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Presented in part: the 45th Annual Meeting of the Infectious Diseases Society of America; San Diego, California; October 4–7, 2007.

Infect Control Hosp Epidemiol 2010; 31(9):983-985

 0899-823X/2010/3109-0026$15.00. DOI: 10.1086/655837

REFERENCES

1. Lowry FD. *Staphylococcus aureus* Infections. *N Engl J Med* 1998;339:520–532.
2. Fridkin SK, Hageman JC, Morrison M, et al. Methicillin-resistant *Staphylococcus aureus* disease in three communities. *N Engl J Med* 2005;352:1436–1445.
3. Kazakova SV, Hageman JC, Matava M, et al. A clone of methicillin-resistant *Staphylococcus aureus* among professional football players. *N Engl J Med* 2005;352:468–475.
4. Chambers HF. The Changing Epidemiology of *Staphlococcus aureus? Emerging Infect Dis* 2001;7:178–182.
5. Gordin FM, Schultz ME, Huber RA, Janet JA. Reduction in nosocomial transmission of drug-resistant bacteria after introduction of an alcohol-based handrub. *Infect Control Hosp Epidemiol* 2005;26:650–653.
6. Seal JB, Moreira B, Bethel CD, Daum RS. Antimicrobial resistance in *Staphylococcus aureus* at the University of Chicago Hospitals: a 15-year longitudinal assessment in a large university-based hospital. *Infect Control Hosp Epidemiol* 2003;24:403–408.
7. Al-Tawfiq JA. Incidence and epidemiology of methicillin-resistant *Staphylococcus aureus* infection in a Saudi Arabian hospital, 1999–2003. *Infect Control Hosp Epidemiol* 2006;27:1137–1139.

Pitfalls of Public Reporting

To the Editor—Infection control is experiencing a much-needed revolution, symbolized by a change in the name to "infection prevention." Active surveillance, public reporting, environmental decontamination, and bundles of best practices are among the significant developments that are causing an upheaval in our landscape.

Perhaps the most complex of these developments—and the one with the most profound implications—is public reporting. It was not too long ago that outcome data pertaining to hospital-acquired infections (HAIs) were deeply protected secrets, rarely escaping a hospital's firewall and often not even shared within an institution. Incomplete pictures of what was happening in hospitals might be discretely pinned to a poster board once per year or shared confidentially with the National Nosocomial Infection Surveillance system as a way of contributing to a national benchmark, but in almost all cases, the data were strictly for internal use by infection control personnel to inform their own decisions about how to assign priorities. Public reporting has changed all that, and the risks and benefits inherent in this approach are just beginning to be clarified. Two of the many potential pitfalls of public reporting include inadequate risk stratification and validation.

First, let us consider an example of inadequate risk stratification. The State of Vermont publicly reports rates of central line–associated bloodstream infections (CLABSIs) and selected surgical site infections (eg, infection after hysterectomies and total hip and knee arthroplasties).[1] Vermont has only 1 tertiary care academic medical center, Fletcher Allen Health Care (FAHC); there is no other institution in the state for which a comparison of HAIs without risk stratification would be appropriate. A recent edition of *Consumer Reports,*[2] which has more than 4 million subscribers, reported the top performers and "worst" hospitals in those states with publicly reported HAIs. FAHC was proclaimed to be the "bottom performer" in Vermont with respect to CLABSI rates, although it is noted that the hospital's CLABSI rate of 1.4 cases per 1,000 central line–days was 36% below the national average ("no, that's not a misprint"). The denominators for FAHC for this reporting period were 6,822 central line–days. Only 6 other hospitals in the state had enough data to meet the threshold for reporting, and the total denominator for all of these hospitals combined (2,573 central line–days) was less than one-half the size of FAHC alone. None of the other hospitals in the state reported a single CLABSI. Patients cared for in these small community hospital intensive care units with severe illness and risk factors for infection are frequently transferred to FAHC for more complex care, yet this measure is utterly devoid of risk stratification. Fortunately, there is no evidence that the lay public is using this information to decide in advance where to be critically ill, because one could imagine how intensive care provided elsewhere—in a small intensive care unit with no CLABSIs—could be associated with worse overall outcomes.

A more insidious and worrisome problem, however, is the lack of data validation. As HAI outcomes are released to the public, high rates will be bad for a hospital's business and reputation, independent of attempts to reduce reimbursement for care. In the past, infection control personnel were not discouraged from finding more infections, because the data were only for their own use. Now hospital administrators will bring significant pressure to bear on infection prevention programs, and rightfully so. High infection rates will provoke demands for explanations and action plans. A tremendous disincentive to report will arise, which could lead to measurement errors. This may not take the form of conscious underreporting but, rather, an unconscious, subtle laxity of surveillance or decisions not to report difficult to define events. Paradoxically, such a phenomenon could result in falling rates nationally and be cited as evidence of greater patient safety. As traditional paper medical records are replaced by enormously complex electronic records, it will be increasingly impractical for outside auditors unfamiliar with

hospital systems to perform validation studies unless electronic data mining systems can be consistently applied across institutions.

Such apparent decreases in infection rates without real improvements will only be possible if surveillance systems rely on variable and subjective practices. A recent study presented at the Fifth Decennial meeting by Yokoe et al[3] included unsettling data demonstrating how much variability remains inherent in current surveillance schemes. This study examined rates of infection following total knee and hip arthroplasties at 4 hospitals in 2007. Rates of infection determined by routine surveillance were compared with those determined by "enhanced surveillance" using 4 *International Classification of Diseases, Ninth Edition,* diagnosis codes. The rates of infection nearly tripled after total knee arthroplasties (from 1.1% to 3.2%) and nearly doubled after total hip arthroplasties (from 1.2% to 2.1%) with enhanced surveillance. These are not, in general, subtle infections, and almost all required readmission to the hospital, suggesting that the lack of sensitivity with routine surveillance was not limited to persons with superficial infections managed as outpatients. Total joint replacements are high-volume, high-cost, and high-profile procedures that are likely targets for public scrutiny. This remarkable demonstration of the inadequacies of standard surveillance not only calls into question our national benchmark rates, but it also reveals inherent inconsistencies that could be exacerbated when infection prevention programs feel the pressure of public reporting.

The revolution taking place in infection prevention is, on balance, a welcome development. Public reporting will replace institutional secrecy as a key component and will, I hope, drive real reductions in HAIs. However, meaningful comparisons demand standardized approaches to risk stratification, data validation, and surveillance methodology. Until those components catch up with the rush for disclosure, hospitals with excellent prevention programs will run the risk of being the "worst."

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Infect Control Hosp Epidemiol 2010; 31(9):985-986

 0899-823X/2010/3109-0027$15.00. DOI: 10.1086/655842

REFERENCES

1. State of Vermont, Department of Banking, Insurance, Securities, and Health Care Administration. *Hospital Report Card 2009.* http://www.bishca.state.vt.us/ext/hrc/hospital-report-card-2009. Accessed March 29, 2010.
2. Deadly infections. *Consumer Reports* 2010;75(3):16.
3. Yokoe D, Onufrak F, Olsen M, et al. Multicenter evaluation of enhanced surgical site infection surveillance following total knee and hip arthroplasty. In: *Proceedings of the Fifth Decennial International Conference on Healthcare-Associated Infections.* Atlanta, GA: Society for Healthcare Epidemiology of America, 2010. Abstract 755.