



Surveillance of HCAI. Lithuanian experience

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Lecture plan

- NI surveillance system
 - Components
 - Methodology
- Development
 - Successes, strengths
 - Problems, weaknesses



Surveillance of NI and related conditions

- **Surveillance of NI**
- Surveillance of pathogens (lab based)
 - MRSA
 - VRE
- Surveillance of resistance (lab based)
 - EARSS protocol (EARS-Net)



NI surveillance

- Since 2009-01-01 (pilot since 2003)
- Approved by MoH
 - Mandatory to all healthcare institutions
- Basic principles
 - Confidentiality
 - Direct contacts: Hospital - Institute
 - Feedback of results (www.hi.lt/content/hsp_duom_atask.html)
 - Levels: local (hospital) / national
 - Focus on risk areas
 - Reporting mandatory/voluntary



NI surveillance: components

- Point prevalence study (PPS)
- Surveillance of SSI
- Surveillance of NI in ICU
- Outbreaks
 - Registration and investigation locally



Prevalence study (PPS)

- Data collection – mandatory
 - Patient based protocol

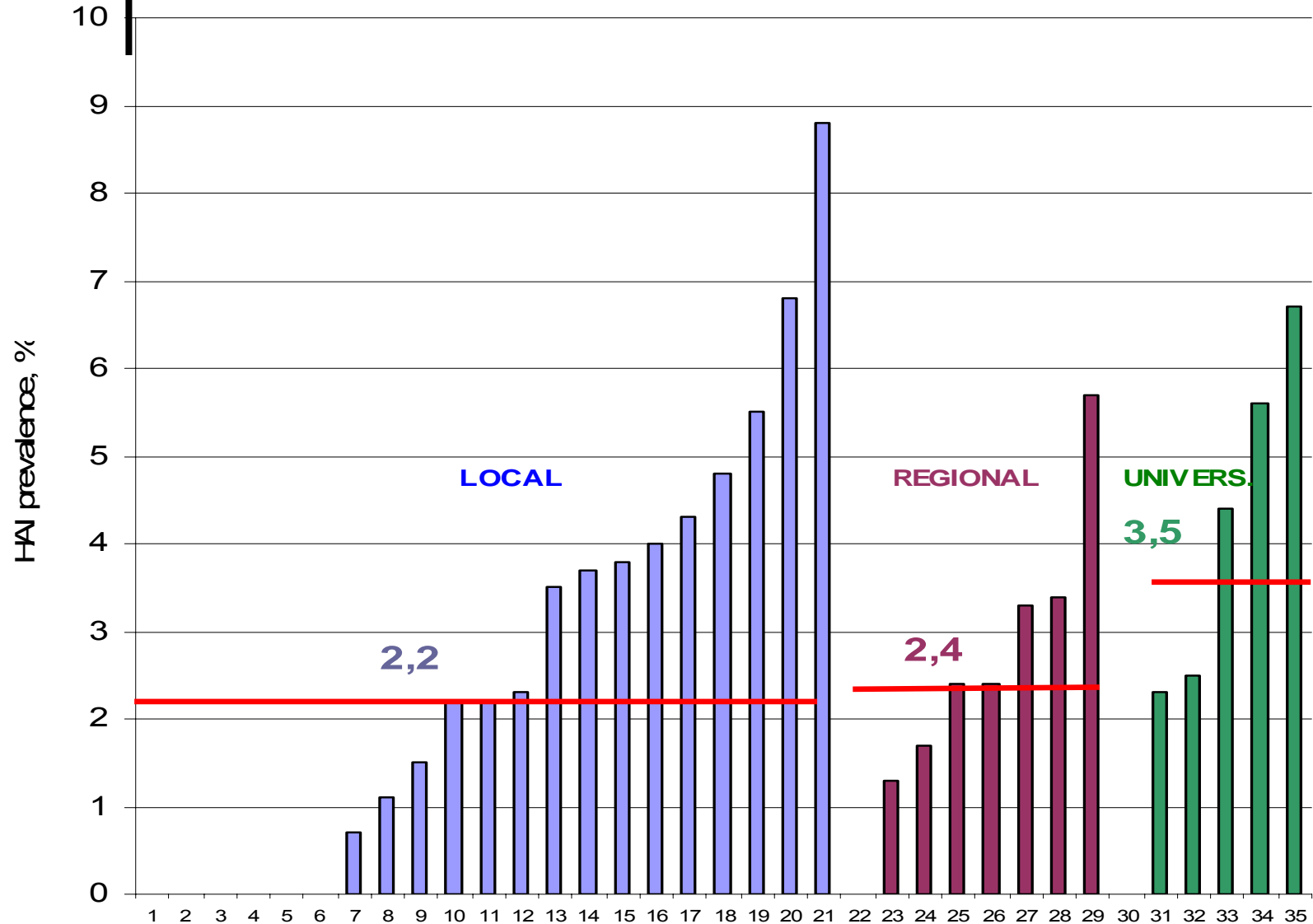
- Reporting – mandatory
 - Electronic databases

- Yearly (May)

- All hospitals
 - acute care
 - long term care (since 2009)
 - Specialised (since 2009)

