

Infection prevention and control in Sweden



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Sweden – a high income country in Europe

- 10 million inhabitants
- 10 university hospitals
- 120 regional hospitals
- 25 000 hospital beds

Majority (>95%) of hospitals is public and funded by taxes

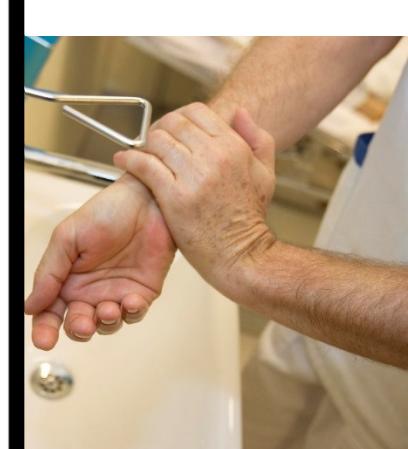




Socialstyrelsen

Basal hygien i vård och omsorg

SOSFS 2015:10 (M och S)
Föreskrifter



Hand
dr...
Socialstyrelsens
förfatningssamling
e and
law

IPC team Administrators' commitment



IPC specialist



CEO of Uppsala University Hospital

IPC team in every county
50 IPC doctors
120 IPC nurses

Every health care facility in Sweden

- ✓ Clean water
- ✓ Adequate ventilation
- ✓ Excellent sanitary conditions
- ✓ Excellent waste management
- ✓ Cleaning, disinfection and sterilization
high technology and automated
- ✓ One patient per bed

- ✓ Still

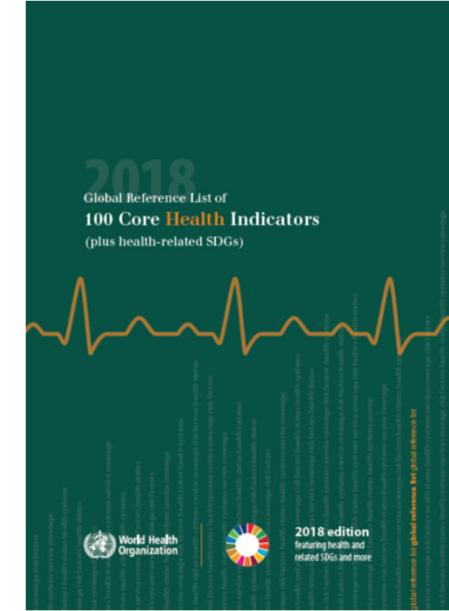




Health care associated infections in Sweden

- 65 000 patients per year acquire at least one HAI
Incidence up to 8%
- HAI a direct or a direct or indirect cause of death
for 1500 patients
4 patients per day
- Prolonged stays due to HAI costs 620 million Euro
per year
10 % of the total health care budget in Sweden
(somatic care)

Fact



- "No country, no health-care facility even within the most advanced and sophisticated health care systems can claim to be free of the problem of health-care associated infections.
- The need for having IPC programmes **nationally** and at the facility level is clearly reinforced within the WHO 100 Core Health Indicators list".

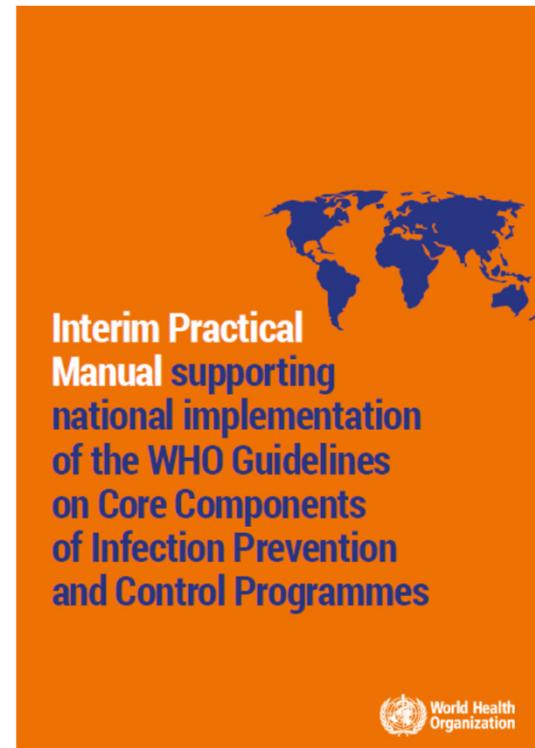
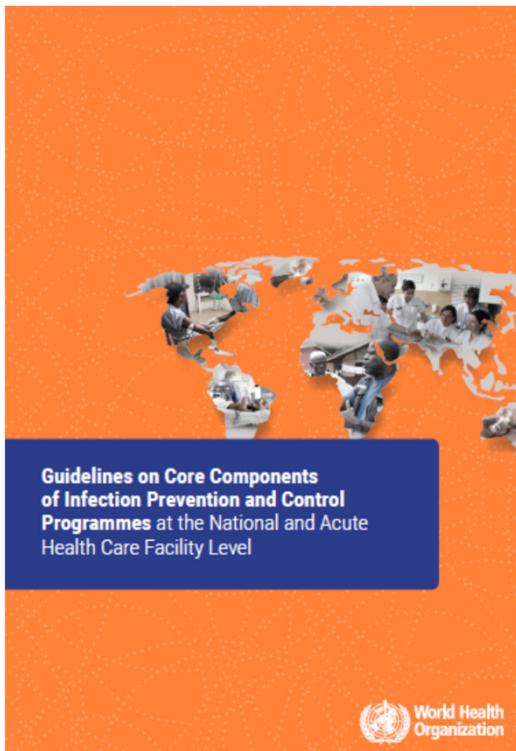


Swedish IPC strategy

WHAT HAS BEEN DONE SO FAR?

WHAT MORE MUST BE DONE?

