



LINKS OF INTEREST DISCLOSURE

Name of the speaker: BIRGITTA LYTSY, SWEDEN

I have no link of interest.



CATHETER ASSOCIATED URINARY TRACT INFECTIONS

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Sweden



Closing the gap

between best practise and actual practise in
the wards
to reduce catheter-associated urinary tract
infections (CAUTI)

Uppsala, Sweden

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

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



Uppsala University Hospital

Region of 3 million inhabitants

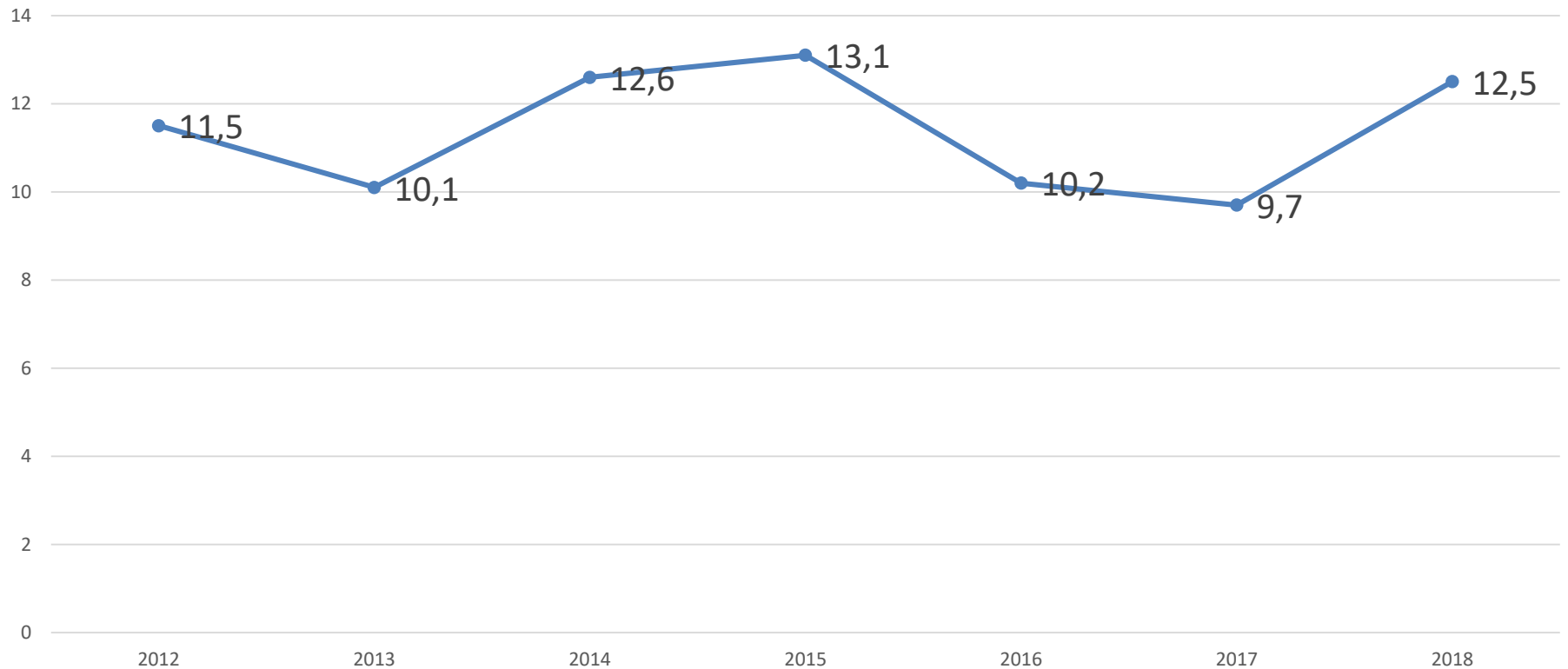
1100 beds

80 wards 20-25 patients

5 intensive care units



Prevalence HAI UUH 10-12%



Prevalence HAI

- Low and middle income countries
10-15 %



World Health
Organization

Patient Safety
A World Alliance for Safer Health Care

- High income countries
5-10%

Report on the Burden of
Endemic Health Care-Associated Infection
Worldwide

Clean Care is Safer Care



Sweden HAI

Every year:

Prevalence 11 %

Incidence 6 %

65 000 Swedish patients

650 000 000 million Euro

10 % of budget for somatic care in Sweden

1500 patients die every year (4 patients every day)

www.skl.se



Sweden

- ✓ Clean water
- ✓ Good ventilation
- ✓ Safe and organised sanitation, waste management and sharps
- ✓ One patient per bed



Standardised and organised i Sweden

Cleaning
Disinfection
Sterilization



Swedish laws



Basal hygien inom
hälso- och sjukvården m.m.



First version 2007



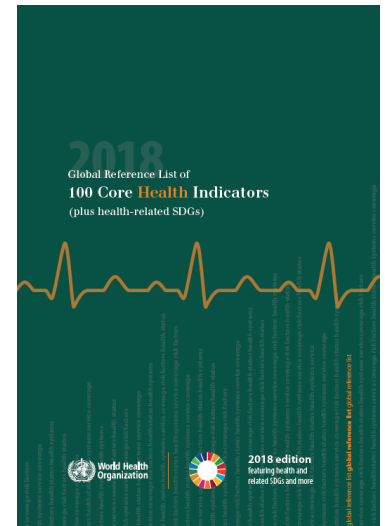
Basal hygien i vård och omsorg



Revised 2015

www.sf2h.net

This is a 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.”

www.who.int

www.sf2h.net

HAI

Preventable proportion?

Catheter-associated urinary tract infections (CAUTI) reduced by 70 %



Evidence based guidelines to reduce CAUTI



Prevention of hospital-acquired infections
A practical guide
2nd edition

World Health Organization
Department of Communicable Disease,
Surveillance and Response

This document has been downloaded from the WHO/CDC Web site. The original cover page and list of participants are not included. See <http://www.who.int/emis> for more information.



How-to Guide: Prevent Catheter-Associated Urinary Tract Infections

Prevent catheter-associated urinary tract infections by implementing the core components of care recommended in this guide.

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How to cite this manual:
How-to Guide: Prevent Catheter-Associated Urinary Tract Infections. Cambridge, MA: Institute for Healthcare Improvement; 2011. (Available at www.ihim.org)



GUIDELINE FOR PREVENTION OF CATHETER-ASSOCIATED URINARY TRACT INFECTIONS 2009

Carolyn V. Gould, MD, MSCR¹; Craig A. Umscheid, MD, MSCE²; Rajender K. Agarwal, MD, MPH³; Gretchen Kuntz, MSW, MSLS¹; David A. Pegues, MD³ and the Healthcare Infection Control Practices Advisory Committee (HICPAC)¹

¹ Division of Healthcare Quality Promotion
Centers for Disease Control and Prevention
Atlanta, GA

² Center for Evidence-based Practice
University of Pennsylvania Health System
Philadelphia, PA

³ Division of Infectious Diseases
David Geffen School of Medicine at UCLA
Los Angeles, CA



Journal of Hospital Infection 86:51 (2014) 51-570



Available online at www.sciencedirect.com

Journal of Hospital Infection

journal homepage: www.elsevierhealth.com/journals/jhin



epic3: National Evidence-Based Guidelines for Preventing Healthcare-Associated Infections in NHS Hospitals in England

H.P. Loveday^{a*}, J.A. Wilson^a, R.J. Pratt^a, M. Golsorkhi^a, A. Tingle^a, A. Bak^a, J. Browne^a, J. Prieto^b, M. Wilcox^c

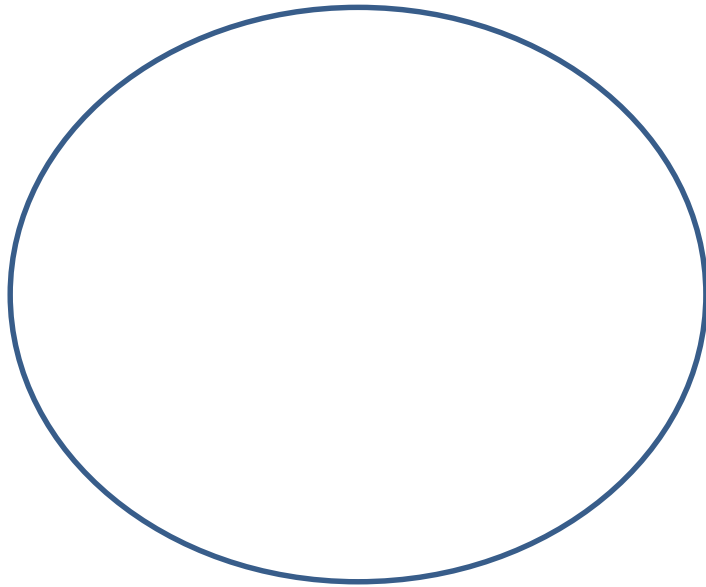
^a Richard Wells Research Centre, College of Nursing, Midwifery and Healthcare, University of West London (London).

^b Faculty of Health Sciences, University of Southampton (Southampton).

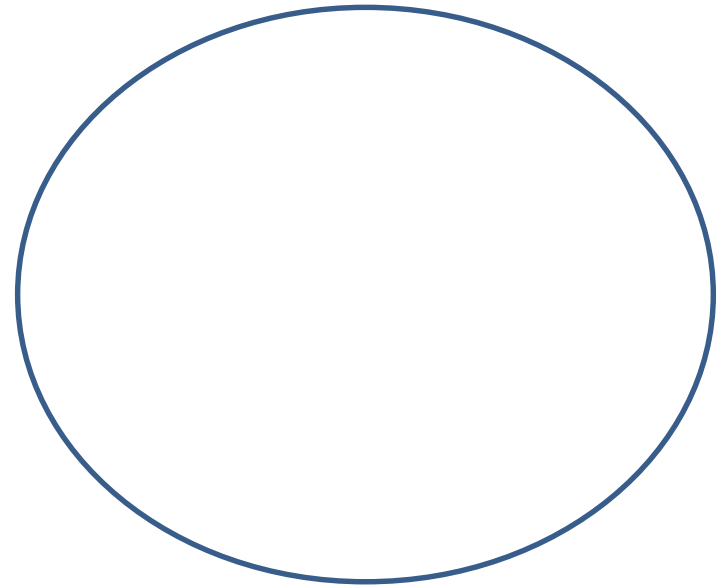
^c Microbiology and Infection Control, Leeds Teaching Hospitals and University of Leeds (Leeds).



