



## MRSA and Nursing homes:

*Is there a problem and do we need to change our guidelines ?*

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IPH  
Epidemiology



With the support of the federal platform for hospital hygiene



*Belgian Antibiotic Policy Coordination Committee*



*Belgian Infection Control Society*

# Situation in Belgian acute care hospitals

National Campaign: Antibiotic Consumption - 2000

2004 and 2006

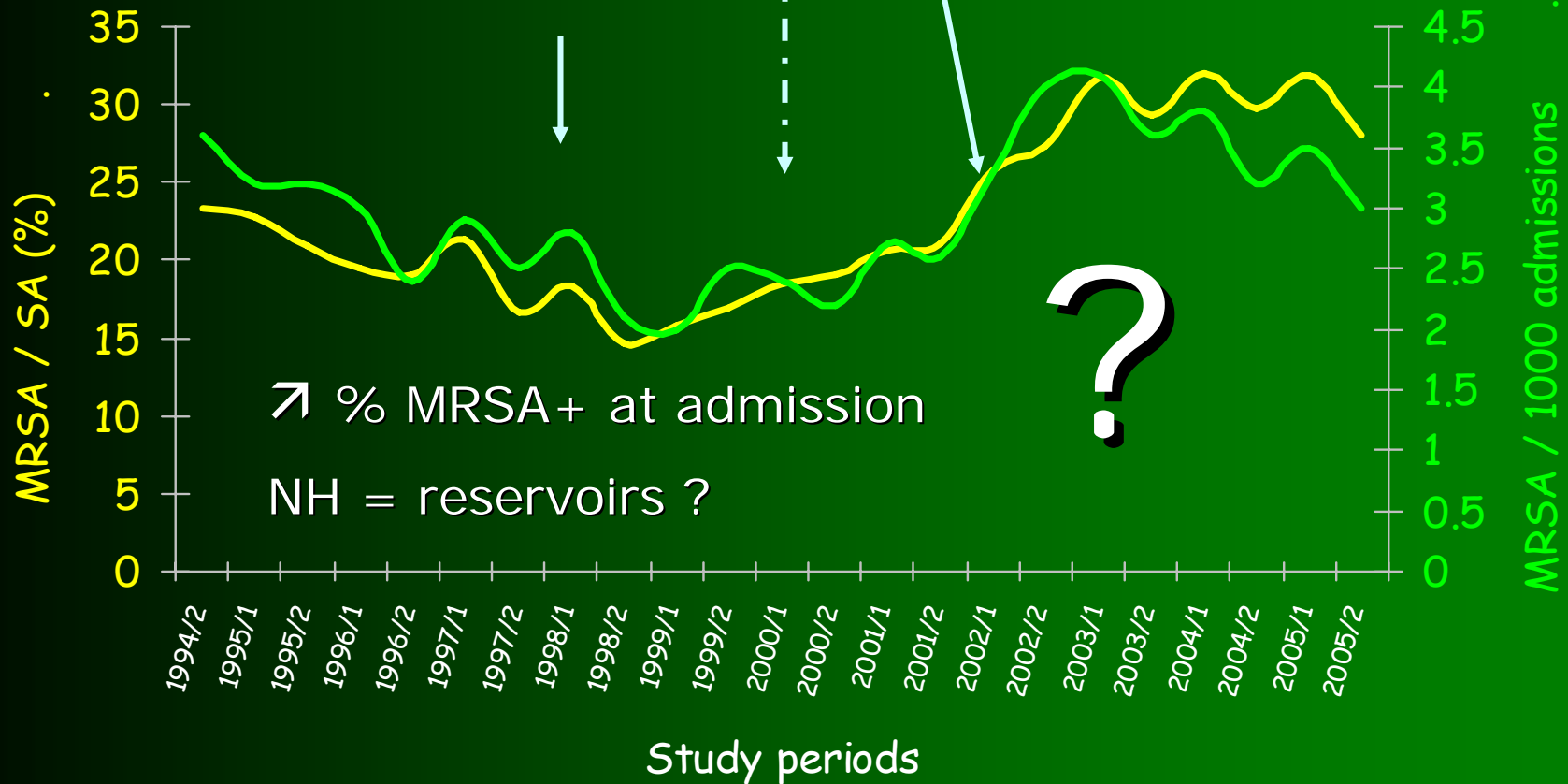
Hand hygiene campaigns

GUIDELINES  
(hospitals): 1993

AB policy steering committee  
in the hospitals -2002

2003: Revision  
GUIDELINES (Hosp.)

