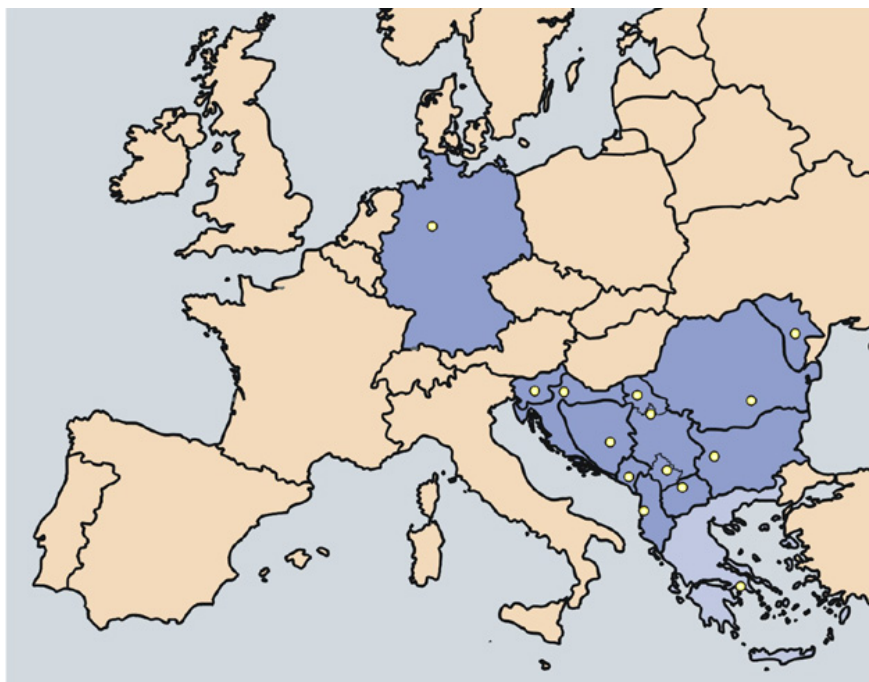




Public Health Collaboration in South Eastern Europe
(PH-SEE)
Programmes for Training and Research in Public Health



MINIMUM HEALTH INDICATOR SET FOR PH-SEE COUNTRIES



FINAL REPORT

Bielefeld, 2003



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FINAL REPORT

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Bielefeld, 2003

ACKNOWLEDGEMENTS

The authors wish to thank the task force members and other public health experts and organizations from the PH-SEE countries (responsible persons and students from PH-SEE Summer School, Ljubljana 2002) that contributed to the preparation of this document.

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ABSTRACT

Aim. The Stability Pact includes a programme for the development and reconstruction of training and research in public health in South Eastern region of Europe (PH-SEE). One of the identified priorities of national public health development is the definition of a Minimum Indicator Set for all countries of SEE and some of their neighbour countries.

Methods. A Task Force of the PH-SEE Network has proposed a Minimum Indicator Set on the basis of the list of 224 indicators of the World Health Organization (WHO) Health for All (HFA) 21 strategy. The indicators selected follow the selection criteria as defined by expert groups of WHO and the European Commission. A meta-database describing the indicators was established.

Results. A list of 30 indicators was finally agreed at the 3rd PH-SEE Conference, Tirana, Albania, in May 2002. All indicators are included in the WHO HFA DataBase indicator set.

Conclusion. After principal agreement of the expert group on the list of indicators, further practical steps were done, among which building a logistic network for realizing the Minimum Indicator Set. This includes a pilot phase, a revision of the Minimum Indicator Set, data collection and data analysis. Further steps should include the transfer of the project into a continuous surveillance and monitoring system.

Key words: *public health, health surveillance, health monitoring, health indicator, data collection, health planning, health policy*

LIST OF ABBREVIATIONS

DMFT:	Decayed Missed Filled Teeth
EU:	European Union
FR:	Federal Republic
FYR:	Former Yugoslav Republic
GDP:	Gross Domestic Product
GP:	General Practitioner
HFA:	Health For All
HFAdb:	Health For All Data-base
MAX PH-SEE:	Maximum value of MHIS PH-SEE indicator
MHIS PH-SEE:	Minimum Health Indicator Set for PH-SEE project countries
MIN PH-SEE:	Minimum value of MHIS PH-SEE indicator
PH:	Public Health
PHC:	Primary Health Care
PH-SEE:	Programmes for Training and Research in Public Health in South Eastern Europe
SDR:	Standardized Death Rate
SEE:	South Eastern Europe
WHO:	World Health Organization
Yugoslavia FR:	Federal Republic of Yugoslavia

SECTION I

1. Introduction

2. Methodology

1. Introduction

INTRODUCING THE MHS PH-SEE - MINIMUM HEALTH
INDICATOR SET FOR THE MEMBER COUNTRIES INVOLVED
IN »PUBLIC HEALTH COLLABORATION
IN SOUTH EASTERN EUROPE«

HISTORICAL OVERVIEW

INTRODUCING THE MHS PH-SEE - MINIMUM HEALTH INDICATOR SET FOR THE MEMBER COUNTRIES INVOLVED IN »PUBLIC HEALTH COLLABORATION IN SOUTH EASTERN EUROPE«

WHAT MHS PH-SEE IS

Health surveillance is a prerequisite for intelligent decision making in health policy, and valid indicators are the key to meaningful analyses for this kind of decision making. As the usefulness of indicators depends on the needs of a particular region, it is essential to establish a common set of indicators for every one of them. Also, as the number of health indicators is ever increasing over the time, it is necessary to restrict the set to important ones for a particular region.

The project MHS PH-SEE – Minimum Health Indicator Set for the PH-SEE project (Public Health Collaboration - Programmes for Training and Research in Public Health in South Eastern European countries) represents one of the attempts to define the most useful and at the same time minimal set of health indicators for the PH-SEE region.

At the same time, it represents one of the priority tasks of the PH-SEE – Public Health Collaboration - Programmes for Training and Research in Public Health in South Eastern Europe - Project. In this framework it could be seen as a baseline for public health research in the SEE region, which is necessary for developing good health strategies.

PH-SEE – »PUBLIC HEALTH COLLABORATION IN SOUTH EASTERN EUROPE - PROGRAMMES FOR TRAINING AND RESEARCH IN PUBLIC HEALTH IN SOUTH EASTERN EUROPE«

The project entitled PH-SEE - Programmes for Training and Research in Public Health in South Eastern Europe (PH-SEE) is coordinated by the Faculty for Health Sciences of the University of Bielefeld, Germany. Main Co-coordinator in South Eastern Europe (SEE) is the Andrija Stampar School of Public Health, School of Medicine of the University of Zagreb, Croatia. It is focused on the reconstruction of programmes for training and research in public health in PH-SEE countries.

Specific objectives of this project are the following

- a) to review the current policy and practice of postgraduate and continuing public health training in PH-SEE countries;
- b) to recommend and initiate the further development of public health curricula and training modules based on regional specificities in the European context and in mutual collaboration;
- c) to discuss the feasibility of developing a common internet-platform; and
- d) to identify priorities of national public health research projects and stimulate further collaboration and joint research within the PH-SEE network.

THE STABILITY PACT AND ITS ROLE IN PH-SEE

The PH-SEE project is one of the projects under the framework of the Stability Pact project, aiming at replacing the reactive crisis intervention policy in the PH-SEE region with a long-term conflict prevention strategy. More than 40 partner countries and organizations undertook to strengthen the PH-SEE region countries in their efforts to foster peace, democracy as well as economic development in order to achieve stability in the whole region.

In order to foster the social cohesion in this part of Europe, five major areas of intervention have been identified, among them health. In this framework one of the important tasks is also to reconstruct public health in PH-SEE countries, or to improve it.

COUNTRIES JOINED IN THE PH-SEE PROJECT

As PH-SEE is a project aimed at bringing together experts from the South Eastern part of Europe and their neighbourhood countries regardless of the geopolitical division in Europe, it is joined by countries which are very different in their historical, social, economical, cultural, political or other characteristics.

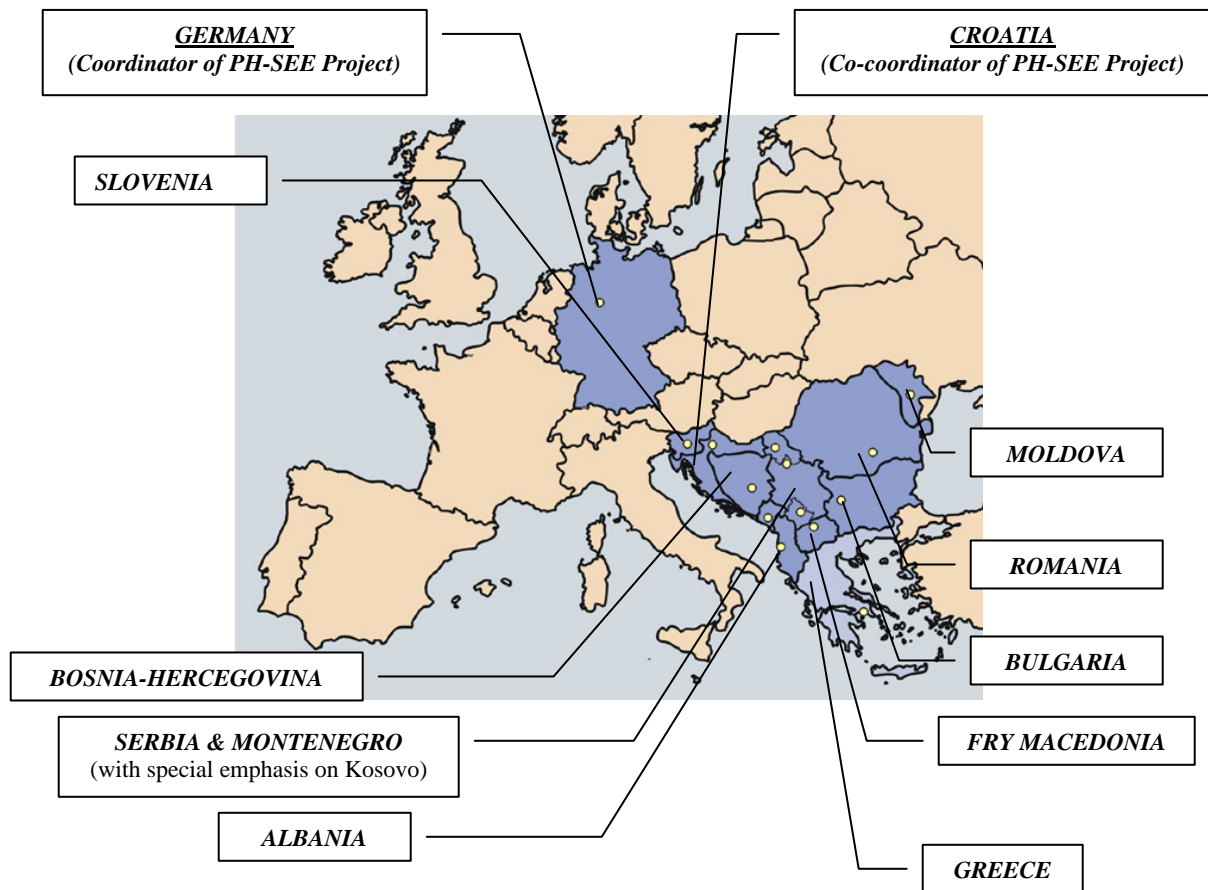


Figure 1: The countries from South Eastern Europe, joined to PH-SEE (Public Health Collaboration in South Eastern Europe - Programmes for Training and Research in Public Health in South Eastern Europe) project.

The following countries have so far joined this project: Albania, Bulgaria, Bosnia-Hercegovina, Croatia, FRY Macedonia, Moldova, Romania and Yugoslavia FR, as well as Slovenia as one of the neighbouring countries of the SEE region (in the geopolitical sense). The participants from Greece have an associated status, however, participate actively in the project. The map in Figure 1 shows the present PH-SEE countries.

It was agreed that due to special conditions the part of the Federal Republic of Yugoslavia - Kosovo should be considered separately.

HISTORICAL OVERVIEW

At the first international conference on Public Health Collaboration in South Eastern Europe, held at the Inter-University Center in Dubrovnik, Croatia, February 16-18, 2001, it was decided that one of the priorities for the PH-SEE network would be the development of a Minimum Health Indicator Set for the South Eastern European region. Up to that time, an indicator set as the basis for comparison and use for decision making in health policy and health reporting had not been available for the PH-SEE countries. At this conference, the participants established a task force to prepare the draft for an indicator set suitable for PH-SEE countries. The following members of PH-SEE were considered to build the task force:

- Doris Bardehle, Germany;
- Genc Burazeri, Albania;
- Doncho Donev, Macedonia and
- Ulrich Laaser, Germany

The main task of the task force group was to identify the most suitable minimum health indicator set.

At the second international conference of the PH-SEE network, held in Ohrid, Macedonia, from September 14-16, 2001, the draft of a minimum health indicator set was discussed and agreed within the working group. The following PH-SEE countries were involved in the draft of MHIS PH-SEE: Albania, Bosnia-Hercegovina, Bulgaria, Croatia, FYR Macedonia, Moldova, Romania, Slovenia and FR Yugoslavia (Kosovo separately).

At the international South Eastern European Conference "Public Health and Peace" held in Skopje, Macedonia, December 06-08, 2001, the draft MHIS PH-SEE was presented and accepted by the participants. At the same time, there was a demonstration of the MHIS PH-SEE Project at the EUPHA (European Public Health Association) 2001 conference in Brussels (congress was held December 6 - 8, 2001, Brussels, Belgium). The participants of the session on health information systems accepted the MHIS PH-SEE-countries, too.

Afterwards, the presentation was reviewed for publication in the Croatian Medical Journal. Documents of the conference are published in Volume 43, No. 2, 2002, pages 170-173, entitled „Minimum Health Indicator Set for South Eastern Europe.“

At the third international conference on Public Health Collaboration in South Eastern Europe, held in Tirana, Albania, May 9 - 11, 2002, it was decided that Ljubljana, Slovenia, would take over the leading role in further developing the MHIS PH-SEE, represented in this regard by Lijana Zaletel-Kragelj. It was decided that a meta-database would be established with information on the indicator definitions, accessibility and reliability (particularly the

denominator problem). The available data were supposed to be analyzed in the context of training for public health (PH) – at the 2nd PH-SEE Summer School to be held in Ljubljana, Slovenia, in July 2002. A core set of no more than 30 selected health indicators was agreed and is described in the methodology part of this report. The EU-average was accepted as benchmark criterium, as well as minimum and maximum indicator values among PH-SEE countries. The focal points in the SEE countries as well as responsible persons were nominated at that time, too:

- Albania - Elizana Zaimi-Petrela,
- Bosnia-Herzegovina – Luka Kovacic (as a contact person to responsible person),
- Bulgaria - Lydia Georgieva Mladenova,
- Croatia - Jadranka Bozиков,
- FRY Macedonia - Doncho Donev,
- Moldova - Sava Valeriu (as a contact person to responsible person or as a responsible person himself,
- Romania – Gabriela Scintee (as a contact person to responsible person),
- Slovenia – Lijana Zaletel-Kragelj,
- Yugoslavia FR (since 2003: Serbia & Montenegro) - Djordje Stojiljkovic,
- Kosovo - Naser Ramadani.

During the 2nd PH-SEE Summer School, which was held in Ljubljana, Slovenia, 22 – 27 July 2002, the students from all participating countries in PH-SEE except Moldova and Kosovo, filled in the data on selected MHIS SEE indicators, using the WHO HFA DataBase (HFAdb) as baseline data source. Also information on the source of data, data holder, publications and remarks on the reliability of the data for most of the participating countries was collected.

Additionally, a teaching module on Health Indicators and Health Reporting with the methodological background was included in the New Public Health Curriculum of the PH-SEE group.

AIMS AND OBJECTIVES OF THE PROJECT

This project is aiming at establishing the core set of health indicators, important for the SEE region and at presenting the current state of methodology of the follow-up data for calculating them.

The objectives of the Minimum Indicator Set are the following:

- to use health indicators for health reporting (indicator-based health reporting)
- to compare the data between the countries of South Eastern Europe with EU countries
- to develop benchmarking criteria
- to create a cycle of health targets, health indicators and health reporting
- to include the MHIS into the PH curriculum.

2. Methodology

SELECTION CRITERIA FOR INDICATORS

THE EXTENSION OF MHS PH-SEE

INVESTIGATION OF THE AVAILABILITY OF HEALTH
INDICATOR DATA

LIST OF MHS PH-SEE INDICATORS

META-DATABASE

DATA PRESENTATION

DATA ANALYSIS

SELECTION CRITERIA FOR INDICATORS

The selection criteria for the MHIS-PH-SEE are modelled on the report of a WHO Expert Group Meeting in the year 2000 and on the Final Report of the ECHI Project of the European Commission. The following criteria were agreed:

- relevance (regarding priorities),
- validity (regarding determinants of health),
- measurability (in quantitative or qualitative terms),
- sensitivity (to change and differences),
- comparability (inter-territorial),
- repeatability (for time series),
- affordability (in terms of relative costs), and
- usefulness (for intervention).

The task force group additionally proposed some rules for the MHIS PH-SEE, concluding that all indicators had to represent either a dimension determining health, e.g., economics, or to satisfy different stakeholders (primary and secondary).

EXTENSION OF THE MHIS PH-SEE

As the number of health indicators is ever increasing over the time, it was decided to restrict the MHIS PH-SEE only to important health indicators for this region. It was agreed to start the MHIS PH-SEE with approximately 30 indicators which had to be available in the majority of the PH-SEE countries. The extension of the MHIS PH-SEE would have to be decided after finishing the pilot phase.

INVESTIGATION OF THE AVAILABILITY OF HEALTH INDICATOR DATA

The Health for All 21 (HFA 21) structure was used for establishing the availability of health indicator data in the countries of the PH-SEE region. The main source of indicators was therefore the list of the 224 indicators of the World Health Organization (WHO) HFA 21 strategy.

The Health for All Database (HFAdb) indicators cover the following topics:

- socio-demographic and economic situation;
- mortality;
- morbidity (hospital discharges);
- risk factors and lifestyles;
- environmental health;
- health care resources,
- utilization and costs and
- maternal and child health.

The preference was to define at least one indicator for each of the topics of the MHIS PH-SEE project, taking into account as much as possible the deterioration of health statistics during the 1990s in most PH-SEE countries.

THE LIST OF MHIS PH-SEE INDICATORS

The list of indicators finally agreed within the PH-SEE countries in accordance with the specific conditions of the PH-SEE region, selected from HFAdb, is presented in table 1.

Table 1: The list of MHIS PH-SEE indicators.

