

# Surgical Antimicrobial Prophylaxis in the Netherlands

Inge C. Gyssens

# Healthcare Budget system in Dutch hospitals

**introduced in 1983**

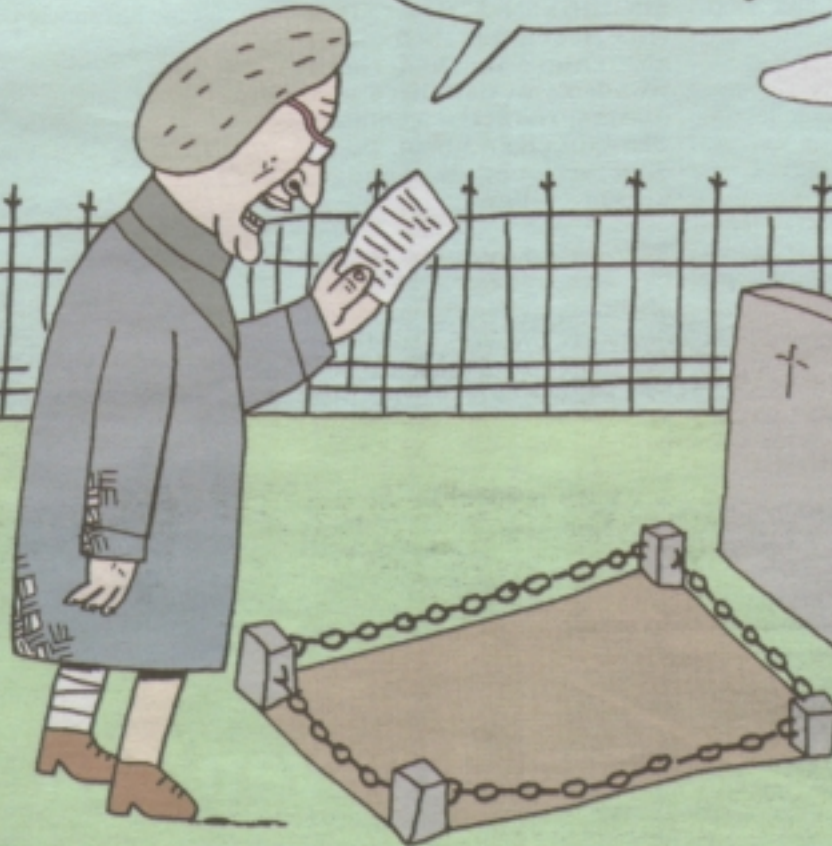
**budgets originally based on consumption of resources of the previous year**

**the government has limited hospital costs in an external budget**

**drug costs for inpatients generate no revenues**

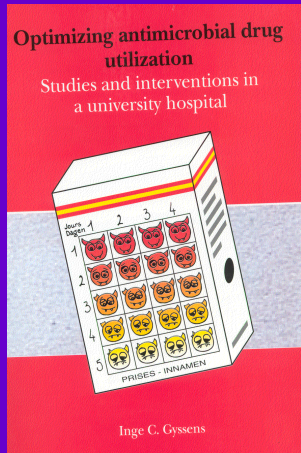
JEROEN

je staat op  
de wachtlijst!



de Loijer

**Tu es sur la liste d'attente !**



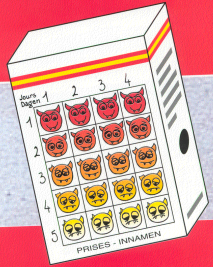
# Complete Evaluation of Surgical Prophylaxis in University Hospital N, 1992

	Before intervention	After intervention
<b>Number of operations</b>	<b>258</b>	<b>262</b>
<b>Prophylaxis administered</b>	<b>31%</b>	<b>37%</b>
<b>Prophylaxis incorrect</b>	<b>23%</b>	<b>5%</b>
<b>Duration &gt; 24 hours</b>	<b>25%</b>	<b>1%</b>
<b>Single Dose</b>	<b>20%</b>	<b>78%</b>
<b>Timing optimal</b>	<b>34%</b>	<b>62%</b>

