Využitie procesných a štrukturálnych ukazovateľov poskytovania zdravotnej starostlivosti v prevencii nozokomiálnych nákaz – prístup ECDC, pilotný projekt

Štefkovičová M., Bražinová A.
Jamrichová M., Kopšíková E.

XXIII. Mezinárodní konference
NEMOCNIČNÍ EPIDEMIOLOGIE A HYGIENA
Brno, hotel Slovan
19. – 20.04.2016

ecdc
EUROPEAN CENTRE FOR DISEASE PREVENTION AND CONTROL

Sledovanie NN

- **Prečo?** → **vedieť reálnu hodnotu** **JE VYSOKÁ**
  [zistiť incidenciu, prevalenciu]

- **Čo s tým?** → **ovplyniť (↓) reálnu hodnotu**

- **Ako?** → **zistiť čo je zlé**
  [indikátory: štrukturálne, procesové; compliance ZP]

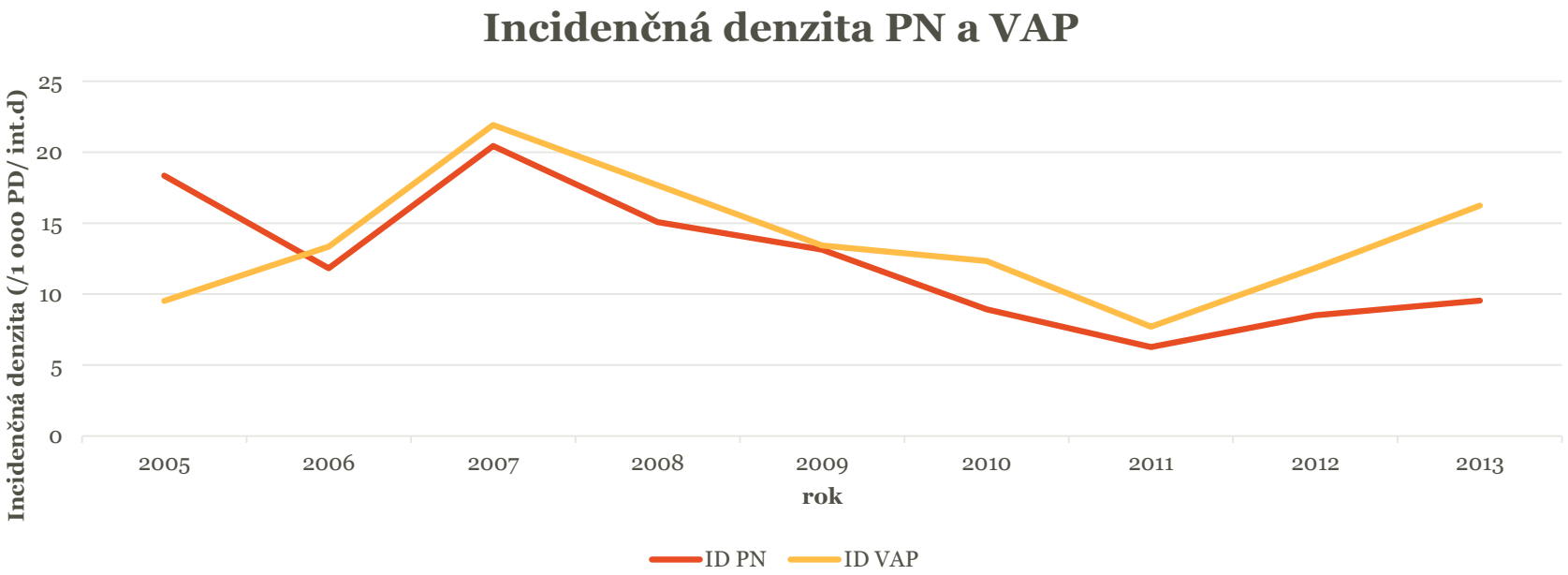
→ **vykonať intervenciu**
[edukácia, nácviky….]

→ **overiť efektivitu intervencie**
[opakovať zistovanie incidencie, prevalencie]

Sledovanie NN na vybraných JIS v SR (2005-2015)

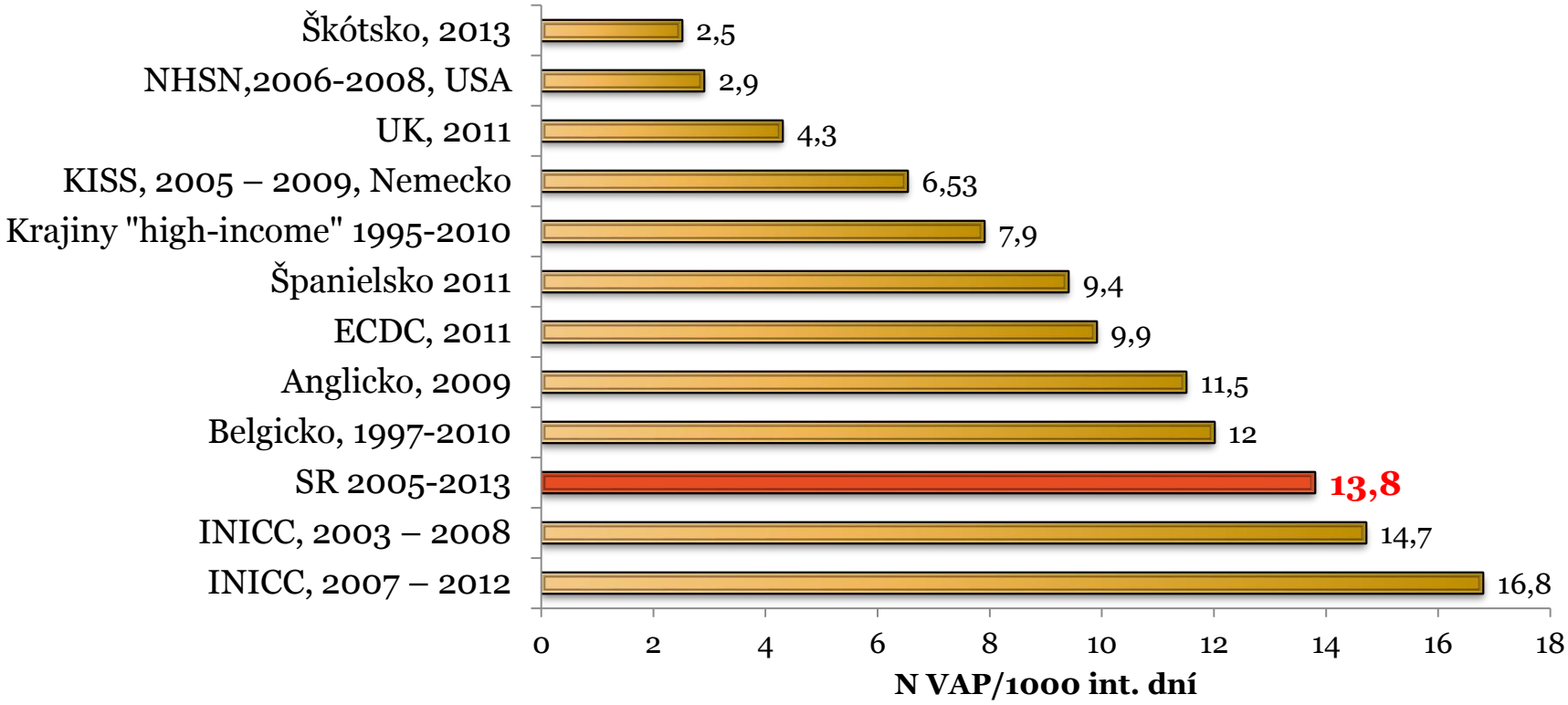
Rok		2005	2006	2007	2008	2009	2010	2011	SPOLU
Počet pacientov		77 pacientov	109 pacientov	193 pacientov	277 pacientov	208 pacientov	291 pacientov	383 pacientov	2 325 pacientov
Počet NN	Spolu	26 NN	40 NN	71 NN	92 NN	66 NN	64 NN	53 NN	561 NN
	PN	13	16	36	40	26	26	23	252 PN
	BSI	5	11	10	14	13	16	8	110 BSI
	UTI	8	13	25	38	27	22	22	199 UTI
KI NN (%)		33,8 %	36,7 %	36,8 %	33,2 %	31,7 %	22 %	13,8 %	24 %
Počet PD		709 PD	1353 PD	1760 PD	2654 PD	1978 PD	2910 PD	3674 PD	22967 PD
ID (/1000 PD)		36,7 /1000 PD	29,6 /1000 PD	40,3 /1000 PD	34,6 /1000 PD	33,4 /1000 PD	22.0 /1000 PD	14,4 /1000PD	24,4/1000 PD