WHO core components of IPC



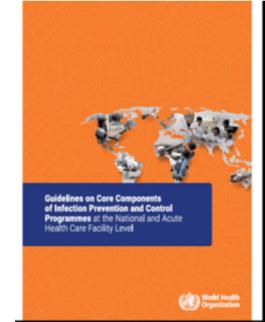
November 2016

www.who.int

Manual for implementation



Region Uppsala



National action plan

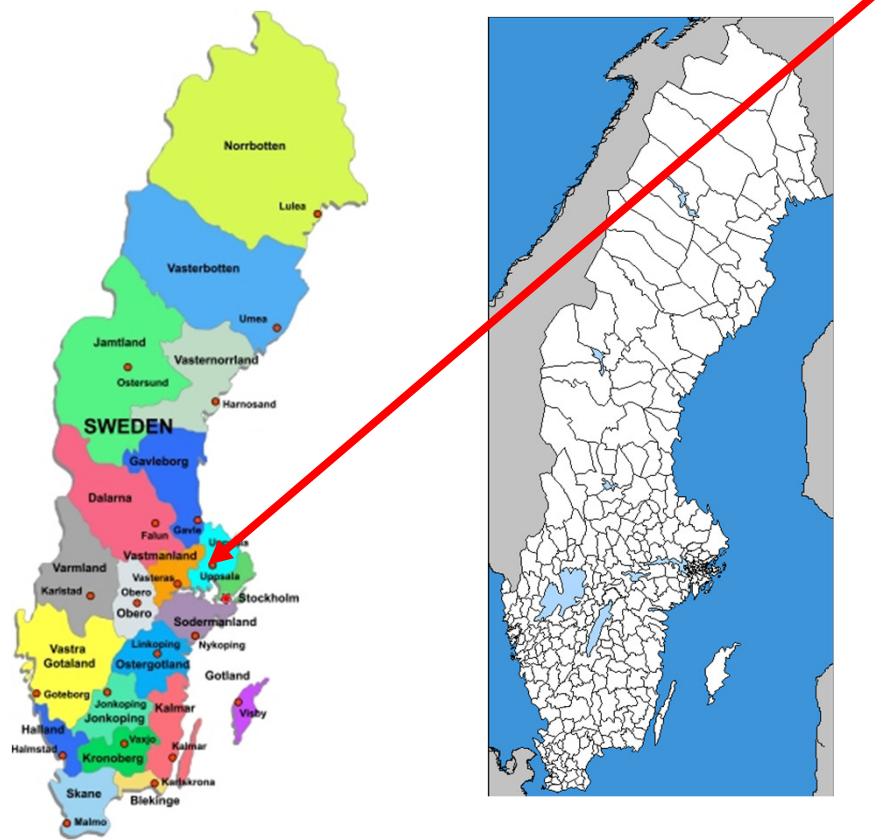
NOT in place

21 versions of strategies, one per county



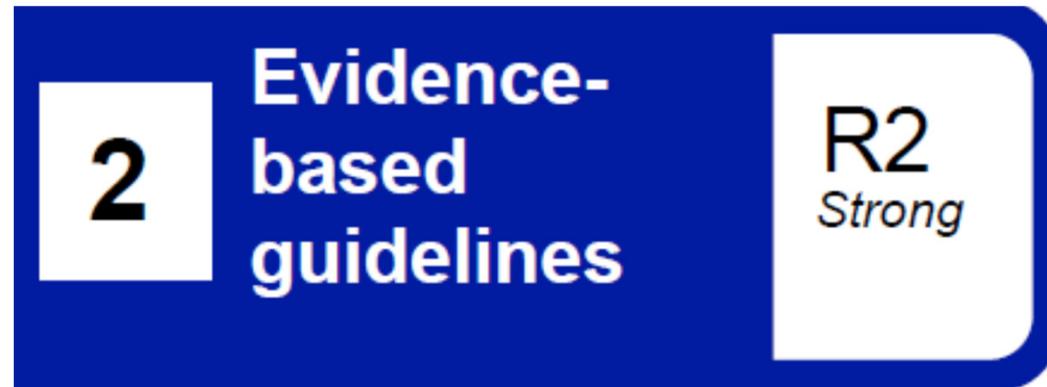
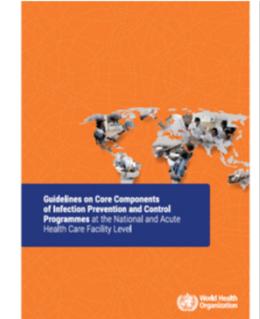
Sweden – a federation

- 21 counties – each individually politically governed
- No comprehensive national strategy to combat HAI
- No national goals
- Resources are not in place



