Hospital – WIV-ISP Feedback

Point Prevalence Survey of

Healthcare-associated Infections and

Antimicrobial Use

PPS HAI-AU

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Content

- PPS Belgium results

  A) HAI (% ; types)

  B) Antimicrobial use (% and types)

  C) Micro-organisms in HAI

  C) Resistance to antimicrobials

- PPS Belgium: the experience of hospitals

EU Results: Plan for 2012 2013

- **2012**
  - Final data upload: 15 May-30 September

- **Communication and publication of results**
  - Nov 2012: European Antibiotic Awareness Day
  - Final report from ECDC: Spring 2013
  - No EU data can be made public before

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Belgian Results: participation

Okt-nov 2011

70 locations = 54 hospitals (=51%)

17870 patients (16% of all EU patients!)

EU Results: HAI

- Patients with a HAI:
    - Overall: 1288 patients: 7.2% ICU: 22.2%
    - HAI at admission: 14.2%

Patient specialty	% Ptn HAI
All specialties	**7.2%**
Intensive Care	22.2%
Geriatrics	8.2%
Surgical	8.0%
Medical	6.9%
Paediatrics	2.4%

Variation: 0.0 – 14.3%   =case-mix?

Case mix Correction

=

Standardised Infection Ratio
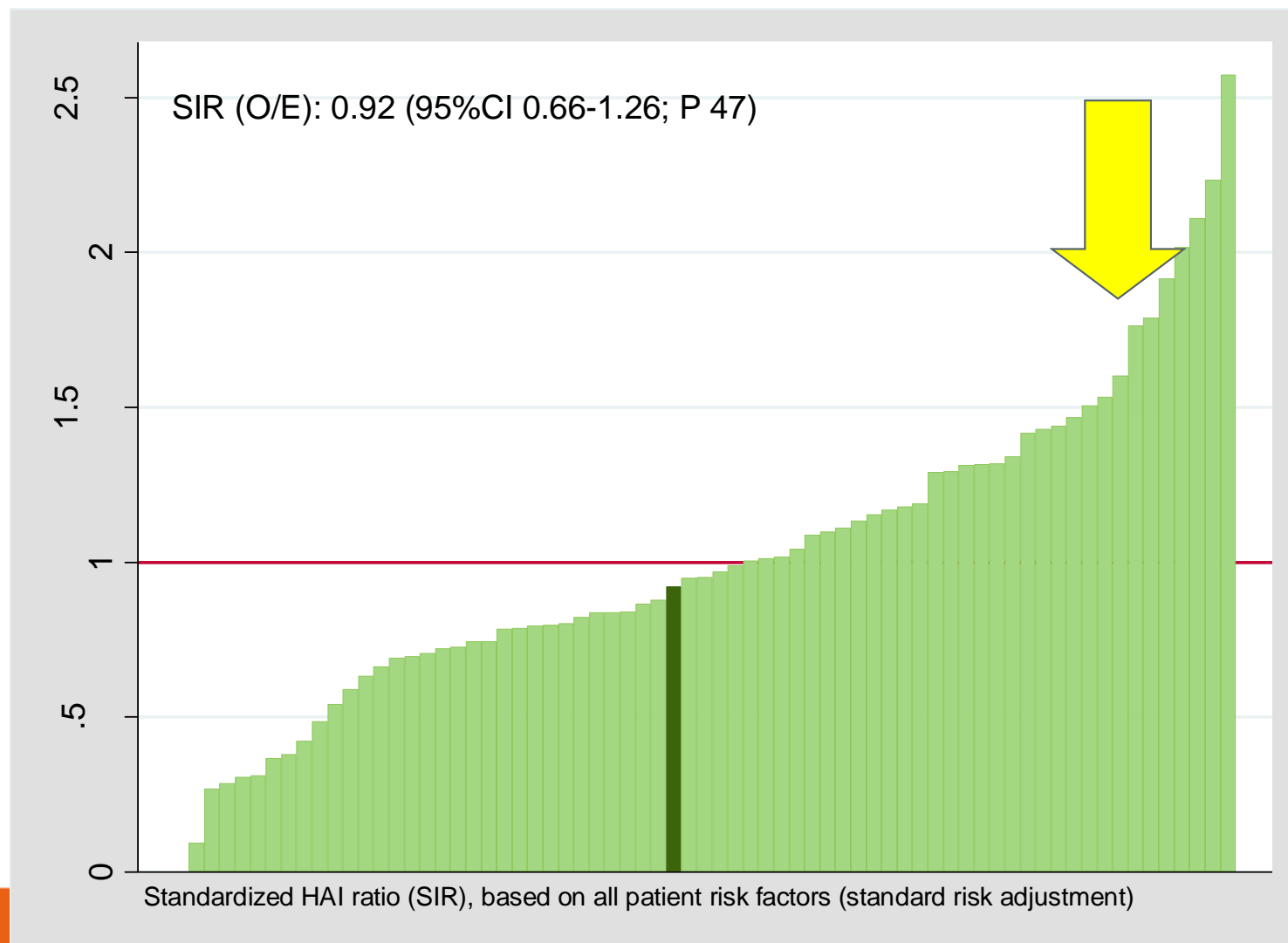
Case-mix correction (SIR), Example (simplified)
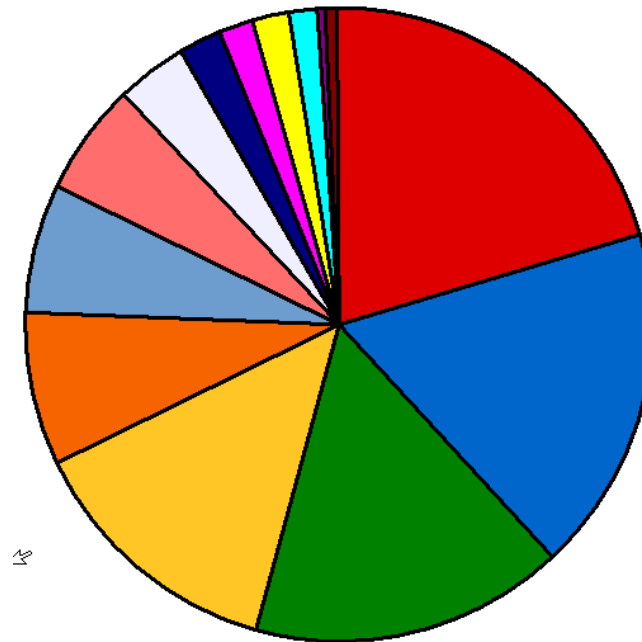
Hospital 805: 9.4% HAI = above average (7.2%)