Incidenčná denzita PN a VAP



	2005	2006	2007	2008	2009	2010	2011	2012	2013
ID PN	18,34	11,83	20,45	15,07	13,14	8,93	6,26	8,50	9,54
ID VAP	9,52	13,35	21,91	17,67	13,42	12,32	7,70	11,84	16,24

ID VAP vo svete, EÚ a SR



[1]Rosenthal, V.D., *et al*., 2014. International Nosocomial Infection Control Consortiu (INICC) report, data summary of 43 countries for 2007-2012. In *Am J Infect Control.*18 rozvojových krajín*

[2]Rosenthal, V.D., *et al*., 2010. International Nosocomial Infection Control Consortium (INICC) report, data summary for 2003-2008. In *Am J Infect Control. ** 43 krajín, Európa, Latinská Amerika, Ázia, Afrika*

[3]Mertens,K., *et al*. 2013. Infections acquired in intensive care units: results of national surveillance in Belgium, 1997 – 2010. In *J Hosp Infect*

[4]Coello, R. *et al*., 2011. Prevalence of healthcare device-associated infection using point prevalence surveys of antimicrobial prescribing and existing electronic data. *In J Hosp Infect*

[5]Annual Epidemiological Report 2013. Reporting on 2011 surveillance data and 2012 epidemic intelligence data. Stockholm: ECDC; 2013.

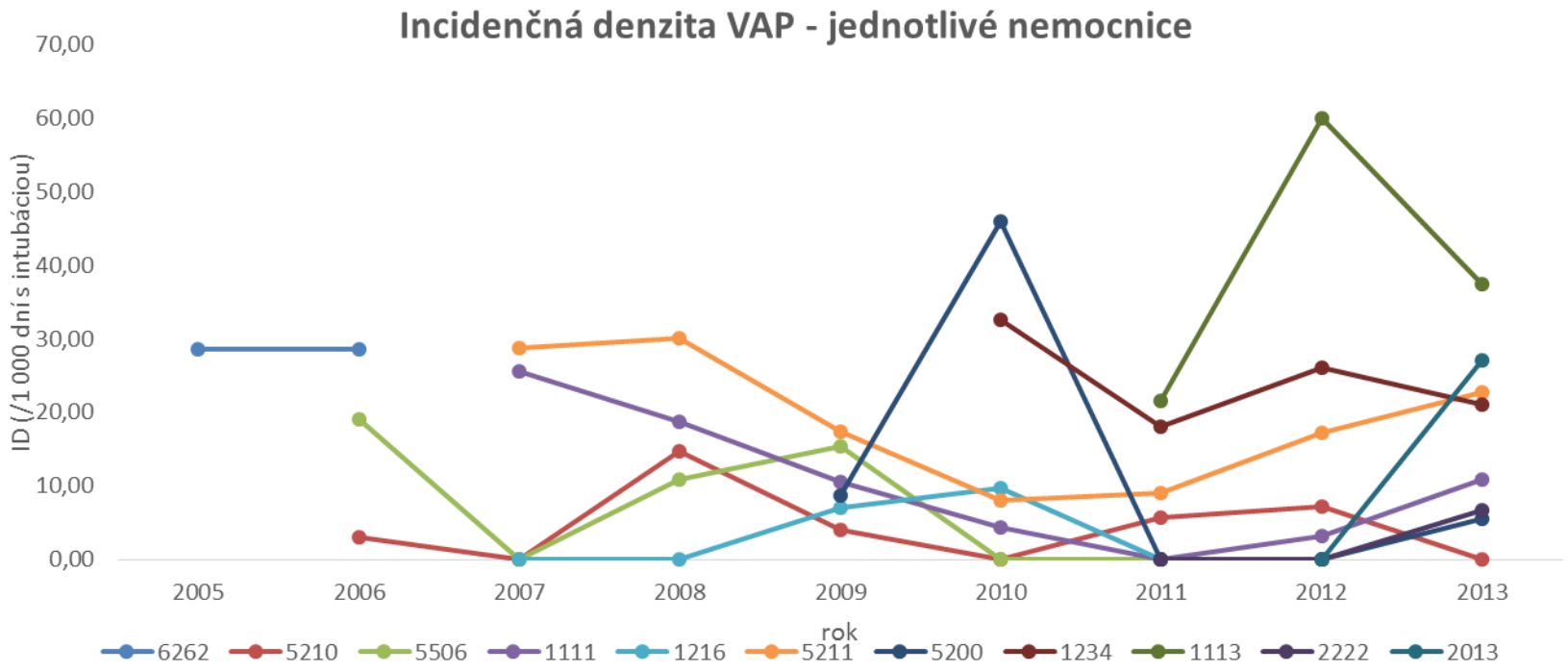
[6]Report on the burden of endemic health care-associated infection worldwide.WHO.2011. *+systematický prehľad*

[7]Geffers, C. - Gastmeier, P. 2011. Nosocomial infections and multidrug resistance organisms - epidemiological data from KISS. *In Dtsch Arztebl Int*

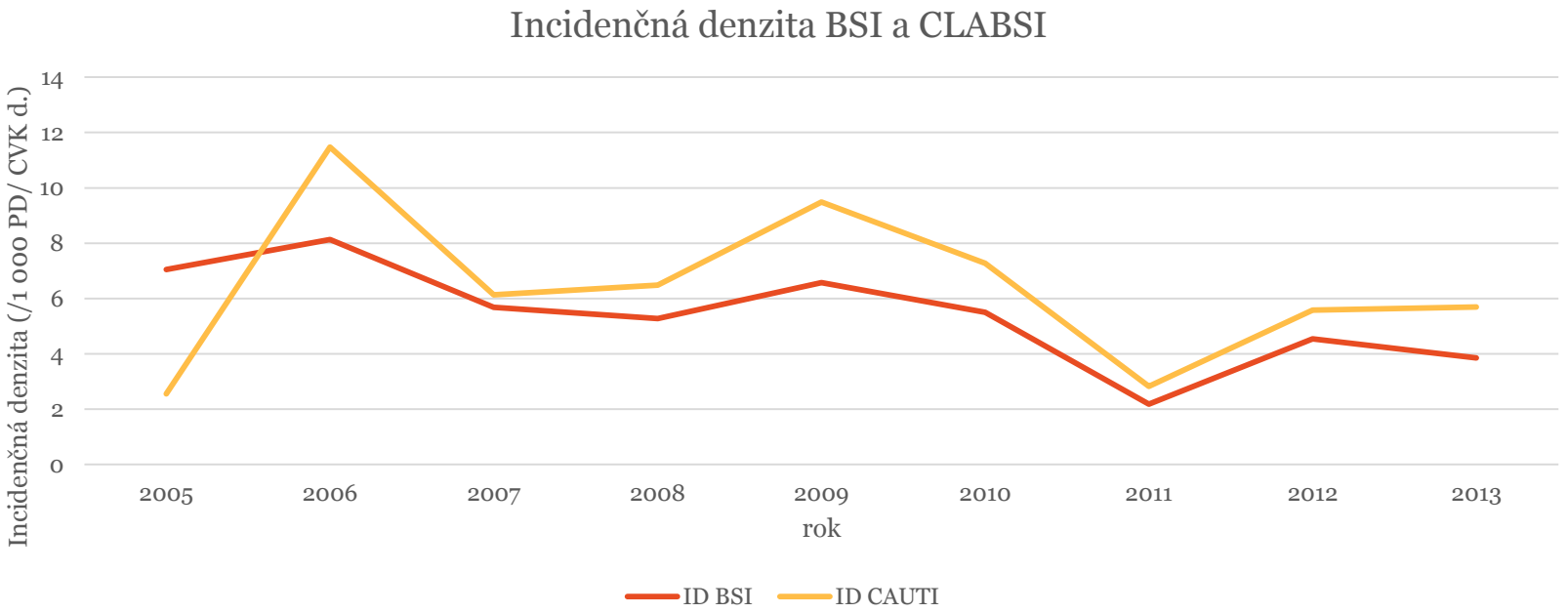
[8]Edwards , J.R., *et al*. 2009. National Healthcare Safety Network (NHSN) report: data summary for 2006 through 2008. In *Am J Infect Control*

