



SURVEILLANCE OF BLOODSTREAM INFECTIONS IN BELGIAN HOPITALS

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INTRODUCTION

Background

National surveillance of bloodstream infections in hospitals

- Case-based - laboratory confirmed
- Mandatory since 2014 (minimum 3 months)
- HA-BSI
 - infection date – admission date ≥ 2

Objectives of HA-BSI surveillance

Monitor

- Trends
- Causal microorganism (MO) and their resistance profile

Level

- Hospital
- National

Tool for prevention



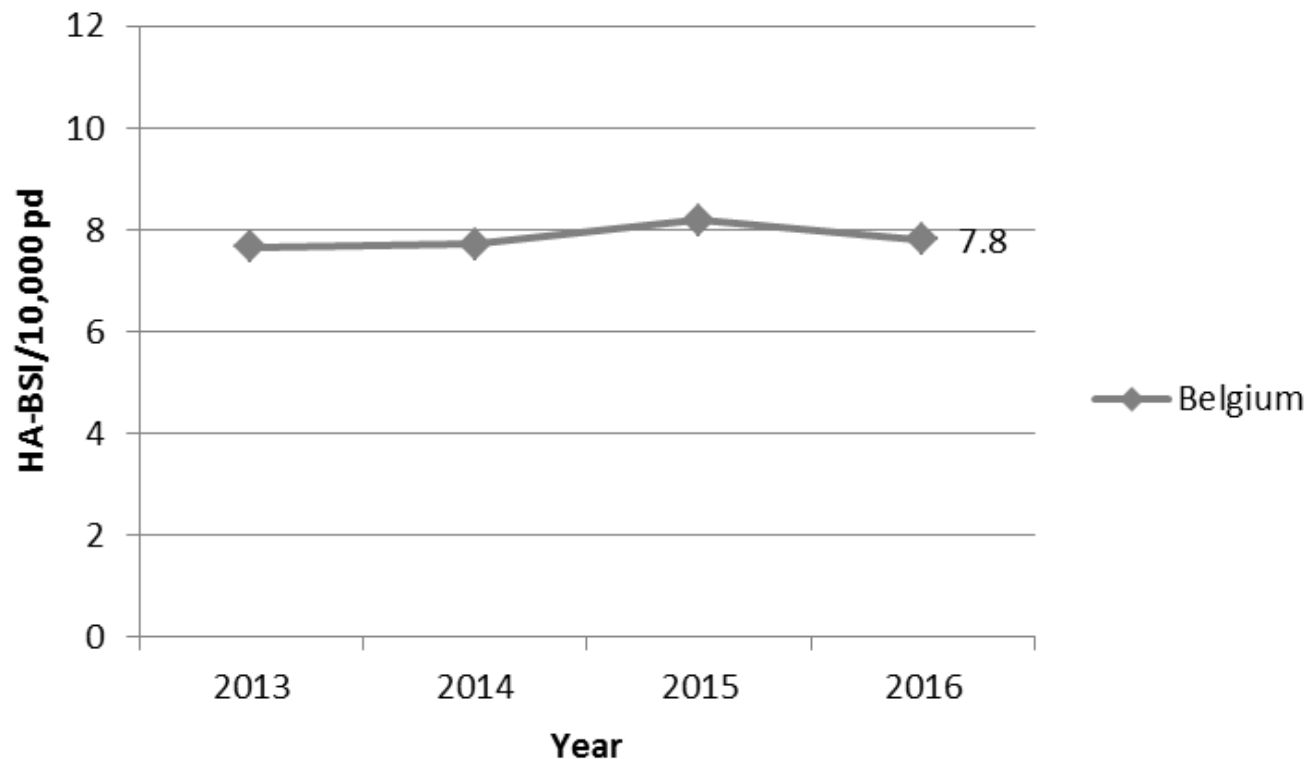
Results 2016 data

Participation 2016

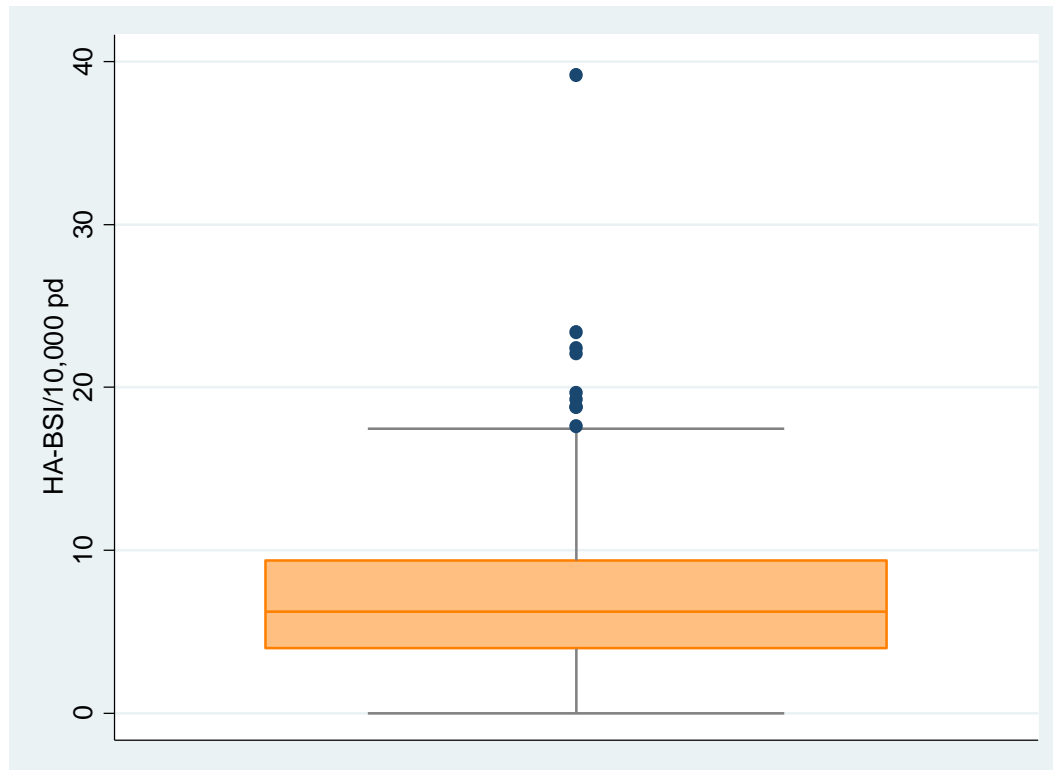
140 hospitals reported at least one quarter

64% hospitals reported the whole year

Mean incidence HA-BSI Belgium, 2013-2016



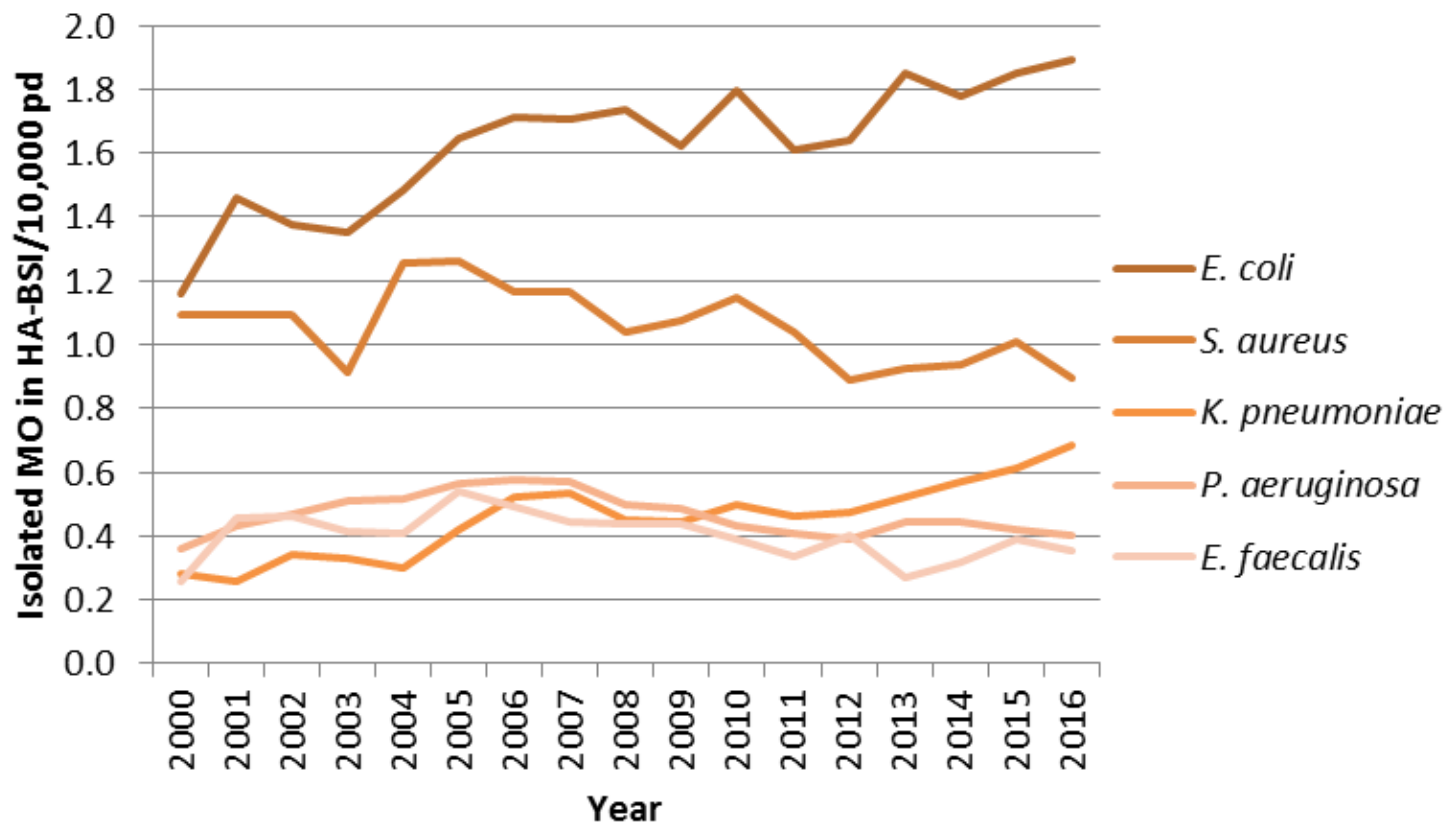
Variation HA-BSI incidence between hospitals, Belgium 2016



