

MRSA in the Netherlands

"What to conclude?"



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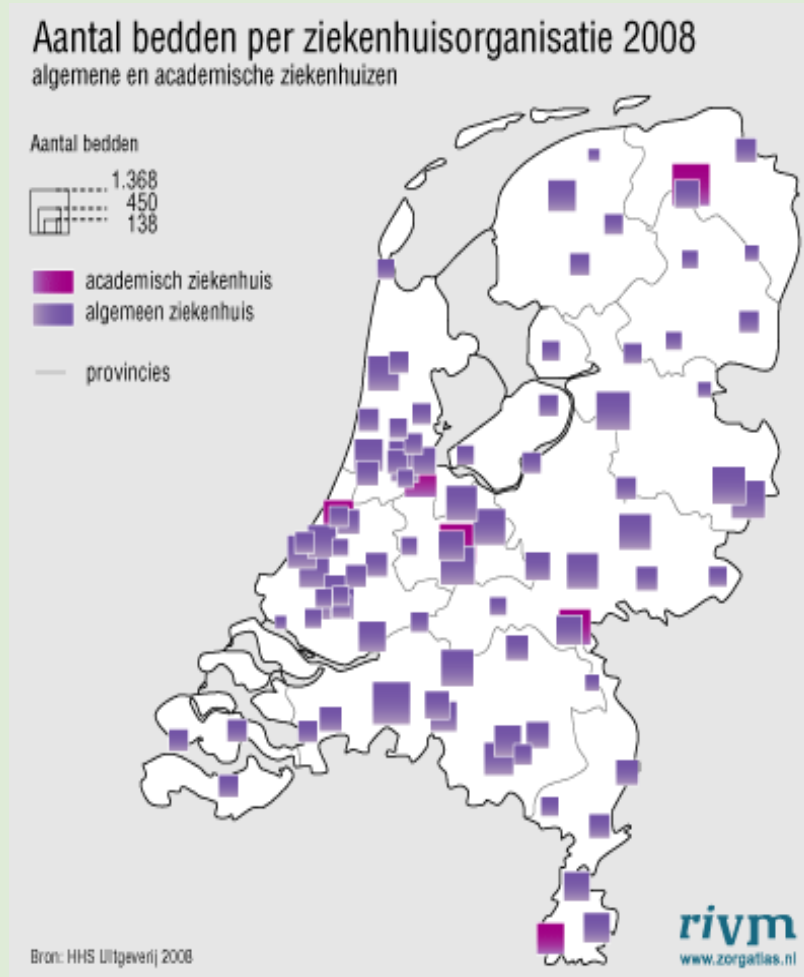
MRSA in the Netherlands

- Introduction
- Prevalence
- Search-and-destroy policy
- What's going on
- What to conclude

