

HEALTHCARE-ASSOCIATED INFECTIONS AND ANTIMICROBIAL USE IN ACUTE CARE HOSPITALS and LONG-TERM CARE FACILITIES

ECDC PPS - HALT-3

NSIH SYMPOSIUM – APRIL 2017

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SURVEILLANCE IN ACUTE CARE HOSPITALS AND IN LTCFs



▪ European Center for Disease prevention and Control

Point Prevalence Survey (PPS) of Healthcare-Associated Infections (HAI)
and Antimicrobial use (AU)



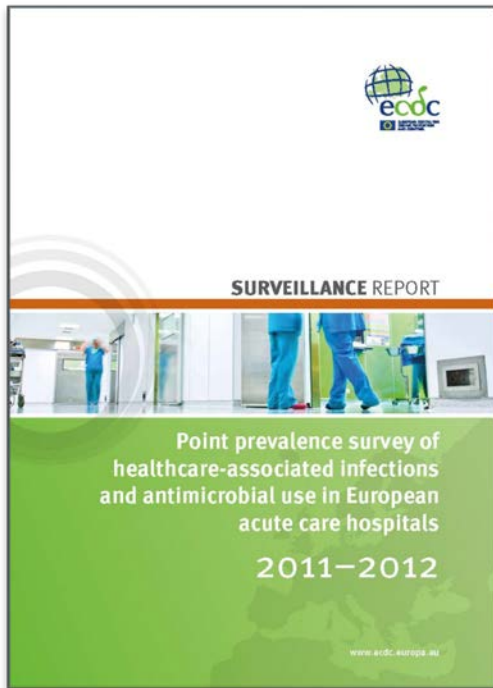
- In hospital: ECDC PPS (National team)
- In LTCFs: Healthcare-associated infections and Antimicrobial use in European Long-Term care facilities (HALT-3) (Management team)

Implementation of the *Council Recommendation of 9 June 2009 on patient safety, including the prevention and control of healthcare-associated infections (2009/C 151/01)*.



ECDC PPS

- ECDC PPS 2011-2012
- ECDC PPS 2016-2017



HALT-3

- HALT-1: May-September 2010
- HALT-2: April-May 2013
- HALT-3: 2016-2017



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OBJECTIVES



- To **estimate** the total **burden** (prevalence) of HAI and AU.
- To **describe patients, infections** (sites, micro-organisms incl. limited AMR markers) and **antimicrobials** prescribed (compounds, indications).
- To **disseminate results** to those who need to know at local, regional, national and EU level.
- To develop a simple tool to identify **targets of quality improvement** and to **evaluate the effect** of interventions.

Methodology



- Standardized methodology for a combined PPS on HAIs and AU:
 - AU use: Systemic AU received on the PPS day
Exclude: antivirals, antimicrobial for local use

 - Active HAI: signs/symptoms are present on PPS day or
were present and patient still receive a treatment for this infection.

- Variables collected at national, hospital/LTCFs and patient level

Methodology



In hospitals

- Data collected on a single day per ward and 2-3 weeks per hospital
- Data collected by infection control and/or antimicrobial team

In LTCFs

- Data collected on a single day per LTCFs (if possible)
- Data collected by nurses and/or coordinating physicians

ECDC PPS: Results 2011



- In Belgium **52** were randomly sampled to avoid overrepresentation
- Number of patients: **13758**
- Median size (number of beds): **275**
- Median average length of stay (days): **7.7**

