



Competencies of the infection prevention specialist (IPS) in Croatia

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CROATIA



Population 4,29 milion (2011. census)

Capital Zagreb

Area 56.691 square kilometres

Tablica - Table 1.		ZDRAVSTVENE USTANOVE U HRVATSKOJ* 31.12.2016.	
ZDRAVSTVENE USTANOVE	BROJ USTANOVA		
<i>Health institutions</i>	<i>No. of institutions</i>		
DOM ZDRAVLJA - Health center	49		
KLINIČKI BOLNIČKI CENTAR - Clinical teaching hospital	5	←	
KLINIČKA BOLNICA - Clinical hospital	3	←	
KLINIKA - Clinic	5	←	
OPĆA BOLNICA - General hospital	20	←	
SPECIJALNA BOLNICA - Special hospital	33	←	
LJEČILIŠTE - Health resort	7	←	
ZAVOD ZA JAVNO ZDRAVSTVO - Public health institute	22		
OSTALI DRŽAVNI ZAVODI - Other state institutes:	5		
♦ ZAVOD ZA TRANSFUZIJSKU MEDICINU - Institute of transfusional medicine	1		
♦ ZAVOD ZA ZAŠT. ZDRAVLJA I SIGURNOST NA RADU - Institute for Health Protection and Safety at Work	1		
♦ ZAVOD ZA TOKSIKOLOGIJU I ANTIDOPING - Institute of toxicology and Antidoping	1		
♦ ZAVOD ZA HITNU MEDICINU - Institute of emergency medicine	1		
♦ ZAVOD ZA TELEMEDICINU – Institute for telemedicine	1		
USTANOVA ZA HITNU POMOĆ - Emergency care station	21		
POLIKLINIKA - Polyclinic	356		
USTANOVA ZA MEDICINU RADA – Institution of occupational health	8		
LJEKARNA - Pharmacy	178		
USTANOVA ZA NJEGU-SKRB - Nursing care institution	214	←	
TRGOVAČKO DRUŠTVO ZA OBAVLJANJE ZDRAV. DJELATNOSTI - Health company	482		
Ukupno - Total	1.408		
* Ustanove bez obzira na vrstu vlasništva - Institutions regardless of the type of ownership			

Tablica - Table 1.

RAD STACIONARNIH USTANOVA U HRVATSKOJ U 2016. GODINI

Hospital-type facility operation, Croatia 2016

ŽUPANIJA	Sveukupno	Liječenje akutnih bolesnika	Liječenje subakutnih bolesnika	Opće boln. stacionari i rodilišta	KBC, kliničke i klinike	Specijalne bolnice, lječilišta i hospiciji
	1 (2+3) (4+5+6)	2	3	4	5	6
<i>County</i>	<i>Total</i>	<i>Acute patient treatment</i>	<i>Subacute and chronic treatment</i>	<i>General hosp. infirmaries, maternity wards</i>	<i>Clin. teach. hosp., clin. and clinics</i>	<i>Special hospitals, natural spas and hospice</i>
HRVATSKA -Croatia						
1. Broj postelja - No. of beds	23.088	14.944	8.144	6.489	9.275	7.324
2. Broj postelja na 1000 stanovn. - No. of beds per 1,000 pop	5,39	3,49	1,90	1,51	2,16	1,71
3. Broj doktora- No. of doctors	6.510	6.160	350	2297	3.723	490
4. Broj postelja po jednom doktoru- No. of beds per doctor	3,55	2,43	23,27	2,82	2,49	14,95
5. Broj ispisanih bolesnika- No. of patients discharged	733.749	668.000	65.749	261.825	403.517	68.407
6. Broj dana bolničkog liječenja - No. of bed days	6.235.190	4.247.616	1.987.574	1.737.860	2.723.277	1.774.053
7. Prosječna dužina liječenja- Average length of treatment	8,50	6,36	30,23	6,64	6,75	25,93
8. Godišnja zauzetost postelja - Annual bed occupancy	270	284	244	268	294	242
9. % iskorištenosti postelja- Bed utilization (%)	73,99	77,87	66,86	73,37	80,44	66,36
10. Broj pacijenata po krevetu- No. of patients per bed	31,78	44,70	8,07	40,35	43,51	9,34
11. Interval obrtaja- Turnover interval	2,99	1,81	14,98	2,41	1,64	13,14

Health care-associated infections (HAI)

- a major problem in healthcare institutions around the globe;
- IPS's are responsible for the prevention, investigation, monitoring and mandatory reporting (Croatia);
- specialised IPS's combine knowledge of prevention and control HAI in every day practice according to an annual **plan and program in each hospital** (obligatory by law)