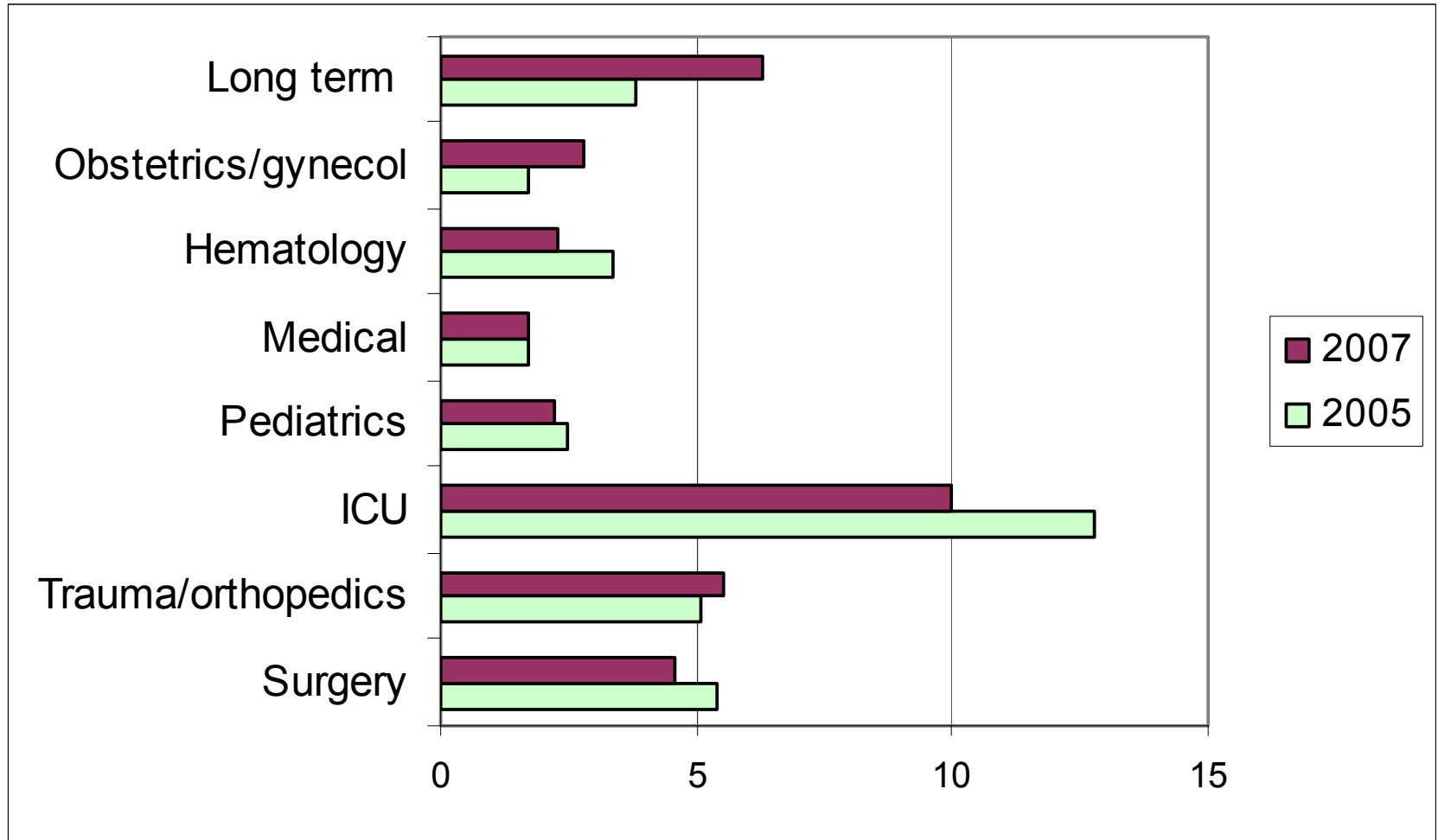


HAI prevalence in hospitals, 2005





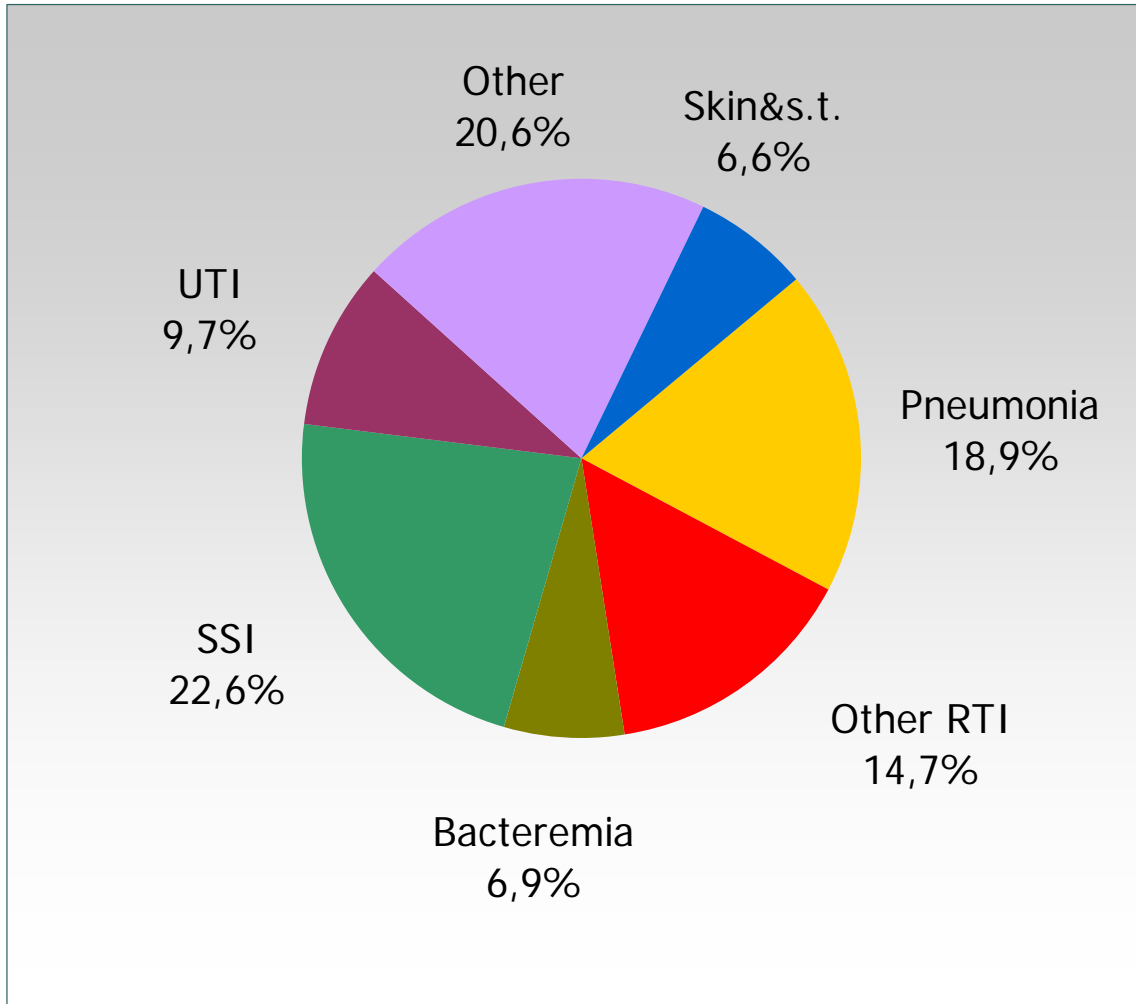
HAI prevalence in different departments





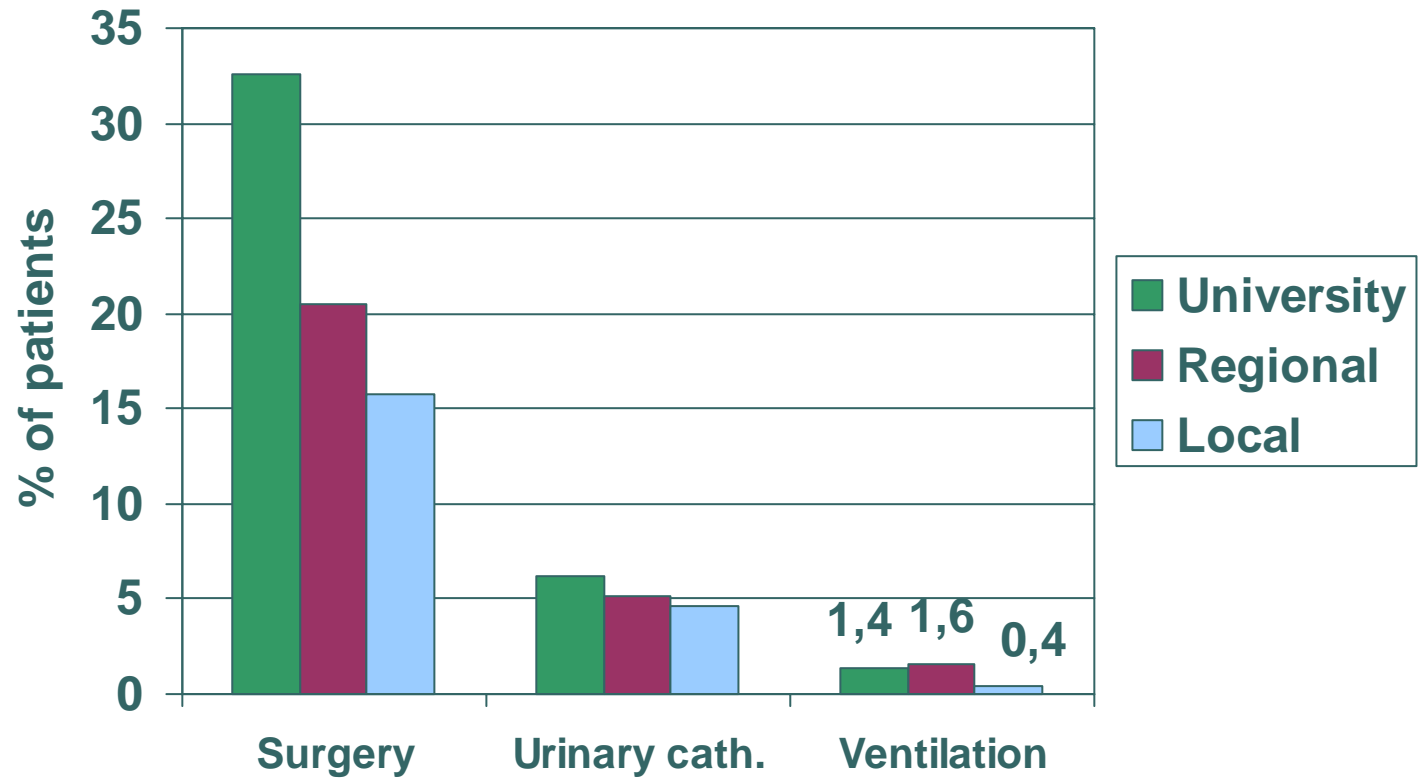
National prevalence survey, LT 2005