ECDC PPS: Results 2011

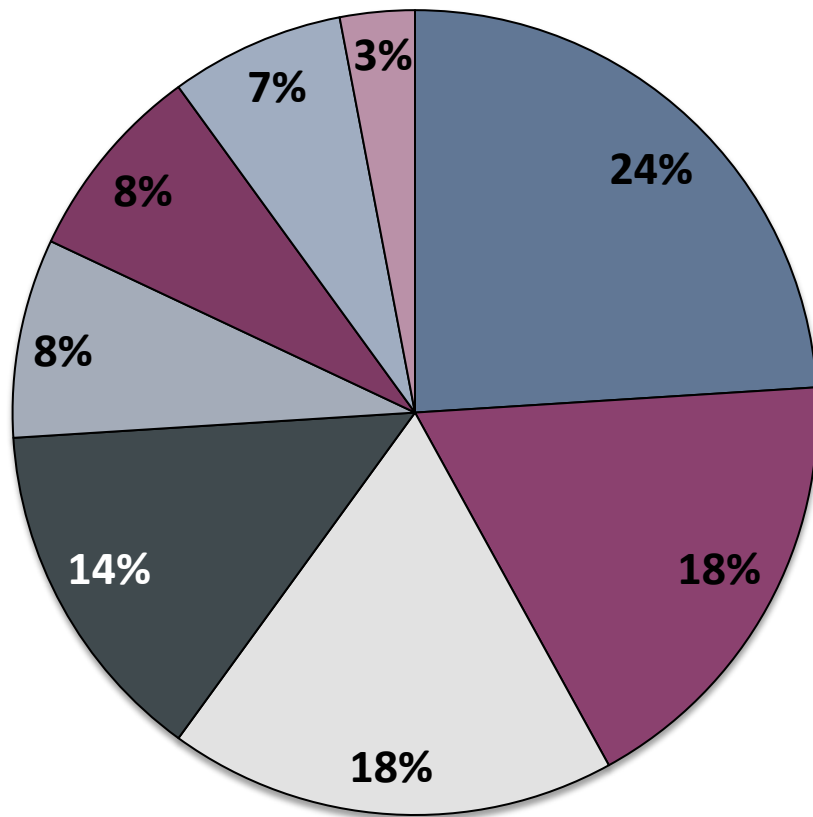


HAI Prevalence

Belgian : 7.1 %

European : 6.0 % (country range 2.3%-10.8%)

Figure 1. Belgian distribution of types of HAI



- Pneumonia/LRT
- Urinary tract
- Surgical site
- Bloodstream
- Gastrointestinal
- Other/unspecified
- Systemic
- Skin/soft tissue

