

SELECTED INDICATORS OF HEALTH CARE RESOURCES, AND HEALTH CARE UTILIZATION AND COSTS IN COUNTRIES OF THE “PUBLIC HEALTH IN SOUTH EASTERN EUROPE (PH-SEE)” NETWORK PRIMERJAVA IZBRANIH KAZALCEV ZMOGLJIVOSTI TER PORABE IN STROŠKOV ZDRAVSTVENEGA VARSTVA MED DRŽAVAMI, SODELUJOČIMI V MREŽI “JAVNO ZDRAVJE V JUGOVZHODNI EVROPI (PH-SEE)”

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Abstract

Background: The Public Health Collaboration in the South Eastern Europe (PH-SEE) network, including ten countries, was established under the aegis of the Stability Pact. Within the network a strong need was identified for monitoring several health and health care issues, including health care resources (HCR) and health care utilization and costs (HCUC).

Aim/Purpose: To assess the current situation and trends in the PH-SEE countries in the field of HCR and HCUC during the period 1994 - 2003.

Methods: The number of hospital beds, physicians, general practitioners, and dentists per 100,000 population, average length of hospital stay and total health expenditure as the percent of the gross domestic product were determined. A meta-database was established for the period 1994 - 2003. The ratios of indicator values of the PH-SEE countries to the EU average at the beginning and at the end of the observation period were calculated, as well as the differences between the initial and final values.

Results: During the study period, the most notable change occurred in the ratios of the PH-SEE countries values to the EU average: i.e. in the hospital bed number in Moldova (beginning: 1.78, end: 0.96); in number of physicians in Moldova (beginning: 1.12, end: 0.76), in number of general practitioners in Moldova (beginning: 0.34, end: 0.56), in number of dentists in Moldova (beginning: 0.76, end: 0.50), in average length of hospital stay in Serbia&Montenegro (beginning: 1.07, end: 1.37), and in total health expenditure in Moldova (beginning: 0.73, end: 0.40).

Conclusion: Considerable differences in HCR and HCUC were found between the PH-SEE countries. Some of these countries (e.g. Croatia, Greece and Slovenia) are in many respects close to the EU average, while the others (e.g. Albania) are faced with the problem of low economic power. The most stable PH-SEE country during the study period was Slovenia, while Moldova experienced the most rapid changes.

Key words: public health, South Eastern Europe, health indicators, health care resources, health care utilization, health care costs

Izvirni znanstveni članek
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Izveček

Izhodišče: Pod okriljem Pakta za stabilnost je nastala mreža “Javno zdravje v Jugovzhodni Evropi (PH-SEE)”, v kateri sodeluje deset držav. Med njimi se je pokazala potreba po stalnem sledenju pojavov, povezanih z zdravjem prebivalcev, med drugim tudi na področju zmogljivosti ter porabe in stroškov zdravstvenega varstva (ZV).

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Namen: Oceniti sedanje stanje in gibanje kazalcev na področju zmogljivosti ter porabe in stroškov ZV v državah PH-SEE v obdobju 1994-2003.

Metode: Za oceno so bili izbrani naslednji kazalci: število bolnišničnih postelj, zdravnikov, zdravnikov splošne prakse in zobozdravnikov na 100.000 prebivalcev, povprečno trajanje hospitalizacije ter odstotek bruto domačega proizvoda (BDP), ki se namenja za zdravje. Za obdobje 1994-2003 je bila vzpostavljena meta baza podatkov. Izračunali smo razmerja med vrednostmi kazalcev v državah PH-SEE v primerjavi s povprečjem EU na začetku in na koncu opazovalnega obdobja ter razliko med njihovimi začetnimi in končnimi vrednostmi.

Rezultati: Analiza je pokazala največje spremembe med začetnimi in končnimi vrednostmi razmerij med državami PH-SEE mreže in povprečjem EU: v številu bolnišničnih postelj v Moldaviji (začetek: 1,78; konec: 0,96); v številu zdravnikov v Moldaviji (začetek: 1,12; konec: 0,76); v številu splošnih zdravnikov v Moldaviji (začetek: 0,34; konec: 0,56); v številu zobozdravnikov v Moldaviji (začetek: 0,76; konec: 0,50), v povprečnem trajanju hospitalizacije v Srbiji in Črni gori (začetek: 1,07; konec: 1,37) in v odstotku BDP za zdravje ponovno v Moldaviji (začetek: 0,73; konec: 0,40).

Zaključki: Razlike v zmogljivosti ter porabe in stroškov ZV so med državami mreže PH-SEE precejšnje. Nekatere od držav (npr. Grčija, Hrvaška in Slovenija) so v marsikaterem pogledu precej podobne povprečju EU, medtem ko se ostale države (npr. Albanija) soočajo s problemi nizke ekonomske moči. V obdobju 1994-2003 so se vrednosti kazalcev najmanj spreminjale v Sloveniji, najbolj pa v Moldaviji.

Ključne besede: javno zdravje, Jugovzhodna Evropa, kazalniki zdravstvenega stanja, zmogljivost zdravstvenega varstva, poraba in stroški zdravstvenega varstva

1 Introduction

Health care systems in South Eastern Europe (SEE) are to a great extent influenced by transitional problems due to political and economic changes in the early nineties. They are predominantly oriented towards curative medicine, and public health services are inadequate. There is a lack of competence not only in health management and strategic development, but also in the fields of health surveillance and prevention. This situation calls for sustainable collaboration and transfer of knowledge and experience in the field of public health (PH). As a result, the Public Health Collaboration in South Eastern Europe, Programmes for Training and Research in Public Health – PH-SEE network was established within the Stability Pact for the SEE framework in 2000 (1), coordinated by the Andrija Stampar School of Public Health, University of Zagreb, Croatia, and the School of Public Health, University of Bielefeld, Germany. The countries participating in PH-SEE are : Albania, Bosnia&Herzegovina, Bulgaria, Croatia, Macedonia (Former Yugoslav Republic), Moldova, Romania, Serbia&Montenegro (whenever possible the Kosovo territory is treated as a separate unit owing to special post-war circumstances), and Slovenia, while Greece is an associate partner. In 2001, the project called "Minimum Health Indicator Set" (MHIS PH-SEE) was endorsed as one of the priority areas of the PH-SEE network (2). The set was developed and agreed on by all the participating countries in 2001/2002,

and was piloted in 2003 (3). Its rationale was that health surveillance is a prerequisite for more optimal decision making in health policy, while valid indicators constitute the key to its meaningful analyses. As the usefulness of different indicators depends on the specific needs of a particular region, it is essential to establish a specific indicator set. The MHIS PH-SEE is based on health targets of the WHO "Health21" strategy (HEALTH21) (4), and covers its main categories. It was agreed to base the MHIS upon the health indicator list of WHO, Regional Office for Europe (WHO-EURO) (5) and on the Final Report of the "European Community Health Indicators" project of the European Commission (6, 7).

The study of these indicators was undertaken to assess the current situation and trends in the field of health care resources (HCR) and health care utilization and costs (HCUC) in the PH-SEE countries for the period 1994 - 2003.