Antibiotic prophylaxis in  
surgery: 1997

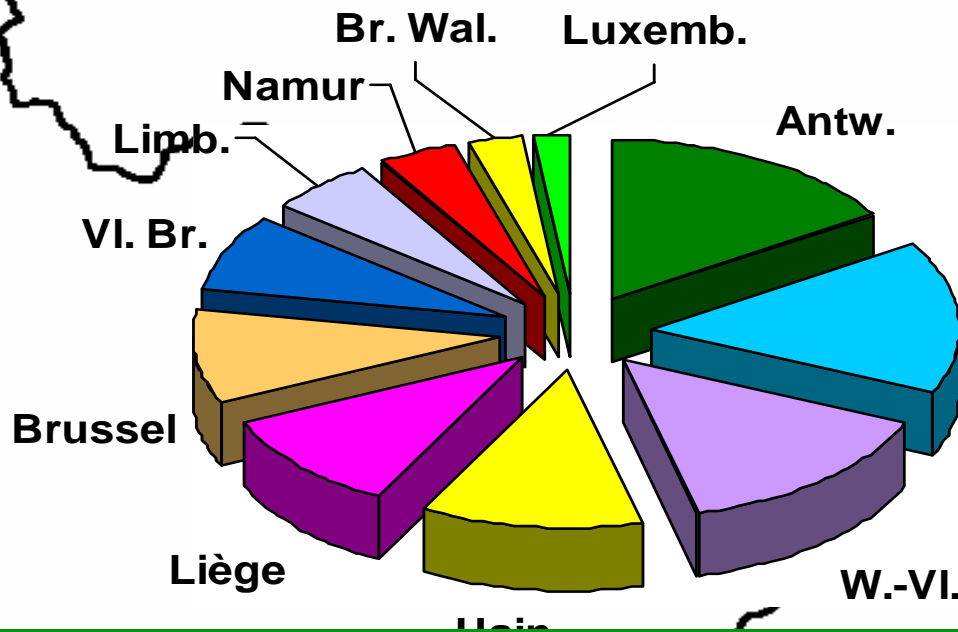


Resistance rate Incidence of nosocomial MRSA

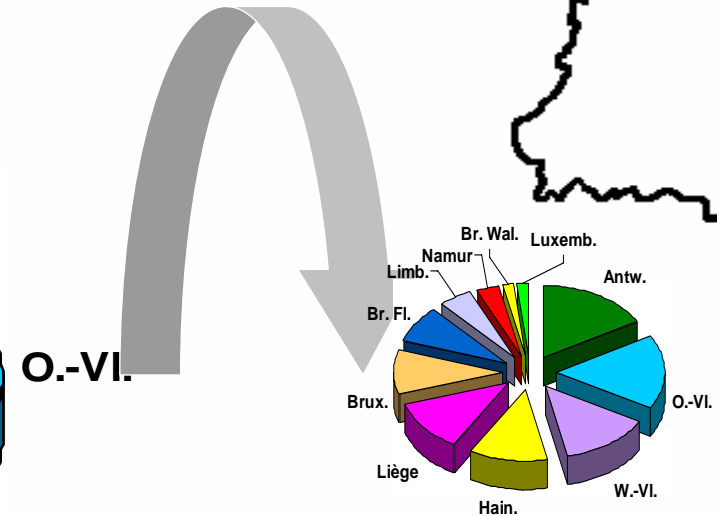
# 1<sup>st</sup> national prevalence study on MRSA-carriage in NH 2005

## Methodology

List of INAMI / RIZIV = 985 major care NH



At random:  
region &  
proportion of major care beds



n = 60 NH  
50 residents/ NH

- Obj. 1: prevalence MRSA-carriage in Belgian NH ?  
Sampling: nose, throat & wound, urinary meatus
- Obj. 2: determinants of MRSA-carriage at resident and institutional level ? (questionnaire)
- Obj. 3: molecular epidemiology and AB-resistance

# Characteristics of participating NH

	Sample	BELGIUM
Number of participating NH:	60 (6.1%)	985
Screened residents (max.50/NH):	2958/6365 (46% of the sample)	94.515
Distribution of the NH by region:		
<i>Flanders</i>	36 (60%)	586 (59%)
<i>Walloon</i>	18 (30%)	304 (31%)
<i>Brussels</i>	6 (10%)	95 (10%)
Ownership: <i>Private</i>	41 (68%)	624 (63%)
Mean % major care beds:	46% (15-97%)	49%
Mean number beds/NH:	106 (38-279 beds)	96
	<i>Fl:</i> 109 <i>W:</i> 87 <i>BR:</i> 144    (p=0.047)	
	<i>Private:</i> 104 <i>Public:</i> 111    (n.s.)	