[9]Surveillance of HAI in Scottish Intensive Care Units. Annual report of data from January - December 2013. Health Protection Scotland 2014 [Report]

Incidenčná denzita VAP - jednotlivé nemocnice

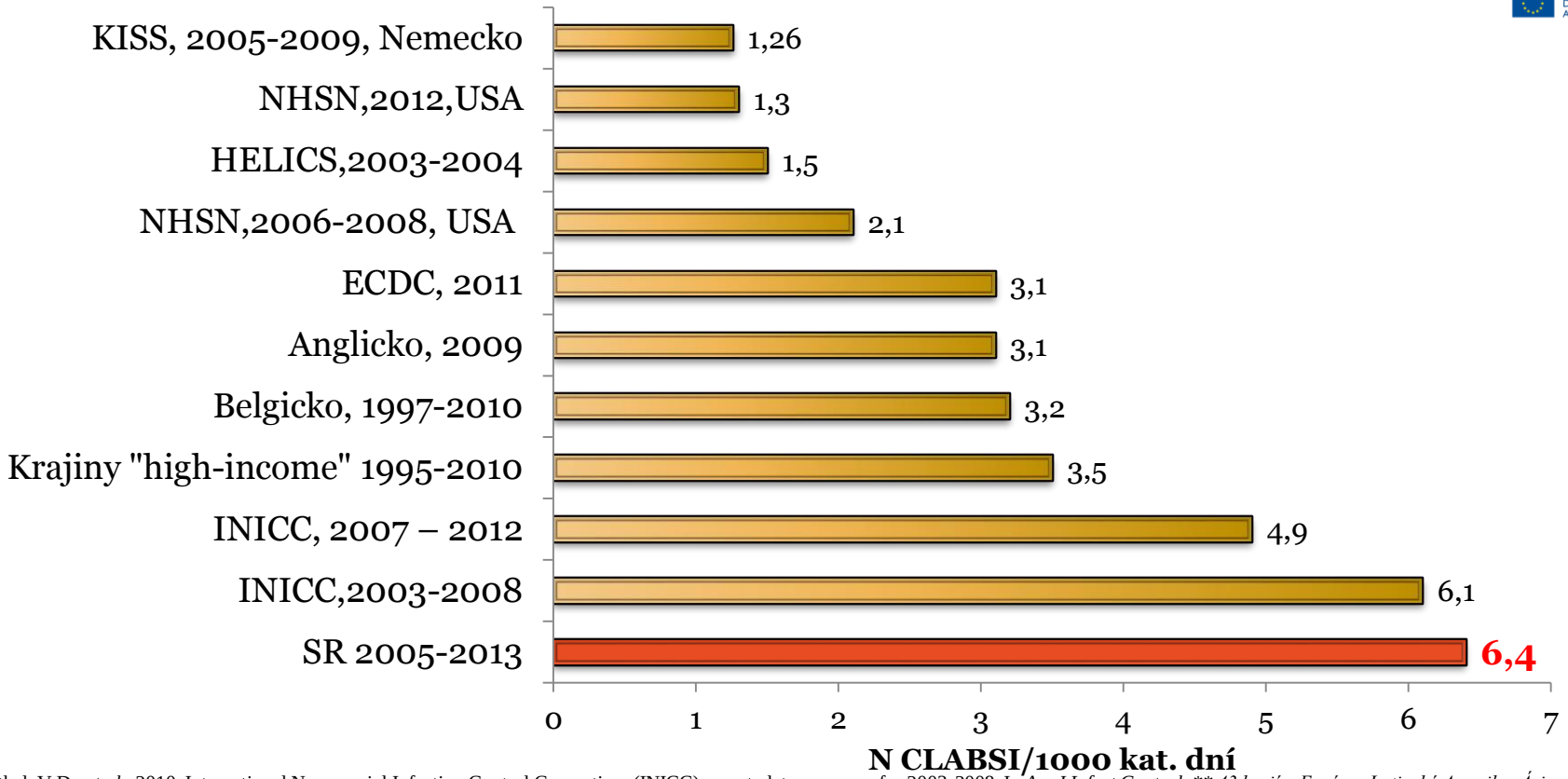


Incidenčná denzita BSI a CLABSI



	2005	2006	2007	2008	2009	2010	2011	2012	2013
ID BSI	7,05	8,13	5,68	5,28	6,57	5,50	2,18	4,54	3,86
ID CLABSI	2,56	11,48	6,13	6,49	9,49	7,27	2,83	5,58	5,70

