

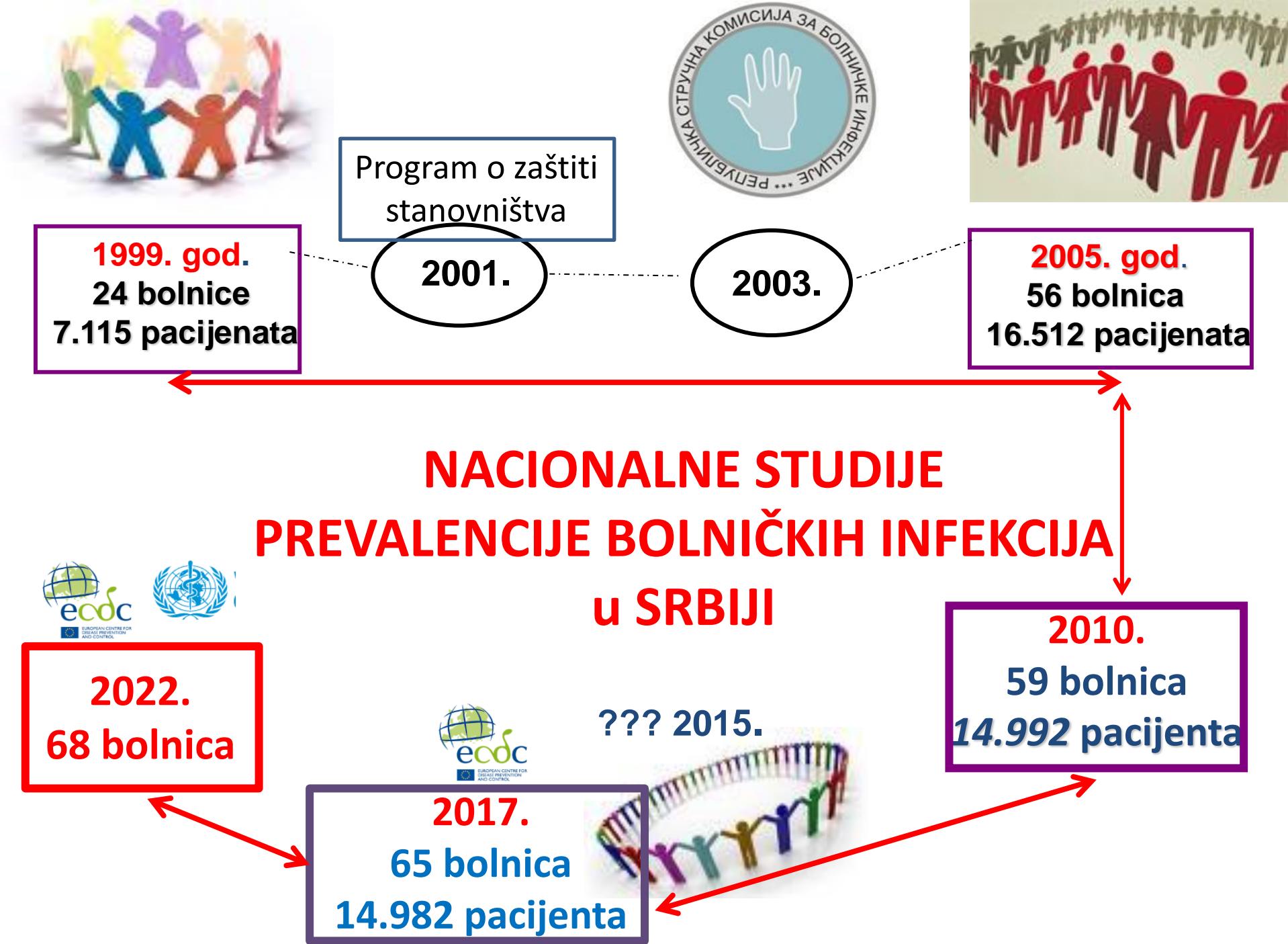


Пета национална студија преваленције болничких инфекција и употребе антибиотика

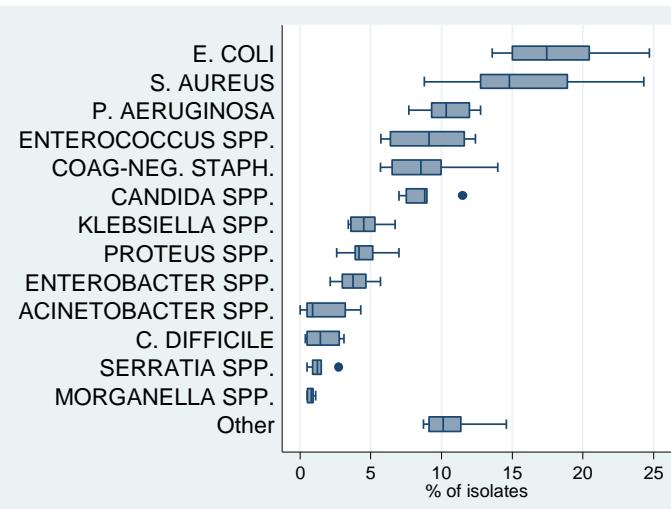
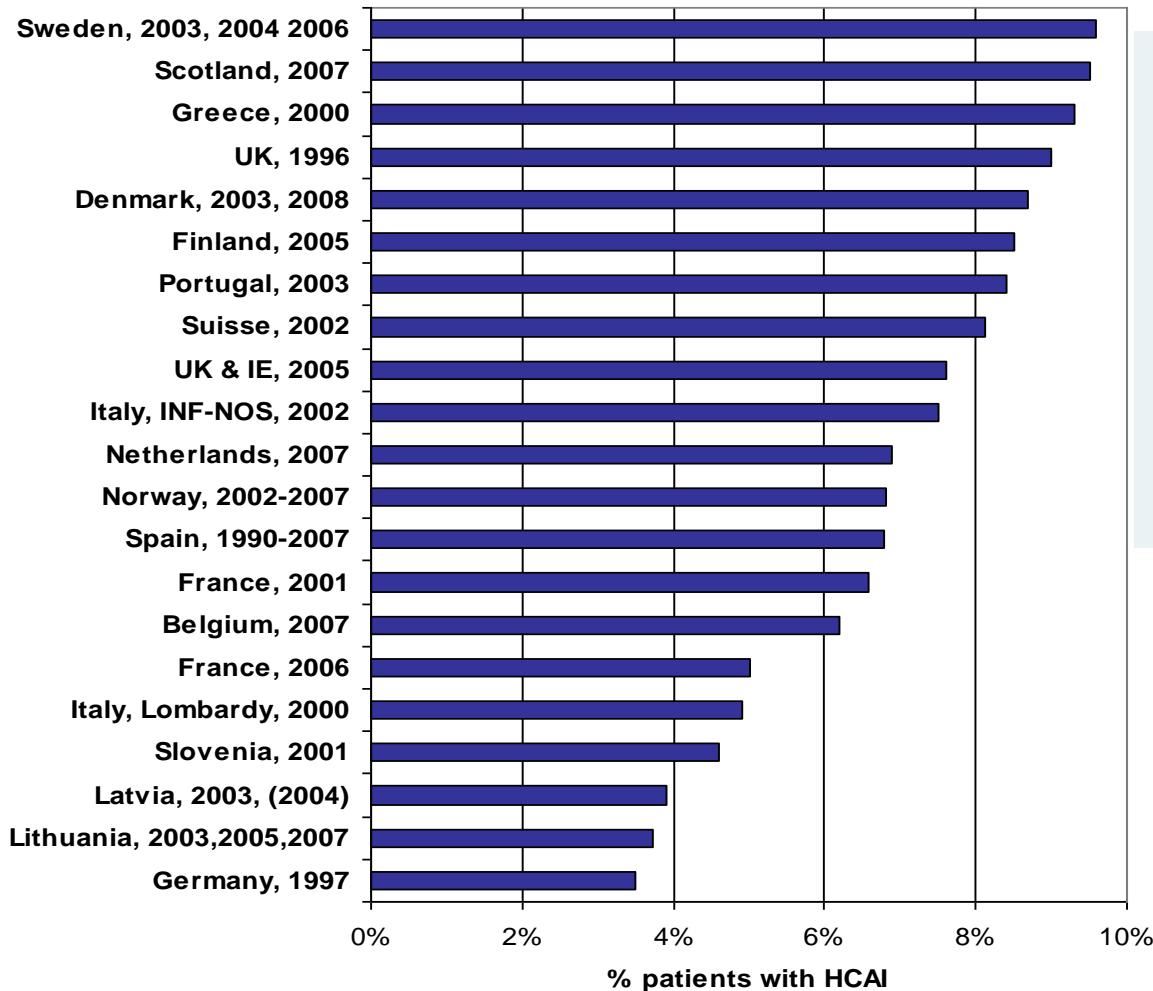
*ИСКУСТВА ИЗ СТУДИЈА ПРЕВАЛЕНЦИЈЕ
БОЛНИЧКИХ ИНФЕКЦИЈА*