Topic	MHIS PH-SEE No.	Indicator	HFAdb No.
Basic demographic and socioeconomic indicators	01	Percent of population aged 65+ years	0030 999902
Mortality based indicators	02	Life expectancy at birth, in years, males	1011 060101
	03	Life expectancy at birth in years, females	1012 060101
	04	Infant mortality rate per 1,000 live births	1110 070100
	05	Maternal deaths, all causes per 100,000 live births	1210 080100
	06	Standardized death rate, circulatory system diseases,	1321 090102
		all ages per 100,000 males	
	07	Standardized death rate, circulatory system diseases, all ages per 100,000 females	1322 090102
	08	Standardized death rate, malignant neoplasms, all ages per 100,000 males	1521 100102
	09	Standardized death rate, malignant neoplasms, all ages per 100,000 females	1522 100102
	10	Standardized death rate, external cause injury and poison, all ages per 100,000 males	1721 110102
	11	Standardized death rate, external cause injury and poison, all ages per 100,000 females	1722 110102
	12	Standardized death rate, infectious and parasitic diseases, all ages per 100,000 males	1821 993002
	13	Standardized death rate, infectious and parasitic diseases, all ages per 100,000 females	1822 993002
Morbidity, disability and hospital discharges	14	Number of newly diagnosed tuberculosis cases per 100,000, all forms	2010 040301
	15	Number of decayed, missing or filled teeth at age 12 (DMFT-12 Index)	2810 040701
Environment	16	Percent of population whose homes are connected to water supply system, total	4300 992001
	17	Percent of population with access to hygienic sewage disposal, total	4310 200107
Health care resources	18	Number of primary health care units per 100,000 population	5030 270206
	19	Number of hospital beds per 100,000 population	5050 270205
	20	Number of physicians per 100,000 population	5250 270201
	21	Number of general practitioners in PHC per 100,000 population	5290 992733

Table 1: Cont.

Topic	MHIS PH-SEE No.	Indicator	HFADB No.
	22	Number of dentists per 100,000 population	5300 270203
	23	Number of nurses graduated per 100,000 population	5410 360302
Health care utilization and costs	24	Average length of stay, all hospitals	6100 992901
	25	Total health expenditure as percent of GDP (Gross Domestic Product)	6710 340102
Maternal and child health	26	Percent of infants vaccinated against diphtheria	7160 280101
	27	Percent of infants vaccinated against tetanus	7170 280102
	28	Percent of infants vaccinated against pertussis	7180 280103
	29	Percent of infants vaccinated against measles	7190 280104
	30	Percent of infants vaccinated against poliomyelitis	7200 280105

META-DATABASE

The MHIS PH-SEE was supposed to be completed in the form of a meta-database, describing the indicators and their quality.

META-DATABASE COMPONENTS

Items describing the indicators were defined in various WHO and EU documents. The Norwegian National Health Indicator System in its “Norgeshelsa” database uses a similar model describing the indicators based on HFA 21 (5). Items describing the meta-database were supposed to be the following ones:

- definition of the indicator,
- source of data,
- data holder,
- publication/s available on a particular indicator,
- assessment of quality and limitations, and
- description of the data collection method,
- explanation why a particular indicator was preferred
- checking of the data available for a certain period.

BUILDING-UP METHODOLOGY

Completing the information agreed to be included in the meta-database took some time. A lot of work was done during the 2nd PH-SEE Summer School, which was held in Ljubljana, Slovenia, 22 – 27 July, 2002.

DEFINITIONS OF THE INDICATORS

As a starting point for defining the MHIS PH-SEE indicators, the definitions from the WHO HFAdb were used.

DATA SOURCE, DATA HOLDER, PUBLICATIONS AND ASSESSMENT OF QUALITY

Information on the source of data required for calculating a particular indicator, on the data holder of these data, on publications available and assessment of its quality, was first completed by students of the 2nd PH-SEE Summer School, Ljubljana. Students were asked to establish this information for every single indicator for their country. Only for Moldova and Kosovo was no information collected as there was no participating student from these countries.

DESCRIPTION OF THE METHODS OF DATA COLLECTION

The responsible persons from all PH-SEE countries were kindly asked to provide data on the exact methodology of calculating every single MHIS PH-SEE indicator. So far we have got the assurance that the task will be carried out as soon as possible from most of them. Special attention was put on these methods in those cases where inconsistencies in the indicators were established (like number of primary health care units for which the WHO definition is extremely wide).

DATA AVAILABLE FOR THE PERIOD 1996 - 2000

Checking the availability of MHIS PH-SEE indicators for the period 1996 – 2000 was agreed. During the 2nd PH-SEE Summer School held in Ljubljana, Slovenia, 22 – 27 July 2002, the students from all countries participating in PH-SEE except Moldova, collected data on selected MHIS PH-SEE indicators. As baseline data we used the WHO HFAdb data. The table with values was elaborated for every single MHIS PH-SEE indicator for all PH-SEE countries.

The data were then verified by the responsible persons in all PH-SEE countries. We refrained from changing any data supplied from the HFAdb database and only added new data if provided by the responsible person from a particular PH-SEE country.

The corrections and additional data were included in the tables shown in Section II where the detailed description on the indicators is given. The exact information on the data source is given in the tables 'legends' in Section II.

Special attention was attached to data missing in the HFAdb. For countries with a lot of missing data in the baseline database, the responsible persons were asked to provide the data if possible. This problem was particularly evident in two countries suffering from postwar conditions – Bosnia-Herzegovina and Kosovo.

DATA ON POPULATIONS IN PH-SEE COUNTRIES

As one of the most important items in calculating health indicators is population data (these data represent the denominator for calculating the majority of health indicators), special attention was also attached to information concerning the methodology and reliability of counting populations in PH-SEE countries. The responsible persons were asked to complete the questionnaire on censuses and population registries in their countries.

DATA PRESENTATION

The data on MHIS PH-SEE indicators 1996 – 2000 are presented in tables and graphs, the characteristics being as follows:

- tables of the 1996 – 2000 period data:
 - all PH-SEE countries are listed in alphabetical order
 - the data for benchmarking are presented separately (EU, PH-SEE MIN and MAX value)
 - the data source is clearly stated
- graphs of the 1996 – 2000 period data:
 - for drawing the graphs, the Microsoft Excel programme was used
 - the colours, representing a particular country, were chosen almost totally by the programme itself, except in the following situations (reasons):
 - * in the case of Croatia, the automatic colour was not well seen in black&white printing, and the nearest darker nuance of the automatic colour was chosen instead
 - * in the case of Yugoslavia – Kosovo, the same colour as for Yugoslavia FR was chosen
 - for the countries of Albania, Bosnia-Hercegovina, Bulgaria, Croatia and Slovenia the markers were filled in with the same colour as the line, with one exception:
 - * in the case of Yugoslavia – Kosovo, the same marker as for Yugoslavia FR was chosen but filled in with a different colour (dark grey)
 - the colours representing benchmarking lines (EU, MIN PH-SEE and MAX PH-SEE) were chosen to be the lightest of all to stress their meaning. The light yellow colour was chosen. In the case of benchmarking the markers were not used. To stress the difference between EU line and MIN PH-SEE and MAX PH-SEE lines, a full line was used for the former and a dashed line was used for the latter two.
 - * in the case of Croatia, the automatic colour was not well seen in black&white printing and the nearest darker nuance of the automatic colour was chosen instead
 - * in the case of Yugoslavia – Kosovo, the same colour as for Yugoslavia FR was chosen

DATA ANALYSIS

AVAILABILITY OF MHIS PH-SEE INDICATOR DATA

The availability was analysed by indicators and by PH-SEE countries.

The indicators were ranked first by the median value of the reporting by 10 PH-SEE countries and Kosovo. In the case of the same median value, the interquartile range was the second criterion. In all cases with the same interquartile range value the proportion of PH-SEE countries with a complete 1996 – 2000 report was the next criterion.

For analysing the availability by countries, also the median and interquartile values of indicator availability were used.

INFORMATION ON THE DATA SOURCE AND COMMENTS ON THE DATA COLLECTION

To provide information on the data source, data holders, publications and comments on the data collection, special reports were used by the countries. To avoid any implications as to which country does best in reporting data for this kind of information and which does worst - as they are too different in their characteristics - the countries are listed in alphabetical order.

OVERVIEW OF THE MHIS PH-SEE INDICATOR DATA 1996 - 2000

The data of the 1996 – 2000 period could only be roughly assessed.

Assessments and rough comparisons were made exclusively with regard to the relative values of the PH-SEE countries. In order to avoid any implication of good – bad position of any PH-SEE country, all 1996 – 2000 data values were assessed exclusively in the sense of high – intermediate – low and trends exclusively in the sense of increasing – decreasing.

The following steps help to establish an overview:

- Step 1: the 5-year period (1996 – 2000) minimum and maximum were stated,
- Step 2: the range between minimum and maximum was calculated,
- Step 3: the range was divided by 3 and the limits of three thirds (LT – lower third, MT – middle third and UT – upper third) were stated,
- Step 4: the values of the MHIS PH-SEE for the whole period 1996 – 2000 for all countries were assessed with regard to which of the previously stated thirds they belong. The assessment was made regardless of the number of the measuring points. One single excessive peak was not evaluated,
- Step 5: the 5-year trend was afterwards assessed if at least three successive measurement points were available, with the trend being mostly constant. The trend could not be observed if there were less than three successive measuring points available or if the trend was changing too much. The categories were as follows: STD = strong decrease, COD = considerable decrease, SLD = slight decrease, SS = situation stable, SLI = slight increase, COI = considerable increase, STI = strong increase.

SECTION II

1. Population Estimates in PH-SEE Countries

2. Data on MHIS PH-SEE

3. Analysis of Data on MHIS PH-SEE

1. Population Estimates in PH-SEE Countries

GENERAL NOTES

POPULATION ESTIMATES IN PH-SEE COUNTRIES 1996 - 2000

GENERAL NOTES

One of the most important data items in calculating health indicators is the data on the population in a particular country as it is used as the denominator to calculate most of the health indicators.

DEFINITION

The definition is as follows: Estimate of the resident (de jure) population of a particular country.

For calculating health indicators, usually the estimate of the population in the middle of a calendar year is used (the mid-year population estimate), with the mid-year point being 30 June or 1 July of a given calendar year.

DATA SOURCE

The central office of statistics of a particular country is the source of such data in most countries.

METHODS OF DATA COLLECTION

There are several methods of collecting data on the population of a particular country. These methods could be combined. The main source of this information are population censuses.

Censuses of the population are the most comprehensive surveys on the population of a particular country. They could be expressed as snapshots of the population. They provide the basis for assessing the status of the population and predicting future trends. They also serve as a reference for correcting annual population estimates and for updating population registers and as a basis for preparing sample surveys. According to United Nation recommendations, most countries implement population censuses every ten years.

Other methods of population estimates are the following:

- populations registers
- statistical surveys on births, deaths, marriages, divorces, migrations...
- diverse databases such as mortality database
- other sources (records on foreigners and other persons temporarily present in a particular country).

Population censuses together with population registries and sample surveys represent three main sources of information in the field of demographic research as well as for research on the health status of a population of a particular country.

LIMITATIONS

There are several problems in gathering population data for many countries. Some major problems are listed below:

- in censuses, some people are not counted while others could be counted more than once. The effect of these errors leads to unreliable counting,
- for some countries the expenses for population censuses are too big, so they cannot conduct them regularly,
- some countries have no population register,
- additional problems could arise in countries suffering from war or post-war conditions (example: some countries of former Yugoslavia) as for various reasons such as for example refugees population countings are impossible.

POPULATION ESTIMATES IN PH-SEE COUNTRIES 1996 - 2000

METHODS OF DATA COLLECTION

In most PH-SEE countries, the collection of information on the population is a clearly defined procedure. In Table 2 information on the methods of data collection is provided as well as on their accessibility and a rough assessment of their reliability given.

Table 2: Methods of collection of population data and their reliability* in PH-SEE countries.

Country	Last five population censuses	Existence of Population Register (Data Holder)	Registration of births and deaths	Main Publication on population (Publisher)/ Last update/ Electronic accessibility	Reliability of the data	Comments
Albania	-	-	-	Annual Report (INSTAT - National Institute of Statistics of Albania) Last update: - E-accessibility: -	-	/
Bosnia-Hercegovina	1953 [#] , 1961 [#] , 1971 [#] , 1981 [#] , 1991 [#]	-	-	Annual Report (-) Last update: - E-accessibility: -	-	/
Bulgaria	1965, 1975, 1985, 1992, 2001	Yes (National Statistical Institute)	Compulsory	Statistical Annual (National Statistical Institute) Last update: 2002 E-accessibility: www.nci.bg	Data of good quality	/
Croatia	1961 [#] , 1971 [#] , 1981 [#] , 1991 [#] , 2001	Yes (Croatian Bureau of Statistics)	Compulsory	Statistical Yearbook of the Republic of Croatia (Croatian Bureau of Statistics) Last update: - E-accessibility: -	Data of good quality	Data according to census every 10 years, in the meantime estimations
FYR Macedonia	1961 [#] , 1971 [#] , 1981 [#] , 1991 [#] , 1994 (Note: Census of population, households and housing)	Yes (Ministry of Interior of the Republic of Macedonia)	Compulsory	Statistical Yearbook of Republic of Macedonia (State Institute of Statistics of Republic of Macedonia) Last update: 2002 E-accessibility: www.stat.gov.mk	Data of good quality	Data collection by census usually every 10 years, in the meantime estimated values are used

Table 2: Cont.

Country	Last five population censuses	Existence of Population Register (Data Holder)	Registration of births and deaths	Main publication on population (Publisher)/ Last update/ Eelectronic accessibility	Reliability of the data	Comments
Greece	-	-	-	-	-	-
Moldova	-	-	-	-	-	-
Romania	1956, 1966, 1977, 1992, 2002	Yes (National Institute of Statistics)	Compulsory	Demografic Year book (National Institute of Statistics) Last update: 2002 E-accessibility: www.insse.ro	Data of very good quality	/
Slovenia	1961 [#] , 1971 [#] , 1981 [#] , 1991 [#] , 2002 (Note: Censuses of population, households and housing)	Yes (Ministry of the Interior of the Republic of Slovenia)	Compulsory	Statistical Yearbook of the Republic of Slovenia (Statistical Office of the Republic of Slovenia) Last update: 2002 E-accessibility: www.gov.si/zrs	Data of good quality	/
Yugoslavia FR	1953 [#] , 1961 [#] , 1971 [#] , 1981 [#] , 1991 [#] 2002 (Note: Censuses of population, households and housing)	Yes (Federal Institute of Statistics)	Compulsory	Statistical Year-book (Federal Statistical Office) Last update: 2002 (Note: Data for Serbia and Montenegro) E-accessibility: www.szs.sv.gov.yu (Note: Data for Serbia with Kosovo)	-	/
Kosovo	-	-	-	-	After 1997 only estimates based on 1981 census	Data are for the time being not separated from Yugoslavia FR

* Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)

/ No comment / non-existing data

- No data available till the end of redaction of the report

Censuses in former Yugoslavia

MID-YEAR POPULATION ESTIMATES (WHO HFA DATABASE 2002)

DEFINITION

The data on mid-year population estimates are in HFADB given as HFADB indicator N° 0010 999999 - Mid-year population estimate. The definition given by this indicator is as follows: estimate of resident (de jure) population on 1 July of given calendar year.

NOTES ON DATA AVAILABILITY AND QUALITY

WHO usually receives mid-year population data by sex and age, together with the annual mortality data. For some countries there is a delay of 2 or even more years in reporting mortality and population data by age. This makes it impossible to calculate health indicators for which numerator data are available for more recent years. In such cases, the countries are expected to provide at least provisional figures on the total population by sex only. This kind of information is automatically replaced later with the final population data from the mortality data reporting system of that particular country. Table 3 and Figure 1 show the population data in PH-SEE countries as they are available in the HFAdb 2002 .

Table 3: HFAdb indicator N° 0010 999999 - Mid-year population estimates for PH-SEE countries (Data source: WHO Health for All Database 2002).

Country	Year				
	1996	1997	1998	1999	2000
Albania	3283000	3324317	3354341	3373445	3114000
Bosnia-Hercegovina	3524000	3784000	3655216	3746311	3774074
Bulgaria	8362800	8312000	8256800	8210624	8170172
Croatia	4493581	4572474	4501149	4553769	4381352
FYR Macedonia	1983099	1996900	2007523	2017142	2026350
Greece	10475900	10498800	10516300	10626000	10645000
Moldova	4324693	4310110	4296610	4285010	4270742
Romania	22607600	22545900	22502800	22458000	22435204
Slovenia	1991169	1980000	1974139	1976290	1986000
Yugoslavia FR (incl. Kosovo)	10577208	10600067	10616886	10629358	10640000
Kosovo	-	-	-	-	-

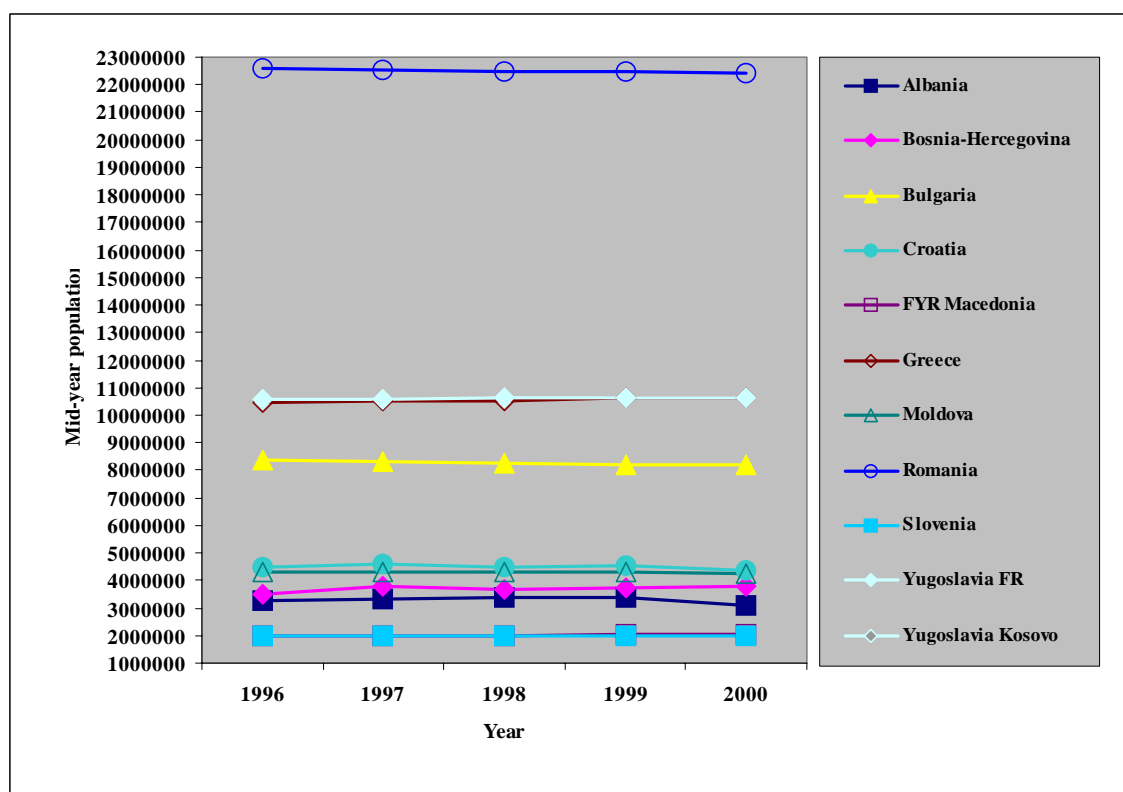


Figure 2: HFAdb indicator N° 0010 999999 - Mid-year population estimates for PH-SEE countries (Data source: WHO Health for All Database 2002).