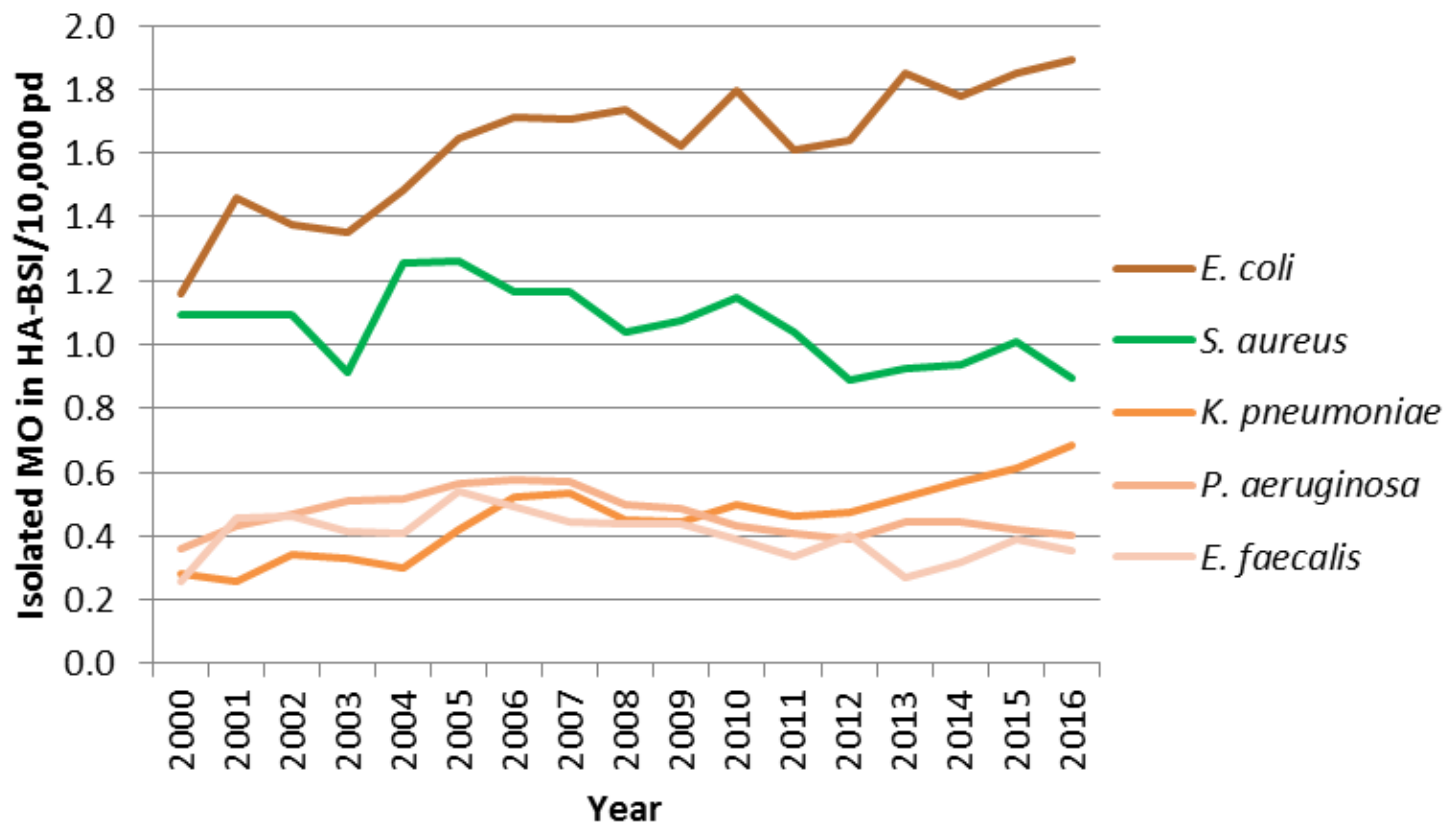
	HA-BSI/10,000 patient-days
smallest	0.0
P 25	3.9
P 50 (median)	6.2
P 75	9.5
largest	39.2

