

Surveillance of Surgical Site Infections

H.Carsauw, C.Suetens

NSIH

WIV – Epidemiology

Importance of Surgical Site Infections

- SSI are one of the most common adverse events of surgery
- Excess morbidity, length of stay, costs, antibiotic use...
- ✦ *Monitoring the incidence of SSI is essential component in the prevention & control*

NSIH – SSI Surveillance

- Reestablished July 2001
before: 1992 – 96
- Protocol in agreement with :
 - ❖ Quality Decree Flemish government
 - ❖ Requirements in the field of surveillance of nosocomial infections at European level :
HELICS

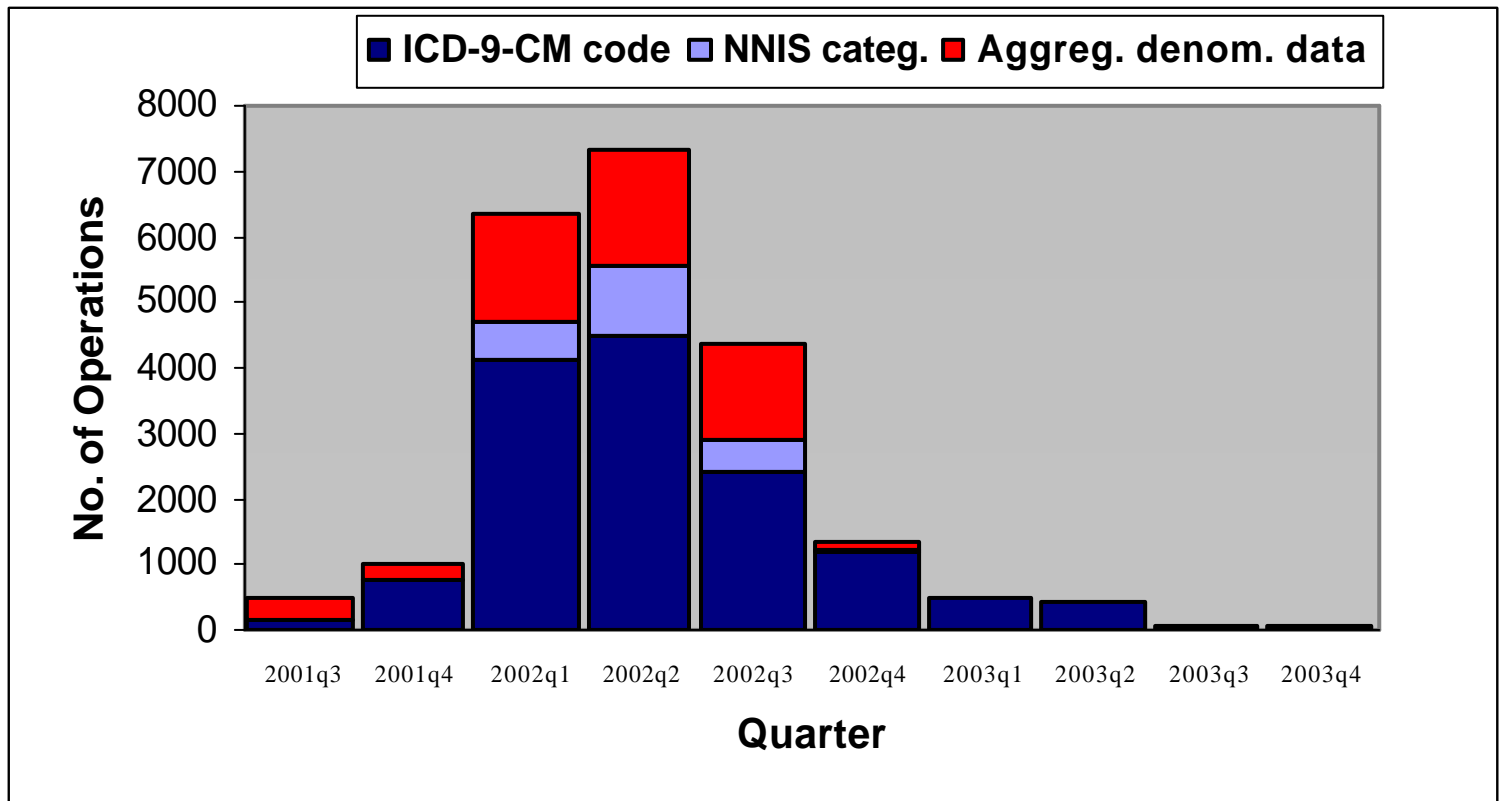
Participation in NSIH - SSI surveillance July 2001 – Dec 2003*

