

to highlight the potential for confusion in the interpretation of serological results of testing for HBV if patients have received commercial immunoglobulin preparations as outlined above. In addition, we wish to highlight the lack of agreement between international hemodialysis guidelines. At the time of the incident, most Irish units followed UK guidelines<sup>2</sup> and did not test for anti-HBc. This is in contrast to practice in the United States, where HBsAg and anti-HBc are tested for on admission.<sup>5</sup> The Irish guidelines were revised in the light of this incident and now recommend anti-HBc testing prior to dialysis.<sup>6</sup> However, no international guidance addresses the role of HBV DNA testing for HBsAg-negative, anti-HBc-positive patients and their subsequent management. Centers for Disease Control and Prevention guidelines<sup>5</sup> address the performance of a single DNA test, but do not comment on the potential cross-infection risk posed by HBV DNA-positive patients, nor do the guidelines recommend follow-up DNA testing of these patients. Occult HBV infection has been detected in dialysis units<sup>7,8</sup> and transmission has been described in recipients of donated blood and organs.<sup>9,10</sup> To date there has been no evidence of transmission in dialysis units, but the potential remains.

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## Understanding Why Methicillin-Resistant *Staphylococcus aureus* Control Measures Are Successful in Different Countries

*To the Editor*—I read with interest, and no little envy, about the successful efforts of van Trijp and colleagues<sup>1</sup> in successfully controlling an outbreak of methicillin-resistant *Staphylococcus aureus* (MRSA) in a large teaching hospital in The Netherlands. The commitment to bringing this outbreak under control, and by implication, the provision of the necessary resources, is impressive. In particular, those controlling the outbreak were quickly able to create an additional laboratory specifically to process MRSA screening cultures, provide a separate outpatient department for MRSA-colonized patients, isolate all new patients with MRSA colonization and/or infection, and screen nearly 100% of staff (see the Table in van Trijp et al.<sup>1</sup>).

In The Netherlands, MRSA infection is epidemic; outbreaks occur from time to time and they can usually be controlled and MRSA eradicated. In Ireland, the United Kingdom, and many other countries, MRSA is endemic, and management efforts largely focus on control rather than erad-

ication of MRSA from a hospital. In these countries, attempts to eradicate MRSA are frustrated by inadequate facilities and resources. Recent UK guidelines outline the general principles of MRSA control,<sup>2</sup> and these are not hugely different from the general approach used by van Trijp et al.<sup>1</sup> However, the commitment to control outbreaks and to prevent the spread of MRSA, and the level of resources provided for these aims, is greater in The Netherlands. We have recently described our own difficulties in a hospital where MRSA is endemic, and where, because of inadequate facilities, it is not possible to isolate or cohort almost a third of our MRSA patients.<sup>3</sup> In such circumstances, MRSA eradication is well nigh impossible.

Bootsma and colleagues<sup>4</sup> have recently used mathematical modeling to outline what is possible in countries such as The Netherlands, which practice “search and destroy” control strategies, and in countries where MRSA is endemic.<sup>4</sup> They argue that the application of “search and destroy” strategies together with rapid diagnostic testing can considerably improve prevalence rates even in settings where MRSA is highly endemic. This is well illustrated in a recent report in this journal from Melbourne, Australia,<sup>5</sup> in which a combination of the aggressive introduction of antimicrobial hand hygiene gels into the intensive care unit and hospitalwide MRSA surveillance feedback through statistical process control charts resulted in a decrease in the number of patients with MRSA infection and/or colonization in the intensive care unit. However, there are a number of issues not explicitly specified in the report by Harrington et al.<sup>5</sup> or that of Van Trijp and colleagues.<sup>1</sup> Is the control and prevention of MRSA in these institutions accorded equal priority with meeting certain predetermined healthcare targets, such as patient throughput, and does the mean bed occupancy rate affect cohorting and isolating patients with MRSA infection and/or colonization? When comparing the success of interventions in different countries or even in different hospitals, bed occupancy levels; relative nursing staff ratios; and the priority given to the control and prevention of MRSA infection and/or colonization, relative to other issues, are likely to have a major bearing on outcome.<sup>6</sup>

It may be that the “search and destroy” approach in The Netherlands during the past 3 decades has been successful because MRSA is not endemic or, more likely, it may be that MRSA is not endemic in The Netherlands because the “search and destroy” approach has been implemented for many years

with the necessary institutional and national support. Underlying aspects of the health service have a major bearing on the control and prevention of healthcare-associated infection, including that caused by MRSA. This should be clearly outlined in reports of outbreaks so that we can truly assess the context in which such success has been achieved, as well as the specific infection control measures used.

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