Gap

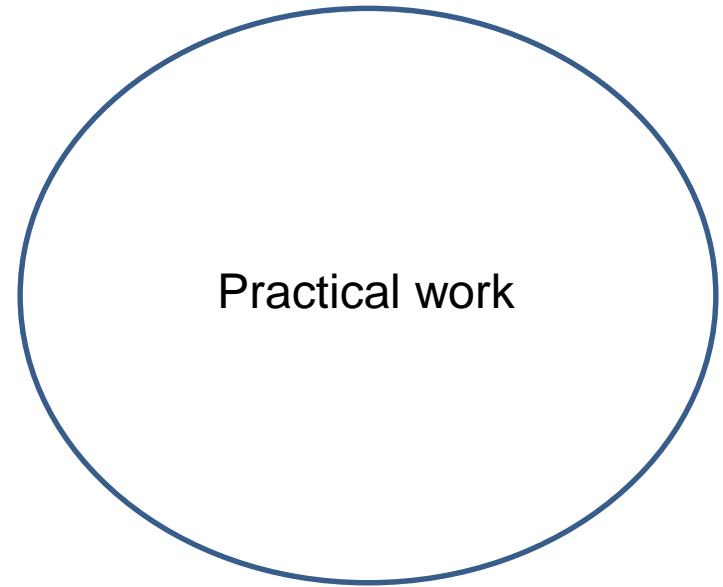


Evidence



Practical work

Is it enough to have
evidence-based guidelines
and laws?



What else must be done for closing
the gap?

WHAT TO DO?

Suggestions?

- More guidelines?
- Education?

Education

AJIC: American Journal of Infection Control 45 (2017) 969-73



Contents lists available at [ScienceDirect](#)

AJIC: American Journal of Infection Control

journal homepage: www.ajicjournal.org



Major Article

Does educating nurses with ventilator-associated pneumonia prevention guidelines improve their compliance?

Sami M. Aloush *

Adult Health Nursing Department, Faculty of Nursing, Al albayt University, Mafraq, Jordan



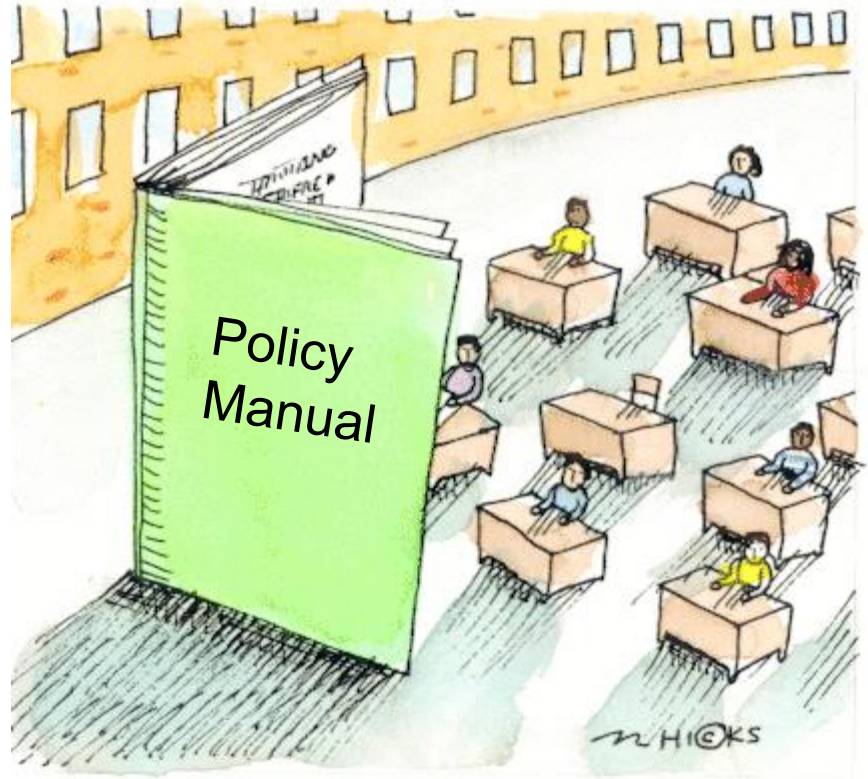
More guidelines?

Memo

Date: February 2012
To: All Staff
From: Management

Starting next Monday, all staff will be expected to implement the new procedure we just tested in the 3 West med/surg unit.

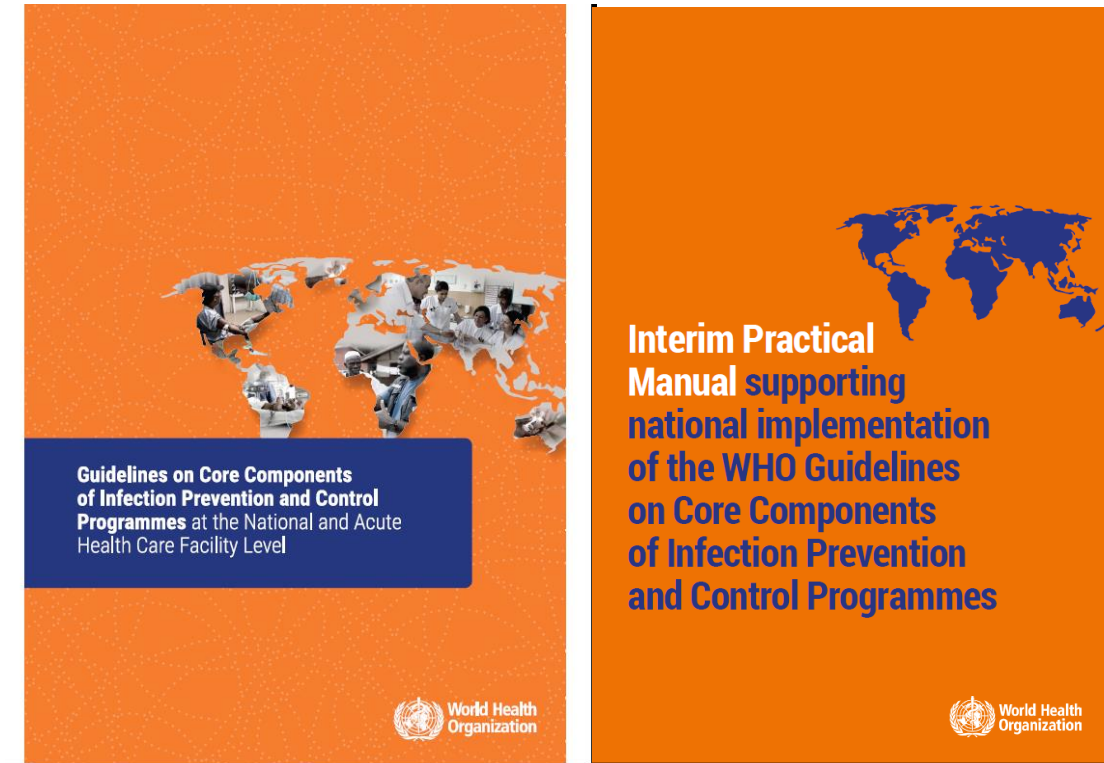
It worked there so in order to save time, everyone will now start doing the new procedure like 3 West.
Thank you for your cooperation.

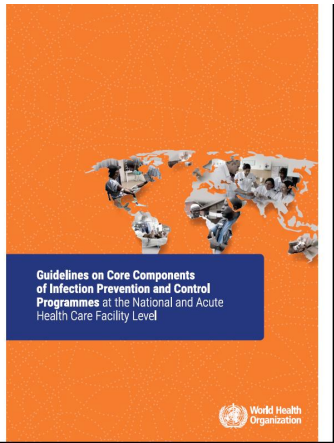


More written policies?

”The creation of written policies
will not improve rates of infection
if clinical practises are not
ammended to reflect those
policies” [Hepburn-Smith, 2015](#)

WHO 2016





- 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 8a GPS R8b Strong



5 Multimodal Strategies

NEW

R5a
Strong

R5b
Strong

Multimodal strategies

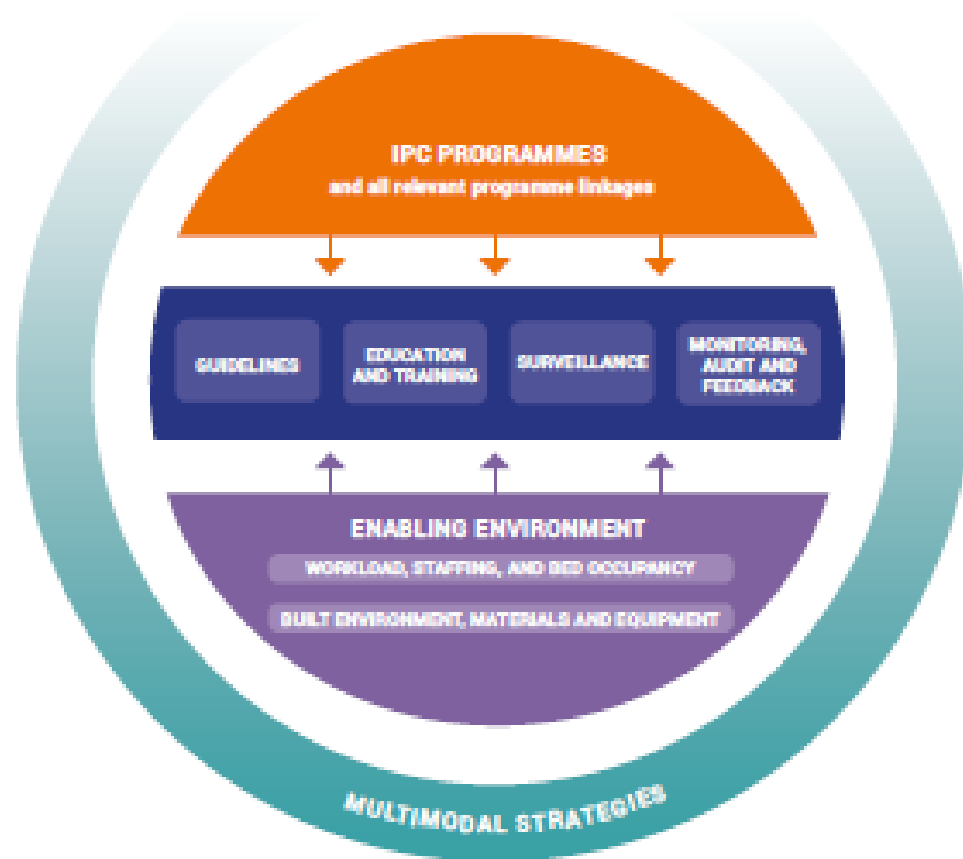
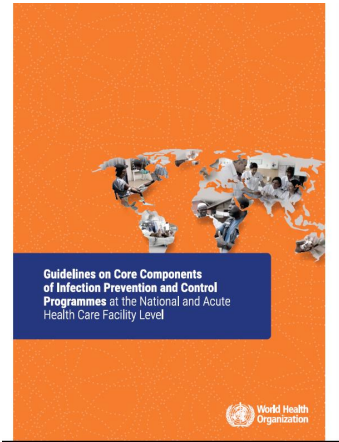
HAI ARE MULTIFACTORIAL – MULTIMODAL STRATEGIES ARE NEEDED