21 regions and counties

290 municipalities



NOT in place in the national level
21 versions, one per county



3 Education & training

R3a
Strong

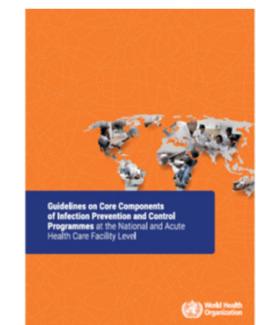
3b
GPS

In place on the national level for IPC staff

No national curriculum in medical universities and nursing schools



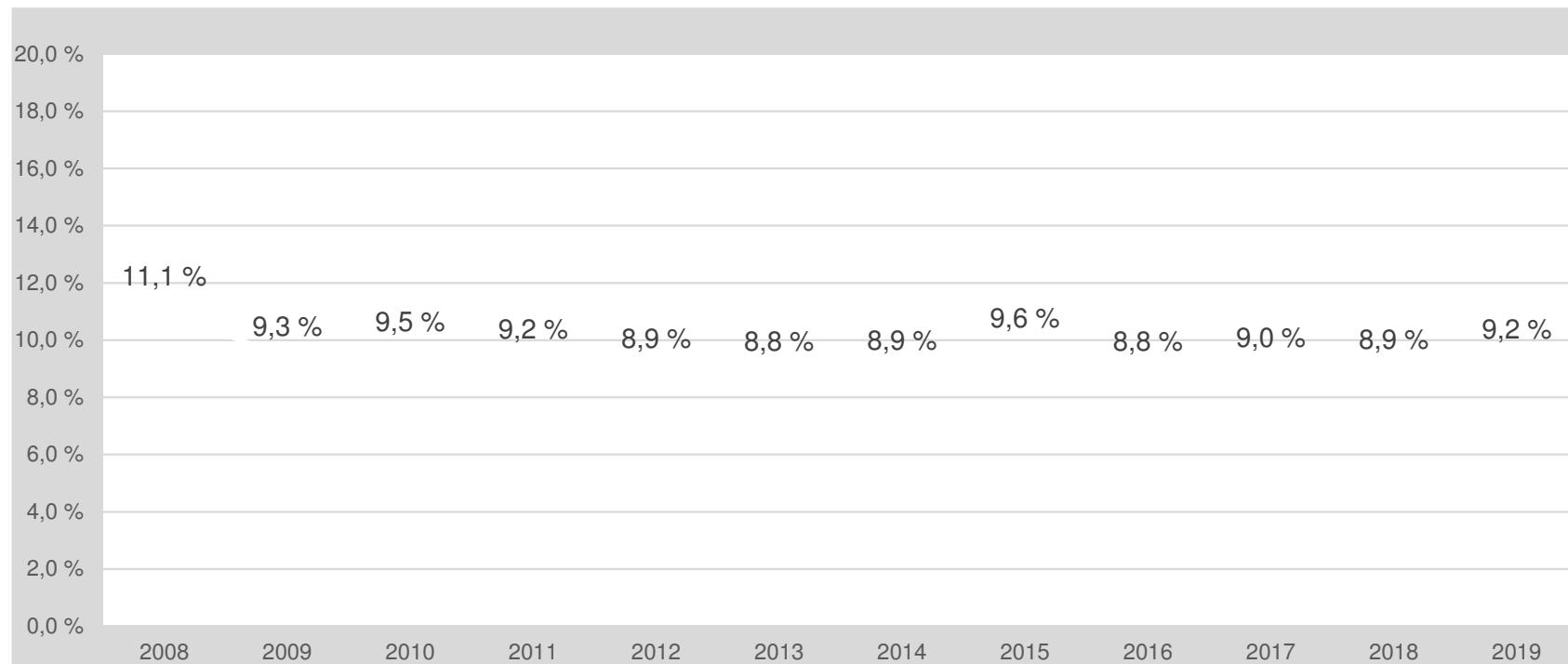
In place on the national level



Point prevalence surveys of HAI in Sweden since 2008

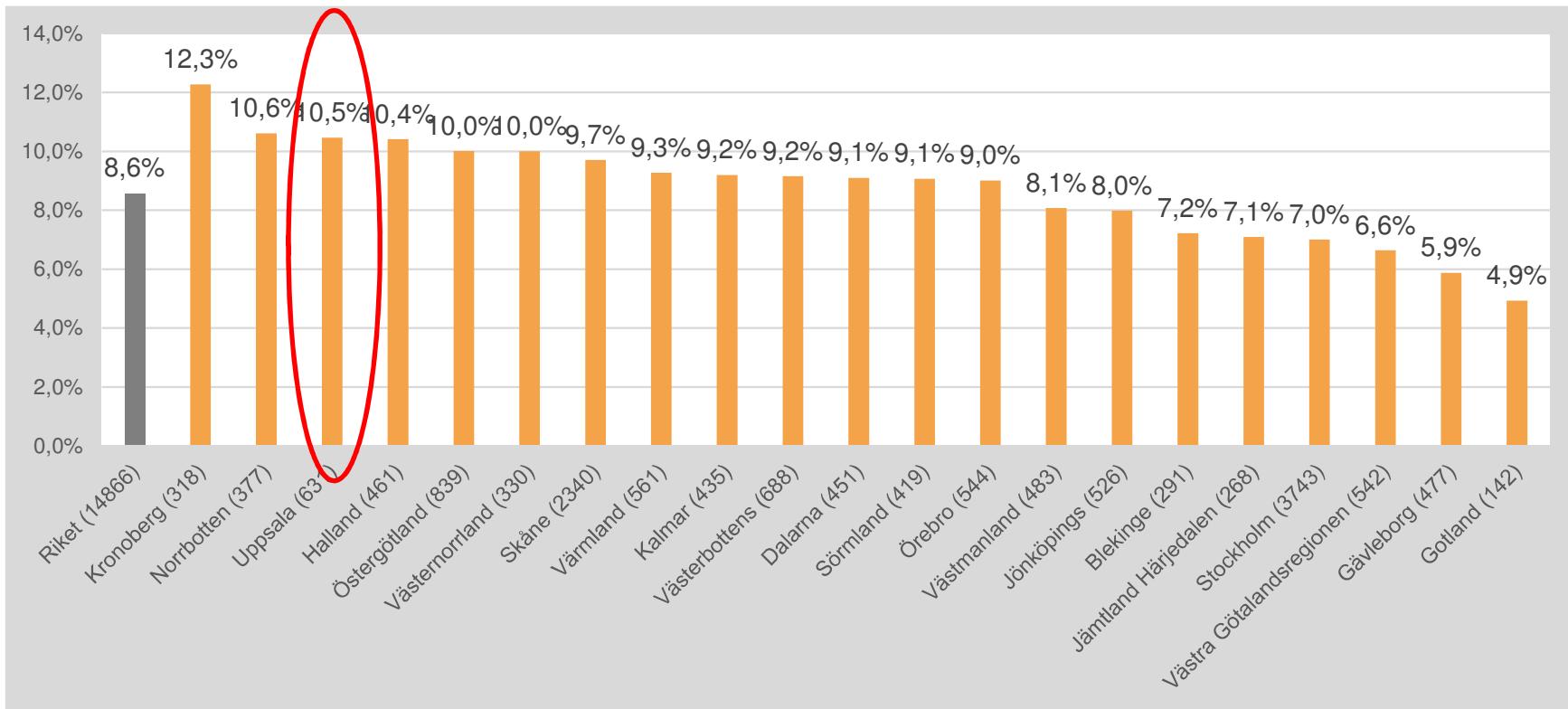
SINCE 2008

Prevalence of HAI in Sweden 2008-2019



* För att läsa mer om terminologi och klassificering se sida sidan.

Results per county



Incidence of HAI in Sweden

SINCE 2013

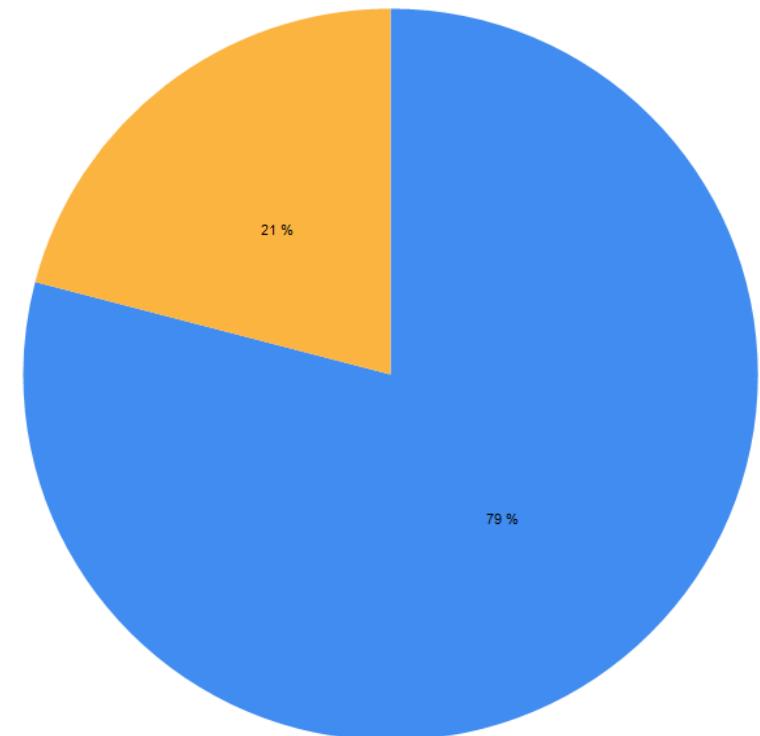


Region Uppsala

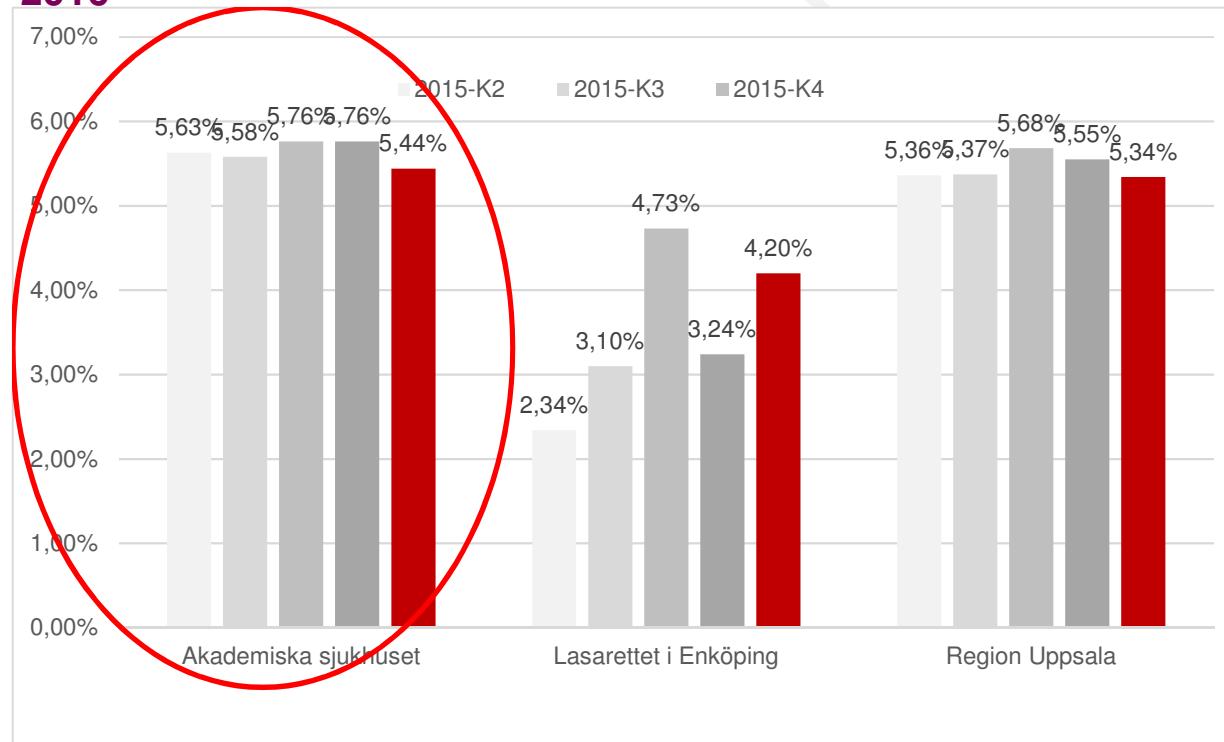
Proportion of infections

Health-care associated (yellow)
Community acquired (blue)