Structure of NI



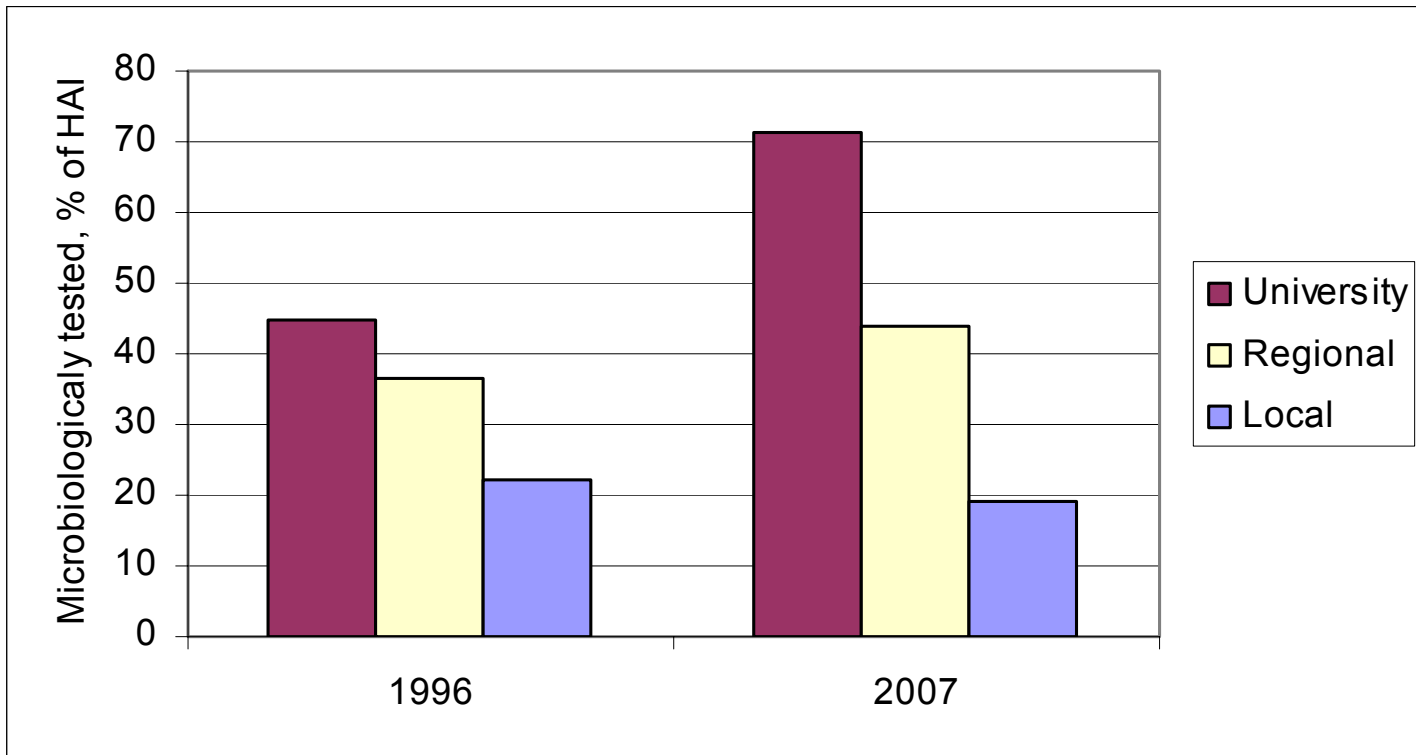


Prevalence of risk factors, 2007





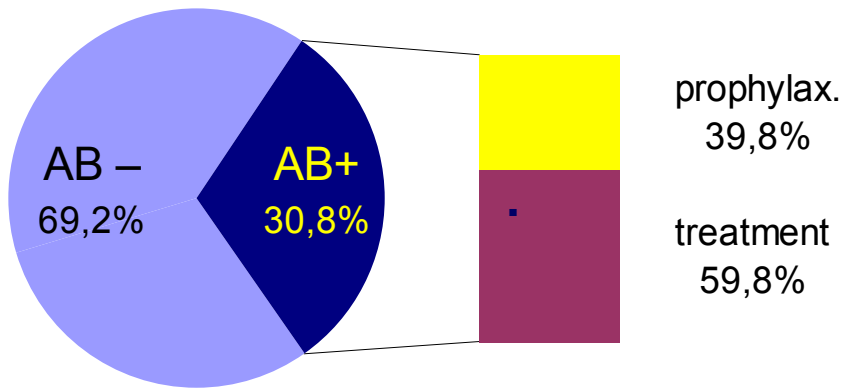
Microbiological diagnostics (% of HAI tested)



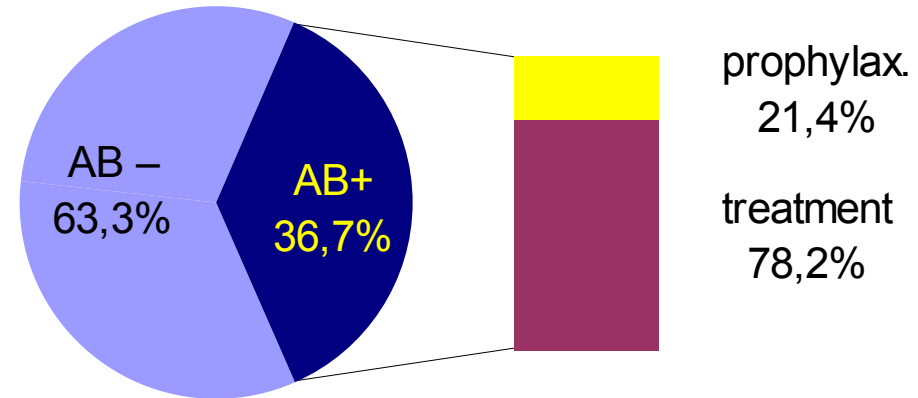