- Stratify per risk group
  (for example patient specialty: ICU; SUR; PED; …)

- Calculate strata rate for Belgium (see table last slide)

- Each strata: apply Belgian rate to hospital number of patients
  → expected number

- SIR: observed/expected = 9.4/x.x

- SIR = 1 meaning: case-mix adjusted HAI% is at Belgian average

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Case-mix correction (SIR), Example

Hospital 805: 9.4% HAI = above average → in reality ON average

SIR (O/E): 0.92 (95%CI 0.66-1.26; P 47)

Standardized HAI ratio (SIR), based on all patient risk factors (standard risk adjustment)

HAI

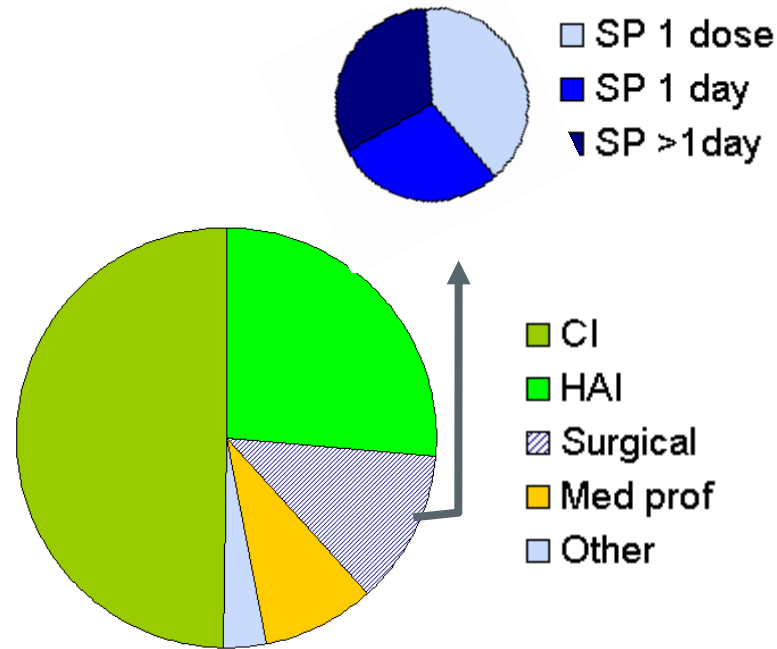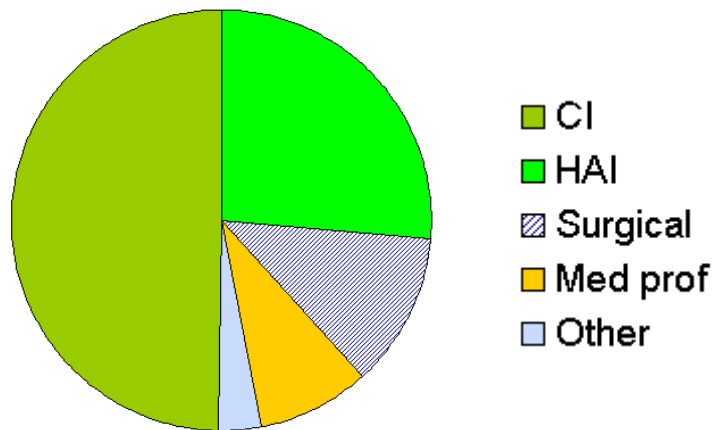|	Rel. %
Total	100%
Pneumonia	**20%**
Other lower respiratory	**6%**
Urinary tract infections	**18%**
Surgical site infections	**16%**
Bloodstream infections	**13%**
Gastro-intestinal	**8%**
Systemic infections	**7%**
Skin and soft tissue infections	4%
Each other category	<2%

