencing	1
Dade Behring MicroScan Gram Neg ID	1
Dade Behring MicroScan Gram Pos ID	1
Difco N. meningitidis antiserum	1
EY Diagnostics Gonochek	1
Laboratory developed assay	1
Remel BactiCard Neisseria	1
Remel RapID NF Plus	1
Remel RapID ONE	1
TOTAL	**209**

Specimen source (CSF) not tested	**17**

Specimen No. 3 – Tissue - Aerobic/Anaerobic (All Organisms)

This simulated tissue specimen contained *Clostridium perfringens* and *Enterobacter cloacae*.

Clostridium perfringens was reported by all of the referee laboratories. Of the participating laboratories that perform anaerobic culture tissue specimens, 95% identified this organism.

Enterobacter cloacae was identified by all of the referee laboratories and by 98% of participants that processed this sample.

Methods of identification used by laboratories reporting:

Clostridium perfringens

Remel RapID ANA II	108
bioMerieux Vitek ANI	32
bioMerieux API 20A	19
Dade Behring MicroScan Rapid Anaerobe	18
Conventional biochemicals	6
bioMerieux API Rapid ID 32A	5
BD BBL Crystal Anaerobe	3
Unknown	2
16S rDNA sequencing	1
Remel RapID CB Plus	1
TOTAL	**195**

Specimen source (tissue) not tested **11**

Do not process anaerobic cultures **10**

***Clostridium* species**

Remel RapID ANA II	3
bioMerieux API 20A	1
Conventional biochemicals	1
TOTAL	**5**

No *Bifidobacterium* isolated **2**

Anaerobic gram positive bacilli **1**

Bacteroides distasonis

Remel RapID ANA II **1**

Clostridium* species, not *C. perfringens

Conventional biochemicals **1**

Enterobacter cloacae	
bioMerieux Vitek GNI+	74
Dade Behring MicroScan Gram Neg ID	74
bioMerieux API 20E	32
bioMerieux Vitek 2 GN	21
BD Phoenix	5
BD BBL Crystal Enteric/Nonfermenter	2
Conventional biochemicals	2
BD BBL Enterotube II	1
RiboPrinter	1
TOTAL	**212**
Specimen source (tissue) not tested	**11**
Enterobacter aerogenes	
bioMerieux API 20E	**1**
***Enterobacter* species**	
Dade Behring MicroScan Gram Neg ID	**1**
Not reported	**1**

Additional organisms reported in Specimen 3:

Staphylococcus aureus	2
Bacteroides merdae	1
Staphylococcus coagulase negative	1

Specimen No. 4 – Wound (Pathogens Only) and Antibiotic Susceptibility

This simulated wound specimen contained *Staphylococcus aureus*. This organism was correctly identified by all referee laboratories and by all participating laboratories that processed this sample.

Antimicrobial susceptibility testing was indicated with oxacillin and vancomycin. This isolate was reported as susceptible to both antibiotics by all of the referee laboratories. Of the participating laboratories that tested these antibiotics, oxacillin was reported as susceptible by 97% and vancomycin was reported as susceptible by 99%.

- ***S. aureus* and oxacillin susceptibility testing**
  For laboratories performing disk diffusion testing for *Staphylococcus aureus*, cefoxitin can be tested as a surrogate for oxacillin and is the recommended method because it is easier to read. In the 2007 CLSI guidelines, the breakpoints for cefoxitin have been revised so that isolates with a zone diameter of $\leq$21mm should be considered resistant to oxacillin while those with zones of $\geq$22mm should be reported as susceptible to oxacillin. Another change that has been made in the 2007 guidelines is a decrease in the incubation time for cefoxitin disk testing for *S. aureus* and *S. lugdunensis* from 24 hours to 18 hours.