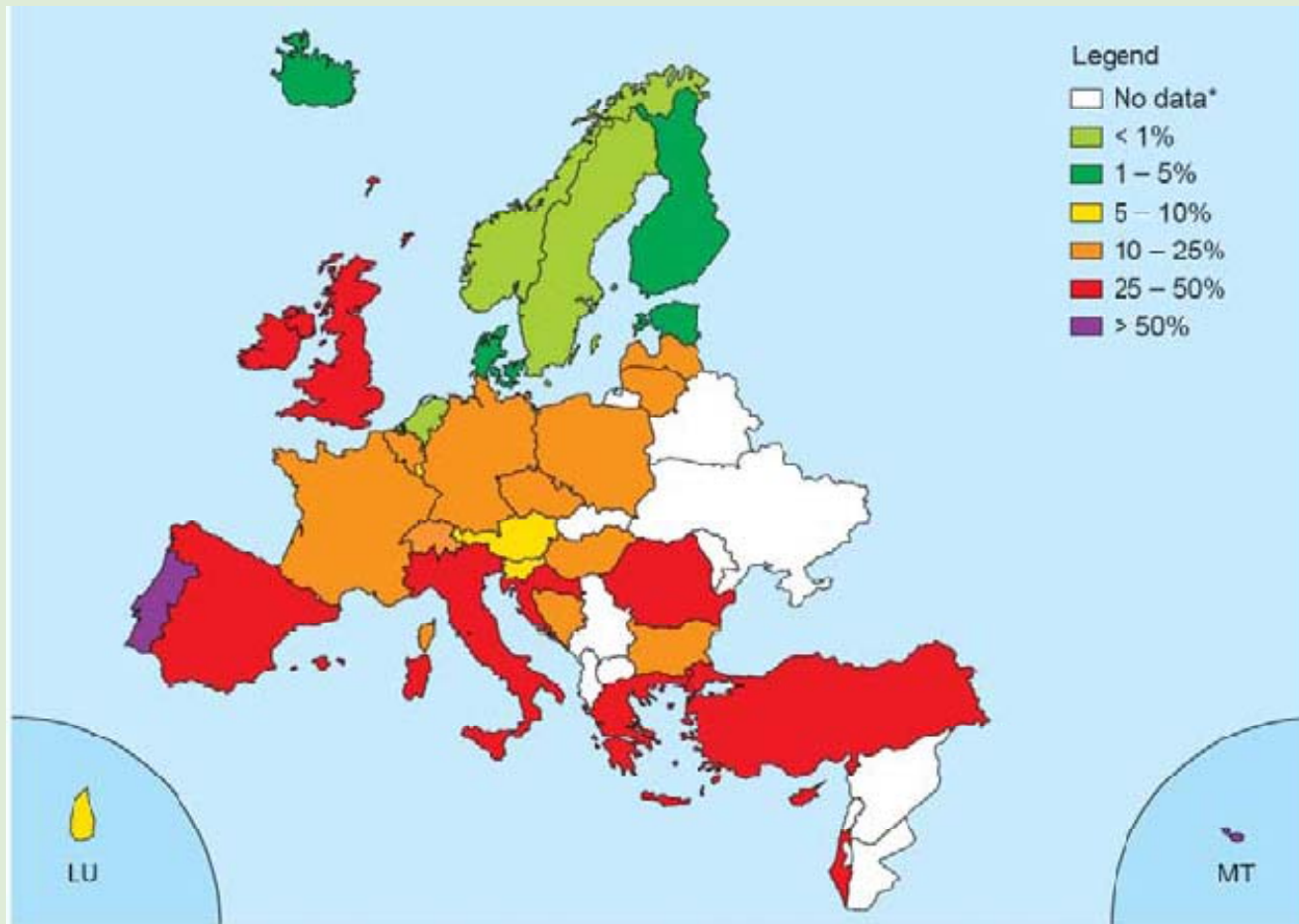


Inhabitants	16.5 million
Nursing Homes	345
General Hospitals (locations)	83 (139)
University Hospitals	8
Categorical Hospitals (eye, cancer)	43
Admissions	1,8 million
Costs per year	18 milliard
Number of Beds	50.542
Length of stay	5,7 days
Consultants Infection Prevention	
Organized / Accredited	368 / 295

Hospitals in the Netherlands



MRSA in Europe 2008

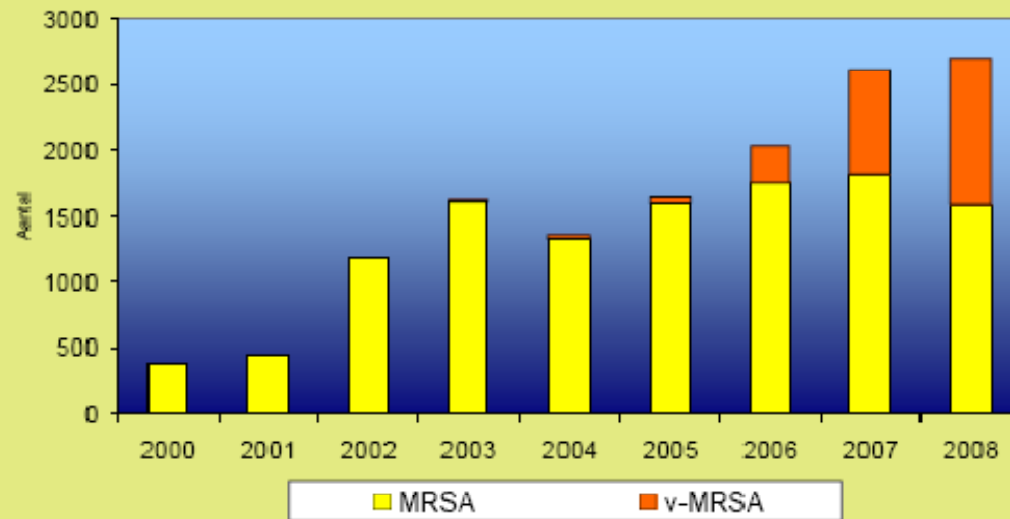


MRSA in the Netherlands

Toename van MRSA in Nederland

MRSA in Nederland

bron: RIVM/NethMap 2009



400 isolaties in 2000

2693 isolaties in 2008, **41,5% v-MRSA**

V- MRSA (life stock mostly strain ST-398, also international the same)