Belgium Results: Antimicrobials

- Patients with antimicrobial(s):
    - Overall: 28.7%
    - ICU: 54.1%
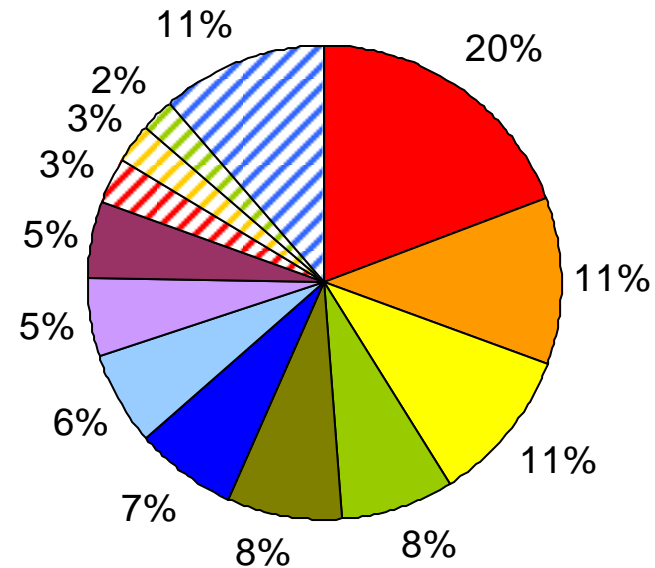   - Route of administration: parenteral 67%

Belgium Results: Antimicrobials

- Medical profylaxis: used as indicator for poor AU
- Belgium: 8.6%
- Is this really "poor antimicrobial use"? → no "diagnosis" collected....

Legend:
- CI
- HAI
- Surgical
- Med prof
- Other

Belgian Results: micro-organisms in HAI

Legend:
- E coli
- S aureus
- P aeruginosa
- Coag.-Neg. Staph
- Enterococ spp
- Klebsiella spp
- Enterobacter spp
- Candida spp
- Proteus spp
- Cdif
- Streptococ spp
- Enterobacteriaceae other
- all rest (less then 2%)

Pie chart values: 20%, 11%, 11%, 8%, 8%, 7%, 6%, 5%, 5%, 3%, 3%, 2%, 11%

Belgian Results: Resistance in HAI

Belgium:

- *S. aureus*: 39% MRSA
- *Enterobacteriaceae*: 22% third-generation cephalo-R
- *K. pneumoniae:* 1% carbapenem-R
- Enterococ: 10% VRE

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Belgian Results: Resistance in HAI

Belgium PPS:		EARS-Net Belgium	HAI EARSS
S. Aureus Methi:	39%	17% (15-19%)	22%
Enterobac Cef3:	22%	8% (7-9%)	12%
K. pneu Carba:	1%	0.3% (0-1%)	0.5%
Enterococ Glyco:	10%	3% (1-4%)	2%

Per Hospital resistance data: PPS CI is <u>very</u> large

EARSS data: very small CI

EARSS possibility: only HAI infection

Feedback

So far only BE comparison, not enough EU countries available in January

What else should change?

-comparison with hospitals, not only BE average

-august: Each Belgian hospital versus EU average

-pdf not user friendly?

-more after the break

Excell tables

Conclusions HAI

- Lots of work to do a PPS, lots of information in return

- Very high participation (51%)

- 7.2% HAI, 28.7% AU. Case-mix correction very valuable for hospitals

- Top 3 HAI: stable: LRT, UTI, SSI

- Resistance some surprising results → compare EARSS: very different
  - validity of such a small sample?
  - data errors?
  - Needed in EARSS: <u>hospital admission date</u>: HAI selection

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PAUZE