Healthcare-associated infections (HAIs) are potentially avoidable complications that result in substantial morbidity and mortality among hospitalized patients. In addition to the direct impact on patients, the financial burden is tremendous. In the USA alone, it is estimated that HAIs lead to $9.8 billion (95% confidence interval $8.3–$11.5 billion) in excess costs.[1] Therefore, we read with a great interest the study by Baviskar et al. in this month’s journal, in which they present a detailed retrospective investigation of the 1-year incidence of nosocomial infections within their hospital’s surgical intensive care unit (ICU).[2]

The Centers for Disease Control and Prevention based in Atlanta, GA, USA, maintains an ongoing database that tracks the incidence of HAI within the USA, through the National Healthcare Safety Network and the Emerging Infections Program HAIs-Community Interface.[3] To facilitate accurate accounting of HAI across health-care facilities and across time, it is essential that uniform definitions be applied to both prospective and retrospective data collection. The five major categories that comprise the vast majority of HAIs are surgical-site infection (SSI), central line-associated bloodstream infection (CLABSI), catheter-associated urinary tract infection (CAUTI), ventilator-associated pneumonia (VAP), *Clostridium difficile* infection (CDI), and methicillin-resistant *Staphylococcus aureus* (MRSA) bacteremia. In their report, the authors provide a detailed description of the infectious site of origin (e.g., respiratory and genitourinary), but they do not report the specific definitions used at their institution. Although this will complicate the direct comparison, the value in this article is not the specific rates of HAI but their recognition that serves as an impetus for quality improvement interventions.

To this point, we commend the authors on their detailed descriptions of the species of microorganisms isolated, broken down by the body site and the patterns of antimicrobial resistance. In an effort to improve patient outcomes, these data should serve to inform future antimicrobial-prescribing practices within this unit. Many institutions utilize regularly updated prescribing guidelines for empiric antimicrobials, based on disease severity, site of infection, and the location of the patient (e.g., ICU), including guidelines specifically for HAIs, all based on an individual unit or hospital’s “antibiograms” (their historic organisms and respective sensitivities).[4,5] Data such as those reported by the authors comprise a key component of an antimicrobial stewardship practice, and we would direct readers to a number of excellent reviews on this topic.[6,7]

Given the high percentage of skin and soft-tissue infections reported in this article, we are interested to learn what surgical-site infection prevention measures are in place at the authors’ institution. In addition, it would also be important to know what percentage of those patients admitted after acute abdominal and traumatic injuries developed HAI, as this is an important, high-risk group. High-risk wound management details are also pertinent to consider. Of the surgical-site infections described by Baviskar, et al., one wonders how many of the wounds were closed primarily versus left open to close by secondary intention. This is a controversial topic, but there is evidence to justify the delaying primary closure of high-risk wounds.[8]

Implementation of care bundles, such as those recommended by the Surgical Infection Society and the American College of Surgeons, is especially helpful and may assist in addressing modifiable risk factors for surgical-site infections, such as tight glucose control, antimicrobial prophylaxis, and maintenance of normothermia.[9] In addition, similar evidence-based interventions have been described to reduce the incidence of other HAIs, such as CAUTI and VAP.[10,11] These bundles may prove valuable in institutions with HAI rates similar to those published by Baviskar et al.

What should readers of this article do to improve outcomes at their own institution? Antimicrobial stewardship should be an important component of daily surgical ICU (SICU) practice. At our institution, we utilize a robust stewardship program that incorporates multiple stakeholders, including infectious disease physicians, hospital epidemiologists, infection control, pharmacists, and the microbiology laboratory. Within the SICU, dedicated ICU pharmacists round with the
critical care team to improve appropriate antimicrobial prescribing. In addition, our institution regularly publishes guidelines for empiric antimicrobial therapy for a variety of conditions (e.g., SSI, CLABSI, and VAP). These guidelines also incorporate our hospital- and unit-specific microbiology patterns (e.g., SICU vs. surgical ward). Suspected HAIs are tracked at the unit and hospital level to identify areas for process improvement. We focus aggressively on the prevention of HAI through a variety of practices, such as minimizing the use of, or finding alternatives to, indwelling devices such as urinary catheters and central lines. Finally, direct providers undergo repeated training to ensure that these devices are inserted using evidence-based recommendations to minimize HAI risk.

In conclusion, Baviskar et al. have provided a detailed retrospective account of nosocomial infections within their surgical ICU. Their results are notable for a high incidence of skin and soft-tissue infections, as well as a very high incidence of infections by resistant Gram-negative organisms. We congratulate the authors on their initiative to collect these data and hope that it will be used to inform future practice improvement within their institution.

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