2 Material and methods

2.1 The meta-database

The meta-database was constructed and completed using several sources: a) the WHO-EURO Health for All database (WHO-HFADB), the version available at the time of piloting (8), which was revised in 2005 (issued in June 2005) (9); b) information provided by the European Observatory on Health Care Systems (10-18), and c) for Kosovo, data published in the European Journal of Public Health (19).

2.2 Indicators

Indicators of health care resources. According to the feasibility study (3) criteria for inclusion in the MHIS PH-SEE database for monitoring health care services were met by the indicator “hospital beds per 100,000 population”. Three indicators met the standards for monitoring human resources: “physicians per 100,000 population”, “general practitioners (GPs) per 100,000 population”, and “dentists per 100,000 population”. All indicators are defined according to the definition adopted for WHO-EURO Health for all Database (5).

Health care utilization and costs. Inclusion standards for monitoring HCUC were met by two indicators: “average length of hospital stay, all hospitals”, and “total health expenditure as a percent of gross domestic product (GDP)”. For the purpose of the present study a general indicator of economic situation, GDP in US\$ per capita, was added. The definitions adopted for WHO-EURO Health for all Database (5) were used for the standards.

2.3 Methods

Time frame. The data for the 10-year period 1994-2003 were analysed.

Benchmarking. For the benchmarking of the data of PH-SEE countries, the European Union (EU) average was agreed on (2,3). For the purpose of this study the EU-15 (EU before May 2004) average was agreed on.

Methods of analysis. All MHIS PH-SEE indicators were analysed using descriptive statistical and qualitative methods, as follows:

- the differences between the PH-SEE country with the highest and the PH-SEE country with the lowest indicator values were computed for the years 1994 and 2002 (for 2003 the reporting of indicators to WHO-HFADB was not finished in all PH-SEE countries, and the EU-15 average was not yet known this year was therefore inappropriate for making comparisons);
- the global trend for each of the indicators in each PH-SEE country for the period 1994 - 2003 was assessed using the qualitative method of subjective classification of trends in the following groups: constantly decreasing if not even a slight increase was traced, globally decreasing if only a slight increase was recorded only once, globally increasing if only a slight increase was documented only once, constantly increasing if even not a slight decrease was traced, or oscillating if the values were changeable in trend.
- the ratios of indicator values in the PH-SEE countries to the EU-15 values for 1994 (or the nearest year available) and 2002 (or the nearest year available), and the differences in ratios in the 9-year period were computed; the year 2002 was selected because

data on indicators for 2003 were not available in several countries;

- global change in each country was assessed by the following procedure: a) for each indicator the countries were ranked by the difference in ratios between 1994 and 2002; b) for each country the mean rank of ranks in difference in ratios between 1994 and 2002 was calculated; c) the countries were ranked by the mean rank.

Statistical tools. Statistical analyses were performed using the SPSS statistical package for Windows (Version 11.0, SPSS Inc., Chicago IL, USA).

3 Results

3.1 Health care resources

Hospital beds per 100,000 population. The values for 1994 ranged from 302 in Albania to 1,222 in Moldova (the value for Bosnia&Herzegovina was not reported) (range of difference: 920), and in 2002, from 310 in Bosnia&Herzegovina to 746 in Romania (the values for Greece and Macedonia were missing) (range of difference: 436) (Table 1). During the period 1994 -2003, a constant decrease in this indicator value was globally registered in EU. Similar situation was observed in Greece, Macedonia and Slovenia. In Bulgaria a steady decrease of values started in 1996. In all other countries an oscillation in values, or an upward trend were observed. For Kosovo no data were available. The ratios of PH-SEE countries value to the EU-15 average in 1994 (or the nearest year available) and 2002 (or the nearest year available), and the differences in ratios in the 9-year period, are shown in Table 2. The greatest change in ratio (-0.82) occurred in Moldova.

Physicians per 100,000 population. In 1994 the values ranged from 132 in Albania to 384 in Greece (for Bosnia&Herzegovina the value was not available) (range of difference: 224), and in 2002 from 133 in Albania to 352 in Bulgaria (data for Greece and Macedonia were not reported) (range of difference: 219) (Table 1). During the period 1994 - 2003 a constant increase in this indicator was globally recorded in EU. In Bulgaria, Croatia, Romania and Serbia&Montenegro an increasing trend was noted; in Albania, Bosnia&Herzegovina and Slovenia the values oscillated around a similar value, while in Moldova a considerable decrease occurred during the period 1999 -2002. For Kosovo no data were available. The ratios of PH-SEE countries' values to the EU-15 average in 1994 (or the nearest year available) and 2002 (or the nearest year available), and the differences in ratios in the 9-year

period, are shown in Table 2. The greatest change in ratio (-0.36) was recorded in Moldova.

General practitioners per 100,000 population. In 1994 the figures ranged from 35 in Moldova, to 99 in Macedonia (data for Bosnia & Herzegovina, Greece and Serbia&Montenegro were not reported) (range of difference: 64), and in 2002 from 23 in Bosnia&Herzegovina to 68 in Croatia (but data for Greece, Macedonia and Romania were not reported) (range of difference: 45) (Table 1). During the period 1994 - 2003 more or less stable values of this indicator were globally registered in EU. In Bulgaria, Croatia, Romania and Serbia&Montenegro an upward trend was observed, in Albania, Bosnia&Herzegovina and Slovenia, the values oscillated around the similar value, while in Moldova a considerable decrease occurred during the period 1999 - 2002. No data, however, were available for Kosovo. The ratios of PH-SEE countries values to EU-15 average in 1994 (or the nearest year available) and 2002 (or the nearest year available), and the differences in ratios in the 9-year period are indicated in Table 2. The greatest change in ratio (+0.22) was recorded in Moldova (but the differences for Greece and Serbia&Montenegro were not assessed because data were missing).

Dentists per 100,000 population. In 1994 the values ranged from 26 in Romania to 103 in Greece (data for Bosnia&Herzegovina were not available) (range of difference: 77), and in 2002 from 18 in Bosnia & Herzegovina to 78 in Bulgaria (data for Greece and Macedonia were not available) (range of difference: 60) (Table 1). In the period 1994 - 2003 more or less stable values of this indicator were globally reported in EU. In Bulgaria, Croatia, Romania and Serbia & Montenegro an increasing trend was noted, in Albania, Bosnia&Herzegovina and Slovenia the values oscillated around the similar value, while in Moldova a considerable decrease occurred during the period 1999 - 2002. No data were available for Kosovo. The ratios of PH-SEE countries values to the EU-15 average in 1994 (or the nearest year available) and in 2002 (or the nearest year available), and the differences in ratios in the 9-year period, are indicated in Table 2. The greatest change in ratio (-0.26) was observed in Moldova.

3.2 Health care utilization and costs

Average length of hospital stay, all hospitals. The values for 1994 ranged from 9.0 in Albania and Greece to 17.3 in Moldova (data for Bosnia&Herzegovina were not available) (range of difference: 8.3), and for 2002 from 6.8 in Albania to 12.1 in Serbia&Montenegro (data for Greece and Macedonia were not reported) (range of difference: 5.3) (Table 3). During the period 1994 - 2003

a constant decrease in values of this indicator was globally reported in EU. Similar process was observed in Albania, Bosnia&Herzegovina, Bulgaria, Croatia, Greece and Slovenia. In Macedonia, Moldova and Romania there was first an increase and then a decrease, while in Serbia&Montenegro the initial decrease was followed by an increase. Data for Kosovo were not available. The ratios of PH-SEE countries values to the EU-15 average in 1994 (or the nearest year available) and in 2002 (or the nearest year available), and the differences in ratios in the 9-year period, are shown in Table 4. The greatest change in ratio (+0.30) occurred in Serbia&Montenegro.