Antibiotic prescribing in different hospitals, PPS 2007

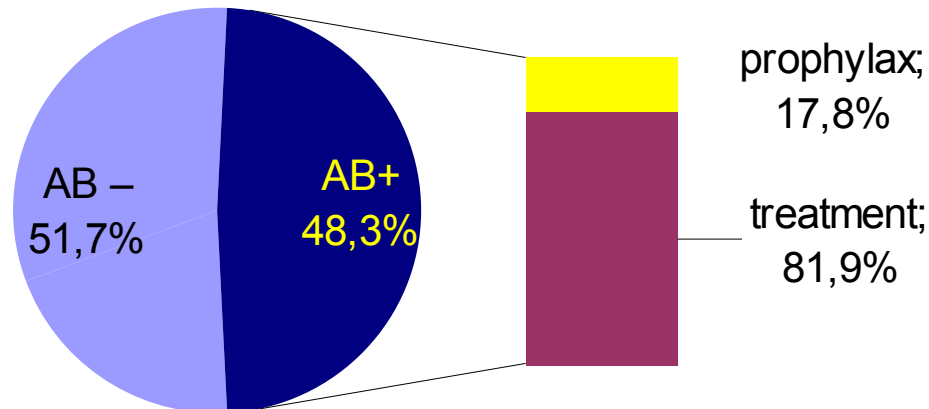
University



Regional



Local





Surveillance of SSI

- Surveillance – mandatory
 - At least 4 months (recommended – all year)
 - At least CBGB and ORTO