Gyssens et al. JAC 1996;38:1001-12

## Optimizing antimicrobial drug utilization

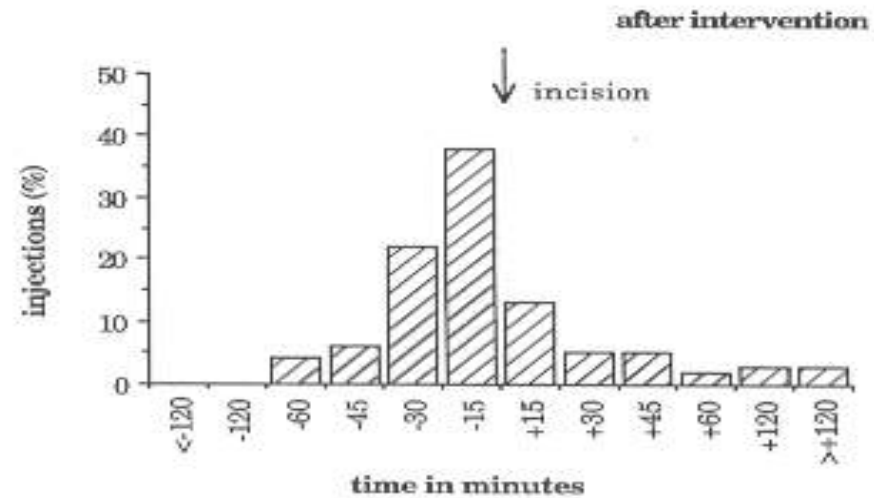
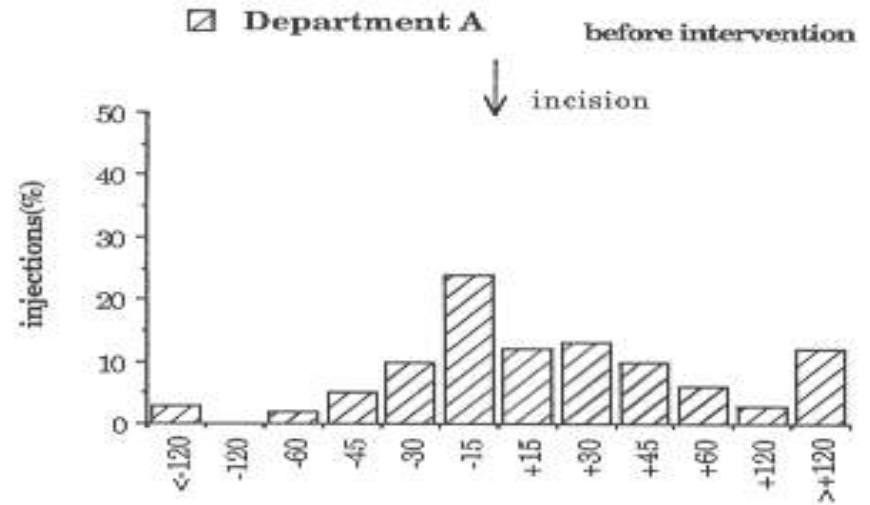
Studies and interventions in a university hospital



Inge C. Gyssens

# Intervention on Timing of Prophylaxis

## University Hospital N 1992



Gyssens et al. JAC 1996;



Dutch Working Party on Antibiotic Policy  
[www.swab.nl](http://www.swab.nl)