2. MHIS PH-SEE Indicators

BASIC DEMOGRAPHIC AND SOCIO-ECONOMIC INDICATORS

MORTALITY-BASED INDICATORS

MORBIDITY, DISABILITY AND HOSPITAL DISCHARGES

ENVIRONMENT

HEALTH CARE RESOURCES

HEALTH CARE UTILIZATION AND COSTS

MATERNAL AND CHILD HEALTH

BASIC DEMOGRAPHIC AND SOCIO-ECONOMIC INDICATORS

Indicator

01

Percent of population aged 65+ years

HFAdb Indicator N^o 0030 999902

DEFINITION

WHO-HFAdb: Estimate of resident (de jure) population on 1 July of given calendar year.

DATA 1996 - 2000

The data are presented in Table 5 and in Figure 3.

Table 5: Data for MHIS PH-SEE indicator 01 - Percent of population aged 65+ years, 1996 – 2000 (Main data source: WHO Health for All Database 2002*).

Country	Year				
	1996	1997	1998	1999	2000
Albania	6.12	6.13	6.14	6.14	6.11
Bosnia-Hercegovina	-	-	11.00-	-	9.6 estim.-
Bulgaria	15.26	15.48	15.74	16.02	16.25
Croatia	12.32	12.32	12.32	12.36	12.51
FYR Macedonia	9.03	9.24	9.52	9.82	10.10
Greece	15.98	16.35	16.73	-	-
Moldova	9.10	9.22	9.33	9.34	9.41
Romania	12.25	12.56	12.82	13.04	13.31
Slovenia	12.69	13.09	13.47	13.79	13.98**
Yugoslavia FR#	12.26	12.38	12.50	12.58	12.81
Kosovo	-	-	-	-	-
EU average	15.74	15.90	15.97	-	-
MIN PH-SEE	6.12	6.13	6.14	6.14	6.11
MAX PH-SEE	15.98	16.35	16.73	16.02	16.25

* If not stated otherwise, the data source in present table is WHO HFAdb 2002

** The data source of data additionally provided by PH-SEE countries :

Slovenia: Institute of Public Health of Republic of Slovenia

- No data/ no additional data available till the end of redaction of the report

Data with Kosovo

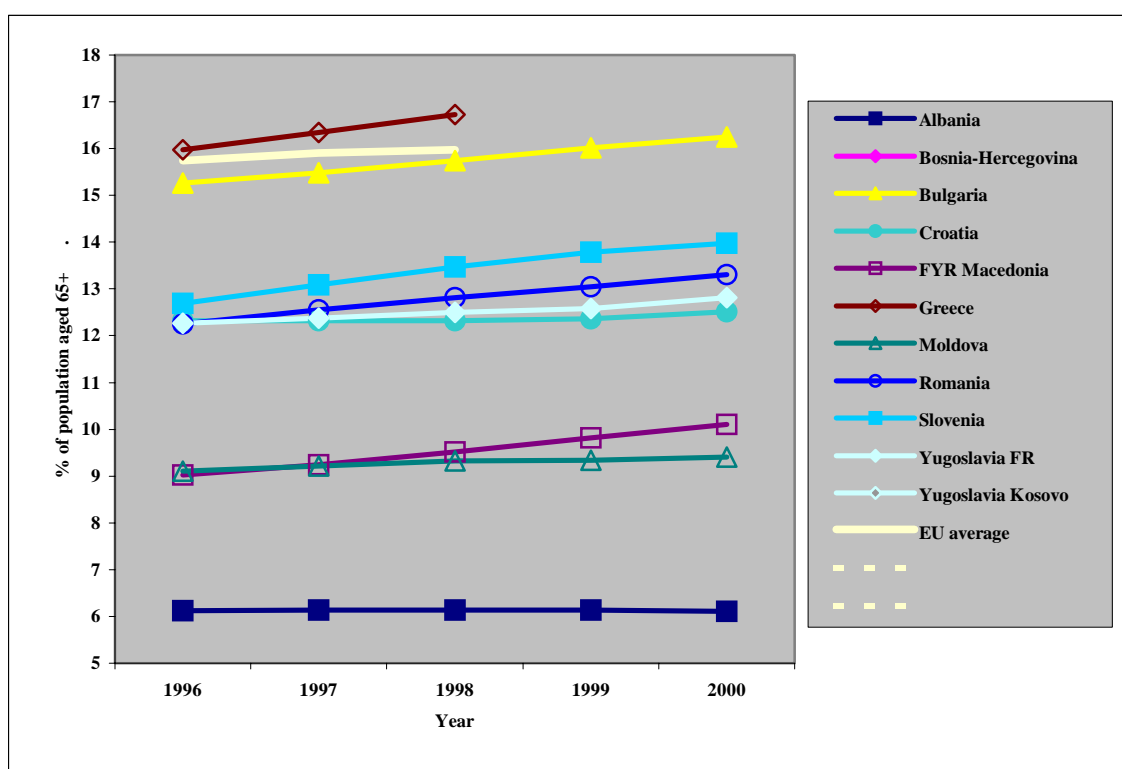


Figure 3: Data for MHIS PH-SEE indicator 01 - Percent of population aged 65+ years, 1996 – 2000 (Main data source: WHO Health for All Database 2002 – see comments in Table 5).

NOTES ON DATA AVAILABILITY AND QUALITY

HFAdb: No note.

PH-SEE Working Group: The notes are presented in Table 6.

Table 6: Source of data, data holder, publications and comments on data* for MHIS PH-SEE indicator 01 - Percent of population aged 65+ years, by country.

Country	Source of data	Data holder	Publications	Comments
Albania	National Population Register	INSTAT - National Institute of Statistics of Albania	Annual Report	/
Bosnia-Herzegovina	-	IS	Annual Report	/
Bulgaria	National population Register	National Statistical Institute	Statistical Yearbook of the Republic of Bulgaria	It is used for calculation of population based data, data of good quality
Croatia	Population Register	Croatian Bureau of Statistics	Statistical Yearbook of the Republic of Croatia	Data of good quality

Table 6: Cont.

Country	Source of data	Data holder	Publications	Comments
FYR Macedonia	Census, Birth and Death Registries	State Institute of Statistics	Statistical Yearbook of Republic of Macedonia	Data of good quality
Greece	-	-	-	-
Moldova	-	-	-	-
Romania	Birth and Death Register (birth certificates and death certificates)	National Institute of Statistics (NIS) National Centre of Health Statistics (NCHS)	Statistical Year books (one published by NIS, and one published by NCHS)	Very good quality of data.
Slovenia	Central Population Register of the Republic of Slovenia	Statistical Office of the Republic of Slovenia, Ministry of the Interior of the Republic of Slovenia	Statistical Yearbook of the Statistical Office of the Republic of Slovenia	Data of good quality
Yugoslavia FR	Census, Birth and Death Registries	Federal Statistical Office	Statistical Year-book	/
Kosovo	-	-	-	-

* Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)

/ No comment / non-existing data

- No data available till the end of redaction of the report

MORTALITY BASED INDICATORS

Indicator

02

Life expectancy at birth, in years, males

HFAdb Indicator N° 1011 060101

DEFINITION

WHO-HFAdb: Calculated by WHO/EURO for all countries which report detailed mortality data to WHO, using the Wiesler's method. Age disaggregation of mortality data: 0, 1-4, 5-9,10-14, etc, 80-84, 85+.

DATA 1996 - 2000

The data are presented in Table 7 and in Figure 4.

Table 7: Data for MHIS PH-SEE indicator 02 - Life expectancy at birth, in years, males, 1996 – 2000
(Main data source: WHO Health for All Database 2002*)

Country	Year				
	1996	1997	1998	1999	2000
Albania	71.29	70.82	71.55	-	-
Bosnia-Hercegovina	-	-	-	-	69.30 (2001)-
Bulgaria	67.49	66.97	67.44	68.36	68.48
Croatia	68.74	68.61	68.60	68.92	69.12
FRY Macedonia	70.55	70.51	70.54	70.65	71.18
Greece	75.34	75.76	75.77	-	-
Moldova	62.96	63.25	64.20	63.79	63.99
Romania	65.13	65.27	66.28	67.15	67.81
Slovenia	71.20	71.18	71.30	71.82	71.94**
Yugoslavia FR#	69.90**	69.80**	69.80**	69.90**	70.30**
Kosovo	-	-	-	-	-
EU average	74.44	74.86	74.96	-	-
MIN PH-SEE	62.96	63.25	64.20	63.79	63.99
MAX PH-SEE	75.34	75.76	75.77	71.82	79.10

* If not stated otherwise, the data source in present table is WHO HFAdb 2002

** The data source of data additionally provided by PH-SEE countries :

Slovenia: Institute of Public Health of Republic of Slovenia

Yugoslavia FR: Institute of Public Health of FR Yugoslavia

- No data/ no additional data available till the end of redaction of the report

Data with Kosovo

NOTES ON DATA AVAILABILITY AND QUALITY

HFAdb: Unfortunately, some countries are not able to ensure complete registration of all death cases and births. Therefore, life expectancy calculated using incomplete mortality data is higher than it actually is. In some cases under-registration of deaths may reach 20% and this has to be kept in mind when making

comparisons between countries. Particularly high levels of mortality under-registration are observed in countries which were affected by armed conflicts during the 1990s, e.g. countries of former Yugoslavia.

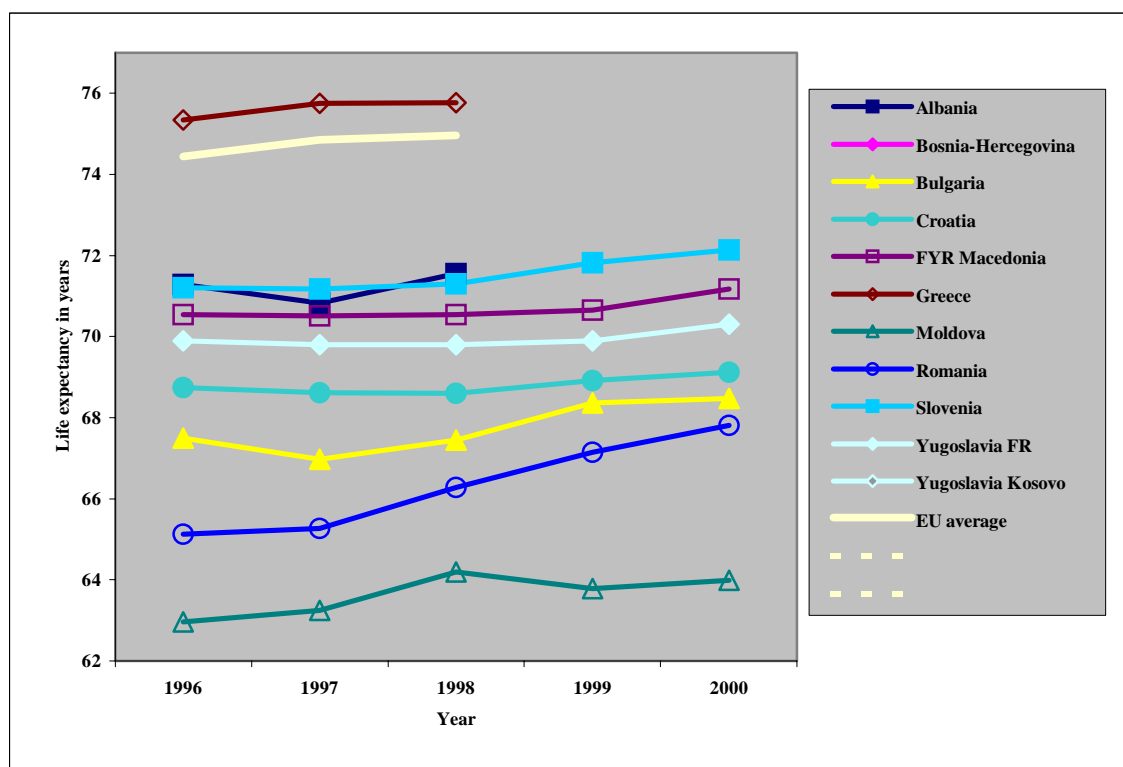


Figure 4: Data for MHIS PH-SEE indicator 02 - Life expectancy at birth, in years, males, 1996 – 2000 (Main data source: WHO Health for All Database 2002 – see comments in Table 7).

PH-SEE Group: The notes are presented in Table 8.

Table 8: Source of data, data holder, publications and comments on data* for MHIS PH-SEE indicator 02 - Life expectancy at birth, in years, males, by country.

Country	Source of data	Data holder	Publications	Comments
Albania	Population National Register	INSTAT - National Institute of Statistics of Albania	Annual Report	/
Bosnia-Herzegovina	-	Public Health Institute	Annual Report	/
Bulgaria	National Statistical Institute	National Statistical Institute	Statistical Yearbook of the Republic of Bulgaria	Low level of mortal under-registration
Croatia	Mortality Statistics Population Register	Croatian Institute for Public Health Croatian Bureau of Statistics	Croatian Health Service Yearbook	Data not calculated every year
FYR Macedonia	Population Statistics Birth and Death Registries	State Institute of Statistics	Statistical Yearbook of Republic of Macedonia	Data not calculated every year (last data available 1997-1999)

Table 8: Cont.

Country	Source of data	Data holder	Publications	Comments
Greece	-	-	-	-
Moldova	-	-	-	-
Romania	Birth and death Register	National Institute of Statistics (NIS) National Centre of Health Statistics (NCHS)	Statistical Year books (one published by NIS, and one published by NCHS)	Very good quality of data; data are calculated for a three years period
Slovenia	Central Population Register of the Republic of Slovenia	Statistical Office of the Republic of Slovenia Ministry of the Interior of the Republic of Slovenia	Statistical Yearbook of the Statistical Office of the Republic of Slovenia	Data of good quality
Yugoslavia FR	Census, Birth and Death Registries Special surveys	Federal Statistical Office	-	/
Kosovo	-	-	-	-

* Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)

/ No comment / non-existing data

- No data available till the end of redaction of the report

Indicator**03****Life expectancy at birth in years, females**HFAdb Indicator N^o 1012 060101**DEFINITION****WHO-HFAdb:** See INDICATOR 02.**DATA 1996 - 2000**

The data are presented in Table 9 and in Figure 5.

Table 9: Data for MHIS PH-SEE indicator 03 - Life expectancy at birth in years, females, 1996 – 2000 (Main data source: WHO Health for All Database 2002*)

Country	Year				
	1996	1997	1998	1999	2000
Albania	78.22	79.47	78.74	-	-
Bosnia-Hercegovina	-	-	-	-	74.09 (2001)
Bulgaria	74.65	73.82	74.66	75.12	75.09
Croatia	76.47	76.47	76.22	76.55	76.68
FRY Macedonia	75.32	75.10	74.94	75.74	75.74
Greece	80.67	81.00	80.83	-	-
Moldova	70.40	70.64	71.57	71.40	71.45
Romania	72.85	73.35	73.78	74.20	74.82
Slovenia	79.07	79.17	79.22	79.52	79.10**
Yugoslavia FR#	74.60**	74.70**	74.80**	74.90**	75.18**
Kosovo	-	-	-	-	-
EU average	80.99	81.25	81.30	-	-
MIN PH-SEE	70.40	70.64	71.57	71.40	71.45
MAX PH-SEE	80.67	81.00	80.83	79.52	79.10

* If not stated otherwise, the data source in present table is WHO HFAdb 2002

** The data source of data additionally provided by PH-SEE countries :

Slovenia: Institute of Public Health of Republic of Slovenia

Yugoslavia FR: Institute of Public Health of FR Yugoslavia

- No data/ no additional data available till the end of redaction of the report

Data with Kosovo

NOTES ON DATA AVAILABILITY AND QUALITY

HFAdb: Unfortunately, some countries are not able to ensure complete registration of all death cases and births. Therefore, life expectancy calculated using incomplete mortality data is higher than it actually is. In some cases under-registration of deaths may reach 20% and this has to be kept in mind when making comparisons between countries. Particularly high levels of mortality under-registration are observed in countries which were affected by armed conflicts during the 1990s, e.g. countries of former -Yugoslavia.

PH-SEE Group: The notes are presented in Table 10.

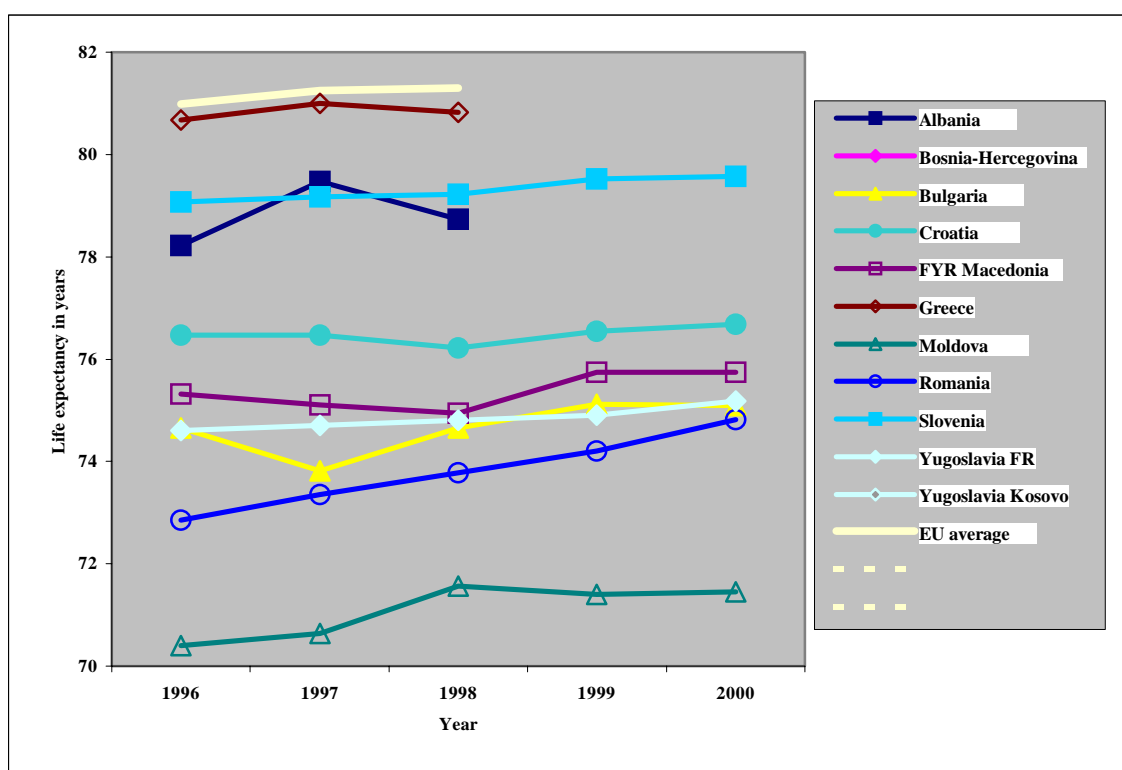


Figure 5: Data for MHIS PH-SEE indicator 03 - Life expectancy at birth in years, females, 1996 – 2000 (Main data source: WHO Health for All Database 2002 – see comments in Table 9).