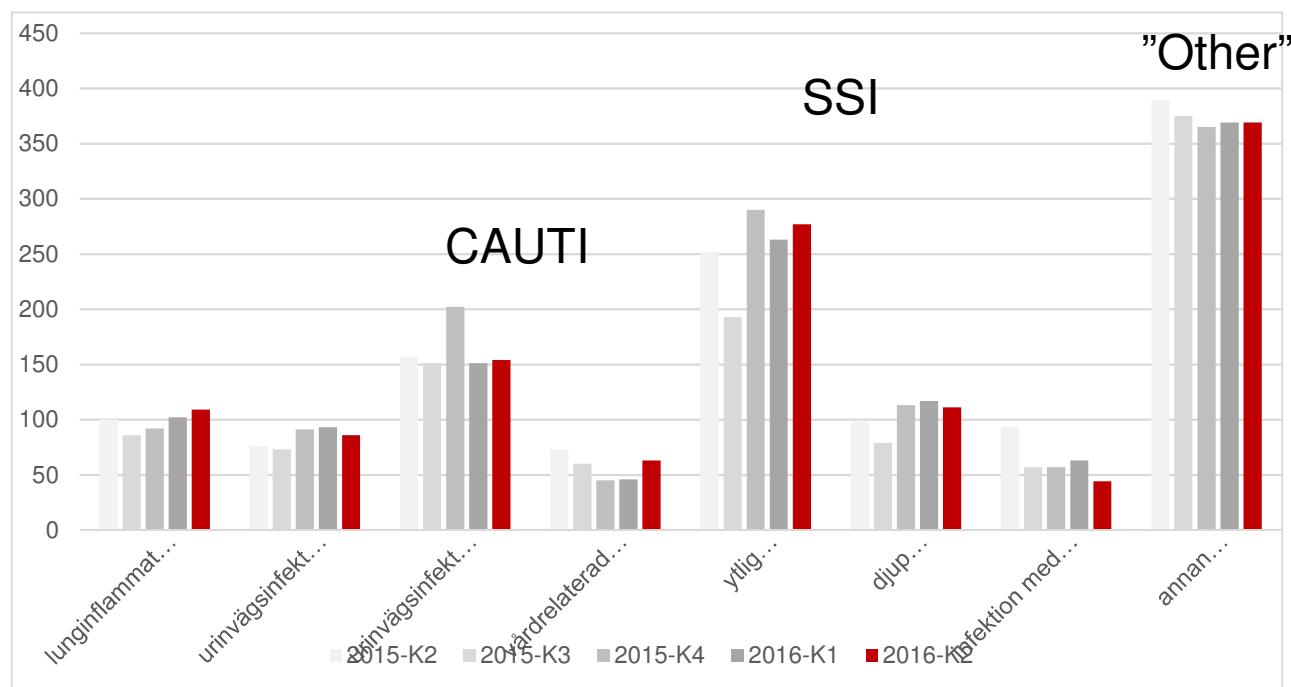
Uppsala University Hospital
2014-2016



Incidence HAI (quarterly) Uppsala University Hospital 2015-2016



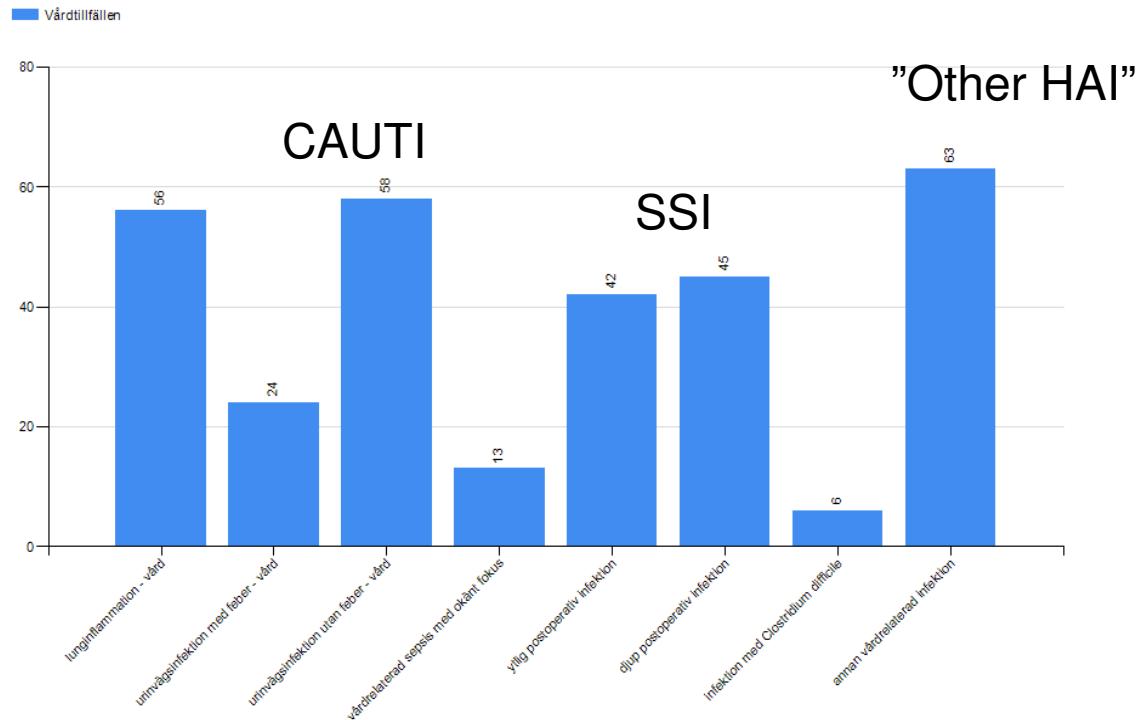
Types of HAI at Uppsala University Hospital 2015-2016



Ward-level HAI incidence

ORTOPAEDIC WARD

Types of HAI Ortopaedic ward Oct 2014-Oct 2016

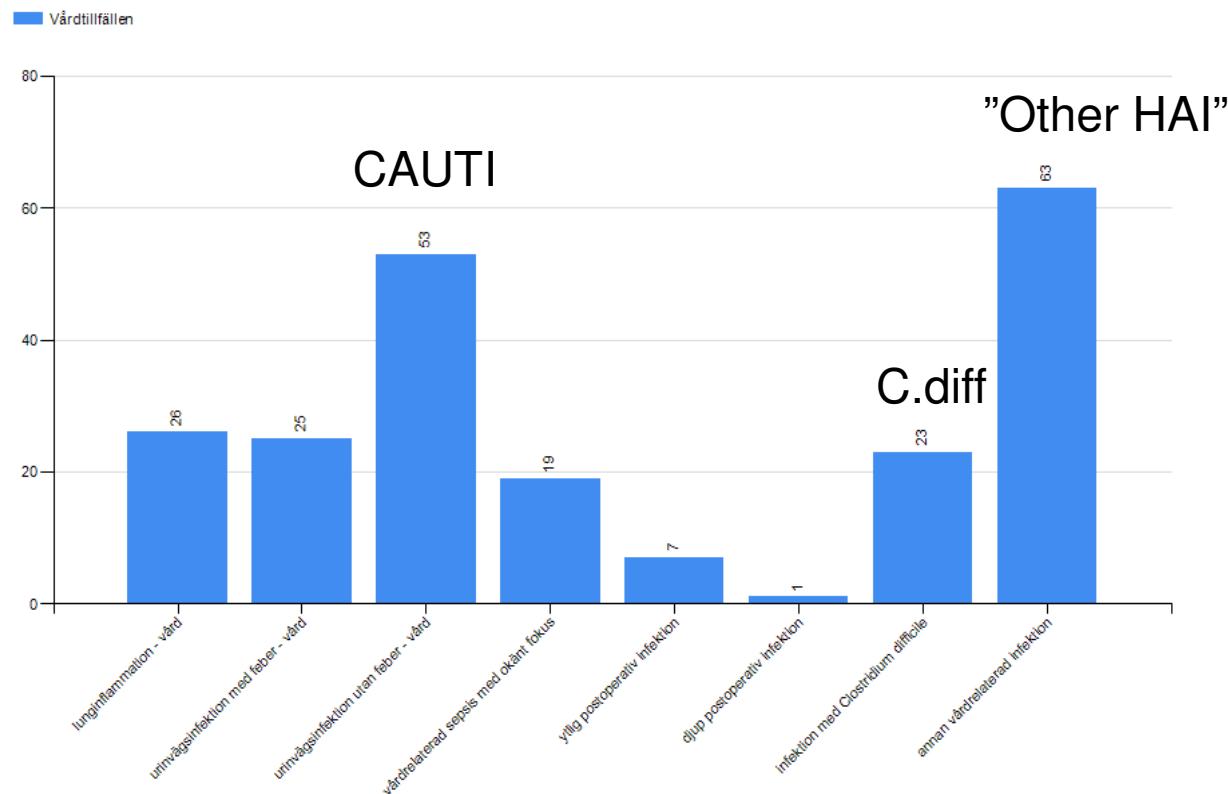


: [Vårdtillfällen] fördelat på [Infektion], avgränsad till [Organisatorisk enhet: Ortopedavdelning 70 D, Ortopedavdelning 70 D2], [Tidsperiod: 2014-10-27 -- 2016-10-27], [Infektion: Lunginflammation - vård, Urinvägsinfektion - vård, Urinvägsinfektion med feber - vård, ...]