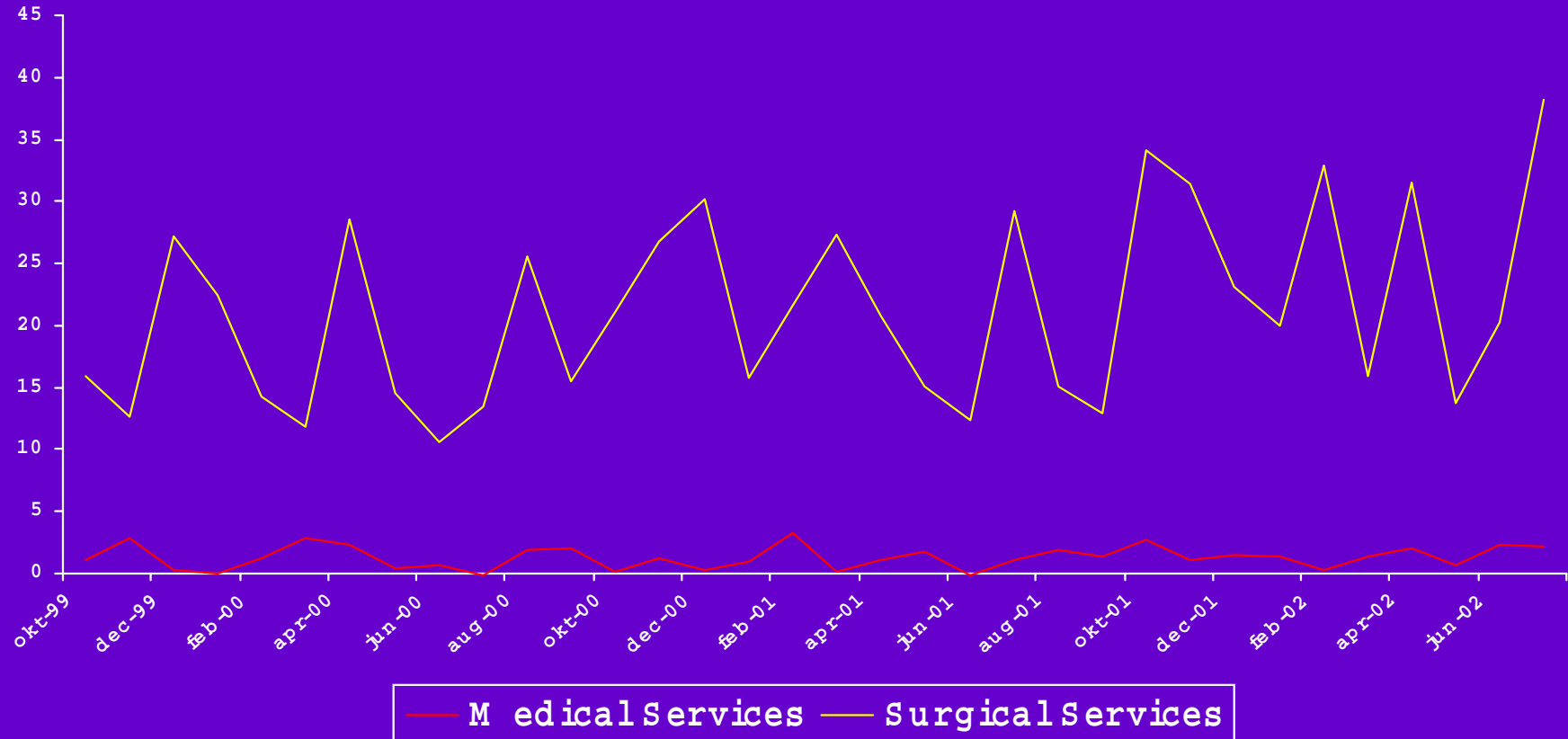
Surgical prophylaxis (national guideline 2000)

cefazolin 1g (+ metronidazole)