Table 10: Source of data, data holder, publications and comments on data* for MHIS PH-SEE indicator 03 - Life expectancy at birth in years, females, by country.

Country	Source of data	Data holder	Publications	Comments
Albania	Population National Register	INSTAT - National Institute of Statistics of Albania	Annual Report	/
Bosnia-Herzegovina	-	Public Health Institute	Annual Report	/
Bulgaria	National Statistical Institute	National Statistical Institute	Statistical Yearbook of the Republic of Bulgaria	Low level of mortal under-registration
Croatia	Mortality Statistics Population Register	Croatian Institute for Public Health, Croatian Bureau of Statistics	Croatian Health Service Yearbook	Data are not calculated every year
FYR Macedonia	Population Statistics Birth and Death Registries	State Institute of Statistics	Statistical Yearbook of Republic of Macedonia	Data are not calculated every year (last available 1997-1999)
Greece	-	-	-	-
Moldova	-	-	-	-

Table 10: Cont.

Country	Source of data	Data holder	Publications	Comments
Romania	Birth and death Register	National Institute of Statistics National Centre of Health Statistics	Statistical Year books (one published by NIS, and one published by NCHS)	Very good quality of data; data are calculated for a three years period
Slovenia	Central Population Register of the Republic of Slovenia	Statistical Office of the Republic of Slovenia Ministry of the Interior of the Republic of Slovenia	Statistical Yearbook of the Statistical Office of the Republic of Slovenia	Data of good quality
Yugoslavia FR	Census, Birth and Death Registries Special surveys	Federal Statistical Office	-	/
Kosovo	-	-	-	-

* Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)

/ No comment / non-existing data

- No data available till the end of redaction of the report

Indicator**04****Infant mortality rate per 1000 live births**HFAdb Indicator N^o 1110 070100**DEFINITION**

WHO HFAdb: A measure of the yearly rate of deaths in children less than one year old. The denominator is the number of live births in the same year. Infant mortality rate = [(Number of deaths in a year of children less than 1 year of age) / (Number of live births in the same year)] * 1000. (ICD-10).

DATA 1996 - 2000

The data are presented in Table 11 and in Figure 6.

Table 11: Data for MHIS PH-SEE indicator 04 - Infant mortality rate per 1000 live births, 1996 – 2000 (Main data source: WHO Health for All Database 2002*)

Country	Year				
	1996	1997	1998	1999	2000
Albania	20.22	15.55	14.70	-	-
Bosnia-Herzegovina	-	-	-	15.00	11.70
Bulgaria	15.58	17.51	14.43	14.62	13.31
Croatia	8.05	8.23	8.24	7.75	7.41
FYR Macedonia	16.40	15.71	16.28	14.87	11.81
Greece	7.25	6.44	6.68	-	-
Moldova	20.65	19.63	17.86	18.54	18.44
Romania	22.30	21.99	20.51	18.58	18.63
Slovenia	4.76	5.21	5.23	4.56	4.90**
Yugoslavia FR [#]	15.00**	14.30**	13.90**	13.50	12.80
Kosovo	-	-	-	-	-
EU average	5.50	5.23	5.07	-	-
MIN PH-SEE	4.76	5.21	5.23	4.56	4.90
MAX PH-SEE	22.3	21.99	20.51	18.58	18.63

* If not stated otherwise, the data source in present table is WHO HFAdb 2002

** The data source of data additionally provided by PH-SEE countries :

Slovenia: Institute of Public Health of Republic of Slovenia

Yugoslavia FR: Institute of Public Health of FR Yugoslavia

- No data/ no additional data available till the end of redaction of the report

Data with Kosovo

NOTES ON DATA AVAILABILITY AND QUALITY

HFAdb: Unfortunately, some countries are not able to ensure complete registration of all death cases and births. Therefore infant mortality rates which are calculated using incomplete mortality data are lower than they actually are. In some cases under-registration of deaths may reach 20% or more and this has to be kept in mind when making comparisons between countries. Particularly high levels of mortality under-registration are observed in Georgia, Albania, Tajikistan and some other countries of former USSR and ex-Yugoslavia.

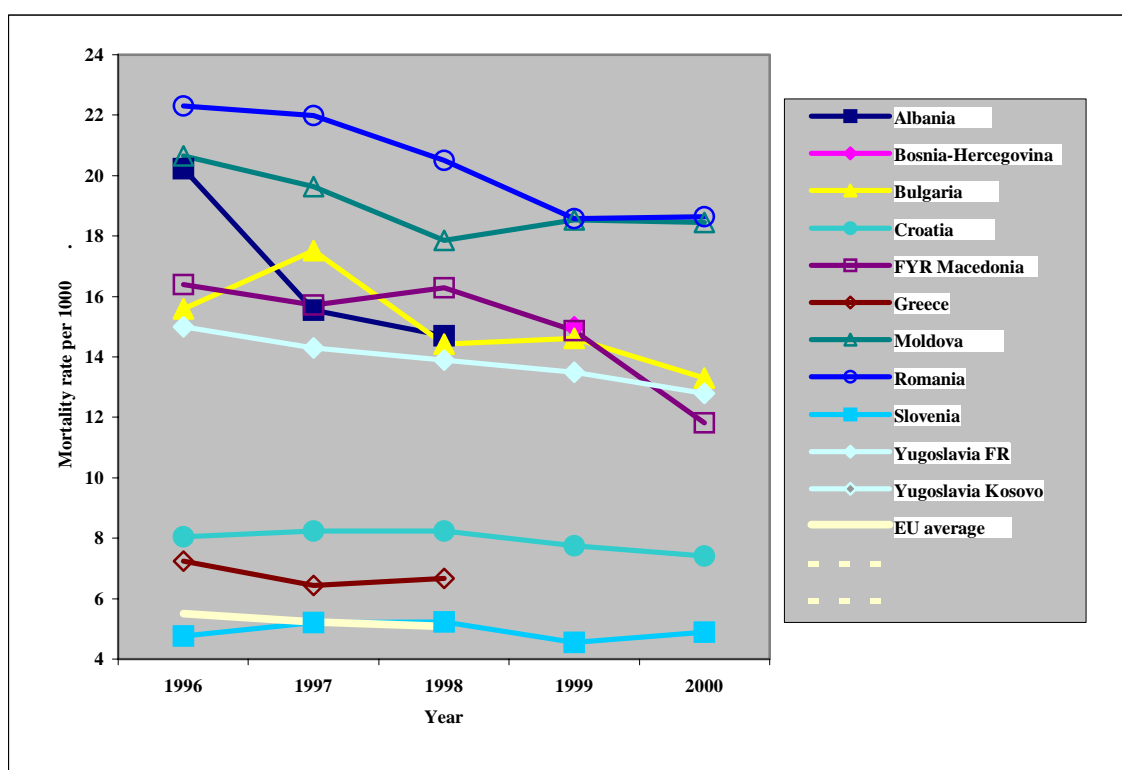


Figure 6: Data for MHIS PH-SEE indicator 04 - Infant mortality rate per 1000 live births, 1996 – 2000 (Main data source: WHO Health for All Database 2002 – see comments in Table 11).

PH-SEE Group: The notes are presented in Table 12.

Table 12: Source of data, data holder, publications and comments on data* for MHIS PH-SEE indicator 04 - Infant mortality rate per 1000 live births, by country.

Country	Source of data	Data holder	Publications	Comments
Albania	-	INSTAT - National Institute of Statistics of Albania	Annual Report	Data are annually collected and available at national and regional level.
Bosnia-Herzegovina	-	Public Health Institute	Annual Report	/
Bulgaria	Death certifications, Ministry of Health,	National Statistical Institute	Statistical Yearbook of the Republic of Bulgaria	Low level of under-registration of infant deaths.
Croatia	Mortality Statistics	Croatian Institute for Public Health	Croatian Health Statistical Annals	Data of high quality; (causes are mainly premature birth or malformations)
FYR Macedonia	Mortality Statistics	State Institute of Statistics	Statistical Yearbook of Republic of Macedonia	Calculated each year

Table 12: Cont.

Country	Source of data	Data holder	Publications	Comments
Greece	-	-	-	-
Moldova	-	-	-	-
Romania	Death certificates, Birth and Death Register, Statistical reports from health-care units (infant death record)	National Institute of Statistics (NIS) National Centre of Health Statistics (NCHS)	Statistical Yearbooks (one published by NIS, and one published by NCHS)	Very good quality of data; each district, a commission checks the data
Slovenia	Registry of deaths Central Population Register of the Republic of Slovenia	Institute of Public Health of the Republic of Slovenia Ministry of the Interior of the Republic of Slovenia	Health Statistical Annual of the Institute of Public Health of the Republic of Slovenia Statistical Yearbook of the Statistical Office of the Republic of Slovenia	Data of good quality
Yugoslavia FR	-	-	-	-
Kosovo	-	-	-	-

* Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)

/ No comment / non-existing data

- No data available till the end of redaction of the report

Indicator
05

Maternal deaths, all causes per 100,000 live births

HFAdb Indicator N° 1210 080100

DEFINITION

WHO HFAdb: ICD10: O00-O99. Maternal death is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes.

DATA 1996 - 2000

The data are presented in Table 13 and in Figure 7.

Table 13: Data for MHS PH-SEE indicator 05 - Maternal deaths, all causes per 100 000 livebirths, 1996 – 2000 (Main data source: WHO Health for All Database 2002^{}).*

Country	Year				
	1996	1997	1998	1999	2000
Albania	11.70	8.10	13.30	-	-
Bosnia-Herzegovina	-	-	-	-	10.00
Bulgaria	19.39	18.71	15.30	22.13	17.64
Croatia	1.86	10.81	6.37	11.07	6.86
FYR Macedonia	0.00	3.39	3.42	7.32	13.65
Greece	4.96	0.00	6.94	5.96	-
Moldova	42.42	50.46	36.29	28.57	27.07
Romania	41.06	41.37	40.46	41.77	31.98
Slovenia	16.04	11.09	11.25	11.54	-
Yugoslavia FR [#]	7.21	13.70	9.34	5.65	8.40
Kosovo	-	-	-	-	-
EU average	7.25	5.86	6.59	5.69	-
MIN PH-SEE	0.00	0.00	3.42	5.65	6.86
MAX PH-SEE	42.42	50.46	40.46	41.77	31.98

* If not stated otherwise, the data source in present table is WHO HFAdb 2002

** The data source of data additionally provided by PH-SEE countries :

No additional data were provided by PH-SEE countries

- No data/ no additional data available till the end of redaction of the report

Data with Kosovo

NOTES ON DATA AVAILABILITY AND QUALITY

HFAdb: There are two alternative sources of information on maternal mortality which are used to calculate this indicator: a) Routine mortality data by cause statistics, regularly reported to WHO (in most cases from Central Statistical Offices); b) Hospital data reported to Ministries of Health. Normally, the numbers of maternal deaths from both sources should be identical, what is the case in most western countries. However, in some countries, mainly of eastern Europe, there are large differences because of national practices of death certification and coding. In such cases hospital data are more complete/

accurate. Since the January 2001 issue of HFA db, the maternal mortality rate has been calculated using both data (when both figures are reported), taking the larger figure if unequal.

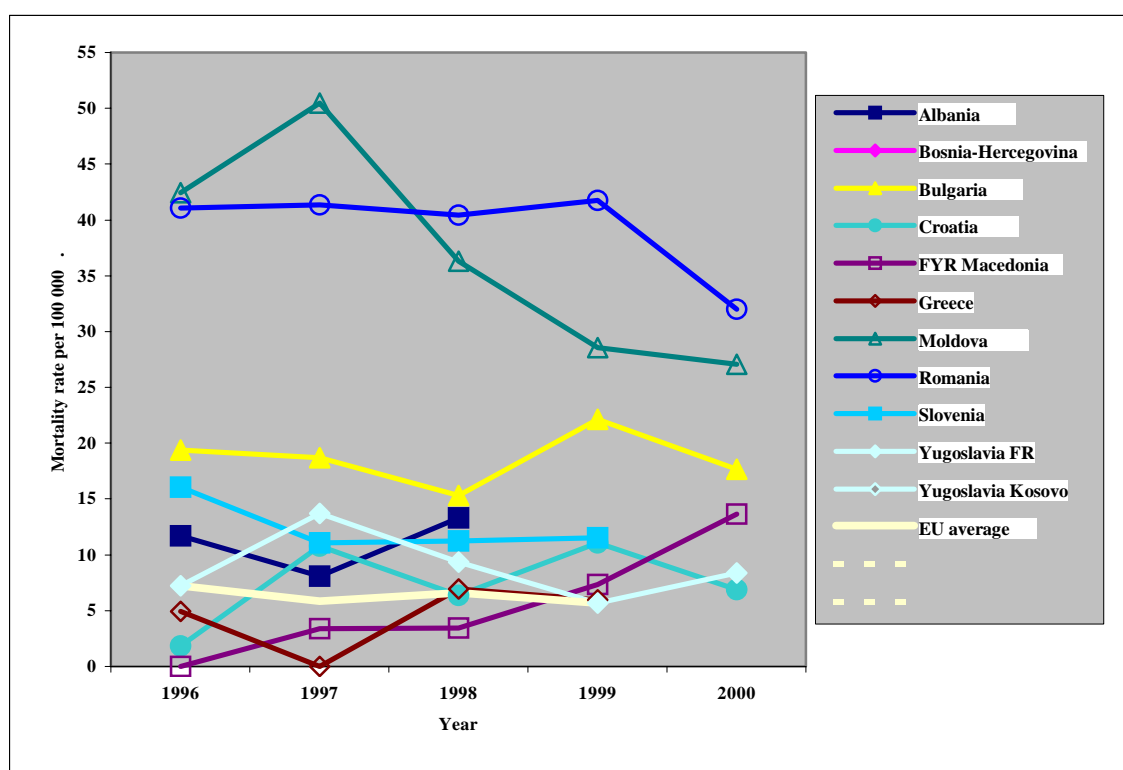


Figure 7: Data for MHIS PH-SEE indicator 05 - Maternal deaths, all causes per 100 000 livebirths, 1996 – 2000 (Main data source: WHO Health for All Database 2002 – see comments in Table 13).

PH-SEE Group: The notes are presented in Table 14.

Table 14: Source of data, data holder, publications and comments on data* for MHIS PH-SEE indicator 05 - Maternal deaths, all causes per 100 000 livebirths, by country.

Country	Source of data	Data holder	Publications	Comments
Albania	-	INSTAT - National Institute of Statistics of Albania	Annual Report	Data are annually collected and available at national and regional level.
Bosnia-Herzegovina	-	Public Health Institute	Annual Report	/
Bulgaria	Hospital data, Death certifications	National Statistical Institute	Statistical Yearbook of the Republic of Bulgaria	ICD-9 is used up to now, data are collected annually
Croatia	Mortality Statistics	Croatian Institute for Public Health	Croatian Health Service Yearbook	Calculated annually (denominator is estimated)

Table 14: Cont.

Country	Source of data	Data holder	Publications	Comments
FYR Macedonia	Mortality Statistics	State Institute of Statistics	Statistical Yearbook of Republic of Macedonia	Calculated each year
Greece	-	-	-	-
Moldova	-	-	-	-
Romania	Birth and Death Register (death certificates) and Health care units data, reported to NCHS, (maternal death record)	National Institute of Statistics (NIS) National Centre of Health Statistics (NCHS)	Statistical Yearbooks (one published by NIS, and one published by NCHS)	Very good quality of data
Slovenia	Registry of deaths Central Population Register of the Republic of Slovenia	Institute of Public Health of the Republic of Slovenia Ministry of the Interior of the Republic of Slovenia	Health Statistical Annual of the Institute of Public Health of the Republic of Slovenia Statistical Yearbook of the Statistical Office of the Republic of Slovenia	Data of good quality
Yugoslavia FR	-	-	-	-
Kosovo	-	-	-	-

* Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)

/ No comment / non-existing data

- No data available till the end of redaction of the report

Indicator
06

**Standardized death rate, circulatory system diseases,
all ages per 100,000, males**

HFAdb Indicator N^o 1321 090102

DEFINITION

WHO HFAdb: ICD10: I00-I99.

DATA 1996 - 2000

The data are presented in Table 15 and in Figure 8.

Table 15: Data for MHIS PH-SEE indicator 06 - Standardized death rate, circulatory system diseases, all ages per 100 000, males, 1996 – 2000 (Main data source: WHO Health for All Database 2002*).

Country	Year				
	1996	1997	1998	1999	2000
Albania	588.69	553.96	581.56	-	-
Bosnia-Hercegovina	-	-	-	-	-
Bulgaria	890.81	971.39	972.36	852.48	878.34
Croatia	667.91	672.02	725.38	715.61	679.95
FYR Macedonia	661.03	671.48	654.78	656.57	656.97
Greece	379.74	367.59	366.20	-	-
Moldova	961.25	990.54	932.51	1005.11	1001.02
Romania	928.15	892.28	854.58	835.65	771.89
Slovenia	442.18	431.18	437.54	423.68	406.00**
Yugoslavia FR#	649.99	621.12	612.34		550.62
Kosovo	-	-	-	-	-
EU average	353.52	340.30	337.44	-	-
MIN PH-SEE	379.74	367.59	366.20	423.68	406.00
MAX PH-SEE	961.25	990.54	972.36	1005.11	1001.02

* If not stated otherwise, the data source in present table is WHO HFAdb 2002

** The data source of data additionally provided by PH-SEE countries :

Slovenia: Institute of Public Health of Republic of Slovenia

- No data/ no additional data available till the end of redaction of the report

Data with Kosovo

NOTES ON DATA AVAILABILITY AND QUALITY

HFAdb: No note.

PH-SEE Group: The notes are presented in Table 16.