*Проф. др Љиљана Марковић-Денић
Медицински факултет, Београд*





Prevalence surveys in Europe 1990- 2008: need for harmonised methods



Mean HAI prevalence 7%

Mean HAI incidence 5%

Zemlja	Godina izvođenja studije prevalencije
Italija	1986, 2000
Velika Britanija	1981, 1993, 2006*
Belgija	1984, 1992, 2008
Francuska	1990, 1996, 2002, 2006
Španija	1990.....2008
Norveška	1991, 1996-1999, 2002, 2003
Holandija	2007 – 2008 (2 x godišnje)
Češka	2005-2009
Bugarska	2006
Slovenija	2001

Zemlja	Godina izvođenja studije prevalencije
Italija	1986, 2000
Velika Britanija	1981, 1993, 2006*
Belgija	1984, 1992, 2008
Francuska	1990, 1996, 2002, 2006
Španija	1990.....2008
Norveška	1991, 1996-1999, 2002, 2003
Holandija	2007 – 2008 (2xgodišnje)
Češka	2005-2009
Bugarska	2006

2000: HELICS (Hospitals in Europe for Infection Control through Surveillance)

2005-2008: IPSE (Improving Patient Safety in Europe)

2008: IPSE se transformiše u ECDC

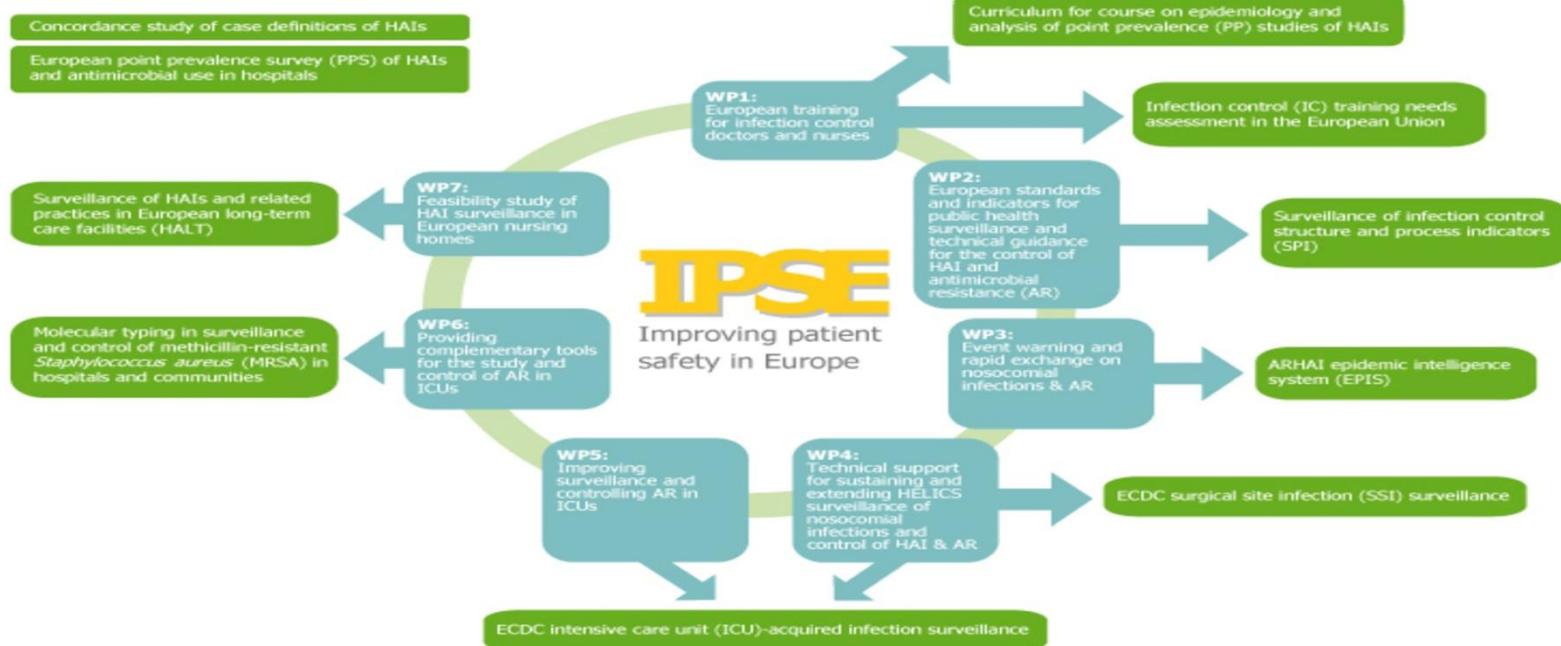


European Centre for Disease Prevention and Control

An agency of the European Union

IPSE-ECDC transition overview

- Former IPSE Network
- New ECDC HAI Network



What is the role of European Centre for Disease Prevention and Control (ECDC)?

Identify, assess & communicate current & emerging health threats to human health from communicable diseases
(ECDC Founding Regulation (851/2004), Article 1)

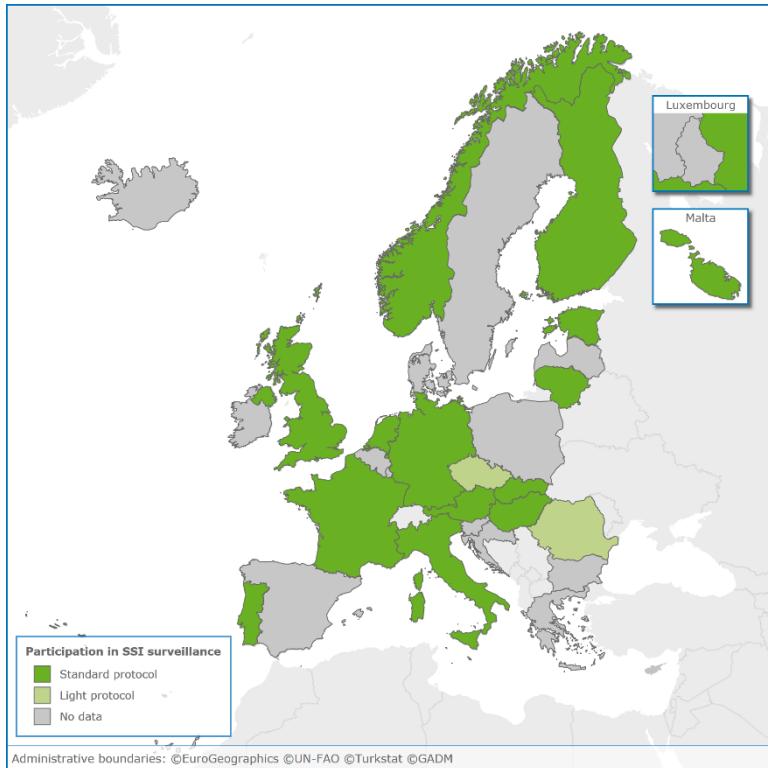
- EU-level disease surveillance
- Scientific opinions and studies
- Early Warning System and response
- Technical assistance and training
- Epidemic intelligence
- Communication to scientific community
- Communication to the public



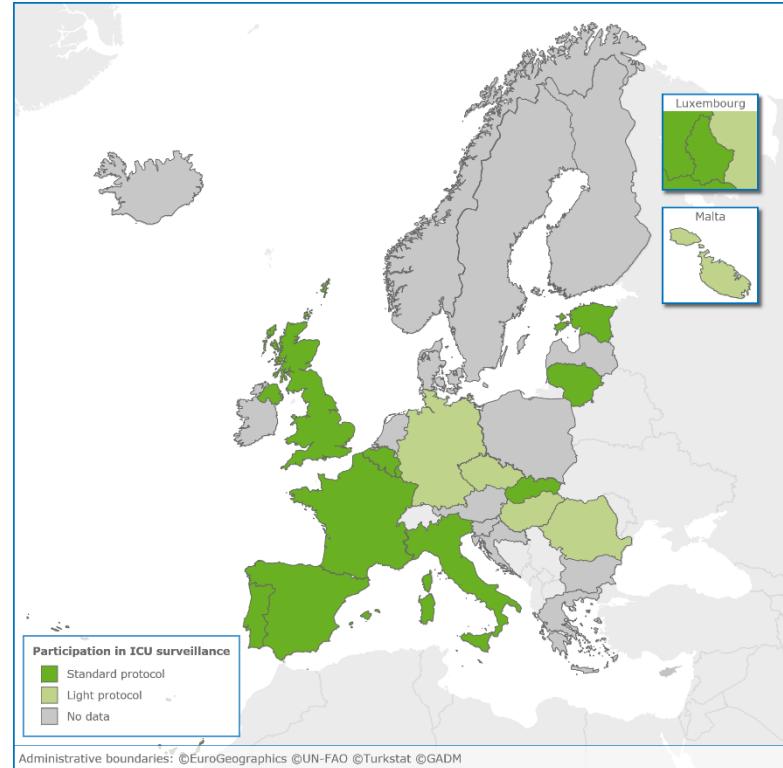
Nadzor nad BI u Evropi, organizovan od strane ECDC