Ward-level HAI incidence

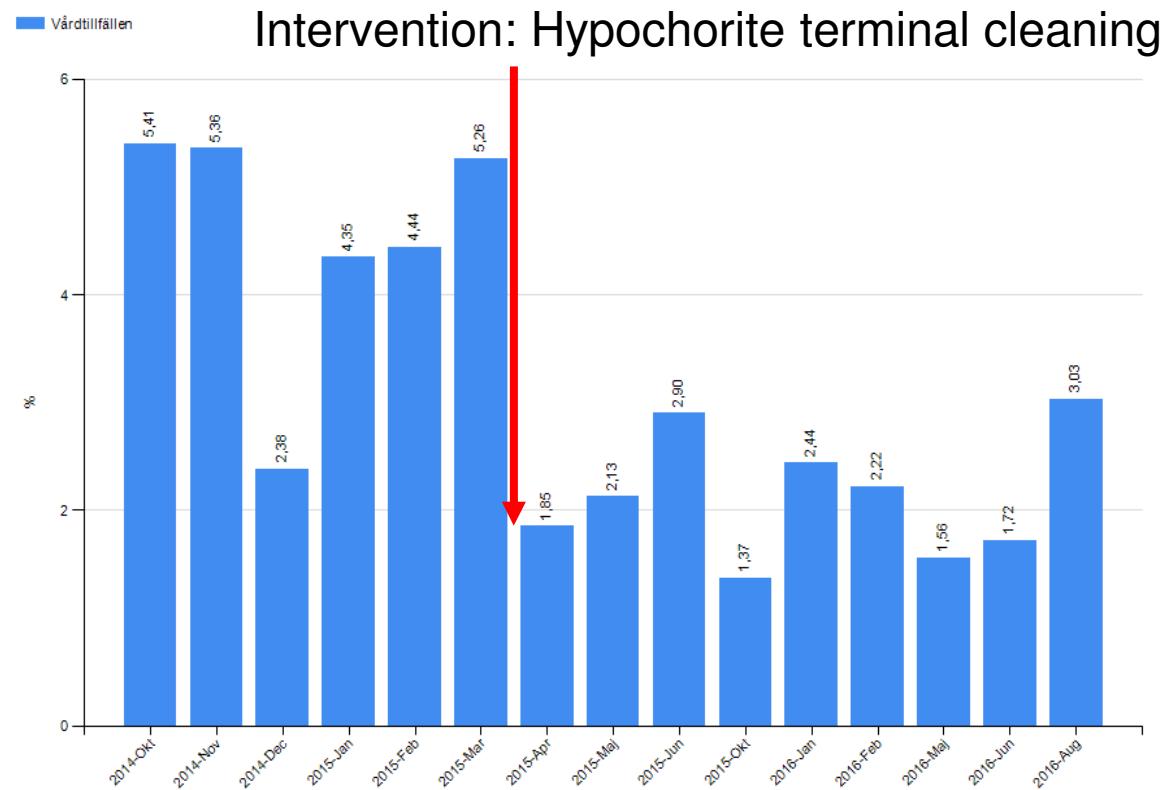
GERIATRIC WARD

Types of HAI Geriatric ward Oct 2014-Oct 2016

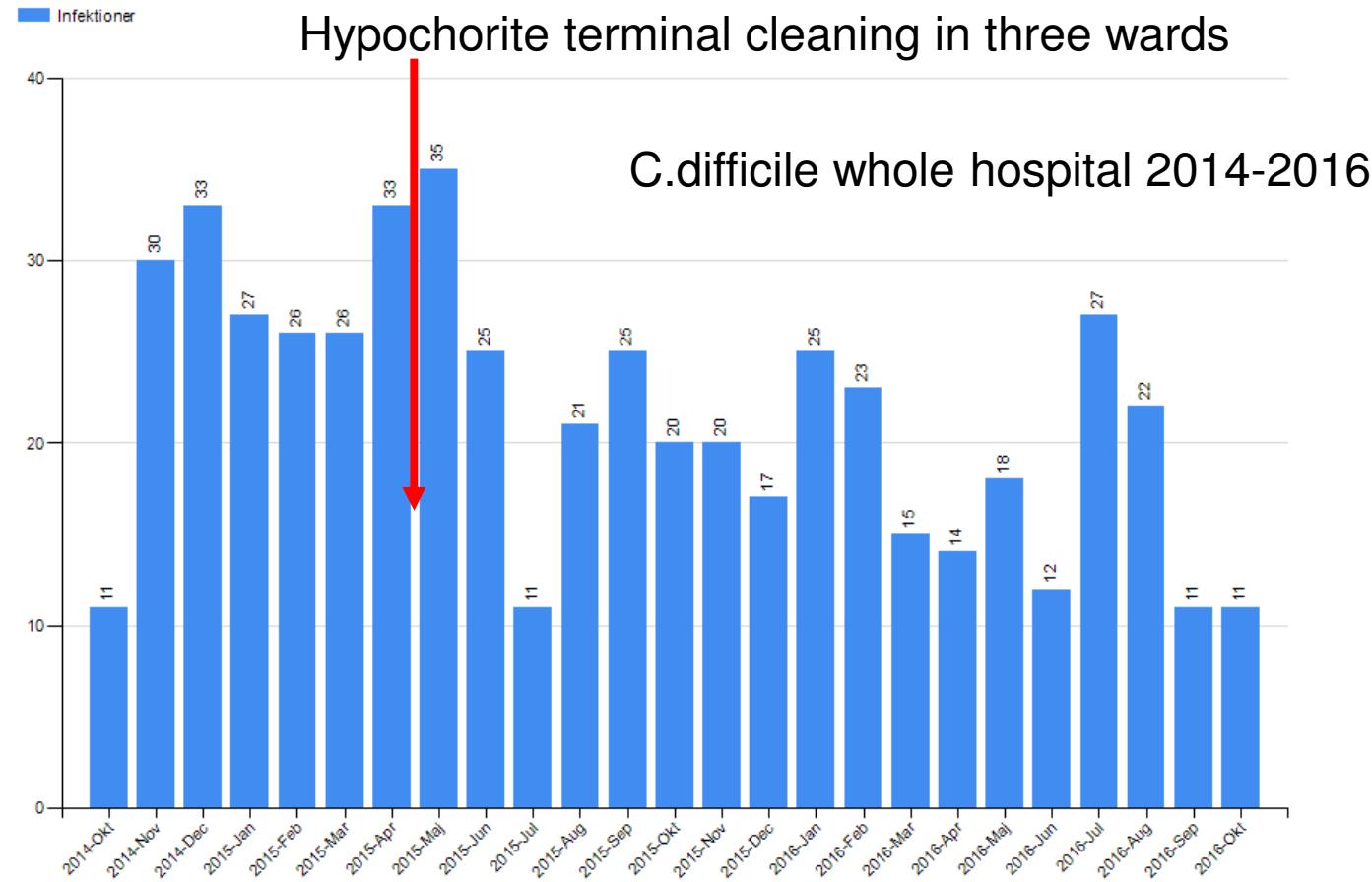


: [Vårdtillfällen] fördelat på [Infektion], avgränsad till [Organisatorisk enhet: Geriatriska medicinavdelningen 30A], [Tidsperiod: 2014-10-27 -- 2016-10-27], [Infektion: Lunginflammation - vård, Urinvägsinfektion - vård, Urinvägsinfektion med feber - vård, ...]