Republic of Croatia

- formal continuing education of nurses (ICN) for hospital infection control from 1998, and basic education from 2005.
- for medical doctors, there is only formal continuing education (from 1992).
- 2004- Reference centre for hospital infections (University Clinical Hospital Centre Zagreb) made the Plan and Program for basic education of ICN

Republic of Croatia II

- 2012. the courses continued at the Medical School in Zagreb, and in the years 2013.,2015.,2016. under the name „Prevention and infection control related to healthcare“,
- the course is attended by doctors and nurses who will become infection prevention/control specialists (IPS's)
- effective HAI prevention and control in healthcare organisations relies on specialised IPS's

IPC junior and senior specialists

Different Competencies

Junior specialist – introductory level

Senior specialist – expert level

RESEARCH ARTICLES

Training infection control and hospital hygiene professionals in Europe, 2010: agreed core competencies among 33 European countries

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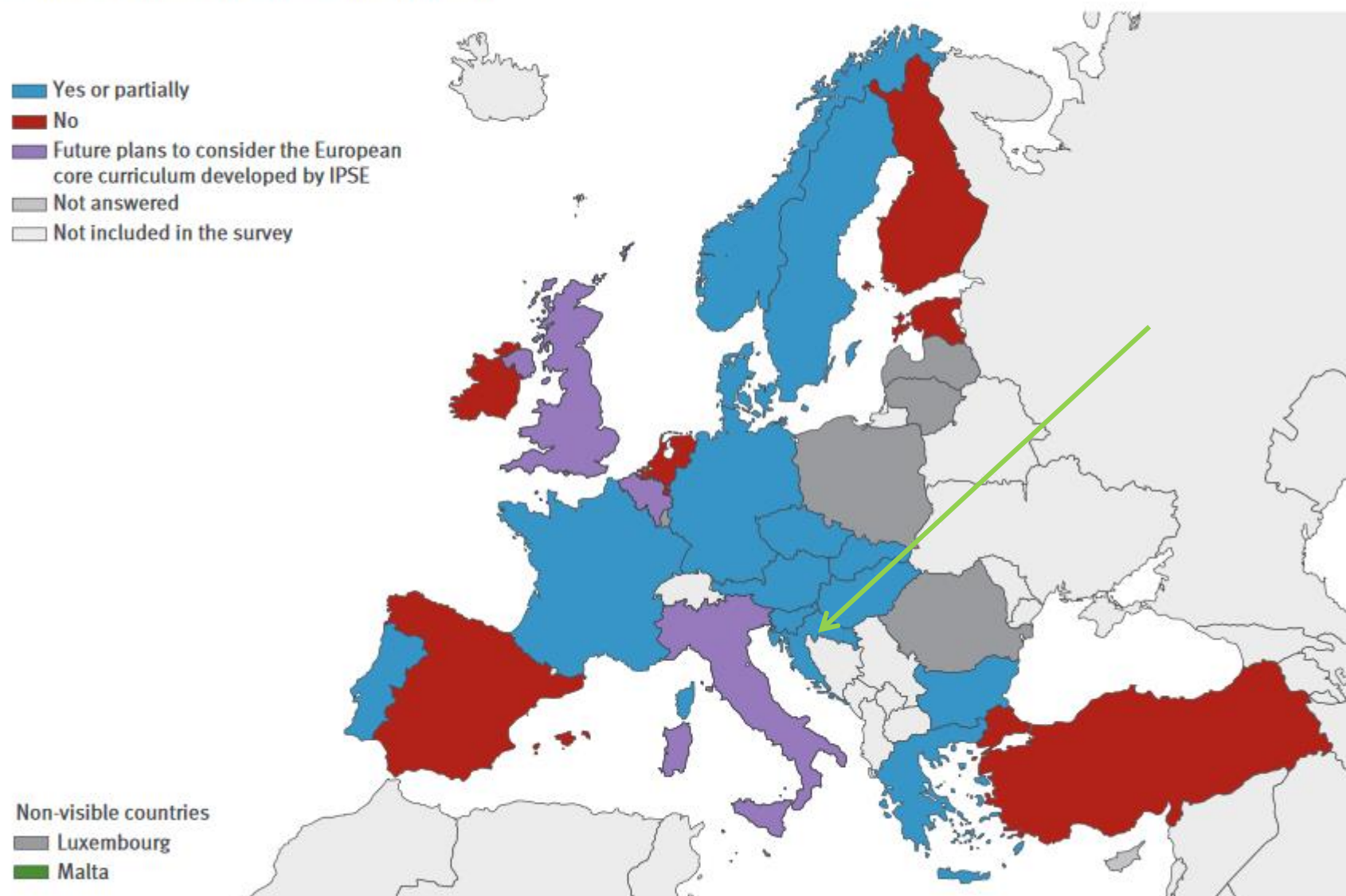
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13. Surveillance and Response Support Unit, European Centre for Disease Prevention and Control, Stockholm, Sweden
14. Public Health Training section, European Centre for Disease Prevention and Control, Stockholm, Sweden
15. The members of the project are listed at the end of the article