single dose

within 30 min before incision

# Use of First Generation Cephalosporins DDD /100 patient days Erasmus MC ,1999-2002

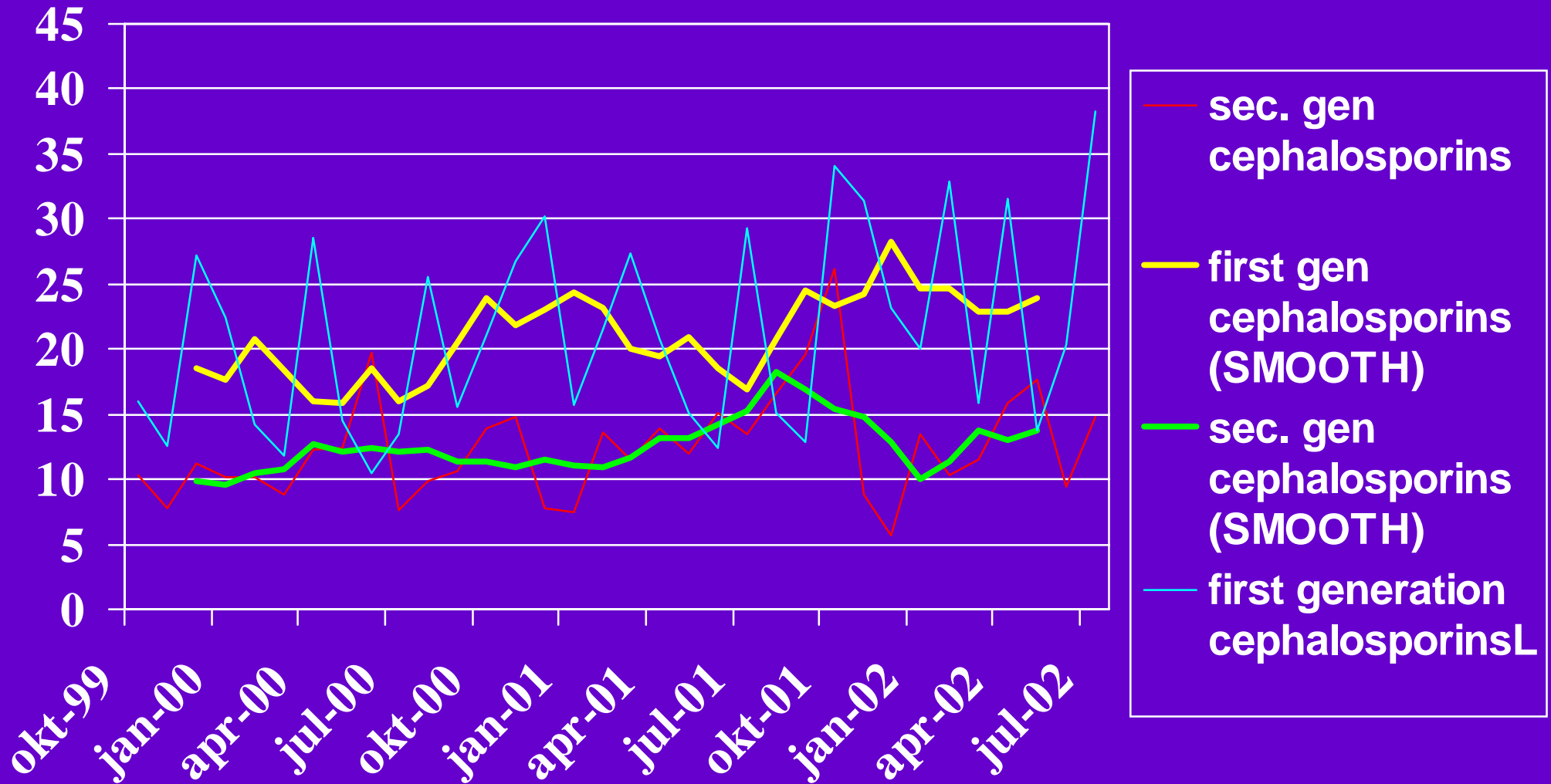


## Cefazolin is restricted to prophylactic use in surgery in University Hospital R, 2001

department	cefazolin use (g)	%
operating theatres	4266	64
postop ICU	1507	23
surgical wards	716	10
medical wards	208	3
total	6697	100



# Use of cephalosporins in surgical departments University Hospital R, DDD/100 patient days





# Intervention study on Surgical Prophylaxis The **CHIPS** study in The Netherlands

## EDUCATIONAL INTERVENTION:

- feedback of quality-of-use review
- national guidelines:



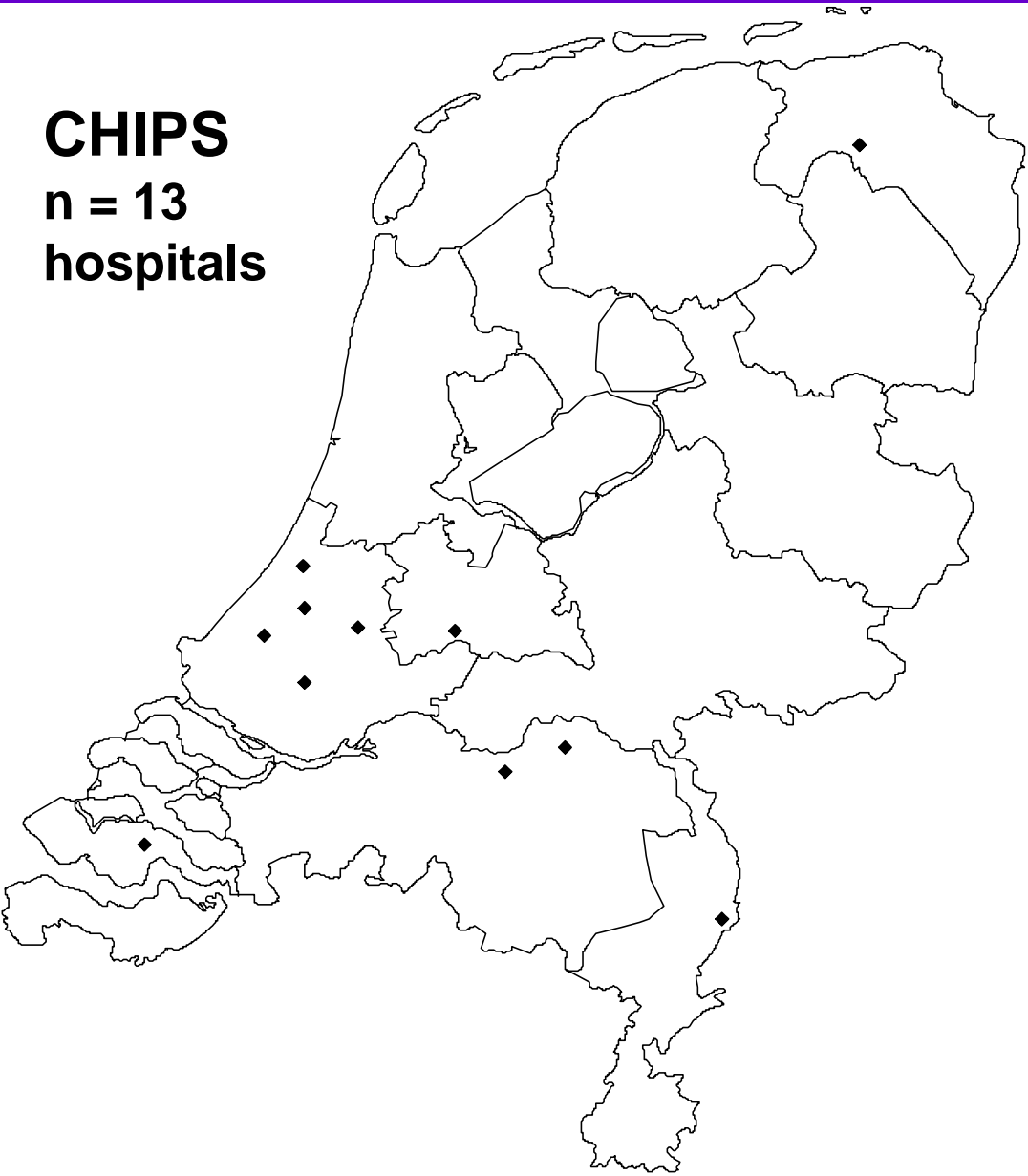
- support of outcome data:  
surgical wound infections SSI