Registr. Option	No. Hosp.	No. Operations	Categ. Quality Decree	Other Categ. ^o
① ICD-9-CM	46	16.233	14.821	1412
② NNIS category	(39+7)			
③ Aggregated denominator data	13	5550	5550	--
Total	59	21.783	20.371	

* Preliminary data

^oOther categories: *KPRO, Gastric surg, Other vasc, Spinal fusion*

Number of operations registered by quarter, July 2001 – Dec 2003*



The Quality Decree

Flemish government, 01/01/2000

**Operation categories to be followed mandatorily:
(NNIS system, CDC)**

- ❖ **Colon surgery (COLO)**
- ❖ **Herniorrhaphy (HER)**
- ❖ **Hip prosthesis (HPRO)**
- ❖ **Laminectomy (LAM)**
- ❖ **Vascular surgery (VS)**
- ❖ **Coronary bypass (CBGB & CBGC)**

Stratification by Risk Index

NNIS system, CDC

- Basic Risk Index:

- Wound class
- ASA score
- Duration

RI : 0 → 3

- Idem + consider Laparo/Endoscopy :

- ❖ For COLO , CHOL:
Basic Risk Index - 1

- ❖ For APPY, GAST:

If Basic Risk Index=0:

- 0 - lap
- 0 – no lap

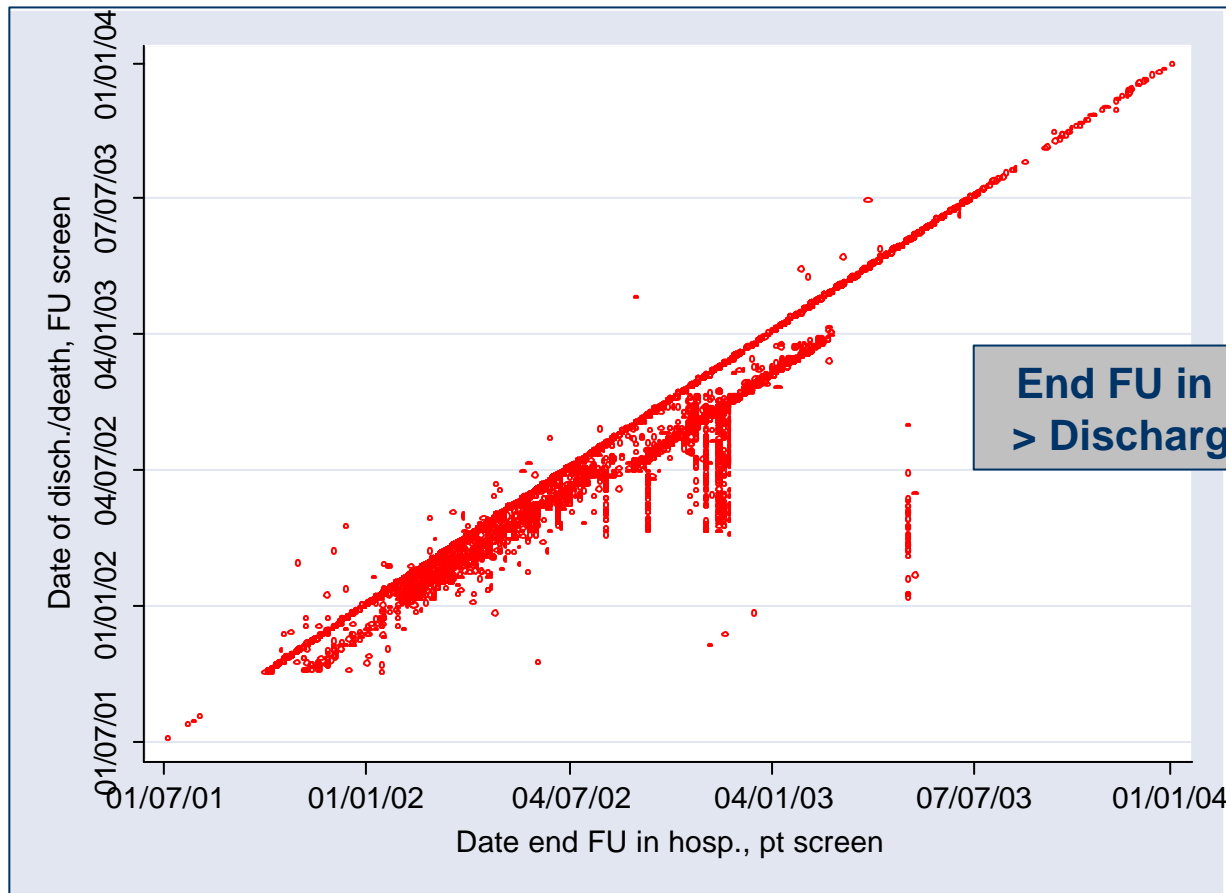
*NOT applicable to other
operation categories !*

e.g. Hernia, Appendectomy, ...

