Четврта студија
преваленције болничких инфекција

БОЛНИЧКЕ ИНФЕКЦИЈЕ
Дефиниције

Преглед досадашњих дефиниција

Проф. др Љиљана Марковић-Денић
Медицински факултет, Београд

Istroijat definicija bolničkih infekcija

- **1958**: *American Hospital Association* preporučilo uvođenje nadzora nad BI u rutinsku praksu

- **1960**: pilost studija nadzora nad BI u 6 bolnica (sestra za BI prosečno 10 sati nedeljno u bolnici vršila nadzor)

- **1970**: Internacionalna konferencija za nozokomijalne infekcije održana u *Centers for disease control and prevention (*CDC), Atlanta

- **1970: NNIS –** *National Nosocomial Infections Surveillance System*

  *C*DC definitions for **nosocomial infections**

Istorijat definicija bolničkih infekcija

- **1970-73:** Nadzor u 8 bolnica, **jedinstvene definicije**
  (Conprenhensive Hospital Infection Project - CHIP)
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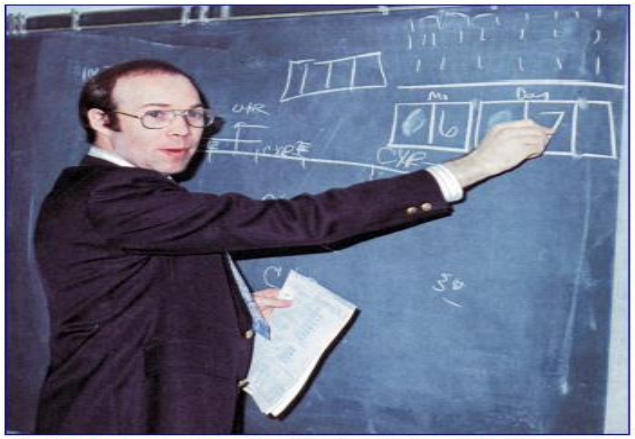
- **1976-85**: SENIC studija - (338 bolnica izabranih slučajnim uzorkom)



Dr. Haley planning the Medical Records phase of SENIC.

"SENIC was an impossible dream, and you helped me through it."

~Dr. Robert Haley to Ferdinand Tedesco

- Dr. Haley was praised in all of the oral interviews for his creativity, imagination, and consistent energy, which were all essential in making the project a success.
- Seemingly insurmountable hurdles at almost every stage of the project.
- Cost more than $12 million

Iskustva iz SENIC studije

- **aktivni epidemiološki nadzor**
  (pomoću standardizovanih definicija BI)
- **pisane preporuke**
- **osoblje (sestra, epidemiolog)**

↳ **1990:** National Nosocomial Infections Surveillance System (NNIS): 1 sestra na 250 kreveta,
danas: 1 sestra na 110 kreveta

↳ Danas: CDC's National Healthcare Safety Network (NHSN): sestra ili bolnički epidemiolog

Istorijat definicija bolničkih infekcija

- **1988:** Revizija NNIS definicija
- **1996:** druga revizija definicija

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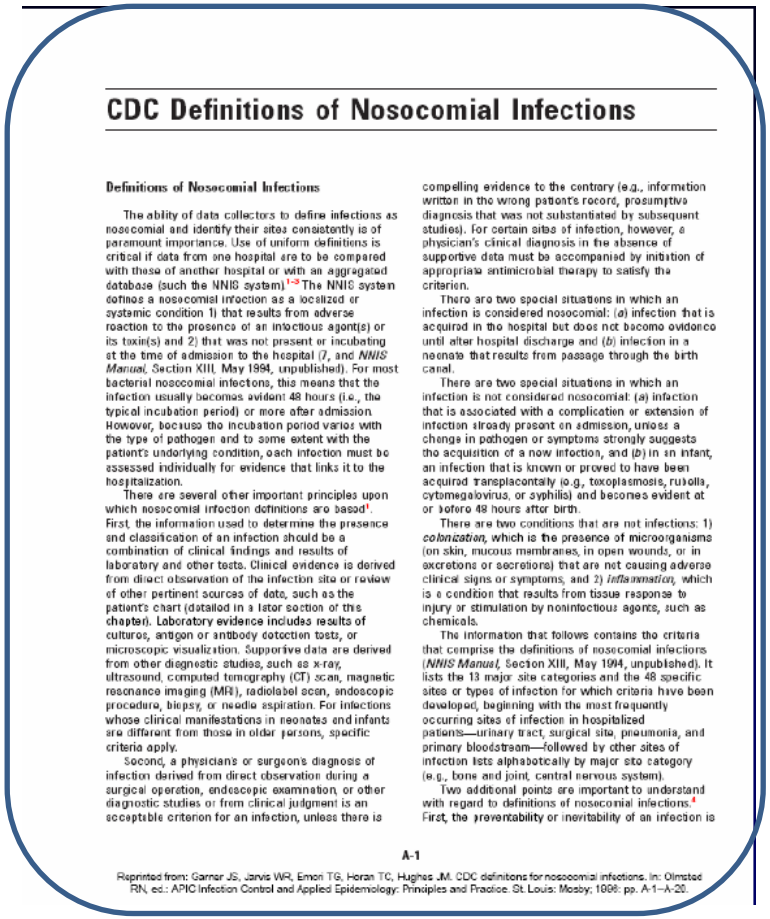
CDC definitions for nosocomial infections.
In: Olmsted RN, ed.: APIC Infection Control and Applied Epidemiology: Principles and Practice. St. Louis: Mosby; **1996**: pp. A-1-A-20.



