

Surgeons' perspectives on surgical wound infection rate data in Queensland, Australia

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Background: The results of the Study on the Efficacy of Nosocomial Infection Control (SENIC) project demonstrated that hospitals with active infection control programs had lower rates of nosocomial infection than those without such programs. A key component of these programs was the inclusion of a systematic method for monitoring nosocomial infection and reporting these infections to clinicians.

Objectives: To identify the perspectives of surgeons in Queensland, Australia, regarding infection rate data in terms of its accuracy and usefulness as well as their perceptions regarding acceptable infection rates for surgical procedures classified as "clean" or "contaminated."

Methods: A postal survey was conducted, with a convenience sample of 510 surgeons.

Results: More than 40% (n = 88) of respondents believed that the acceptable infection rate associated with clean surgical procedures should be less than 1%, a rate much lower than the threshold of 1.4% to 4.1% set by the Australian Council on Healthcare Standards (ACHS). Almost 30% (n = 55) of respondents reported that they would accept infection rates of 10% or higher for contaminated surgical procedures, which is higher than the ACHS threshold of 1.4% to 7.9%. Respondents identified failure to include postdischarge infections in the data and difficulties standardizing criteria for diagnosis of infection as the major impediments to the accuracy and usefulness of data provided.

Conclusion: The results of this study have significant implications in relation to the preparation of surgical site infection reports, especially in relation to the inclusion of postdischarge surveillance data and information regarding pathogens, antibiotic sensitivities, and comorbidities of patients developing surgical site infection. Surgeons also identified the need to include information regarding the use of standardized definitions in the diagnosis of wound infection and parameters that allow comparison of infection rates to improve their perceptions regarding data accuracy and usefulness. (Am J Infect Control 2005;33: 97-103.)

Through the Study on the Efficacy of Nosocomial Infection Control (SENIC) project, Haley et al¹ identified that hospitals with an established, effective infection control program demonstrated lower infection rates overall than those hospitals without such programs. An influential finding in this study was that hospital

administrators and clinicians did not comprehend the seriousness of a hospital's infection problems or the need for implementation of preventive strategies until they were provided with aggregate surveillance data. Thus, as a result of these findings, surveillance of nosocomial infection became, and remains, the cornerstone of infection control programs around the world today.

In 1998, the Society for Healthcare Epidemiology of America (SHEA) underscored the central role of surveillance in a position paper on the requirements for infrastructure and essential activities of infection control and epidemiology in hospitals. This paper identified that, "the most important data-management activity of infection control programs is the surveillance of nosocomial infections and other adverse events."² Furthermore, Condon et al³ identified that a key factor in reducing surgical wound infection rates was feedback to the clinicians. Implicit in this assertion is the premise that clinicians, armed with this information, will take any necessary action to improve

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Table 1. Profile of respondents

Variable (n = 217)	Subgroups	N (%)
Staff designation	Visiting medical officer	166 (76.5)
	Private specialist	36 (16.6)
	Staff specialist	15 (6.9)
Experience (in years)	1-5	25 (11.5)
	6-10	30 (13.8)
	11-15	37 (17.0)
	16-20	37 (17.0)
	>20	88 (40.6)
Practice context	Practices in both contexts	145 (66.8)
	Exclusively private	62 (28.6)
	Exclusively public	10 (4.6)
Data received	Yes	160 (73.7)
	No	57 (26.3)

outcomes. Gaynes et al⁴ supported this view, arguing that, although “demonstrating the value of surveillance data to both the hospital’s patient-care personnel and administration is essential,” the real issue is whether “patient-care personnel perceive value in the data.” The authors argued that, if they do perceive the data to be valuable, they would use these data to influence their practice to reduce the incidence of nosocomial infections, and further asserted that surveillance of nosocomial infections can “influence clinical behaviour and improve the quality of patient care.” Various studies have demonstrated a relationship between surgical site surveillance programs that include dissemination of infection rates to surgeons and a reduction in surgical site infection rates.⁵⁻⁹

However, there is no indication in the literature that research has been conducted to examine the perspective of surgeons in relation to the value and efficacy of reporting surgical site surveillance data. This research project was designed to identify the perceptions of the surgeons receiving infection rate data in relation to the value, accuracy, and usefulness of these data.

METHODS

Setting and design

For more than a decade, the Australian Council on Healthcare Standards (ACHS) has facilitated a standardized approach to surgical site infection surveillance in Australian health care facilities.¹⁰ ACHS has a function similar to that of the Joint Committee on Accreditation of Healthcare Organizations (JCAHO) in the United States. It is an independent body that undertakes periodic review of health care facilities to determine whether the facility meets specific health care standards. Participation in the ACHS accreditation process in Australia is undertaken on a voluntary basis.¹⁰ In 1989, the ACHS Care Evaluation Program (CEP) was established, and clinical indicators were developed. The first

set of clinical indicators included hospital-acquired infections associated with clean and contaminated surgical procedures. Clean procedures were defined as operations “performed in a sterile field (that is, uncontaminated by bacteria).”¹¹ Contaminated surgical procedures were defined as operations including “those which breach the gastrointestinal, respiratory or genitourinary tracts, traumatic wounds, and those in which a break in aseptic technique occurs.”¹¹ Using these definitions, participating health care facilities submitted their infection rate data to the Care Evaluation Program. On the basis of these data, ACHS established infection rate thresholds for clean and contaminated categories of surgery. Over time, the infection rate thresholds were revised and stratified on the basis of facility size, defined by bed numbers.¹¹

In 2002, the ACHS published new definitions for surgical site surveillance.¹² These definitions were developed by the Australian Infection Control Association (AICA) National Advisory Board and were essentially based on the definitions developed for and used in the National Nosocomial Infection Surveillance (NNIS) project in the United States.^{13,14} Development and use of these definitions reflect the move toward targeted surveillance and risk stratification and will allow comparison of Australian infection rate data with international infection rates.

It is within the context of this state of flux that this research project was undertaken to obtain information regarding surgeons’ perspectives regarding specific aspects of surgical wound infection rate data. The project was confined to Queensland in the first instance to limit variations associated with specific data collection and reporting requirements imposed by some State Health Departments.

Queensland is Australia’s second largest and third most populous state, with more than 3.75 million residents.¹⁵ The Queensland Health Department delivers government-funded health services through a network of 38 Health Service Districts.¹⁶ Queensland Health recognized 111 public and 103 private and freestanding day hospitals in 2003.¹⁶ The Australian Council on Healthcare Standards (ACHS) is the accrediting body for most of these facilities, and fulfilment of the accreditation criteria requires evidence that nosocomial infections are monitored and reported to administrators and clinicians.¹¹ Infection control personnel are usually responsible for conducting such monitoring programs and report the results via the facility’s infection control committee.

Design

Data collection for this project was via a postal survey of Queensland surgeons.

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