Missing Risk Index factors

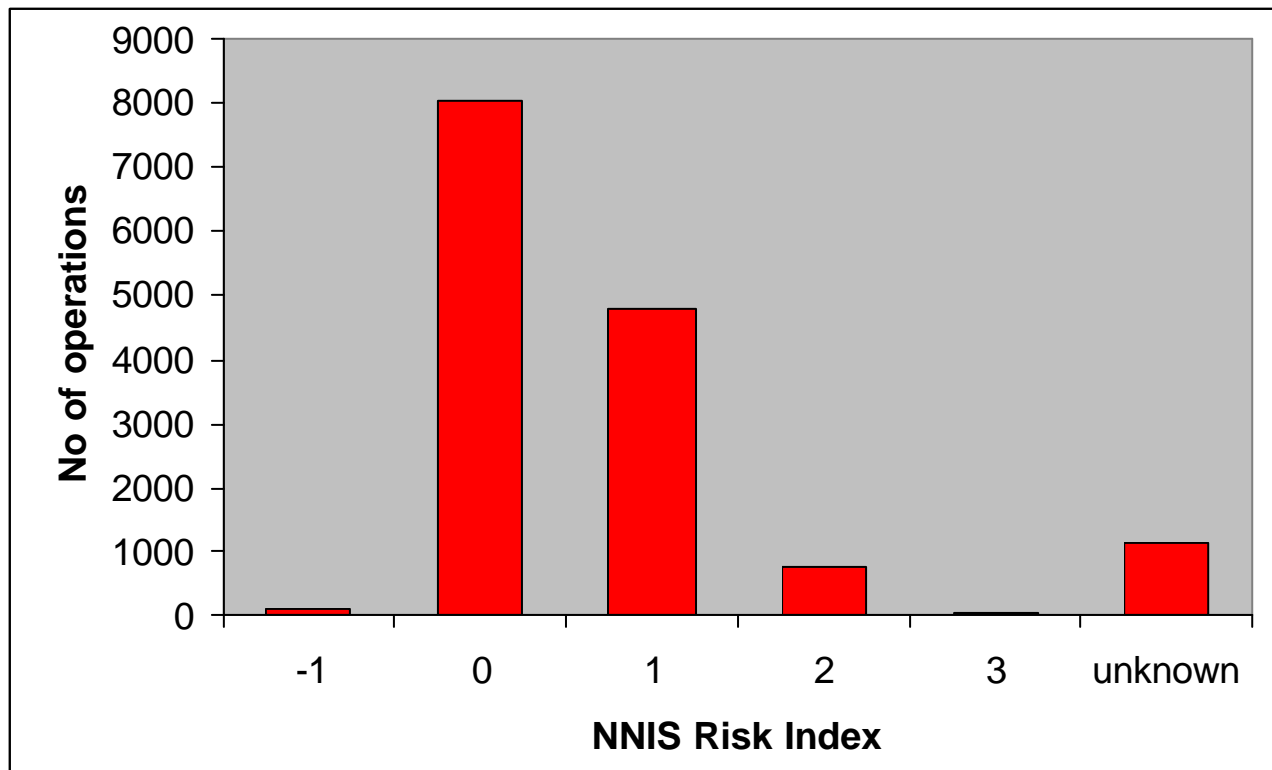
Risk stratification factor	% Missing		
	Operation cat. Quality decree	Other operation categories	Total
ASA score	6.0 %	16.2 %	6,9 %
Wound class	2.9 %	0.9 %	2,7 %
Duration	1.2 %	1.1 %	1,2 %
At least one	8.6 %	17.5 %	9,4 %

