Reply to Fe Talento et al

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To the Editor—We appreciate the comments by Fe Talento et al[1] regarding our article evaluating the rate of effective empirical therapy for methicillin-resistant *Staphylococcus aureus* (MRSA) bloodstream infections.

Fe Talento et al[1] comment on the success of an integrated clinical microbiology service at Beaumont Hospital in Dublin, Ireland. This service is led by specially trained clinical microbiologists who communicate with the attending physician of each patient who has a positive blood culture result and provide recommendations for further evaluation and treatment. The authors note that, with use of this system, 80 of 83 patients with bloodstream infection due to MRSA received antibiotics. Of these 80 patients, 91% received appropriate antibiotics within the first 24 hours after the initial blood culture isolate was identified as suspected *S. aureus*. Three patients received no antibiotics and were not included in this calculation. Fe Talento and colleagues report that this rate is much higher than the rate of appropriate therapy reported in our study.

Although the success of this program is laudable, the authors' comparison is not accurate: Fe Talento et al[1] judged appropriateness of treatment on the basis of antibiotics given after a blood culture result had first been noted to be positive and after *S. aureus* had been suspected as a pathogen (presumably after gram-positive cocci were identified as pathogens in the blood culture). In our study, appropriateness was judged on the basis of antibiotics administered on the day that the blood culture specimen was obtained—often days before the blood culture result was even known to be positive. For a more appropriate comparison, we suggest that Fe Talento and colleagues analyze the appropriateness of therapy on the day that blood samples for culture were obtained and not the day that a positive culture result was obtained.

We agree that communication between the microbiology laboratory and treating clinicians is an important tool to improve rates of effective antimicrobial therapy, and having an integrated clinical microbiology service is a wonderful asset (although it is probably not feasible in many community hospitals in the United States, the majority of which have less than 250 beds). Rapid diagnostic methods, such as polymerase chain reaction testing and culture on selective media (eg, CHROMagar; Becton Dickinson), are additional tools that can be used to assist with early identification of organisms once culture results turn positive to improve rates of effective antimicrobial therapy.

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REFERENCE

1. Fe Talento AF, Fitzpatrick F, Humphreys H, Smyth E. An integrated clinical microbiology service ensures optimal early antimicrobial therapy for methicillin-resistant *Staphylococcus aureus* bloodstream infection [letter]. *Infect Control Hosp Epidemiol* 2010;31(9):981-983 (in this issue).

Inside-Out: The Changing Epidemiology of Methicillin-Resistant *Staphylococcus aureus*

The increasing incidence of methicillin-resistant *Staphylococcus aureus* (MRSA) is a topic of concern in both the medical and the lay literature.[1] Once thought of solely as a hospital-acquired pathogen, MRSA has been increasingly reported from the community, occurring in patients without established predisposing risk factors. Over the past decade, community-acquired MRSA (CA-MRSA) strains have been increasingly reported as the cause of serious infection and are now well recognized as a major cause of morbidity.[2-4]

The Veterans Affairs Medical Center (VAMC) in Washington, D.C., provided an ideal setting to study the changing epidemiology of MRSA, because the facility provides comprehensive emergency, outpatient, inpatient, and long-term care to a relatively closed population. Its electronic medical record allows infection control practitioners to monitor culture data facility-wide. We report the marked changes in the epidemiology of new clinical isolates of MRSA during the period 2001–2007.

During the 7 years of the study, approximately 40,000 patients received care at the medical center annually. We reviewed infection control data on clinical MRSA isolates recovered during the period 2001–2007. All new clinical isolates of MRSA were evaluated and categorized as either hospital-acquired MRSA (HA-MRSA) or CA-MRSA. We defined an isolate as HA-MRSA if an MRSA-positive culture result was obtained at least 48 hours after admission to the hospital for a person without obvious signs of infection at the time of admission; an isolate was also categorized as HA-MRSA if