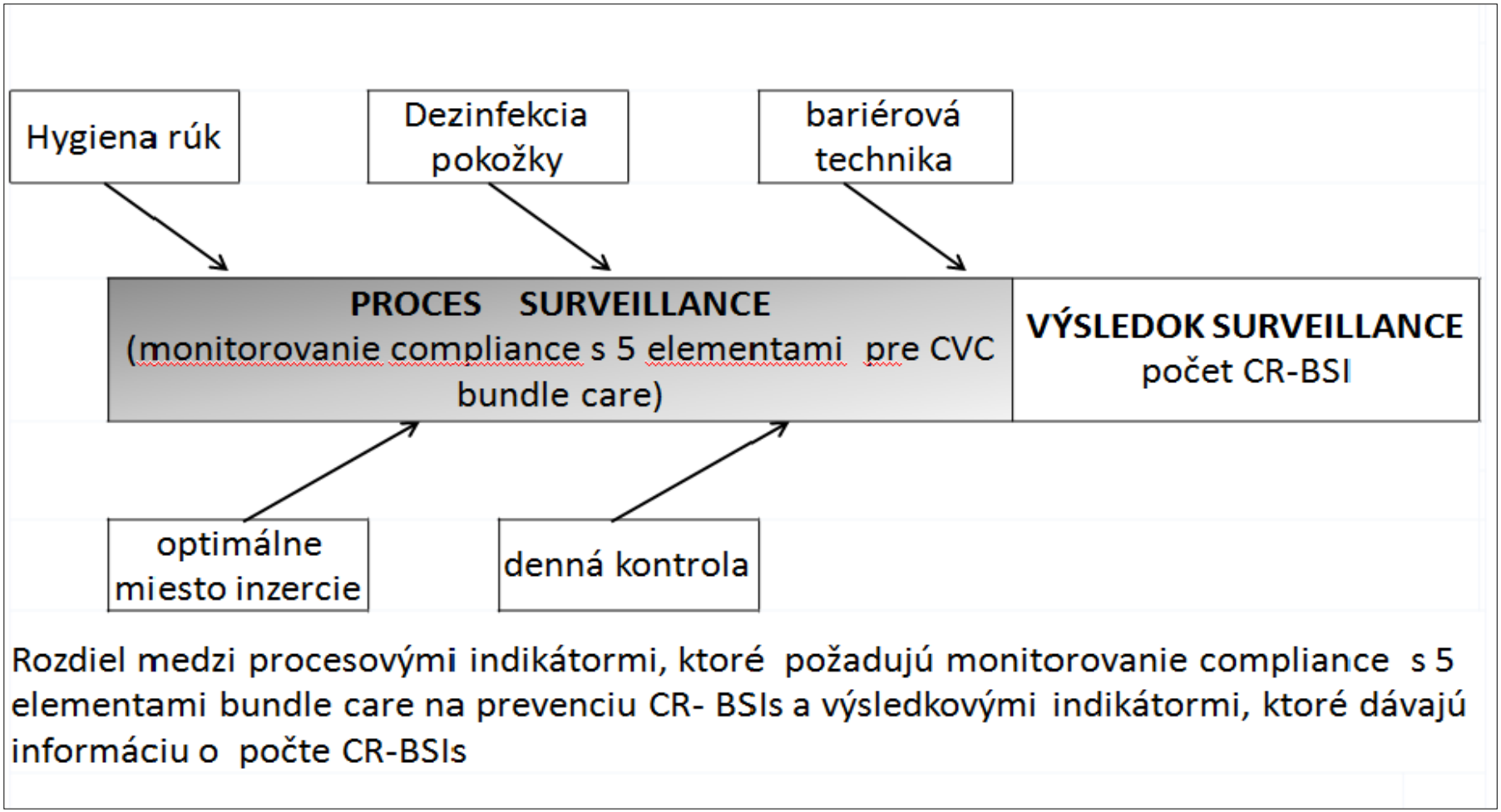
ID CLABSI vo svete, EÚ a SR



[1]Rosenthal, V.D., *et al*., 2010. International Nosocomial Infection Control Consortium (INICC) report, data summary for 2003-2008. In *Am J Infect Control*. ** *43 krajín, Európa, Latinská Amerika, Ázia, Afrika*
[2]Rosenthal, V.D., *et al*., 2014. International Nosocomial Infection Control Consortiu (INICC) report, data summary of 43 countries for 2007-2012. In *Am J Infect Control.* *18 *rozvojových krajín*
[3]Report on the burden of endemic health care-associated infection worldwide.WHO.2011. *+systematický prehľad*
[4]Mertens,K., et al. 2013. Infections acquired in intensive care units: results of national surveillance in Belgium, 1997 – 2010. In *J Hosp Infect*
[5]Coello, R. et al., 2011. Prevalence of healthcare device-associated infection using point prevalence surveys of antimicrobial prescribing and existing electronic data. *In J Hosp Infect*
[6]Annual Epidemiological Report 2013. Reporting on 2011 surveillance data and 2012 epidemic intelligence data. Stockholm: ECDC; 2013.
[7]Edwards , J.R., *et al*. 2009. National Healthcare Safety Network (NHSN) report: data summary for 2006 through 2008. In *Am J Infect Control*
[8]Hansen, S., et al. 2009. National influences on catheter-associated bloodstream infection rates: practices among national surveillance networks participating in the European HELICS project. In *J Hosp Infect*
[9]Dudeck, M.A. *et al*. 2013. National Healthcare Safety Network (NHSN) report, data summary for 2012, Device-associated module.
[10]Geffers, C. - Gastmeier, P. 2011. Nosocomial infections and multidrug resistance organisms - epidemiological data from KISS. *In Dtsch Arztebl Int*

Procesové a výsledkové indikátory

zistiť čo je zlé



Rozdiel medzi procesovými indikátormi, ktoré požadujú monitorovanie compliance s 5 elementami bundle care na prevenciu CR- BSIs a výsledkovými indikátormi, ktoré dávajú informáciu o počte CR-BSIs

ZISŤOVANIE COMPLIANCE procesovými indikátormi

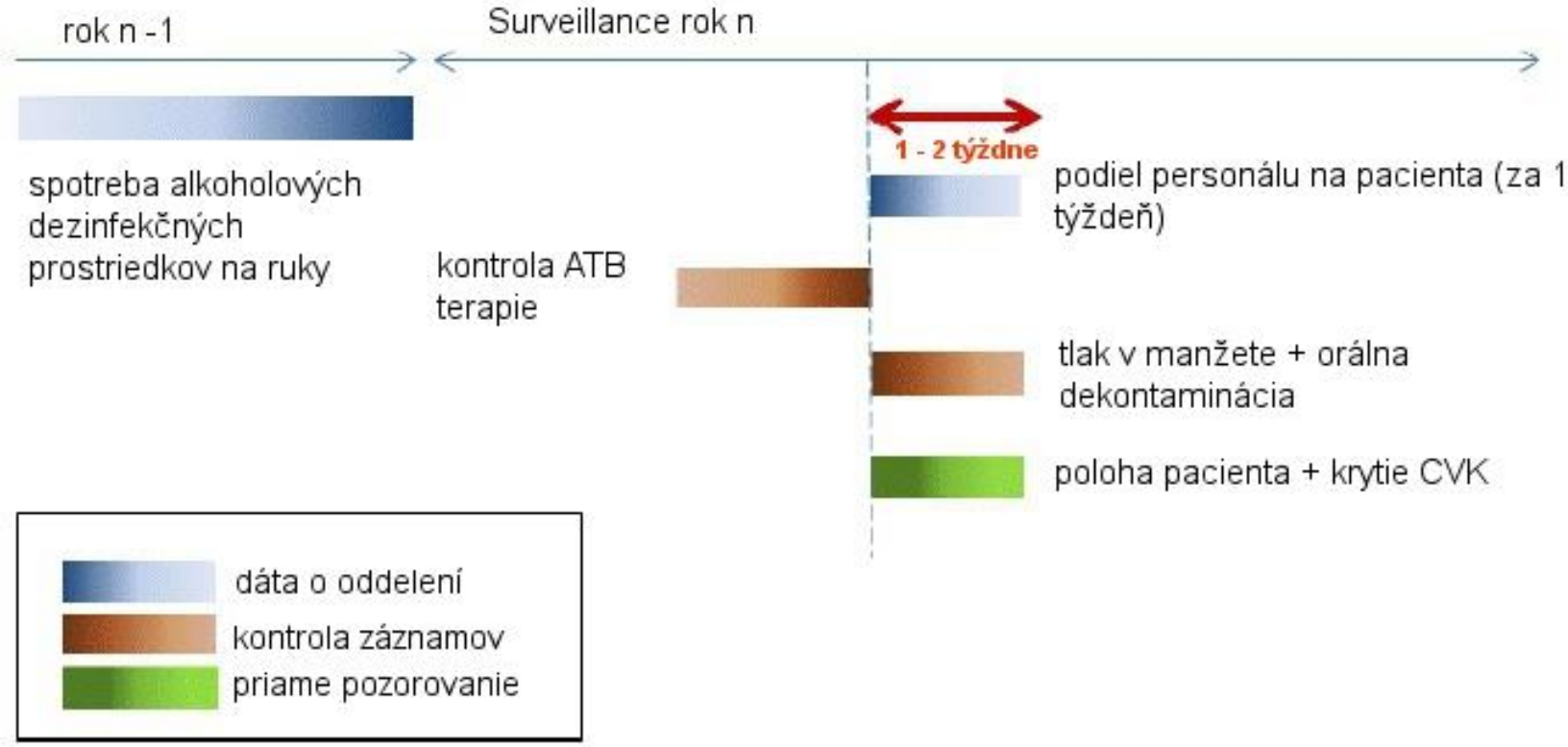
Zdroj: Damani : Manual of Infection Prevention and Control. Third Edition.