Total health expenditure as a per cent of gross domestic product (GDP). In 1994 the figures ranged from 2.8 for Albania to 9.7 for Greece (information for Bosnia&Herzegovina and Macedonia was not provided) (range of difference: 6.9), and in 2002 from 2.2 in Albania to 9.5 in Greece (data for Bosnia&Herzegovina, Bulgaria, Croatia, Macedonia, Serbia&Montenegro and Slovenia were not reported) (range of difference: 7.3) (Table 3). Between 1994 and 2003, a slight increase in the values of this indicator was globally reported in EU. In all PH-SEE countries major or minor oscillations were noted (in Bosnia&Herzegovina, Bulgaria, Croatia and Macedonia trends were not estimated because of the lack of data). For Kosovo the estimated value for 2000 was 2.5. The ratios of PH-SEE countries values to the EU-15 average in 1994 (or the nearest year available) and in 2002 (or the nearest year available), and the differences in ratios in the 9-year period, are demonstrated in Table 4. The estimated ratio for Kosovo was 0.27. The greatest change in ratio (-0.33) occurred in Moldova.

Gross domestic product, US\$ per capita. In 1994 the values ranged from 327 in Moldova to 9632 in Greece (values for Albania, Bosnia&Herzegovina, Bulgaria, Romania and Serbia&Montenegro were not reported) (range of difference: 9305), and in 2002 from 382 in Moldova to 12494 in Greece (but data for Serbia&Montenegro were not reported available) (range of difference: 12112) (Table 3). Between 1994 and 2003 more or less stable values of this indicator were globally noted in EU. Generally, an increase occurred in most PH-SEE countries (in Albania, Bosnia&Herzegovina, Bulgaria, and Romania the estimation of trends was impeded by the missing data, and in Serbia&Montenegro estimation was impossible because of lack of data). For Kosovo no data were available. The ratios of PH-SEE countries values to the EU-15 average in 1994 (or the nearest year available) and in 2002 (or the nearest year available), and the differences in ratios in the 9-year period, are indicated in Table 4. The greatest change in ratio (+0.13) occurred in Slovenia.

Table 1. *Selected indicators on health care resources for countries collaborating in the field of public health in South Eastern Europe (PH-SEE), 1994-2003, compared to the European Union average.*Tabela 1. *Izbrani kazalci virov zdravstvene oskrbe v državah, ki sodelujejo v mreži "Javno zdravje v Jugovzhodni Evropi (PH-SEE)" za obdobje 1994-2003, primerjava s povprečjem EU (EU before May 2004).*

| Country/Država | Year/Leto | | | | | | | | | |
|--|-----------|------|------|------|------|------|------|------|------|------|
| | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
| Hospital beds per 100,000 population Število bolniških postelj na 100.000 prebivalcev | | | | | | | | | | |
| Albania | 302 | 319 | 314 | 305 | 305 | 303 | 326 | 326 | 314 | 307 |
| Bosnia&Herzegovina | | | | | 382 | 380 | 324 | 322 | 310 | 314 |
| Bulgaria | 1020 | 1037 | 1047 | 1028 | 841 | 749 | 741 | 720 | 649 | 629 |
| Croatia | 591 | 575 | 619 | 601 | 606 | 593 | 615 | 600 | 567 | 561 |
| Greece | 491 | 491 | 491 | 487 | 485 | 472 | 472 | | | |
| Macedonia (FYR*) | 555 | 542 | 520 | 516 | 515 | 510 | 506 | 494 | | |
| Moldova | 1222 | 1221 | 1213 | 1162 | 1123 | 819 | 759 | 589 | 577 | 667 |
| Romania | 769 | 764 | 756 | 738 | 731 | 731 | 744 | 749 | 746 | 656 |
| Serbia&Montenegro | 543 | 531 | 551 | 553 | 548 | 541 | | | 599 | |
| Slovenia | 578 | 575 | 566 | 567 | 562 | 555 | 543 | 516 | 508 | 496 |
| EU before May 2004 | 687 | 672 | 663 | 647 | 637 | 626 | 615 | 608 | 600 | |
| Physicians per 100,000 population Število zdravnikov na 100.000 prebivalcev | | | | | | | | | | |
| Albania | 132 | 131 | 130 | 129 | 129 | 128 | 139 | 134 | 133 | |
| Bosnia&Herzegovina | | | | | 143 | 144 | 142 | 145 | 144 | 146 |
| Bulgaria | 333 | 346 | 354 | 345 | 345 | 344 | 337 | 344 | 352 | 360 |
| Croatia | 201 | 204 | 225 | 226 | 229 | 229 | 238 | 238 | 238 | 244 |
| Greece | 384 | 386 | 388 | 399 | 413 | 424 | 433 | 438 | | |
| Macedonia (FYR*) | 232 | 230 | 225 | 225 | 225 | 221 | 220 | 219 | | |
| Moldova | 356 | 351 | 356 | 358 | 363 | 325 | 318 | 271 | 270 | 311 |
| Romania | 176 | 177 | 181 | 179 | 184 | 191 | 189 | 189 | 191 | 196 |
| Serbia&Montenegro | 199 | 202 | 205 | 212 | 214 | 213 | | | 268 | |
| Slovenia | 219 | 212 | 213 | 215 | 218 | 215 | 218 | 219 | 224 | |
| EU before May 2004 | 319 | 322 | 329 | 334 | 337 | 343 | 350 | 353 | 356 | |
| General practitioners per 100,000 population Število splošnih zdravnikov na 100.000 prebivalcev | | | | | | | | | | |
| Albania | 54 | 60 | 49 | | 46 | 46 | 50 | 51 | 50 | |
| Bosnia&Herzegovina | | | | | 29 | 25 | 25 | 23 | 23 | 21 |
| Bulgaria | 76 | 80 | 80 | | | | 67 | 65 | 67 | 68 |
| Croatia | 76 | 73 | 68 | 68 | 68 | 68 | 71 | 69 | 68 | 68 |
| Greece | | | | | | | | | | |
| Macedonia (FYR*) | 99 | 100 | 93 | 93 | 92 | 92 | 91 | 85 | | |
| Moldova | 35 | 33 | 34 | 35 | 40 | 53 | 59 | 54 | 57 | 68 |
| Romania | 75 | 74 | 74 | | 81 | | 44† | | | |
| Serbia&Montenegro | | | | | | | | | 55 | |
| Slovenia | 37 | 44 | 41 | 39 | 47 | 45 | 46 | 46 | 47 | |
| EU before May 2004 | 102 | 105 | 103 | 103 | 102 | 102 | 102 | 102 | 102 | |
| Dentists per 100,000 population Število zobozdravnikov na 100.000 prebivalcev | | | | | | | | | | |
| Albania | 40 | 35 | 31 | 41 | 41 | | | | | |
| Bosnia&Herzegovina | | | | | 19 | 20 | 19 | 18 | 18 | 18 |
| Bulgaria | 66 | 65 | 66 | 63 | 59 | 57 | 83 | 82 | 78 | 83 |
| Croatia | 54 | 56 | 62 | 62 | 66 | 64 | 68 | 68 | 68 | 69 |
| Greece | 103 | 100 | 107 | 108 | 110 | 112 | 113 | 113 | | |
| Macedonia (FYR*) | 56 | 55 | 54 | 55 | 57 | 56 | 56 | 55 | | |
| Moldova | 44 | 44 | 43 | 43 | 43 | 42 | 37 | 31 | 33 | 39 |
| Romania | 26 | 27 | 26 | 24 | 24 | 23 | 22 | 23 | 22 | 23 |
| Serbia&Montenegro | 39 | 39 | 39 | 40 | 39 | 39 | | | 47 | |
| Slovenia | 53 | 64 | 57 | 59 | 61 | 60 | 59 | 59 | 60 | |
| EU before May 2004 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | |

Sources: WHO Health for All database (9), European Observatory on Health Care Systems (10-18)

Legend: * - Former Yugoslav Republic; † - European Observatory on Health Care Systems data (10-18)

Viri: SZO podatkovna baza "Health for All" (9), European Observatory on Health Systems (10-18)

Legenda: * - bivša jugoslovanska republika; European Observatory on Health Care Systems (10-18)

Table 2. *The ratios of indicators values on health care resources of the Minimum Health Indicator Set of countries collaborating in the field of public health in the South Eastern Europe (PH-SEE) to the values of European Union average (EU-15 average = EU average before May 2004) in 1994 (or the nearest year available) and 2002 (or the nearest year available), and the differences in ratios in the 9-year period.*

Tabela 2. *Razmerje med vrednostmi kazalcev o virih zdravstvene oskrbe v državah, ki sodelujejo v mreži "Javno zdravje v Jugovzhodni Evropi (PH-SEE)", in med povprečno vrednostjo v EU (EU-15 average = povprečje EU pred majem 2004) l.1994 (ali v najbližjem letu, ki je na voljo) in l.2002 (ali v najbližjem letu, ki je na voljo), in razlike med temi razmerji v obdobju 9 let.*

| | | PH-SEE Network country Države članice mreže PH-SEE | | | | | | | | | |
|--|------------------|---|------------------------|----------|---------|--------|----------------------|---------|---------|-----------------------|----------|
| Year*/ Leto* | EU-15 average | Albania | Bosnia& Herzegovina | Bulgaria | Croatia | Greece | Macedonia (FYR) † | Moldova | Romania | Serbia& Montenegro | Slovenia |
| Hospital beds per 100,000 population Število bolniških postelj na 100.000 prebivalcev | | | | | | | | | | | |
| 1994 | 1 | 0.44 | 0.56 | 1.48 | 0.86 | 0.71 | 0.81 | 1.78 | 1.12 | 0.79 | 0.84 |
| 2002 | 1 | 0.52 | 0.52 | 1.08 | 0.95 | 0.79 | 0.82 | 0.96 | 1.24 | 1.00 | 0.85 |
| Difference/Razlika | | 0.08 | -0.04 | -0.40 | 0.09 | 0.08 | 0.01 | -0.82 | 0.12 | 0.21 | 0.01 |
| Physicians per 100,000 population Število zdravnikov na 100.000 prebivalcev | | | | | | | | | | | |
| 1994 | 1 | 0.41 | 0.45 | 1.04 | 0.63 | 1.20 | 0.73 | 1.12 | 0.55 | 0.62 | 0.69 |
| 2002 | 1 | 0.37 | 0.40 | 0.99 | 0.67 | 1.23 | 0.61 | 0.76 | 0.53 | 0.75 | 0.63 |
| Difference/Razlika | | -0.04 | -0.05 | -0.05 | 0.04 | 0.03 | -0.12 | -0.36 | -0.02 | 0.13 | -0.06 |
| General practitioners per 100,000 population Število splošnih zdravnikov na 100.000 prebivalcev | | | | | | | | | | | |
| 1994 | 1 | 0.53 | 0.29 | 0.75 | 0.74 | | 0.97 | 0.34 | 0.73 | | 0.36 |
| 2002 | 1 | 0.49 | 0.23 | 0.66 | 0.67 | | 0.83 | 0.56 | 0.79 | 0.54 | 0.46 |
| Difference/Razlika | | -0.04 | -0.06 | -0.09 | -0.07 | | -0.14 | 0.22 | 0.06 | | 0.10 |
| Dentists per 100,000 population Število zobozdravnikov na 100.000 prebivalcev | | | | | | | | | | | |
| 1994 | 1 | 0.69 | 0.33 | 1.13 | 0.93 | 1.77 | 0.96 | 0.76 | 0.45 | 0.67 | 0.91 |
| 2002 | 1 | 0.63 | 0.28 | 1.19 | 1.04 | 1.72 | 0.84 | 0.50 | 0.34 | 0.71 | 0.92 |
| Difference/Razlika | | -0.06 | -0.05 | 0.06 | 0.11 | -0.05 | -0.12 | -0.26 | -0.11 | 0.04 | 0.01 |

Legend: * - the stated year or the nearest year available; † - Former Yugoslav Republic

Legenda: * - označeno leto ali najbližje razpoložljivo leto; bivša jugoslovanska republika

Table 3. *Selected indicators on health care utilization and costs for countries collaborating in the field of public health in South Eastern Europe (PH-SEE), 1994-2003, compared to the European Union average.*

Tabela 3. *Izbrani kazalci uporabe in stroškov zdravstvenega varstva v državah, ki sodelujejo v mreži "Javno zdravje v Jugovzhodni Evropi (PH-SEE)" za obdobje 1994-2003, primerjava s povprečjem EU (EU before May 2004).*