Close the gap

HCAI are multi-factorial

Several elements have to be addresses





6 Monitoring, audit & feedback

NEW

R6a
Strong

R6b
Strong

Monitoring audit and feedback

WHO Save Lives

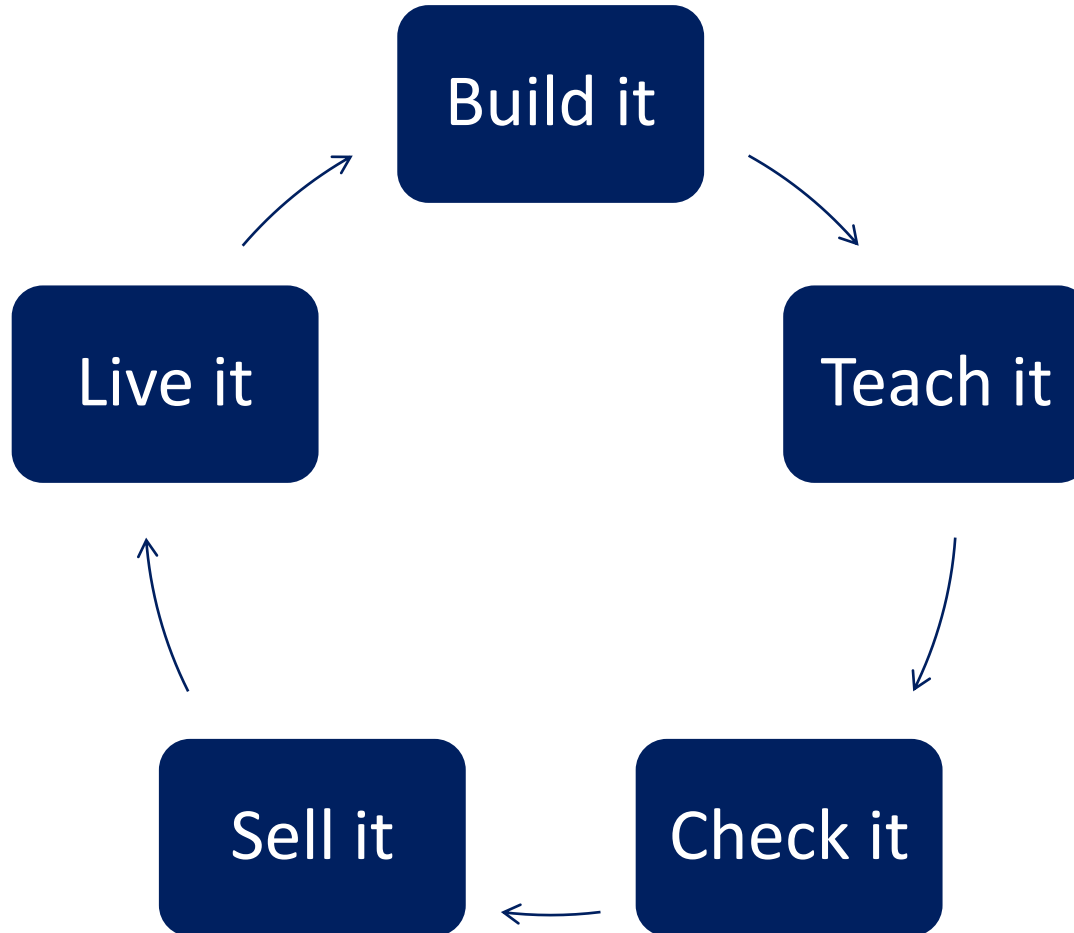
Clean Your Hands Model

WHO Guidelines
on Hand Hygiene in Health Care

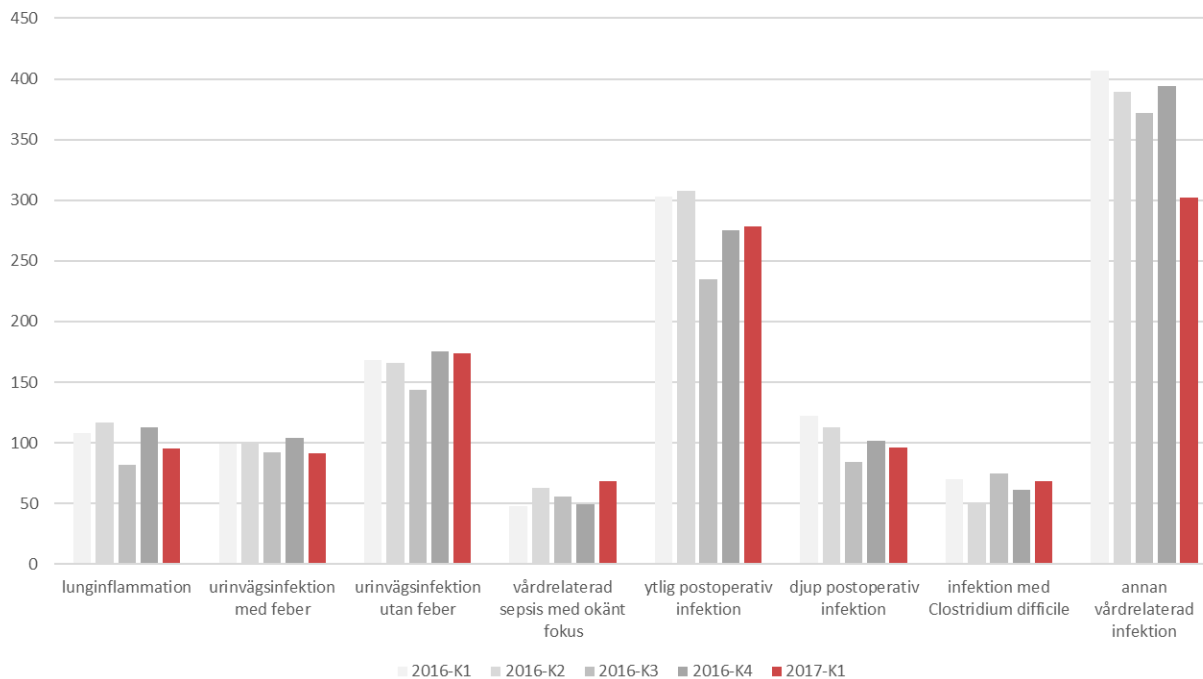
First Global Patient Safety Challenge
Clean Care is Safer Care



Strategy (toolkit)



Incidence HAI UUH 6%



Uppsala University Hospital 2016

- Four geriatric wards
- One orthopaedic ward
- 1 jan – 31 dec 2016

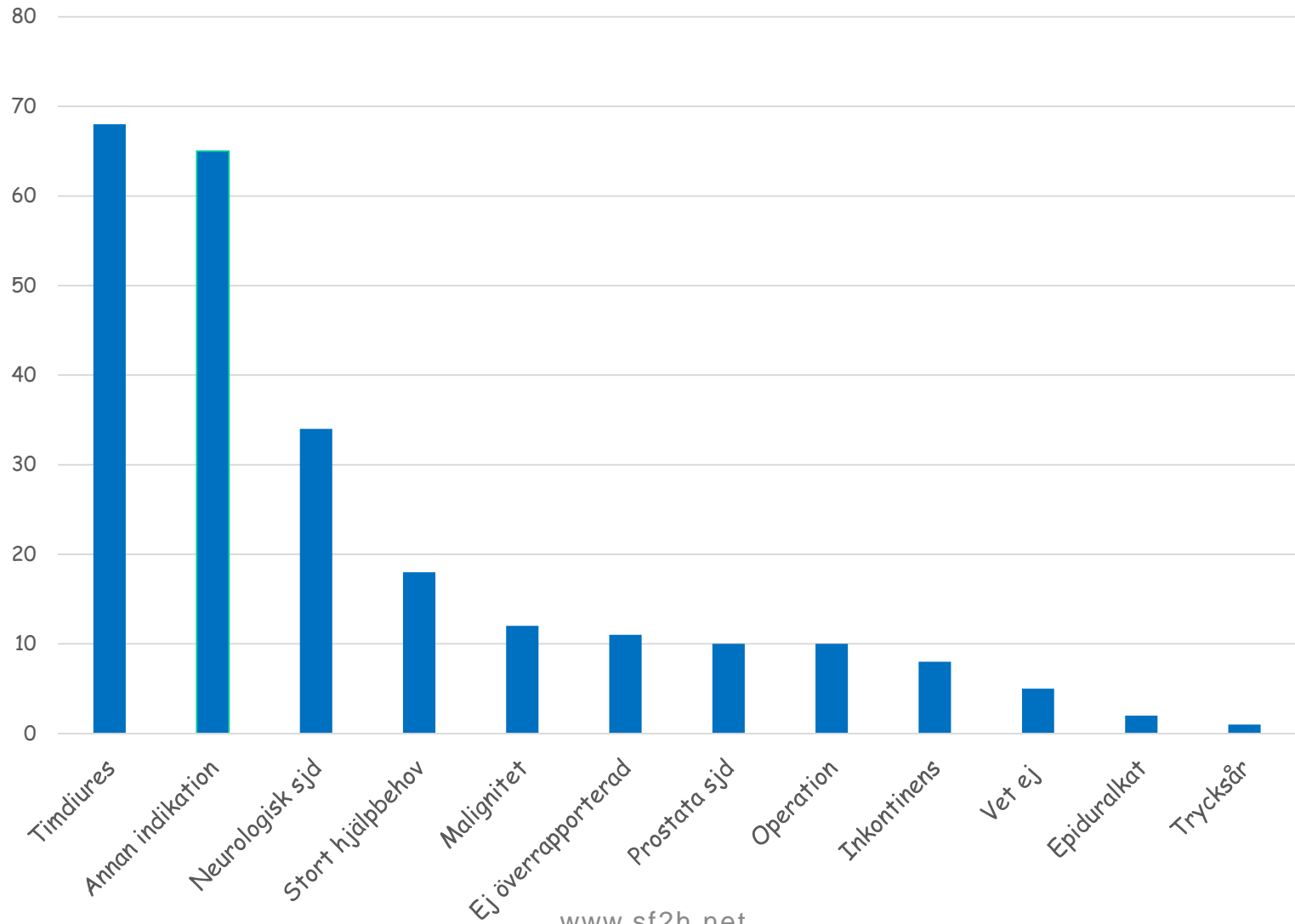


The "bundle" to reduce CAUTI

- I. Find alternatives
- II. Material and size
- III. Aseptic insertion
- IV. Aseptic maintainance
- V. Daily review of removal