Indikátorov určené pre incidenčné sledovanie

- vybraných nasledujúcich **5 prioritných oblastí** (a **8 indikátorov**):

  - **Hygiena rúk**: spotreba AD (l/1000pacientských dní) na JIS/OAIM
  - **Personál** JIS/OAIM: podiel zdravotných sestier (pomocného zdravotníckeho personálu) pripadajúcich na pacienta
  - **Riadenie ATB politiky**: systematická kontrola predpísaných ATB (kontrola, či sa mení ATB podľa citlivosti)
  - **Compliance v oblasti IAP**:
    - kontrola tlaku v endotracheálnej manžete
    - orálna dekontaminácia
    - poloha pacienta
  - **Compliance v oblasti starostlivosti o CVK**:
  - stav krytia: uvoľnenie, vlhkosť, viditeľné znečistenie

Časový rámec zberu údajov



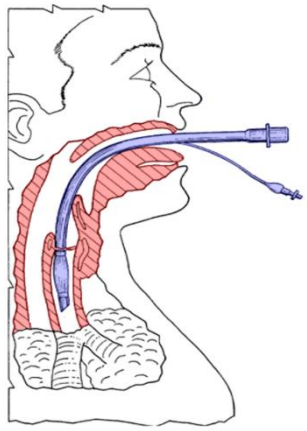
Zdroj: Changes to the ECDC protocol for surveillance HAI in ICU

Dáta o počte personálu

- Podstav personálu – významná **príčina ↓ kvality starostlivosti** (mortality...)
- indikátor so silnou asociáciou k prenosu patogénov **krížovou kontamináciou**

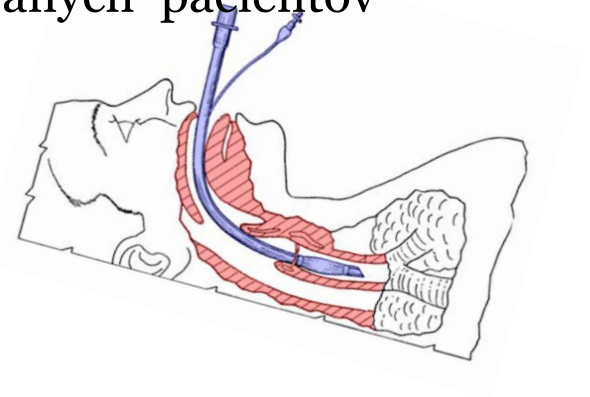
Riadenie ATB politiky

- Asi 60% pacientov JIS/OAIM užíva ATB počas hospitalizácie
- **Skrátenie doby užívania ATB** a užívanie uzkospektrálnych ATB alebo zmena na monoterapiu - **↓ šírenie rezistentných kmeňov a ↓ riziko toxicity ATB**

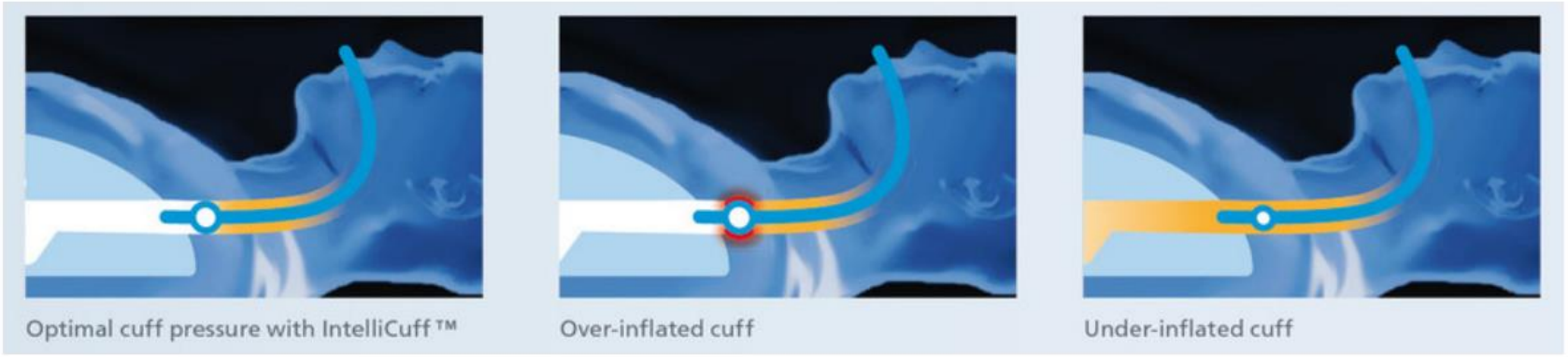


Indikátory prevencie VAP

- **Tlak v manžete**
  - Udržiavaie tlaku v manžete kanyly v odporúčanom rozmedzí **zabraňuje mikroaspiráciam a zachováva neporušenú sliznicu**
  - Odporúčané rozpätie (rôzne štúdie): 20-30 cm H2O, 25-30 cm H2O, 15-22 mm Hg
- **Orálna dekontaminácia**
  - Pravidelná orofaryngeálne dekontaminácia CHG alebo PVP-jodom ↓ **počet mikroorganizmov** kolonizujúcich orofaryngeálny sekrét, ↓ **riziko VAP** z dôvodu aspirácie v DDC u intubovaných pacientov
- **Poloha pacienta**
  - poloha na chrbte s 30-45 ° elevácia hlavy
  - **redukuje možnosť mikroaspirácie**



Tlak v manžete endotracheálnej kanyly



Správny tak v manžete medzi 20 a 30 CM H_2O	↑ tlak- útlak tkaniva → Ischémia sliznice trachey, riziko stenózy	↓ tlak: riziko zatekania sekrétu a mikroinhalácií

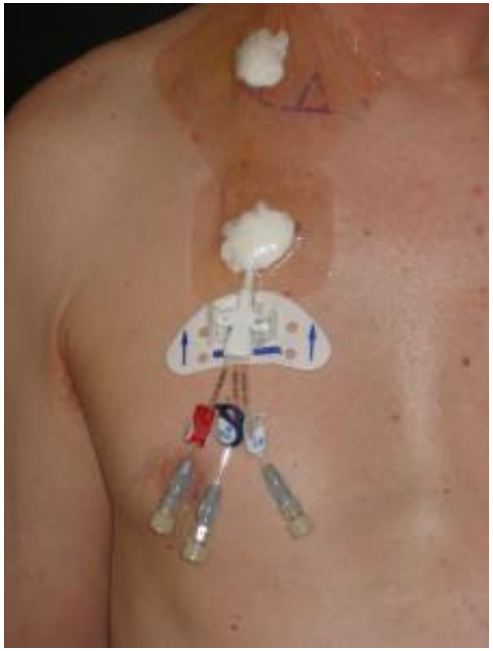
Zdroj: Suetens CR-ECDC and ICU group: Structure and process indicators for HAI-Net ICU surveillance. ECDC AHRAI míting, 2015

Zdôvodnenie CVK

zistiť čo je zlé

- Preferuje sa **sledovanie ošetrovania** pred sledovaním zavádzania CVK
  - z dôvodu uskutočniteľnosti a počtu možných observácií.