| Country/Država | Year/Leto | | | | | | | | | |
|---|-----------|--------|--------|--------|--------|--------|--------|--------|--------|------|
| | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
| Average length of stay, all hospitals | | | | | | | | | | |
| Povprečno trajanje hospitalizacije, vse bolnišnice | | | | | | | | | | |
| Albania | 9.0 | 8.2 | 8.1 | 7.9 | 7.6 | 7.5 | 6.9 | 6.7 | 6.8 | 6.6 |
| Bosnia&Herzegovina | | | | | 11.5 | 11.0 | 11.1 | 10.5 | 10.7 | 10.3 |
| Bulgaria | 13.6 | 13.6 | 13.2 | 12.9 | 12.5 | 11.9 | 11.5 | 10.7 | 9.2 | 8.8 |
| Croatia | 13.8 | 13.2 | 13.4 | 12.9 | 12.6 | 12.3 | 11.9 | 11.8 | 11.2 | 11.0 |
| Greece | 9.0 | 8.5 | 8.6 | 8.7 | 8.3 | | | | | |
| Macedonia (FYR*) | 14.0 | 14.3 | 14.0 | 13.4 | 12.7 | 12.6 | 12.2 | 11.8 | | |
| Moldova | 17.3 | 17.5 | 18.1 | 18.0 | 17.6 | 16.3 | 14.2 | 12.5 | 11.5 | 10.8 |
| Romania | 10.3 | 11.0 | 10.0 | 10.0 | 10.0 | 9.5 | 8.9 | 8.7 | 8.2 | 8.0 |
| Serbia&Montenegro | 13.0 | 12.0 | 12.0 | 12.0 | 12.0 | 11.0 | | | 12.1 | |
| Slovenia | 10.6 | 10.4 | 10.5 | 10.0 | 9.5 | 9.0 | 8.6 | 8.3 | 8.1 | 7.4 |
| EU before May 2004 | 12.1 | 11.5 | 11.3 | 10.9 | 10.5 | 9.9 | 9.6 | 9.2 | 8.8 | 8.7 |
| Total health expenditure as % of gross domestic product (GDP) | | | | | | | | | | |
| Vsi stroški zdravstvenega varstva kot % BDP | | | | | | | | | | |
| Albania | 2.8 | 2.4 | 2.2 | 2.1 | 1.9 | 2.3 | 2.0 | 2.1 | 2.2 | 2.3 |
| Bosnia&Herzegovina | | | | 7.2† | 7.7† | | | | | |
| Bulgaria | 4.7 | | 3.2† | 3.5† | 3.4† | | | | | |
| Croatia | 9.0 | | 7.3† | 7.2† | | | | | | |
| Greece | 9.7 | 9.6 | 9.6 | 9.4 | 9.4 | 9.6 | 9.7 | 9.4 | 9.5 | |
| Macedonia (FYR*) | | | | | | 5.6 | 4.5 | | | |
| Moldova | 6.2 | 5.8 | 6.9 | 6.0 | 4.3 | 2.9 | 3.0 | 2.9 | 3.6 | 4.0 |
| Romania | 3.0 | 3.2 | 3.4 | 3.1 | 4.1 | 3.9 | 4.1 | 4.1 | 4.2 | 4.1 |
| Serbia&Montenegro | 9.5 | 8.7 | 8.0 | 9.1 | 7.6 | 6.9 | 7.6 | | | |
| Slovenia | 7.9 | 7.8 | 7.8 | 7.7 | 7.8 | 7.7 | 8.0 | 8.2 | | |
| EU before May 2004 | 8.5 | 8.6 | 8.7 | 8.6 | 8.6 | 8.6 | 8.7 | 8.9 | 9.1 | |
| Gross domestic product, US\$ per capita | | | | | | | | | | |
| BDP, US\$ na prebivalca | | | | | | | | | | |
| Albania | | | | | | 906 | | 1,300 | 1,535 | |
| Bosnia&Herzegovina | | | | | | | | 1,175 | 1,362 | |
| Bulgaria | | | | | | 1,474 | | 1,690 | 1,944 | |
| Croatia | 3,139 | 4,029 | 4,422 | 4,362 | 4,663 | 4,777 | | 4,625 | 5,025 | |
| Greece | 9,632 | 11,244 | 11,811 | 11,577 | 11,561 | 11,902 | 10,782 | 11,063 | 12,494 | |
| Macedonia (FYR*) | 1,616 | 1,583 | 1,581 | 1,593 | | | | | 1,860 | |
| Moldova | 327 | 392 | 442 | | 449 | 255 | | 346 | 382 | |
| Romania | | | | 1,545 | | 1,503 | | 1,728 | 2,052 | |
| Serbia&Montenegro | | | | | | | | | | |
| Slovenia | 7,233 | 9,431 | 9,481 | 9,163 | 9,847 | 10,450 | | | 1,1181 | |
| EU before May 2004 | 20,310 | 23,275 | 23,593 | 22,124 | 22,868 | 22,795 | 20,908 | 20,863 | 2,2745 | |

Sources: WHO Health for All database (9), European Observatory on Health Care Systems (10-18)

Legend: * - Former Yugoslav Republic; † - European Observatory on Health Care Systems data (10-18)

Viri: SZO podatkovna baza "Health for All" (9), European Observatory on Health Systems (10-18)

Legenda: * - bivša jugoslovanska republika; European Observatory on Health Care Systems (10-18)

Table 4. *The ratios of values of indicators on health care utilization and costs of the Minimum Health Indicator Set of countries collaborating in the field of public health in the South Eastern Europe (PH-SEE) to the values of European Union average (EU-15 average = EU average before May 2004) in 1994 (or the nearest year available) and 2002 (or the nearest year available), and the differences in ratios in the 9-year period.*

Tabela 4. *Razmerje med vrednostmi kazalcev uporabe in stroškov zdravstvene oskrbe v državah, ki sodelujejo v mreži "Javno zdravje v Jugovzhodni Evropi (PH-SEE)", in med povprečno vrednostjo v EU (povprečje EU-15 = povprečje EU pred majem 2004) v 1994 (ali v najbližjem letu, ki je na voljo) in v 2002 (ali v najbližjem razpoložljivem letu) in razlike med temi razmerji v obdobju 9 let.*

| Year*/ Leto* | EU-15 average | PH-SEE Network country | | | | | | | | | |
|---|------------------|------------------------|------------------------|----------|---------|--------|----------------------|---------|---------|-----------------------|----------|
| | | Albania | Bosnia& Herzegovina | Bulgaria | Croatia | Greece | Macedonia (FYR) † | Moldova | Romania | Serbia& Montenegro | Slovenia |
| Avgerage length of stay, all hospitals | | | | | | | | | | | |
| Povprečno trajanje hospitalizacije, vse bolnišnice | | | | | | | | | | | |
| 1994 | 1 | 0.74 | 0.95 | 1.12 | 1.14 | 0.74 | 1.15 | 1.43 | 0.85 | 1.07 | 0.87 |
| 2002 | 1 | 0.77 | 1.21 | 1.04 | 1.27 | 0.94 | 1.34 | 1.31 | 0.93 | 1.37 | 0.92 |
| Difference/Razlika | | 0.03 | 0.26 | -0.08 | 0.13 | 0.20 | 0.19 | -0.12 | 0.08 | 0.30 | 0.05 |
| Total health expenditure as % of gross domestic product (GDP) | | | | | | | | | | | |
| Vsi stroški zdravstvenega varstva kot % BDP | | | | | | | | | | | |
| 1994 | 1 | 0.33 | 0.85 | 0.56 | 1.06 | 1.14 | 0.66 | 0.73 | 0.35 | 1.12 | 0.93 |
| 2002 | 1 | 0.24 | 0.85 | 0.38 | 0.80 | 1.05 | 0.50 | 0.40 | 0.46 | 0.84 | 0.91 |
| Difference/Razlika | | -0.09 | 0.00 | -0.18 | -0.26 | -0.09 | -0.16 | -0.33 | 0.11 | -0.28 | -0.02 |
| Gross domestic product/US\$ per capita | | | | | | | | | | | |
| BDP, US\$ na prebivalca | | | | | | | | | | | |
| 1994 | 1 | 0.04 | 0.06 | 0.07 | 0.15 | 0.47 | 0.08 | 0.02 | 0.08 | | 0.36 |
| 2002 | 1 | 0.07 | 0.06 | 0.09 | 0.22 | 0.55 | 0.08 | 0.02 | 0.09 | | 0.49 |
| Difference/Razlika | | 0.03 | 0.00 | 0.02 | 0.07 | 0.08 | 0.00 | 0.00 | 0.01 | | 0.13 |

Legend: * - the stated year or the nearest year available; † - Former Yougoslav Republic