# Prevalence of *S. aureus* and MRSA

Total number of screened residents: 2953

Weighted mean MRSA-prevalence: 19%  
[CI 95% 17-22] (min. 2% - max. 43%)

*S. aureus*  
negative culture  
n = 1453

49%

MRSA  
n = 587

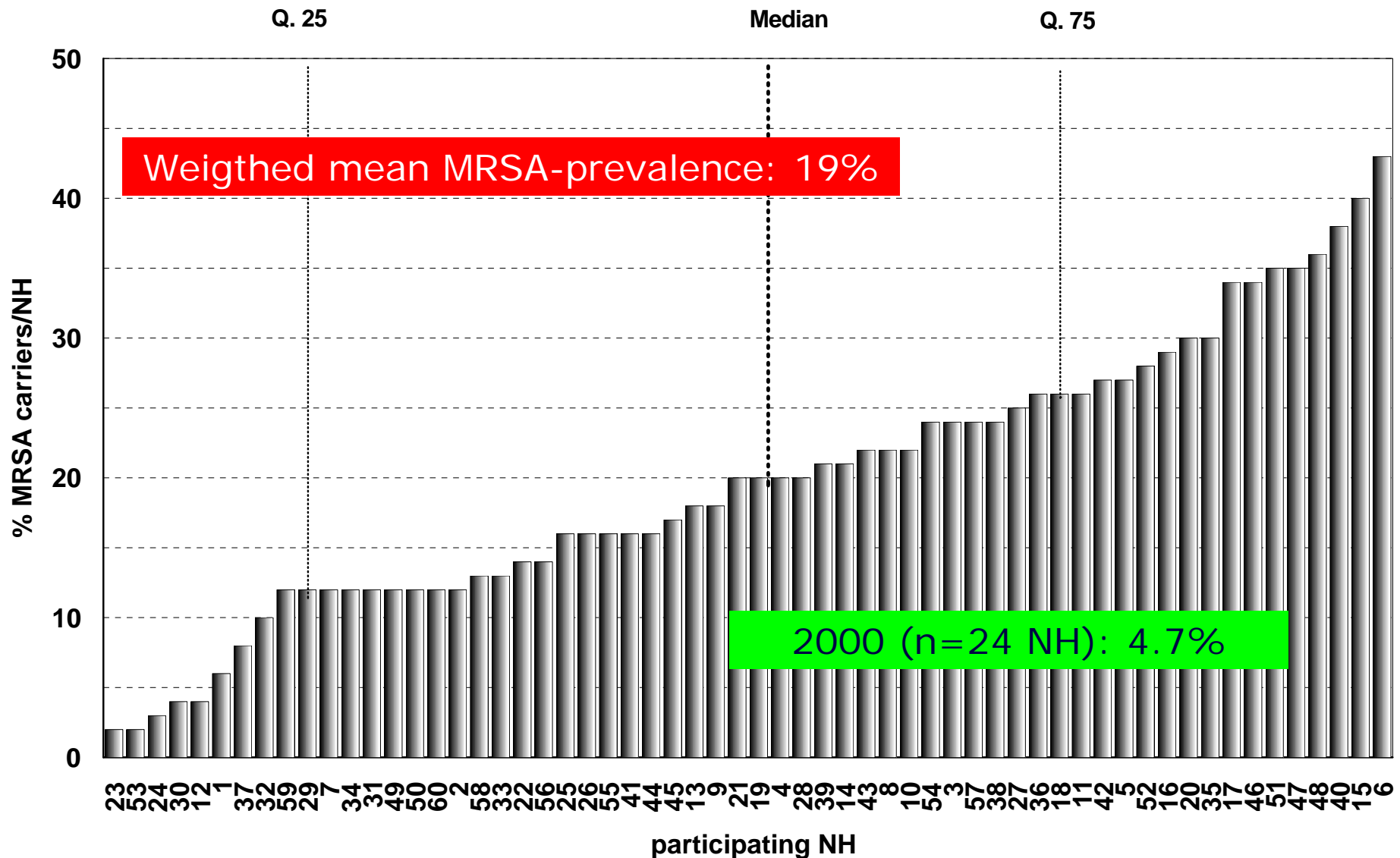
Weighted mean resistance proportion: 38%  
[CI 95% 33-42] (min. 4% - max. 75%)