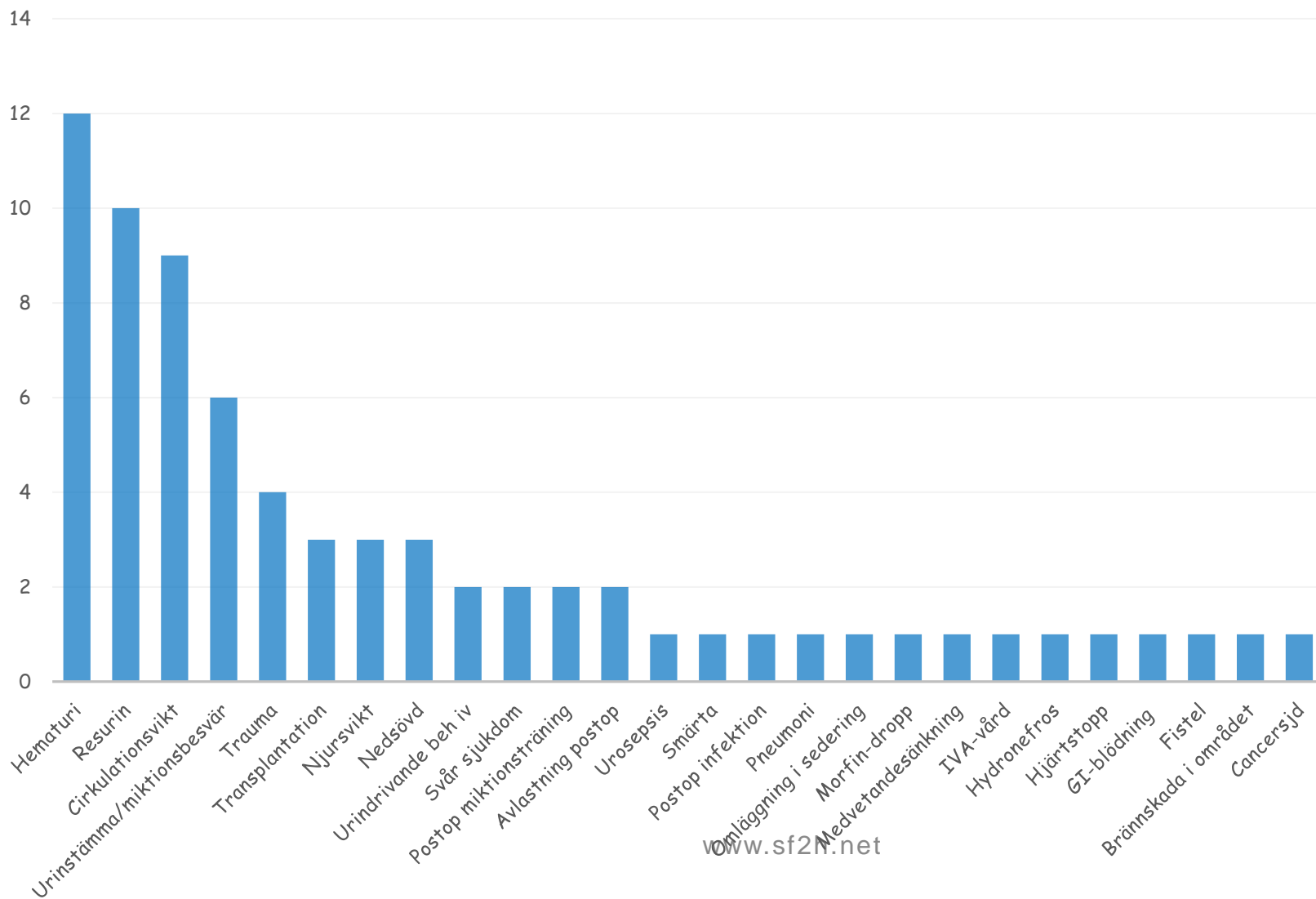


PPS urinary catheter at UUH in November 2015



Prevalence of urinary catheter at UUH 26 %.

No of indications: 38



50 guidelines for urinary catheters (80 wards) at the beginning

http://notesserver4.lul.se/lul/quality.nsf/search?SearchView&Seq=1&sort

Arkiv Redigera Visa Favoriter Verktyg Hjälp

WHO Clean Care is Safer ... Infektionsverktyget Tidskrifter A-Ö - Uppsala ... WebSlice-galleri Förlag på webbplatser

KVALITETSHANDBOK

- Akademiska sjukhuset
- Sjukhusadministrationen
- Akutsjukvård och internmedicin
- Akademiska laboratoriet
- Ambulanssjukvård
- Anestesi- och intensivvård
- Akademiska Barnsjukhuset
- Bild- och funktionsmedicinskt centrum
- Blod- och tumörsjukdomar
- LUL/UAS/DAT
- Öron-, näs- och halsjukdomar
- Geriatrisk
- Handkirurgi
- Hjärt-lungmedicin och klinisk fysiologi
- Infektionssjukdomar
- LUL/UAS/KB
- Kvinnofridsheten
- LUL/UAS/KIR
- Kirurgi
- Klinisk neurofysiologi, neurokirurgi och neurologi
- Kvinnosjukvård
- Medicinsk teknik, sjukhusfysik och it
- LUL/UAS/MTH
- LUL/UAS/NEURO
- Ögonsjukdomar

Finns lokala föreskrifter går dessa före vårdhandboken 1177

Sök under Akademiska sjukhuset

Sök i hela kvalitetshandboken

Sökresultat:

Urinkaterisering kvarliggande kateter - arbetsbeskrivning* (2014-02-16)
Gäller för:
- LUL/UAS/AKUTINT/AKUTSJV/AKM/Vård
- LUL/UAS/AKUTINT/AKUTSJV/AKM/Organisation

KAD urinkatersättning* (2013-01-07)
Gäller för:
- LUL/UAS/ANIVA/ANESTESI/KIR/Vård
- LUL/UAS/ANIVA/ANESTESI/ORT/Vård

Urinkaterier/RIK vid spinalbedövning SPA* (2013-09-05)
Gäller för:
- LUL/UAS/ANIVA/ANESTESI/KIR/Vård
- LUL/UAS/ANIVA/ANESTESI/ORT/Vård

KAD - urinkaterisering postop* (2014-03-04)
Gäller för:
- LUL/UAS/ANIVA/ANESTESI/POSTOP/POSTOP

Urinkaterisering 30F- ren rutin# (2009-05-07)
Gäller för:
- LUL/UAS/INFEKT/AVD/Vård

Urinkaterier- katetersättning, skötsel och hygien* (2015-09-02)
Gäller för:
- LUL/UAS/THORAX/THIVA/Vård

KAD, urinkaterisering# (2008-06-11)
Gäller för:
- LUL/UAS/THORAX/OP/Vård

Kvarvarande urinkaterier - generell ordination# (2010-11-03)
Gäller för:
- LUL/UAS/UROLOGI/Vård

Rutiner för ryggpatienter inom VO ortopedi - Klexane-Antibiotika-Urinkaterier-Dränage-Durarit* (2013-04-22)

Reviderade och nya dokument

Logga in

- Dokumentationsansvarig - organisation, arbetsfördelning och uppdrag* (2016-02-22)
- Smärta - handlingsplan* (2016-02-19)
- Upphändertag sondmatssortiment vuxna* (2016-02-19)
- Läkemedel som förvaras utanför läkemedelsförrådet* (2016-02-15)
- Laparoskopi, info inför operation* (2016-02-15)
- ESBL och andra multiresistenta gramnegativa bakterier (MRG)* (2016-02-10)
- VRE, vancomycinresistenta enterokocker* (2016-02-10)
- Könstillhörighet ändring - hantering av patientuppgifter* (2016-01-31)
- Vattkoppor och baltros* (2016-01-27)
- Konventioner - sjukvårdsavtal andra länder, intygskrav* (2016-01-26)
- Akut diabetes* (2016-01-25)
- Grupp A streptokocker