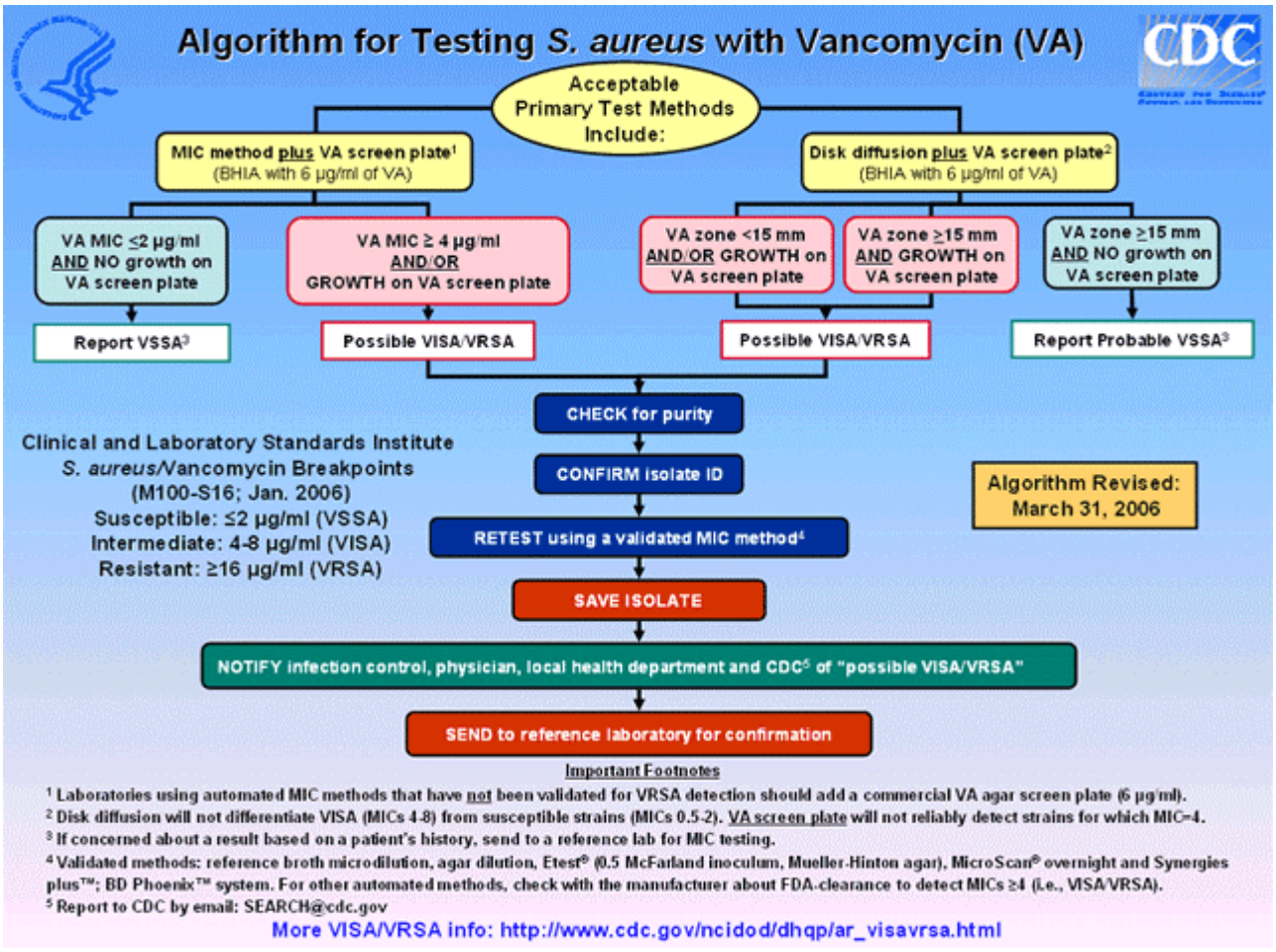
- ***S. aureus* and vancomycin susceptibility testing**
  Several susceptibility testing methods have limitations in detecting vancomycin-resistant (VRSA) and vancomycin-intermediate (VISA) strains of *S. aureus*. Laboratories using automated MIC methods that have not been FDA-approved for VRSA detection should incorporate a vancomycin screen agar plate containing 6 µg/ml of vancomycin. Laboratories that perform disk diffusion testing for vancomycin susceptibility should be aware that VISA strains cannot be differentiated from susceptible strains by this method. Therefore, it is recommended that laboratories performing disk diffusion testing also include a vancomycin screening plate. However, vancomycin screening agar cannot detect VISA strains with an MIC of 4 µg/ml.