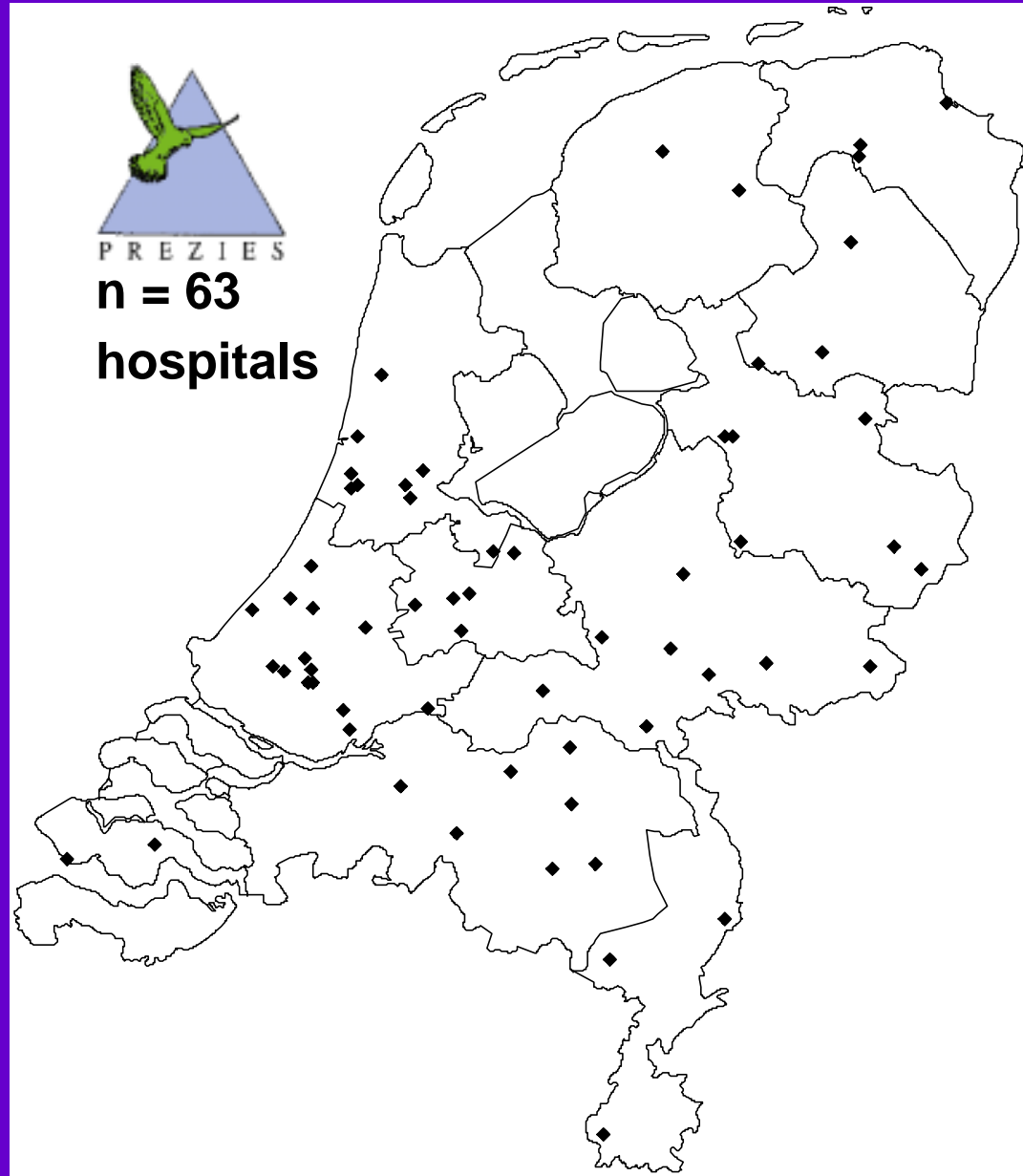
# Postoperative wound infections (SSI)



