Educational Susceptibility Testing as a Critical Component of Laboratory Proficiency Programs: American Proficiency Institute Results for 2007-2010

Table 3 illustrates that the accuracy of susceptibility testing is an important requirement for test quality assurance. Background: Sample identification (graded) and testing of antimicrobials are an important requirement for test quality assurance. Recent reports of resistance patterns; and the monitoring and reporting of resistance trends. The American Pathology Microbiology Surveys Program (2001-2003). Available at: http://www.eucast.org/clinical_breakpoints/Version 2.0, January 2012. Accessed January 1, 2012.

MATERIALS AND METHODS

As a component of a comprehensive Microbiology Proficiency Program sample program offers five district microbiology options, API offers the ES antimicrobial susceptibility samples (undetermined every 4 months; e.g., sample seven). This provides participants the opportunity to monitor and report on resistance trends. Approximately 17,000 hospitals, clinics, and physician offices/laboratories. The API ES series of ungraded S-testing (2007-2010) that focused on emerging resistance patterns. Table 3 lists the top 10 ES challenges for Entero bacteriaceae (four species) with SIV-5, KPC-3 (2) and GIM-series (lack assay for the non-ESBL producing: S. aureus (2007-2010) and other Gram-positive cocci (lipase, group staphilococcus); S. haemolyticus; S. aureus with MDR patterns; and S. pyogenes (ATCC 49615) having a penicillin non-susceptibility. Participant laboratories performed very well at the acceptable level of organism identification (Table 2) in the API ES-03 positive species strains (97% acceptance) was slightly greater than Gram negative species strains (95.3%), but there were reports comparable to reports from other EQA surveys. Table 3 illustrates that the accuracy of susceptibility testing category was generally good, but some resistance mechanisms were underrepresented due to various reasons, mainly due to delayed implementation of modified CLSI breakpoints. Also, false in “expert software” found in some commercial products were noted. However, only performance-based audit methods appear to be consistently applied to enterobacteriaceae (false-negatives 99%).

RESULTS

Table 1 lists the top ES challenges for Enterobacteriaceae (four species) with SIV-5, KPC-3 (2) and GIM-series (lack assay for the non-ESBL producing: S. aureus (2007-2010) and other Gram-positive cocci (lipase, group staphilococcus); S. haemolyticus; S. aureus with MDR patterns; and S. pyogenes (ATCC 49615) having a penicillin non-susceptibility. Participant laboratories performed very well at the acceptable level of organism identification (Table 2) in the API ES-03 positive species strains (97% acceptance) was slightly greater than Gram negative species strains (95.3%), but there were reports comparable to reports from other EQA surveys. Table 3 illustrates that the accuracy of susceptibility testing category was generally good, but some resistance mechanisms were underrepresented due to various reasons, mainly due to delayed implementation of modified CLSI breakpoints. Also, false in “expert software” found in some commercial products were noted. However, only performance-based audit methods appear to be consistently applied to enterobacteriaceae (false-negatives 99%).

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ABSTRACT

External Quality Assurance (EQA) programs are an important requirement for laboratory testing. Table 4 lists the most troublesome categorical errors for species identification (graded) and testing of antimicrobials (current 2011 overcalling of ESBL in organisms having wildtype non-ESBL enzymes (OXA series; OXA - 1/30). Background: Sample identification (graded) and testing of antimicrobials are an important requirement for test quality assurance. Recent reports of resistance patterns; and the monitoring and reporting of resistance trends. The American Pathology Microbiology Surveys Program (2001-2003). Available at: http://www.eucast.org/clinical_breakpoints/Version 2.0, January 2012. Accessed January 1, 2012.

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