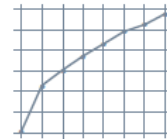
100 %

16:02 2016-02-23

Breakthrough Series Model for Improvement



Innovation Series 2003

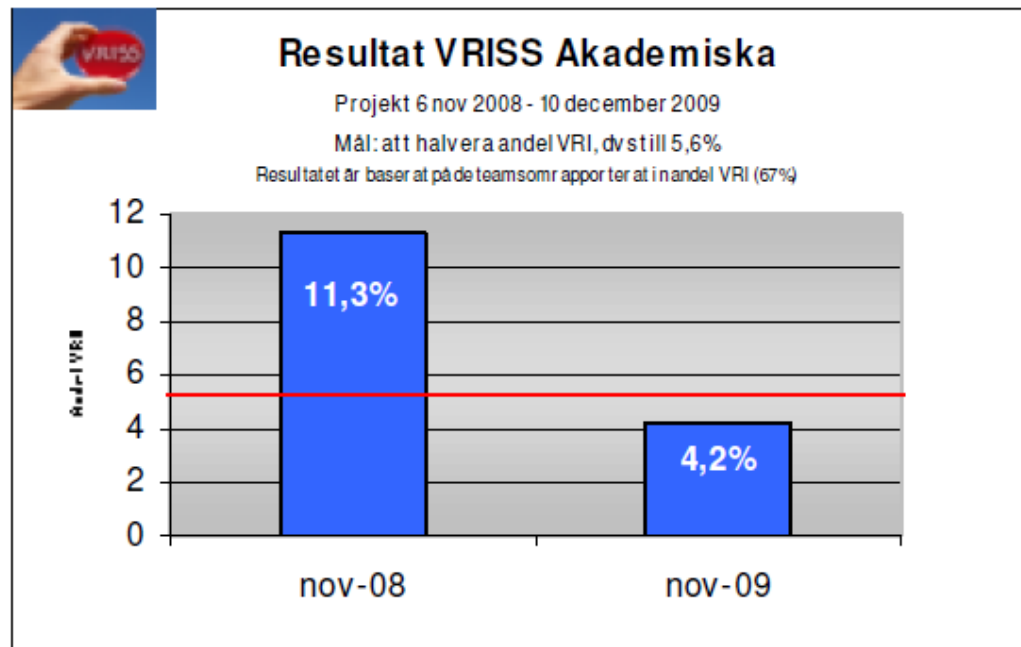


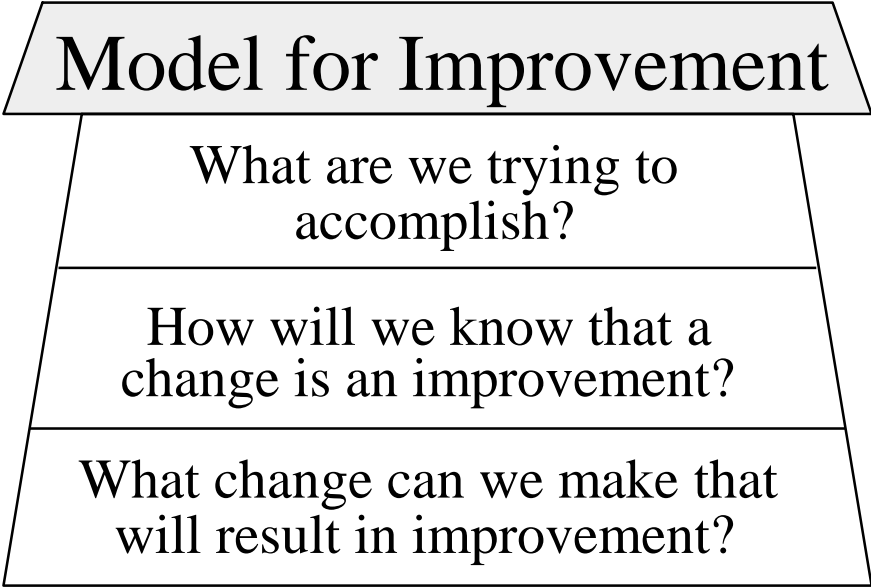
The Breakthrough Series
IHI's Collaborative Model for Achieving Breakthrough Improvement

3

National project

2008-2009

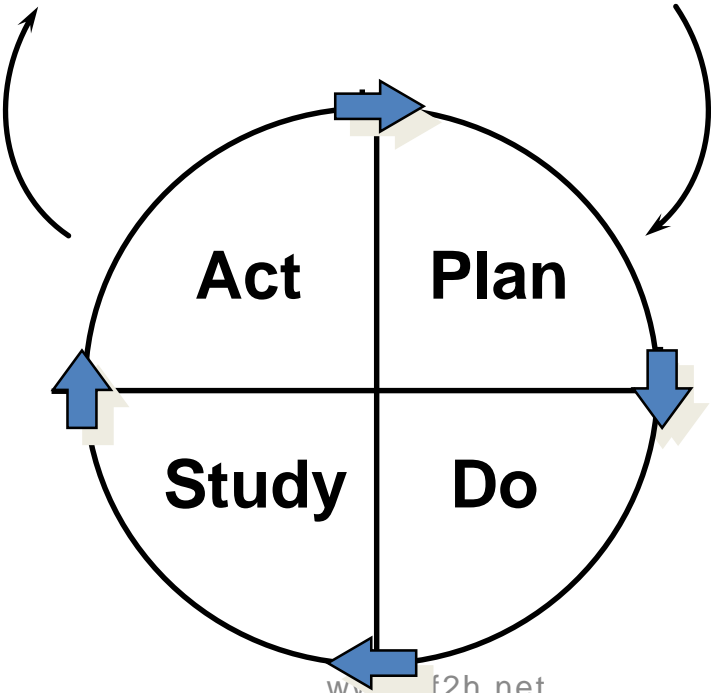




Aim

Measures

Ideas



Five wards at UUH in 2016

- Specific aims:

Reduce CAUTI

Reduce catheter-days

Increase compliance with hand hygiene

Teams in the five wards

1 doctor

1 nurse

1 nurse's aid

Professionals
Experienced
Experts
Honor in saving lives



Respect
their knowlegde

NOT NOVICES

It is the people in the system who best know
what changes are needed



Ideas!!!

These people must meet
to exchange ideas

Model for Improvement

What are we trying to accomplish?

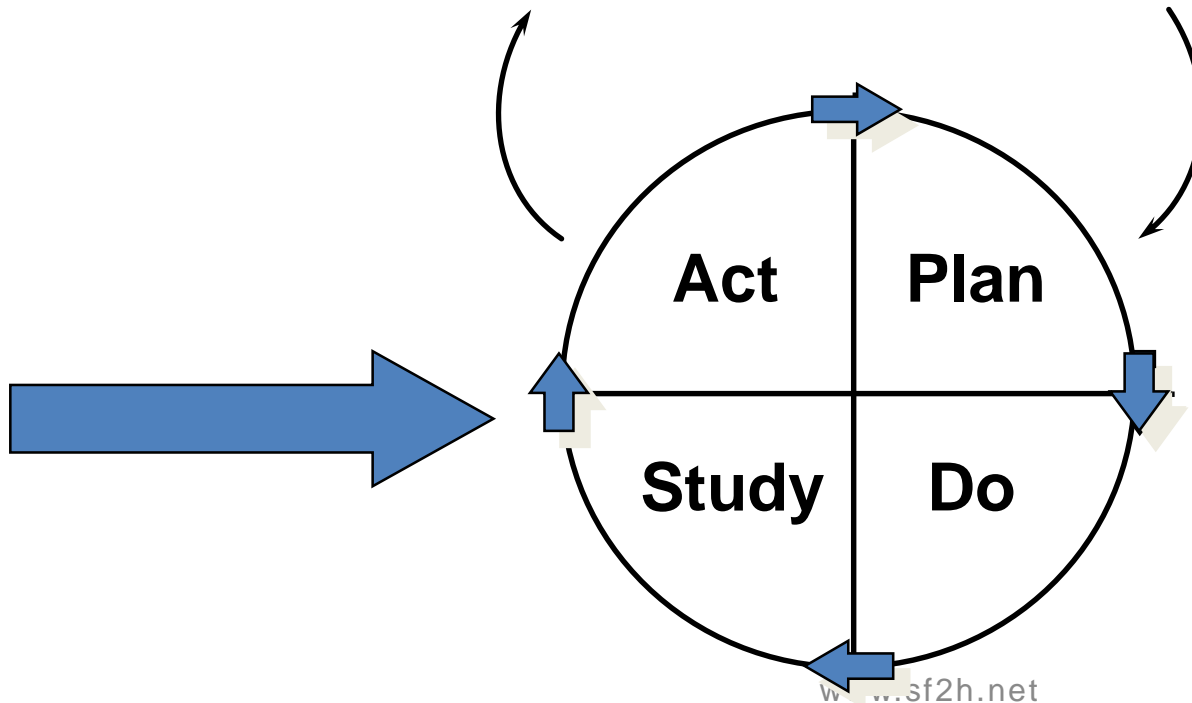
Aim

How will we know that a change is an improvement?

Measures

What change can we make that will result in improvement?

Ideas

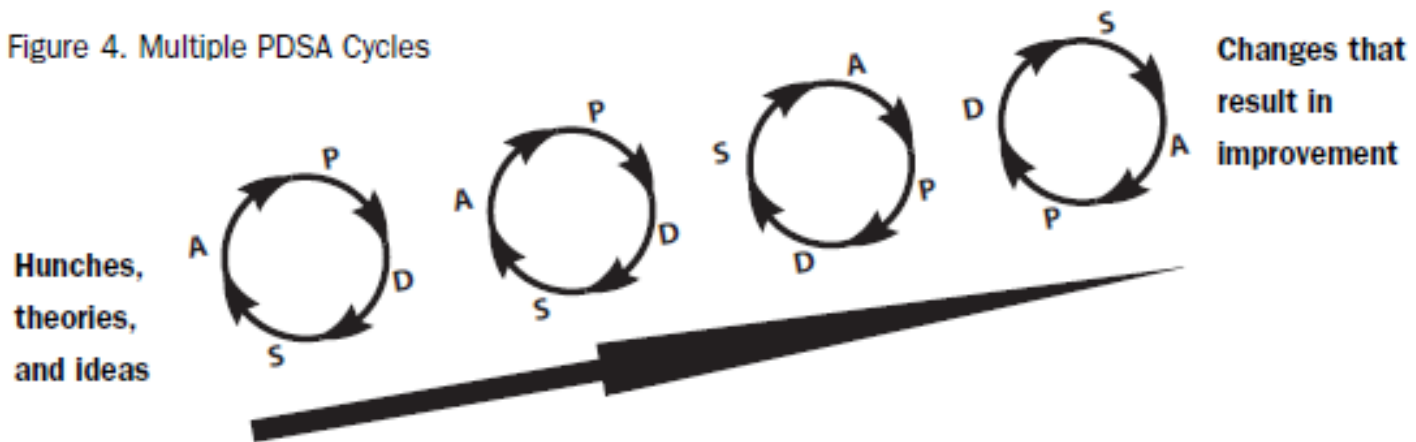


Test the ideas

Test changes in small scale

Repeatedly – refining the changes

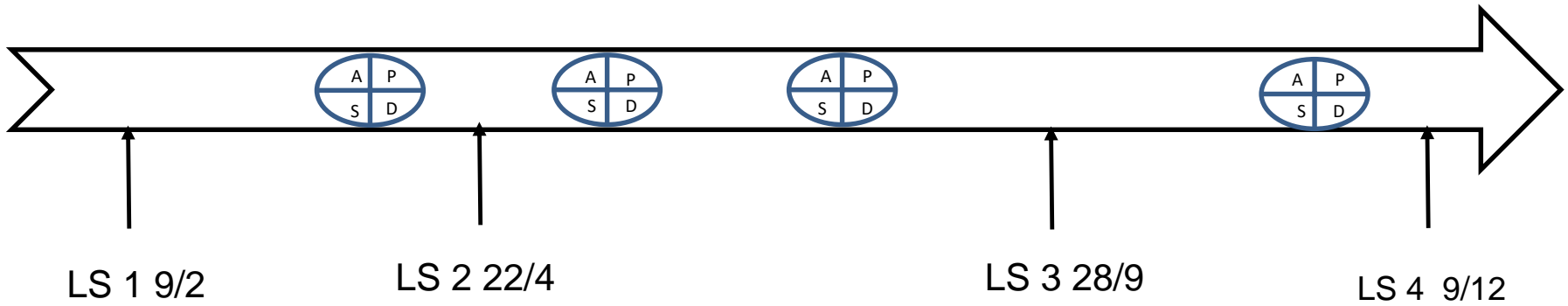
Figure 4. Multiple PDSA Cycles



Make one change at a time
and evaluate, refine

Timeline 2016

Jan Feb March April May June July Aug Sept Okt Nov Dec
Data Data Data Data



Most important changes

Find alternatives to the catheter

- Avoid_the catheter

- Alternatives:

Intermittent catheterization

Uridomes for men

Inkontinens protections

Help the patient to the toilet



Bladderscan

Clear medical indication

- Acute "stop" (urinary retention)
- Failure of vital functions
- Prolonged operations
- Urological and gyneacological operations



One guideline (4 pages)

- One guideline
- Clear medical indication
- Doctor's responsibility
- Documentation
- Aseptic insertion and maintenance

 Landstinget i Uppsala län

Godkänt den: 2016-10-19
Använt: Margareta Örnvall
Gäller för: Landstinget i Uppsala län

Kvarvarande uretrakateter (KAD) vuxna

Syftet med detta dokument är att beskriva rutiner för handläggning av patienter med kvarvarande uretrakateter så att vårdrelaterade urinvägsinfektioner kan förhindras hos vuxna patienter. För att förebygga vårdrelaterade urinvägsinfektioner ska andra alternativa till uretrakateter övervägas, indikationerna ska vara tydliga, insättning och hantering av uretrakatetern ska vara aseptisk och läggtiden för uretrakatetern ska minimeras. En urinvolym ≥ 500 ml vid minst två tillfällen eller ≥ 3000 ml vid ett tillfälle under vårdtiden definieras som en vårdskada.

