



Epidemiology of multi-resistant *Acinetobacter baumannii* in Europe

Results of an ESGNI survey
(March 2010)

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Topics of presentation

- Background
- Survey method and analysis
- Results
- Discussion, conclusions

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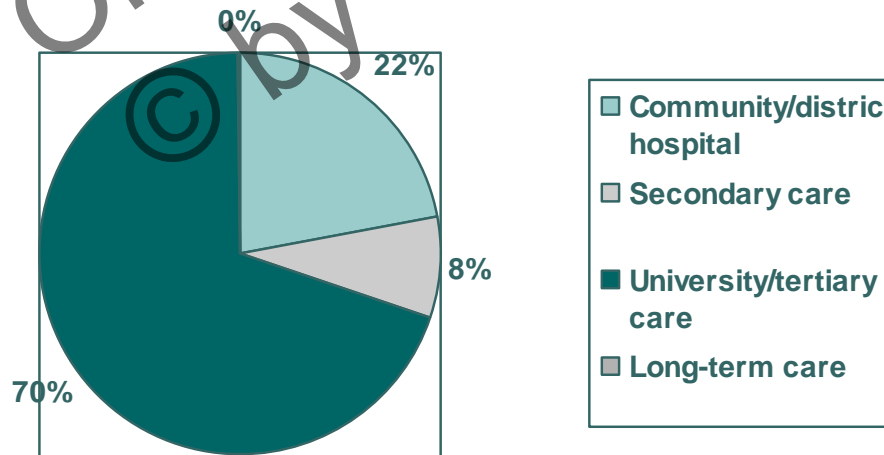
Methods

- Preparation of questionnaire by members of ESGNI board
- Adaptation for online survey (Survey Monkey) by Henri Saenz & Adrian Baumeyer, ESCMID
- E-mail invitation to participate to all members of ESGNI (February 2010)
- Data analysis (March 2010)

Results

- 242 online replies received
 - 219 valid questionnaires

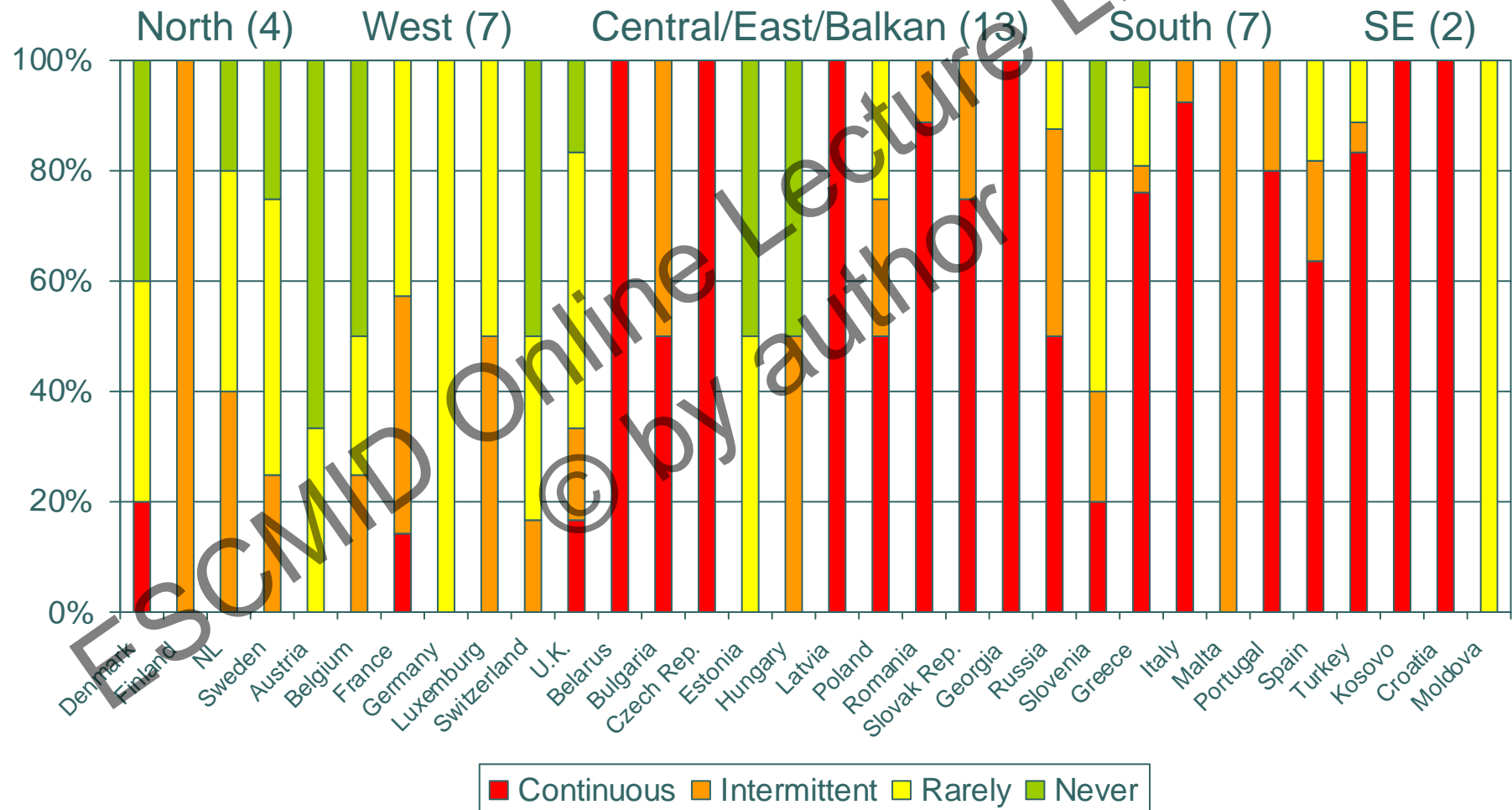
Distribution of participating hospitals



Distribution of hospitals providing polytrauma care

Hospital type	Polytrauma care	
	No	Yes
Community/district	23	30
Secondary	4	16
University/tertiary	31	137