**CHIPS**  
n = 13  
hospitals



**n = 63**  
hospitals



# CHIPS pre-intervention: 1763 procedures

## Elective procedures for which prophylaxis is indicated

### •clean:

n = 1114

total hip implantation  
reconstruction of the aorta  
femoropopliteal bypass

### •clean contaminated:

n = 649

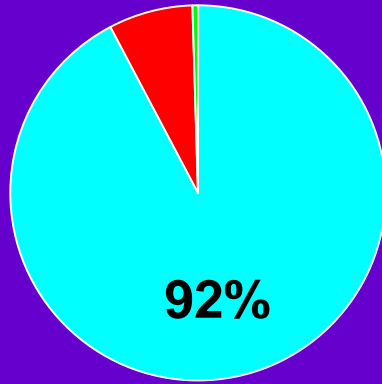
vaginal hysterectomy  
abdominal hysterectomy  
colon resection and  
low-anterior resection

# CHIPS pre-intervention 2000, Choice of agent

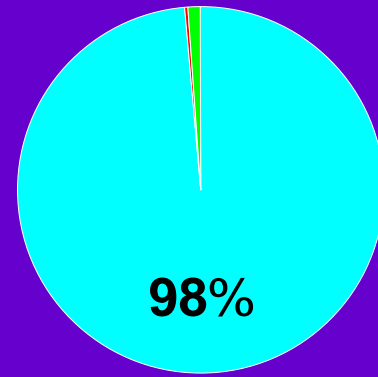


# Duration of Prophylaxis

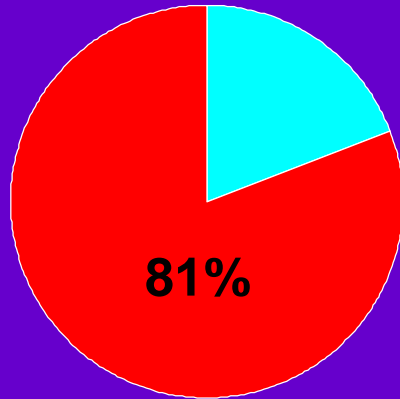
**CHIPS  
pre-intervention  
2000**



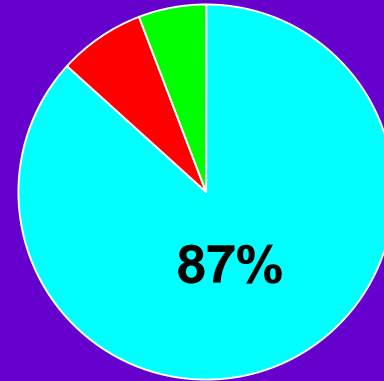