CDC Definitions of Nosocomial Infections

Definitions of Nosocomial Infections

The ability of data collectors to define infections as nosocomial and identify their sites consistently is of paramount importance. Use of uniform definitions is critical if data from one hospital are to be compared with those of another hospital or with an aggregated database (such the NNIS system).[1–3] The NNIS system defines a nosocomial infection as a localized or systemic condition 1) that results from adverse reaction to the presence of an infectious agent(s) or its toxin(s) and 2) that was not present or incubating at the time of admission to the hospital (7, and *NNIS Manual*, Section XIII, May 1994, unpublished). For most bacterial nosocomial infections, this means that the infection usually becomes evident 48 hours (i.e., the typical incubation period) or more after admission. However, because the incubation period varies with the type of pathogen and to some extent with the patient's underlying condition, each infection must be assessed individually for evidence that links it to the hospitalization.

There are several other important principles upon which nosocomial infection definitions are based[1]. First, the information used to determine the presence and classification of an infection should be a combination of clinical findings and results of laboratory and other tests. Clinical evidence is derived from direct observation of the infection site or review of other pertinent sources of data, such as the patient's chart (detailed in a later section of this chapter). Laboratory evidence includes results of cultures, antigen or antibody detection tests, or microscopic visualization. Supportive data are derived from other diagnostic studies, such as x-ray, ultrasound, computed tomography (CT) scan, magnetic resonance imaging (MRI), radiolabel scan, endoscopic procedure, biopsy, or needle aspiration. For infections whose clinical manifestations in neonates and infants are different from those in older persons, specific criteria apply.

Second, a physician's or surgeon's diagnosis of infection derived from direct observation during a surgical operation, endoscopic examination, or other diagnostic studies or from clinical judgment is an acceptable criterion for an infection, unless there is compelling evidence to the contrary (e.g., information written in the wrong patient's record, presumptive diagnosis that was not substantiated by subsequent studies). For certain sites of infection, however, a physician's clinical diagnosis in the absence of supportive data must be accompanied by initiation of appropriate antimicrobial therapy to satisfy the criterion.

There are two special situations in which an infection is considered nosocomial: (*a*) infection that is acquired in the hospital but does not become evident until after hospital discharge and (*b*) infection in a neonate that results from passage through the birth canal.

There are two special situations in which an infection is not considered nosocomial: (*a*) infection that is associated with a complication or extension of infection already present on admission, unless a change in pathogen or symptoms strongly suggests the acquisition of a new infection, and (*b*) in an infant, an infection that is known or proved to have been acquired transplacentally (e.g., toxoplasmosis, rubella, cytomegalovirus, or syphilis) and becomes evident at or before 48 hours after birth.

There are two conditions that are not infections: 1) *colonization*, which is the presence of microorganisms (on skin, mucous membranes, in open wounds, or in excretions or secretions) that are not causing adverse clinical signs or symptoms, and 2) *inflammation*, which is a condition that results from tissue response to injury or stimulation by noninfectious agents, such as chemicals.

The information that follows contains the criteria that comprise the definitions of nosocomial infections (*NNIS Manual*, Section XIII, May 1994, unpublished). It lists the 13 major site categories and the 48 specific sites or types of infection for which criteria have been developed, beginning with the most frequently occurring sites of infection in hospitalized patients—urinary tract, surgical site, pneumonia, and primary bloodstream—followed by other sites of infection lists alphabetically by major site category (e.g., bone and joint, central nervous system).