Legenda: * - označeno leto ali najbližje razpoložljivo leto; bivša jugoslovanska republika

3.3 Profiles of the PH-SEE network countries in the field of HCR and HCUC

According to the data available for the period 1994 - 2003 the greatest changes were reported in Moldova, where during the 9-year period the ratio of hospital beds per 100,000 population to EU decreased globally from 1.78 to 0.96 and the ratio of physicians per 100,000 population from 1.12 to 0.36; for GPs per 100,000 population it increased from 0.34 to 0.56, and for dentists per 100,000 population it decreased from 0.76 to 0.50. Furthermore, the greatest decrease in total health expenditure as a percent of GDP was reported in this country (from 0.73 to 0.40) (Tables 2 and 4). The average rank on the scale of changes for the countries was as follows (lower values indicate higher changes): Moldova 2.7, Serbia&Montenegro 3.6, Bulgaria 4.3, Croatia 4.3, Greece 5.3, Romania 5.4, Macedonia 5.8, Albania 7.0, Bosnia&Herzegovina 7.1, and Slovenia 7.2). The most stable country was Slovenia where only slight to moderate changes were recorded for all values except for the GDP value which was considerably increased. The global profiles of PH-SEE countries which followed all seven indicators for 1994 (or the nearest available year) and 2002 (or the nearest available year) are indicated in Figures 1 and 2.

4 Discussion

4.1 Selection of the indicators

In the selection process of MHIS PH-SEE, specific needs of the PH-SEE countries were assessed. Priorities, measurability in quantitative and qualitative terms, sensitivity to changes and differences, inter-territorial comparability, affordability in terms of relative costs, and usefulness for intervention were considered. A detailed description of selection methods is given in the paper by Bardehle (2) and in the final report on the piloting phase (3).

4.2 Results of the study

Hospital beds per 100,000 population. There was a notable difference in this indicator among the PH-SEE countries, but it seems to be diminishing. In many PH-SEE countries, a decrease in hospital bed figures was recorded during the period 1994 - 2003. The change was particularly remarkable in Moldova and Bulgaria (Table 2, Figures 1 and 2). In 1994 these two countries had much higher values of this indicator

compared to the average EU value (the ratios were 1.78 and 1.48, respectively). The situation may be a result of hospital treatment expansion, which took place all over Europe between 1960 and the beginning of 1980 (20). In Western Europe the process of reducing hospital bed capacity began in 1980s, while in Eastern Europe the expansion persisted and led to a severe crisis in 1990s (20). The reason for the decrease in the number of hospital beds in Moldova and Bulgaria between 1994 and 2003 is not the object of this analysis, but lack of financial resources has been identified as one possible explanation. In many PH-SEE countries, the total health expenditure as a percent of GDP spent on health care decreased during this period (Table 3). Another reason seems to be the process of integration of some PH-SEE countries in EU (Greece joined EU several years previously, Slovenia in May 2004, Bulgaria and Romania are supposed to become full members in 2007, Croatia entered the negotiation process in October 2005), which requires adapting to EU standards. In Albania, on the contrary, the value of this indicator was low throughout this period (in 1994 and in 2002 the indicator value was about half the EU-15 average. This observation, together with the data on hospital stay, indicate that Albania is facing serious problems of inadequate health care provision within the hospital sector.

Physicians per 100,000 population. The total number of physicians is one of the most important indicators of health care manpower resources (20). To ensure appropriate access to outpatient and inpatient health care services, optimally high figures, as well as continuous slight increases are required (20). Great differences were found between the PH-SEE countries during the period 1994 - 2003. Considerably lower values of this indicator compared to the EU-15 average (with the ratio to the EU-15 of less than 0.50) were recorded at the beginning of the observation period in Albania and Bosnia&Herzegovina (Table 2, Figures 1 and 2). In Croatia, Macedonia, Romania, Serbia & Montenegro and Slovenia the values were somewhat lower, while in Bulgaria, Greece and Moldova they were slightly increased (Table 2, Figures 1 and 2). In 2002 (or the nearest year available) the situation grew worse in Albania and Bosnia & Herzegovina (Table 2, Figures 1 and 2). The most logical explanation for this phenomenon seems to be inadequate health care financing, since the GDP is much below the EU-15 average in most of the PH-SEE countries. Together with low total health expenditure as a percent of GDP, this means extremely low budget for health care.