Magnitude of multiresistant *Acinetobacter baumannii* problem in Europe



Magnitude of multiresistant *Acinetobacter baumannii* problem outside of Europe

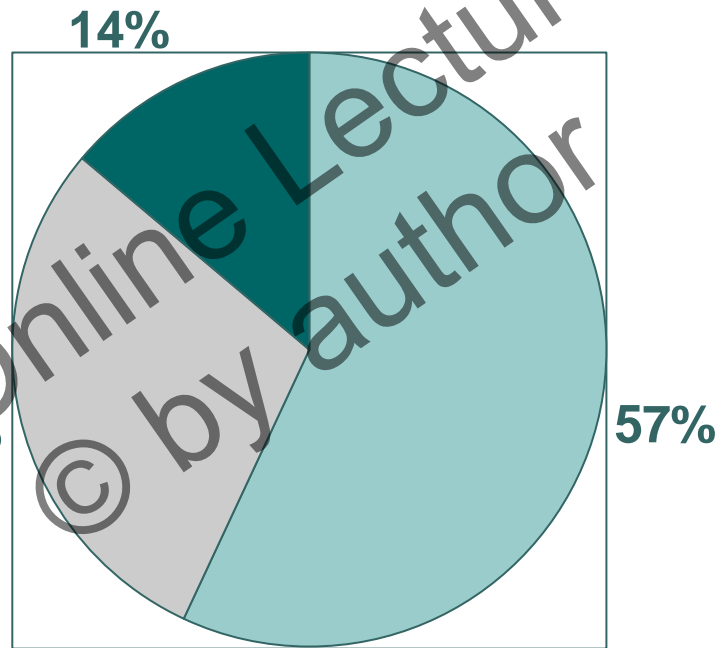




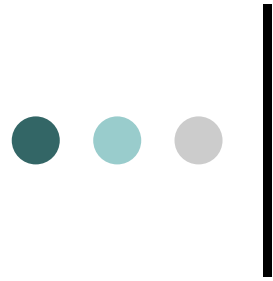
Reported number of cases in 2009

- **15'440** (7982 accurate +7458 estimated)
- **Plus the following outliers:**
 - 17'604 (one hospital in Thailand)
 - 20'000 (one hospital in Athens, Greece)
 - 11'111 (one hospital in Slovak Republic)
 - 12'800 (one hospital in Brasil)

● ● ● | Proportion of hospitals reporting nosocomial transmission

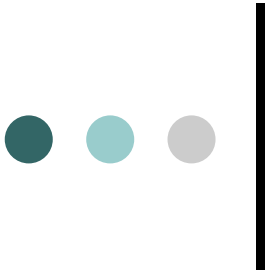


■ Nosocomial transmission ■ No transmission ■ Unknown



**SURVEY OF CURRENTLY
HOSPITALIZED PATIENTS WITH
MULTIRESISTANT *ACINETOBACTER
BAUMANNII***

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Prevalence survey early March 2010

- 53 hospitals reporting 158 cases
 - Range 1-12 cases
 - 69% male
 - Median age 59 years
Range 0-88

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Distribution of resistance patterns