ECDC PPS: Results 2011

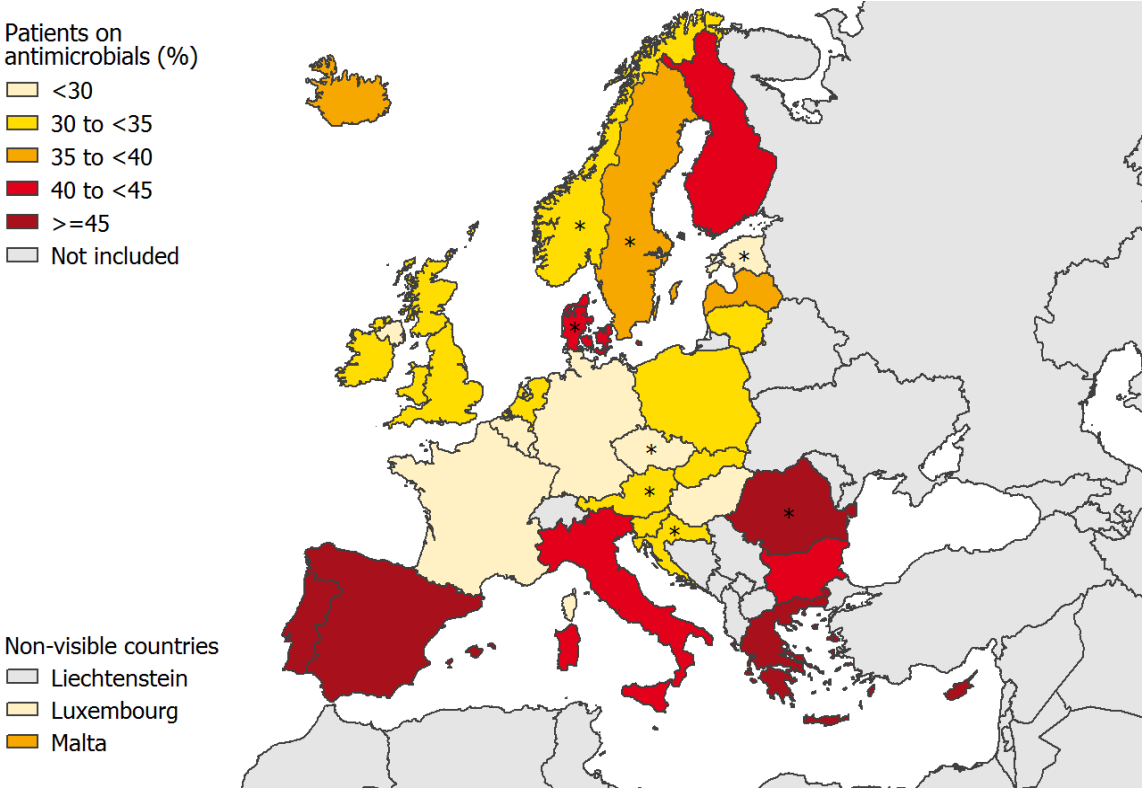


AU prevalence

Belgian : 28.9%

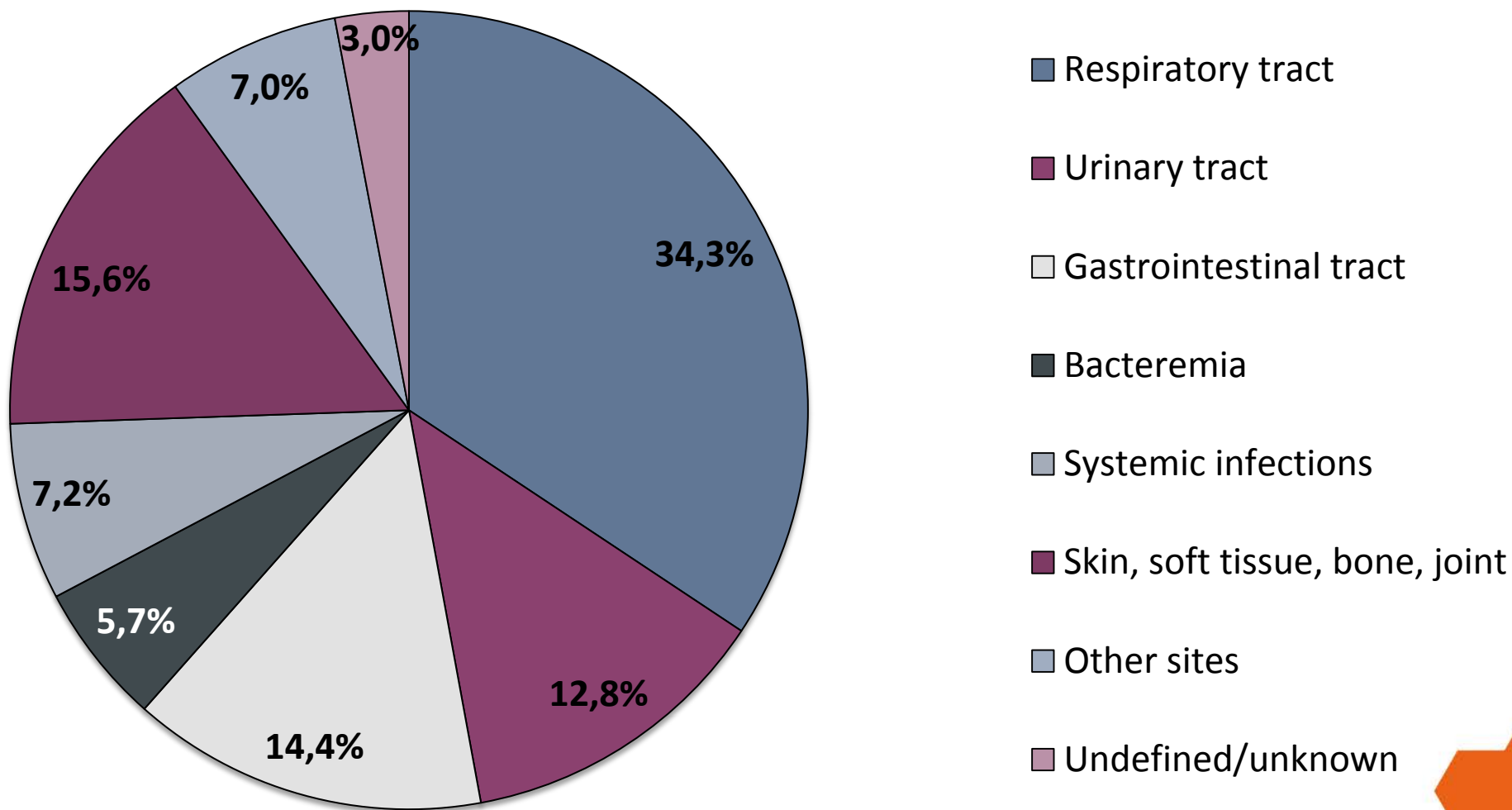
European : 35.0 % (country range 21.4-54.7)

Figure 2. Prevalence for antimicrobial use distribution (% of patients receiving antimicrobials)