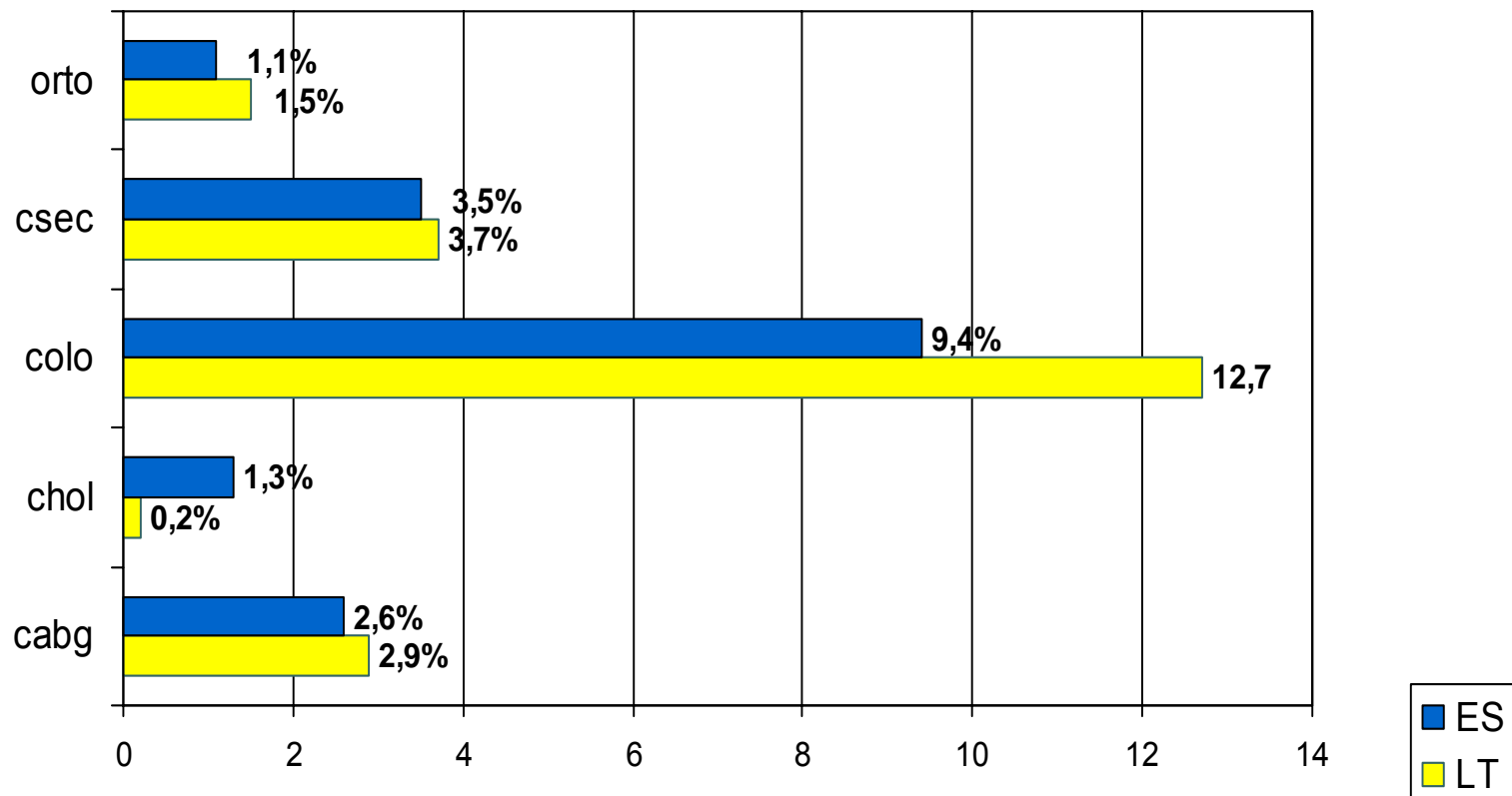
- Reporting – voluntary
 - Standard form
 - Epidata database
 - National surveillance :
 - CBGB, ORTO, CHOL, CSEC, APPE, MAST, HERN



I. DUOMENYS APIE PACIENTĄ	
Paciento numeris	_____
Ligos istorijos Nr.	
Gimimo data (metai, mėnuo, diena)	____-____-____
Lytis	<input type="checkbox"/> - vyras <input type="checkbox"/> - moteris
Paguldymo į skyrių data (metai, mėnuo, diena)	____-____-____
Paciento rizikos veiksniai <input type="checkbox"/> – onkologinė liga (imunodeficitas) <input type="checkbox"/> – cukrinis diabetas <input type="checkbox"/> – nutukimas (KMI>30)	
Operacijos data (metai, mėnuo, diena)	____-____-____
Pagrindinės operacijos pavadinimas ir kodas	_____
Išrašymo data (metai, mėnuo, diena)	____-____-____
Išėitis	<input type="checkbox"/> – pasveiko <input type="checkbox"/> – mirė
II. DUOMENYS APIE OPERACIJĄ	
Žaizdos švarumo klasė (1–4)	<input type="checkbox"/> – 1 <input type="checkbox"/> – 2 <input type="checkbox"/> – 3 <input type="checkbox"/> – 4
Operacijos trukmė	_____ min.
Operacijos atlikimo tvarka	<input type="checkbox"/> – planinė <input type="checkbox"/> – skubi
Operacijos pobūdis: laparoskopinė/endoskopinė (pabraukti)	<input type="checkbox"/> – taip <input type="checkbox"/> – ne
ASA kodas (1–5)	<input type="checkbox"/> – 1 <input type="checkbox"/> – 2 <input type="checkbox"/> – 3 <input type="checkbox"/> – 4 <input type="checkbox"/> – 5
Antibiotikų profilaktika	<input type="checkbox"/> – skirta <input type="checkbox"/> – neskirta
Antibiotikų, skirtų profilaktikai, skaičius	_____
Antibiotikų, skirtų profilaktikai, pavadinimai	1. _____ 2. _____ 3. _____
Pirmo antibiotiko skyrimo pradžia	<input type="checkbox"/> – > 2 val. iki operacijos <input type="checkbox"/> – ≤ 2 val. iki op. ar operacijos metu <input type="checkbox"/> – po operacijos
Pirmo antibiotiko skyrimo būdas	<input type="checkbox"/> – į veną injekcija <input type="checkbox"/> – į veną infuzija <input type="checkbox"/> – į raumenis <input type="checkbox"/> – per os
Antibiotiko skyrimo trukmė	<input type="checkbox"/> – vienkartinė dozė <input type="checkbox"/> – 1 d. <input type="checkbox"/> – 2 d. <input type="checkbox"/> – > 3 d.
III. DUOMENYS APIE OPERACINĖS ŽAIZDOS INFEKCIJĄ	
Infekcija	<input type="checkbox"/> – taip <input type="checkbox"/> – ne
Infekcijos nustatymo data (metai, mėnuo, diena)	____/____/____
Infekcijos apibūdinimas	<input type="checkbox"/> – paviršinė <input type="checkbox"/> – gilioji <input type="checkbox"/> – organų /ertmių
Mikrobiologinis tyrimas atliktas	<input type="checkbox"/> – taip <input type="checkbox"/> – ne
Išskirtas sukėlėjas (pavadinimas)	_____
Išskirto sukėlėjo atsparumas (MRSA, VRE, ESBL+, IBL+)	<input type="checkbox"/> – atsparus <input type="checkbox"/> – ne <input type="checkbox"/> – nežinoma
Ar operacinės žaizdos infekcijos gydymui skirti antibiotikai	<input type="checkbox"/> – taip <input type="checkbox"/> – ne
Antibiotikų, skirtų OŽI gydymui, pavadinimai	1. _____ 2. _____ 3. _____
Antibiotiko skyrimo trukmė	_____ dienų