- Nadzor koji je u toku na nacionalnom nivou:

Infekcije operativnog mesta:



BI u JIL:



Nadzor nad BI u Evropi, organizovan od strane ECDC

- Nove aktivnosti:
 - BI u ustanovama za dugotrajni boravak (HALT projekat)
 - Ponovljene studije prevalencije (PPS)
 - Nadzor nad infekcijama izazvanim bakterijom *Clostridium difficile*, započeo januara 2016.
- Indikatori strukture i indikatori procesa za prevenciju i suzbijanje BI integrисани u sistem nadzora nad BI



- **ZAŠTO STUDIJE PREVALENCIJE?**

- brza, jednostavna metoda
- određivanje učestalosti bolničkih infekcija
- definisanje prioritetnih ciljeva
- brzi rezultati
- relativno jeftine

VRSTE NADZORA NAD BI

I Prema načinu prikupljanja podataka

Pasivan.... Aktivan

II Prema izvoru podataka

- baziran na podacima iz laboratorije
- baziran na podacima o bolesnicima

III Prema vremenu izvođenja

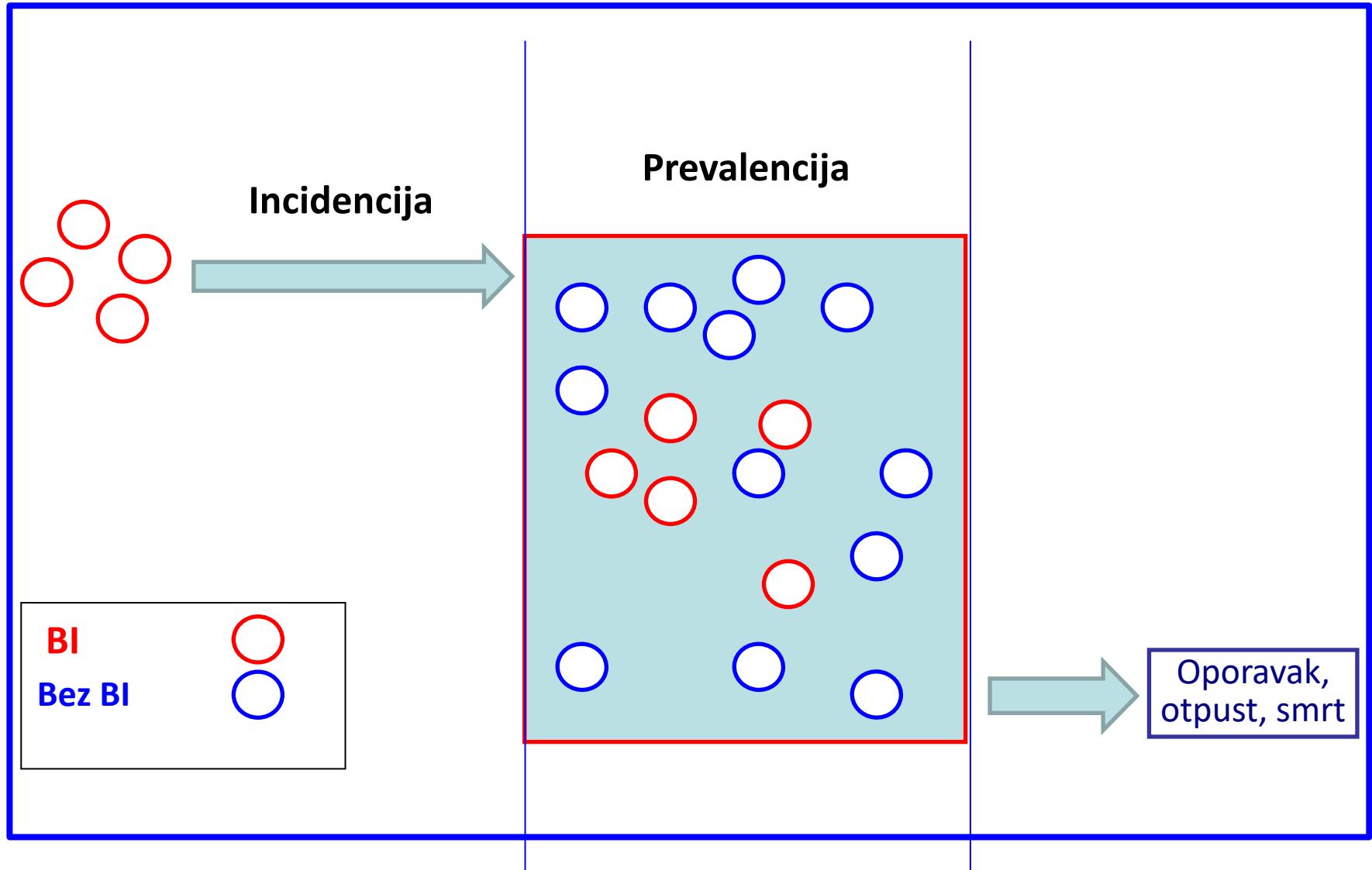
- putem prevalencije
- praćenjem incidencije

IV Prema obimu prikupljanja podataka

- Sveobuhvatan (sve BI)
- Ciljani
 - (samo infekcije op. mesta na hirurgiji;
 - samo pneumonije na plućnim odeljenjima...)

(Izvor: Marković-Denić, Šuljagić, 2006)

Prevalencija i incidencija



Izračunavanje prevalencije

- Prevalencija = brojilac/imenilac x100
- **Brojilac**
 - Broj pacijenata na odeljenju sa aktivnom BI u vreme izvođenja studije prevalencije
- **Imenilac**
 - Broj pacijenata na tom odeljenju u 8 h ujutru na dan studije prevalencije
- Anketar dolazi na odeljenje na kome u 8 sati ujutru na dan studije ima **27 hospitalizovnaih pacijenata**. Pregleda istorije bolesti, temperaturne liste. EPIDEMIOLOG (sa ordinirajućim lekarom) postalja dijagnozu **aktivne BI kod 4 pacijenta**.
 - Imenilac je (broj pacijenata)=
 - Brojilac (br pacijenata sa BI)=
 - Prevalencija pacijenata sa BI =

Izračunavanje prevalencije

- Prevalencija = brojilac/imenilac x100
- **Brojilac**
 - Broj pacijenata na odeljenju sa aktivnom BI u vreme izvođenja studije prevalencije
- **Imenilac**
 - Broj pacijenata na tom odeljenju u 8 h ujutru na dan studije prevalencije
- Anketar dolazi na odeljenje na kome u 8 sati ujutru na dan studije ima 27 hospitalizovnaih pacijenata. Pregleda istorije bolesti, temperaturne liste. EPIDEMIOLOG (sa ordinirajućim lekarom) postalja dijagnozu aktivne BI kod 4 pacijenta (svaki pacijent ima po jednu BI).
 - Imenilac je (broj pacijenata)=27
 - Brojilac (br pacijenata sa BI= 4
 - Prevalencija pacijenata sa BI = $4/27 = 15\%$

Izračunavanje prevalencije

- Prevalencija = brojilac/imenilac x100
- **Brojilac**
 - Broj pacijenata na odeljenju sa aktivnom BI u vreme izvođenja studije prevalencije
- **Imenilac**
 - Broj pacijenata na tom odeljenju u 8 h ujutru na dan studije prevalenije
- Anketar dolazi na odeljenje na kome u 8 sati ujutru na dan studije ima **27 hospitalizovnaih pacijenata**. Pregleda istorije bolesti, temperaturne liste. EPIDEMIOLOG (sa ordinirajućim lekarom) postalja dijagnozu **aktivne BI kod 4 pacijenta, ali 2 pacijenta imaju po 2 BI**.
 - Imenilac je (broj pacijenata)=27
 - Brojilac (br pacijenata sa BI)= 4
 - Prevalencija pacijenata sa BI = $4/27 = 15\%$
 - Prevalencija BI= **$6/27=22,2\%$**

Značaj studija prevalencije bolničkih infekcija



Značaj studija prevalencije bolničkih infekcija

French, 1989.

- Ponavljane studije prevalencije mogu meriti promenu učestalosti BI

Lancet, 1989: *Repeated prevalence surveys for monitoring effectiveness of Hospital infection control*

Prevalence surveys of healthcare-associated infections: what do they tell us, if anything?