Indikation

Inläggning av uretrakateter ska alltid ske på ordination av läkare.

- Urinretention som innebär att blåstömning inte sker över huvud taget eller att tömningen är ofullständig med residualurin > 400 ml.
- Intermittent och njursvikt för att mäta exakta urinmängder.
- Långa operationer, vid stora vätskevolymmer för att mäta exakta urinmängder.
- Urologisk kirurgi.

Insättning

Tillvägagångssätt vid ren rutin

Steril insättning ska endast ske på operation.

Material

- Rena kompresser.
- Ren skål/opsamlingskär.
- Steril silikorkateter: storlek och sort efter ordination.
- Turnasat möjliga kateter för att minimera risken för uretralt trauma, varigen 12Ch: alt 14Ch.
- Ren uppsamlingspåse samt hällare. Välj ett slutet tömbart uppsamlingsystem.
- För fyllt steril 20 ml (för kvinnor 10 ml) spruta med gel lokalanesetetikum för ytans test i urinröret.
- För fyllt steril 10 ml spruta med 10 % glycerinlösning att fylla kuffen på katetern, mängd enligt katetertillverkarens anvisningar som finns angivna på katetern.

Förberedelser

- Följ basala hygienrutiner.
- Använd plastförkläde av engångstyp och rena undersökningshandskar.
- Tvätta patientens underliv med intimtål eller tvättäm, tänk på att dra tillbaka förhuden på män.
- Kassa undersökningshandskarna och desinficera händerna.

Kvarvarande uretrakateter (KAD) vuxna Sida 1 av 4

Dokument ID: Doc/Prod/Trif 7250
Version: 3.0
Handläggning: centraliserat/Plan

Reminders every day

- Ward 1: screen saver
- Ward 2: one person responsible during every morning round
- Ward 3: yellow magnet on billboard in the corridor
- Ward 4: a new component on the checklist
- Ward 5: nothing

Changes must fit into the specific routines “the way we do things”

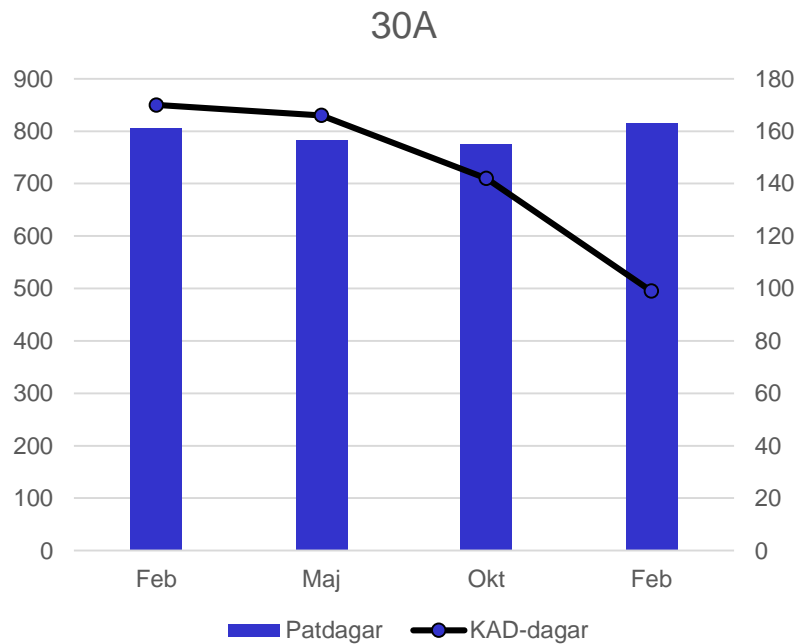
Behaviour



Structure

Result

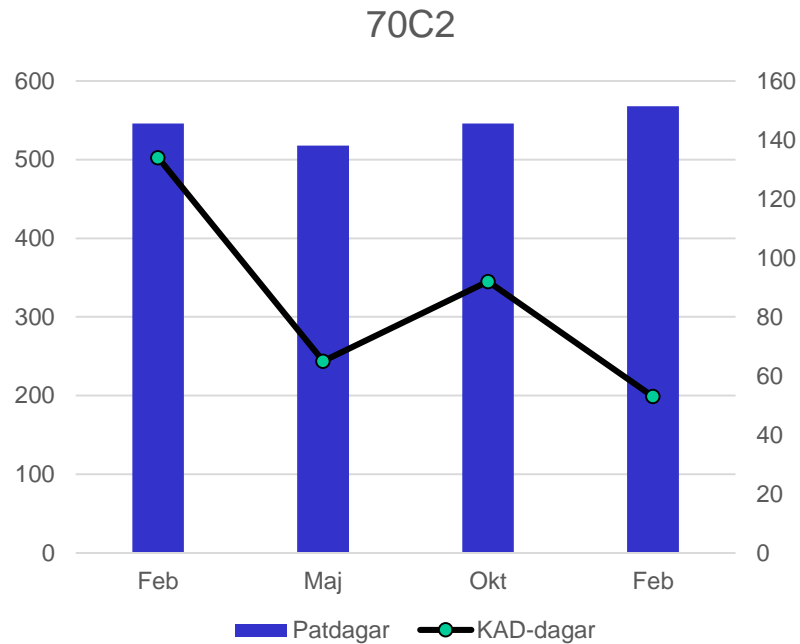
Ward 1 Feb 2016-Feb 2017



42 % reduction
of catheter-days
in one year

Ward 2

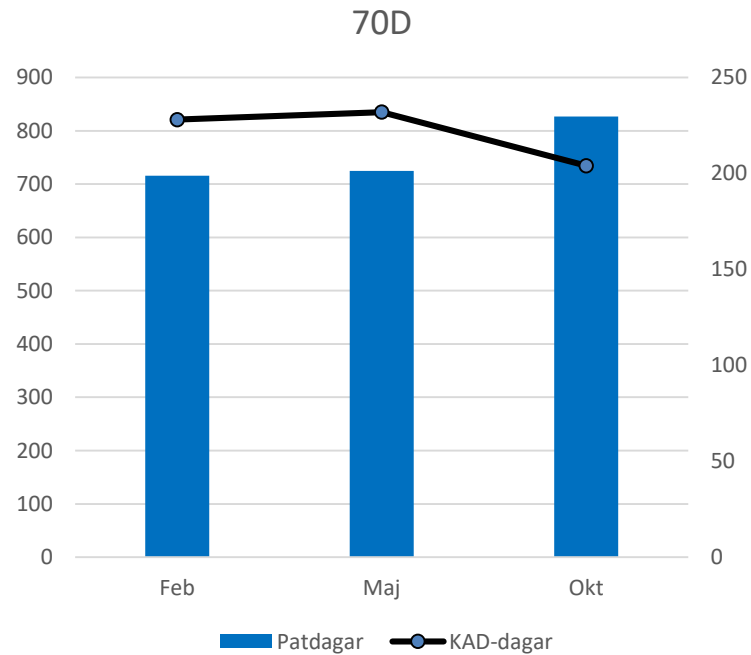
Feb 2016-Feb 2017



61 % reduction
of catheter-days
in one year

Ward 3

Feb 2016-April 2017



20 % reduction
of catheter-days
in one year

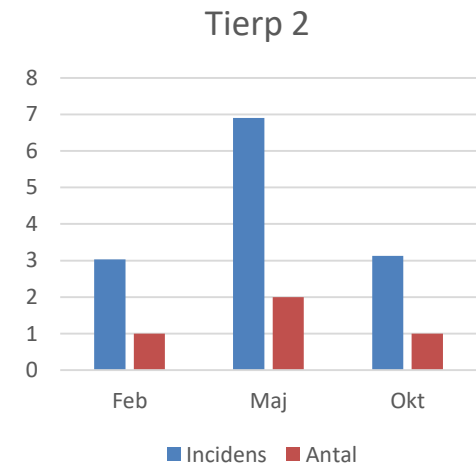
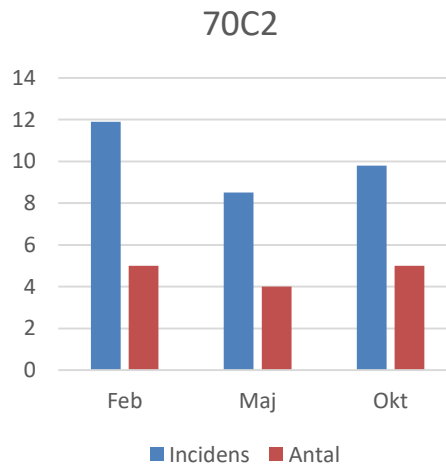
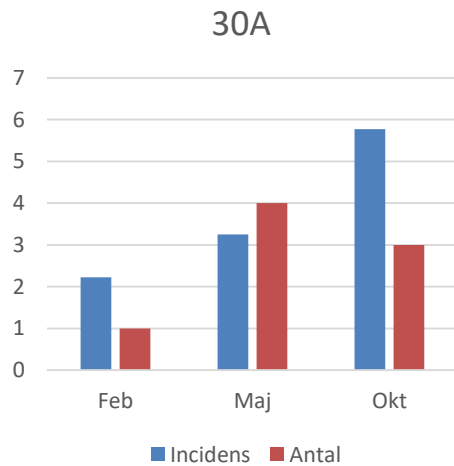
Best measurement: Catheter-days