*P, percentiles
unit of analysis is reporting quarter*

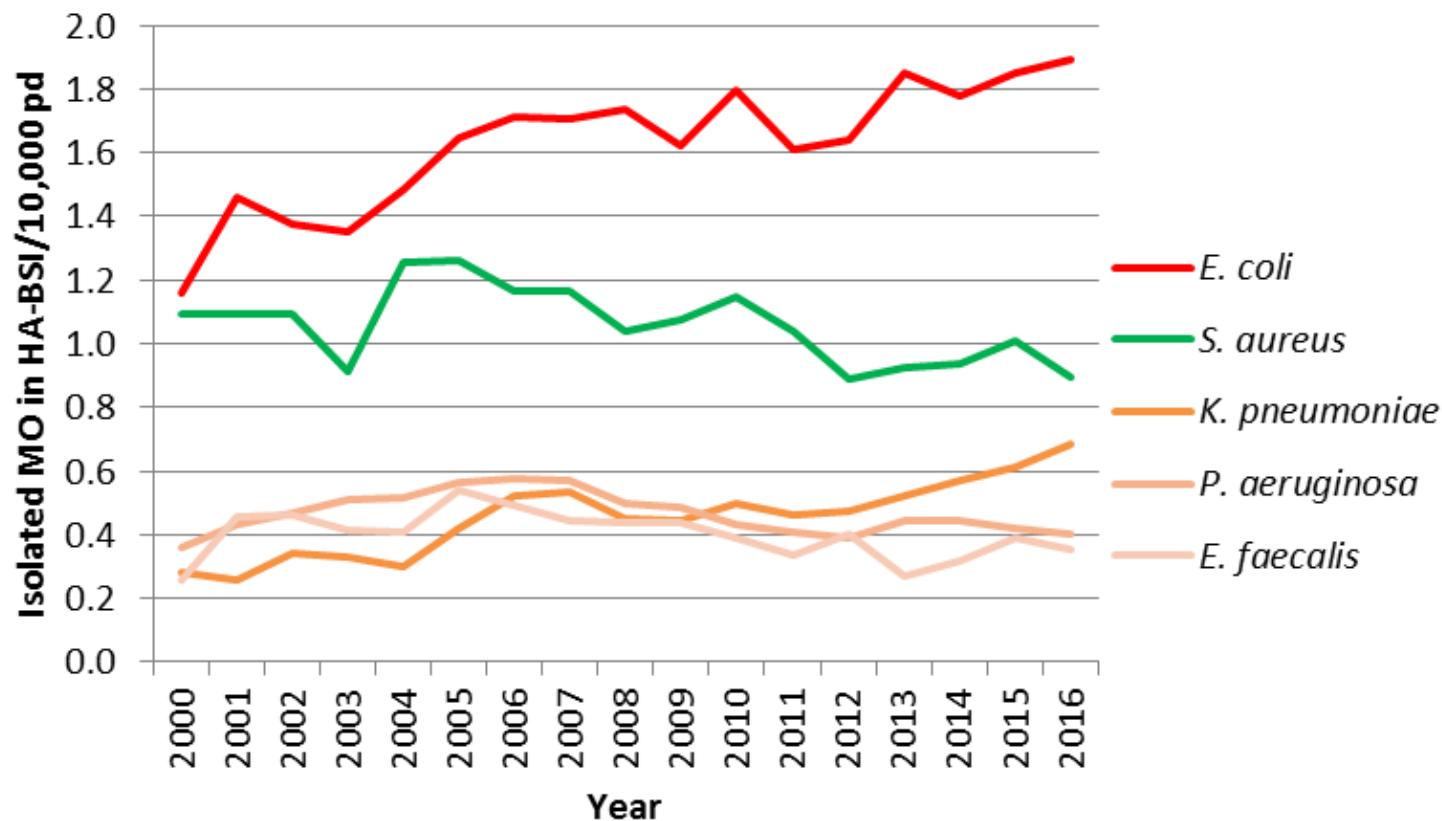
Microorganism specific HA-BSI incidence



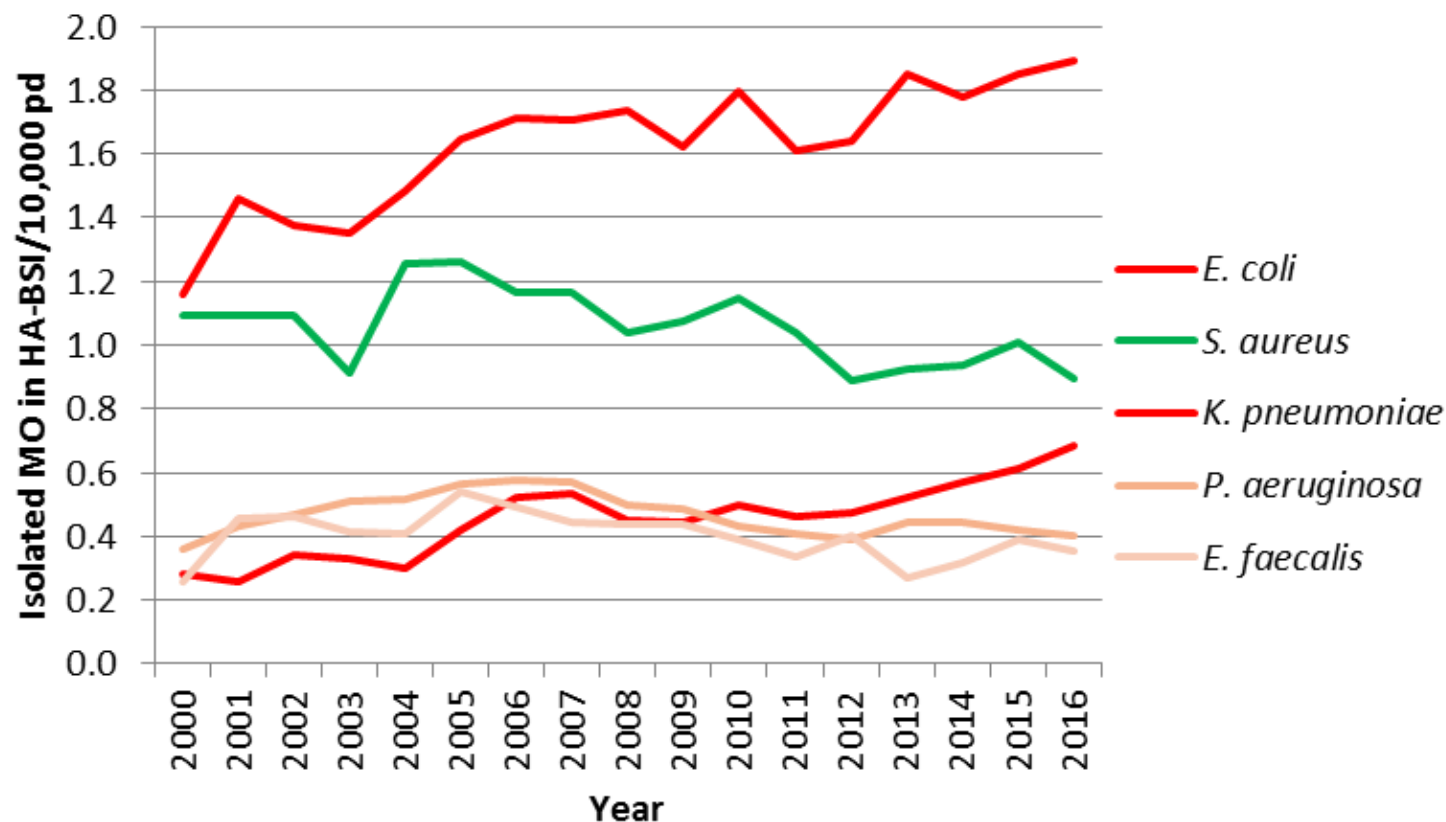
Microorganism specific HA-BSI incidence



Microorganism specific HA-BSI incidence



Microorganism specific HA-BSI incidence



