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Implementation of a pilot surveillance program for smaller acute care hospitals

Noleen J. Bennett, RN, MPH,[a] Ann L. Bull, BSc(hons), MApEpid, PhD,[a] David R. Dunt, PhD, MB, BS, FFPH,[b] Denis W. Spelman, MB, BS, FRACP, FRCPA, MPH,[c] Philip L. Russo, RN, MCE,[a] and Michael J. Richards, MB, BS, FRACP, MD[a]
Melbourne, Australia

Background: An infection control (IC) surveillance program for smaller (<100 acute beds) hospitals was piloted for 18 weeks in 14 hospitals. The aim of the pilot stage was to test a theoretical program in the context in which it was to be implemented.
Method: An evaluation framework was developed, outlining the program's intended activities for data collection, management, analysis, reporting, and use. This framework was used as a reference to interview each of the 12 IC nurses participating in the pilot stage.
Results: The preferred case finding methodologies were not uniformly applied. Management, analysis, and reporting of data were delayed because of infrequent and irregular IC hours and laboratory reporting. Reports were not always distributed to key persons. Specific action was only taken in response to the process (and not outcome) module reports.
Conclusion: Discrepancies between the theoretical and actual implementation of a surveillance program for smaller hospitals were highlighted. The program will need to be revised before it is rolled out to all 89 eligible hospitals across Victoria. (Am J Infect Control 2007;35:196-9.)

In late 2003, a novel infection control (IC) surveillance program for smaller (<100 acute beds) hospitals was piloted in the state of Victoria, Australia. Fourteen hospitals participated over 18 weeks. The pilot stage was considered important because guidelines outlining simple yet effective IC programs specifically for smaller hospitals had not been widely published.[1] Recommendations for IC programs had mostly been based on studies undertaken in larger (≥100 acute beds) hospitals.[2]

The specific aim of the pilot stage was to highlight any discrepancies between intended and actual activities in regard to the collection, management, analysis, reporting, and use of the program's data. The information obtained is to be used to revise the program before it is ''rolled out'' to all 89 smaller hospitals across Victoria.

From the Victorian Nosocomial Infection Surveillance System (VICNISS) Coordinating Centre[a]; the School of Population Health, The University of Melbourne[b]; and the Microbiology and Infectious Diseases Unit, Alfred Hospital,[c] Melbourne, Australia.

Address correspondence to Noleen Bennett, RN, MPH, Senior Infection Control Consultant, Victorian Hospital Acquired Surveillance System Coordinating Centre, 10 Wreckyn St, North Melbourne 3061, VIC Australia. E-mail: Noleen.Bennett@mh.org.au.

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METHODS

A theoretic evaluation framework (Table 1) was developed after consultation with the programs key stakeholders and an analysis of the relevant literature.[3] For each pilot hospital, this framework was used as a reference to collect information about the program's implementation. Each of the 12 IC nurses who were primarily responsible for the program's implementation was interviewed at least once by the same Victorian Hospital Acquired Infection Surveillance System (VICNISS) Coordinating Centre (CC) IC nurse.

Table 2 outlines the surveillance modules included in the pilot program.[4-9] Multiple educational strategies were developed to assist the IC nurses in collecting data for these modules. This included a manual that outlined the standardized definitions, data collection forms, and reporting instructions for each data field to be used. The advantages of prospectively collecting surveillance data[3,8] were highlighted.

RESULTS

Data collection

Fifty percent of the surveillance plans were submitted by the due date. One hospital had planned to

Table 1. Evaluation framework

Objective	Activities
1. To collect accurately the data	Surveillance plans outlining modules to be undertaken are completed by the pilot IC nurses. Standard data collection forms are used by the pilot IC nurses. Prospective case finding methodologies are consistently and uniformly applied by the pilot IC nurses.
2. To manage and analyze data	Completed data collection forms are forwarded (before the due date) by the pilot IC nurses to the VICNISS Coordinating Centre. Data are checked and entered onto an aggregate database at the VICNISS Coordinating Centre.
3. To report data (in a timely manner)	"User friendly" reports are generated by the VICNISS Coordinating Centre employees. Surveillance reports are distributed back to the pilot IC nurses within 1 month. Reports are distributed by the pilot IC nurses to identified key persons.
4. To use data	Data are used by hospitals to guide the planning, implementation, and evaluation of policies/programs to prevent and control hospital-acquired infections.

Table 2. Pilot surveillance modules

Type of indicator	Surveillance Module	Ref. used	Requirement	No. of Participating Hospitals	Measurement		Reporting time frame
					Numerator	Denominator	
Process	Surgical antibiotic prophylaxis	4,5	At least 1 process indicator surveillance module was required	3	1. Patients who received prophylactic antibiotics consistent with current recommendations 2. Patients who received prophylactic antibiotics within 2 hours before surgical incision 3. Patients who received prophylactic antibiotics that were discontinued within 24 hours postsurgery	1. All patients who underwent a procedure in 1 of the 8 listed VICNISS surgical procedure groups* 2. All patients from denominator group 1 who were given a prophylactic antibiotic 3. All patients from denominator group 1 who were given a prophylactic antibiotic	As soon as possible after data completion for 25 consecutive cases
Process	Health care workers and measles vaccination	6	As above	13	All permanently employed health care workers born after 1970 who were susceptible to measles	All permanently employed health care workers	As soon as possible after data completion
Outcome	Multiresistant organism infections	7	Required except for hospitals with 50-99 acute beds	14	All patients with new MRSA and VRE infections	Acute occupied bed days	For each month, up to 2 weeks into the next month
Outcome	Bloodstream infections	8	Required	14	All patients with new primary laboratory confirmed bloodstream infections	Acute occupied bed days	For each month, up to 2 weeks into the next month
Outcome	Outpatient hemodialysis event	9	Optional	4	All chronic hemodialysis outpatients who developed a positive blood culture or who were commenced on IV Vancomycin.	Patient months (number of chronic outpatient hemodialysis patients for each month)	For each month, up to 2 weeks into the next month
Outcome	Surgical site infections	8	Optional	No hospitals	All surgical inpatients who developed a superficial, deep or organ space infection	All patients who underwent a procedure in the chosen VICNISS surgical procedure group†	For each month, up to 6 weeks after data completion

Ref, reference; *MRSA*, methicillin-resistant *Staphylococcus aureus*; *VRE*, vancomycin-resistant *Enterococcus*.

*For the Surgical Antibiotic Prophylaxis module, surgical procedure groups included appendicectomy, cholecystectomy, colon surgery, caesarean section, gastric surgery, hip prosthesis, abdominal hysterectomy, and knee prosthesis.

†To be eligible, a hospital had to perform at least 70 procedures within 1 of the 20 listed surgical procedure groups.