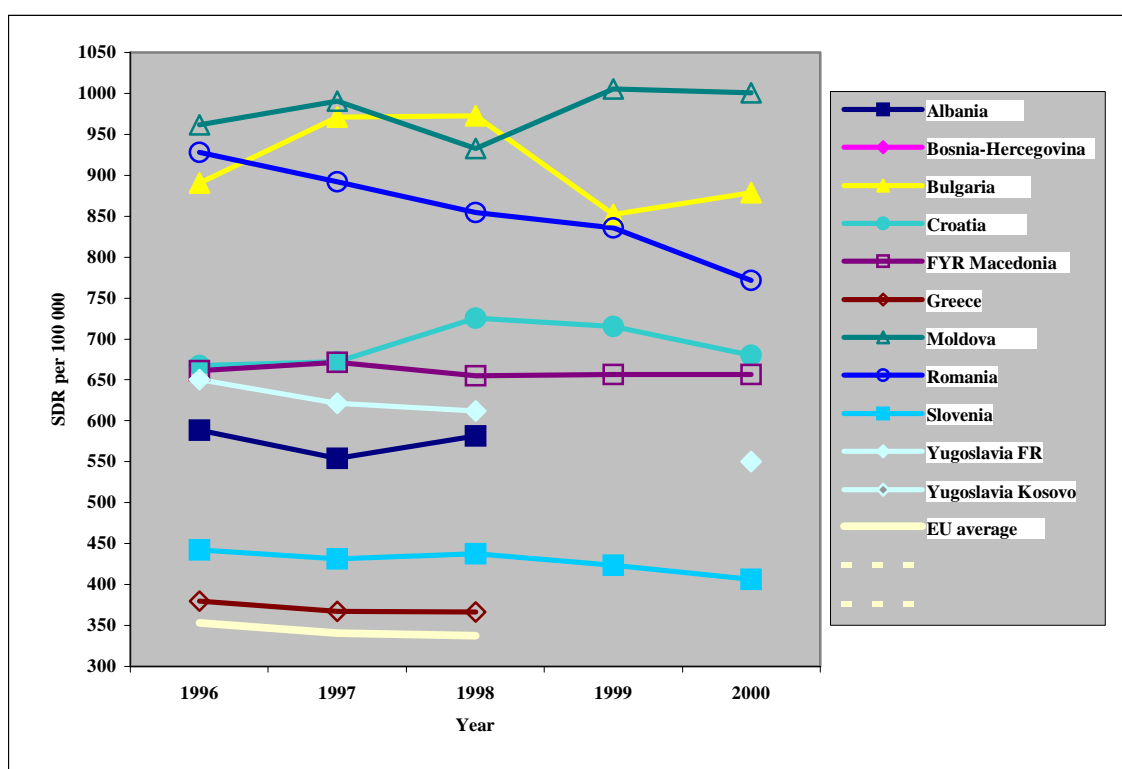


Figure 8: Data for MHIS PH-SEE indicator 06 - Standardized death rate, circulatory system diseases, all ages per 100 000, males, 1996 – 2000 (Main data source: WHO Health for All Database 2002 – see comments in Table 15).

Table 16: Source of data, data holder, publications and comments on data* for MHIS PH-SEE indicator 06 - Standardized death rate, circulatory system diseases, all ages per 100 000, males, by country.

Country	Source of data	Data holder	Publications	Comments
Albania	-	INSTAT - National Institute of Statistics of Albania	Annual Report	Data are annually collected and available at national and regional level.
Bosnia-Herzegovina	-	Public Health Institute	Annual Report	/
Bulgaria	Death certifications	National Statistical Institute	Annual public health Statistics, Health Services	ICD-9 is used up to now, data are collected annually
Croatia	Mortality Statistics	Croatian Institute for Public Health	Croatian Health Service Yearbook	Calculated annually Data of good quality
FYR Macedonia	Mortality Statistics; Ishaemic Heart Diseases Register	State Institute of Statistics Institute for Health Protection of Republic of Macedonia	Statistical Yearbook of Republic of Macedonia	Data of good quality

Table 16: Cont.

Country	Source of data	Data holder	Publications	Comments
Greece	-	-	-	-
Moldova	-	-	-	-
Romania	Birth and Death Register (death certificates) routine mortality data by cause statistics	National Institute of Statistics (NIS) National Centre of Health Statistics (NCHS)	Statistical Yearbooks (one published by NIS, and one published by NCHS) – only specific mortality rates, not standardised	The mortality rate is over-estimated because of the registration of death cause (usually, for an old person the physician fills in the death certificate a cardiovascular cause.
Slovenia	Registry of deaths Central Population Register of the Republic of Slovenia	Institute of Public Health of the Republic of Slovenia Ministry of the Interior of the Republic of Slovenia	Health Statistical Annual of the Institute of Public Health of the Republic of Slovenia Statistical Yearbook of the Statistical Office of the Republic of Slovenia	Data of good quality
Yugoslavia FR	-	-	-	-
Kosovo	-	-	-	-

- * Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)
 / No comment / non-existing data
 - No data available till the end of redaction of the report

Indicator
07

**Standardized death rate, circulatory system diseases,
all ages per 100,000, females**

HFAdb Indicator N^o 1322 090102

DEFINITION

WHO HFAdb: ICD10: I00-I99.

DATA 1996 - 2000

The data are presented in Table 17 and in Figure 9.

Table 17: Data for MHIS PH-SEE indicator 07 - Standardized death rate, circulatory system diseases, all ages per 100 000, females, 1996 – 2000 (Main data source: WHO Health for All Database 2002^{*}).

Country	Year				
	1996	1997	1998	1999	2000
Albania	342.29	308.14	351.36	-	-
Bosnia-Hercegovina	-	-	-	-	-
Bulgaria	628.41	683.24	681.38	607.41	621.56
Croatia	467.47	477.64	498.96	491.41	494.64
FYR Macedonia	509.19	532.33	530.62	505.41	518.91
Greece	292.67	285.11	291.62	-	-
Moldova	694.75	726.53	682.29	719.20	730.72
Romania	684.29	645.10	628.87	625.16	580.86
Slovenia	301.45	272.76	284.70	269.05	251.20 ^{**}
Yugoslavia FR [#]	754.54	757.85	713.75	*	590.14
Kosovo	-	-	-	-	-
EU average	223.34	215.98	213.87	-	-
MIN PH-SEE	292.67	272.76	284.70	269.05	251.20
MAX PH-SEE	694.75	726.53	682.29	719.20	730.72

* If not stated otherwise, the data source in present table is WHO HFAdb 2002

** The data source of data additionally provided by PH-SEE countries :

Slovenia: Institute of Public Health of Republic of Slovenia

- No data/ no additional data available till the end of redaction of the report

Data with Kosovo

NOTES ON DATA AVAILABILITY AND QUALITY

HFAdb: No note.

PH-SEE Group: The notes are presented in Table 18.

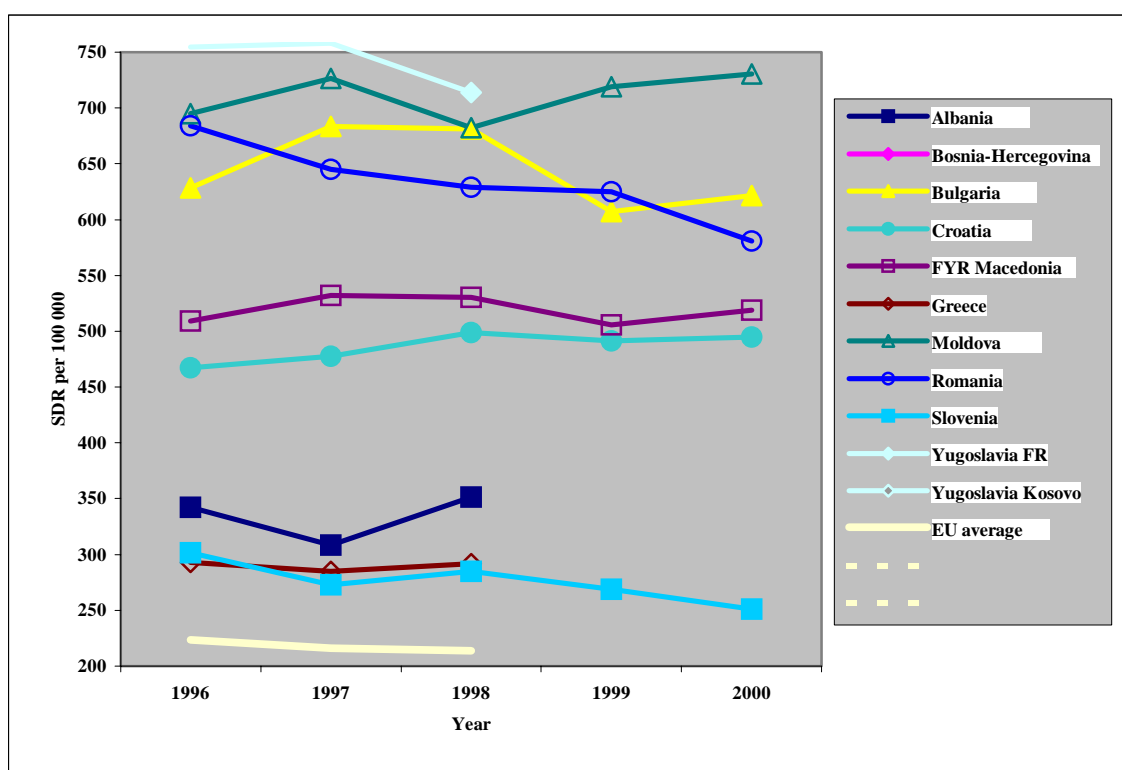


Figure 9: Data for MHIS PH-SEE indicator 07 - Standardized death rate, circulatory system diseases, all ages per 100 000, females, 1996 – 2000 (Main data source: WHO Health for All Database 2002 – see comments in Table 17).

Table 18: Source of data, data holder, publications and comments on data* for MHIS PH-SEE indicator 07 - Standardized death rate, circulatory system diseases, all ages per 100 000, females, by country.

Country	Source of data	Data holder	Publications	Comments
Albania	-	INSTAT - National Institute of Statistics of Albania	Annual Report	Data are annually collected and available at national and regional level.
Bosnia-Herzegovina	-	Public Health Institute	Annual Report	/
Bulgaria	Death certifications	National Statistical Institute	Annual public health Statistics, Health Services	ICD-9 is used up to now, data are collected annually
Croatia	Mortality Statistics	Croatian Institute for Public Health	Croatian Health Service Yearbook	Calculated annually
FYR Macedonia	Mortality Statistics; Ishaemic Heart Diseases Register	State Institute of Statistics Institute for Health Protection of Republic of Macedonia	Statistical Yearbook of Republic of Macedonia	Data of good quality
Greece	-	-	-	-

Table 18: Cont.

Country	Source of data	Data holder	Publications	Comments
Moldova	-	-	-	-
Romania	Birth and Death Registrar (death certificates) routine mortality data by cause statistics	National Institute of Statistics (NIS) National Centre of Health Statistics (NCHS)	Statistical Yearbooks (one published by NIS, and one published by NCHS) – only specific mortality rates, not standardised	The mortality rate is over-estimated because of the registration of death cause (usually, for an old person the physician fills in the death certificate a cardiovascular cause).
Slovenia	Registry of deaths Central Population Register of the Republic of Slovenia	Institute of Public Health of the Republic of Slovenia Ministry of the Interior of the Republic of Slovenia	Health Statistical Annual of the Institute of Public Health of the Republic of Slovenia Statistical Yearbook of the Statistical Office of the Republic of Slovenia	Data of good quality
Yugoslavia FR	-	-	-	-
Kosovo	-	-	-	-

* Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)

/ No comment / non-existing data

- No data available till the end of redaction of the report

**Indicator
08**

Standardized death rate, malignant neoplasms, all ages per 100,000, males

HFAdb Indicator N^o 1521 100102

DEFINITION

WHO HFAdb: ICD-10 code: C00-C97.

DATA 1996 - 2000

The data are presented in Table 19 and in Figure 10.

Table 19: Data for MHIS PH-SEE indicator 08 - Standardized death rate, malignant neoplasms, all ages per 100 000, males, 1996 – 2000 (Source: WHO Health for All Database 2002*).

Country	Year				
	1996	1997	1998	1999	2000
Albania	182.02	178.13	179.26	-	-
Bosnia-Hercegovina	-	-	-	-	-
Bulgaria	206.76	206.37	206.49	203.23	191.77
Croatia	327.62	342.63	355.71	364.00	369.05
FYR Macedonia	199.10	206.91	218.28	199.19	209.78
Greece	218.16	217.19	211.82		
Moldova	217.98	214.38	211.24	195.76	196.31
Romania	216.17	217.82	217.73	216.80	223.03
Slovenia	302.21	308.24	304.12	294.68	298.00**
Yugoslavia FR [#]	153.53	216.12	218.79		197.77
Kosovo	-	-	-	-	-
EU average	258.88	254.01	254.39	-	-
MIN PH-SEE	182.02	178.13	179.26	195.76	191.77
MAX PH-SEE	327.62	342.63	355.71	364.00	369.05

* If not stated otherwise, the data source in present table is WHO HFAdb 2002

** The data source of data additionally provided by PH-SEE countries :

Slovenia: Institute of Public Health of Republic of Slovenia

- No data/ no additional data available till the end of redaction of the report

Data with Kosovo

NOTES ON DATA AVAILABILITY AND QUALITY

HFAdb: No note.

PH-SEE Group: The notes are presented in Table 20.

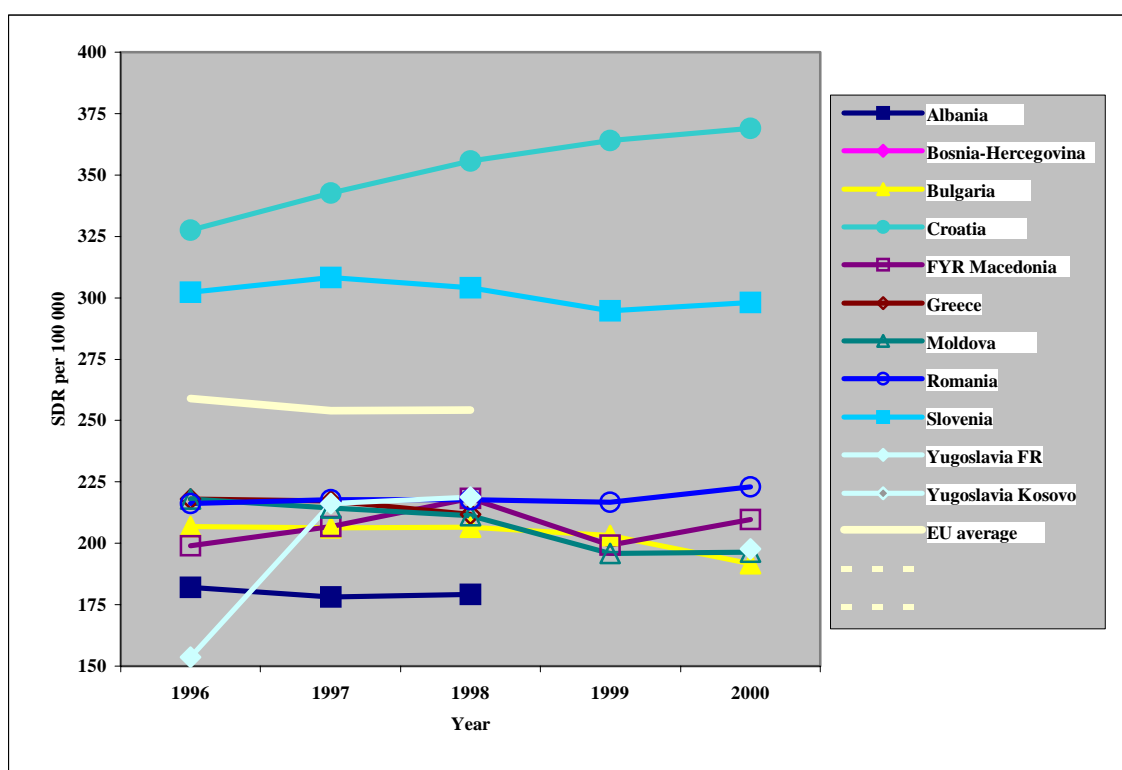


Figure 10: Data for MHIS PH-SEE indicator 08 - Standardized death rate, malignant neoplasms, all ages per 100 000, males, 1996 – 2000 (Main data source: WHO Health for All Database 2002 – see comments in Table 19).

Table 20: Source of data, data holder, publications and comments on data* for MHIS PH-SEE indicator 08 - Standardized death rate, malignant neoplasms, all ages per 100,000 males, by country.

Country	Source of data	Data holder	Publications	Comments
Albania	-	INSTAT - National Institute of Statistics of Albania	Annual Report	Data are annually collected and available at national and regional level.
Bosnia-Herzegovina	-	Public Health Institute	Annual Report	/
Bulgaria	Death certifications	National Statistical Institute	Annual public health Statistics, Health Services	ICD-9 is used up to now, data are collected annually
Croatia	Mortality Statistics, Cancer Register	Croatian Institute for Public Health	Croatian Health Service Yearbook	Calculated annually; skin cancer not included
FYR Macedonia	Mortality Statistics, Cancer Register	State Institute of Statistics; Republic Institute for Health Protection	Statistical Yearbook of Republic of Macedonia	Data of good quality
Greece	-	-	-	-

Table 20: Cont.

Country	Source of data	Data holder	Publications	Comments
Moldova	-	-	-	-
Romania	Birth and Death Register (death certificates)	National Institute of Statistics (NIS) National Centre of Health Statistics (NCHS)	Statistical Yearbooks (one published by NIS, and one published by NCHS – only specific mortality rates, not standardised)	May be underestimated in rural areas because not all the people go to the doctor.
Slovenia	Registry of deaths Central Population Register of the Republic of Slovenia	Institute of Public Health of the Republic of Slovenia Ministry of the Interior of the Republic of Slovenia	Health Statistical Annual of the Institute of Public Health of the Republic of Slovenia Statistical Yearbook of the Statistical Office of the Republic of Slovenia	Data of good quality
Yugoslavia FR	-	-	-	-
Kosovo	-	-	-	-

* Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)

/ No comment / non-existing data

- No data available till the end of redaction of the report

Indicator
09

Standardized death rate, malignant neoplasms, all ages per 100,000, females

HFAdb Indicator N^o 1522 100102

DEFINITION

WHO HFAdb: ICD-10 code: C00-C97.

DATA 1996 - 2000

The data are presented in Table 21 and in Figure 11.

Table 21: Data for MHIS PH-SEE indicator 09 - Standardized death rate, malignant neoplasms, all ages per 100 000, females, 1996 – 2000 (Main data source: WHO Health for All Database 2002^{*}).

Country	Year				
	1996	1997	1998	1999	2000
Albania	72.78	69.83	73.86	-	-
Bosnia-Hercegovina	-	-	-	-	-
Bulgaria	123.15	122.88	118.48	120.67	116.43
Croatia	150.42	152.02	165.37	160.61	170.66
FYR Macedonia	122.23	123.95	122.31	124.55	125.30
Greece	116.61	115.04	112.39	-	-
Moldova	118.87	114.19	114.47	114.58	112.10
Romania	125.47	126.93	126.17	126.06	129.58
Slovenia	157.37	161.81	152.38	156.48	151.60**
Yugoslavia FR [#]	117.53	165.44	167.49	*	143.83
Kosovo	-	-	-	-	-
EU average	143.94	141.99	141.07	-	-
MIN PH-SEE	72.78	69.83	73.86	114.58	112.1
MAX PH-SEE	157.37	161.81	165.37	160.61	170.66

* If not stated otherwise, the data source in present table is WHO HFAdb 2002

** The data source of data additionally provided by PH-SEE countries :

Slovenia: Institute of Public Health of Republic of Slovenia

- No data/ no additional data available till the end of redaction of the report

Data with Kosovo

NOTES ON DATA AVAILABILITY AND QUALITY

HFAdb: No note.

PH-SEE Group: The notes are presented in Table 22.