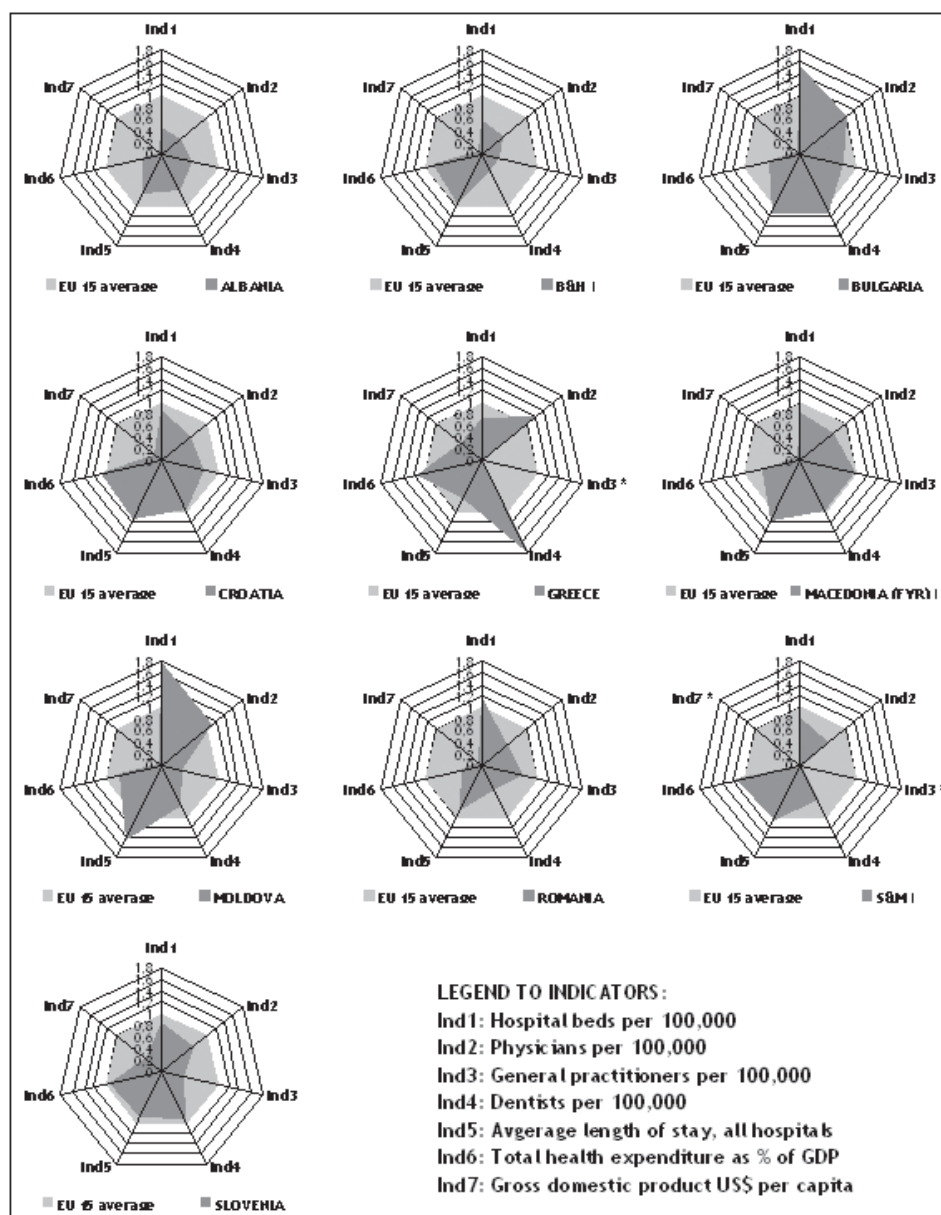


Figure 1. Global situation of ratios of selected indicators on health care resources and health care utilization and costs values in the PH-SEE countries to the values of European Union average (EU-15 average, before May 2004) in 1994 or the nearest year available. Comments and abbreviations: * no data available for the total period; †: B&H = Bosnia&Herzegovina, FYR = Former Yougoslav Republic, S&M = Serbia&Montenegro.

Slika 1. Razmerje med izbranimi kazalci virov zdravstvene oskrbe ter uporabe in stroškov zdravstvenega varstva v državah mreže PH-SEE in med povprečno vrednostjo za EU (povprečje EU-15 pred majem 2004) l. 1994 (ali najbližje razpoložljivo leto). Komentarji in okrajšave: * za vse obdobje ni podatkov; †: B&H = Bosna in Hercegovina, FYR = bivša jugoslovanska republika, S&M = Srbija in Črna gora. LEGENDA: Ind1 = Število bolniških postelj na 100.000 prebivalcev, Ind2 = Število zdravnikov na 100.000 prebivalcev, Ind3 = Število splošnih zdravnikov na 100.000 prebivalcev, Ind4 = Število zobozdravnikov na 100.000 prebivalcev, Ind5 = Povprečno trajanje hospitalizacije, vse bolnišnice, Ind6 = Vsi stroški zdravstvenega varstva kot % BDP, Ind7 = BDP, US\$ na prebivalca.

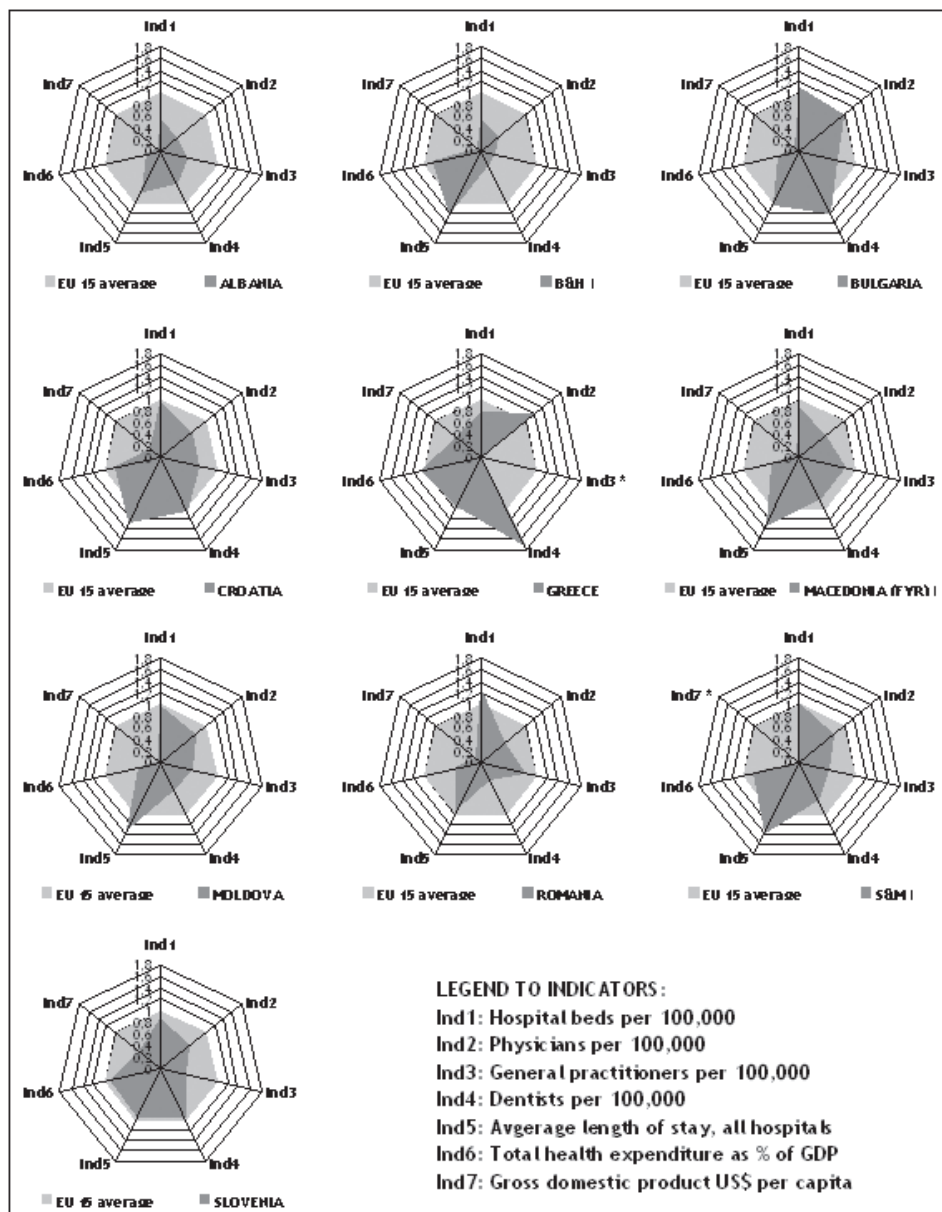


Figure 1. Global situation of ratios of selected indicators on health care resources and health care utilization and costs values in the PH-SEE countries to the values of European Union average (EU-15 average, before May 2004) in 2002 or the nearest year available. Comments and abbreviations: * no data available for the total period; †: B&H = Bosnia&Herzegovina, FYR = Former Yugoslav Republic, S&M = Serbia&Montenegro.

Slika 1. Razmerje med izbranimi kazalci virov zdravstvene oskrbe ter uporabe in stroškov zdravstvenega varstva v državah mreže PH-SEE in med povprečno vrednostjo za EU (povprečje EU-15 pred majem 2004) l.2002 (ali najbližje razpoložljivo leto). Komentarji in okrajšave: * za vse obdobje ni podatkov; †: B&H = Bosna in Hercegovina, FYR = bivša jugoslovanska republika, S&M = Srbija in Črna gora. LEGENDA: Ind1 = Število bolniških postelj na 100.000 prebivalcev, Ind2 = Število zdravnikov na 100.000 prebivalcev, Ind3 = Število splošnih zdravnikov na 100.000 prebivalcev, Ind4 = Število zobozdravnikov na 100.000 prebivalcev, Ind5 = Povprečno trajanje hospitalizacije, vse bolnišnice, Ind6 = Vsi stroški zdravstvenega varstva kot % BDP, Ind7 = BDP, US\$ na prebivalca.