Discharge date versus End of Follow-up in the hospital

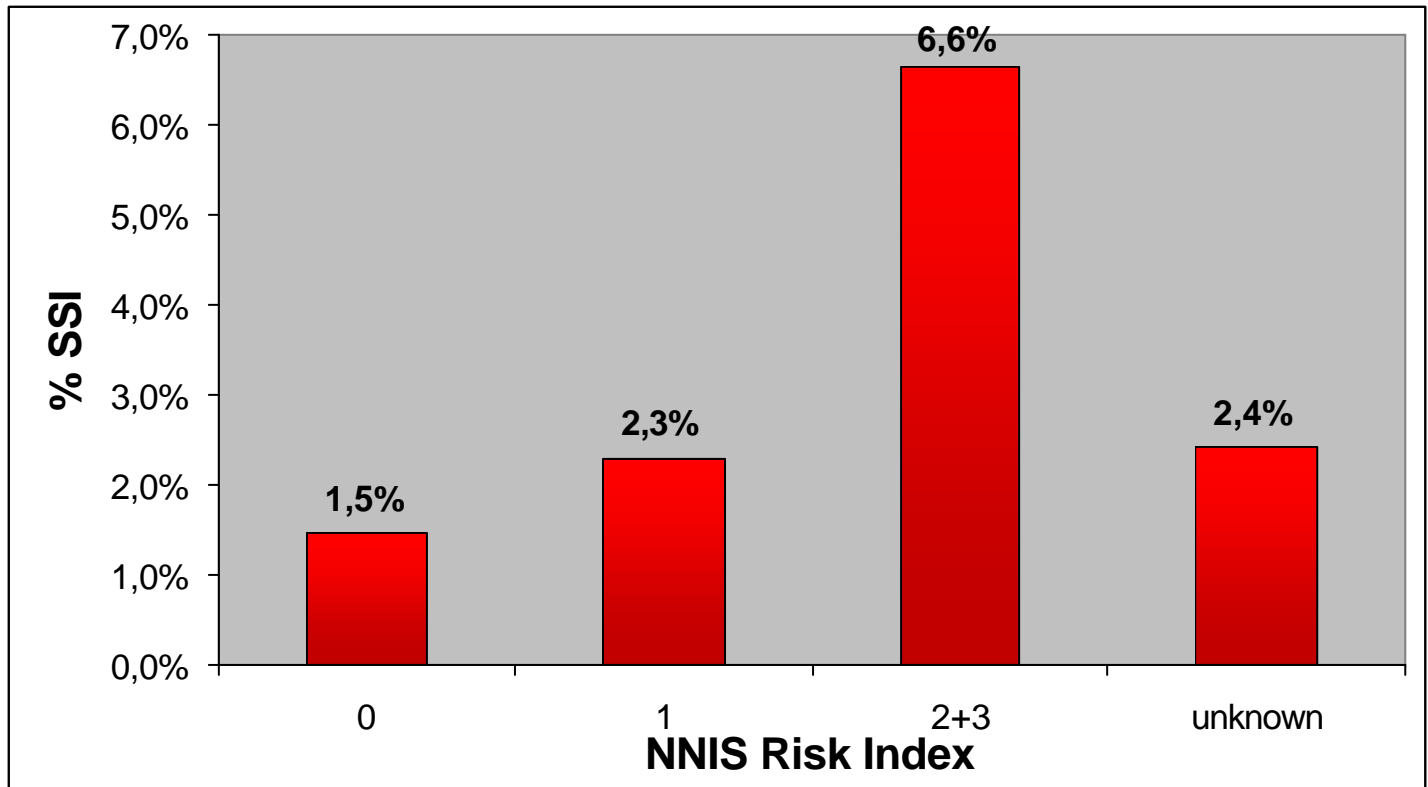


End FU in hosp
> Discharge ??