H. Humphreys¹ and E. T. M. Smyth²

ABSTRACT

Prevalence surveys of healthcare-associated infections offer advantages over incidence surveys, including the relative ease of performance, a reduced requirement for resources, the ability to include increased numbers of hospitals within a shorter period of time, and the possibility of more rapid data analysis and feedback. Prevalence surveys have also been shown to be useful in monitoring the effectiveness of infection control programmes. Prevalence surveys appear to be desirable when financial support, and/or the will to carry out incidence surveys, is lacking. However, it is imperative that prevalence surveys use standardised methodology and internationally recognised definitions of infection.

ORIGINAL ARTICLE

Assessing the Burden of Healthcare-Associated Infections through Prevalence Studies: What Is the Best Method?

Walter Zingg, MD;¹ Benedikt D. Huttner, MD, MS;¹ Hugo Sax, MD;^{1,a} Didier Pittet, MD, MS¹

OBJECTIVE. To explore differences in the prevalence of healthcare-associated infections (HAIs) according to survey methodology.

DESIGN. Repeated point and period prevalence survey strategies.

SETTING. University-affiliated primary and tertiary care center.

METHODS. Analysis of data collected from 2006 to 2012 from annual HAI prevalence surveys using definitions proposed by the US Centers for Disease Control and Prevention. The study design allowed the analysis of the same data in the format of a point or a period prevalence survey.

RESULTS. Pooled point and period HAI prevalence was 7.46% and 9.84% (+32%), respectively. This additional 32% was mainly attributable to infections of the lower respiratory tract (2.42% vs 3.20% [+32%]) and the urinary tract (1.76% vs 2.62% [+49%]). Differences in surgical site infections (1.02% vs 1.20% [+19%]) and bloodstream infections (0.76% vs 0.86% [+13%]) were smaller. HAI prevalence for the point and period methodology in acute and long-term care were 7.47% versus 9.38 (+26%) and 8.37% versus 11.89% (+42%), respectively. Differences were stable over time. Focusing on the 4 major HAIs (respiratory tract, urinary tract, surgical site, and bloodstream infections) misses one-quarter of all HAIs.

CONCLUSIONS. More HAIs are identified by the period prevalence method, especially those of shorter duration (lower respiratory and urinary tract), which would make this method more suitable to be used in long-term care. Results of the 2 study methods cannot be benchmarked against each other.

Infect Control Hosp Epidemiol 2014;35(6):674-684

HEALTHCARE EPIDEMIOLOGY INVITED ARTICLE

Robert A. Weinstein, Section Editor

Measuring the Scope and Magnitude of Hospital-Associated Infection in the United States: The Value of Prevalence Surveys

Eloisa Llata,^{1,2} Robert P. Gaynes,¹ and Scott Fridkin¹

¹Division of Healthcare Quality Promotion, National Center for Preparedness, Detection, and Control of Infectious Diseases, Coordinating Center for Infectious Diseases, and ²Epidemic Intelligence Service, Office of Workforce and Career Development, Centers for Disease Control and Prevention, Atlanta, Georgia

ORIGINAL ARTICLE

Multistate Point-Prevalence Survey of Health Care-Associated Infections

Shelley S. Magill, M.D., Ph.D., Jonathan R. Edwards, M.Stat.,
Wendy Bamberg, M.D., Zintars G. Beldavs, M.S., Ghinwa Dumyati, M.D.,
Marion A. Kainer, M.B., B.S., M.P.H., Ruth Lynfield, M.D., Meghan Maloney, M.P.H.,
Laura McAllister-Hollod, M.P.H., Joelle Nadle, M.P.H., Susan M. Ray, M.D.,
Deborah L. Thompson, M.D., M.S.P.H., Lucy E. Wilson, M.D.,
and Scott K. Fridkin, M.D., for the Emerging Infections Program
Healthcare-Associated Infections and Antimicrobial Use Prevalence Survey Team*

RESULTS

Surveys were conducted in 183 hospitals. Of 11,282 patients, 452 had 1 or more health care-associated infections (4.0%; 95% confidence interval, 3.7 to 4.4). Of 504 such infections, the most common types were pneumonia (21.8%), surgical-site infections (21.8%), and gastrointestinal infections (17.1%). *Clostridium difficile* was the most commonly reported pathogen (causing 12.1% of health care-associated infections). Device-associated infections (i.e., central-catheter-associated bloodstream infection, catheter-associated urinary tract infection, and ventilator-associated pneumonia), which have traditionally been the focus of programs to prevent health care-associated infections, accounted for 25.6% of such infections. We estimated that there were 648,000 patients with 721,800 health care-associated infections in U.S. acute care hospitals in 2011.



Point prevalence surveys of health-care-associated infections: a systematic review

Zikria Saleem^{d,a,b}, Brian Godman^{c,d,e}, Mohamed Azmi Hassali^{d,a}, Furqan Khurshid Hashmi^f, Faiza Azhar^f and Inayat Ur Rehman^{g,h}

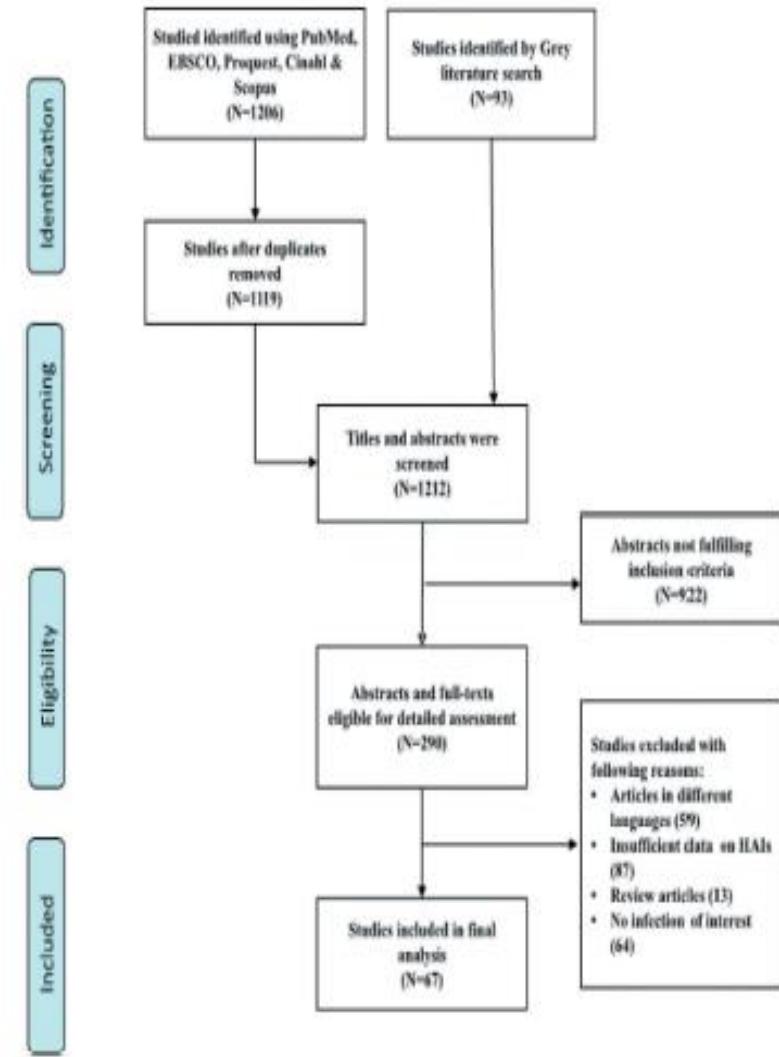
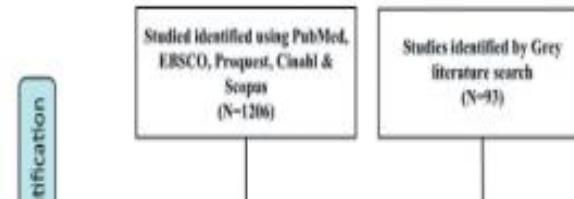


Figure 1. Flow chart and selection strategies of studies.