  CLSI (Clinical and Laboratory Standards Institute) guidelines specify that all staphylococcal isolates with vancomycin zones of $\leq$14 mm should be confirmed by a reference MIC method and any isolate with an MIC of $\geq$4 µg/ml should be sent to a reference laboratory.

  The CDC testing algorithm for vancomycin susceptibility testing is included on the next page. Guidance documents on the detection of VISA and VRSA isolates can be found on the CDC's website at: www.cdc.gov/ncidod/dhqp/ar_visavrsa_labFAQ.html.

  If your laboratory has questions regarding susceptibility testing of staphylococcal isolates, please contact the Clinical Bacteriology Laboratory of the Wadsworth Center at (518) 474-4177.

Clinical and Laboratory Standards Institute. 2007. Performance standards for antimicrobial susceptibility testing; seventeenth informational supplement, M100-S17. Clinical and Laboratory Standards Institute, Wayne, PA.



From: http://www.cdc.gov/ncidod/dhqp/images/VAalgoApril06v7.gif

Methods of identification used by laboratories reporting:

Staphylococcus aureus

Dade Behring MicroScan Gram Pos ID	63
Murex Staphaurex	44
Conventional biochemicals	34
bioMerieux Vitek GPI	20
BD BBL Staphyloslide	19
Remel BactiStaph	11
bioMerieux Vitek 2 GP card	8
Fisher Healthcare SureVue Color Staph	4
Pro-Lab Diagnostics Prolex Staph latex	3
Not given	3
BD Phoenix	3
Bio Rad Pastorex Staph Plus	2
bioMerieux API Staph	2
bioMerieux Vitek Slidex Staph	2
Sanofi Diagnostics Pasteur Pastorex Staph	1
Hardy Staph Tex	1
Laboratory Developed Assay	1
TOTAL	**221**

***Staphylococcus*, coagulase positive**

Conventional biochemicals	2
Dade Behring MicroScan Gram Pos ID	1
TOTAL	**3**

Specimen source (wound) not tested **2**

Additional organisms reported in Specimen 4:

Enterobacter cloacae	1

Results of Antimicrobial Susceptibility Testing – *S. aureus* with oxacillin

Result	Method	MIC (µg/ml)	Zone (mm)	# labs
Susceptible (214)	BioMerieux Vitek (90)	≤0.25 (1)		
		≤0.5 (5)		
		0.5 (60)		
		≤1 (1)		
		1 (12)		
		≤2 (2)		
		2 (7)		
		32 (1)		
		Not given (1)		
	Microscan (78)	≤0.25 (1)		
		0.5 (7)		
		≤1 (7)		
		1 (58)		
		≤2 (1)		
		2 (1)		
		Not given (3)		
	E Test (2)	≤0.38 (1)		
		1 (1)		
	BD Phoenix (4)	≤0.5 (1)		
		0.5 (1)		
		1 (2)		
	Sensititre (3)	0.5 (2)		
		2 (1)		
	Agar Dilution (1)	<0.25 (1)		
	Trek (1)	1 (1)		
	Multiple systems (1)	NA		
	Disk diffusion (34)		14 (5)	
			15 (5)	
			16 (4)	
			17 (5)	
			18 (5)	
			19 (1)	
			21 (2)	
			24 (1)	
			25 (1)	
			26 (1)	
			27 (2)	
			28 (1)	
			Not given (1)	
Intermediate (2)	Disk Diffusion (2)		11 (1)	
			12 (1)	

Resistant (3)	Disk Diffusion (3)		0 (1) 10 (2)
Oxacillin not tested (5)			
Specimen source (wound) not tested (2)			

Number of laboratories reporting each result indicated in ( )