Incidence C. difficile Geriatric ward Oct 2014-Oct 2016



: [Vårdtillfällen] fördelat på [Tid - år - månad], avgränsad till [Organisatorisk enhet: Geriatrikska medicinavdelningen 30A], [Tidsperiod: 2014-10-27 -- 2016-10-27], [Infektion: Infektion med Clostridium difficile], som andel av Vårdtillfällen, avgränsad till [Organisatorisk enhet: Geriatrikska medicinavdelningen 30A], [Tidsperiod: 2014-10-27 -- 2016-10-27]



: [Infektioner] fördelat på [Tid - år - månad], avgränsad till [Tidsperiod: 2014-10-17 -- 2016-10-17], [Organisatorisk enhet: Akademiska sjukhuset, Affektiva sjukdomar, Akut- och konsultpsykiatri...], [Infektion: Infektion med Clostridium difficile]

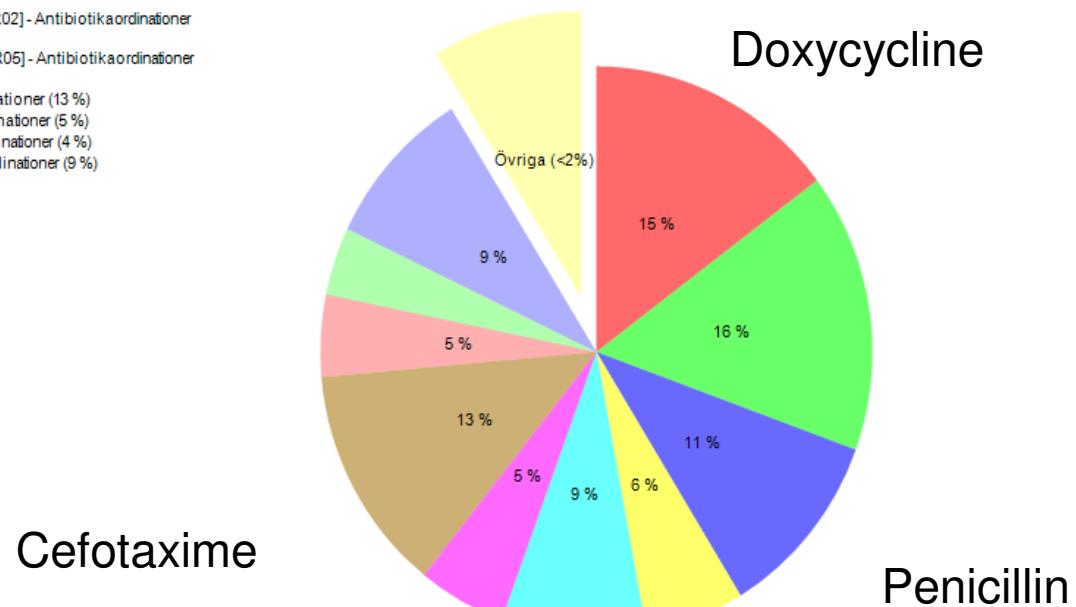
Antibiotic consumption

RESULT INDICATOR OF "INFECTION TOOL"

CA-pneumoniae infectious disease ward at UUH

2015-10-26 until 2016-10-25

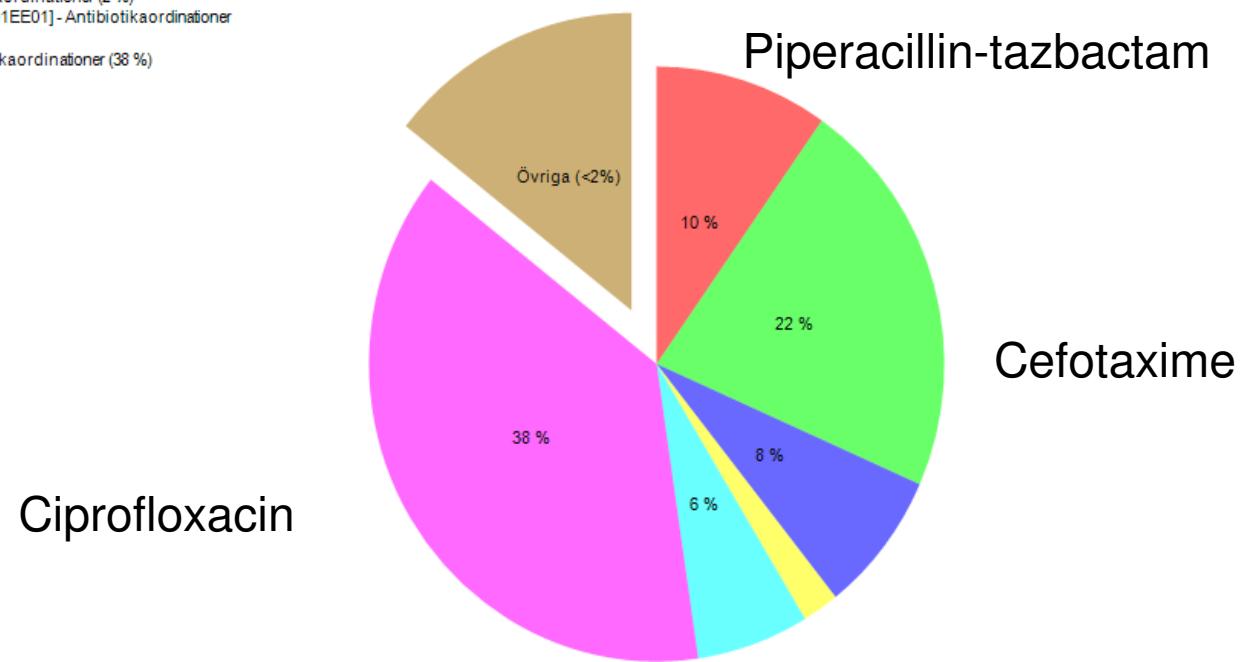
- Doxycyclin [J01AA02]- Antibiotikaordinationer (15 %)
- Amoxicillin [J01CA04]- Antibiotikaordinationer (16 %)
- Bensylpenicillin [J01CE01]- Antibiotikaordinationer (11 %)
- Fenoximetylpenicillin [J01CE02]- Antibiotikaordinationer (6 %)
- Amoxicillin och enzymhämmare [J01CR02]- Antibiotikaordinationer (9 %)
- Piperacillin och enzymhämmare [J01CR05]- Antibiotikaordinationer (5 %)
- Cefotaxim [J01DD01]- Antibiotikaordinationer (13 %)
- Azitromycin [J01FA10]- Antibiotikaordinationer (5 %)
- Klindamycin [J01FF01]- Antibiotikaordinationer (4 %)
- Moxifloxacin [J01MA14]- Antibiotikaordinationer (9 %)
- Övriga (<2%)



CAUTI with fever infectious disease ward at UUH

2015-10-26 until 2016-10-25

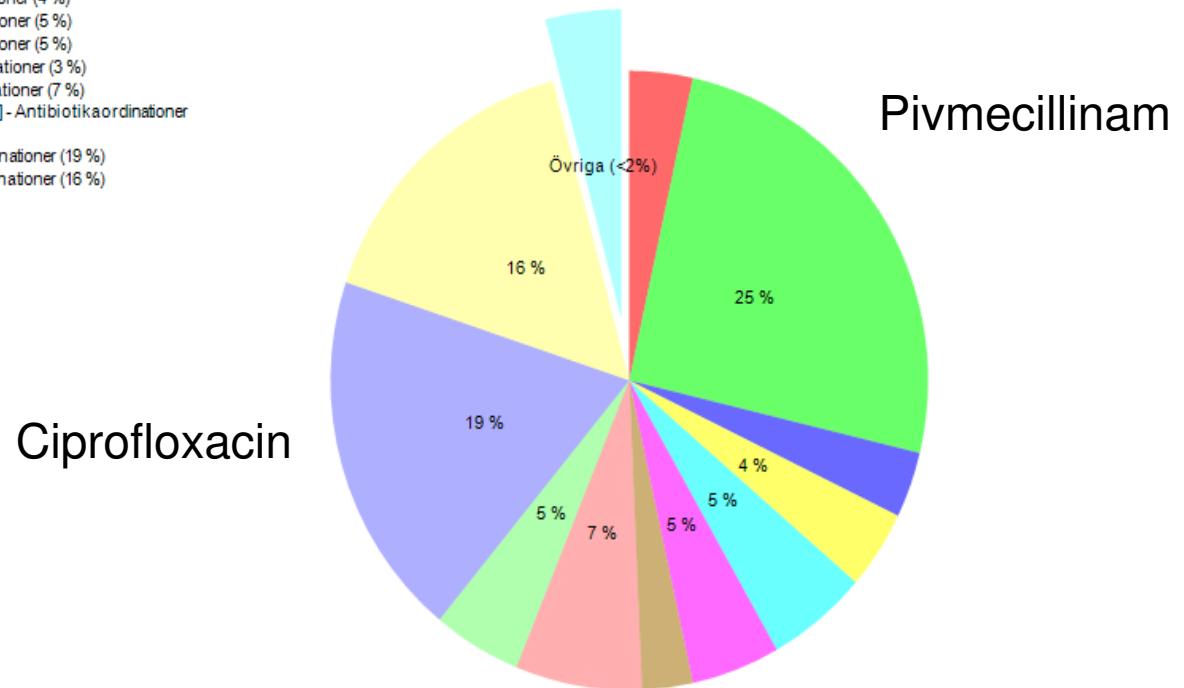
- Piperacillin och enzymhämmare [J01CR05] - Antibiotikaordinationer (10 %)
- Cefotaxim [J01DD01] - Antibiotikaordinationer (22 %)
- Ceftibuten [J01DD14] - Antibiotikaordinationer (8 %)
- Meropenem [J01DH02] - Antibiotikaordinationer (2 %)
- Sulfametoxazol och trimetoprim [J01EE01] - Antibiotikaordinationer (6 %)
- Ciprofloxacin [J01MA02] - Antibiotikaordinationer (38 %)
- Övriga (<2%)