MRSA isolations in GHZ patients & staff

Jaar	Nr MRSA pos.
1994	1
1995	0
1996	2
1997	1
1998	0
1999	0
2000	0
2001	4
2002	10
2003	16
2004	19
2005	15
2006	8
2007	25
2008	9
2009	14

MRSA prevalence in the Netherlands

reported since 1989

- 0.03% asymptomatic MRSA-nasal carriage
(2004, Wertheim, Vos et al.)
- 1-2% of all hospital *S. aureus* is MRSA (ISIS)
- 1% of blood isolations of *S. aureus* is MRSA
(EARSS)

Low prevalence due to

Low use of human antibiotics (!)

Dutch Working Party on Antibiotic Policy (SWAB, 1996)

Search-and-destroy policy (since end 80th)

Dutch Working Party on Infection Prevention (WIP, 2007)

Human antibiotic use

- Defined daily dose per 1000 persons per day: 8,9

Lowest in Europe!

Search-and-destroy policy

Measures for patients and staff based on risk categories:

- Category 1 Proven MRSA Carrier
- Category 2 High risk of being a carrier
- Category 3 Increased risk of being a carrier
- Category 4 No increased risk of being a carrier

Patients are asked

please inform if:

- *You were admitted as a patient the last 2 months to a hospital or care institution abroad*
- *You have once come in contact with MRSA*
- *You have close contacts with live pigs or live veal calves in a professional capacity*

Patient category 1

MRSA positive

Patient demonstrated as being MRSA carrier

Patient category 2

high risk

- Patient from Dutch healthcare setting where MRSA is present
- Patient from foreign healthcare setting & was cared for more as 24 hours, < 2 months ago
- Or who had/was
 - surgery
 - given a drain or catheter
 - intubated
 - skin lesions or possible sources of infection

Patient category 2 high risk

- Patients treated for MRSA, results not yet known
- Foreign guest dialysis patients
- Patients in the same room as unexpected MRSA carrier
- Children adopted from abroad
- People who come into close contact with live pigs & veal in a professional capacity:

30% pigs farmers

17% calf farmers

7% poultry farmers

slaughter house workers (Low contamination)

Patient category 3

increased risk

- Dutch haemodialysis patients given dialysis abroad
- Patients during the 1st year following treatment for carrying MRSA, with (3) negative control cultures
- Patients cared for in a foreign hospital > 2 months ago, who still have persistent skin lesions and/or risk factors, such as chronic respiratory or urinary tract infections

Patient category 4 no increased risk

- Cared in a foreign hospital > 2 months ago, unless skin lesions present and/or risk factors
- Have spent < 24 hours in a foreign hospital who:
 - *did not have surgery*
 - *or receive a drain or catheter,*
 - *who were not intubated & who have no skin lesions or possible sources of infection such as abscesses*
- Stayed in a department in which one or more patients with MRSA are being cared for, where adequate precautions have been taken
- Treated for MRSA, control cultures negative for a year

Patient category 1 and 2: strict measures

- Isolation in single room
- Airlock mandatory
- (Limited) care-workers use: masks, gloves, gowns with long sleeves and cuffs, cap
- Eradication therapy + screening
- Flagging

- Abolished when 3 consecutive (week interval) cultures are negative. Patient in category 3

Patient category 3 measures

- No isolation
- Screening cultures upon admission
- Restraint should be exercised until the results are known
- If culture pos: patient assigned category 1
- If culture neg: patient assigned category 4

Patient category 4 measures

- No additional measures required

All (!) medical staff

- Screening after unprotected contact
- Name on contactlist after protected contact
- Screening weekly (3 weeks)
- Not providing care as skinsuffer (eczema) or antibiotic use
- If MRSA pos: treatment and workprohibition