Results of Antimicrobial Susceptibility Testing – *S. aureus* with vancomycin

Result	Method	MIC (µg/ml)	Zone (mm)
Susceptible (218)	BioMerieux Vitek (89)	≤0.05 (1)	
		<0.5 (2)	
		≤0.5 (31)	
		0.5 (3)	
		<1 (2)	
		≤1 (32)	
		≤2 (4)	
		2 (12)	
		Not given (2)	
	Microscan (76)	<2 (12)	
		≤2 (55)	
		2 (4)	
		≤4 (1)	
		4 (1)	
		Not given (3)	
	E Test (6)	1 (3)	
		1.5 (3)	
	BD Phoenix (4)	≤2 (1)	
		2 (3)	
	Not given (4)	NA (4)	
	Sensititre (3)	≤1 (2)	
		1 (1)	
	Trek (1)	1 (1)	
	Multiple systems (1)	NA	
	Agar dilution (1)	<2 (1)	
	Disk diffusion (33)		15 (2)
			16 (7)
			17 (3)
			18 (12)
			19 (3)
			20 (5)
			23 (1)
Resistant (1)	Disk diffusion (1)		14 (1)
Vancomycin not tested (5)			
Specimen source (wound) not tested (2)			

Number of laboratories reporting each result indicated in ( )

Antibiotic Susceptibility Results - Participating & Referee Labs *Staphylococcus aureus*				
	Oxacillin		Vancomycin	
	Referee[a]	Participant[b]	Referee[a]	Participant[b]
Susceptible	10	204	10	208
Intermediate	0	2	0	0
Resistant	0	3	0	1
Not Tested[c]	0	5	0	5
Do not process source[d]	0	2	0	2
No result reported	0	0	0	0

[a]Referee Laboratories (10 labs)
[b]Other Participating Laboratories (216 labs)
[c]Antibiotic not tested / reported for this organism
[d] Do not process specimen source

Specimen No. 5 – Sputum (Pathogens Only)

The pathogenic organism included in this simulated sputum culture was *Streptococcus pneumoniae*. This organism was identified by all referee laboratories and by 98% of participating laboratories that processed this specimen source.

Corynebacterium xerosis and *Streptococcus mitis* were included as normal flora in this sample.

Methods of identification used by participating laboratories reporting:
Streptococcus pneumoniae

Conventional biochemicals	140
bioMerieux Vitek GPI	32
Dade Behring MicroScan Gram Pos ID	11
BD BBL Pneumoslide	10
Remel RapID STR	4
bioMerieux API 20 Strep	4
Multiple systems	3
BD BBL Crystal Gram Positive	2
BD Phoenix	2
Boule Diagnostics Phadebact Streptococcus	2
Not given	2
Wellcogen Strep pneumoniae Latex	1
Laboratory Developed Assay	1
Dade Behring MicroScan Gram Neg ID	1
bioMerieux Vitek NHI	1
TOTAL	**216**

Specimen source (sputum) not tested	**7**
Alpha-hemolytic *Streptococcus*	**2**
No pathogens isolated	**1**

Chlamydia – cervical swab for direct testing

This simulated cervical swab was provided to laboratories that test for *Chlamydia* using direct detection methods. This sample contains non-viable organisms and is not suitable for laboratories performing *Chlamydia* culture. Currently, 112 of 226 participating laboratories (50%) perform direct detection testing for *Chlamydia*.

This sample was positive for *Chlamydia* and was reported as such by 99% of the participating laboratories that tested this specimen.

Test kits used by laboratories reporting this specimen as:

Positive for *Chlamydia trachomatis*

Gen-Probe PACE 2 CT or CT/GC	46
Gen-Probe Aptima Combo 2	20
BD ProbeTec ET CT or CT/GC	19
Roche Diagnostics COBAS AMPLICOR CT/NG	11
bioMerieux VIDAS	6
Digene Hybrid Capture hc2 CT/GC	2
Roche Diagnostics AMPLICOR CT/NG	2
Beckman Coulter Access *Chlamydia* EIA	1
BioRad *Chlamydia* EIA plate	1
BioStar *Chlamydia* OIA	1
Real-time PCR	1
SDA BD Viper	1
TOTAL	**111**

Negative for *Chlamydia trachomatis*

Roche Diagnostics AMPLICOR CT/NG	**1**

Direct Antigen Detection

All participating laboratories which perform direct antigen testing received either a simulated throat swab to be tested for Group A *Streptococcus* or a genital swab to be tested for Group B *Streptococcus*. Information provided in the Bacteriology Questionnaire was used to determine which type of specimen to send to each laboratory.

