during the study period. A regional survey on MRSA performed in 2005 by the Public Health Authorities revealed that the prevalence of MRSA carriage in the randomly sampled general population was 0.08% (2 of 2500 individuals), 2–3-fold lower than the prevalence in our study [5]. The prevalence of MRSA carriage of 0.2% at our ICU is markedly lower than the 6.9% observed by Lucet et al. [6] among 2400 screened patients in 14 ICUs in France in 2003. We consider the approach of active selective screening of patients to be useful in a high-risk department such as the ICU, because active surveillance has been shown to decrease the incidence of MRSA infection elsewhere [7].

Active surveillance has prevented outbreaks in our ICU, after 3 outbreaks of infection due to multidrug-resistant bacteria in the years before its implementation. The 0.2% prevalence of MRSA among patients on admission to our ICU was 7-fold higher than that found during a previous screening for MRSA among hospital-admitted patients performed 5 years earlier elsewhere in The Netherlands, which demonstrated a low prevalence rate of 0.03% [8]. Weighing the costs of a prescreening program for all or for a selected group of hospital-admitted patients versus the cost of unexpected epidemics will be necessary to optimize or refine a prevention strategy.

The current MRSA policy has been reconfirmed recently by a report released by the Netherlands National Health Council in November 2006 [9]. McGinigle et al. [1] defined the Dutch policy as the most aggressive approach and not one that is generally applicable in other settings. In view of the calculated higher costs of early closures of our ICU versus the cost of our targeted admission culture-screening program, our goal was fulfilled in the department most susceptible to MRSA outbreaks, the ICU.

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References


Methicillin-Resistant Staphylococcus aureus: Misspecification and Misrepresentation of Active Detection and Isolation

To the Editor—McGinigle et al. [1] concluded that recent studies regarding the control of methicillin-resistant Staphylococcus aureus (MRSA) were not high quality, because “none of the studies used randomly assigned controls” [1, p. 1722]. Because of their expressed interest in quality and because this was their first publication about MRSA or infection control listed on Medline, we thought that they would appreciate hearing about some of their own errors and misinterpretations (all of which cannot be addressed in a letter).

McGinigle et al. [1] indicated that they reviewed the use of active surveillance cultures as advocated by the 2003 Society for Healthcare Epidemiology of America (SHEA) guideline [2], but they apparently failed to grasp that the guideline recommended active detection and isolation (ADI) as a combined measure. McGinigle et al. [1] claimed to have evaluated 16 such studies, but they actually reviewed 13; 3 of the studies that they evaluated did not examine the efficacy of ADI.

McGinigle et al. [1] inaccurately represented a study by Huang et al. [3]. McGinigle et al. [1] reported that the “detection of MRSA infections increased by 30%–135% with [active surveillance cultures]” [1, p. 1720]; what actually increased was the detection of patients colonized with MRSA (most of whom usually go undetected by routine clinical cultures).

McGinigle et al. [1] also misrepresented another study by Huang et al. [4], reporting that MRSA bacteremia decreased...
by 75% in the hospital ICUs with ADI and by 40% “in the remainder of the hospital that was not receiving the intervention” [1, p. 1719]. Controlling the spread of MRSA in the ICU decreased the spread to other wards; when patients colonized by MRSA were transferred to other wards, they remained isolated, and an electronic database was used to ensure the reisolation of the patient on readmission. Each measure likely contributed to the 40% reduction in MRSA bacteremia on non-ICU wards.

McGinigle et al. [1] inaccurately stated that another study showed a 14% reduction in MRSA acquisition, from 5.6 to 1.4 cases per 100 admissions [5]; these data show a 75% (not 14%) relative reduction in MRSA prevalence. In addition, this was cited in the study’s discussion section (not the results) [5], and these data were from a prior study at the same hospital [6], which was ignored in the review.

McGinigle et al. [1] indicate that it is unclear which patients to screen. The SHEA guideline [2] recommends finding and isolating all individuals colonized with MRSA. Each facility should use a screening program and clinical microbiology data to do this, and they should flexibly adjust screening criteria because situations—and thus optimal criteria—will vary by time and place.

We will not dignify the authors’ repetition of the usual litany of nihilists’ arguments against the use of ADI in MRSA control with a comment. McGinigle et al. [1] fail to recognize that ADI has worked against tuberculosis, smallpox, and severe acute respiratory syndrome [7], and it will be used if pandemic avian influenza should occur.

McGinigle et al. [1] state that “a randomized, controlled trial to prove the efficacy of [active surveillance cultures] would be helpful” [1, p. 1723]. A single study of any design does not prove a hypothesis; it just alters the probability of correctness. Randomized and nonrandomized studies examining the same questions demonstrated similar results in recent meta-analyses [8, 9]. A poorly conducted randomized trial [10, 11] (e.g., with suboptimal power; delayed screening, specimen processing, and isolation implementation; failure to screen most colonized patients; etc.) will not add accurate data.

McGinigle et al. [1] mention superb MRSA control in northern European countries [12] where ADI is used routinely, but they fail to note similar control in Western Australia [13] or that the control has been sustained over decades on both continents. They also do not mention the much higher rates of nosocomial MRSA infection in all other European countries and Australian states that do not routinely use ADI. McGinigle et al. [1] speculate that successful control in northern Europe could be attributable to a low prevalence of MRSA. They fail to recognize that MRSA caused 33% of S. aureus bacteremias in Denmark before the introduction of ADI; the huge, multiyear Dutch hospital epidemic that occurred during a temporary suspension of effective ADI; or the large northern European epidemics of MRSA that were controlled with ADI [11].

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References


11. Farr BM. What to think if the results of the National Institutes of Health randomized trial of methicillin-resistant Staphylococcus aureus and vancomycin-resistant Enterococcus control measures are negative (and other advice to young epidemiologists): a review and an au revoir. Infect Control Hosp Epidemiol 2006; 27:1096–106.

Reply to Farr and Jarvis

To the Editor—We read with interest the comments of Farr and Jarvis [1] regarding our recently published systematic review in Clinical Infectious Diseases [2]. We are unable to address all of their errors