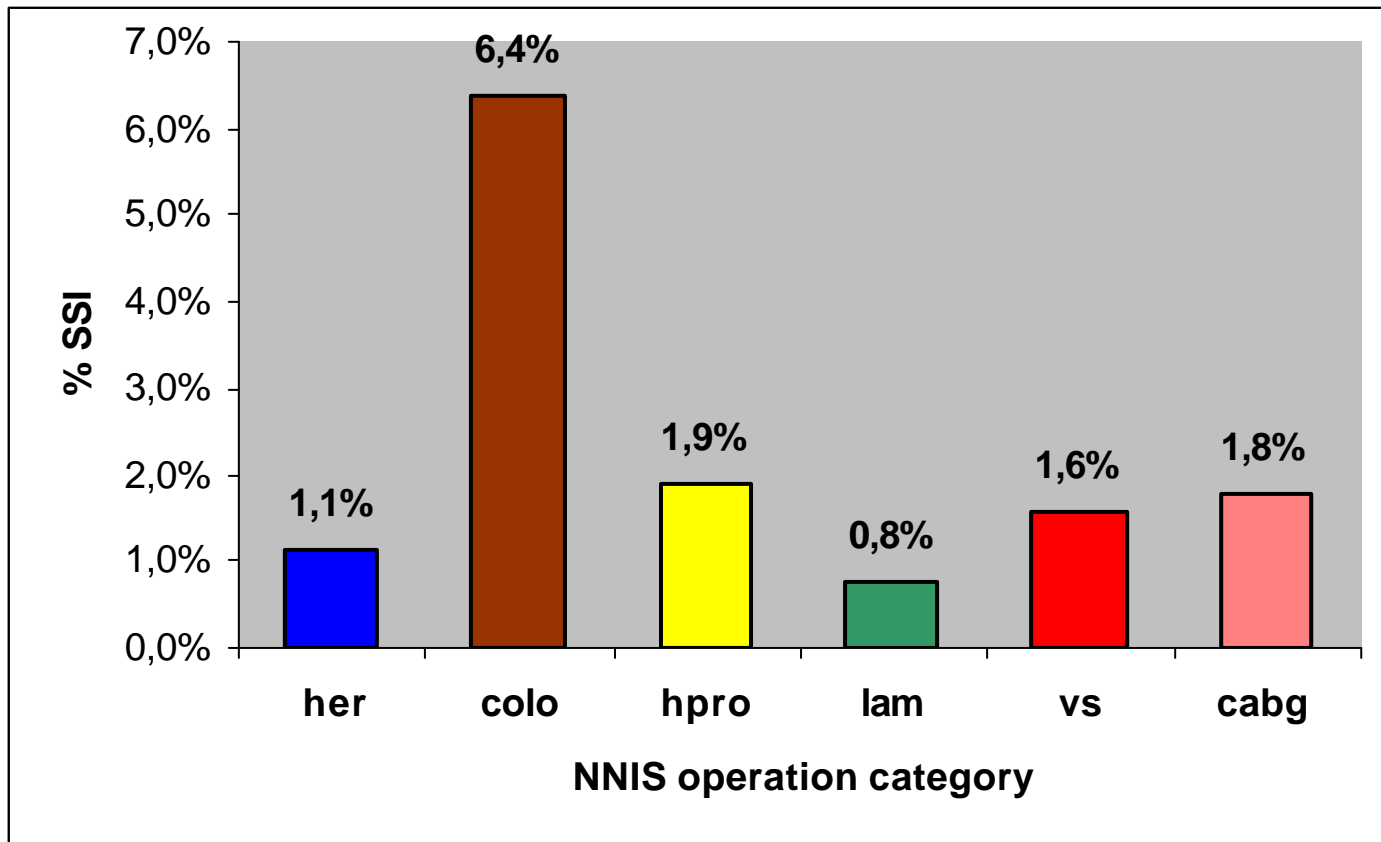
Distribution of operations by NNIS Risk Index