MSSA  
n = 913

*S. aureus*  
positive culture  
n = 1500

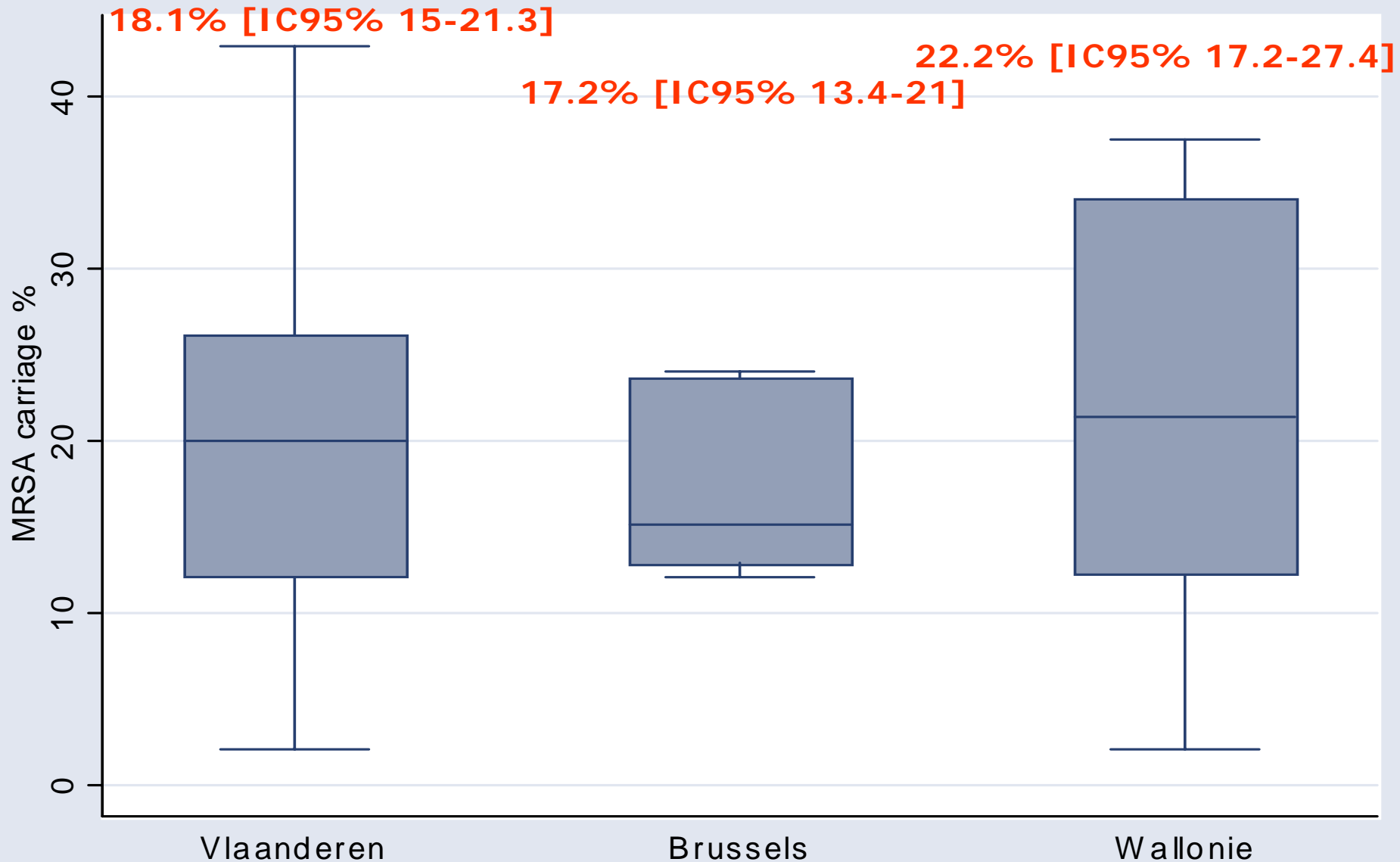
*S. aureus* prevalence: 51%  
(min. 22% - max. 70%)

# *Distribution of MRSA-carriage prevalence rates in NH* *(% MRSA/residents)*



# MRSA prevalence by region

$p=0,13$





## How frequent are infections in NH 's\*?

	%	
At least 1 outbreak during last year	22	
Type of outbreaks		
Gastro-enteritis	59	
<i>Clostridium difficile</i>	18	
MRSA	6	
<i>Clostridium difficile</i> strains in hospitals		
% coming from NH-residents	20	
MRSA-carriage among NH-residents	19	
Is MRSA problematic in your NH ?		%MRSA
Yes	55	19
No	13	15
Don't know, no answer	32	24
. Underestimation of infectious problems in some NH		
. 56% of NH never take screening samples		

\* source: coordinating physician and nursing responsible

# Coordination of medical and nursing care in the NH



In Major care NH: 1 Coordinating physician

(RD 24/6/1999)

coordination of medical activities, healthcare problems potentially dangerous for residents/staff and ...