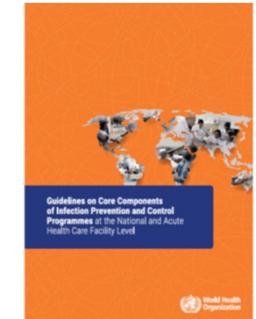


CA-UTI without fever infectious disease ward at UUH

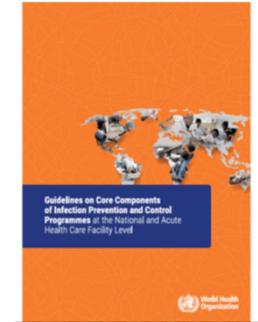
2015-10-26 till 2016-10-25

- Amoxicillin [J01CA04] - Antibiotikaordinationer (3 %)
- Pivmecillinam [J01CA08] - Antibiotikaordinationer (25 %)
- Piperacillin och enzymhämmare [J01CR05] - Antibiotikaordinationer (3 %)
- Cefadroxil [J01DB05] - Antibiotikaordinationer (4 %)
- Cefotaxim [J01DD01] - Antibiotikaordinationer (5 %)
- Ceftibuten [J01DD14] - Antibiotikaordinationer (5 %)
- Meropenem [J01DH02] - Antibiotikaordinationer (3 %)
- Trimetoprim [J01EA01] - Antibiotikaordinationer (7 %)
- Sulfametojaxol och trimetoprim [J01EE01] - Antibiotikaordinationer (5 %)
- Ciprofloxacin [J01MA02] - Antibiotikaordinationer (19 %)
- Nitrofurantoin [J01XE01] - Antibiotikaordinationer (16 %)
- Övriga (<2%)





In place



In place

Data collection – direct observation

Hand hygiene

Hand hygiene observation form

Ward: _____ Date (from to): _____ Project phase: _____ Observer: _____

Hand hygiene performed

Observed person/ procedure*	Profession	Before touching a patient	Before clean/ aseptic proced- ure	After body fluid risk	After touching patient	After touching patient surroundings	Rings watches and bracelets removed	Are gloves used correct ly?	Bare fore- arms	Correct in all aspects
1.										
2.										
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										
Rate =>	No of correct/No of observed									

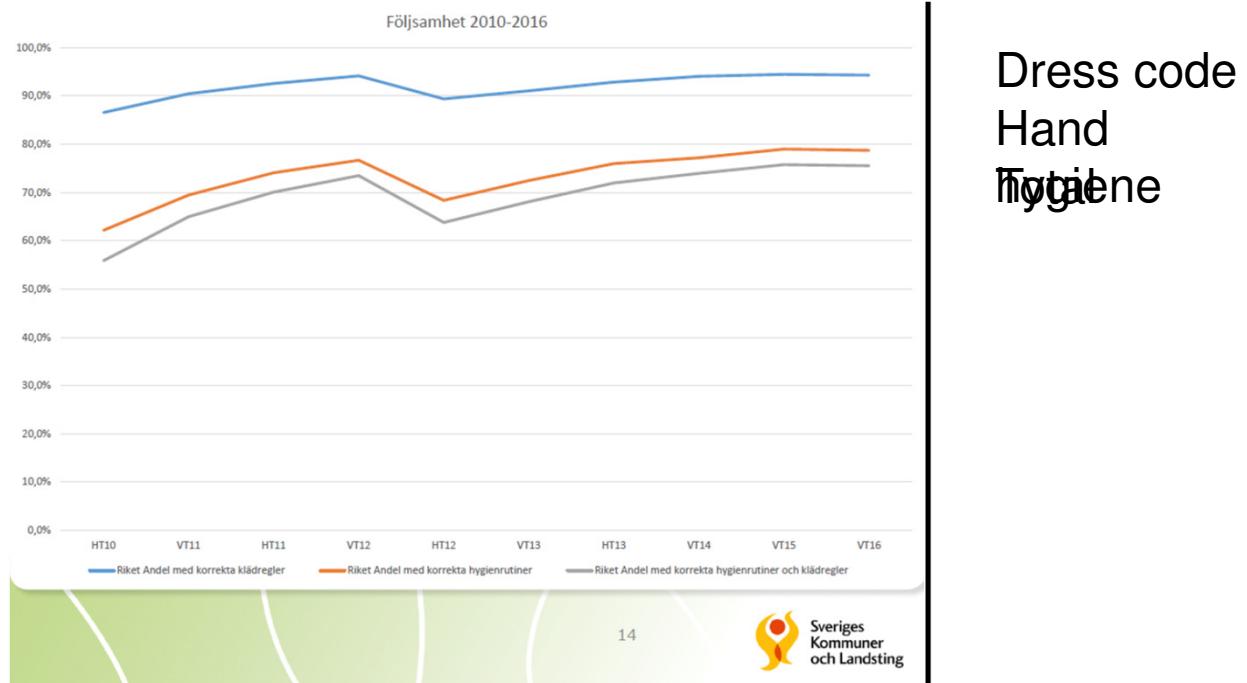
Dress code



*each number represents one person performing an entire procedure.

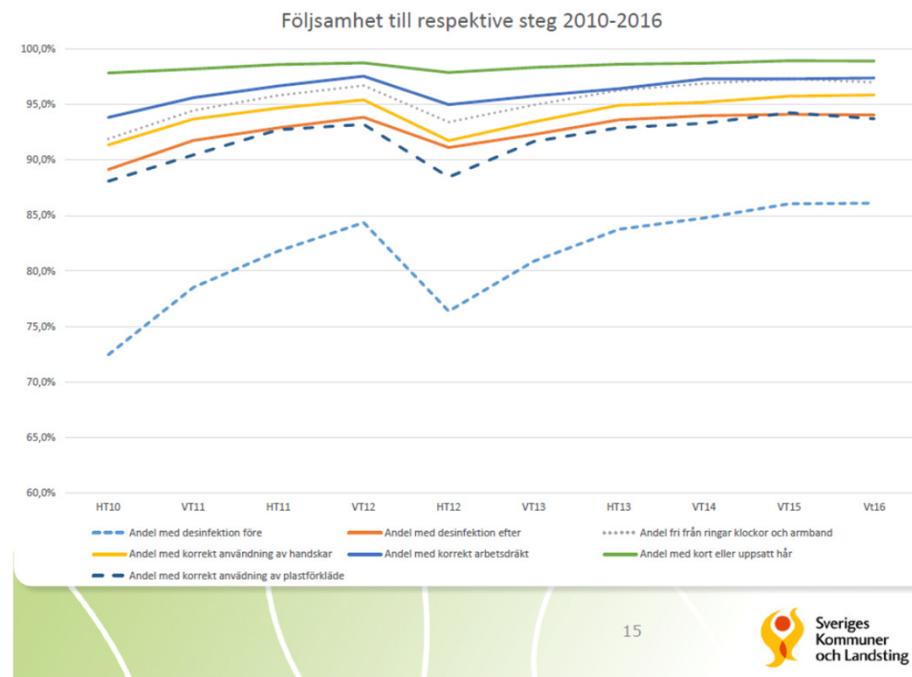
Yes means correct, No means incorrect, - means not relevant in the situation

