Letters to the Editor

A Statewide Surveillance System for Antibiotic-Resistant Bacteria: The New Jersey Department of Health

To the Editor:

We thoroughly appreciated the Readers' Forum presentation on "The Need for Surveillance for Antimicrobial Resistance" by Dr. Lorian (1995;16:638-641) and the accompanying editorial by Dr. Gaynes on "Surveillance of Antibiotic Resistance: Learning to Live with Bias" in the November issue of *Infection Control and Hospital Epidemiology.* We agree with Dr. Gaynes that selection bias is a great concern in an antimicrobial surveillance system. In New Jersey's statewide hospital laboratory-based surveillance system for antibiotic-resistant bacteria, the New Jersey Department of Health eliminated selection bias by including all 95 acute-care general hospitals licensed by the Department of Health. Eliminating selection bias did not come without a cost, however. To keep the data flow at a manageable volume, the surveillance system collects data only on gram-positive cocci resistant to vancomycin, methicillin-resistant *Staphylococcus aureus,* gram-negative rod-shaped bacteria (GNRs) resistant to imipenem, GNRs resistant to amikacin, and pneumococcal and other streptococcal isolates resistant to penicillin. This surveillance system is focused on the detection of clinically significant antibiotic-resistant patterns. This surveillance system, implemented in 1991, is more fully described in the July 14, 1995, issue of *MMWR* and the July 1995 issue of *Infection Control and Hospital Epidemiology.*[1,2]

The New Jersey surveillance system quantified the emergence of vancomycin-resistant enterococci (VRE) and penicillin-resistant *Streptococcus pneumoniae* in New Jersey.[1] After ascertaining that the increase detected by the system was a true increase and not a surveillance artifact, collaborative efforts involving public, private, and academic organizations were established to evaluate risk factors for VRE, treatment options, and effectiveness of infection-control practices. The organisms collected by the surveillance system also were used for in-vitro susceptibility testing for VRE antimicrobial agents in preclinical trials.

The New Jersey surveillance system differs from that recommended by Dr. Lorian in two ways. Dr. Lorian advocates a national antimicrobial resistance surveillance system. However, the emergence and incidence of antibiotic-resistant bacteria may vary from region to region or from community to community. Therefore, treatment options selected and control strategies implemented should take advantage of this variability. This has been shown to be particularly true for drug-resistant *S pneumoniae.*[3]

The second difference is that the system advocated by Dr. Lorian would track only eight bacterial species, which currently account for only 68.5% of all antimicrobial-resistant isolates. While this system would provide useful information on these eight species, it would not detect the emergence of antimicrobial resistance in other species, such as *S pneumoniae.* The clinical treatment of illnesses due to *S pneumonia,* an organism not selected by Dr. Lorian, would be affected drastically if and when this organism becomes resistant to vancomycin.

A surveillance system that monitors the development of antibiotic resistance in bacteria will be a crucial tool for clinicians in the selection of appropriate antibiotics for their patients, as well as a tool for the understanding and controlling of the spread of antibiotic resistance. New Jersey has taken an important first step, which has demonstrated that statewide surveillance for antibiotic-resistant bacteria can provide a useful and valid population-based surveillance tool for antibiotic-resistant bacteria.[4]

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The author replies.

The New Jersey Department of Health is a pioneer in bacterial resistance surveillance. They tailored their program to respond to their local needs and to meet their resources. Because bacterial resistance is suspected to be a national or world phenomenon, the scope is much larger and must include data on most species encountered in infections that showed increased rates of resistance. Pneumococci, while producing many infections, are—with some local exceptions—still treatable with penicillin in 98.7% of cases,[1] a very enviable rate of susceptibility compared to the other species producing infection. At this time, I would not worry about vancomycin-resistant pneumococci.

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Recorded Criteria as a "Gold Standard" for Sensitivity and Specificity Estimates of Surveillance of Nosocomial Infection: A Novel Method to Measure Job Performance

To the Editor:

In describing a method to measure accuracy of infection control practitioners' (ICPs) identification of infec-

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