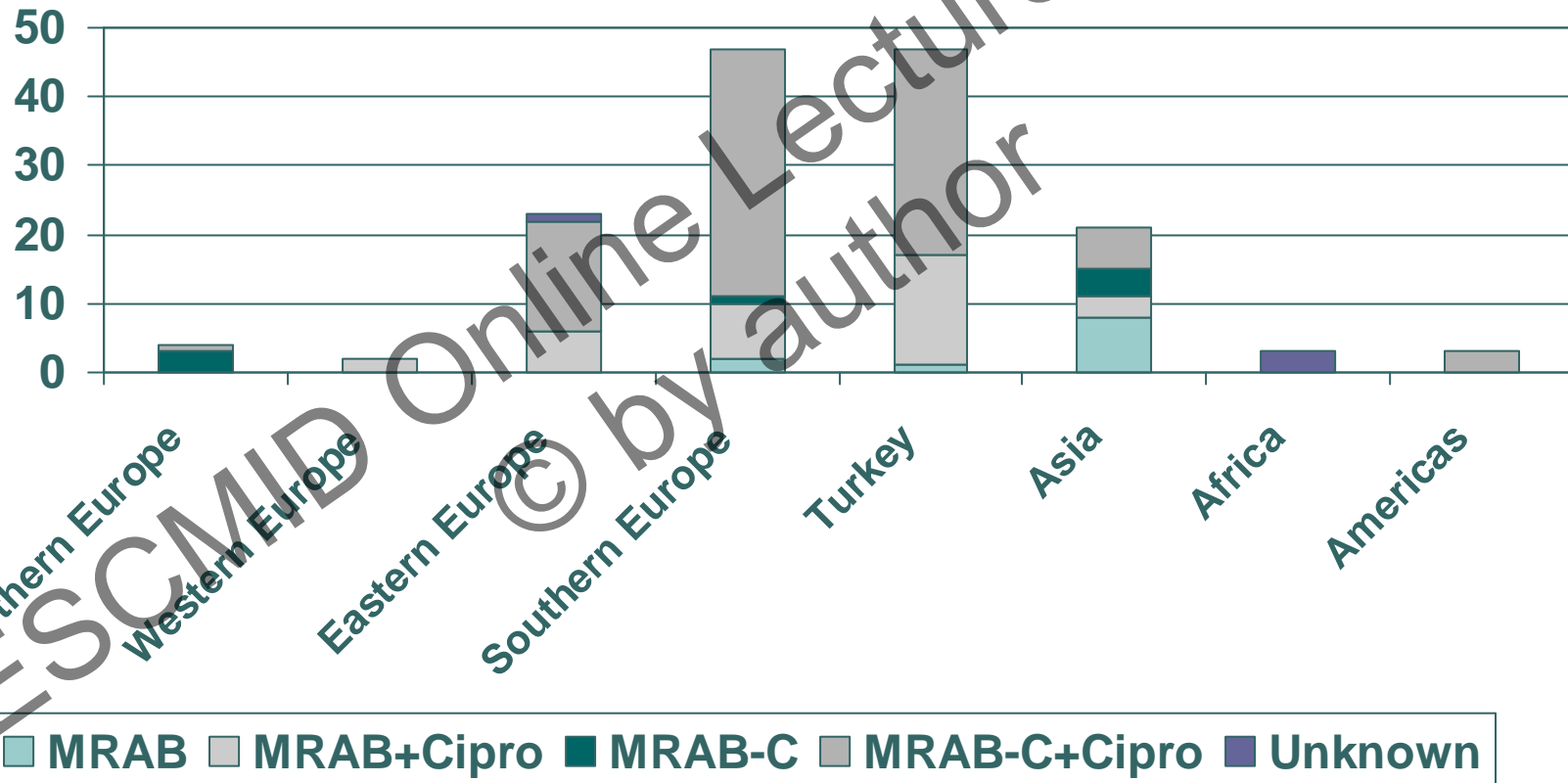
Resistance type	Number of patients	Percent
MRAB	11	7.2
MRAB plus Cipro-R	35	23.0
MRAB-C	9	5.92
MRAB-C plus Cipro-R	93	61.2
Unknown	4	2.6

Definitions:

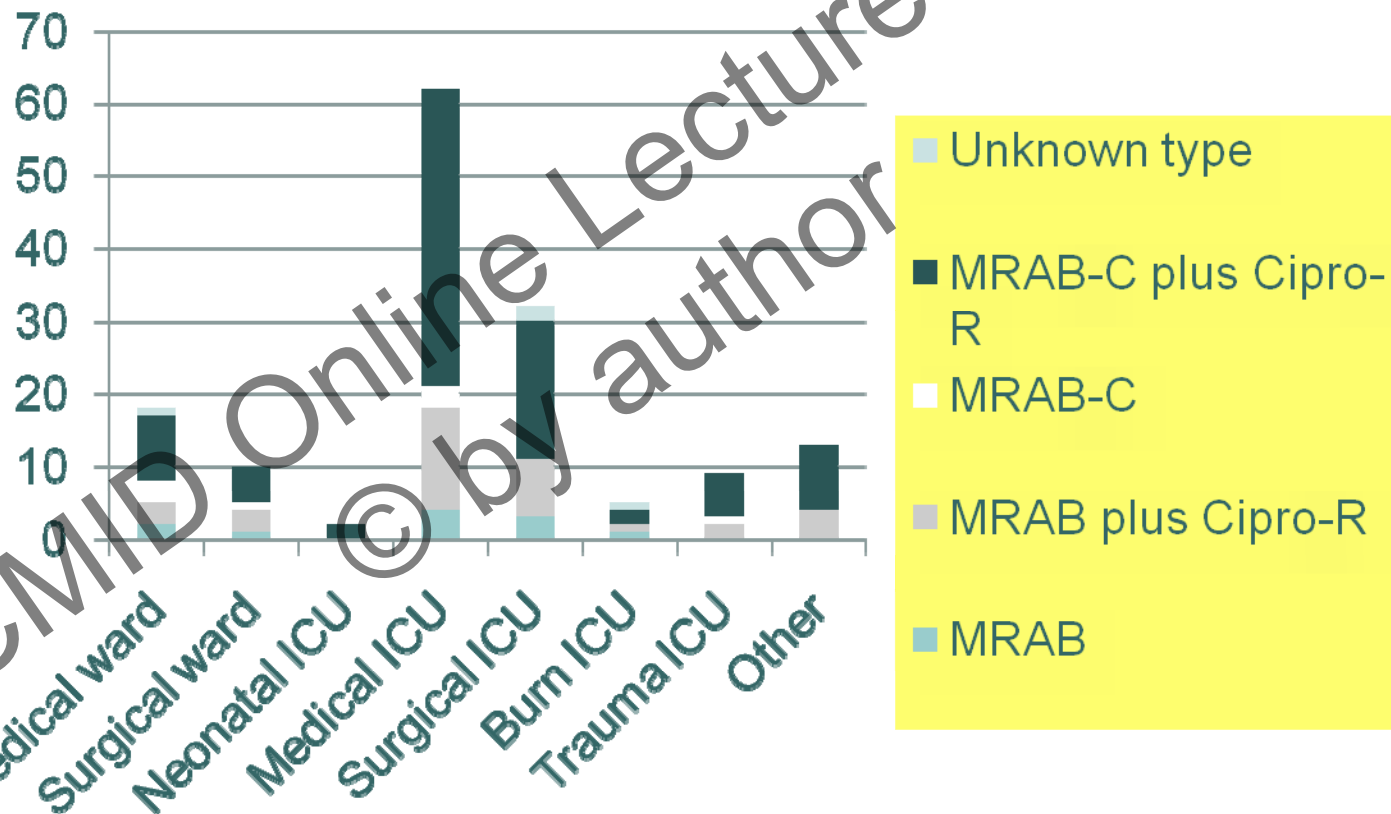
MRAB: Resistance to any aminoglycoside AND to any third generation cephalosporin