Specimen A - Source: Throat for Group A *Streptococcus*
This specimen was negative for Group A *Streptococcus*. All of the participating laboratories that processed this specimen reported it as negative.

Test kits used by laboratories reporting Specimen A as:
Negative for Group A *Streptococcus*:

BD Directigen EZ Strep	16
BioStar Acceava Strep A	12
Genzyme OSOM Ultra Strep A	11
Abbott Signify Strep A Dipstick	7
Quidel QuickVue + Strep A	7
BD Chek Strep A	6
BioStar Strep A OIA Max	4
Fisher SureVue SELECT Strep A	4
Quidel QuickVue Inline Strep A	4
Abbott Signify Strep A Cassette	3
Cardinal Health SP Brand Strep A Cassette	3
Fisher SureVue Strep A Lateral Flow Test	3
Genzyme OSOM Strep A	3
Meridian Bioscience ImmunoCard STAT Strep A	3
Remel PathoDx Strep A	2
Wampole Clearview Strep A Extract	2
Gen-Probe Group A Strep	1
LifeSign Status Accustrep A	1
Mainline Confirms Strep A	1
Polymedco Poly Stat Strep A	1
Quidel QuickVue Dipstick Strep A	1
Remel RIM A.R.C. Strep A	1
Sacks Medical Corp RefuAH Strep A	1
Stanbio Q test	1
TOTAL	**98**

Specimen C – Source: Genital for Group B *Streptococcus*
This specimen was positive for Group B *Streptococcus.* All laboratories that tested this sample reported it as positive.

Test kits used by laboratories reporting Specimen C as:
Negative for Group B *Streptococcus*

BioStar Strep B OIA	**6**

BACTERIAL IDENTIFICATION BY PARTICIPATING LABORATORIES

	Number Reported	%
SPECIMEN NUMBER 1		
Escherichia coli O157:H7 / *E. coli* O157	151	66.8
No enteric pathogens isolated (did not recover *E. coli* O157)	26	11.5
Do not test for *E. coli* O157	14	6.2
Escherichia coli, sorbitol negative	11	4.9
Specimen source (stool) not tested	10	4.4
Positive for Shiga toxin	7	3.1
Possible / Presumptive *E. coli* O157	4	1.8
Escherichia coli	2	0.9
Campylobacter species	1	0.4
**********		
SPECIMEN NUMBER 2		
Neisseria meningitidis	209	92.5
Specimen source (CSF) not tested	17	7.5
**********		
SPECIMEN NUMBER 3		
Clostridium perfringens	195	86.3
Specimen source (tissue) not tested	11	4.9
Do not process anaerobic cultures	10	4.4
Clostridium species	5	2.2
No *Bifidobacterium* isolated	2	0.9
Anaerobic gram positive bacilli	1	0.4
Bacteroides distasonis	1	0.4
Clostridium species, not *C. perfringens*	1	0.4
Enterobacter cloacae	212	93.8
Specimen source (tissue) not tested	11	4.9
Enterobacter aerogenes	1	0.4
Enterobacter species	1	0.4
Not reported	1	0.4
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SPECIMEN NUMBER 4		
Staphylococcus aureus	221	97.8
Staphylococcus, coagulase positive	3	1.3
Specimen source (wound) not tested	2	0.9
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SPECIMEN NUMBER 5		
Streptococcus pneumoniae	216	95.6
Specimen source (sputum) not tested	7	3.1
Alpha-hemolytic *Streptococcus*	2	0.9
No pathogens isolated	1	0.4

***CHLAMYDIA* SPECIMEN**		
Positive for *Chlamydia trachomatis*	111	99.1
Negative for *Chlamydia trachomatis*	1	0.9

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DIRECT ANTIGEN SPECIMENS			
A.	Negative for Group A *Streptococcus*	98	100.0
C.	Positive for Group B *Streptococcus*	6	100.0