Two additional points are important to understand with regard to definitions of nosocomial infections.[4] First, the preventability or inevitability of an infection is

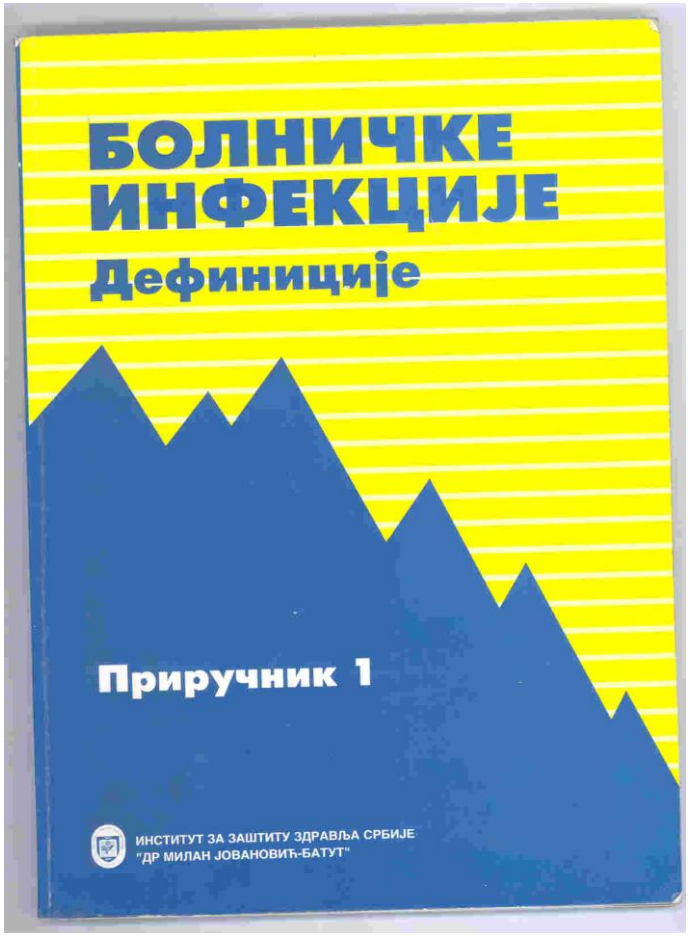
Reprinted from: Garner JS, Jarvis WR, Emori TG, Horan TC, Hughes JM. CDC definitions for nosocomial infections. In: Olmsted RN, ed.: APIC Infection Control and Applied Epidemiology: Principles and Practice. St. Louis: Mosby; 1996: pp. A-1–A-20.