MRAB-C: additional resistance to carbapenems

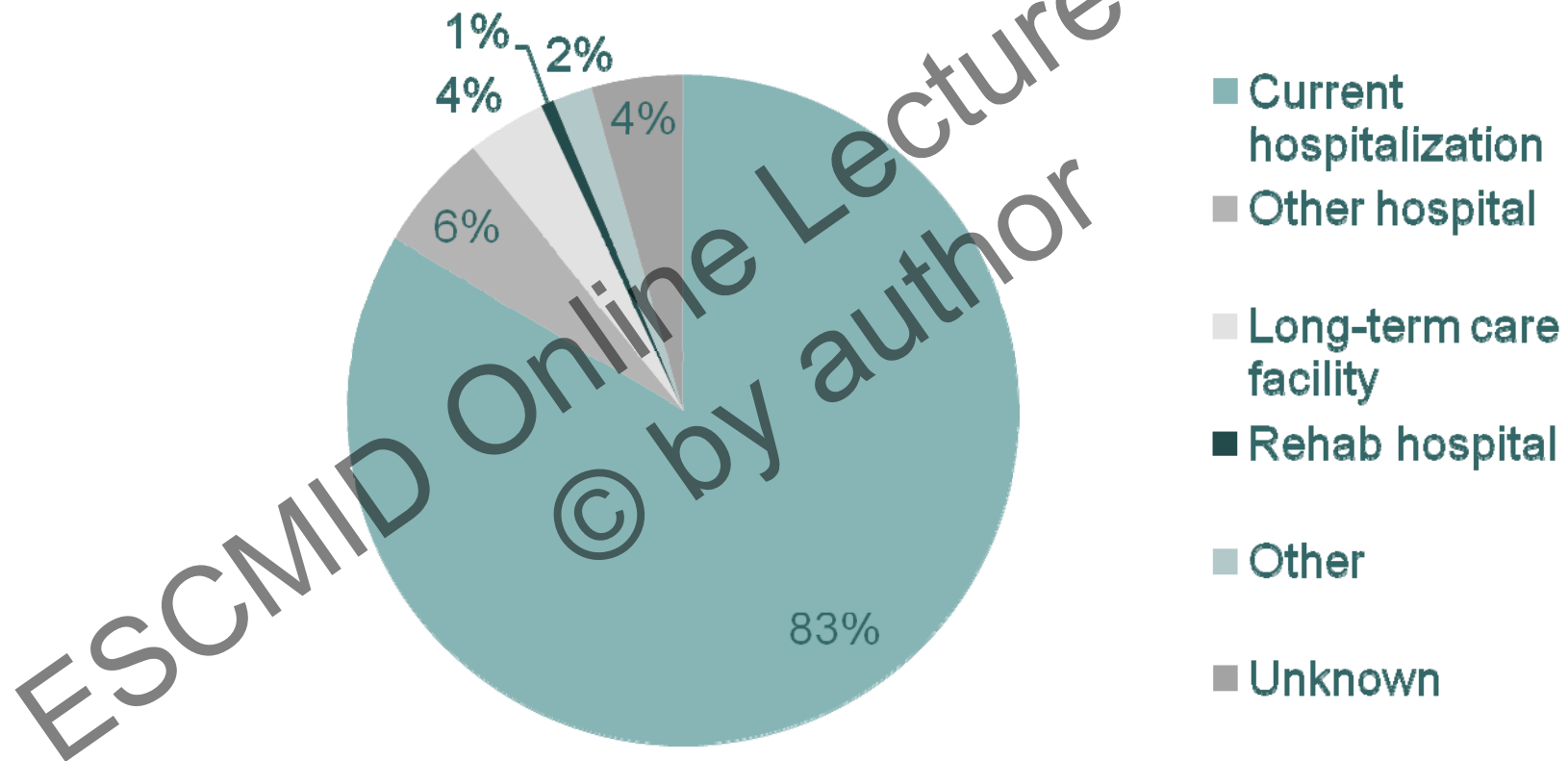
Frequency of resistance types in various regions