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FIGURE 2

Existing infection control and hospital hygiene training courses based on the European core curriculum developed by IPSE in 2006, as assessed by TRICE survey in 2010



IC/HH: infection control and hospital hygiene; IPSE: Improving Patient Safety in Europe; TRICE: Training needs assessment in Infection Control in Europe.

**Regulation of condition and practice regarding measures
for prevention and control of hospital infection
Official Gazette (CRO) NO 85./2012.**

Definition;

Infection control teams/ICT's (HAI's) are dedicated to preventing, suppressing and control of hospital infections in stationary healthcare institutions and social care providers

Paragraph 20

.....”All healthcare and non healthcare workers must complete education about the principles and practice for prevention and control of hospital infection (patients/residents/equipment).

Education is held for newly hired workers, and later periodically according to the yearly plan and risk assessment of the facility”.....

Paragraph 26

....”ICT's in healthcare institution are named by a hospital infection comity on the motion of the comity’s president, the ICT consists of:

1. doctor of medicine responsible of infection prevention and control;
2. registered nurse responsible of infection prevention and control;
3. doctor of medicine, microbiology specialist, if the doctor of medicine from the first item isn't that specialization;.....”

Paragraph 27

..."ICT's day to day activities include :

1. Supervision of infection prevention and control policy, procedures and measures for preventing HAI;
2. Surveillance of HAI with established priorities and samples of special significance;

Paragraph 27 II

3. Providing professional counselling in day to day activities, and in special situations of appearing hospital infections;
4. Providing special care for healthcare workers after needlestick injury and/or blood exposure;
5. Providing epidemic research in case of an epidemic outbreak;

Paragraph 27 III

6. Organization of continuous education of healthcare and non healthcare workers, students, patients/residents and visitors;
7. Securely storing data.....”



Core competencies for infection control and hospital hygiene professionals in the European Union

Acknowledgements

Many individuals and institutions contributed to this list of core competencies.

Firstly, we would like to acknowledge the contribution of the Training in Infection Control in Europe (TRICE) project¹ led by Silvio Brusaferro (University of Udine, Italy) with the participation of a consortium of European experts:

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Areas and domains of competency in infection control and hospital hygiene

- 1. Programme management**
- 2. Quality improvement**
- 3. Surveillance and investigation of healthcare-associated infections (HAI's)**
- 4. Infection control activities**

Programme management

- Elaborating and advocating an infection control programme
- Management of infection control programme work plan and projects

Quality improvment

- Contributing to quality management
- Contributing to risk management
- Performing audits of professional practice and evaluating performance
- Infection control training of employes
- Contributing to research

Surveillance and investigation of HAI

- Design a surveillance system
- Managing (implementation, follow up, evaluation) a surveillance system
- Identifying, investigating and managing outbreaks

Infection control activities

- Elaborating infection control interventions
- Implementing infection control healthcare procedures
- Contributing to reducing antimicrobial resistance
- Advising appropriate laboratory testing and use of laboratory data
- Decontamination and sterilization of medical devices
- Controlling environmental sources of infections

Mandatory annual reporting - Croatia

- I. Healthcare institution data
- II. Patient data
- III. Data and structure (IPS's) of infection prevention and control
- IV. Data of antimicrobial use
- V. Alcohol antiseptic consumption
- VI. Surveillance of surgical site infections
- VII. Surveillance of ICU infection
- VIII. MRSA surveillance

Mandatory annual reporting – Croatia II

IX. KPC *Klebsiella pneumoniae* surveillance

X. Surveillance of other MDR organisms

XI. Surveillance of *Clostridium difficile*

XII. Vaccination data (Hepatitis B, Influenza)

XIII. Needlestick injury and blood exposure

XIV. Epidemics

Free comments



In the Republic of Croatia 80% IPS's have completed courses which are obligatory and legally required

In the last 20 years there have been significant improvements for continuing education of professionals (IPS/Croatia) in prevention and control of infection