Compliance with hand hygiene and dress code



Compliance to hand hygiene and dress code

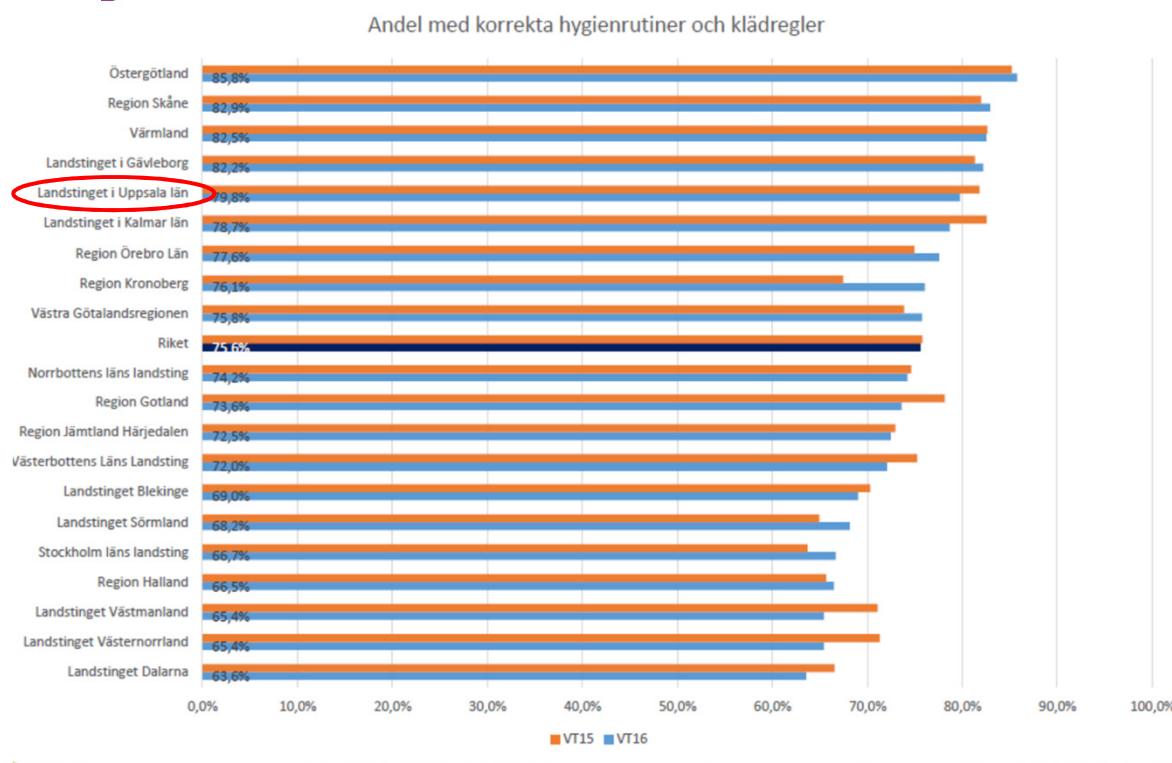
Steps in compliance to hand hygiene



Before touching a patient
is the hardest moment

Results by counties

My county



Hand hygiene and dress code

Uppsala University Hospital 2018-2019



Ward level

Internal medicine ward



Ward level

ICU for children

Hand hygiene 60-80% !!



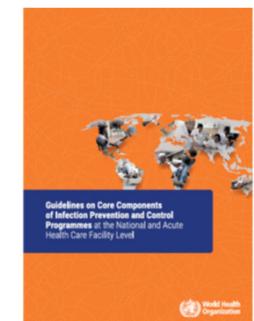


NOT in place





In place

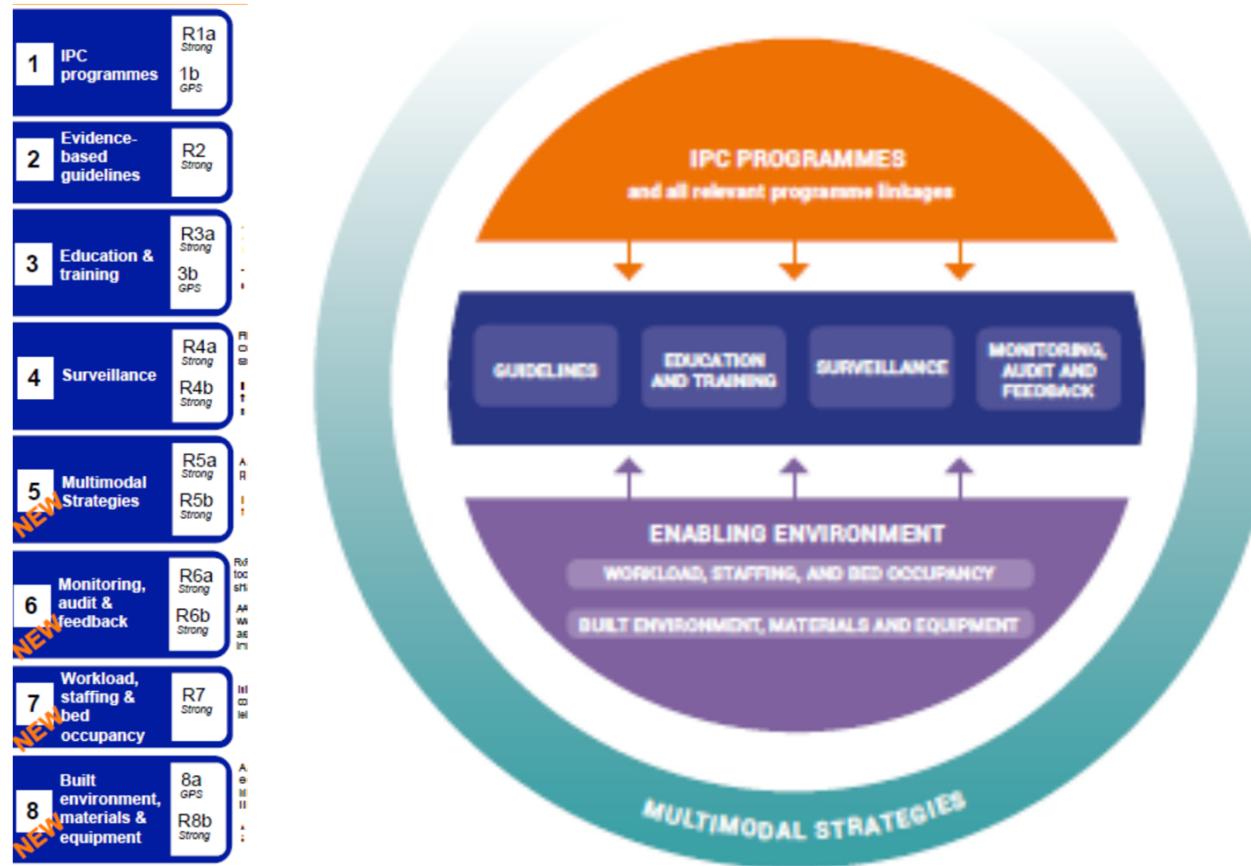




Summary

WHAT HAS BEEN DONE SO FAR?

WHAT MORE HAS TO BE DONE?



In place at the national level

1	IPC programmes	R1a Strong 1b GPS
2	Evidence-based guidelines	R2 Strong
3	Education & training	R3a Strong 3b GPS
4	Surveillance	R4a Strong R4b Strong
5	Multimodal Strategies	R5a Strong R5b Strong
6	Monitoring, audit & feedback	R6a Strong R6b Strong
7	Workload, staffing & bed occupancy	R7 Strong
8	Built environment, materials & equipment	R8a GPS R8b Strong

NO

NO

YES

YES

YES

YES

NO

YES

Sweden is a country where IPC work has just started

- Political commitment
- A clear national strategy
- Human and economic resources, infra structure

Comment



Region Uppsala

Thank you!