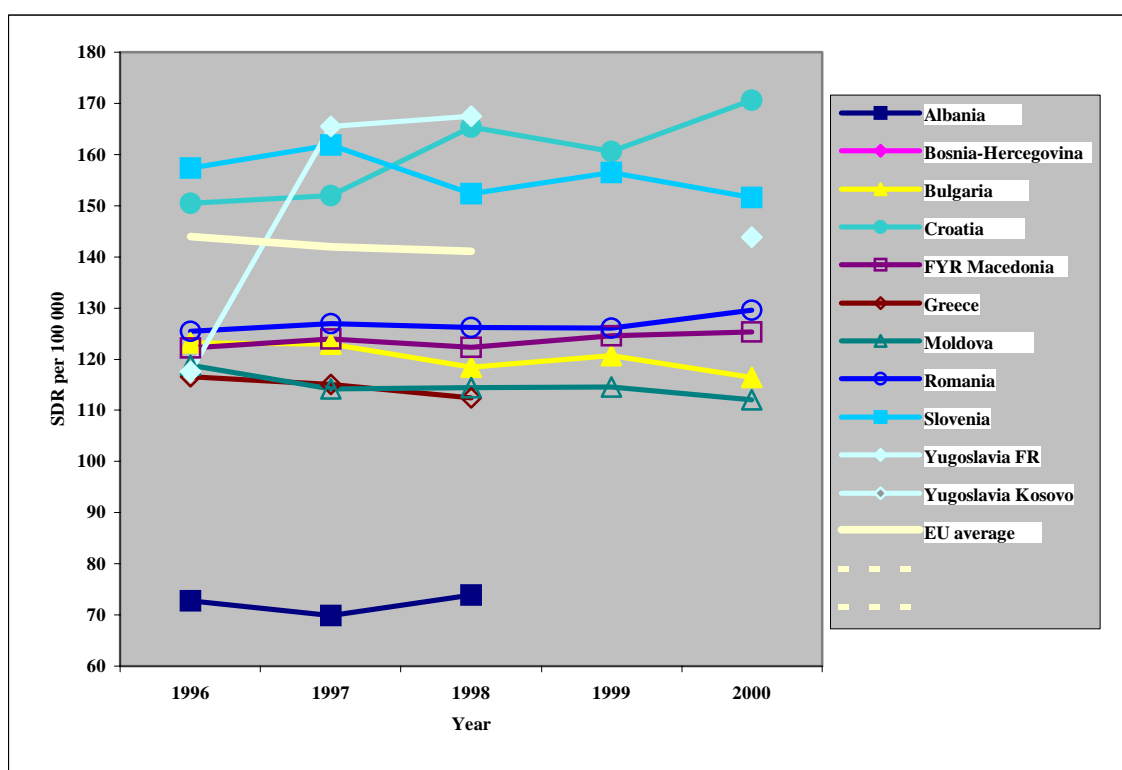


Figure 11: Data for MHIS PH-SEE indicator 09 - Standardized death rate, malignant neoplasms, all ages per 100 000, females, 1996 – 2000 (Main data source: WHO Health for All Database 2002 – see comments in Table 21).

Table 22: Source of data, data holder, publications and comments on data* for MHIS PH-SEE indicator 09 - Standardized death rate, malignant neoplasms, all ages per 100 000, females, by country.

Country	Source of data	Data holder	Publications	Comments
Albania	-	INSTAT - National Institute of Statistics of Albania	Annual Report	Data are annually collected and available at national and regional level.
Bosnia-Herzegovina	-	Public Health Institute	Annual Report	/
Bulgaria	Death certifications	National Statistical Institute	Annual public health Statistics, Health Services	ICD-9 is used up to now, data are collected annually
Croatia	Mortality Statistics Cancer Register	Croatian Institute for Public Health	Croatian Health Service Yearbook	Calculated annually Skin cancer not included
FYR Macedonia	Mortality Statistics Cancer Register	State Institute of Statistics Institute for Health Protection of the Republic of Macedonia	Statistical Yearbook of Republic of Macedonia	Data of good quality

Table 22: Cont.

Country	Source of data	Data holder	Publications	Comments
Greece	-	-	-	-
Moldova	-	-	-	-
Romania	Birth and Death Registrar (death certificates)	National Institute of Statistics (NIS) National Centre of Health Statistics (NCHS)	Statistical Yearbooks (one published by NIS, and one published by NCHS) – only specific mortality rates, not standardised).	May be underestimate in rural areas because not all the people go to the doctor.
Slovenia	Registry of deaths Central Population Register of the Republic of Slovenia	Institute of Public Health of the Republic of Slovenia Ministry of the Interior of the Republic of Slovenia	Health Statistical Annual of the Institute of Public Health of the Republic of Slovenia Statistical Yearbook of the Statistical Office of the Republic of Slovenia	Data of good quality
Yugoslavia FR	-	-	-	-
Kosovo	-	-	-	-

* Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)

/ No comment / non-existing data

- No data available till the end of redaction of the report

**Indicator
10**

**Standardized death rate, external cause injury and
poison, all ages per 100,000, males**

HFAdb Indicator N° 1721 110102

DEFINITION

WHO HFAdb: ICD-10 code: V00-V99, W00-W99, X00-X99, Y00-Y99.

DATA 1996 - 2000

The data are presented in Table and in Figure 12.

Table 23: Data for MHIS PH-SEE indicator 10 - Standardized death rate, external cause injury and poison, all ages per 100 000, males, 1996 – 2000 (Main data source: WHO Health for All Database 2002).*

Country	Year				
	1996	1997	1998	1999	2000
Albania	87.00	176.23	124.66	-	-
Bosnia-Hercegovina	-	-	-	-	-
Bulgaria	98.57	90.34	90.79	83.16	82.59
Croatia	112.53	102.90	110.05	99.40	104.48
FYR Macedonia	51.02	53.94	56.22	62.26	55.92
Greece	59.46	59.68	60.45	-	-
Moldova	192.36	187.75	178.68	174.24	167.28
Romania	125.97	123.96	114.20	101.91	101.34
Slovenia	131.34	132.69	118.52	120.27	107.60**
Yugoslavia FR#	73.23	77.61	76.90	*	61.82
Kosovo	-	-	-	-	-
EU average	61.00	60.42	59.48	-	-
MIN PH-SEE	51.02	53.94	56.22	62.26	55.92
MAX PH-SEE	192.36	187.75	178.68	174.24	167.28

* If not stated otherwise, the data source in present table is WHO HFAdb 2002

** The data source of data additionally provided by PH-SEE countries :

Slovenia: Institute of Public Health of Republic of Slovenia

- No data/ no additional data available till the end of redaction of the report

Data with Kosovo

NOTES ON DATA AVAILABILITY AND QUALITY

HFAdb: No note.

PH-SEE Group: The notes are presented in Table 24.

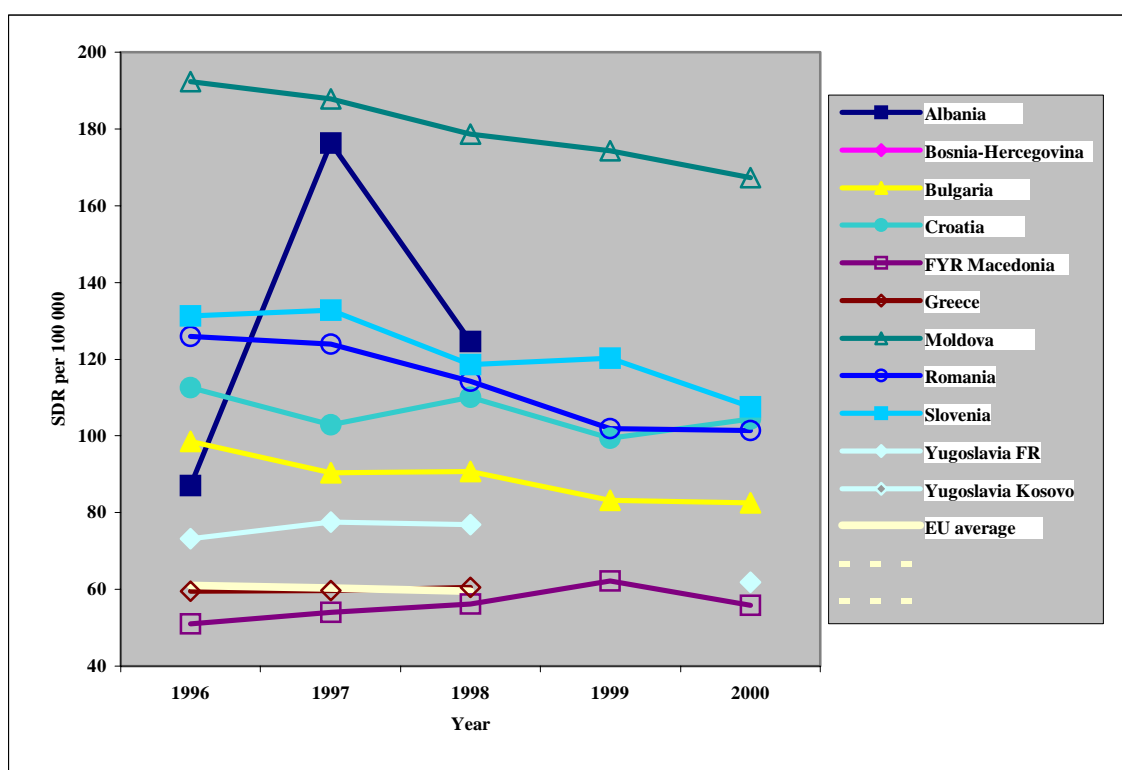


Figure 12: Data for MHIS PH-SEE indicator 10 - Standardized death rate, external cause injury and poison, all ages per 100 000, males, 1996 – 2000 (Main data source: WHO Health for All Database 2002 – see comments in Table 23).

Table 24: Source of data, data holder, publications and comments on data* for MHIS PH-SEE indicator 10 - Standardized death rate, external cause injury and poison, all ages per 100 000, males, by country.

Country	Source of data	Data holder	Publications	Comments
Albania	-	INSTAT - National Institute of Statistics of Albania	Annual Report	Data are annually collected and available at national and regional level.
Bosnia-Herzegovina	-	Public Health Institute	Annual Report	/
Bulgaria	Death certifications	National Statistical Institute	Annual public health Statistics, Health Services	ICD-9 is used up to now, data are collected annually
Croatia	Mortality Statistics	Croatian Institute for Public Health	Croatian Health Service Yearbook	/
FYR Macedonia	Mortality Statistics; Traffic Injuries Register	State Institute of Statistics Institute for Health Protection of the Republic of Macedonia	Statistical Yearbook of Republic of Macedonia	Data of good quality

Table 24: Cont.

Country	Source of data	Data holder	Publications	Comments
Greece	-	-	-	-
Moldova	-	-	-	-
Romania	Birth and Death Register (death certificates)	NIS, NCHS	Statistical Yearbooks (one published by NIS, and one published by NCHS) – only specific mortality rates, not standardised).	/
Slovenia	Registry of deaths Central Population Register of the Republic of Slovenia	Institute of Public Health of the Republic of Slovenia Ministry of the Interior of the Republic of Slovenia	Health Statistical Annual of the Institute of Public Health of the Republic of Slovenia Statistical Yearbook of the Statistical Office of the Republic of Slovenia	Data of good quality
Yugoslavia FR	-	-	-	-
Kosovo	-	-	-	-

* Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)

/ No comment / non-existing data

- No data available till the end of redaction of the report

Indicator
11

Standardized death rate, external cause injury and poison, all ages per 100,000, females

HFAdb Indicator N° 1722 110102

DEFINITION

WHO HFAdb: ICD-10 code: V00-V99, W00-W99, X00-X99, Y00-Y99.

DATA 1996 - 2000

The data are presented in Table 25 and in Figure 13.

Table 25: Data for MHIS PH-SEE indicator 11 - Standardized death rate, external cause injury and poison, all ages per 100 000, females, 1996 – 2000 (Main data source: WHO Health for All Database 2002).*

Country	Year				
	1996	1997	1998	1999	2000
Albania	20.98	32.60	23.11	-	-
Bosnia-Hercegovina	-	-	-	-	-
Bulgaria	26.42	27.28	25.53	23.89	24.62
Croatia	38.05	36.93	36.60	34.22	32.75
FYR Macedonia	17.46	17.53	21.21	20.77	20.40
Greece	18.64	17.68	18.29	-	-
Moldova	57.80	56.50	51.85	45.55	44.81
Romania	37.68	35.14	34.03	29.78	29.33
Slovenia	47.23	40.90	40.46	39.43	37.80**
Yugoslavia FR#	27.92	29.57	29.30	*	21.78
Kosovo	-	-	-	-	-
EU average	24.43	23.59	23.17	-	-
MIN PH-SEE	17.46	17.53	18.29	20.77	20.40
MAX PH-SEE	57.80	56.50	51.85	45.55	44.81

* If not stated otherwise, the data source in present table is WHO HFAdb 2002

** The data source of data additionally provided by PH-SEE countries :

Slovenia: Institute of Public Health of Republic of Slovenia

- No data/ no additional data available till the end of redaction of the report

Data with Kosovo

NOTES ON DATA AVAILABILITY AND QUALITY

HFAdb: No note.

PH-SEE Group: The notes are presented in Table 26.

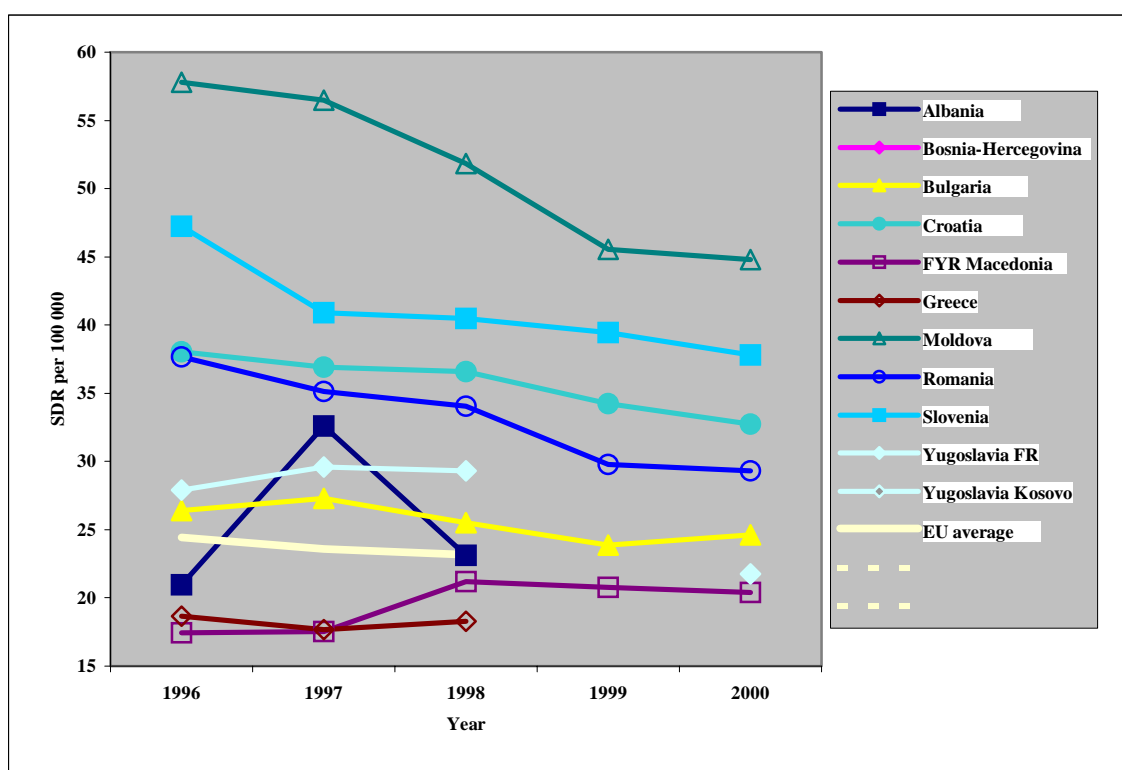


Figure 13: Data for MHIS PH-SEE indicator 11 - Standardized death rate, external cause injury and poison, all ages per 100 000, females, 1996 – 2000 (Main data source: WHO Health for All Database 2002 – see comments in Table 25).

Table 26: Source of data, data holder, publications and comments on data* for MHIS PH-SEE indicator 11 - Standardized death rate, external cause injury and poison, all ages per 100 000, females, by country.

Country	Source of data	Data holder	Publications	Comments
Albania	-	INSTAT - National Institute of Statistics of Albania	Annual Report	Data are annually collected and available at national and regional level.
Bosnia-Herzegovina	-	Public Health Institute	Annual Report	/
Bulgaria	Death certifications	National Statistical Institute	Annual public health Statistics, Health Services	ICD-9 is used up to now, data are collected annually
Croatia	Mortality Statistics	Croatian Institute for Public Health	Croatian Health Service Yearbook	/
FYR Macedonia	Mortality Statistics Traffic Injuries Register	State Institute of Statistics Institute for Health Protection of the Republic of Macedonia	Statistical Yearbook of Republic of Macedonia	Data of good quality

Table 26: Cont.

Country	Source of data	Data holder	Publications	Comments
Greece	-	-	-	-
Moldova	-	-	-	-
Romania	Birth and Death Register (death certificates)	NIS, NCHS	Statistical Yearbooks (one published by NIS, and one published by NCHS) – only specific mortality rates, not standardised).	/
Slovenia	Registry of deaths Central Population Register of the Republic of Slovenia	Institute of Public Health of the Republic of Slovenia Ministry of the Interior of the Republic of Slovenia	Health Statistical Annual of the Institute of Public Health of the Republic of Slovenia Statistical Yearbook of the Statistical Office of the Republic of Slovenia	Data of good quality
Yugoslavia FR	-	-	-	-
Kosovo	-	-	-	-

* Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)

/ No comment / non-existing data

- No data available till the end of redaction of the report

Indicator
12

Standardized death rate, infectious and parasitic diseases, all ages per 100,000, males

HFAdb Indicator N^o 1821 993002

DEFINITION

WHO HFAdb: ICD-10 code: A00-A99, B00-B99.

DATA 1996 - 2000

The data are presented in Table 27 and in Figure 14.

Table 27: Data for MHIS PH-SEE indicator 12 - Standardized death rate, infectious and parasitic disease, all ages per 100 000, males, 1996 – 2000 (Main data source: WHO Health for All Database 2002^{*}).

Country	Year				
	1996	1997	1998	1999	2000
Albania	7.59	4.03	5.01	-	-
Bosnia-Hercegovina	-	-	-	-	-
Bulgaria	11.51	12.34	14.07	11.87	11.87
Croatia	14.94	13.04	14.50	13.86	15.72
FYR Macedonia	14.06	12.26	13.08	13.24	11.62
Greece	5.82	5.68	5.97	-	-
Moldova	31.11	28.58	29.94	32.95	37.90
Romania	25.78	25.87	22.90	23.44	22.01
Slovenia	5.04	5.44	7.74	6.45	6.30 ^{**}
Yugoslavia FR [#]	-	-	-	-	-
Kosovo	-	-	-	-	-
EU average	8.21	7.97	8.38	-	-
MIN PH-SEE	5.04	4.03	5.01	6.45	6.30
MAX PH-SEE	31.11	28.58	29.94	32.95	37.9

* If not stated otherwise, the data source in present table is WHO HFAdb 2002

** The data source of data additionally provided by PH-SEE countries :

Slovenia: Institute of Public Health of Republic of Slovenia

- No data/ no additional data available till the end of redaction of the report

Data with Kosovo

NOTES ON DATA AVAILABILITY AND QUALITY

HFAdb: No note.