Distribution of patients on various wards

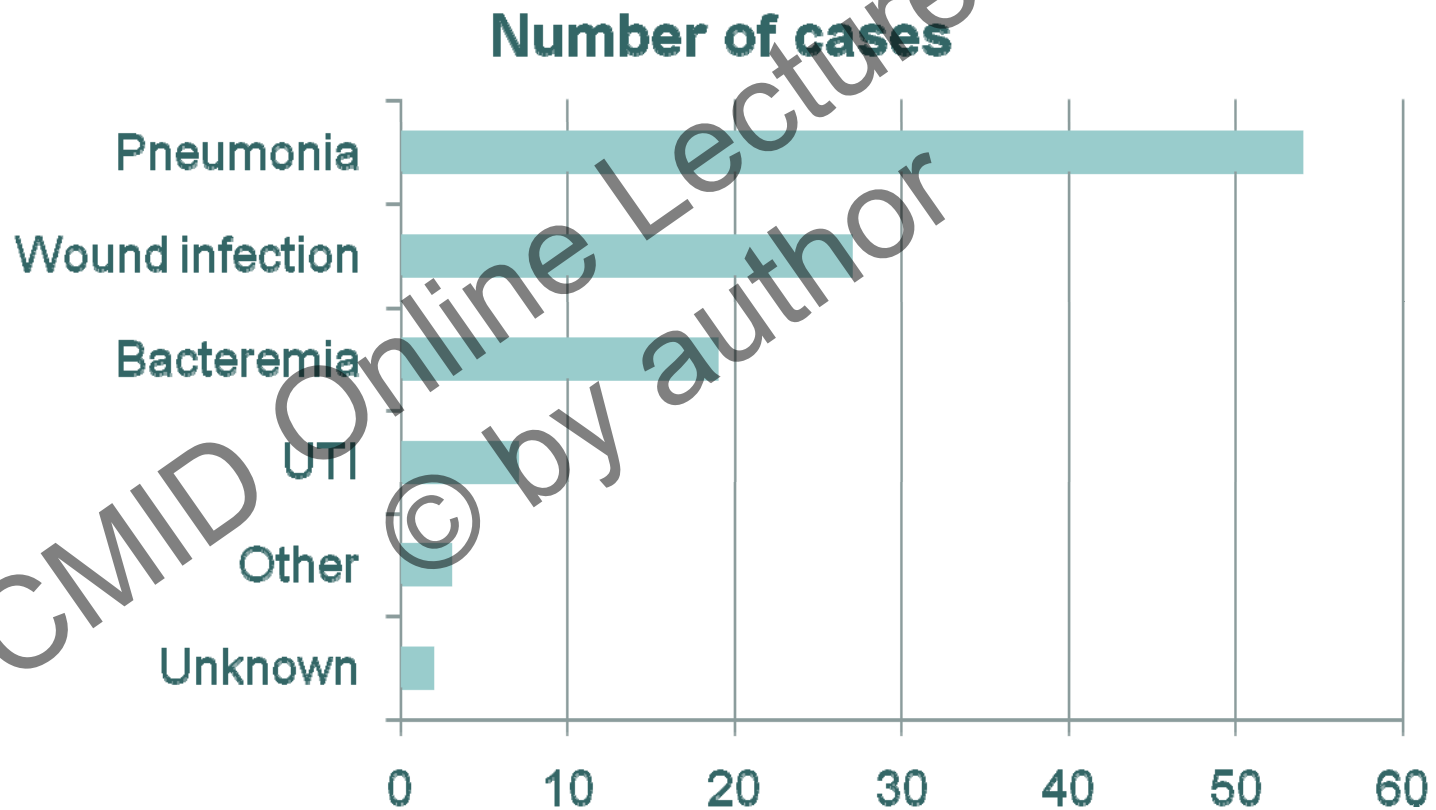


Site of acquisition of *Acinetobacter baumannii*



Acquisition during outbreak: 56/154 (36.4%)

Clinical impact of *Acinetobacter baumannii*



- Clinical infection present in 73.4% of all cases
- 70 patients with mechanical ventilation