Point prevalence surveys of health-care-associated infections: a systematic review

Zikria Saleem^{a,b}, Brian Godman^{c,d,e}, Mohamed Azmi Hassali^{d,a}, Furqan Khurshid Hashmi^f, Faiza Azhar^f and Inavat Ur Rehman^{g,h}



ABSTRACT

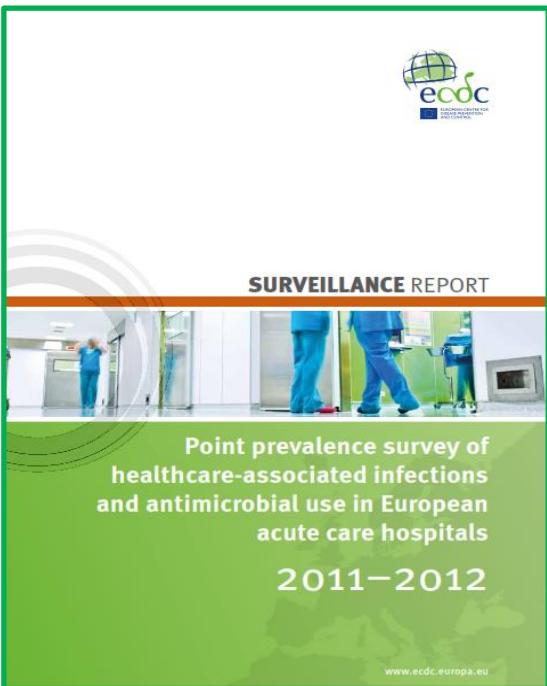
Health-care-associated infections (HAIs) are considered a serious public health issues that contribute substantially to the global burden of mortality and morbidity with respect to infectious diseases. The aim is to assess the burden of health-care-associated infections by collation of available data from published point prevalence surveys (PPS) on HAIs to give future guidance. Study protocol and methodology were designed according to preferred reporting items for systematic reviews and meta-analysis (PRISMA) guidelines. Published research papers that conducted a point prevalence survey of HAIs in hospital settings by following the structured survey methodology employed by European Centre of Disease Prevention and Control (ECDC) were included. Of 1212 articles, 67 studies were included in the final analysis conducted across different countries. Overall, 35 studies were conducted in Europe, 21 in Asia, 9 in America, and 2 in Africa. The highest prevalence of HAIs was recorded in a study conducted in adult ICU settings of 75 regions of Europe (51.3%). The majority of the studies included HAI data on urinary tract infections, respiratory tract infections, and bloodstream infections. *Klebsiella pneumonia*, *Pseudomonas aeruginosa* and *E. coli* were the most frequent pathogens responsible for HAIs. PPS is an useful tool to quantify HAIs and provides a robust baseline data for policymakers. However, a standardize surveillance method is required. In order to minimize the burden of HAIs, infection prevention and control programs and antibiotic stewardship may be effective strategies to minimize the risk of HAIs.

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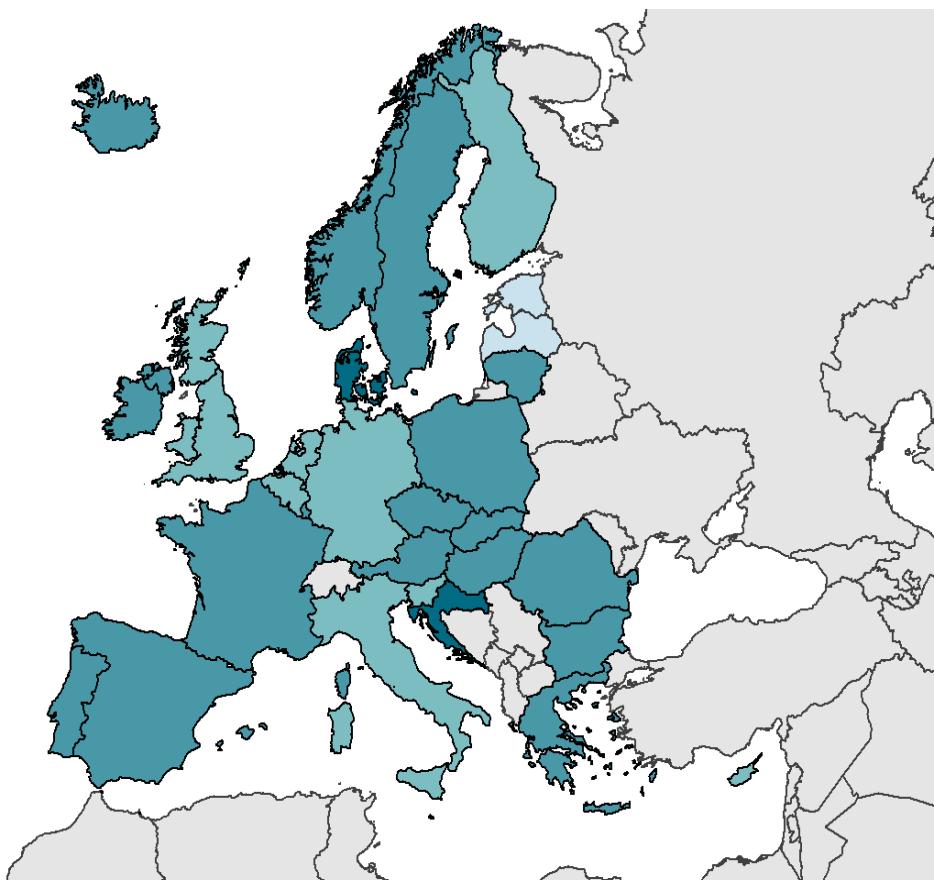
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interest

ECDC studija prevalencije u EU, 2011-2012.

- 30 zemalja
- Preko 1 000 bolnica
- Više od 200 000 pacijenata



■ May-Jun 2011
■ Sep-Nov 2011
■ May-Jun 2012
■ Sep-Nov 2012
■ Not included



На основу члана 33. став 3. Закона о заштити становништва од заразних болести ("Службени гласник РС", број 125/04),

Министар здравља доноси

ПРАВИЛНИК О СПРЕЧАВАЊУ, РАНОМ ОТКРИВАЊУ И СУЗБИЈАЊУ БОЛНИЧКИХ ИНФЕКЦИЈА

(Сл. гласник РС бр. 101/13)

Основни текст на снази од 28/11/2013 , у примени од 28/11/2013

Број 77



9. септембар 2015.

МИНИСТАРСТВА

Студија преваленције спроводи се у здравственим установама и другим субјектима из члана 1. став 2. овог правилника на територији Републике Србије, периодично на пет година, у складу са планом који припрема Завод за јавно здравље основан за територију Републике, у сарадњи са Републичком стручном комисијом за надзор над болничким инфекцијама.

PRAVILNIK

O SPREČAVANJU, RANOM OTKRIVANJU I SUZBIJANJU BOLNIČKIH INFEKCIJA

("Sl. glasnik RS", br. 1/2020)

Član 4

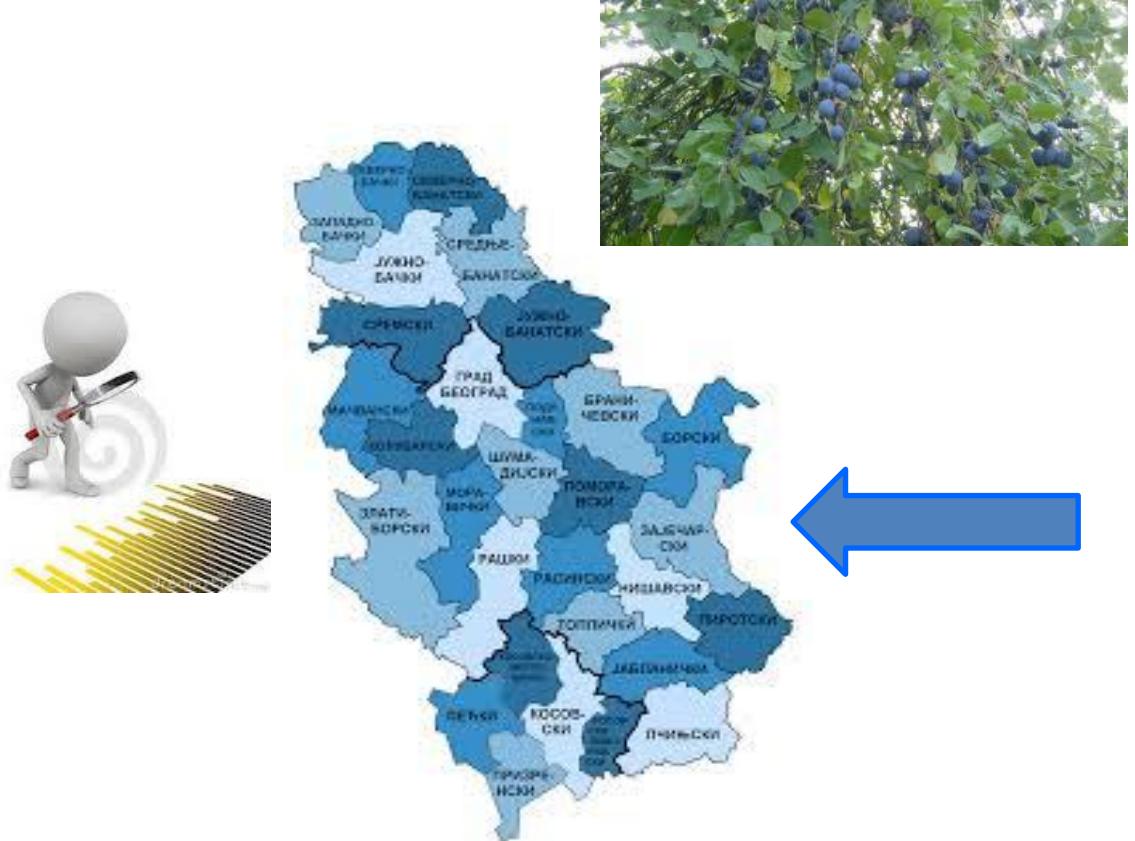
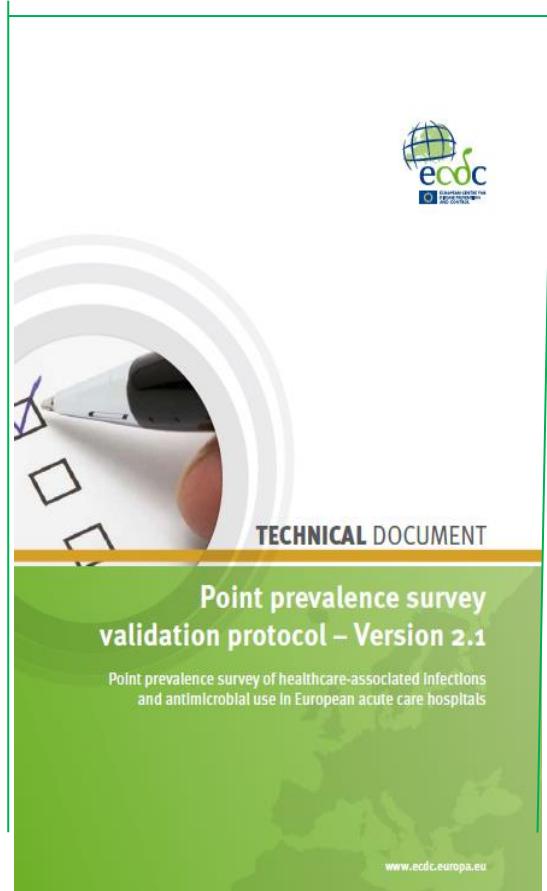
Epidemiološki nadzor iz člana 3. stav 1. ovog pravilnika obavljaju zdravstveni radnici nadležni za sprovođenje nadzora.