Intestinal  
surgery



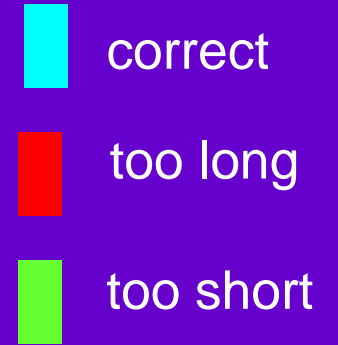
Gynaecological  
surgery



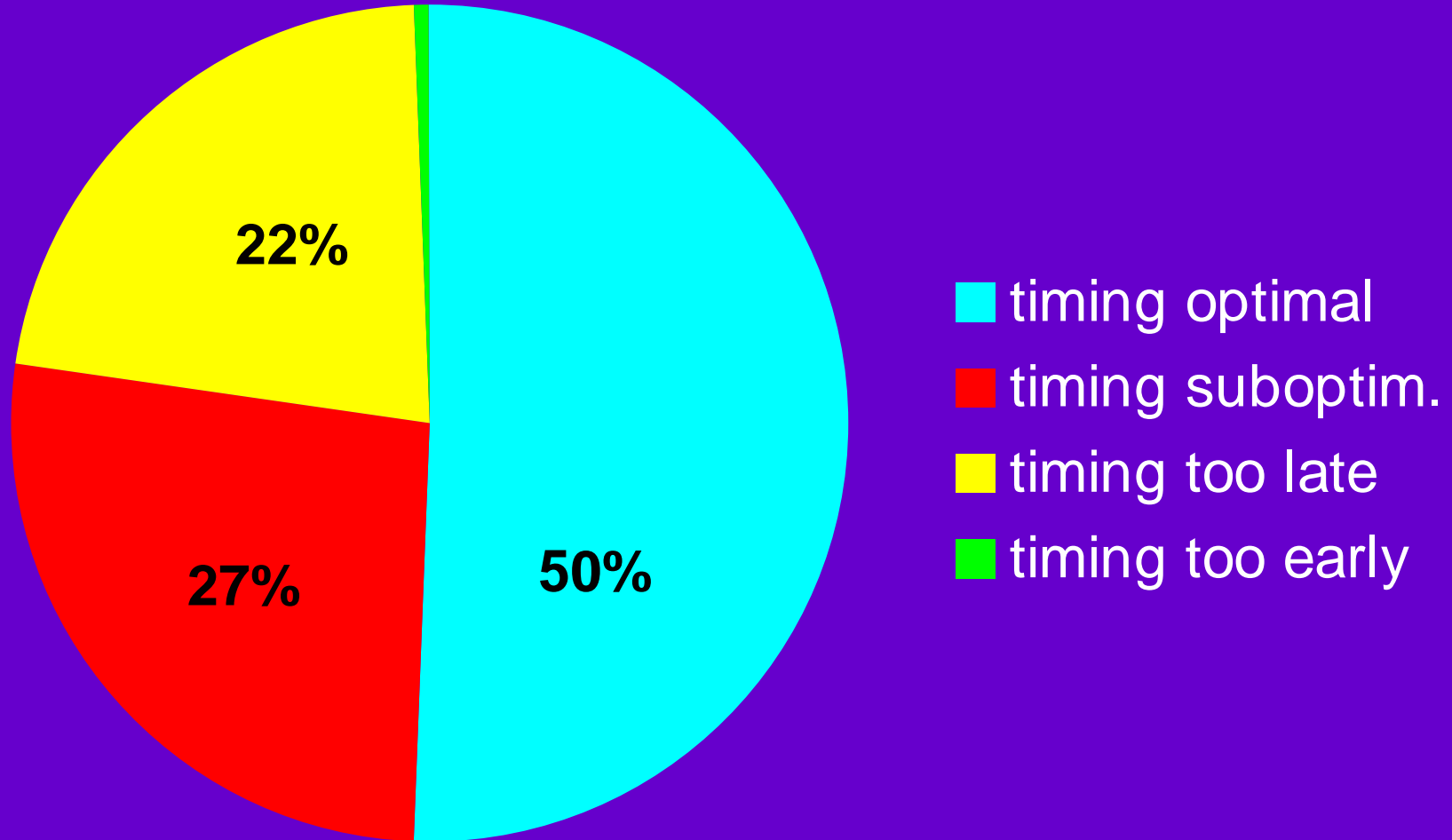
Orthopedic  
surgery



Vascular  
surgery



# CHIPS pre-intervention 2000, Timing

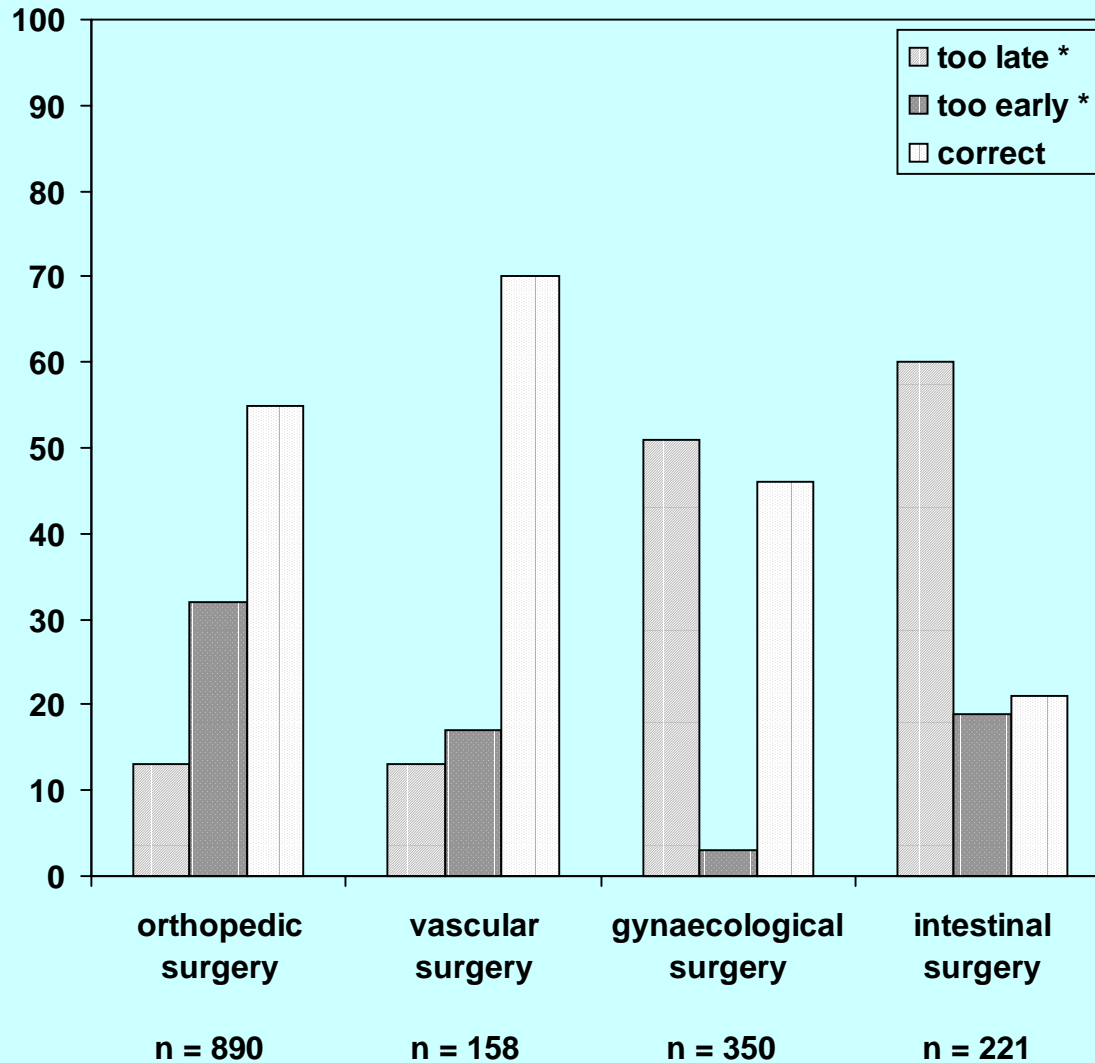




# Timing in prophylaxis is the Achilles heel



# CHIPS pre-intervention: Timing of prophylaxis



## **Conclusion:**

**There seems to be no major overconsumption of surgical prophylaxis in the Netherlands**

**Where indicated, prophylaxis is virtually not omitted**

**Quality of surgical prophylaxis in the Netherlands is favourable, but there is still room for improvement**