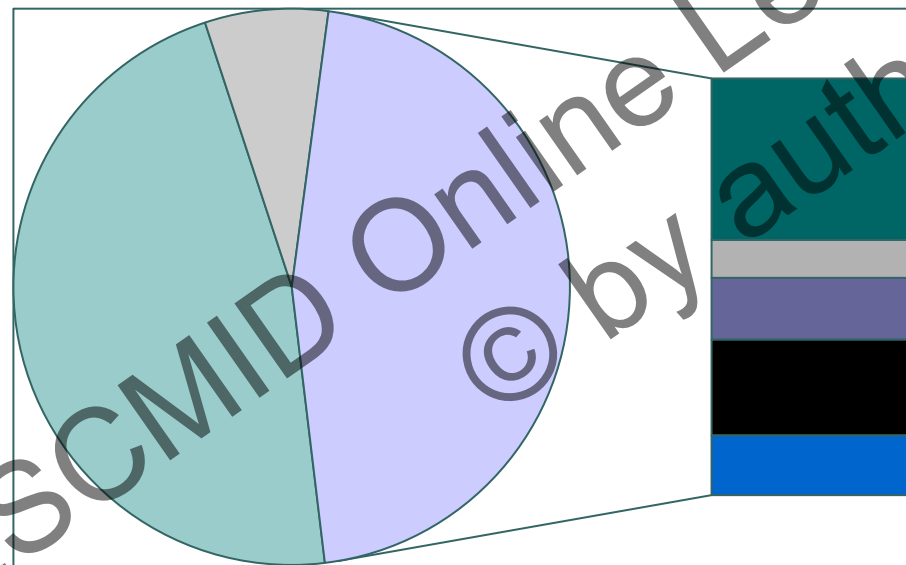


Use of infection control measures

Screening

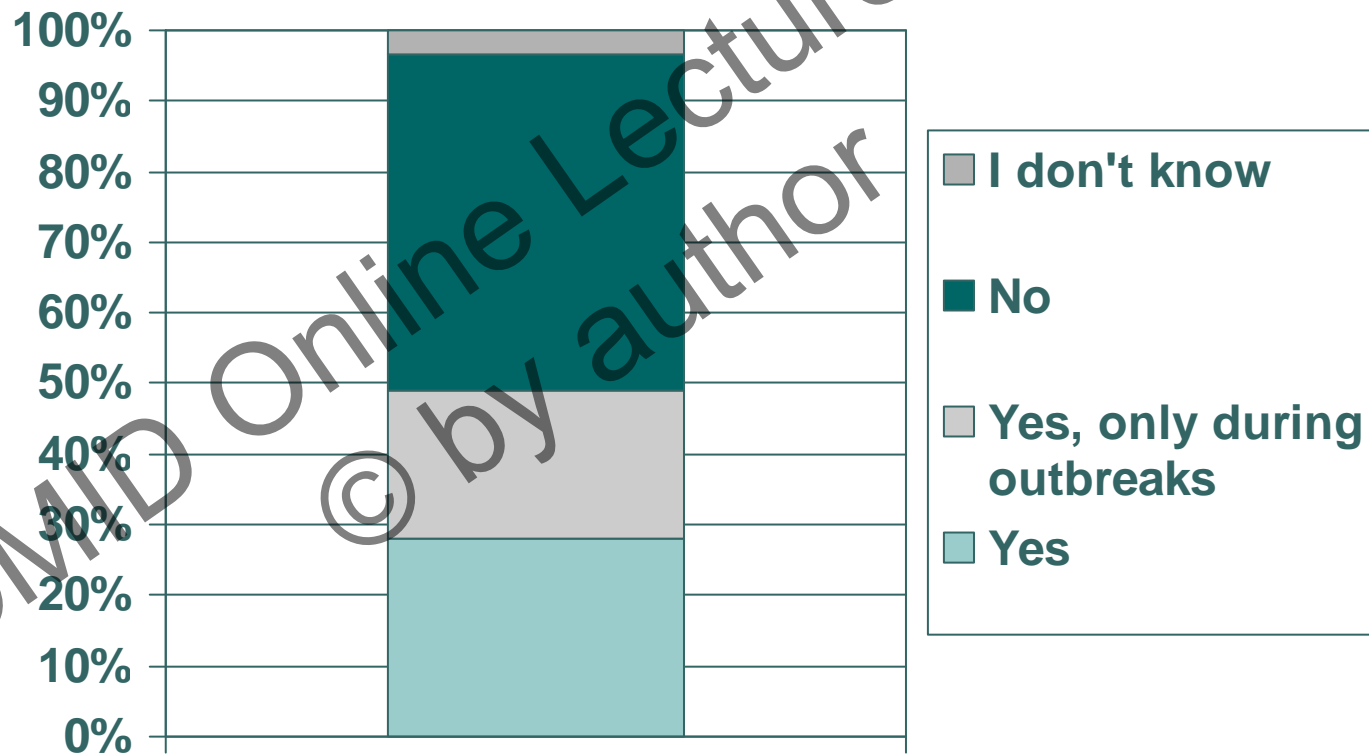
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Do you perform admission screening for colonized patients with multiresistant *A. baumannii*?