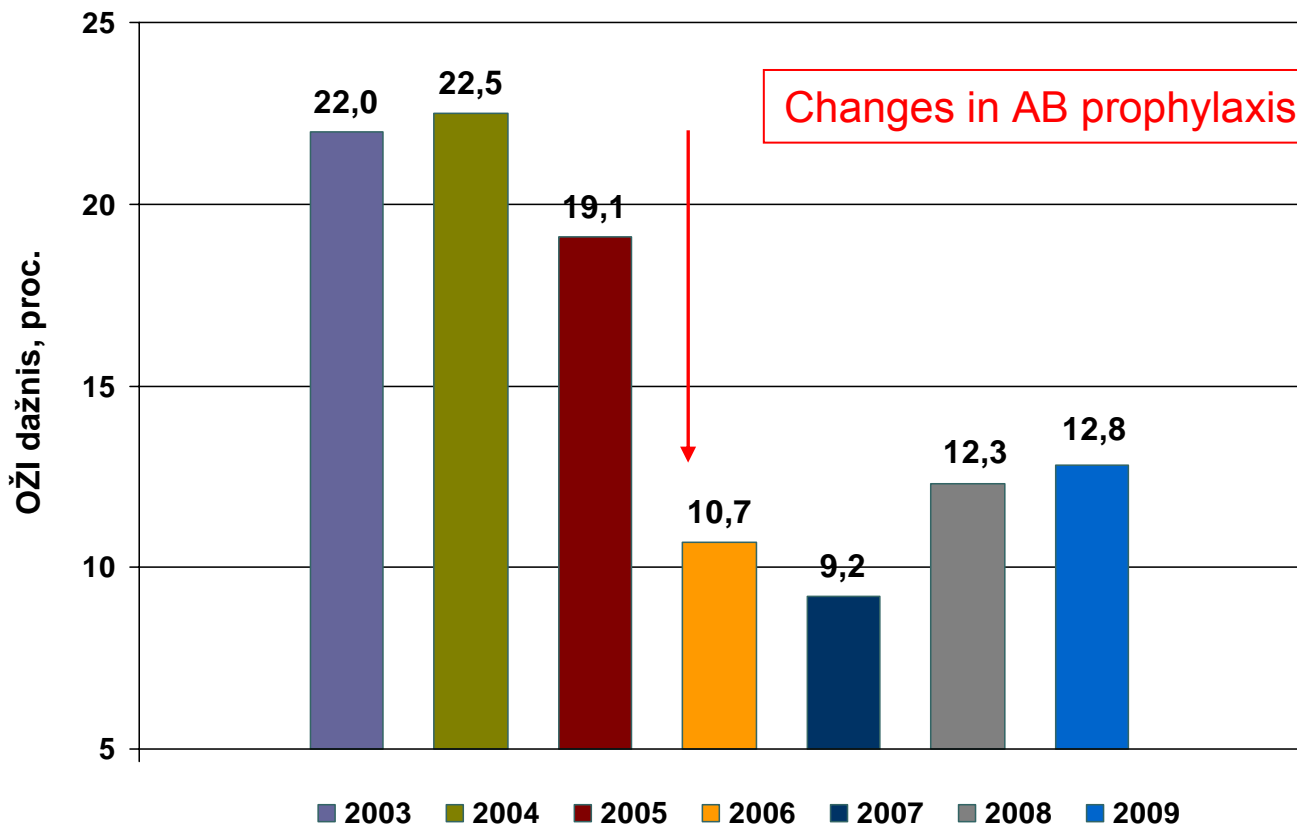


SSI rates in Lithuania compared with mean EU (IPSE), 2007



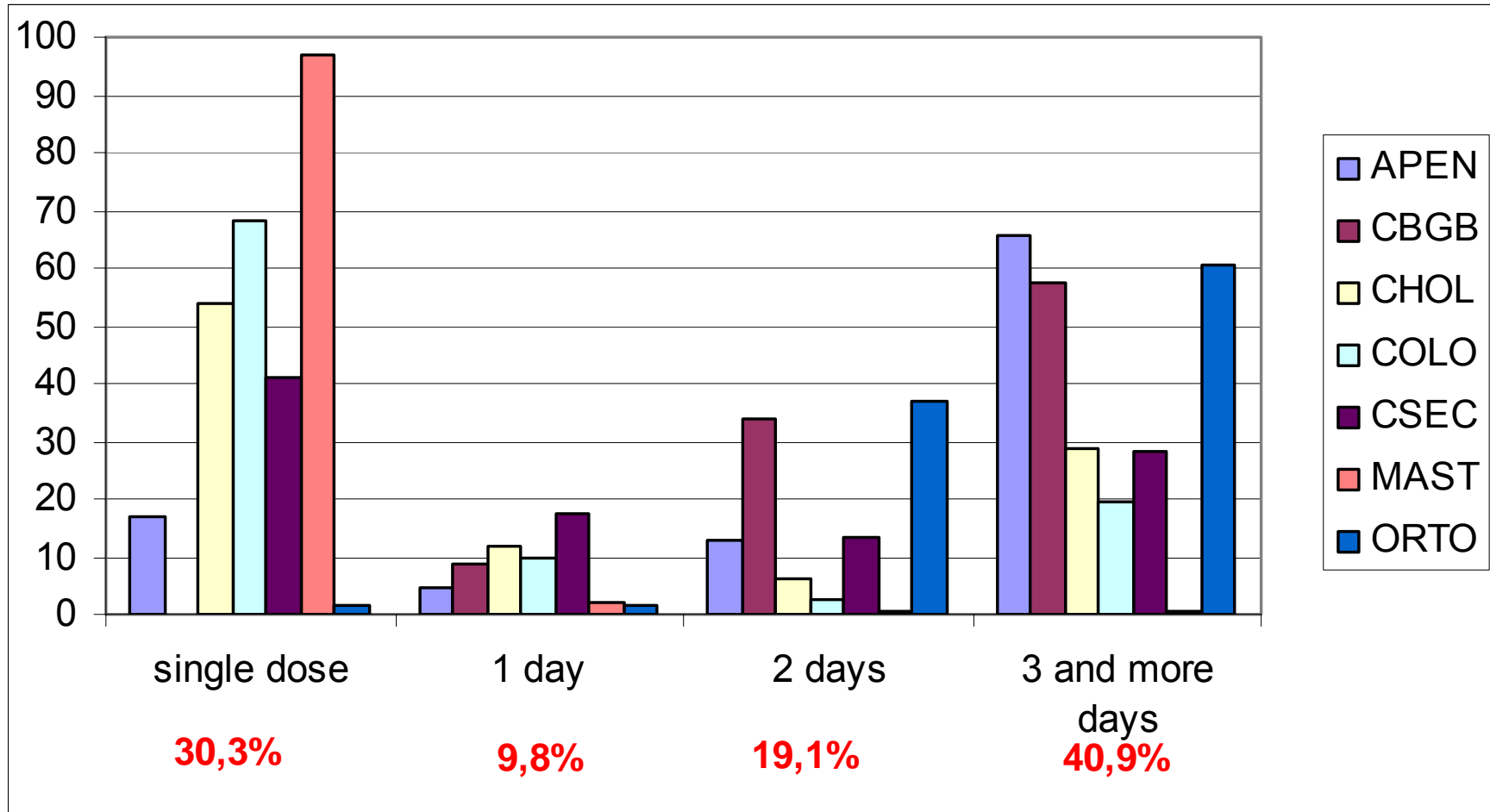


SSI after colon surgery





Antibiotic prophylaxis in surgery, 2003-2008





Surveillance of NI in ICU

- Surveillance – mandatory
 - At least one ICU in hospital
 - At least 4 months (recommended – all year)
 - At least pneumonia, BSI, UTI
- Reporting – voluntary
 - Standard form
 - Epidata database



Sergamumas HI RITS Lietuvoje ir ES šalyse 2006 m.*

Table 3.6.3. Distribution of intubator-associated pneumonia rates and catheter-associated bloodstream infection rates in patients staying more than two days in intensive care, by country

	N of patients	N of patient-days	Average length of stay	IUR	CUR	IAP/1000 intubation days	C-BSI/1000 cvc days