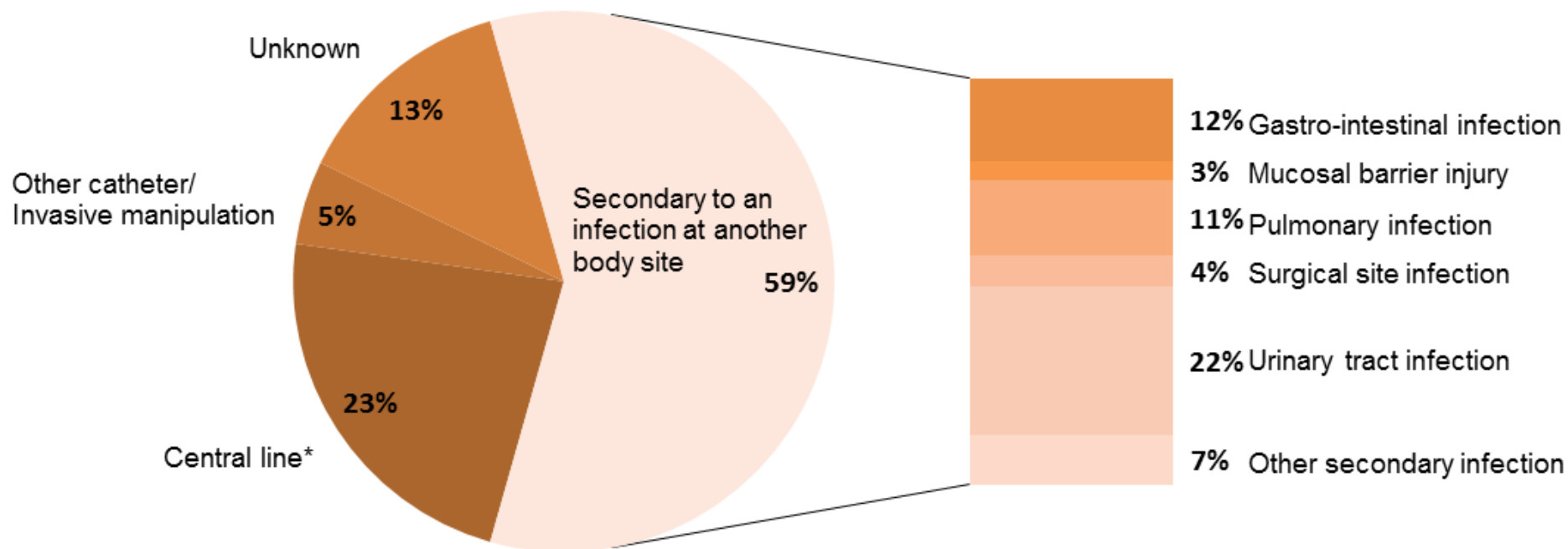
Description BSI episodes, 2016

Total 10,106 BSI of which **7,627 HA-BSI**

HA-BSI

- 21% intensive care unit (ICU)-associated BSI
- 40% HA-BSI associated directly (central line - CL) or indirectly (urinary catheter or endotracheal tube) with invasive devices

