

Surveillance Methodologies for Nosocomial Infections in Virginia Hospitals: Results of a Statewide Survey

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Abstract

Background: As states grapple with the issue of mandatory reporting of nosocomial infections (NIs) and public disclosure, surveillance activities and methodologies are receiving renewed interest.

Objective: To assess NI surveillance methodologies currently employed in Virginia hospitals in an effort to identify potential common areas, which could be useful in drafting legislation for mandatory reporting.

Methods: A one-page questionnaire was mailed to the infection control department of each acute care hospital (n=94) in Virginia.

Results: Seventy-four hospitals (79%) responded. Of the reporting hospitals, 75% collected surveillance data both concurrently and retrospectively. 46% of hospitals performed hospitalwide surveillance for infections. Nearly half of all hospitals monitored for line-related bloodstream infection (BSI) and ventilator-associated pneumonia (VAP) in ICUs (47% and 39%, respectively), whereas only 15% monitored BSI in the ward setting. 80% conducted surveillance continuously, whereas 20% used both continuous and episodic surveillance. 63% utilized case definitions that required review of both microbiology and clinical data; 81% employed CDC case definitions as written and an additional 18% used some modification of CDC definitions. Organism specific surveillance was most commonly performed for MRSA (77%) and VRE (66%), and less commonly for ESBL-producing gram-negative bacilli (33%) and resistant *Pseudomonas aeruginosa* (31%). 51% performed surveillance for surgical site infections on all procedures and the remaining 49% on at least the selected procedure. Only 32% utilized software to manage surveillance data and only one hospital had an electronic medical record.

Conclusions: A wide variety of NI surveillance activities are occurring in Virginia hospitals and the majority of hospitals collect surveillance data manually. Should an incremental approach to mandatory reporting be taken, highest priority should be given to the reporting of ICU catheter-related BSI utilizing CDC definitions since this activity is already ongoing at half of the hospitals.

Background

- 37 states have introduced or enacted legislation to mandate reporting of nosocomial infections.
- In 2001, 2003, 2004 and 2005, bills were introduced at the Virginia General Assembly requiring reporting of all nosocomial infections to the Virginia Department of Health.
- The goal of this study was to assess nosocomial infection surveillance methodologies currently employed in Virginia hospitals in an effort to identify potential common areas, which could be useful in drafting legislation for mandatory reporting.

Methods

- A one-page questionnaire was sent to the infection control department of each acute care hospital in Virginia (n=94) to ascertain information on the scope and methodology of surveillance for nosocomial infections.

Results

74 (79%) of the surveyed hospitals responded

Primary surveillance method	Concurrent	95%
	Retrospective	88%
	Both	85%
Scope of surveillance	Hospital wide	46%
Data abstraction and management	Electronic medical record present	1%
	Infection control software for data analysis	32%
Continuity of surveillance	Survey units continuously	80%
	Survey units episodically	0%
	Some units continuous, some episodic	20%

Results (continued)

Data sources for case detection	Microbiology & clinical data	96%
	Only microbiology data	4%
Case definitions used	CDC	81%
	Modified CDC or locally developed	19%
Organism-specific surveillance	MRSA	77%
	VRE	66%
	ESBL-producing GNRs	32%
	MDR <i>Pseudomonas aeruginosa</i>	31%
Infections surveyed	CVC-associated bloodstream (ICU)	47%
	CVC-associated bloodstream (ward)	15%
	Surgical site (all procedures)	51%
	Surgical site (selected procedures only)	49%
	UTI	26%
Denominators used for rate calculations	Ventilator-associated pneumonia	39%
	Patient days	62%
	Device days	62%
	Admissions	14%
Discharges	18%	

Conclusions

- Many different surveillance activities for nosocomial infections are performed across Virginia hospitals
- Should an incremental approach to mandatory reporting be undertaken, highest priority should be given to reporting of line-related BSIs in the ICU setting, since half of hospitals currently perform surveillance for these infections