Obim i vrstu epidemiološkog nadzora određuje komisija ustanove iz člana 1. ovog pravilnika prema vrsti zdravstvene delatnosti koju obavlja u skladu sa zakonom.

U privatnoj praksi i pravnom licu koje obavlja i određene poslove zdravstvene delatnosti u skladu sa zakonom, obim i vrstu epidemiološkog nadzora određuje lice odgovorno za nadzor nad bolničkim infekcijama. Zdravstvene ustanove koje obavljaju zdravstvenu delatnost na sekundarnom i tercijarnom nivou zdravstvene zaštite sprovode nadzor kontinuirano, praćenjem incidencije. Nadzor nad infekcijama izazvanim bakterijom Clostridium difficile i infekcijama operativnog mesta se vrši prema metodu Evropskog centra za prevenciju i kontrolu bolesti. Povremeno se, prema epidemiološkim indikacijama, sprovodi studija prevalencije u organizacionim jedinicama sa povišenim rizikom od nastanka bolničkih infekcija.

Studija prevalencije sprovodi se u zdravstvenim ustanovama i drugim subjektima iz člana 1. ovog pravilnika na teritoriji Republike Srbije, periodično na pet godina, u skladu sa planom koji priprema Zavod za javno zdravlje osnovan za teritoriju Republike Srbije, u saradnji sa Republičkom stručnom komisijom za nadzor nad bolničkim infekcijama.

2017:Nacionalne studije prevalencije bolničkih infekcija u okviru studija Evropske unije



Studije prevalencije BI u Srbiji:

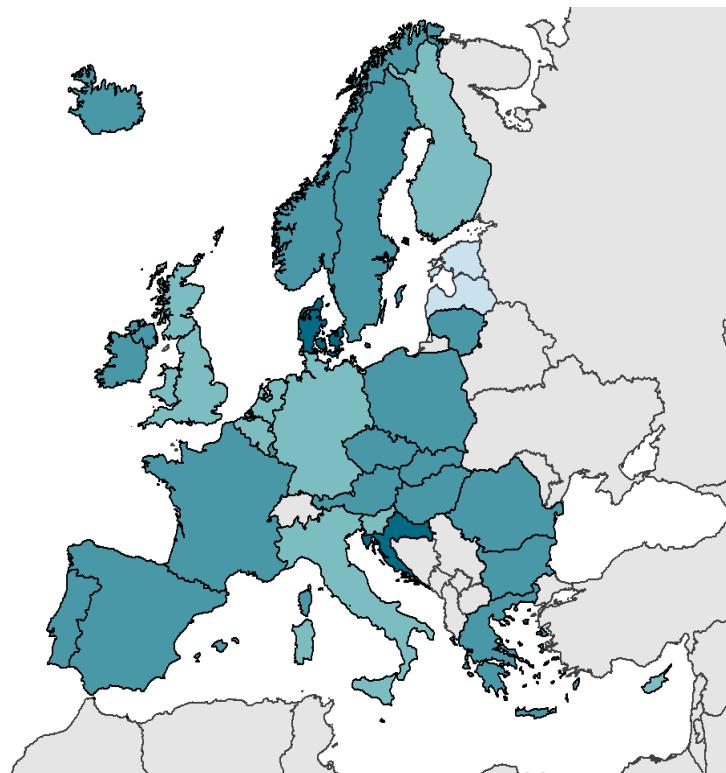
- Stacionarni deo domova za stare
- Bolnice za akutne poremećaje zdravlja

Participation in the ECDC Point Prevalence Survey (PPS) in 2011-2012 and in 2016-2017

2011-2012

- 30 EU/EEA countries
- Over 1 000 hospitals
- More than 200 000 patients

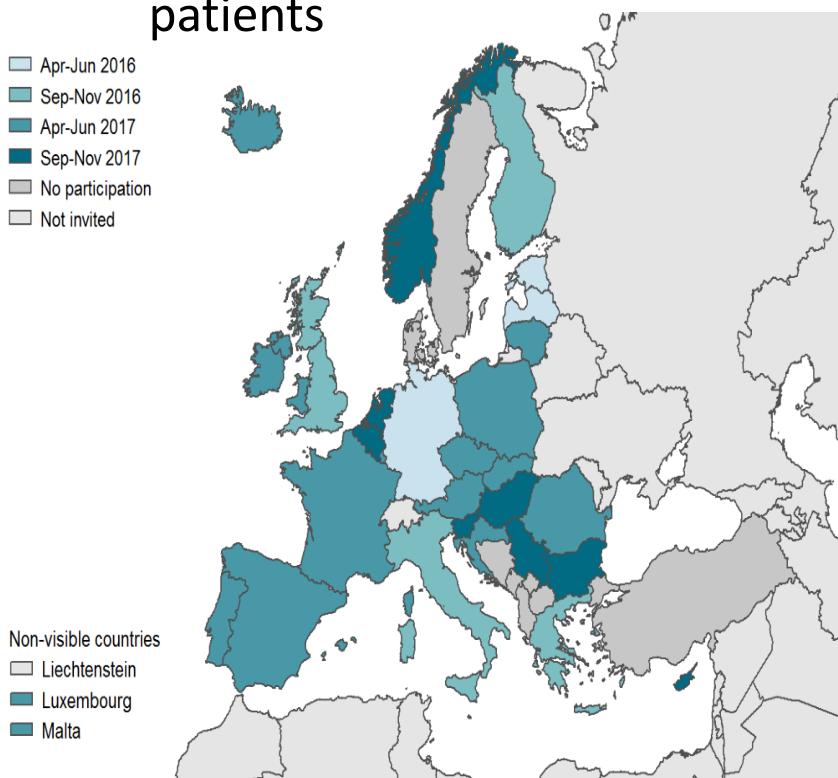
■ May-Jun 2011
■ Sep-Nov 2011
■ May-Jun 2012
■ Sep-Nov 2012
■ Not included



2016-2017

- 28 EU/EEA countries and Serbia
- Over 2 000 hospitals
- More than 400 000 patients