ECDC PPS: Results 2011

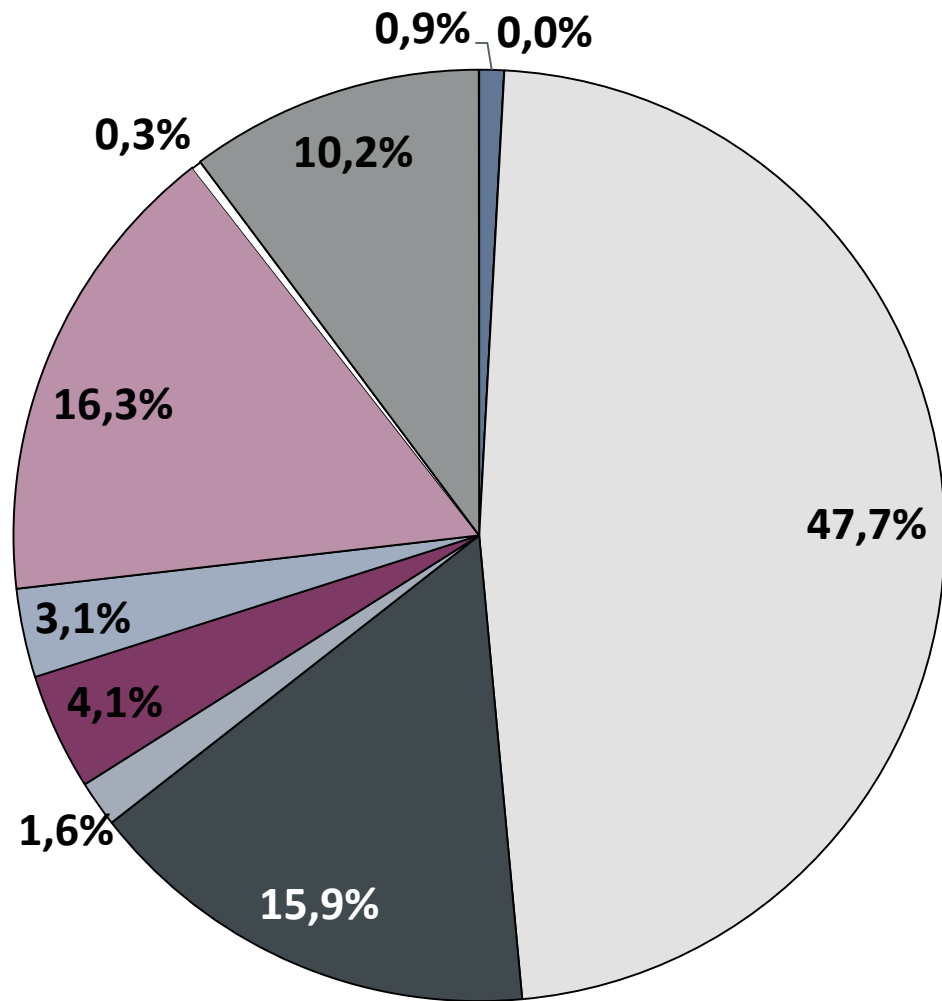
Figure 3. Site of diagnosis for antimicrobial treatment in acute care hospitals in Belgium (n=3 825 infections)



ECDC PPS: Results 2011



Figure 4. Distribution of antibacterials for systemic use (ATC group J01) prescribed for treatment in acute care hospitals in Belgium (n=3 518 antimicrobial agents)



- J01A Tetracyclines
- J01B Amphenicols
- J01C Beta-lactam antibacterials, penicillins
- J01D Other beta-lactam antibacterials
- J01E Sulfonamides and trimethoprim
- J01F Macrolides, lincosamides and streptogramins
- J01G Aminoglycoside antibacterials
- J01M Quinolone antibacterials
- J01R Combinations of antibacterials
- J01X Other antibacterials

ECDC PPS 2016-2017



- In Belgium :

Data collection between September and November 2017

So far 31 hospitals expected

- At the same time: Global-PPS (University of Antwerp)
- Inclusion criteria now include chronic care wards in acute care hospitals.