Istorijat definicija bolničkih infekcija

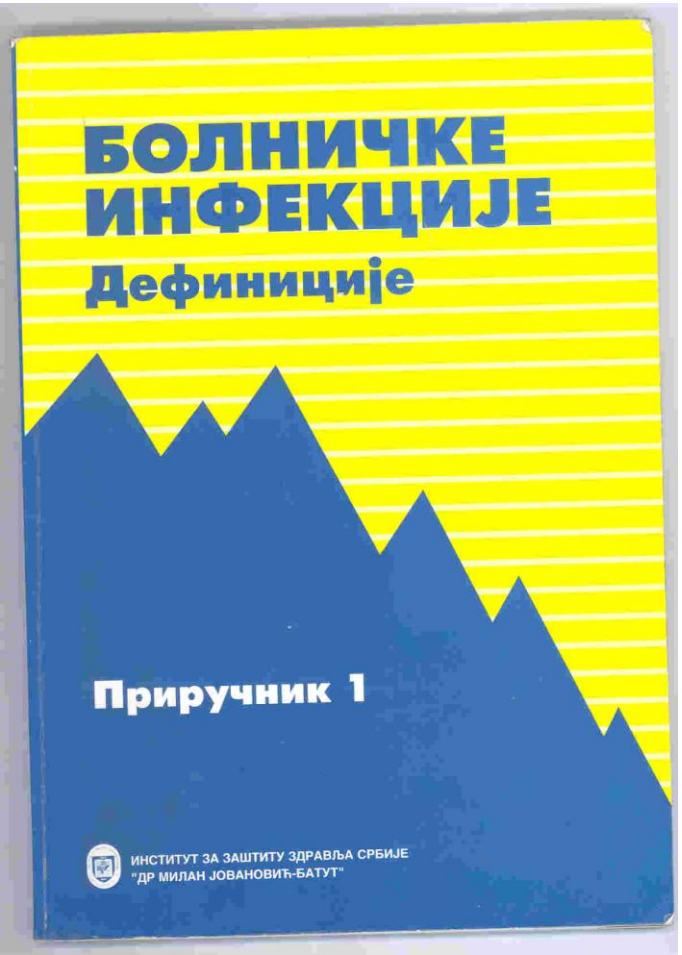
SRBIJA

- Do 1997: kućne infekcije
- **1998:** bolničke infekcije

  prevedene definicije CDC
- 2008: novo nepromenjeno izdanje



BOLNIČKE INFEKCIJE
nozokomijalne =intrahospitalne



- **Infekcija nastala u bolnici ili nekoj drugoj zdravstvenoj ustanovi**
- **kod pacijenata, zdravstvenog osoblja i posetilaca**
- Bar 48h nakon prijema
- Nije bila prisutna, niti je pacijent bio u inkubaciji na prijemu.

2008

CDC/NHSN surveillance definition of health care–associated infection* and criteria for specific types of infections in the acute care setting

Teresa C. Horan, MPH, Mary Andrus, RN, BA, CIC, and Margaret A. Dudeck, MPH
Atlanta, Georgia

CDC/NHSN SURVEILLANCE DEFINITION OF HEALTH CARE–ASSOCIATED INFECTION

For the purposes of NHSN surveillance in the acute care setting, the CDC defines an HAI as a localized or systemic condition resulting from an adverse reaction to the presence of an infectious agent(s) or its toxin(s). There must be no evidence that the infection was present or incubating at the time of admission to the acute care setting.

HAIs may be caused by infectious agents from endogenous or exogenous sources.

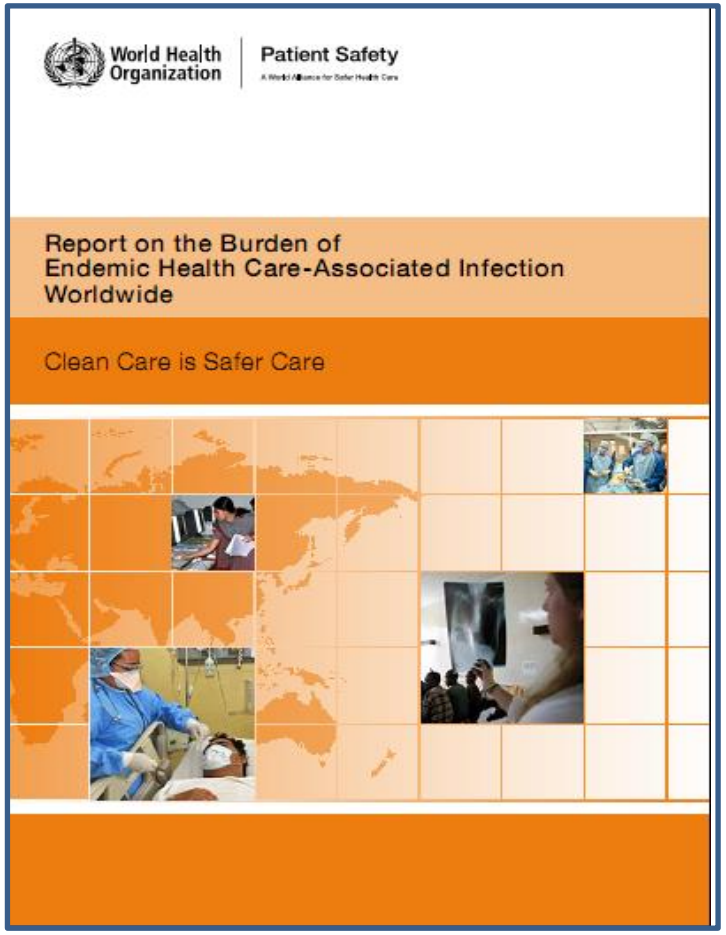
- Endogenous sources are body sites, such as the skin, nose, mouth, gastrointestinal (GI) tract, or vagina that are normally inhabited by microorganisms.
- Exogenous sources are those external to the patient, such as patient care personnel, visitors, patient care equipment, medical devices, or the health care environment.