SSI rate by NNIS Risk Index



SSI rate by NNIS operation category



Types of SSI

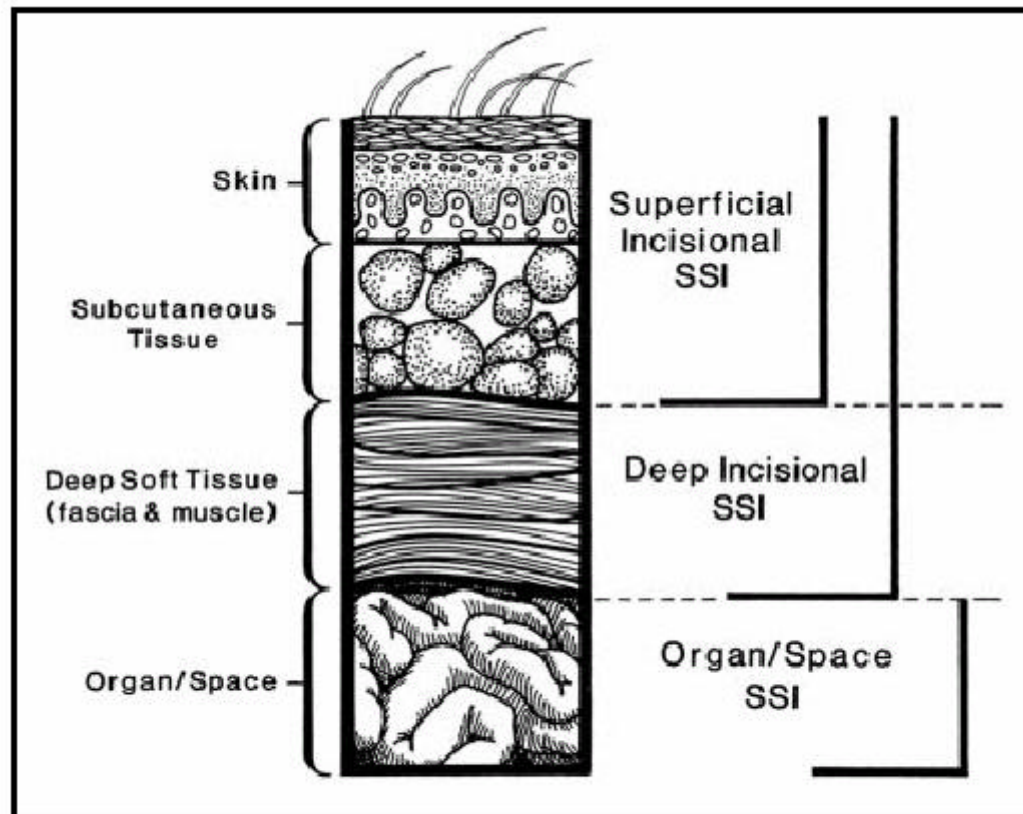
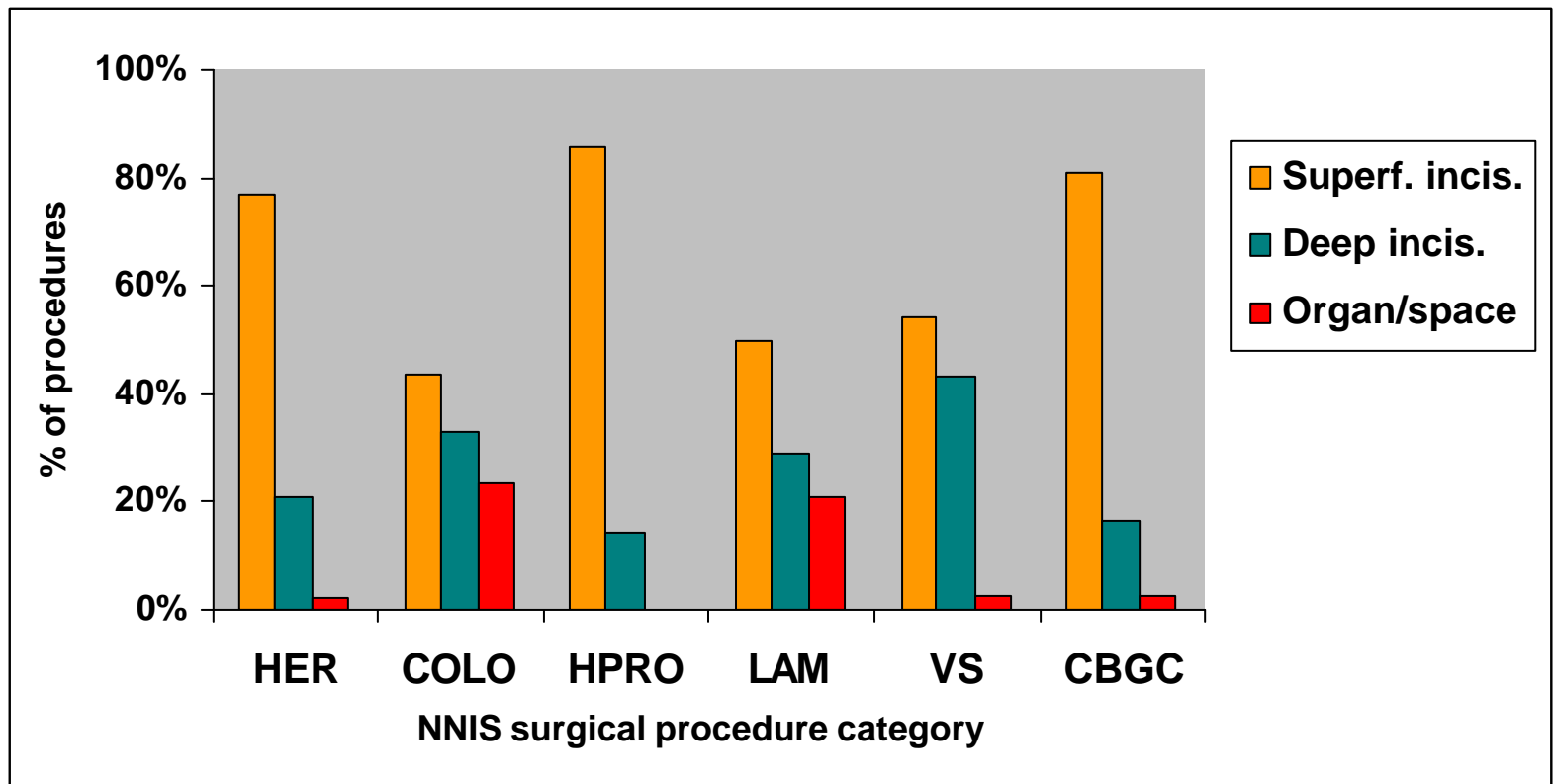
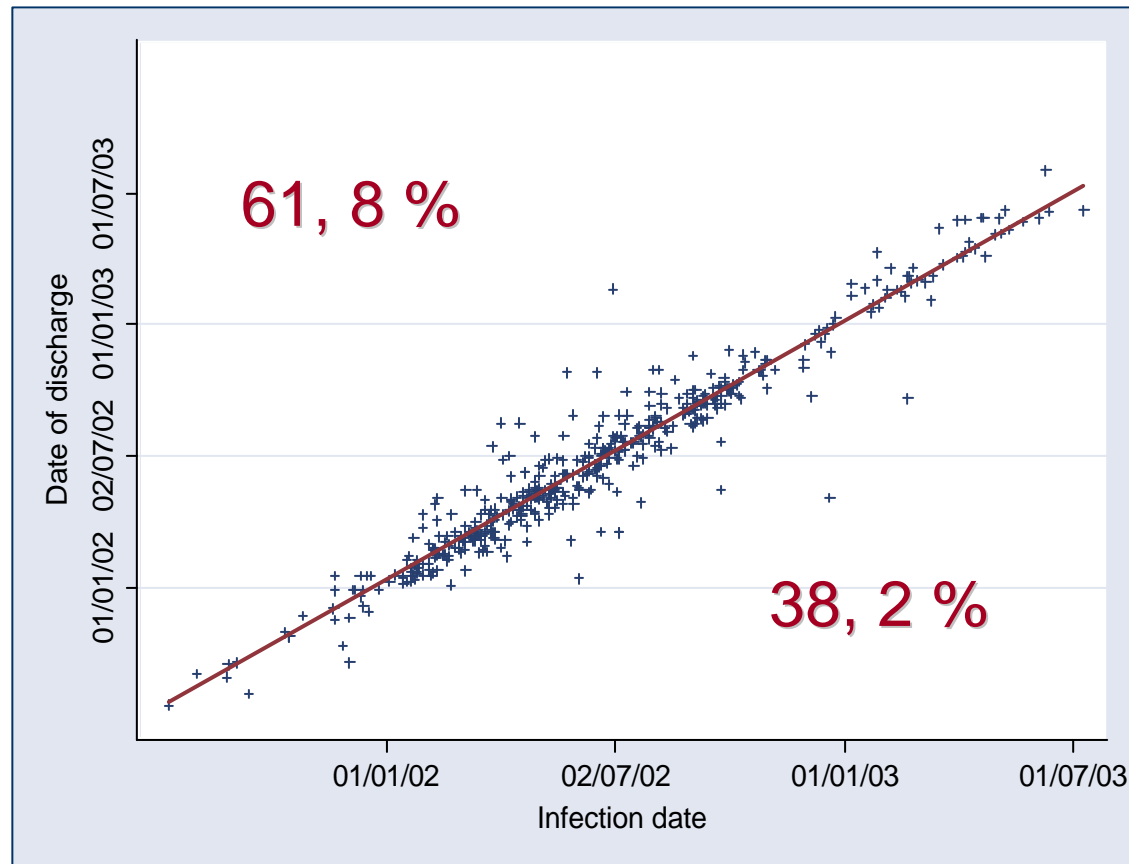