31 GP / NH (min. 3 - max. 96)

1 GP / 4.4 beds (min. 1/1.4 – max. 1/36.7)

GP/beds ratio	%	mean MRSA%	MRSA > 19%
1 GP/ < 4 beds	63.3	21.9	63.2
1 GP/ 4 beds and +	36.7	16.2	31.8

OR: 3.67 [1.05 - 13.26], p=0.02

AB-policy in the NH	Yes (%)	% MRSA	
<i>Use mupirocine for decolonisation of wounds</i>	71	21	15
<i>Creation formulary with GP's = CP task</i>	58	19	20
<i>GP agreements – AB use = task CP</i>	32	22	19
<i>Formulary used&lt;&gt; not used/ not available</i>	29	15	22
<i>Agreements about AB-prescription</i>	18	18	20
<i>Written agreements: AB-use</i>	13	19	20
<i>Limitation AB choice for prescription</i>	7	16	20
<i>Free use AB-ointments for wound care by nurse</i>	3	29	20

# Hand hygiene

## 1 - Available products

	Yes %	MRSA%	
<u>Availability of products for hand hygiene</u>		Yes	No
Liquid soap	98	20	13
Hydro-alcoholic lotion or gel	84	20	20
Antiseptic soap	75	20	18
Bar solid soap	4	25	20
<u>Type of towels</u>			
Single use or electric	90	19	22

## 2 – Use of gloves

<u>Indications for glove use</u>			
Residents with fecal incontinence	85	18	27
Wound care	77	19	22
Care urinary catheter	67	19	20
Desinfection of materiel	62	20	20
Gastrostomy	54	18	21
Residents with urinary incontinence	51	19	20
<b>Residents with flu</b>	<b>34</b>	<b>15</b>	<b>22</b>

NOTE: no hand hygiene after removing gloves = 8%

# Management of MRSA-carriers

## 1 – Room arrangements for MRSA carriers

	Yes	MRSA%	
	%	Yes	No.
<u>Proportion of single rooms</u>			
All NH-rooms are single	13	18	20
<u>Room arrangements for carriers</u>			
Isolation in single room	79	19	25
Cohorting carriers	54	20	20
Cohort nursing	32	18	21

## 2 - Additional precautions

<u>Additional precautions</u>			
Gloves	98	20	3
Mask	86	20	18
Apron	90	20	20
Reinforced cleaning (room)	92	20	18

## 3 – Written care protocols

<u>Availability of written care protocols</u>			
Protocol for management of MRSA-carriers	80	19	20
Isolation of contagious residents	54	17	22
Hygiene policy in the NH	47	20	<sup>12</sup> 19

# Detection, eradication and follow-up

	Yes	MRSA%	
	%	Yes	No.
<b>1 - Screening of reservoirs</b>			
Residents after hospitalisation	44	18	22
Staff	22	19	20

## **2 - Decolonisation of carriers**

Decolonisation of carriers	90	21	14
Control sample after decolonisation	97	20	14
<b>Used decolonisation scheme (n=40)</b>			
Nasal decolonisation only	28	18	
Nasal decolonisation + antiseptic bath	43	22	
Not conform decolonisation scheme (AB)	10	21	
Other answer	20	19	

## **3 – Communication and collaboration**

Always receive transfer document	68	19	22
<b>Collaboration with experts</b>			
Advice regional platform Hospital hygiene	69	21	18
Collaboration with Hospital hygiene team	61	20	19

## **4 - Surveillance of MRSA**

Yes	64	19	21
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National recommendations for  
the prevention of transmission of  
*methicillin resistant Staphylococcus aureus*  
(MRSA)

in Belgian Nursing Homes

- June 2005 -

Draft



## One year later, ...

84% of NH used guidelines for creation of indoor protocol

### Since the last year, adaptation of:

Hand hygiene practice	91%
Register of MRSA-carriers	80%
Additional precautions (MRSA)	61%
Screening practices	52%
Decolonisation of carriers	48%
AB-policy	25%

### To do:

- Improve communication and collaboration
- Install specific infection prevention structure in NH
- Perform training of all NH professionals
- Additional resources