HALT-3 results

HALT-3: Results 2016



Characteristics of the participating LTCFs and the eligible study population

	Belgium
Number of LTCFs	165
Nursing homes	158
Revalidation centers	4
Psychiatric LTCFs	3

Nursing homes results :

Number of eligible residents	16858
LTCF size (mean; min-max)	112.4 (25-335)
Total number of resident rooms	17211
% single occupancy (SO) resident rooms (mean; min-max)	90.5% (14.6-100.0)
% SO rooms with individual toilet & washing facilities (mean; min-max)	87.5% (0.0-100.0)
Qualified nurse present 24h/24 in the LTCF	98.1%

HALT-3: Results 2016



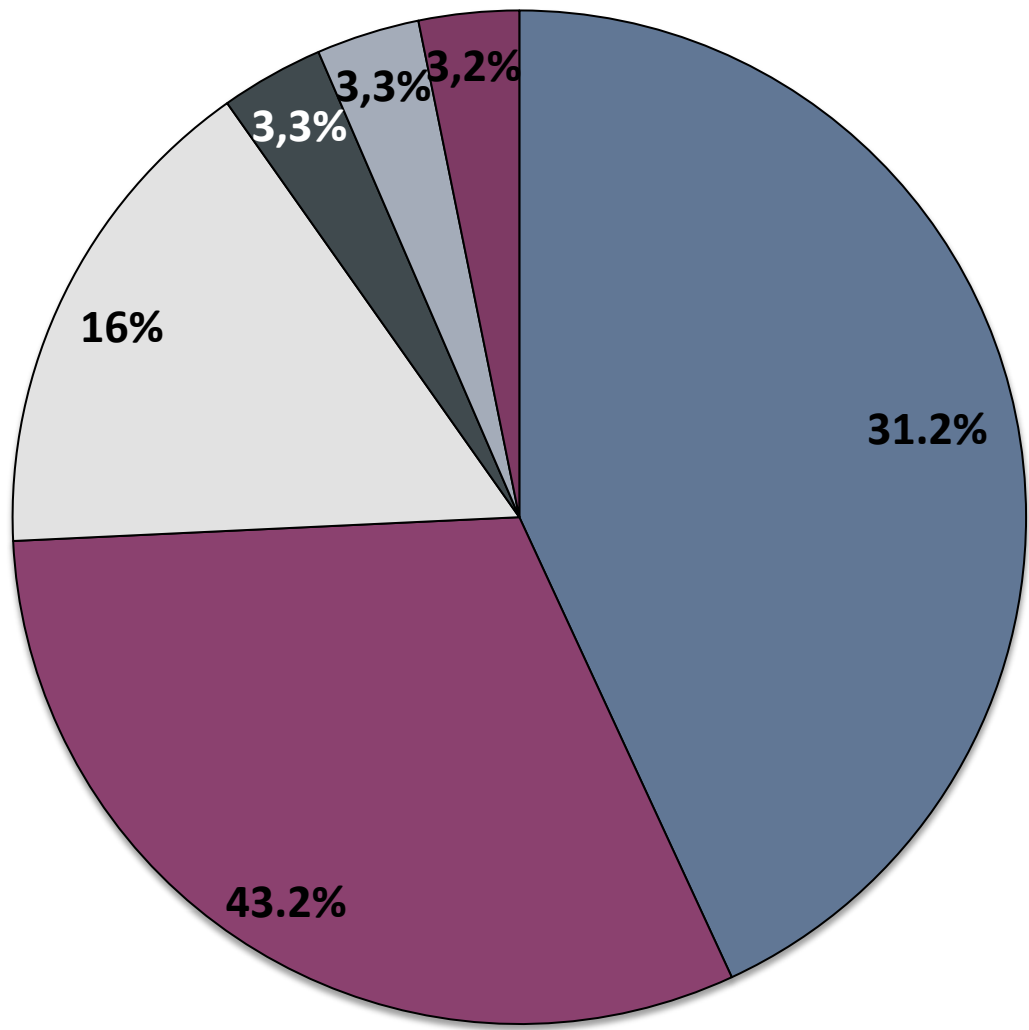
Prevalence evolutions

	2016	2013		2010	
	BE	BE	EU	BE	EU
Prevalence of residents with at least one antimicrobial (%)	5.4	5.1	4.4	4.3	4.3
Prevalence of residents with at least one HAI (%)	3.5	3.6	3.4	2.7	2.4