Avdelning 1

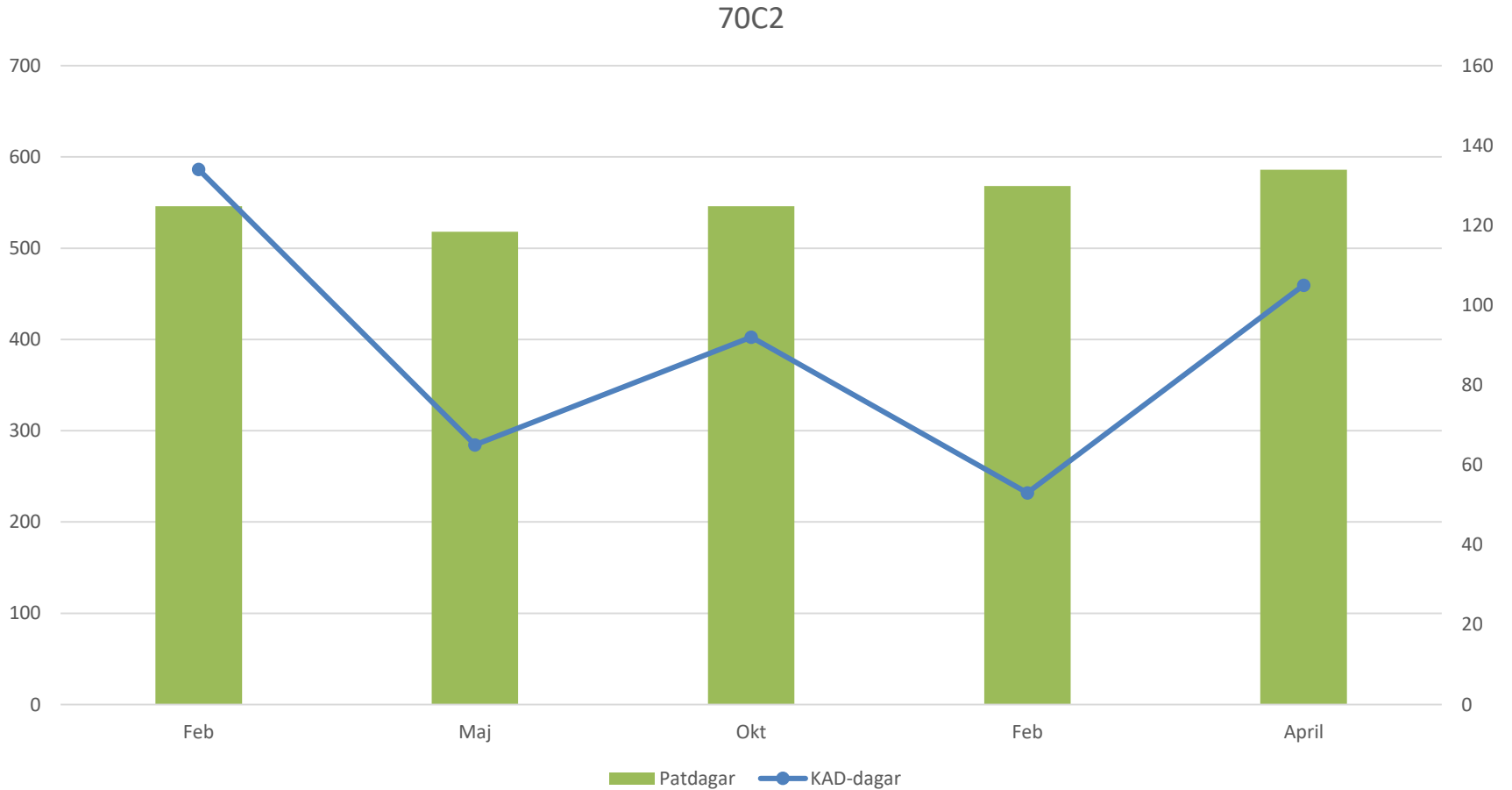
Månad och år Oktober 2017

Datum	Antal patienter på avdelningen kl 07.00	Antal patienter med KAD på avdelningen kl 07.00	Hur många av dessa är kroniska?	Antal nya KAD insatt senaste dygnet
1/10	28	2	1	1
2/10	25	3	1	1
3/10	17	2	1	1
4/10	25	4	2	0
5/10	22	4	3	0
6/10	26	6	3	0
7/10	21	4	3	1 kr bytt, 1 f. AUM
8/10	20	4	3	1
9/10	23	6	4	5
10/10	19	3	2	0
11/10	18	3	1	0
12/10	18	2	1	0
13/10	18	2	1	0
14/10	17	2	0	0
15/10	19	1	1	0
16/10	20	1	1	0
17/10	21	2	1	0
18/10	13	0	0	0
19/10	18	0	0	0
20/10	15	0	0	0
21/10	14	1	0	0
22/10	17	1	0	0
23/10	15	1	0	0
24/10	20	1	0	2
25/10	19	1	0	0
26/10	21	3	0	2
27/10	16	3	0	0
28/10	13	3	2	0
29/10	14	2	0	0
30/10	18	2	0	0
31/10	19	1	0	0

Defective system for measuring incidence CAUTI

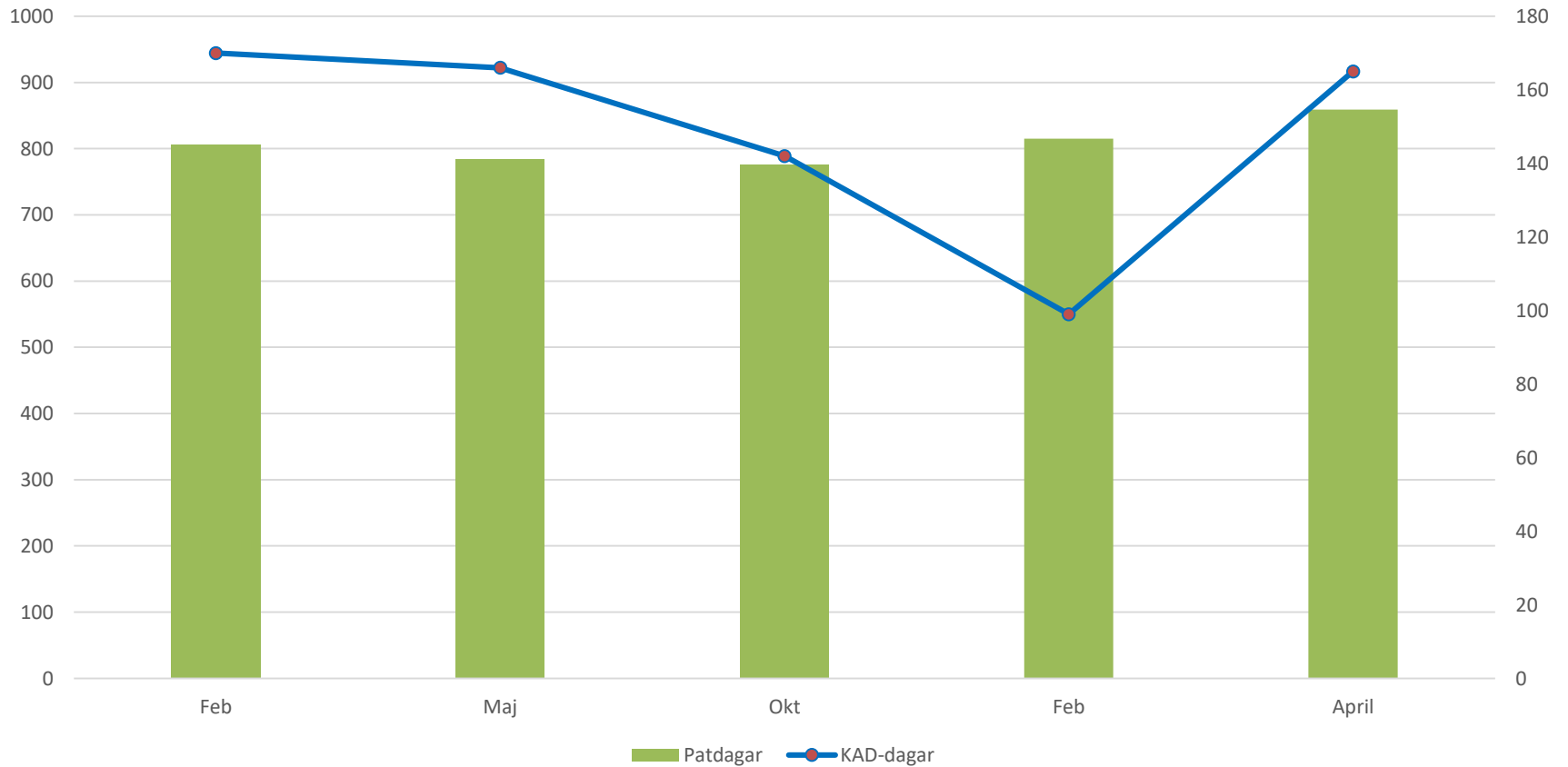


One year later...