Austria	6 602	68 617	10.4	610	854	9.4	2.7
Belgium	3 362	26 687	7.9	415	736	11.3	2.7
Estonia	94	1 274	13.6	852	747	3.7	4.2
France	21 951	243 880	11.1	586	637	13.6	3.7
Italy	1 720	20 041	11.7	556	628	15.1	5.2
Lithuania	1 810	15 159	8.4	404	706	12.7	3.9
Luxembourg	2 144	22 269	10.4	302	624	6.6	2.6
Portugal	795	11 092	14.0	650	811	12.6	3.6
Slovakia	103	1 345	13.1	479	474	20.2	11.0
Spain	13 143	109 785	8.4	469	791	17.3	3.2
TOTAL	51 724	520 149	10.9	532	701	12.2	4.3

IUR: intubation utilisation rate (N of intubation days x 1000/ N of patient-days).

CUR: central venous catheter (CVC) utilisation rate ((N of central line days x 1000/N of patient-days).

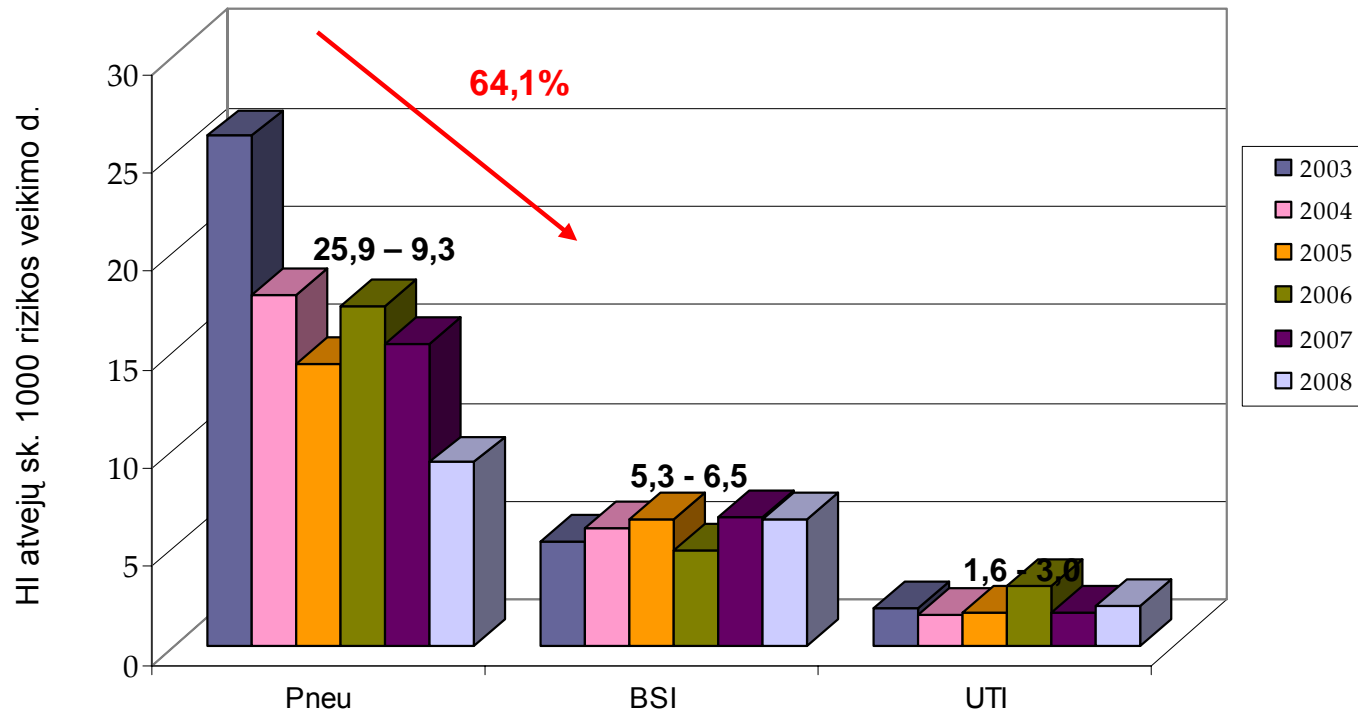
IAP: intubator-associated pneumonia.

