Another Tale of Two Guidelines

To the Editor—We agree with Strausbaugh et al. [1] that “aggressive and widespread adoption of control measures for multidrug-resistant organisms is urgently needed” (page 828); however, we doubt that the approach suggested by the Healthcare Infection Control Practices Advisory Committee (HICPAC) isolation guideline [2] would control these organisms, and we disagree with other things that were said. For example, Strausbaugh and colleagues said, “Which approach will lead to better control…remains to be determined by carefully designed studies such as the ongoing National Institutes of Health–sponsored multicenter study of adult intensive care units. In this study, adult intensive care units are randomized either to practice standard precautions or use routine active surveillance cultures and contact precautions for persons harboring MRSA or VRE” (page 833). The National Institutes of Health study [3] does not effectively address this question because, in multiple ways, its active surveillance culture (ASC)/contact precaution (CP) measures fall short of the Society for Healthcare Epidemiology of America (SHEA) guideline recommendations [4]. For example, intervention in only 1 intensive care unit of a large hospital is not optimal to control nosocomial methicillin-resistant Staphylococcus aureus (MRSA) and vancomycin-resistant Enterococcus (VRE), it is not what the SHEA guideline recommends, and it is not associated with rapid control [5, 6]. The National Institutes of Health study of ASC/CP measures are less rigorous than those in recent studies that demonstrate control in intensive care units [6–8] and, as such, favor a false-negative result, especially given expected sample size and power during the study’s relatively brief intervention period. By these study parameters, 2 recent studies with dramatically positive results would have been false-negatives [6, 8]. One of these studies, a longer one, reported a 75% reduction in MRSA bacteremia with ASC/CP, compared with no effect on MRSA bacteremia with enhanced standard precautions (i.e., alcohol handrubs and a motivational campaign that increased hand hygiene compliance to 80%) [8]—the type of standard precautions attempted in the National Institutes of Health study. Multiple other studies, including the CDC’s National Nosocomial Infections Surveillance System data [9], suggest that standard precautions have failed to control MRSA and VRE (despite the use of standard precautions and mandatory annual health care worker infection control retraining in US health care facilities since 1996).

Active detection and isolation of all contagious patients has been used to control important infections, such as tuberculosis, SARS, and smallpox. Multiple northern European countries and Western Australia, which deem MRSA to be important, have used ASC/CP to identify and isolate all colonized patients and control nosocomial MRSA to very low levels [10–13]; at least 3 of these countries require the use of this approach. The same approach has been used in these countries and in other areas to control VRE [7, 14, 15], including throughout an entire health district in Iowa [15]. Areas in the rest of Europe and Australia that do not use this approach have failed to control MRSA [12, 13]. The SHEA guideline cited 45 of ‘>100 studies that reported control of MRSA or VRE with ASC/CP—many after failure with standard precautions, and many without the use of eradication therapy [4]. These data demonstrate that ASC/CP can be used to control MRSA and VRE; this is apparently why the HICPAC draft isolation guideline recommends their use as optional components of “a more intensified set of measures to be implemented when baseline measures fail” (pages 832–3) [1, 2]. Standard precautions have already failed as a baseline measure in individual facilities and across the entire US health care system, as shown by the fact that MRSA now accounts for >50% of nosocomial S. aureus infections. Refusal to routinely use ASC/CP will likely doom the MRSA/VRE control efforts that Strausbaugh et al. [1] claim to be “urgently needed,” to failure.

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796 • CID 2006:43 (15 September) • CORRESPONDENCE


Reply to Muto et al.

To the editor—We thank Dr. Muto and her colleagues for their comments on our mini-review [1]. With regard to their critique of the ongoing National Institutes of Health–sponsored trial, we are awaiting the publication in a peer-reviewed journal of the methods and results of that study before passing judgment on either its validity or applicability. As for the experience of other countries that they cite, we also laud those who have kept the prevalence of methicillin-resistant Staphylococcus aureus (MRSA) low. We would point out, however, that overall nosocomial infection rates in countries with low MRSA rates appear to be similar to those in countries that have failed to control MRSA [2]. For health care facilities with limited resources, this observation raises questions about the relative utility of performing large numbers of surveillance cultures to enhance the detection of colonized individuals versus maximizing interventions that reduce nosocomial infection rates (e.g., the bundling of evidence-based practices to prevent central venous catheter-associated infections, ventilator-associated pneumonia, and surgical site infections) [3–5].

There are 2 other issues that warrant comment. First, Muto and colleagues imply that the draft of the Healthcare Infection Control Practices Advisory Committee (HICPAC) isolation guideline recommends only standard precautions to reduce the prevalence of multidrug-resistant organisms. In truth, standard precautions are but 1 measure among many that are recommended for control efforts [6]. Moreover, the draft of the HICPAC guideline advocates the use of all measures deemed necessary—including active surveillance cultures and contact precautions when appropriate—to reduce multidrug-resistant organism prevalence rates. Selection of the necessary measures by knowledgeable and experienced on-site leaders or consultants provides the flexibility that is needed by health care facilities of varying sizes and complexities to contend not only with MRSA and vancomycin-resistant enterococci, but also with the increasing incidence of multidrug-resistant gram-negative bacilli.

Second, Muto and colleagues emphasize the use of both active surveillance cultures and contact precautions in successful efforts to control MRSA and vancomycin-resistant enterococci, and they allude to 100 studies that support this use. Nevertheless, they fail to note that, in the relevant peer-reviewed studies, these measures were almost invariably combined with several other interventions to achieve the desired effect [6]. We do not think that the role of these other measures can be ignored or dismissed. Of note, most of these other interventions (e.g., labeling of patient records and judicious antimicrobial use) are recommended by both the SHEA guideline and the draft of the HICPAC guideline [6, 7].

Again, with regard to multidrug-resistant organism control measures, the 2 guidelines are quite similar, and they differ mainly in their relative emphasis of the use of active surveillance cultures. Recognition of the broad areas of consensus in these 2 evidence-based guidelines provides a firm foundation for those engaged in infection control—and for the medical

CORRESPONDENCE • CID 2006;43 (15 September) • 797