Origin of HA-BSI

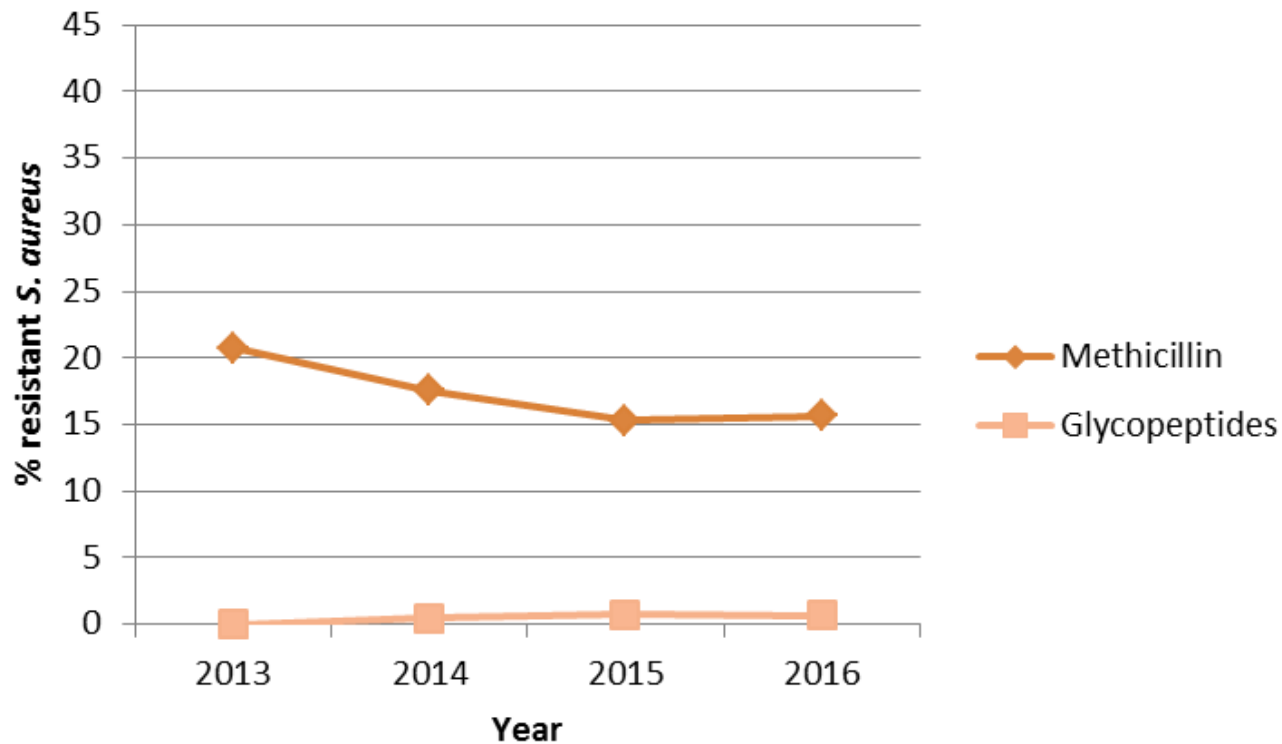


* Includes 'confirmed', 'probable' and 'possible' CLABSI

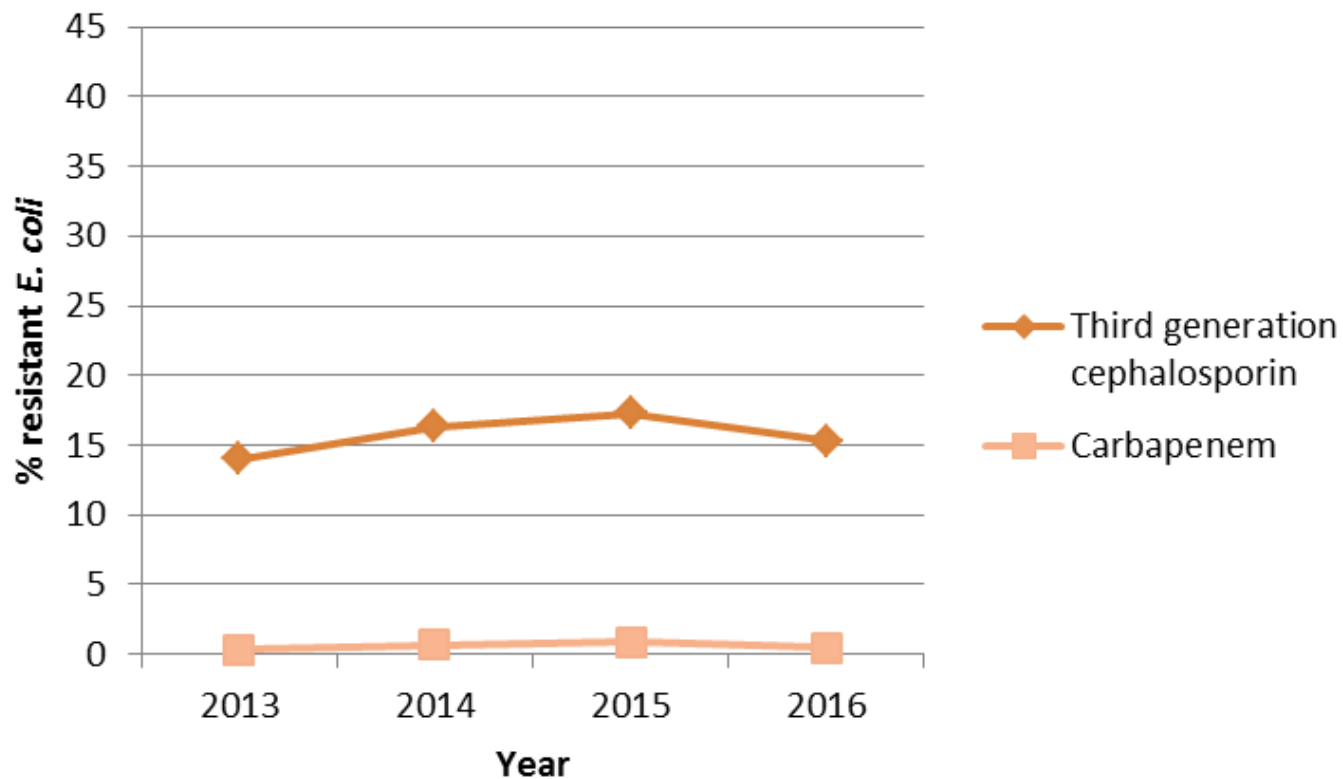
Central line-associated BSI (CLABSI)

CLABSI	definition	N	Per 10,000 patient-days	%
Confirmed	clinical suspicion, microbiological confirmation	716	0.7	41
Probable	clinical suspicion, no microbiological confirmation	597	0.6	34
Possible	origin unknown, CL present within the two days prior to the BSI	430	0.4	25
Total		1,743	1.8	100