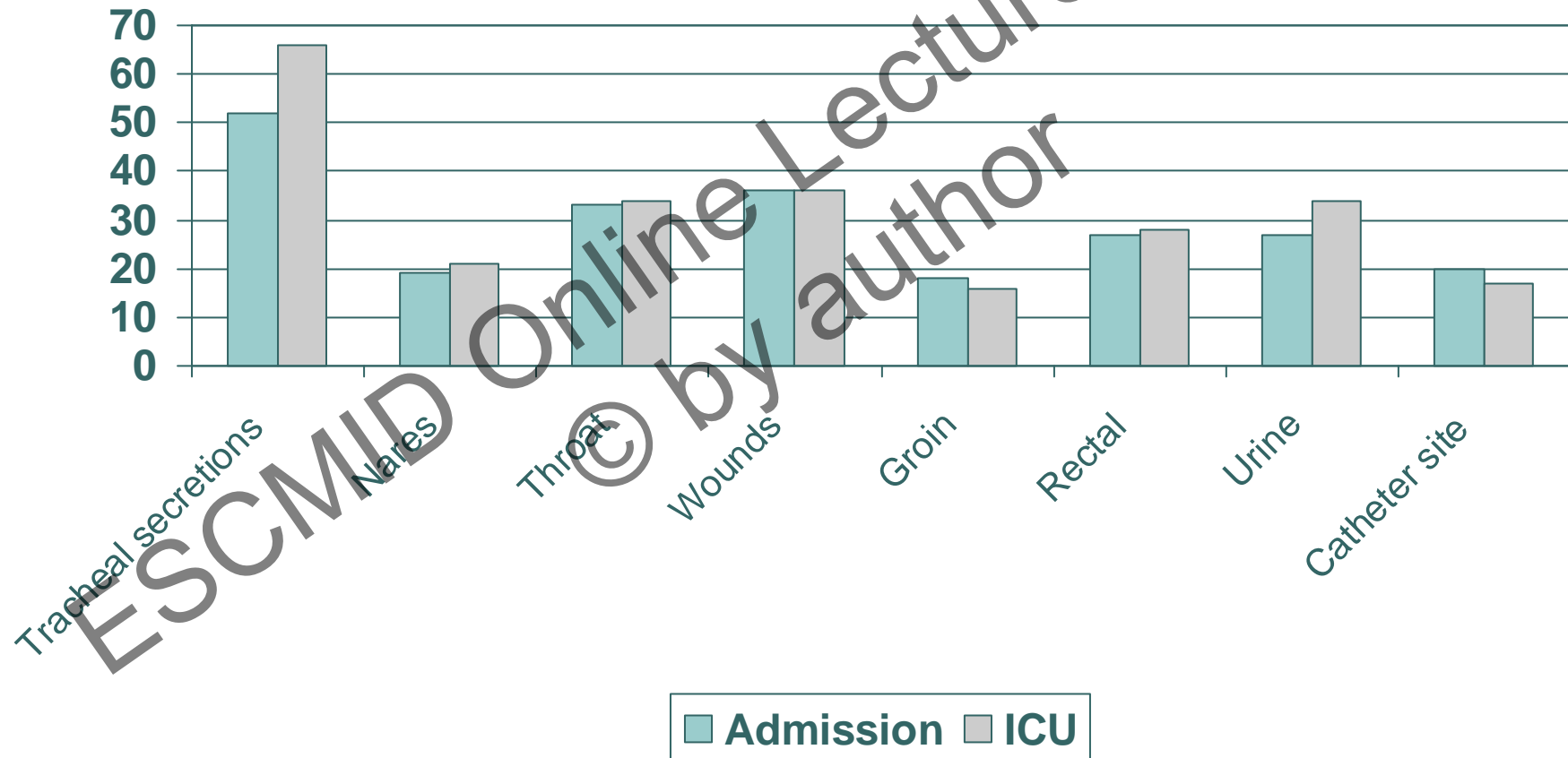


- No
- yes, during outbreaks
- ICU admissions
 - Burn unit admissions
 - Transfers from other hospitals
 - ICU admits from other hospitals
 - Other indications

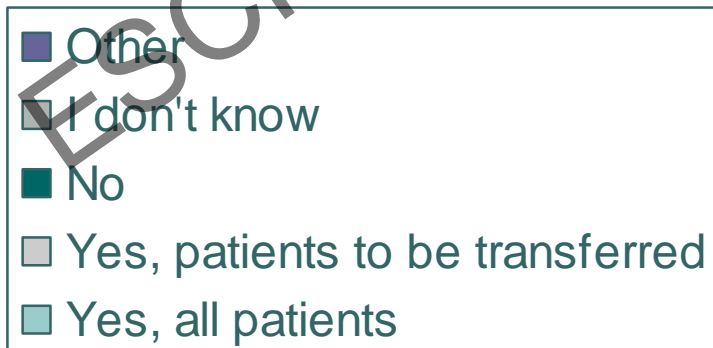
Do you perform screening in ICU patients?



Anatomical sites sampled during screening

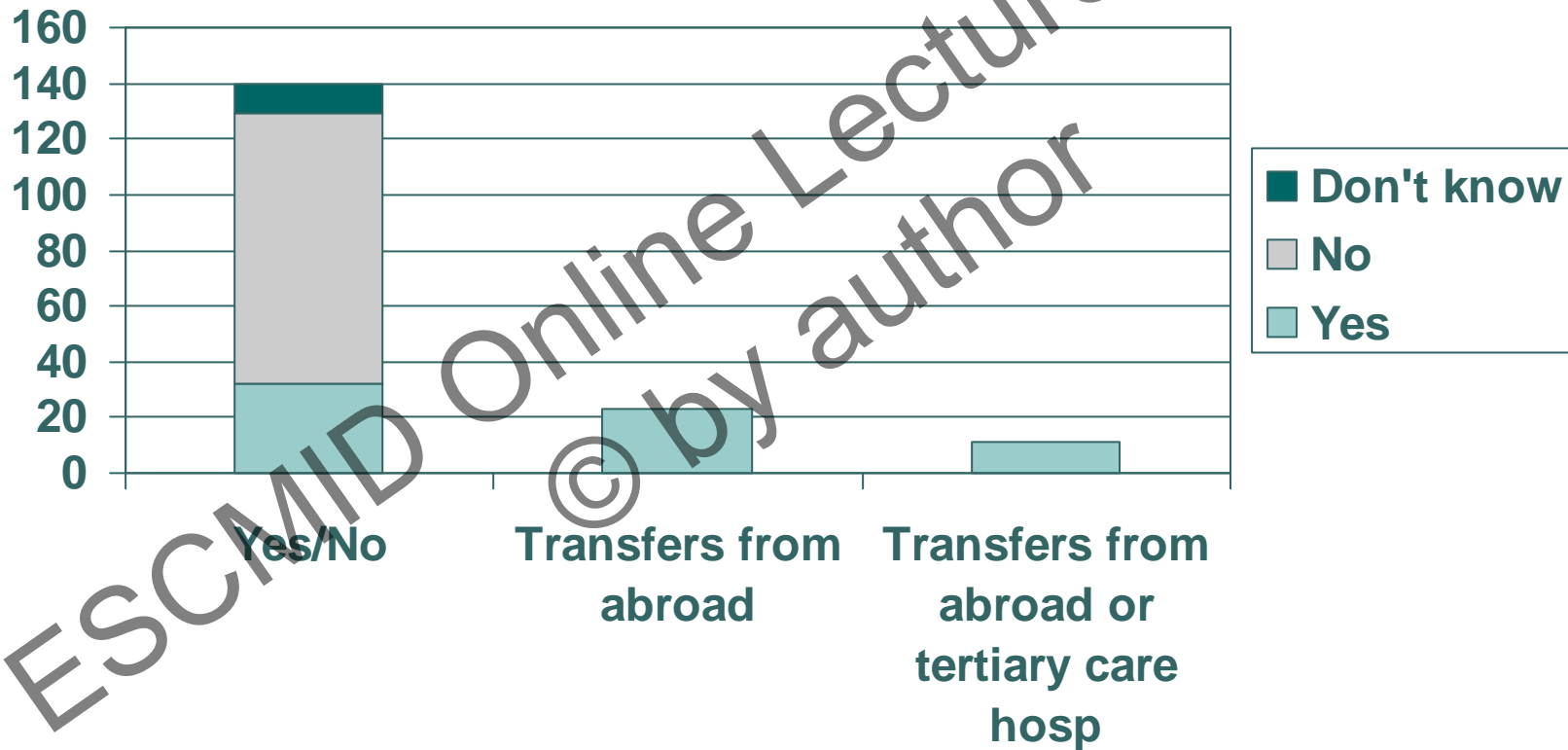


Do you screen patients at discharge?