PH-SEE Group: The notes are presented in Table 28.

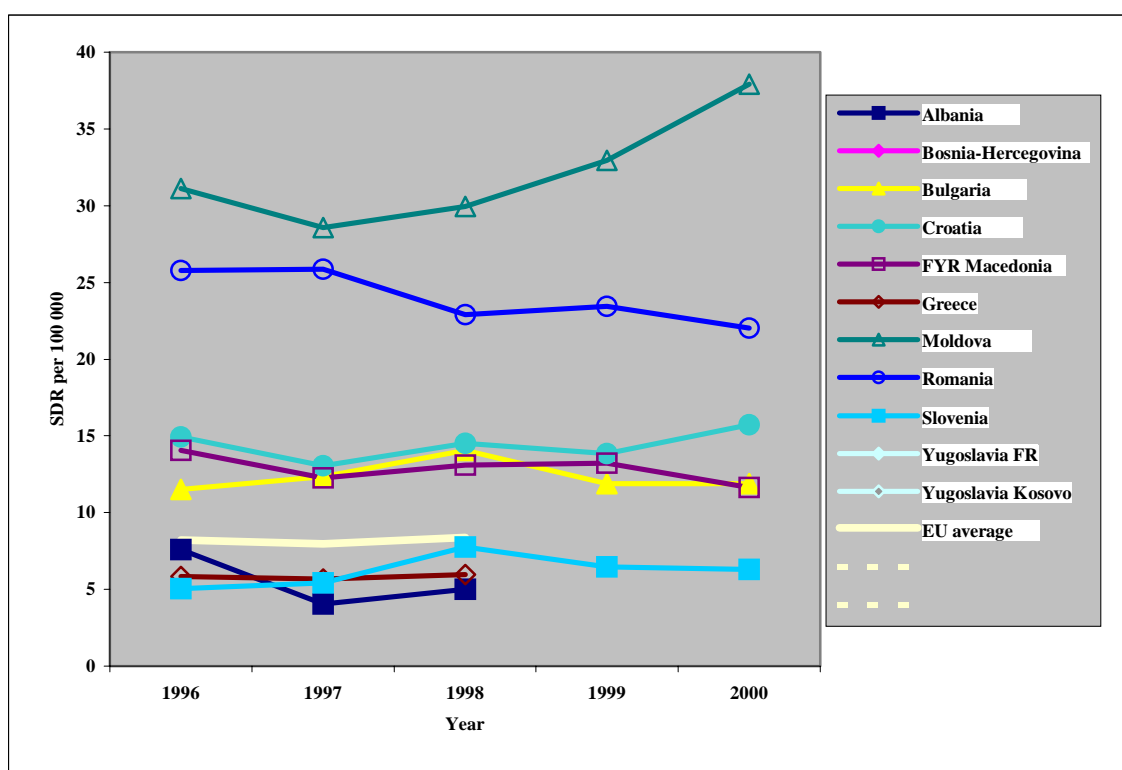


Figure 14: Data for MHIS PH-SEE indicator 12 - Standardized death rate, infectious and parasitic diseases, all ages per 100 000, males, 1996 – 2000 (Main data source: WHO Health for All Database 2002 – see comments in Table 27).

Table 28: Source of data, data holder, publications and comments on data* for MHIS PH-SEE indicator 12 - Standardized death rate, infectious and parasitic diseases, all ages per 100 000, males, by country.

Country	Source of data	Data holder	Publications	Comments
Albania	-	INSTAT - National Institute of Statistics of Albania	Annual Report	Data are annually collected and available at national and regional level.
Bosnia-Herzegovina	-	Public Health Institute	Annual Report	/
Bulgaria	Death certifications	National Statistical Institute	Annual public health Statistics, Health Services	ICD-9 is used up to now, data are collected annually
Croatia	Mortality Statistics	Croatian Institute for Public Health	Croatian Health Service Yearbook	/
FYR Macedonia	Mortality Statistics Infectious and Parasitic Diseases Surveillance and Registration	State Institute of Statistics Institute for Health Protection of the Republic of Macedonia	Statistical Yearbook of Republic of Macedonia	Data of good quality

Table 28: Cont.

Country	Source of data	Data holder	Publications	Comments
Greece	-	-	-	-
Moldova	-	-	-	-
Romania	Birth and Death Register (death certificates)	NIS, NCHS	Statistical Yearbooks (one published by NIS, and one published by NCHS) – only specific mortality rates, not standardised)	/
Slovenia	Registry of deaths Central Population Register of the Republic of Slovenia	Institute of Public Health of the Republic of Slovenia Ministry of the Interior of the Republic of Slovenia	Health Statistical Annual of the Institute of Public Health of the Republic of Slovenia Statistical Yearbook of the Statistical Office of the Republic of Slovenia	Data of good quality
Yugoslavia FR	-	-	-	-
Kosovo	-	-	-	-

* Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)

/ No comment / non-existing data

- No data available till the end of redaction of the report

Indicator
13

Standardized death rate, infectious and parasitic diseases, all ages per 100,000, females

HFAdb Indicator N^o 1822 993002

DEFINITION

WHO HFAdb: ICD-10 code: A00-A99, B00-B99.

DATA 1996 - 2000

The data are presented in Table 29 and in Figure 15.

Table 29: Data for MHIS PH-SEE indicator 13 - Standardized death rates, infectious and parasitic diseases, all ages per 100 000, females, 1996 – 2000 (Main data source: WHO Health for All Database 2002).*

Country	Year				
	1996	1997	1998	1999	2000
Albania	4.27	3.61	3.25	-	-
Bosnia-Hercegovina	-	-	-	-	-
Bulgaria	3.58	5.79	5.04	4.58	5.68
Croatia	4.24	5.85	5.44	7.20	7.64
FYR Macedonia	6.59	9.95	8.62	8.02	6.97
Greece	3.96	4.21	4.34	-	-
Moldova	7.70	8.10	7.03	8.73	8.10
Romania	6.69	6.93	6.58	7.13	7.70
Slovenia	3.99	2.97	3.87	2.67	2.90**
Yugoslavia FR#	-	-	-	-	-
Kosovo	-	-	-	-	-
EU average	4.82	4.92	5.08	-	-
MIN PH-SEE	3.58	2.97	3.25	2.67	2.90
MAX PH-SEE	7.70	9.95	8.62	8.73	8.10

* *If not stated otherwise, the data source in present table is WHO HFAdb 2002*

** *The data source of data additionally provided by PH-SEE countries :*

Slovenia: Institute of Public Health of Republic of Slovenia

- *No data/ no additional data available till the end of redaction of the report*

Data with Kosovo

NOTES ON DATA AVAILABILITY AND QUALITY

HFAdb: No note.

PH-SEE Group: The notes are presented in Table 30.

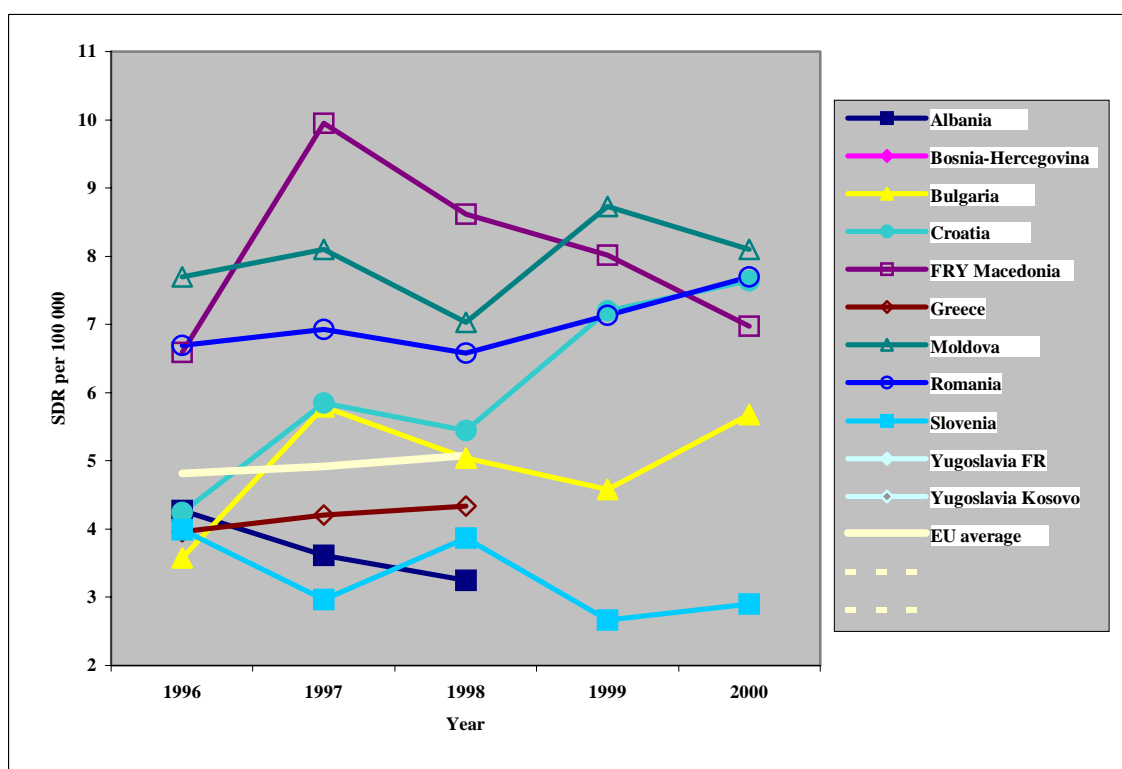


Figure 15: Data for MHIS PH-SEE indicator 13 - Standardized death rates, infectious and parasitic diseases, all ages per 100 000, females, 1996 – 2000 (Main data source: WHO Health for All Database 2002 – see comments in Table 29).

Table 30: Source of data, data holder, publications and comments on data* for MHIS PH-SEE indicator 13 - Standardized death rates, infectious and parasitic diseases, all ages per 100 000, females, by country.

Country	Source of data	Data holder	Publications	Comments
Albania	-	INSTAT - National Institute of Statistics of Albania	Annual Report	Data are annually collected and available at national and regional level.
Bosnia-Herzegovina	-	Public Health Institute	Annual Report	/
Bulgaria	Death certifications	National Statistical Institute	Annual public health Statistics, Health Services	ICD-9 is used up to now, data are collected annually
Croatia	Mortality Statistics	Croatian Institute for Public Health	Croatian Health Service Yearbook	/
FRY Macedonia	Mortality Statistics Infectious and Parasitic Diseases Surveillance and Registration	State Institute of Statistics Institute for Health Protection of the Republic of Macedonia	Statistical Yearbook of Republic of Macedonia	Data of good quality

Table 30: Cont.

Country	Source of data	Data holder	Publications	Comments
Greece	-	-	-	-
Moldova	-	-	-	-
Romania	Birth and Death Register (death certificates)	NIS, NCHS	Statistical Yearbooks (one published by NIS, and one published by NCHS) – only specific mortality rates, not standardised)	/
Slovenia	Registry of deaths Central Population Register of the Republic of Slovenia	Institute of Public Health of the Republic of Slovenia Ministry of the Interior of the Republic of Slovenia	Health Statistical Annual of the Institute of Public Health of the Republic of Slovenia Statistical Yearbook of the Statistical Office of the Republic of Slovenia	Data of good quality
Yugoslavia FR	-	-	-	-
Kosovo	-	-	-	-

* Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)

/ No comment / non-existing data

- No data available till the end of redaction of the report

MORBIDITY, DISABILITY AND HOSPITAL DISCHARGES

Indicator

14

Number of newly diagnosed tuberculosis cases per 100,000, all forms

HFAdb Indicator N° 2010 040301

DEFINITION

WHO HFAdb: Number of newly diagnosed tuberculosis cases, all forms (ICD-9:010-018; ICD-10: A15-A19) during the given calendar year.

DATA 1996 - 2000

The data are presented in Table 31 and in Figure 16.

Table 31: Data for MHIS PH-SEE indicator 14 - Number of newly diagnosed tuberculosis cases per 100 000, all forms, 1996 – 2000 (Main data source: WHO Health for All Database 2002*).

Country	Year				
	1996	1997	1998	1999	2000
Albania	21.54	19.70	20.69	21.73	19.40
Bosnia-Hercegovina	63.00	75.82	74.17	78.02	65.18
Bulgaria	37.18	41.35	55.22	42.99	40.99
Croatia	48.38	44.92	47.05	38.76	37.20
FYR Macedonia	36.51	34.70	30.88	27.61	31.63
Greece	9.02	7.32	10.26	8.81	6.60
Moldova	67.68	67.47	61.09	63.27	68.72
Romania	106.66	108.00	113.87	116.25	122.44**
Slovenia	28.27	24.29	21.48	21.40	18.48
Yugoslavia FR#	42.93	38.36	28.52	24.89	26.92
Kosovo	-	-	-	-	-
EU average	14.03	13.67	13.03	12.29	10.14
MIN PH-SEE	9.02	7.32	10.26	8.81	6.60
MAX PH-SEE	106.66	108.00	113.87	116.25	122.44

* If not stated otherwise, the data source in present table is WHO HFAdb 2002

** The data source of data additionally provided by PH-SEE countries :

Romania: Ministry of Health and Family, General secretary

- No data/ no additional data available till the end of redaction of the report

Data with Kosovo

NOTES ON DATA AVAILABILITY AND QUALITY

HFAdb: Data are already available for most countries as they are reported annually to WHO by national counterparts for communicable diseases. Note: The definition has been modified in the June 2001 version of HFA DB . Now, relapses are included in the incidence figures (before relapses were excluded). All historical data have been modified accordingly, using available data collected by the Communicable Disease unit of WHO/EURO.

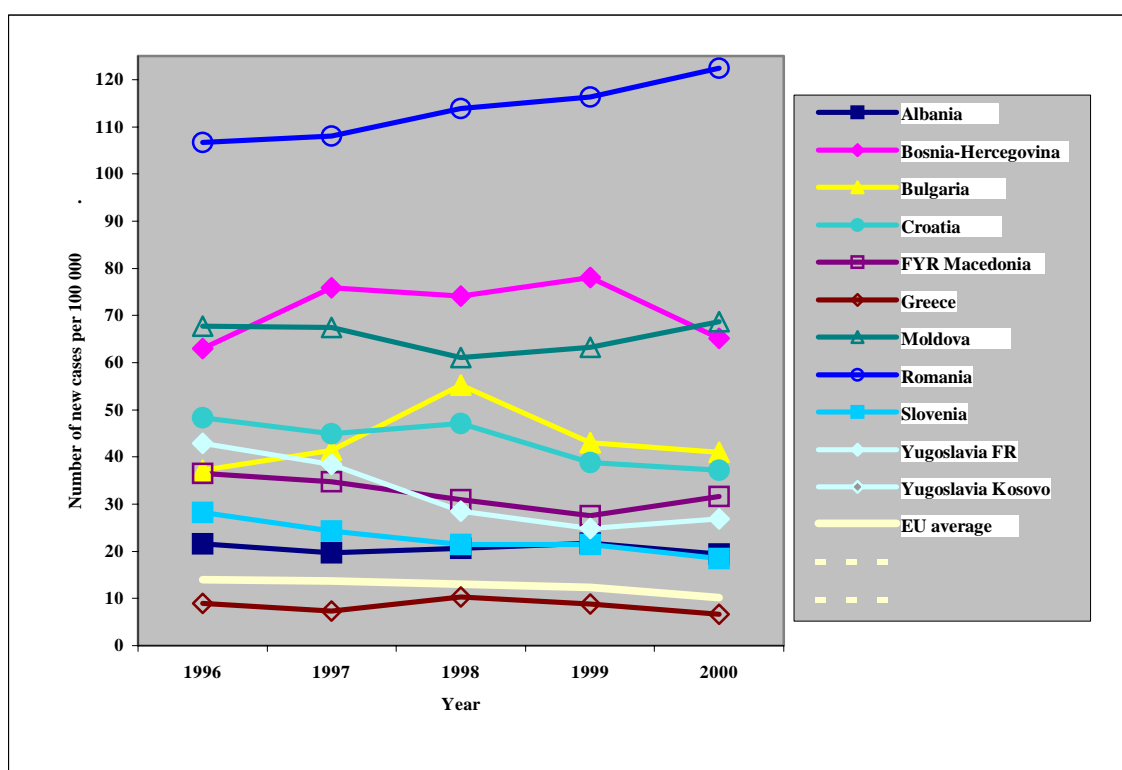


Figure 16: Data for MHIS PH-SEE indicator 14 - Number of newly diagnosed tuberculosis cases per 100 000, all forms, 1996 – 2000 (Main data source: WHO Health for All Database 2002 – see comments in Table 31).

PH-SEE Group: The notes are presented in Table 32.

Table 32: Source of data, data holder, publications and comments on data* for MHIS PH-SEE indicator 14 - Number of newly diagnosed tuberculosis cases per 100 000, all forms, by country.

Country	Source of data	Data holder	Publications	Comments
Albania	-	Min of Health	Annual Report	Data are annually collected and available at national and regional level.
Bosnia-Herzegovina	-	Public Health Institute	-	/
Bulgaria	Register of cases of tuberculosis	National Statistical Institute	Annual public health Statistics, Health Services	ICD-9 is used up to now, data are collected annually
Croatia	Morbidity Statistics (TBC Registry)	Croatian Institute for Public Health	Croatian Health Service Yearbook	Regular data; the rate would be lower if the denominator (population) have not decreased due to the new calculating system (UN, Eurostat)

Table 32: Cont.

Country	Source of data	Data holder	Publications	Comments
FYR Macedonia	Morbidity Statistics (Hospital records, TBC Registry)	Institute for Health Protection of the Republic of Macedonia Institute of Tuberculosis and Lung Diseases Special Hospitals for Tuberculosis and Lung Diseases	Annual Report for the Incidence and Prevalence of TBC	Good quality incidence and mortality data
Greece	-	-	-	-
Moldova	-	-	-	-
Romania	Hospitals and General Practitioner reports (National Register of Tuberculosis)	Ministry of Health and Family through National Institute of Pneumology »Marius Nasta«, NCHS	Statistical Yearbooks (one published by NIS, and one published by NCHS)	Good quality of data, compulsory report
Slovenia	Tuberculosis register	Clinical Department for Pulmonary Diseases and Allergy Golnik (CDPA)	Annual report of CDPA	Compulsory registration Annually discharged Data of good quality
Yugoslavia FR	Hospital records	Institute of Tuberculosis and Lung Diseases of Serbia, Belgrade, Serbia and Special Hospital for Tuberculosis and Lung Diseases, Niksic, Montenegro	Annual Report of Infectious and Parasitic diseases of Republic of Serbia (with Kosovo)	Data of good quality Data related to tuberculin testing are missing Tuberculosis is obligatory recorded
Kosovo	-	-	-	-

* Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)

/ No comment / non-existing data

- No data available till the end of redaction of the report

Indicator
15

**Number of decayed, missing or filled teeth at age 12
(DMFT-12 Index)**

HFAdb Indicator N° 2810 040701

DEFINITION

WHO HFAdb: Measured by survey of a sample of 12-year-old children (average number of decayed, missing and filled teeth).

DATA 1996 - 2000

The data are presented in Table 33 and in Figure 17.