- SHEA : výmena netunelované CVC
  - **s transparentným krytím** – **á 5-7 dní,** ošetrenie (CHG,PVP-J)
  - **s gázovým krytím** - **á 2 dní,** ošetrenie (CHG,PVP-J)
  - **znečistené, odpadnuté, porušené** - **výmena častejšie**

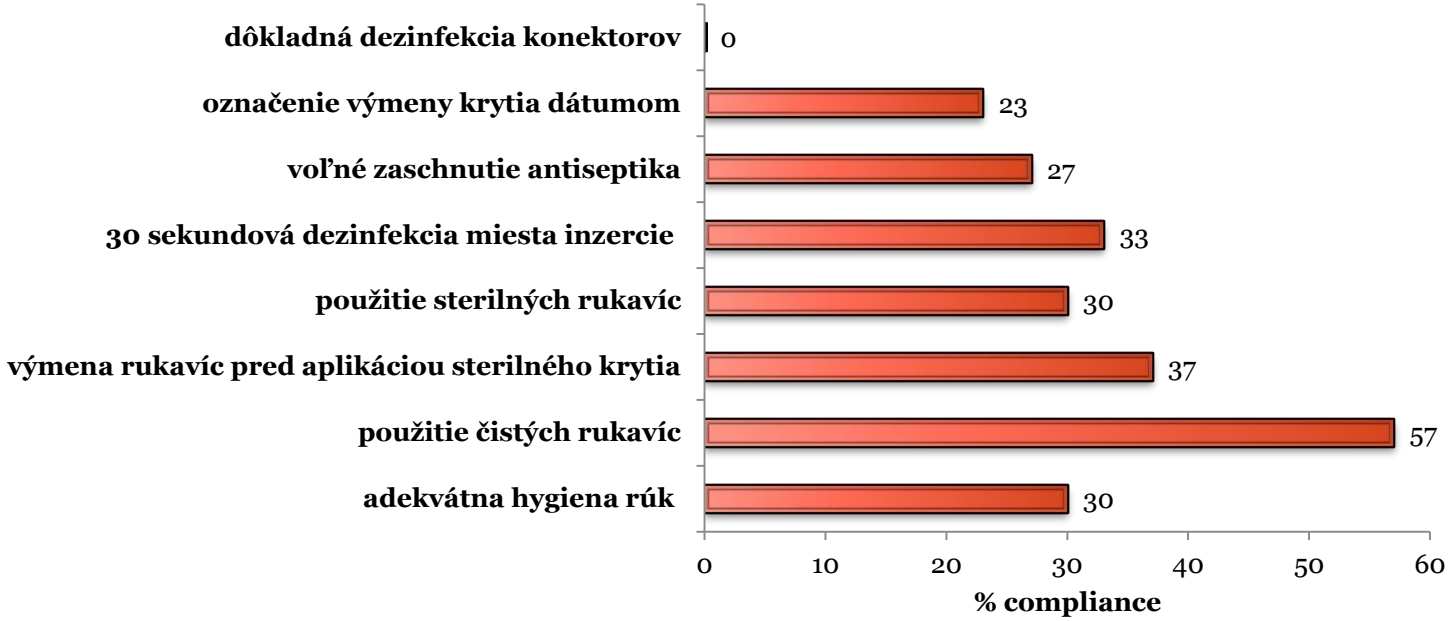


Zdroj: Marschall J, at all:Strategies to prevent central line-associated bloodstream infections in acute care hospitals: 2014 update. Infect Control Hosp Epidemiol. 2014 Sep;35 Suppl 2:S89-107.

34 prípadov CRBSI na JIS vo FN Trnava 2014 - 2015 (638 lôžok)		
Ročný výskyt	**N/1000 katétrových dní/rok**	**N/1000 pacientskych dní/rok**
17±2,8 CRBSI/rok	**5,1**	**1,53**

Neadekvátna ATB empirická terapia	25	**58 %**
28-dňová letalita	14	**32,6 %**

Procesové indikárory		
	Počet záznamov/ sledovaní	Compliance
Care bundles pri inzercii (zavádzaní) CVK	15	97,8%
Care bundles pri starostlivosti o zavedený CVK	30	**29,6%**



Garabášová, M., *et al.* Implementácia care bundles v prevencii katétrových infekcií krvného riečiska. In Zdravotnícke listy, ISSN1339-3022,2015,vol.r, no.4,p 6-12

ŠTRUKTURÁLNE A PROCESOVÉ INDIKÁTORY

Spotreba alkohol. DP na ruky v predchádzajúcom roku:	205 litrov	**Pomer: Alkohol/PD**
Počet pacientskych dní (všetkých) v predchádzajúcom roku	2295 PD	**89 l /1 000 pac. dní**
Personál na JIS:		**Pomer: personál: pacient**
Počet odpracovaných hodín sestier JIS počas 7 dní	686 hod.	2,2 pers. hodín /1 pacient.hodinu
Počet odpracov. hodín zdrav. asistentov a sanitárov na JIS počas 7 dní	248 hod.	0,79 pers. hodín /1 pacient.hodinu
Počet odpracovaných hodín sestier + asistentov na JIS počas 7 dní	934 hod	**3 pers. hod. /1 pacient.hod.**
Počet pacient. dní počas týchto 7 dní	45 PD	
Počet pacient. dní počas týchto 7 dní	45 PD=315PH	

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ŠTRUKTURÁLNE A PROCESOVÉ INDIKÁRORY

	Počet záznamov/ sledovaní	Compliance
Kontrola ATB th. po 48 – 72 hod. (záznamy)	32	**31,3 %**
Tlak v endotrach. manžete kontrolovaný a/alebo upravovaný najmenej 2 x za deň (záznamy)	34	100 %
Orálna dekontaminácia s použitím orálnych antiseptík najmenej 2 x za deň (záznamy)	36	97,2 %
Poloha intubovaného pacienta - nie na chrbte (pozorovanie)	32	96,9 %
Krytie CVK katétra nie je vlhké, uvoľnené alebo viditeľne znečistené (pozorovanie)	42	95,2 %

Nové procesové a štruktirálne indikátory pre Bodové prevalenčné sledovanie (BPS)- II r. 2016 - 2017

- na úrovni nemocnice
- na úrovni oddelenia
- na úrovni pacienta

BPS I-2012 SR - štrukturálne a procesové indikátory

UKAZOVATEĽ:	SR	EÚ
Spotreba ADR (l /1000 ložkodni)	↓9	18,7
Jednolôžk. izby/počet lôžok (%)	↓5	11,1
*Nemocnič. hygienik / 250 lôžok	0,15	0,36
*Epidemiol. sestra/ / 250 lôžok	0,36	0,94
Chirurg. ATB profylaxia >24 h. (%)	80	60

- *zamestnaní na plný úväzok*

Zdroj : BPS v SR, 2012

Nové procesové a štrukturálne indikátory pre BPS v r. 2017

Na úrovni nemocnice alebo oddelenia:

- počet ordinovaných **hemokultúr/rok**
- Počet **stolíc** na vyšetrenie **CDI/rok**
- Počet **odborníkov** na riadenie účelnej **preskripcie ATB**
- Počet **personálu :** sestier a zdrav. asistentov
- Počet **izolačných miest** s nútenou ventiláciou
- Existencia **plánu pre prevenciu a kontrolu NN**
- Existencia **výročnej správy o výskyte NN**

- Výkon **akejkoľvek surveillance** rok dozadu (z ponuky)
- **Dostupnosť mikrobiologickej Dg** cez víkendy
- Existencia **multimodálnej stratégie**: pre PN, BSI, SSI, UTI
- Počet jednolôžkových **izieb s WC a sprchou**
- **Obložnosť** v deň BPS
- Existencia a odhad v % **„bed side disinfection“** a **„pocket disinfection“**

Na úrovni pacienta

- RF: pre novorodencov – **hmotnosť**
- **ATB** –deň indikácie, DDD (počet dávok, forma, mg/g)
- **Rezistencia** na ATB :
  - SIR (S=sensitive, I= intermediate, U = unknow)
  - PDR: panrezistencia : nie, možná, potvrdená, neznáma

Ďakujem za pozornosť

*„.....**vedieť** koľko toho máme,*
***zistiť** prečo,*
***chcieť** niečo spraviť.....*"

ECDC Point prevalence survey of healthcare-associated infections and antimicrobial use in acute care hospitals, 2016-2017
Forms V5.04

Adapted after HAI-Net PPS meeting on 12-13 Feb 2015 and ARHAI DNCC meetings on 13-14 Apr 2015

European Prevalence Survey of Healthcare-Associated Infections and Antimicrobial Use
Form H1. Hospital data 1/3