C-BSI: catheter-associated bloodstream infection.

Data from Estonia are pilot data from a single ICU.



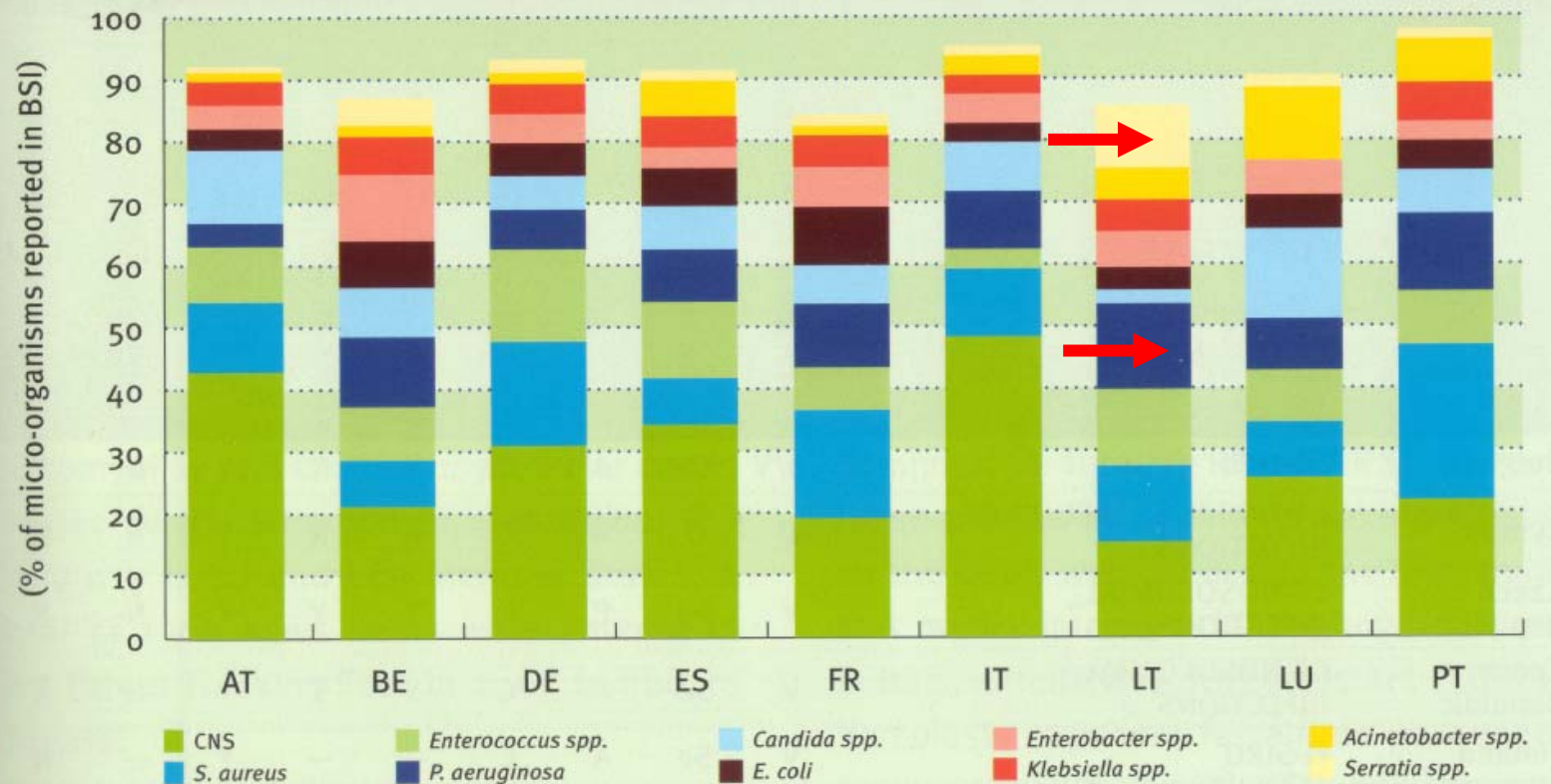
Device related infections in ICU, 2003-2008





Ethiology of BSI in ICU, 2004-2006

Figure 3.6.10. Relative frequency of the 10 most isolated micro-organisms in ICU-acquired bloodstream infections, 2004-06



Source: HELICS-ICU. Data for 2004 to 2006 were pooled because of smaller numbers for some countries.



Development

Successes, strengths

Problems, weaknesses



Main success factors

- International collaboration
 - Bilateral projects (since 1993)
 - EU networks (Helics, IPSE, HALT etc.)
 - International protocols (Helics) and definitions
- Cautious start and development
 - Voluntary participation
 - Confidentiality
 - No pressure
- Support
 - Ministry of Health
 - Hospital administration
 - IC staff
- Education



Problems to solve, overcome

- Past perceptions about NI
 - NI - faults of the medical staff or weakness of hygiene regime
 - Good hospitals have no NI
- Existing NI registration and administration system
 - Incl. penalties
- HAI neglected and hidden
 - recorded incidence $<0,1\%$
 - reports from $<5\%$ of hospitals
- Lack of staff



Participation in NI surveillance, 2009-2010

- Prevalence study - 42,6% (63 out of 148)
 - Acute hospitals - 67,2% (45 out of 67)
 - Long term care hospitals - 25,0% (12 out of 48)
 - Specialised hospitals - 20,7% (6 out of 29)

- SSI surveillance
 - 21 hospital, 54 units

- Surveillance in ICU
 - 21 hospital, 28 units



Thank you !



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