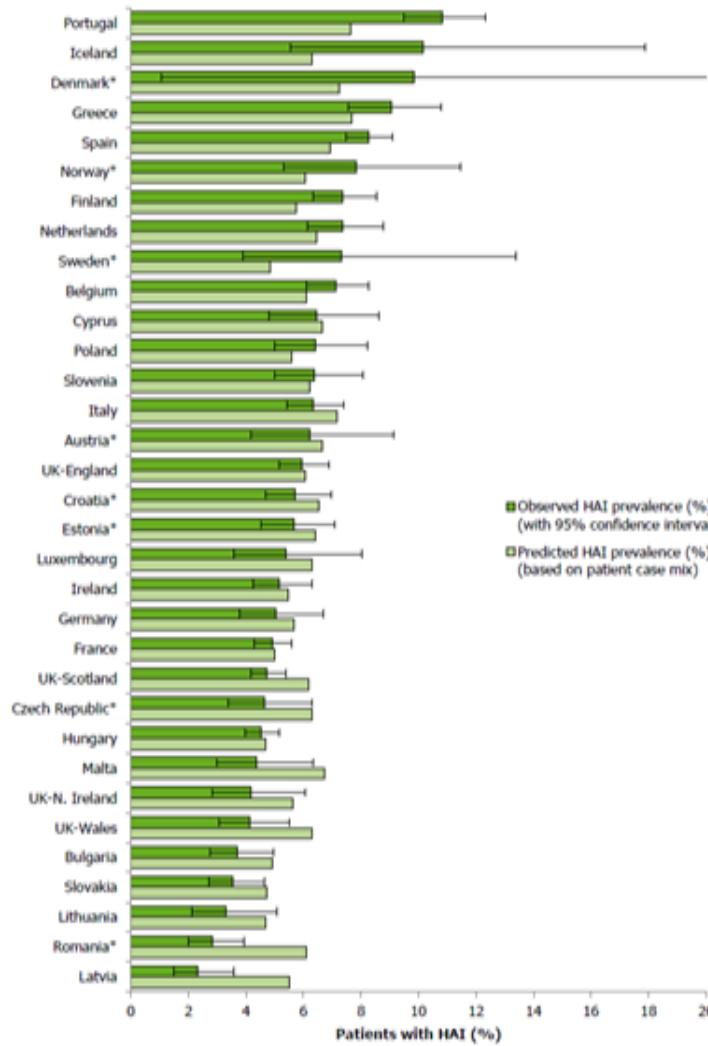
■ Apr-Jun 2016
■ Sep-Nov 2016
■ Apr-Jun 2017
■ Sep-Nov 2017
■ No participation
■ Not invited



Healthcare-associated infections by country in the ECDC PPS in 2011-2012 and 2016-2017

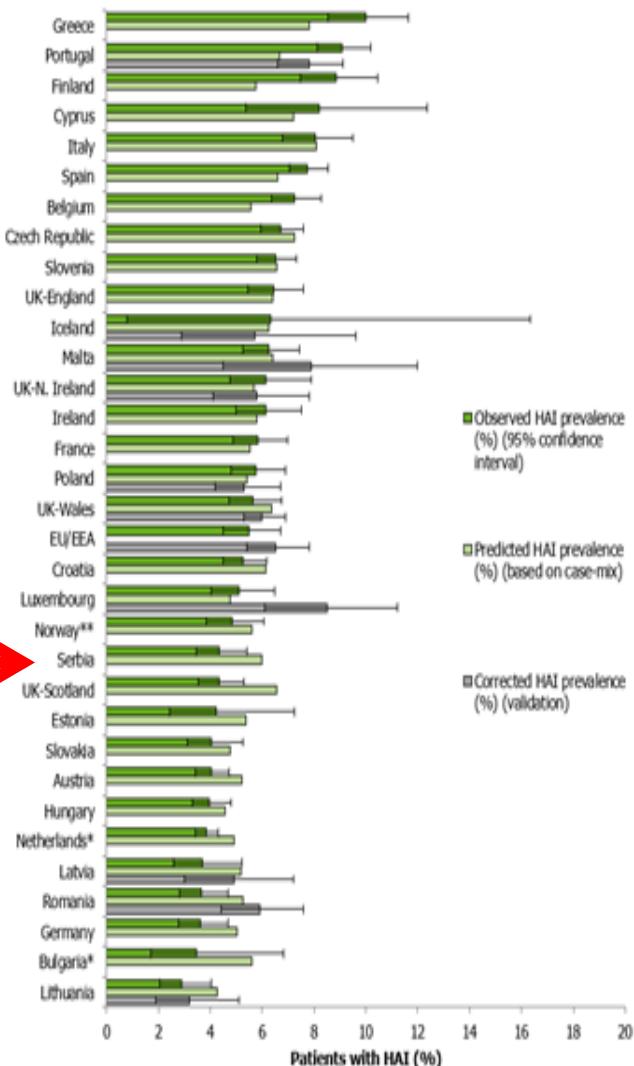
2011-2012

Figure 26. Observed HAI prevalence with 95% confidence intervals and predicted HAI prevalence based on patient case mix and hospital characteristics, by country, ECDC PPS 2011–2012



2016-2017

Figure 13 Observed HAI prevalence and HAI prevalence corrected after validation with 95% confidence intervals and predicted HAI prevalence based on patient case mix and hospital characteristics, by country, ECDC PPS 2016–2017



Antimicrobial use by country in the ECDC PPS in 2011-2012 and 2016-2017

2011-2012

Figure 66. Observed prevalence of antimicrobial use with 95% confidence intervals and predicted prevalence of antimicrobial use based on case mix and hospital characteristics, by country, ECDC PPS 2011–2012