- The following infections are *not* considered health care associated:
  - Infections associated with complications or extensions of infections already present on admission, unless a change in pathogen or symptoms strongly suggests the acquisition of a new infection;
  - infections in infants that have been acquired transplacentally (eg, herpes simplex, toxoplasmosis, rubella, cytomegalovirus, or syphilis) and become evident ≤48 hours after birth; and
  - reactivation of a latent infection (eg, herpes zoster [shingles], herpes simplex, syphilis, or tuberculosis).
- The following conditions are *not* infections:
  - Colonization, which means the presence of microorganisms on skin, on mucous membranes, in open wounds, or in excretions or secretions but are not causing adverse clinical signs or symptoms; and
  - inflammation that results from tissue response to injury or stimulation by noninfectious agents, such as chemicals.

Am J Infect Control 2008;36:309-32

SZO, 2006:
Helath Care-Associated Infections - HAI

- Infekcije stečene tokom medicinskog ili hiruškog tretmana (*uz sva prethodna ograničenja*)



Svetska zdravstvena organizacija

Feb. 2017: **177 zemalja**

Program higijene ruku: 19.217 bolnica

SZO: 2005/6: healthcare-associated infections

Prevodi ovog termina:

- **Hrvatska:** infekcije povezane sa zdravstvenom skrbi
- **Slovenija:** okružb povezane z zdravstveno obravnavo, oziroma oskrbo bolnika
- **Federacija BiH:** infekcije povezane sa zdravstvenim uslugama

Francuska: infections associées aux soins

- **Srbija2008:** infekcije povezane sa zdravstvenim intervencijama

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

(1) Болничка инфекција, односно инфекција повезана са здравственом заштитом је инфекција настала код пацијената и особља у здравственој установи или у другом облику делатности из члана 1. став 2. овог правилника, као резултат непожељне реакције организма на присуство инфективног агенса и/или његових токсина, а која није била присутна нити је пацијент био у инкубацији приликом пријема.

(2) Инфекција се сматра болничком ако је настала у здравственој установи, односно у другом облику делатности из члана 1. став 2. овог правилника у следећим случајевима:

Istorijat definicija BI u Evropi

- 1980/90s:

  Evropske zemlje:

  – CDC/NHSN definicije (USA)

  – Modifikacija HELICS/IPSE definicija

  – Sopstvene definicije

Problem: poređenje stopa

Istorijat definicija BI u Evropi

- HELICS project (*Hospital in Europe link for Infection Control through Surveillance*) – harmonizacija nadzora nad BI u zemljama Evropske unije
- 2000-2004: HELICS projekat definicije
- 2005-2008: IPSE (Improving Patient Safety in Europe) network
- 2008: ECDC; HAI-net network (adaptirane HELICS/IPSE definicije)

DECISIONS

COMMISSION IMPLEMENTING DECISION

of 8 August 2012

amending Decision 2002/253/EC laying down case definitions for reporting communicable diseases to the Community network under Decision No 2119/98/EC of the European Parliament and of the Council

(notified under document C(2012) 5538)

(Text with EEA relevance)

(2012/506/EU)

3. **CASE DEFINITIONS OF SPECIAL HEALTH ISSUES**

3.1. GENERAL CASE DEFINITION OF NOSOCOMIAL INFECTION (OR 'HEALTHCARE-ASSOCIATED INFECTION')

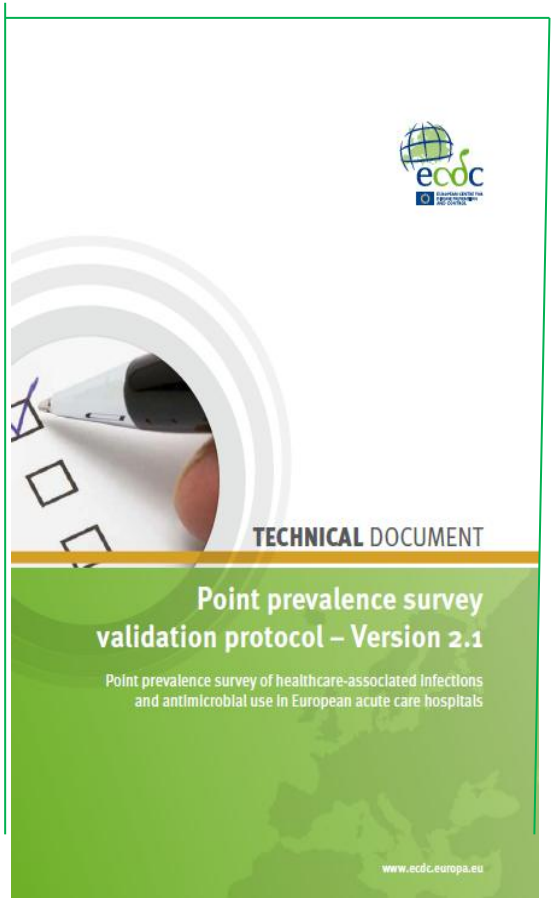
A nosocomial infection associated to the current hospital stay is defined as infection that matches one of the case definitions AND