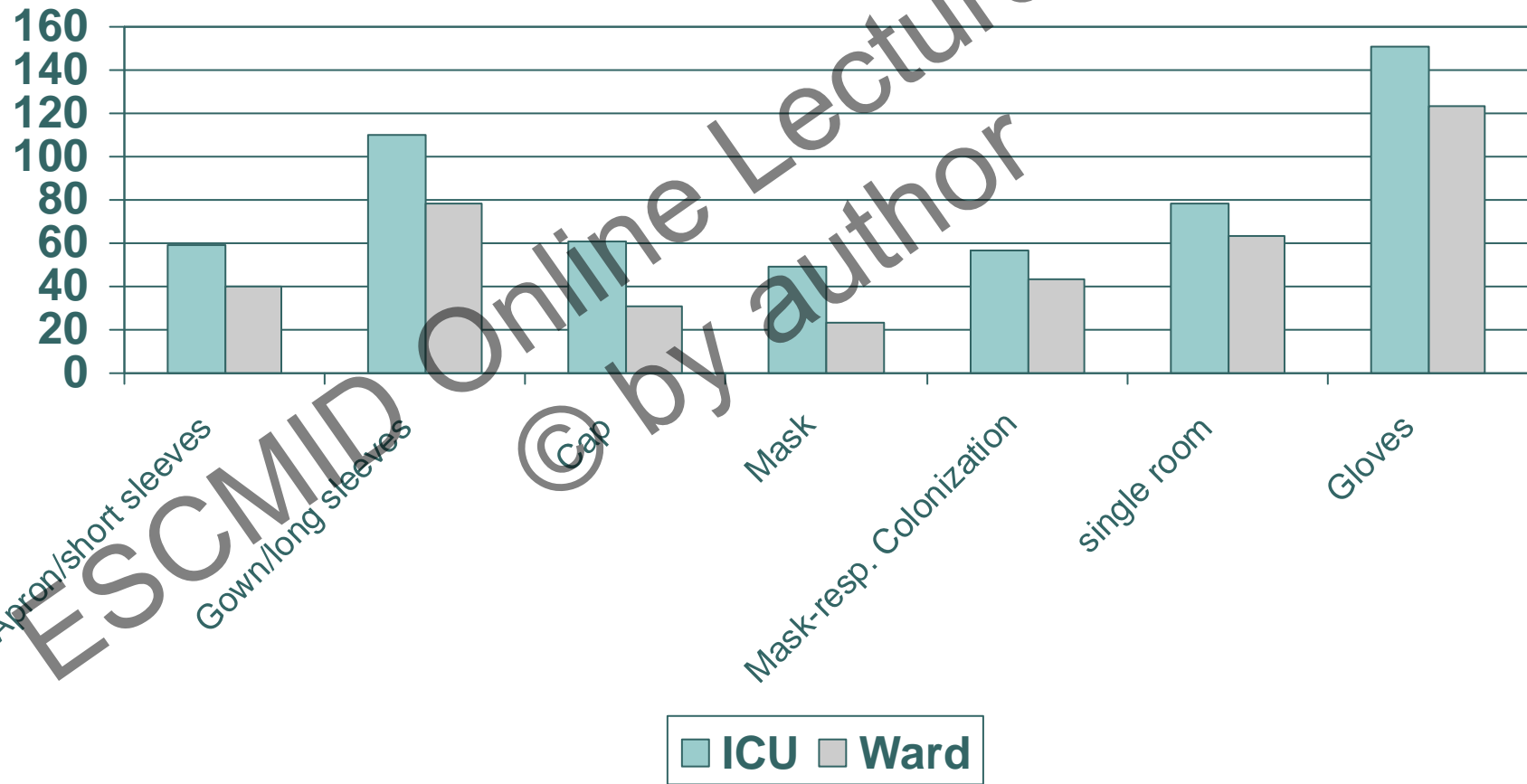
- Hospital with admission screening:
 - 11 screen all pts.
 - 7 screen transfers
 - 20 don't screen
 - 5 don't know

Do you preemptively implement contact isolation in transferred patients?





Measures taken





Use of decolonization

- Rare

- 19 chlorhexidine
- 3 PVP-iodine
- 1 octenidine

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Use of SDD or SOD

- Even rarer
 - 8 SDD
 - 5 SOD

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Dealing with outbreaks – methods to detect outbreaks

Detection method	Number of hospitals
Genotyping of all isolates	16
Use of epidemiological information	101
Epidemiological information confirmed by genotyping	50
Comparison of susceptibility patterns	111

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Dealing with outbreaks – methods to investigate outbreaks

Method used	Number of hospitals
Genotyping of all isolates	68
Collection of epidemiological data	146
Case-control study	54
Environmental sampling	97

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Conclusions

- Multiresistance in *Acinetobacter baumannii* affects (almost) all continents
 - Gradual differences in epidemiology
- Problem focused on ICU patients
- Extended resistance including either resistance to carbapenems and/or ciprofloxacin is very prevalent
- Most cases are nosocomially acquired and 'home-grown'
- Great variation and probably underutilization of infection control measures, in particular of screening measures in many hospitals