HALT-3: Results 2016



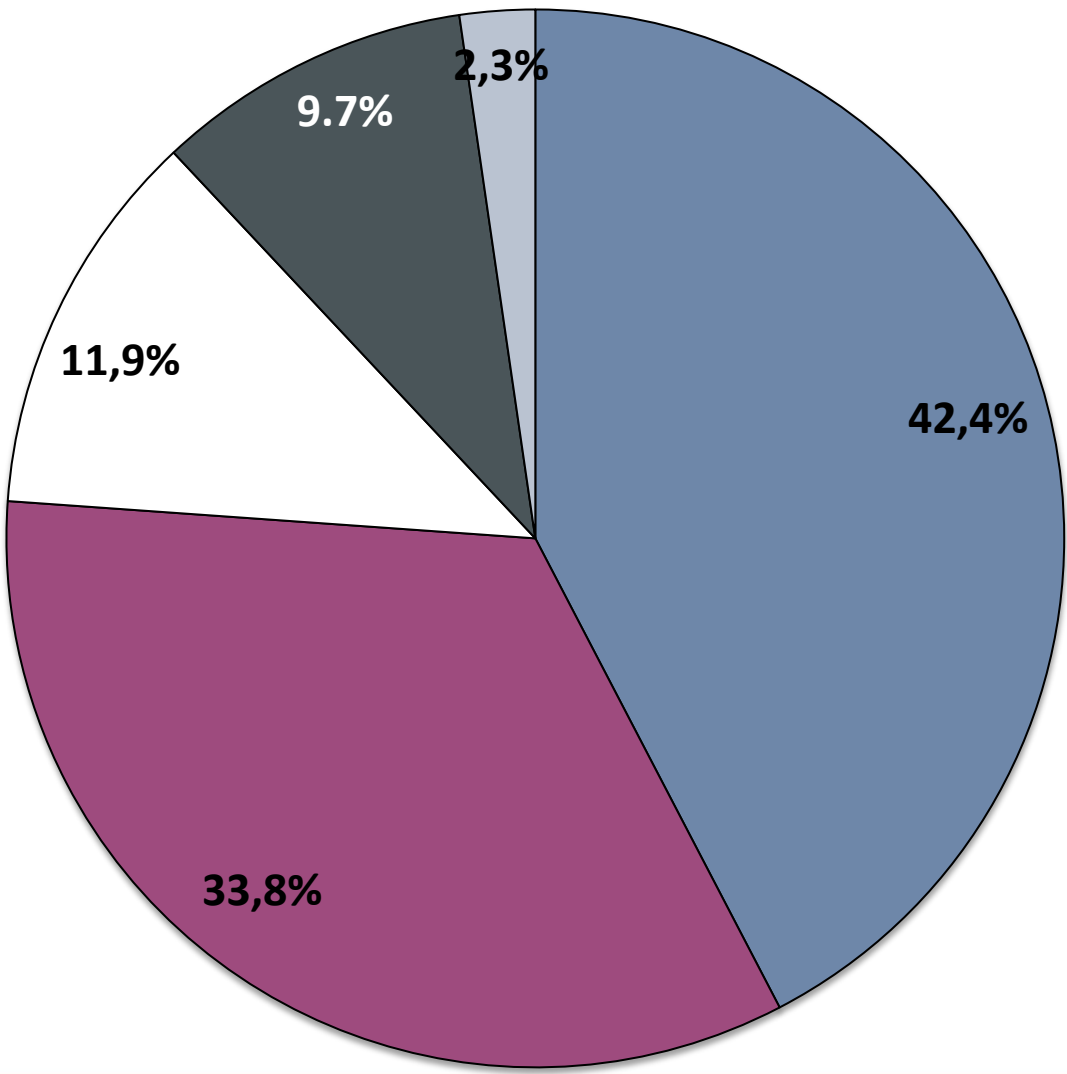
Figure 5. Belgian indications for AU by site



- Respiratory tract infections
- Urinary tract infections
- Skin infections
- Eye, ear, nose, mouth infections
- Gastrointestinal infections
- Other infections

HALT-3: Results 2016

Figure 6. Distribution of Belgian HAI infection site



- Respiratory tract
- Urinary tract
- Skin or wound
- Other (specify)
- Surgical site

HALT-3: 2017



- HALT-3 PSY in Septembre – Novembre 2017: Involvement of Belgian psychiatric facilities.
- Adaption of risk factors and care load indicators
 - E.g. automutilation, primary psychiatric diagnosis

Conclusion



- HAI prevalence (%) in Belgium
 - Hospitals: 7.1
 - LTCFs: 3.5

- Estimated number of patients per year with an HAI in Belgium
 - Hospital: 111 276
 - LTCFs: 170 090

- Important to follow up trends in HAI occurrence in healthcare facilities
- Challenge for LTCFs
 - Limited resources for infection prevention and control
 - Home-like facilities