— the onset of symptoms was on Day 3 or later (day of admission = Day 1) of the current hospital admission OR

— the patient underwent surgery on day 1 or day 2 and develops symptoms of a Surgical Site Infection before day 3 OR

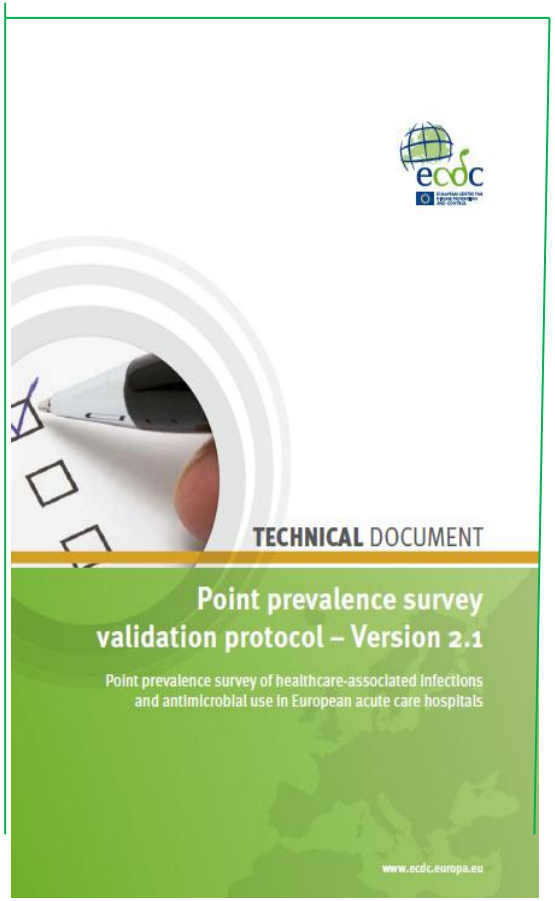
— an invasive device was placed on day 1 or day 2 resulting in an HAI before day 3

Point prevalence study of HAI in the EU countries and Serbia, 2016/2017



Četvrta nacionalna studija prevalencije BI u Srbiji – 2016/17 ???

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

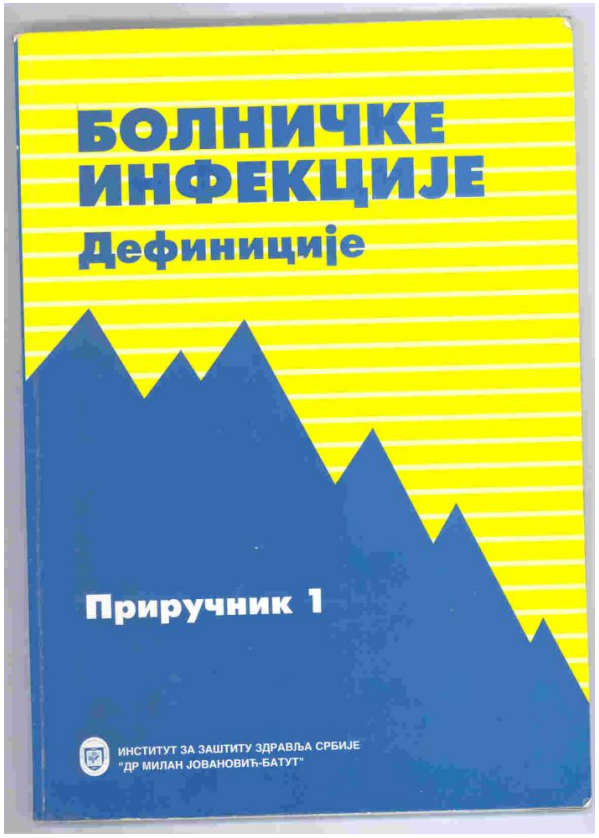


Studije prevalencije BI u Srbiji:

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

Bolničke infekcije – infekcije povezane sa zdravstvenom zaštitom

Srbija, 1998.



Srbija, maj 2017.

ecdc
EUROPEAN CENTRE FOR DISEASE PREVENTION AND CONTROL

PREVENCIJA BOLNIČKIH INFEKCIJA

NACIONALNA STUDIJA PREVALENCIJE BI

DEFINCIJE BI