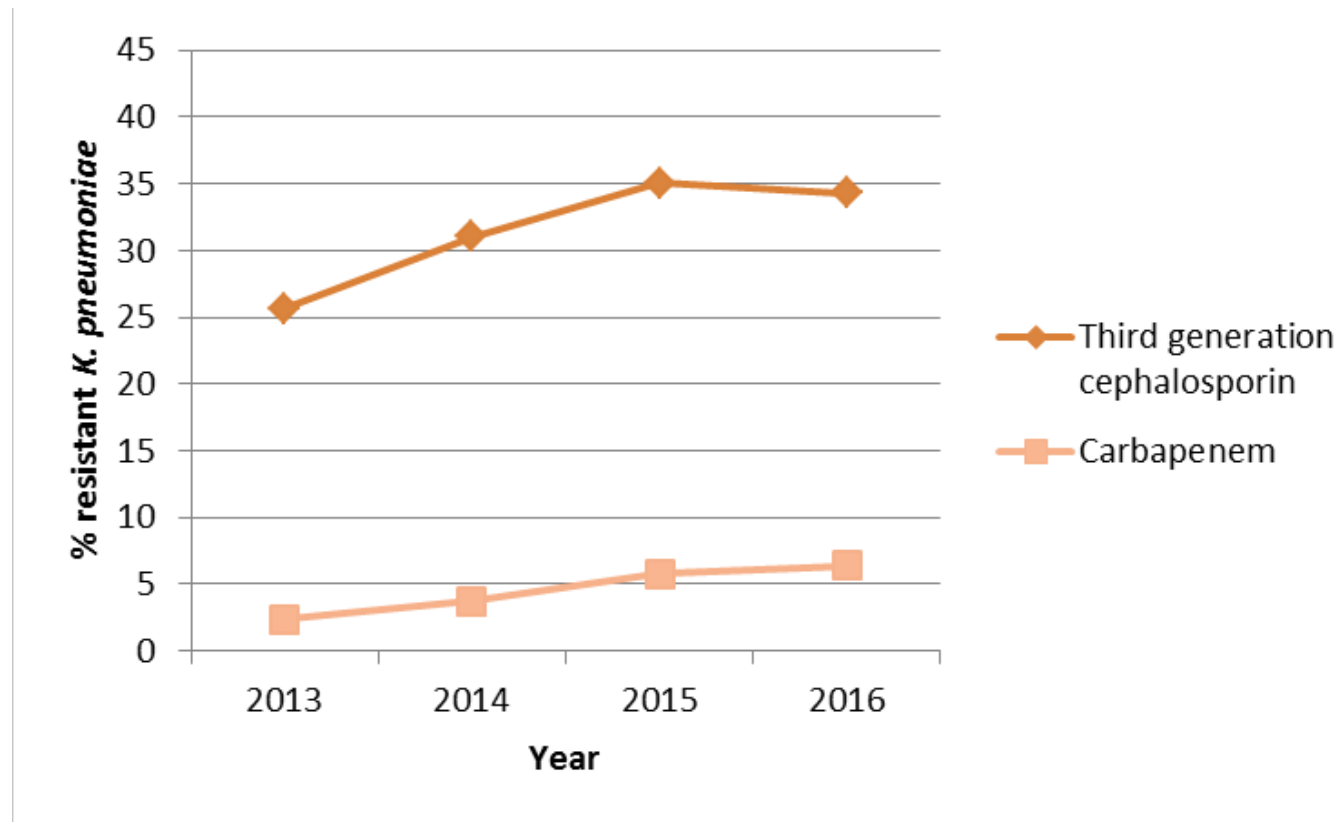
Antimicrobial resistance in *S. aureus* strains isolated from HA-BSI, Belgium 2013-2016



Antimicrobial resistance in *E. coli* strains isolated from HA-BSI, Belgium 2013-2016



Antimicrobial resistance in *K. pneumoniae* strains isolated from HA-BSI, Belgium 2013-2016





Take-home messages

Take-home messages (1)

HA-BSI

Incidence stable since 2013

High variability between hospitals

Increase in incidence of HA-BSI caused by enterobacteriaceae

Resistance

- MRSA decreased
- For several MO isolated from HA-BSI increase in resistant to third generation cephalosporin and carbapenems

Take-home messages (2)

Priorities for prevention

Devices associated BSI - 40% of all HA-BSI

- 23% CLABSI
- 10% urinary catheter
- 4% endotracheal tube
- 4% peripheral and other catheter

ICU-associated BSI - 21% of all HA-BSI

Future

Transfer to Healthdata – July 2017

Validation study of surveillance data

NSIHweb

http://www.nsih.be/nsih/nsih_nl.asp and
http://www.nsih.be/nsih/nsih_fr.asp

Protocol 'BSI in hospitals' (revised January 2016)

http://www.nsih.be/download/SEP_protocol_v4%203_NL.pdf and
http://www.nsih.be/download/SEP_protocol_v4.3_FR.pdf

Healthdata

<https://healthdata.wiv-isp.be/>
<http://www.healthdata.be/dcd>
<https://support.healthdata.be>