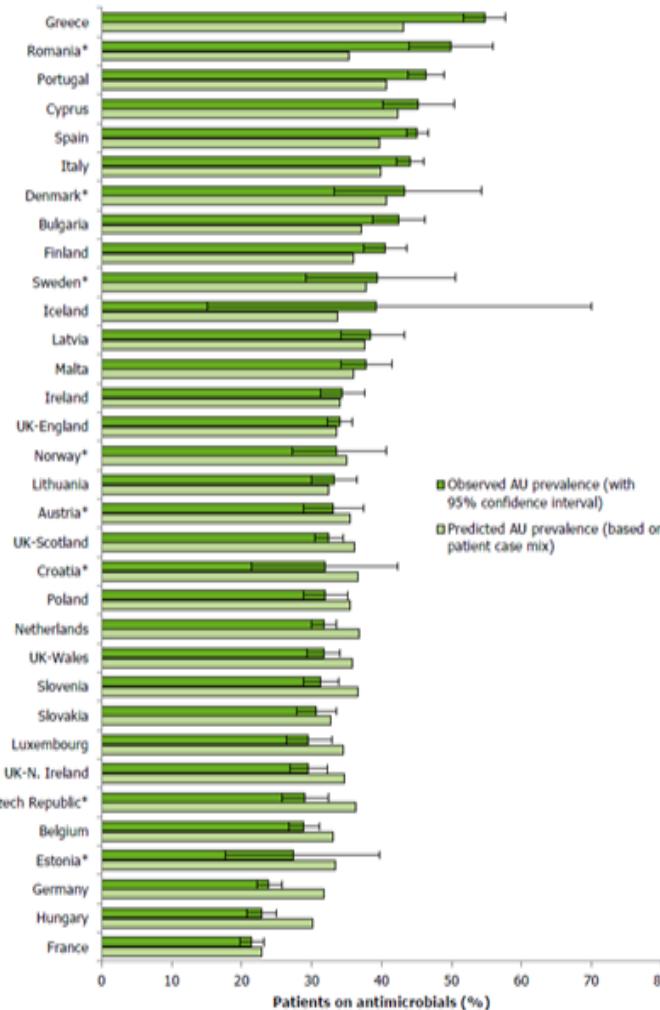
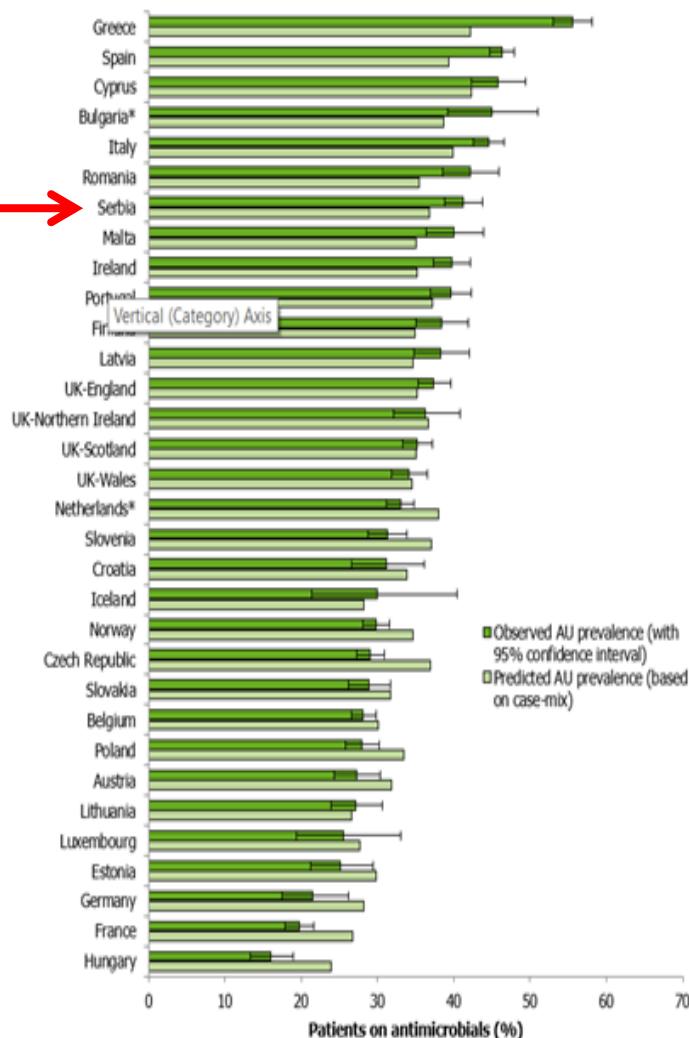
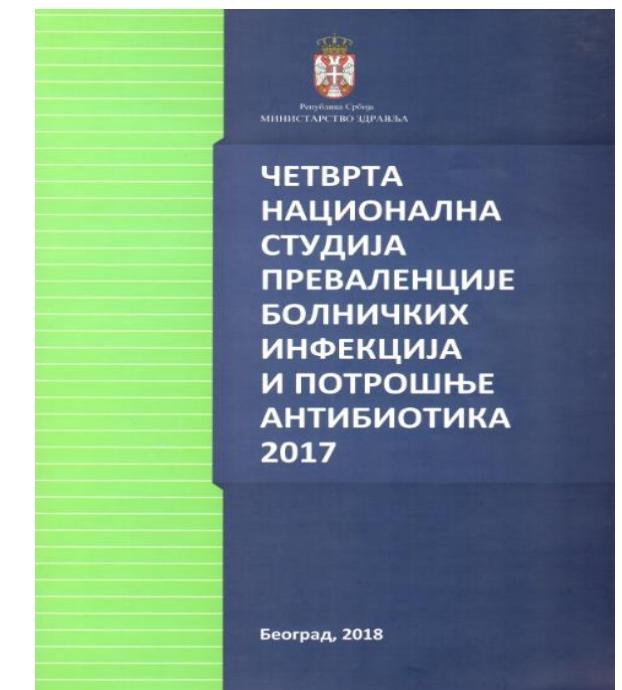
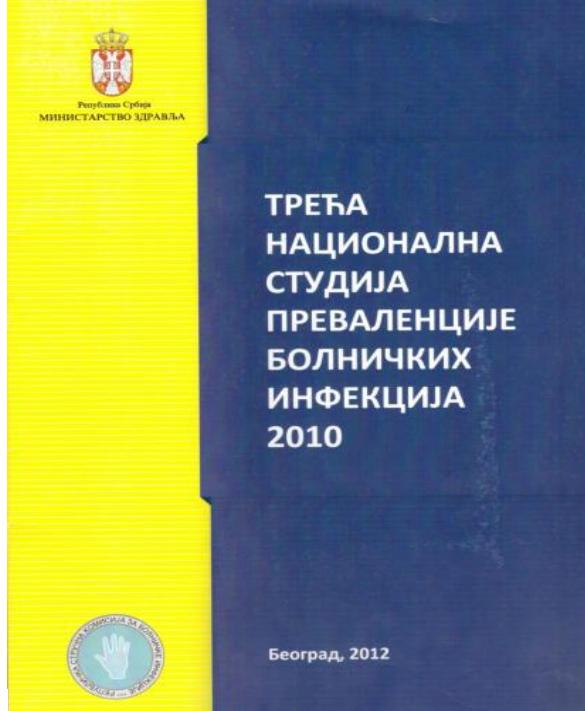
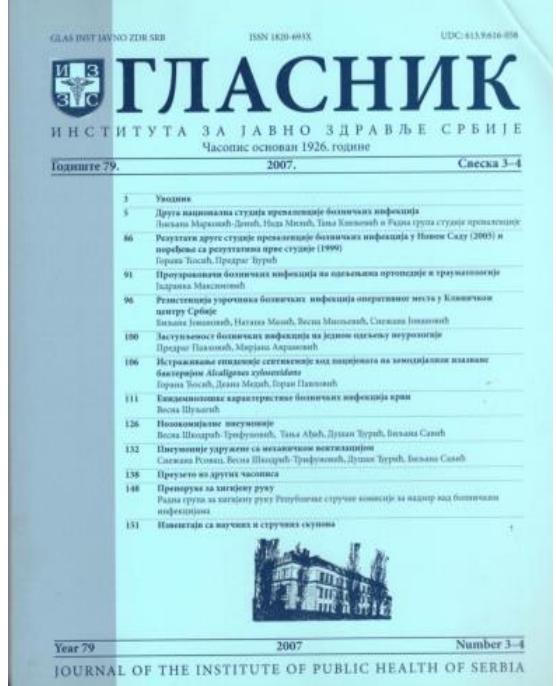
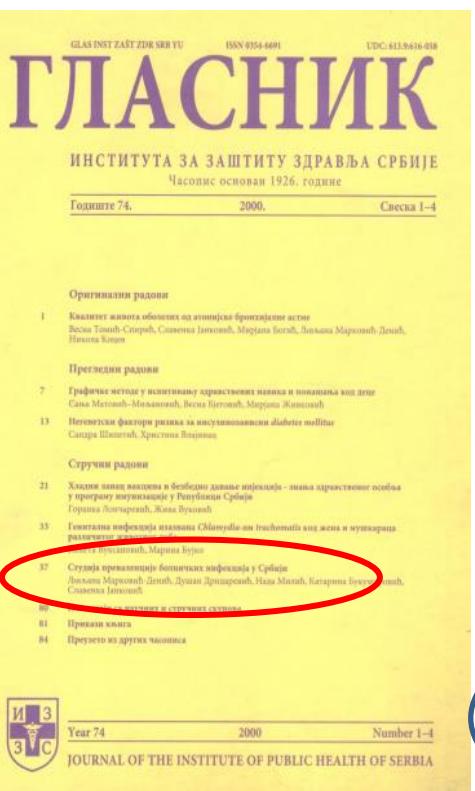


Figure 54 Observed prevalence of antimicrobial use (AU) with 95% confidence intervals and predicted prevalence of antimicrobial use based on case-mix and hospital characteristics, by country, ECDC PPS 2016–2017



Srbija



Prevalencija bolničkih infekcija na nacionalnom nivou



Rezultati	I studija (nov.1999.) 27 bolnica	II studija (maj 2005.) 53 bolnice	III studija (nov. 2010.) 59 bolnica	IV studija (nov. 2017.) 65 bolnica
Prevalencija pacijenata sa BI	6,3%	3,1%	4,9%	4,3
Prevalencija BI	7,5%	3,5%	5,3%	4,6



Organizacija V nacionalne studije prevalencije bolničkih infekcija

Novembar 2022.

Koordinacija studije na nacionalnom nivou:
Posebna radna grupa Ministarstva zdravlja

Prof. Dr Ljiljana Marković-Denić

Nacionalni koordinator

Institut za javno zdravlje Srbije

Mr. sc. dr Violeta Rakić

Organizacija V nacionalne studije prevalencije bolničkih infekcija

Koordinacija studije na regionalnom nivou:

- AP Vojvodina: Prof. dr Gorana Dragovac
- Jugoistočna Srbija: Dr Ivana Janićijević
- Zapadna Srbija: Dr sc. med Zorana Đordjević
- Beograd: Dr Andrea Uzelac
- Vojne bolnice: Prof. dr Vesna Šuljagić

Organizacija V nacionalne studije prevalencije bolničkih infekcija

Koordinacija studije u bolnici:

- Koordinator u bolnici (lekar ili glavna med. sestra):
 - *Obaveštava regionalnog/nacionalnog koordinatora o datumu početka studije u bolnici
 - *Šalje svoj e-mail – dobija šifru bolnice
- Koordinator na odeljenju



Organizacija V nacionalne studije prevalencije bolničkih infekcija

Tim za prikupljanje podataka

- Članovi organizacionih jedinica za nadzor nad BI bolnice (epidemiolog, med. sestra/tehničar, sanitarno-ekološki inženjeri)
samostalno ili
- uz pomoć osoblja instituta/zavoda za javno zdravlje
- Lekari i med.sestre odeljenja pomažu u prikupljanju podataka



Министарство здравља Р.Србије

Учесници у
студији
преваленције



Сви запосленци у болницама

Click to add



Thank you for the
ECDC PPS 2016-2017

STUDIJE PREVALENCIJE BI

- na 5 godina -

(Bliska)budućnost

Figure 8. Period of participation in the first EU-wide PPS, 2011–2012

- May-Jun 2011
- Sep-Nov 2011
- May-Jun 2012
- Sep-Nov 2012
- Not included



Prošlost



Пета национална студија преваленције болничких инфекција и употребе антибиотика



ИНСТИТУТ ЗА ЈАВНО ЗДРАВЉЕ СРБИЈЕ
„Др Милан Јовановић Батут“