Hospital code: ____

Survey dates: From __ / __ /____ **To:** __ / __ / ____

dd / mm / yyyy *dd / mm / yyyy*

Hospital size (total number of beds) ____

Number of acute care beds ____

Number of ICU beds ____

Exclusion of wards for PPS? ☐ No

☐ Yes, please specify which ward types were excluded: ____

Total number of beds in included wards:

Total number of patients included in PPS:

Hospital type ☐ Primary ☐ Secondary ☐ Tertiary ☐ Specialised, specify :

Hospital is part of administrative hospital group (**AHG**):

☐ No ☐ Yes → *if yes:*

Hospital ownership: ☐ Public ☐ Private, not-for-profit ☐ Private, for profit ☐ Other/Unknown

Data apply to: ☐ Hospital site only ☐ All hospitals in AHG

AHG code: ____ AHG type: Prim Sec Tert Spec

PPS Protocol: ☐ Standard ☐ Light

N of beds AHG: Total Acute care beds

Is the hospital part of a national representative sample of hospitals ? ☐ No ☐ Yes ☐ Unknown

	Number	Year data	Inc./ Total (1)
Number of discharges/admissions in year			Inc Tot
Number of patient-days in year			
Alcohol hand rub consumption liters/year			Inc Tot
N observed hand hygiene opportunities/year			Inc Tot
Number of blood culture sets/year			Inc Tot
Number of stool tests for CDI/year			Inc Tot
Number of FTE infection control nurses			Inc Tot
Number of FTE infection control doctors			
Number of FTE antimicrobial stewardship			
Number of FTE registered nurses			Inc Tot
Number of FTE nursing assistants			
Number of FTE registered nurses in ICU			
Number of FTE nursing assistants in ICU			
N of airborne infection isolation rooms			

(1) Data were collected for Included wards only (**Inc** , = recommended) or for the total hospital (**Tot**); if all wards were included in PPS (Inc=Tot), mark "Inc"

European Prevalence Survey of Healthcare-Associated Infections and Antimicrobial Use
Form H2. Hospital data 2/3

Hospital code: ☐

Survey dates: From __ / __ /____ **To:** __ / __ / ____
dd / mm / yyyy *dd / mm / yyyy*

Infection prevention and control (IPC) programme:

Is there an annual IPC plan, approved by the hospital CEO or a senior executive officer? ☐ Yes ☐ No

Is there an annual IPC report, approved by the hospital CEO or a senior executive officer? ☐ Yes ☐ No

Participation in surveillance networks:

In the previous year, which surveillance networks did your hospital participate in ? (*tick all that apply*)
☐ SSI ☐ ICU ☐ CDI ☐ Antimicrobial resistance
☐ Antimicrobial consumption ☐ Other

Microbiology/diagnostic performance:

At weekends, can clinicians request routine microbiological tests and receive back results?
Clinical tests: ☐ Saturday ☐ Sunday
Screening tests: ☐ Saturday ☐ Sunday

CEO: Chief Executive Officer, Managing Director; SSI: surgical site infections; ICU: intensive care unit (HAIs in ICUs); CDI: *Clostridium difficile* infections;

Does your hospital have a **multimodal strategy** for the prevention of following infections? (*tick all components that apply*)

	Guideline	Training	Checklist	Audit	Surveillance	Feedback
ICU						
Pneumonia						
Bloodstream infections						
Surgical site infections						
Urinary tract infections						
Hospital-wide / other wards						
Pneumonia						
Bloodstream infections						
Surgical site infections						
Urinary tract infections						

Pneumonia, bloodstream infections and urinary tract infections: healthcare-associated and/or device-associated; Training: training or education; Checklist: self-applied; Audit: external process (process surveillance, observations…)

Comments/observations:

_____

_____

European Prevalence Survey of Healthcare-Associated Infections and Antimicrobial Use
Form H3. Hospital data 3/3

Hospital code: [ ]

Survey dates: From __ / __ /____ **To:** __ / __ / ____
dd / mm / yyyy *dd / mm / yyyy*

Optional: ward indicators collected at hospital-wide level:

	Number	Inc./ Total (1)
Number of beds with AHR dispensers at point of care		
Number of beds assessed for presence of AHR dispensers		
Number of patient rooms in hospital		
Number of single patient rooms in hospital		
Number of single patient rooms with individual toilet and shower in hospital		
Number of beds occupied at 00:01 on the day of PPS		
Number of beds assessed for occupancy at 00:01 on the day of PPS		

(1) Data were collected for Included wards only (**Inc** = recommended) or for the total hospital (**Tot**); if all wards were included in PPS (Inc=Tot), mark "Inc"

In your hospital, do healthcare workers (HCW) carry AHR dispensers (e.g. in their pockets) ? (if yes, please estimate percentage)

O No O >0-25% of HCW O >25-50% of HCW O >50-75% of HCW O >75% of HCW

Is there a formal procedure to review the appropriateness of an antimicrobial within 72 hours from the initial order in the hospital (**post-prescription review**)?

O Yes, in all wards O Yes, in selected wards only O Yes, in ICU only O No

AHR = Alcohol hand rub; Number of beds assessed for presence of AHR dispensers and N of beds assessed for occupancy at 00:01 on the day of PPS = denominator data, typically same number as the total number of beds in the hospital.

European Prevalence Survey of Healthcare-Associated Infections and Antimicrobial Use
Form W. Ward data

Survey date[1]**:** ___ / ___ / _____ **Hospital code** [_____] **Ward name (abbr.) /Unit Id** [_____]

dd / mm / yyyy

Ward specialty[2] ☐ PED ☐ NEO ☐ ICU ☐ MED ☐ SUR ☐ G/O ☐ GER ☐ PSY ☐ RHB ☐ LTC ☐ OTH ☐ MIX

Total number of patients in ward[3] [_____]

Number of patients by consultant/patient specialty (LIGHT only):

Consultant/patient Specialty	Number of patients in ward[4]

Is there a formal procedure to review the appropriateness of an antimicrobial within 72 hours from the initial order in this ward (**post-prescription review**)? O Yes O No

	Number	Year[5]
Number of patient-days in ward / year		
Alcohol hand rub consumption in ward liters/year[6]		
N of hand hygiene opportunities observed /year		
Number of beds in ward		
N of beds with AHR dispensers at point of care		
Number of HCWs on ward at time of PPS		
Number of HCWs on ward carrying AHR dispensers		
Number of rooms in ward		
Number of single rooms in ward		
N of single rooms with individual toilet and shower		
N of beds occupied at 00:01 on the day of PPS		

[1]Patients on the same ward should be included on a single day if possible; [2]Main ward specialty: >=80% of patients belong to this specialty, otherwise choose mixed [3]Optional for standard, mandatory for light data collection; [3-4] number of patients admitted to the ward before or at 8 and not discharged from the ward at time of the survey; [5]Year: year of data, previous year or most recent available year; [6]Alcohol hand rub s liters delivered to the ward during the same year; N = number; HCW=healthcare worker

Comments/observations:

_____

European Prevalence Survey of Healthcare-Associated Infections and Antimicrobial Use
Form A. Patient-based data (standard protocol)

Patient data (to collect for all patients)

Hospital code [_____] **Ward name** (abbr.)/Unit Id [_____]

Survey date: ___ / ___ / 20___ (*dd/mm/yyyy*)

Patient Counter: [_____]

Age in years: [____] yrs; Age if < 2 year old: [____] months

Sex: M / F **Date of hospital admission** *dd / mm / yyyy* _____

Consultant/Patient Specialty: [_____]

Surgery since admission:

O No surgery O Minimal invasive/non-NHSN surgery

O NHSN surgery -> specify (optional): [_____] O Unknown

McCabe score:

O Non-fatal disease O Ultimately fatal disease

O Rapidly fatal disease O Unknown

If neonate, birth weight: [_____] grams

Central vascular catheter: ☐ No ☐ Yes ☐ Unk

Peripheral vascular catheter: ☐ No ☐ Yes ☐ Unk

Urinary catheter: ☐ No ☐ Yes ☐ Unk

Intubation: ☐ No ☐ Yes ☐ Unk

Patient receives antimicrobial(s)(1) ☐ No ☐ Yes

Patient has active HAI(2) ☐ No ☐ Yes

IF YES

Antimicrobial (generic or brand name)	Route	Indication	Diagnosis (site)	Reason in notes	Date start (indication)	Dosage per day: Number of doses	x	Dosage per day: Strength of 1 dose	Dosage per day: mg/g/IU
					/ /				
					/ /				
					/ /				

Route: P: parenteral, O: oral, R: rectal, I: inhalation; **Indication**: treatment intention for community (CI), long/intermediate-term care (LI) or acute hospital (HI) infection; surgical prophylaxis: SP1: single dose, SP2: one day, SP3: >1day; MP: medical prophylaxis; O: other; UI: Unknown indication; **Diagnosis**: see site list, only for CI-LI-HI; **Reason in notes**: Y/N; **Date start** current AM or – if changed - the 1st AM given for the indication; Dose/day e.g. 3 x 1 g; g=gram, mg=milligram, IU=international units, MU=million IU

	HAI 1				HAI 2			
Case definition code								
Relevant device (3)	O Yes O No O Unknown				O Yes O No O Unknown			
Present on admission	O Yes O No				O Yes O No			
Date of onset (4)	/ /				/ /			
Origin of infection	O current hospital O other hospital O other origin/ unk				O current hospital O other hospital O other origin/ unk			
HAI associated to current ward	O Yes O No O Unknown				O Yes O No O Unknown			
If BSI: source (5)								
	MO code	AMR: AB (6)	AMR: SIR	PDR	MO code	AMR: AB (6)	AMR: SIR	PDR
Microorganism 1								
Microorganism 2								
Microorganism 3								

(1) At the time of the survey, except for surgical prophylaxis 24H before 8:00 AM on the day of the survey; if yes, fill antimicrobial use data; if patient receives >3 antimicrobials, add a new form; (2) [infection with onset ≥ Day 3, OR SSI criteria met (surgery in previous 30d/1yr), OR discharged from acute care hospital <48h ago, OR CDI and discharged from acute care hospital < 28 days ago OR onset < Day 3 after invasive device/procedure on D1 or D2] AND [HAI case criteria are met between D1 of treatment and survey day]; if yes, fill HAI data, if patient has > 2 HAIs, add new form.

(3) relevant device use before onset infection (intubation for PN, CVC/PVC for BSI, urinary catheter for UTI); (4) Only for infections not present/active on admission (dd/mm/yyyy); (5) C-CVC, C-PVC, S-PUL, S-UTI, S-DIG, S-SSI, S-SST, S-OTH, UO, UNK; (6) AB: tested antibiotic(s): STAAUR: oxacillin (OXA)+glycopeptides (GLY); Enterococci: GLY; Enterobacteriaceae: 3rd-gen cephalosporins (C3G) + carbapenems (CAR); PSEAER and ACIBAU: CAR; SIR: S=sensitive; I=intermediate; R=resistant;; U=unknown; PDR: Pan-drug resistant: N=no ; P=possible;

European Prevalence Survey of Healthcare-Associated Infections and Antimicrobial Use

Form B. Light protocol: Antimicrobial use and HAI data

Patient data (patients with HAI and/or antimicrobial only)

Hospital code [_____]

Ward name (abbr.)/Unit Id [_____]

Patient Counter: [_____]

Age in years: [____] yrs; Age if < 2 years old: [_____] months

Sex: M / F

Date of hospital admission: ___ / ___ / _____ *(dd/mm/yyyy)*

Consultant/Patient Specialty: [_____]

Patient receives **antimicrobial(s)**(1): ☐ No ☐ Yes

Patient has **active HAI**(2): ☐ No ☐ Yes

IF YES

Antimicrobial (generic or brand name)	Route	Indication	Diagnosis (site)	Reason in notes	Date start (indication)	Dosage per day: Number of doses	x	Dosage per day: Strength of 1 dose	Dosage per day: mg/g/IU
					/ /				
					/ /				
					/ /				

Route: P: parenteral, O: oral, R: rectal, I: inhalation; **Indication**: treatment intention for community (CI), long/intermediate-term care (LI) or acute hospital (HI) infection; surgical prophylaxis: SP1: single dose, SP2: one day, SP3: >1day; MP: medical prophylaxis; O: other; UI: Unknown indication; **Diagnosis**: see site list, only for CI-LI-HI; **Reason in notes**: Y/N; **Date start** current AM or – if changed - the 1st AM given for the indication; Dose/day e.g. 3 x 1 g; g=gram, mg=milligram, IU=international units, MU=million IU

	HAI 1	HAI 2
Case definition code		
Relevant device (3)	O Yes O No O Unknown	O Yes O No O Unknown
Present on admission	O Yes O No	O Yes O No
Date of onset (4)	/ /	/ /
Origin of infection	O current hospital O other hospital O other origin/ unk	O current hospital O other hospital O other origin/ unk
HAI associated to current ward	O Yes O No O Unknown	O Yes O No O Unknown
If BSI: source (5)		

	HAI 1: MO code	HAI 1: AMR AB (6)	HAI 1: AMR SIR	HAI 1: PDR	HAI 2: MO code	HAI 2: AMR AB (6)	HAI 2: AMR SIR	HAI 2: PDR
Microorganism 1								
Microorganism 2								
Microorganism 3								

(1) At the time of the survey, except for surgical prophylaxis 24h before 8:00 AM on the day of the survey; if yes, fill antimicrobial use data; if patient receives >3 antimicrobials, add a new form; (2) [infection with onset ≥ Day 3, OR SSI criteria met (surgery in previous 30d/1yr), OR discharged from acute care hospital <48h ago, OR CDI and discharged from acute care hospital < 28 days ago OR onset < Day 3 after invasive device/procedure on D1 or D2] AND [HAI case criteria met on survey day OR patient is receiving (any) treatment for HAI AND case criteria are met between D1 of treatment and survey day]; if yes, fill HAI data; if patient has > 2 HAIs, add new form.

(3) relevant device use before onset infection (intubation for PN, CVC/PVC for BSI, urinary catheter for UTI);

(4) Only for infections not present/active on admission (dd/mm/yyyy); (5) C-CVC, C-PVC, S-PUL, S-UTI, S-DIG, S-SSI, S-SST, S-OTH, UO, UNK; (6) AB: tested antibiotic(s): STAAUR: oxacillin/meticillin (OXA) + glycopeptides (GLY); Enterococci: GLY; Enterobacteriaceae: 3rd-gen cephalosporins (C3G) + carbapenems (CAR); PSEAER and ACIBAU: CAR; SIR: S=sensitive, I=intermediate, R=resistant,

European Prevalence Survey of Healthcare-Associated Infections and Antimicrobial Use
Form N. National/regional data

Country Code: _____ Network ID/Data Source: _____

Date start PPS : __ / __ /____

National/regional PPS coordination centre/institute:

_____

National/regional PPS coordination programme/unit:

Name:

_____

Website:

_____

	N	Year data
Total N of acute care hospitals (“sites”)		
N of hospital mergers (“trusts”)		
Total N of beds in acute care hospitals		
Total N of acute care beds		
Number of discharges/admissions, all		
Number of discharges/admissions, acute care beds only		
Number of patient days, all		
Number of patient days, acute care beds only		

Method of sampling/recruitment of hospitals (more than 1 answer possible):

O representative systematic random sample O other representative sample O convenience sample (selection)

O all hospitals invited O voluntary participation O mandatory participation

Total number of hospitals in PPS: Light (unit-based) protocol ____ Standard (patient-based) protocol _____

Number of hospitals submitted to ECDC: Light (unit-based) protocol ____ Standard (patient-based) protocol _____

Comments/observations:

_____

_____