

Validation of surgical site infection surveillance system data in São Paulo state, Brazil: development of a protocol



Mello D¹, Madalosso G², Assis D², Padoveze MC¹ (padoveze@usp.br)

1. School of Nursing, University of São Paulo, São Paulo, São Paulo, Brazil.

2. Hospital Infection Division, Centro de Vigilância Epidemiológica Prof Alexandre Vranjac, São Paulo State Health Department, São Paulo, São Paulo, Brazil.

Background

- Validation of surveillance system data of surgical site infection (SSI) ensures the quality of the information.
- In São Paulo state, Brazil, the SSI surveillance system was implemented in 2004, with participation of 569 hospitals in 2017 (CVE, 2018).
- The criteria for healthcare associated infections are based on those of NHSN/CDC.
- However, up to now there was no validation of data collected in the system.

Objective

To develop and to pilot a protocol to validate data of SSI reported to surveillance system of the State of São Paulo, Brazil.

Methods

Study performed from February-2014 to January-2018 in three phases:

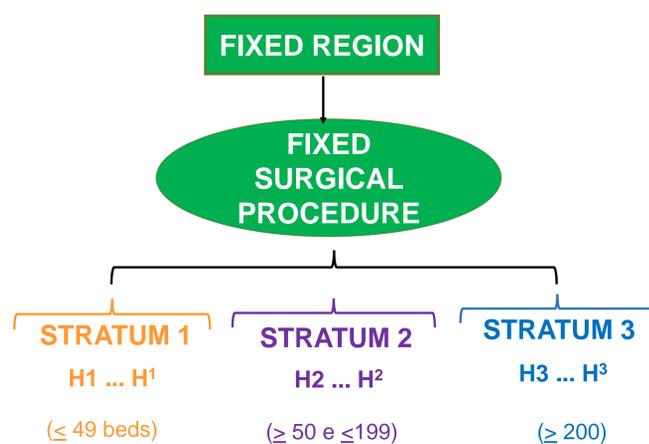
- systematic literature review of strategies used by governmental surveillance systems to validate SSI data;
- conducting a pilot study in a selected region of state.
- development of a protocol to validate the SSI data reported to surveillance system.

Results from literature review

- Number of papers included: 14.
- Conclusion: there is no standard method used to validate the SSI data of surveillance systems at governmental level.

Results from the pilot

Figure. Sampling scheme



Source: CEA/IME/USP, 2016

- Participants: 05 hospitals: 03 (60%) private; 02 (40%) public.
- 168 medical records reviewed (hip and knee arthroplasty, laparoscopic hysterectomy and cesarean section).
- 15 minutes (mean time) to review each medical record

Table. Comparison of SSI reported by the participant hospitals and the reviewers. São Paulo, Brazil, 2018.

Surgical procedure	Hospital reporting	Reviewer's diagnosis		TOTAL
		Yes SSI	No SSI	
Knee arthroplasty	Yes SSI	3	2	5
	No SSI	0	52	52
	Total	3	54	57
Total hip Knee arthroplasty	Yes SSI	8	7	15
	No SSI	0	65	65
	Total	8	72	80
Laparoscopic hysterectomy	Yes SSI	0	1	1
	No SSI	0	12	12
	Total	0	13	13

- Five cases were misclassified as SSI despite no evidence according to the criteria for diagnosis.
- Discrepancies between data found by researchers and those reported in the surveillance system related to both denominators and numerators.
- Sensibility and NPV = 100%
- PPV = 53.3% - 60%
- Specificity = 50% - 100%

The protocol describes:

- steps to plan validation process, including the required resources;
- method to calculate the simple size of hospitals and medical records;
- a tool for data collection
- method for data analysis and feedback to the hospitals.

Conclusion

The protocol showed to be feasible and pointed out needs for improvement in the SSI surveillance system.

References

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- ✓ Reilly JS, Price L, Godwin J, Cairns S, Hopkins S, Cookson B, et al. A pilot validation in 10 European Union member states of a point prevalence survey of healthcare-associated infections and antimicrobial use in acute hospitals in Europe, 2011. *Eurosurveillance* 2015;20(8).