FIGURE. Cross-section of abdominal wall depicting CDC classifications of surgical site infection.²²

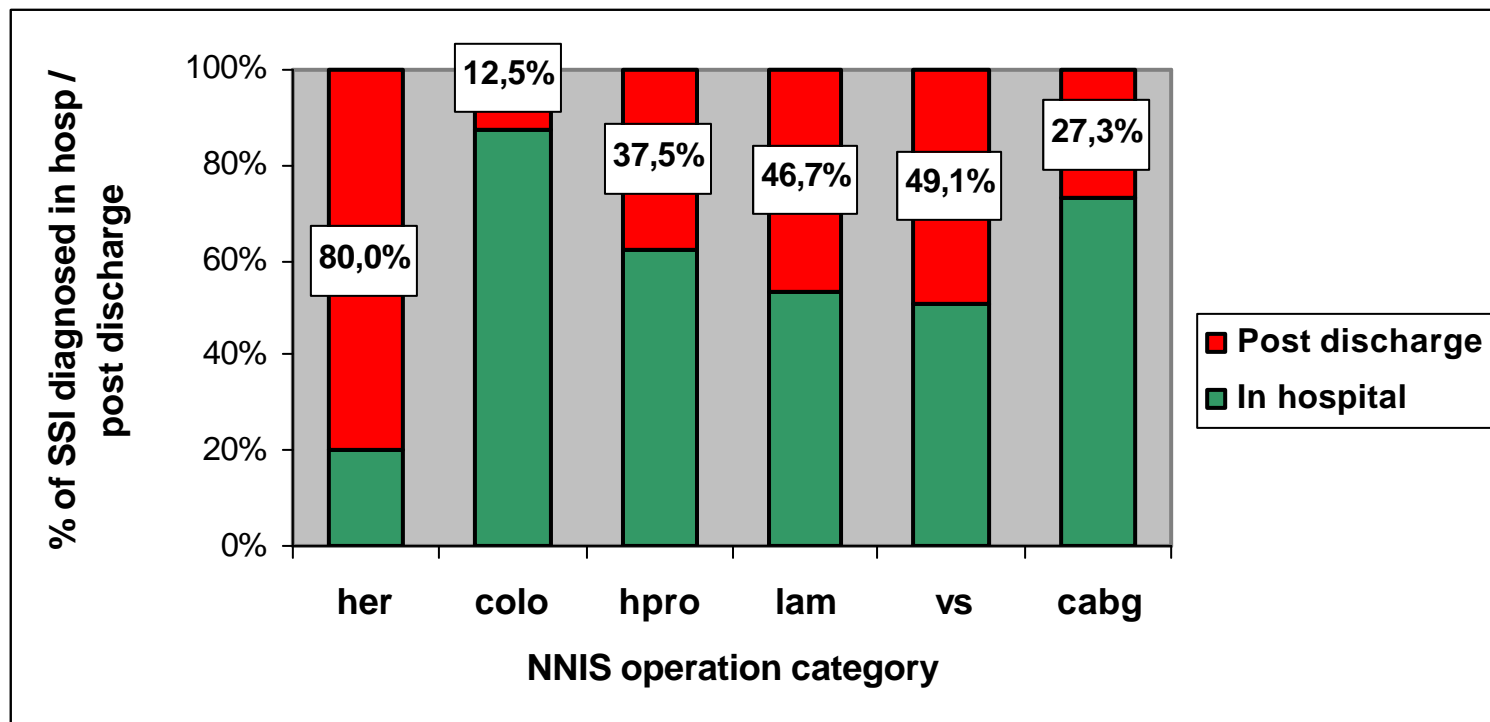
Type of SSI by NNIS operation category



SSI date vs. discharge date

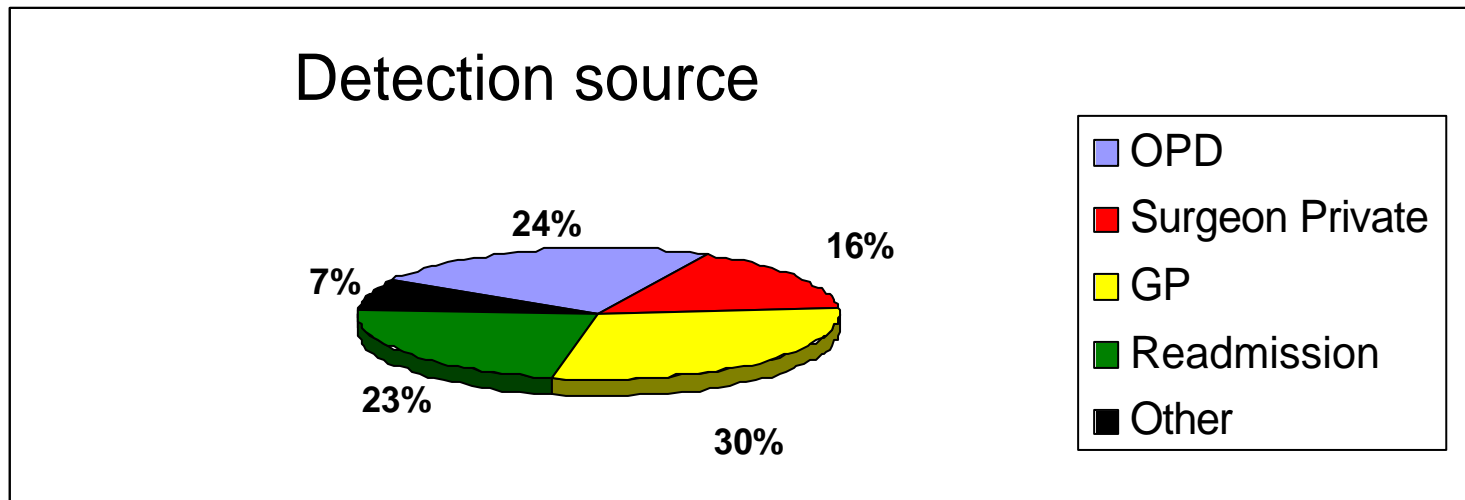


Proportion of SSI diagnosed during hospital stay vs. post-discharge, by surgical procedure category



SSI diagnosed after discharge from hospital

- NSIH 1992 - 96: 12,6 %
- NSIH 2001 – 03: **38,2 %**



Discussion & Conclusion

- NSIH - SSI surveillance data : “Flemish data” (Quality decree)
- Missing NNIS Risk Index factors => comparability ?
- Involvement of the surgical profession generally poor (the “owners of the data”)
- Importance of postdischarge surveillance