Staff category 1 MRSA carrier

- Staff demonstrated as being MRSA carrier

Staff category 2 high risk

- Staff who have had unprotected MRSA contact
- Staff from foreign healthcare setting & was cared for
- more as 24 hours, < 2 months ago
- Or who had/was
 - surgery
 - given a drain or catheter
 - intubated
 - skin lesions or possible sources of infection

Staff category 3 low risk

- Staff who had protected contact with MRSA
- Staff who worked in a foreign hospital or nursing home > 24 hours less than 2 month ago
- Staff who escort patient from foreign hospitals to Dutch hospitals
- Staff who regular work in a foreign hospital
- Staff who have been carriers and whose control cultures are neg, during 1 year after the control samples were cultured.

Staff category 4 no risk

- MRSA pos staff whose cultures are MRSA negative more than a year after successfully eradication
- Staff whose cultures are MRSA negative following the last protected contact with a MRSA carrier (taken the first 3 weeks of isolation)

Staff category 1 measures

- Staff with skin disorders: treatment and no work until 3 sets of control cultures are neg.
- Staff without skin disorders: cultures, treatment and no work for two days. If cultures before treatment are neg, continue work. After treatment 3 sets of control cultures.
- Cultures: throat, nose, perineum
- Treatment: SWAB guideline (www.SWAB.nl)

Staff category 2 measures

- No work until the results of the screening cultures
- If cultures are positive → staff category 1
- If cultures are negative → staff category 4

Staff category 3 measures

- Screening cultures and continue work as usual
- If cultures are positive → staff category 1
- If cultures are negative → staff category 4

- If staff members regularly work in foreign hospitals, frequency of culturing must be discussed

Staff category 4 measures

- No special measures are required for category 4

Policy in nursing home-, residential- and home care

- Precise data are not available
- Distinction between colonisation and infection
- Measures balance between the desirability and practical feasibility
- Local policy
- Risk categories
- But maintain: search-and destroy

What's going on

MRSA in 2007, (2619 isolates, RIVM):

- 23% livestock related (> since 2003)
- 8% from foreign hospitals
- 24% other WIP categories
- 24% no WIP category
- 21% unknown



MRSA 2009:

- 42% livestock related MRSA found in patients!
- Poultry: 35% slaughter batch MRSA positive (*or container or animal MRSA pos*) (M. Mulders, RIVM 2009)
- Horses: *Engelien Duijkeren, UMC Utrecht, 2008*
- Also MRSA found in food (no rule in spreading MRSA) (J.Kluijtmans e.a., Amphia, Breda, 2009)*

Challenges

- **How to stop increasing livestock related MRSA (and other MDRM)**
- **Find out causes increasing community aquired MRSA (no WIP cat.)**
- **How to maintain the search-and-destroy policy as long as possible**
- **Revision Dutch guidelines, evidenced based**

Livestock MRSA (mostly ST-398)

Dutch government:

- 2007: antibiotics for animals only by prescription**
- 2010: law for 50% reduction of antibiotic use in bio-industry**

Livestock MRSA (mostly ST-398)

2009: RIVM, Longitudinal intervention study

AIM:

- Identification relevant risk factor livestock MRSA
- Justify future interventions
- Reduce prevalence and load in animals and humans

Health risk ST-398: more virulence, more adapted to human variant.

Till now not much evidence

No WIP categories MRSA and revision Dutch guidelines

VETCAM-study:

***‘CHARACTERIZATION OF VETERINARY and COMMUNITY ACQUIRED MRSA
DETERMINANTS, TRANSMISSIBILITY AND VIRULENCE’***

Duration 2009 -2013

Amphia Hospital Breda, The Netherlands, J. Kluytmans, E. Verkade, M. van Rijen

MUO-study:

‘MRSA UNKNOWN ORIGIN’

Duration 2010 – 2014

Erasmus MC, Rotterdam, G. Vos e.a.

Compliance

- Extra effort maintaining search-and-destroy policy, special in the livestock MRSA areas
- Strive for an European antibiotic policy and MRSA guideline??

What to conclude?

Despite increasing trend of livestock related MRSA and community acquired MRSA, search-and-destroy policy in the Netherlands still is:

- ***successful***
- ***cost-effective***
- ***and most important:***

the best for the patient!

Thank you!