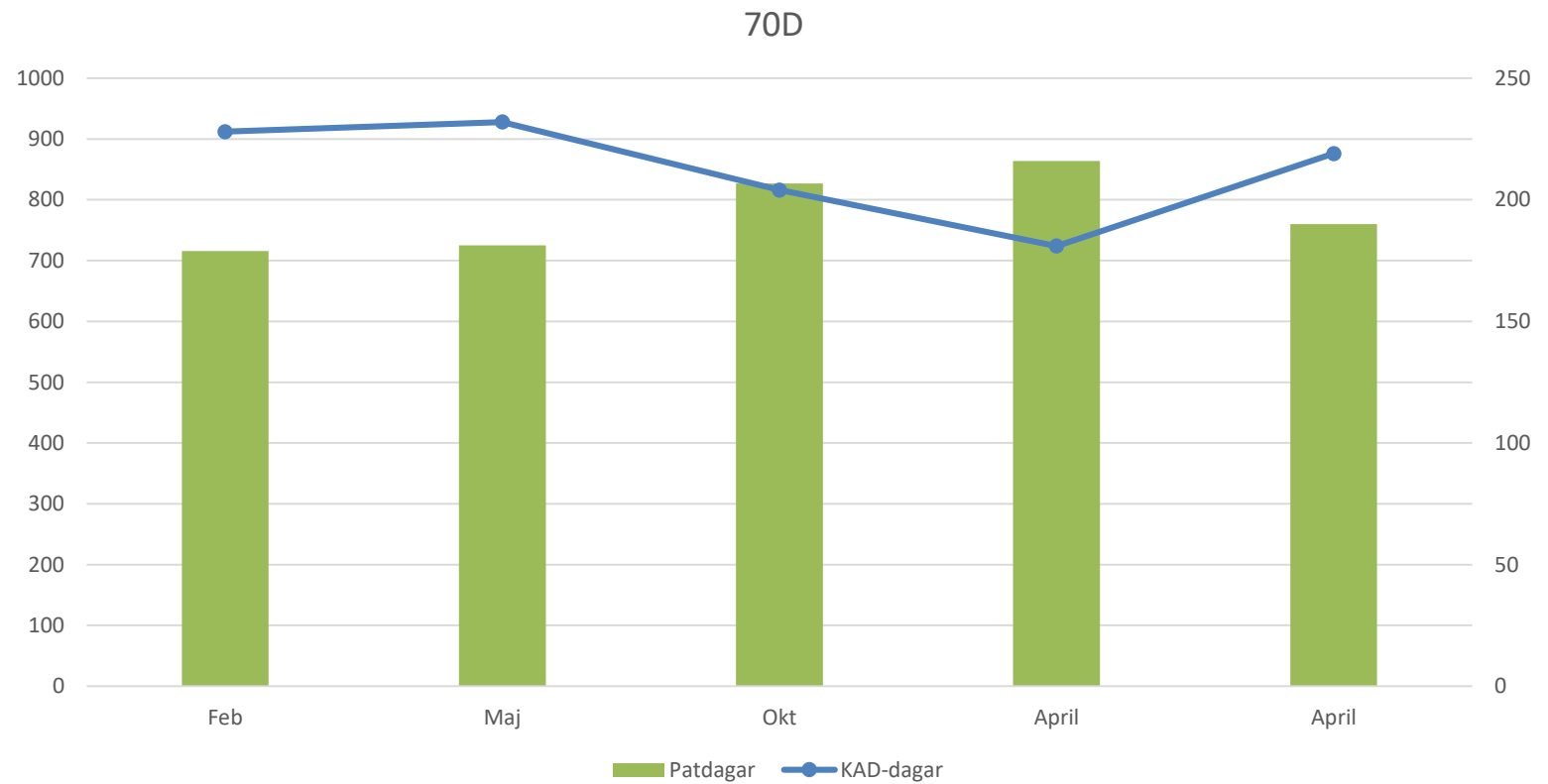


One year later...

30A

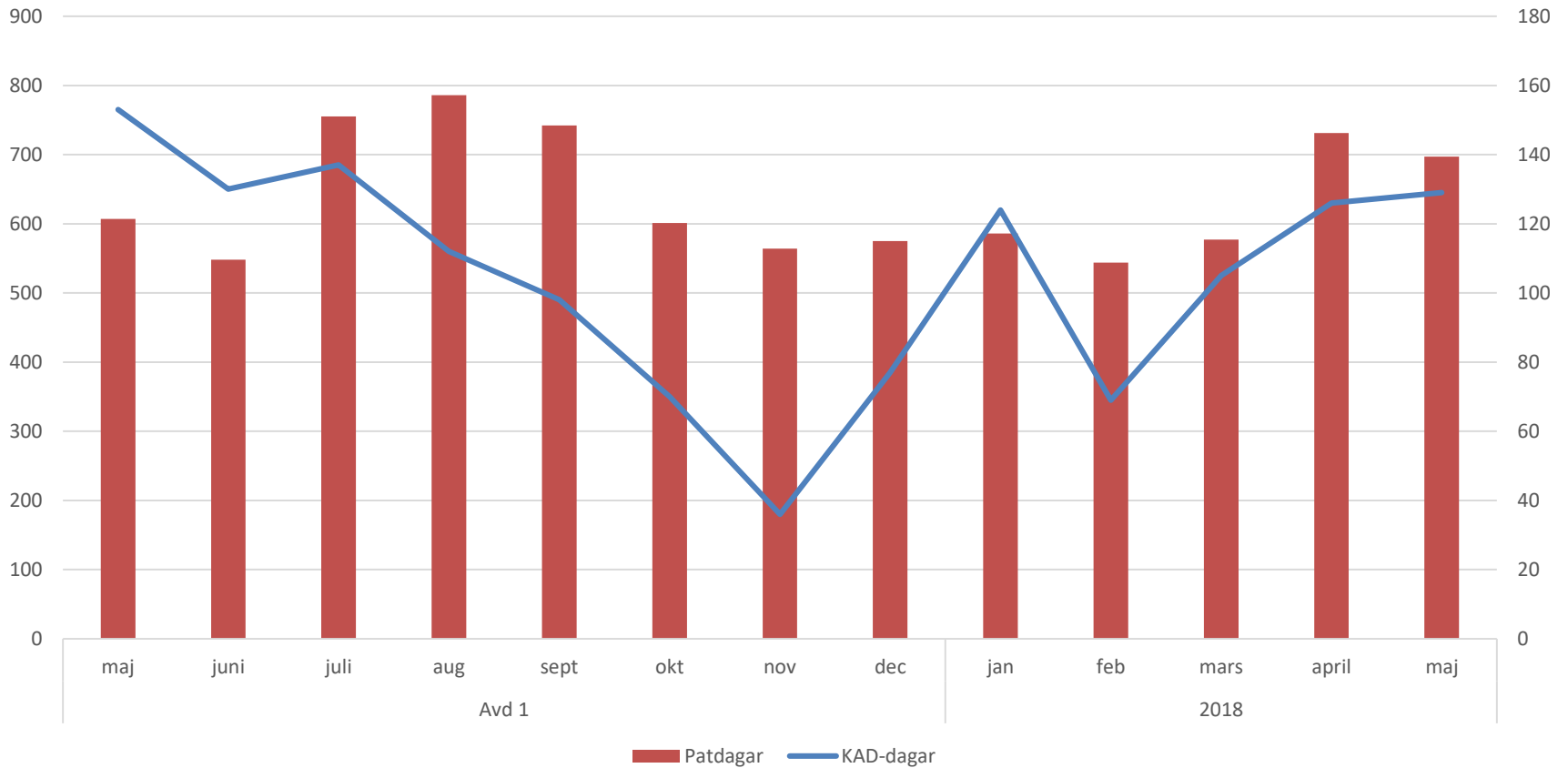


One year later...

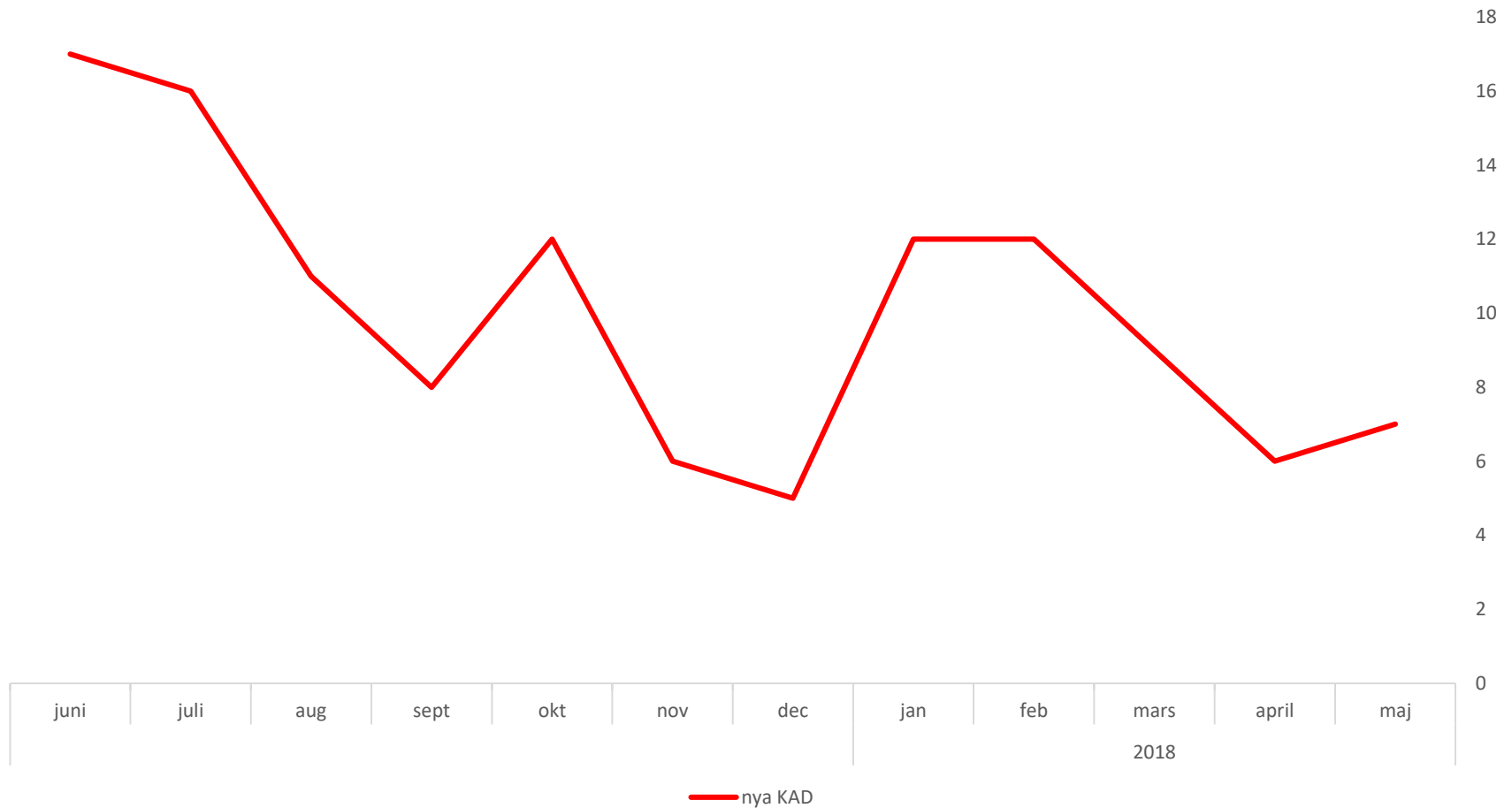


Another medical ward

LE avd 1 2017-2018

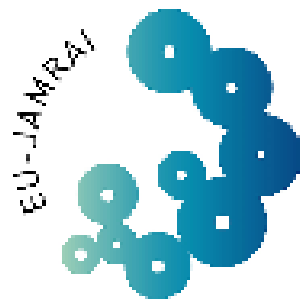


No of new catheters decreased by 50 % in one year





BARN Baltic Antibiotic Resistance
collaborative Network



Joint Action
Antimicrobial Resistance and
Healthcare-Associated Infections

Improvement work is not research to
develop new medical knowledge

.... it's rather a way to put it into
practice!

Closing the gap between best practise and common practise

MULTI-MODAL STRATEGY

PERSISTANT WORK

DATA FOR ACTION INCIDENCE, MORTALITY AND COST

Merci!