Another reason may be the escape of young people from health professions to more remunerative professions in economy business, but this theory needs to be verified.

General practitioners per 100,000 population. This indicator reflects the provision with primary health care (PHC) resources in a country. Great differences in this indicator were found between the network countries. In comparison to the EU-15 average, at the beginning of the observation period the situation was considerably unfavourable in Bosnia&Herzegovina, Moldova, and Slovenia (with the ratio to the EU-15 of less than 0.50) (Table 2, Figures 1 and 2). It improved in Moldova and was slightly better in Slovenia, but slightly deteriorated in Bosnia&Herzegovina. It seems that health care systems in many of the PH-SEE countries are faced with a relative surplus of highly specialized physicians and shortage of properly trained GPs and family doctors. This is a matter of concern since GPs and nurses represent professions which are the hub of the PHC services network (20). Such situation is likely to create serious problems: highly specialized physicians are primarily interested in the curative approach rather than in combining it with the preventive one. In order to ensure that the supply of health care personnel will meet their needs, most countries have to provide capacities for planning their future human resource requirements more properly.

Dentists per 100,000 population. The number of dentists is also of great importance for the PHC, as dental medicine represents an important part of the community-oriented PHC sector (20). As compared to the EU-15 average this values in the PH-SEE countries at the beginning of the observation period showed a considerably unfavourable situation in Bosnia & Herzegovina and Romania (with the ratio to the EU-15 less than 0.50) (Table 2, Figures 1 and 2), which became even worse at the end of the study. The values for Bulgaria exceeded slightly the EU-15 average, but this finding may be due to different definition of a dentist (3). Much higher values were reported in Greece.

Average length of hospital stay, all hospitals. During the period 1994 - 2003, the average length of hospital stay was decreasing in most PH-SEE countries, indicating that they followed the average EU trend (Table 3, Figures 1 and 2). The only exception was Serbia&Montenegro where this indicator increased. Reduced hospital bed capacities coupled with shorter hospital stay represent another mechanism for rationalizing the use of secondary and tertiary health care. During the past decades the

number of overnight hospital stays in Europe has been reduced, and other settings, such as day-care hospitals, short-stay hospitals, and hospitals providing outpatient care have been established. Nevertheless, the average hospital stay in Eastern European countries is much longer than in the Western Europe (20). This indicator can also be used for assessing cost-effectiveness of the use of available HCR, and therefore shows that health care systems in the Eastern Europe, which is less economically developed, are also less efficient. On the other hand, this situation seem to reflect an arising problem. In 2000, Albania reported the lowest value for this indicator, which suggests absolute lack of hospital beds rather than only the process of general rationalization of health care use. This hypothesis has not yet been verified, but is indirectly supported by the total number of hospital beds for this country (Table 1). Different morbidity structure plays an important role in the assessment of this indicator, but this was not the object of our study.

Total health expenditure as a percent of gross domestic product (GDP). This indicator shows what proportion of the GDP can be spent on health care in a country, and largely depends on its economic status. The availability of financial resources required to operate health care services cannot be specified in absolute terms. The amount should be affordable by the country and high enough to meet the needs of health promotion, disease prevention and provision of effective and high-quality curative health care. HEALTH 21 states that 7 - 10% of the GDP population might provide a reasonable amount for a reasonable development of the capacity and performance of a health system if the overall GDP level is adequate (20). Unfortunately, during the period 1994 - 2003 the absolute level of public spending on health care in some of PH-SEE countries was too low to meet even the minimal requirements of the population,; the GDP was extremely low and so was the total health expenditure as a percent of GDP (Table 3, Figures 1 and 2). At the end of observation period, in five PH-SEE countries (Albania, Bulgaria, Macedonia, Moldova and Romania, Kosovo) the value of this indicator was below the suggested minimum. The situation was especially unfavourable in Albania and Kosovo. In addition, an alarming decrease was recorded in Moldova, where the value was halved. The solution is not easy to foresee because of the low economic power of these countries (Table 3).

The profiles of the PH-SEE countries. The results of our study globally indicate that Slovenia was the most

stable PH-SEE country during the observed period, while Moldova experienced the most rapid changes. When comparing the results of the PH-SEE countries to the EU-15 average in 2002, it is hard to say which country has come closest to that value. Croatia, Greece and Slovenia has similar values for several indicators (Figure 2).

4.3 Comparison with other studies

Comparison with other studies was not possible because the study is currently unique in this part of Europe.

4.4 Strengths and limitations of the study

The strength of this study is that it provides a valuable assessment of the availability of indicators from the MHIS PH-SEE list. The results of the study may serve as an incentive for a more regular reporting in some countries. It is also a very first attempt to investigate indicators of HCR and HCUC in the PH-SEE network countries. These indicators may prove useful in the future development of this underprivileged part of Europe, especially in the field of PH and policies, which should be addressed in the light of EU enlargement in the near future.

However, our study has some limitations. The main drawback is the lack of data on some indicators, which impeded the comparison of some indicators, such as "total health expenditure as a percent of GDP" and "GDP in US\$ per capita". This first description of country profiles, however, is of great value to the future process of the SEE countries approaching to each other. Another drawback, although only a temporary one, is that not all indicators required for monitoring HCR and HCUC are currently included in the MHIS PH-SEE. For monitoring health care services two indicators were selected during the selection process (2): "the number of PHC units" and "the number of hospital beds", both per 100,000 population. The rationale was that health care services, especially those supplied by the PHC units, are extremely important for the health of the population. In many situations they represent a cost-effective alternative to expensive hospital facilities (the running costs for hospitals are much higher than those for PHC units because of high costs of infrastructure and staff maintenance). Unfortunately, the feasibility study (3) showed that the indicator of the number of PHC units failed to meet the data quality standard (the PH-SEE countries do not use the same definition of PHC unit)

and was temporarily removed from the MHIS PH-SEE list. The indicator "nurses graduated per 100,000 population" in the set of HCUC indicators was agreed to be included. The rationale behind this decision was that human resources are one of the most important factors in quality health care services. The key health professionals are those working in PHC units, primarily physicians, especially specialists of family medicine, and nurses (20). The feasibility study (3) showed that the indicator "number of nurses graduated" failed to meet the standard of at least acceptable data availability, and was therefore temporarily removed from the MHIS PH-SEE list.

4.5 Necessary steps in the near future

In the near future, different aspects of the definition of several indicators presented in this study should be reassessed. Some of them are not clear enough; e.g. the indicator "number of hospital beds", does not specify whether private hospital beds are included, and the indicator "number of physicians and GPs" does not make it clear whether private sector physicians/GPs are included. The indicator of dentists poses problems related to the changed definition. The newest WHO definition requires university degree for dentists, but in some countries this definition has been used only for the past few years.

5 Conclusions

The results of the present study revealed great differences between individual PH-SEE countries in the field of HCR and HCUC, and showed that these discrepancies have been increasing in many respects. Countries on one side of the spectrum, such as Croatia, Greece and Slovenia, are in many respects close to the EU-15 average, while other countries, e.g. Albania, are confronted with all consequences of low economic power. Yet, the situation seems to be improving in these countries too. Between the two poles there is a pallet of different situations. The results stress the need for enhancing mutual help between countries within the PH-SEE network, and for encouraging member countries to share their experience.

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