Table 33: Data for MHIS PH-SEE indicator 15 - Number of decayed, missing or filled teeth at age 12 (DMFT-12 Index), 1996 – 2000 (Main data source: WHO Health for All Database 2002*).

Country	Year				
	1996	1997	1998	1999	2000
Albania	-	-	-	-	-
Bosnia-Herzegovina	-	-	-	-	-
Bulgaria	-	-	-	-	-
Croatia	-	-	-	-	-
FYR Macedonia	-	-	-	-	-
Greece					
Moldova	-	-	-	-	-
Romania	-	-	-	-	-
Slovenia	3.08**	3.39**	3.28**	3.10**	3.08**
Yugoslavia FR#	3.25**	3.38**	3.35**	3.32**	3.27**
Kosovo	-	-	-	-	-
EU average	-	-	-	-	-
MIN PH-SEE	+	+	+	+	+
MAX PH-SEE	+	+	+	+	+

* If not stated otherwise, the data source in present table is WHO HFAdb 2002

** The data source of data additionally provided by PH-SEE countries :

Slovenia: Institute of Social Medicine, Faculty of Medicine, University of Ljubljana

Yugoslavia FR: Institute of Public Health of FR Yugoslavia

- No data/ no additional data available till the end of redaction of the report

Data with Kosovo

+ Minimum and maximum cannot be determined due to lack of data

NOTES ON DATA AVAILABILITY AND QUALITY

HFAdb: In some countries, it may be part of routine registration during regular dental check-ups. Some data for this indicator have been reported in the past in the framework of Health For All regular monitoring and evaluation exercises. Presently there is no regular data collection for this indicator and ad hoc sources are used when available. Therefore the availability of data for this indicator is limited.

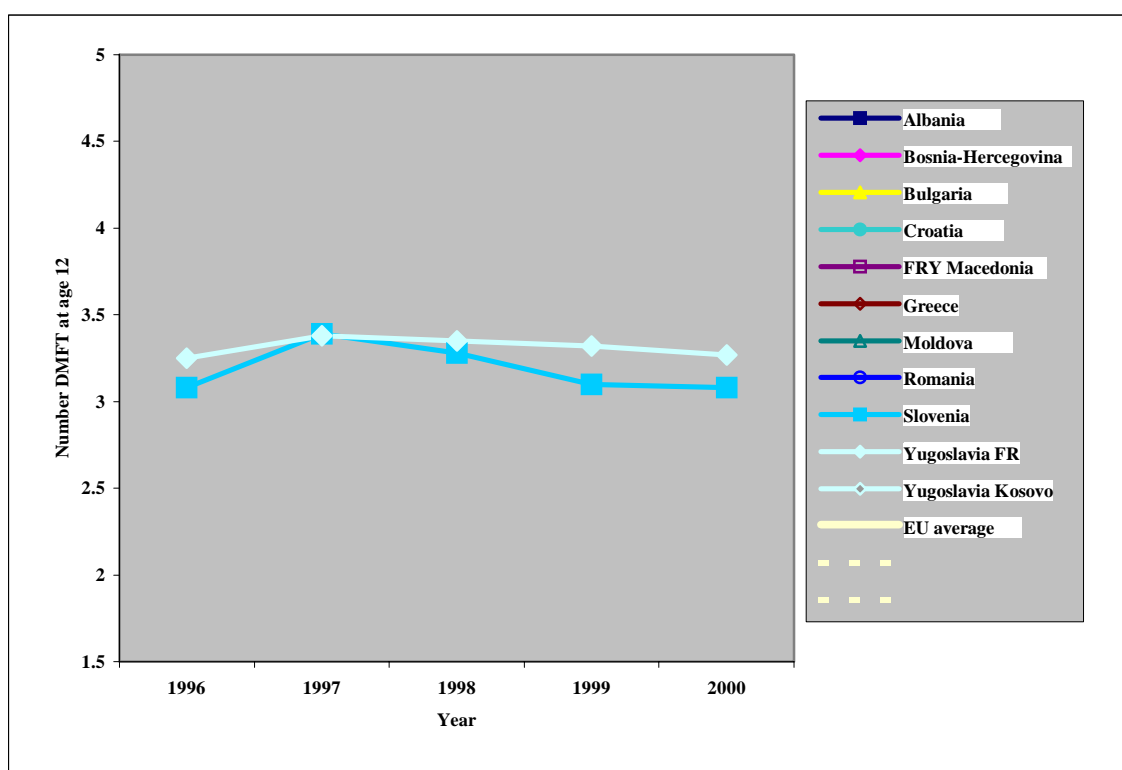


Figure 17: Data for MHIS PH-SEE indicator 15 - Number of decayed, missing or filled teeth at age 12 (DMFT-12 Index), 1996 – 2000 (Main data source: WHO Health for All Database 2002 – see comments in Table 33).

PH-SEE Group: Data could be acquired only for Slovenia and Yugoslavia FR (Serbia & Montenegro with Kosovo). The notes are given in Table 34.

Table 34: Source of data, data holder, publications and comments on data* for MHIS PH-SEE indicator 15 - Number of decayed, missing or filled teeth at age 12 (DMFT-12 Index), by country.

Country	Source of data	Data holder	Publications	Comments
Albania	-	Stomatology Department in Ministry of Health	Annual Report	The collected are based upon the school dentistry register. Private stomatologic service doesn't provide the data
Bosnia-Herzegovina	-	Public Health Institute	Annual Report	/
Bulgaria	-	-	-	-
Croatia			No report available	No national level data for this indicator (only number of decayed teeth found on physicals in school children)
FYR Macedonia	Systematic Examinations of the School Children	Republic Institute for Health Protection	No report available	This data are only partly available

Table 34: Cont.

Country	Source of data	Data holder	Publications	Comments
Greece	-	-	-	-
Moldova	-	-	-	-
Romania	/	/	/	No data available
Slovenia	Reporting system on DMFT	Institute for Social Medicine, Faculty of Medicine, Ljubljana	Annual reports up to 2000	The reporting system stopped in 2001
Yugoslavia FR	/	/	/	No data available
Kosovo	-	-	-	-

* Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)

/ No comment / non-existing data

- No data available till the end of redaction of the report

ENVIRONMENT

Indicator
16

Percent of population whose homes are connected to water supply system, total

HFAdb Indicator N^o 4300 992001

DEFINITION

WHO HFAdb: % of population with continuous access to adequate amount of safe drinking water in the home. (Environmental health indicators for the WHO European Region, 2002)

DATA 1996 - 2000

The data are presented in Table 35 and in Figure 18.

Table 35: Data for MHIS PH-SEE indicator 16 - Percent of population whose homes are connected to water supply system, total, 1996 – 2000 (Main data source: WHO Health for All Database 2002*).

Country	Year				
	1996	1997	1998	1999	2000
Albania	-	-	-	-	-
Bosnia-Herzegovina	-	-	-	-	-
Bulgaria	-	-	-	-	-
Croatia	-	-	-	-	75.00**
FYR Macedonia	-	-	-	-	-
Greece	-	-	-	-	-
Moldova	-	-	-	-	-
Romania	51.60**	-	-	-	63.50**
Slovenia	-	-	88.00**	98.00**	98.00**
Yugoslavia FR [#]	-	-	-	82.30	88.00
Kosovo	-	-	-	-	-
EU average	-	-	-	-	-
MIN PH-SEE	+	+	+	+	+
MAX PH-SEE	+	+	+	+	+

* If not stated otherwise, the data source in present table is WHO HFAdb 2002

** The data source of data additionally provided by PH-SEE countries :

Croatia: estimate, given by Andrija Stampar School of Public Health

Romania: for 1996 the data from 1992 are used, for 2000 the estimates based on census 1992

Slovenia: Institute of Public Health of Republic of Slovenia and Ministry of Environment

- No data/no additional data available till the end of redaction of the report

Data with Kosovo

+ Minimum and maximum cannot be determined due to lack of data

NOTES ON DATA AVAILABILITY AND QUALITY

HFAdb: It is expected that data will be available through appropriate WHO/EURO programmes on environment and health. National statistics on dwellings in some countries could be used as a source.

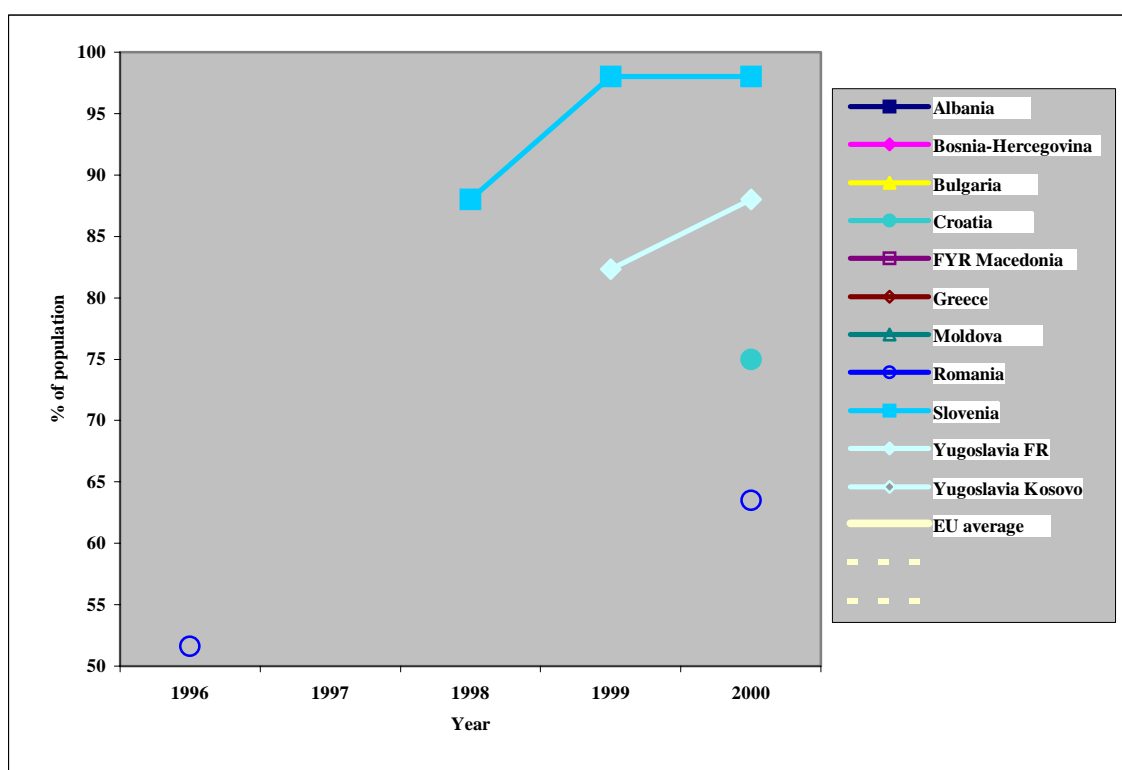


Figure 18: Data for MHIS PH-SEE indicator 16 - Percent of population whose homes are connected to water supply system, total, 1996 – 2000 (Main data source: WHO Health for All Database 2002 – see comments in Table 35).

PH-SEE Group: The notes are presented in Table 36.

Table 36: Source of data, data holder, publications and comments on data* for MHIS PH-SEE indicator 16 - Percent of population whose homes are connected to water supply system, total, by country.

Country	Source of data	Data holder	Publications	Comments
Albania	-	Institute of Public Health	Annual Report IPH	Data are annually collected and available at national and regional level.
Bosnia-Herzegovina	-	IS	-	/
Bulgaria	National Statistical Institute	National Statistical Institute	Annual public health Statistics	/
Croatia	Population Register (census of population)	Croatian Bureau of Statistics	Statistical Yearbook of the Republic of Croatia Croatian Health Service Yearbook (some estimations)	Accurate data every ten years (last 2001 census)

Table 36: Cont.

Country	Source of data	Data holder	Publications	Comments
FYR Macedonia	Drinking water supply follow-up; Census	State Institute of Statistics Institute for Health Protection of Republic of Macedonia (Dept. of Hygiene)	Annual Reports about the Environmental Conditions in Macedonia Statistical Yearbook of Republic of Macedonia	Data are partly available, mainly as estimation
Greece	-	-	-	-
Moldova	-	-	-	-
Romania	/	/	/	No data available
Slovenia	Informational system of Agency for Environmental Planning	Agency for Environmental Planning	Assessment of Present Status and Trends in Slovenia Environment (Agency for Environmental Planning, Ministry of Environment, 2001)	
Yugoslavia FR	Statistic about drinking water hygiene.	Federal Public Health Institute	Report on Drinking Water Hygiene	183 central water supply systems included (Serbia 164, Monte-negro 19). Required data can not be delivered in printed format, available on the www.unicef.org
Kosovo	-	-	-	-

* Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)

/ No comment / non-existing data

- No data available till the end of redaction of the report

Indicator**17****Percent of population with access to hygienic sewage disposal, total**HFAdb Indicator N^o 4310 200107**DEFINITION**

WHO HFAdb: The index reflects waste policies and waste regulation and interprets hygiene conditions in the country.

DATA 1996 - 2000

The data are presented in Table 37 and in Figure 19.

Table 37: Data for MHIS PH-SEE indicator 17 - Percent of population with access to hygienic sewage disposal, total, 1996 – 2000 (Main data source: WHO Health for All Database 2002*).

Country	Year				
	1996	1997	1998	1999	2000
Albania	-	-	-	-	-
Bosnia-Herzegovina	-	-	-	-	-
Bulgaria	-	-	-	-	-
Croatia	-	-	-	-	-
FYR Macedonia	-	-	-	-	-
Greece					
Moldova	-	-	-	-	-
Romania	47.10**	-	-	-	-
Slovenia	72.00**	72.00**	75.00**	88.00**	88.00**
Yugoslavia FR#	-	-	-	-	-
Kosovo	-	-	-	-	-
EU average	-	-	-	-	-
MIN PH-SEE	+	+	+	+	+
MAX PH-SEE	+	+	+	+	+

* If not stated otherwise, the data source in present table is WHO HFAdb 2002

** The data source of data additionally provided by PH-SEE countries :

Romania: for 1996 the data from 1992 are used, for 2000 the estimates based on census 1992

Slovenia: Institute of Public Health of Republic of Slovenia and Ministry of Environment

- No data/ no additional data available till the end of redaction of the report

Data with Kosovo

+ Minimum and maximum cannot be determined due to lack of data

NOTES ON DATA AVAILABILITY AND QUALITY

HFAdb: It is expected that data will be available through appropriate WHO/EURO programmes on environment and health. National statistics on dwellings in some countries could be used as a source.

PH-SEE Group: The notes are presented in Table 38.

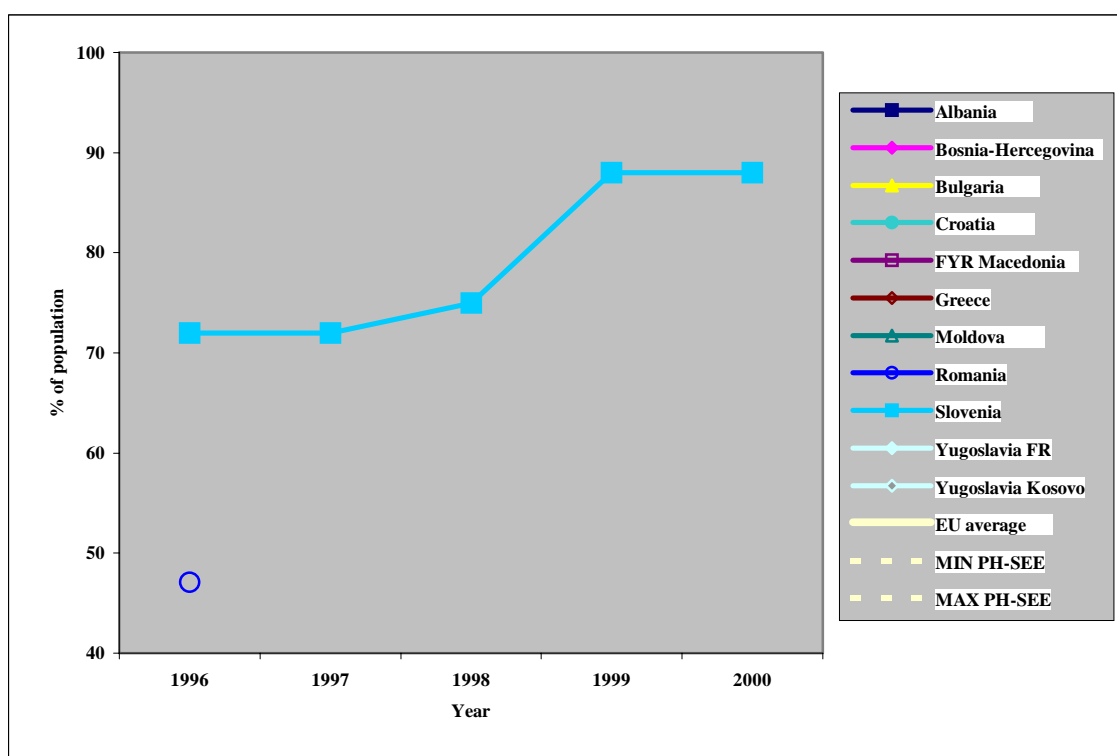


Figure 19: Data for MHIS PH-SEE indicator 17 - Percent of population with access to hygienic sewage disposal, total, 1996 – 2000 (Main data source: WHO Health for All Database 2002 – see comments in Table 37).

Table 38: Data for MHIS PH-SEE indicator 17 - Percent of population with access to hygienic sewage disposal, total, by country.

Country	Source of data	Data holder	Publications	Comments
Albania	Statistics of Environment	Institute of Public Health (IPH)	Annual Report from IPH	Data are annually collected and available at national and regional level.
Bosnia-Herzegovina	-	-	-	-
Bulgaria	-	-	-	-
Croatia	Population Register (census of population)	Croatian Bureau of Statistics	Statistical Yearbook of the Republic of Croatia	Accurate data every ten years (last 2001 census)
FYR Macedonia	Access to hygienic sewage disposal follow-up; Census	State Institute of Statistics Institute for Health Protection of Republic of Macedonia (Dept. of Hygiene)	Annual Reports about the Environmental Conditions in Macedonia Statistical Yearbook of Republic of Macedonia	Data are partly available, mainly as estimation

Table 38: Cont.

Country	Source of data	Data holder	Publications	Comments
Greece	-	-	-	-
Moldova	-	-	-	-
Romania	/	/	/	No data available
Slovenia	Informational system of Agency for Environmental Planning	Agency for Environmental Planning	Assessment of Present Status and Trends in Slovenia Environment (Agency for Environmental Planning, Ministry of Environment, 2001)	/
Yugoslavia FR	Statistic about access to hygienic sewage disposal.	Federal Public Health Institute	-	Data are available on www.unicef.org
Kosovo	-	-	-	-

* Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)

/ No comment / non-existing data

- No data available till the end of redaction of the report

HEALTH CARE RESOURCES

Indicator

18

**Number of primary health care units
per 100,000 population**

HFAdb Indicator N^o 5030 270206

DEFINITION

WHO HFAdb: Includes all health care establishments providing outpatient care, e.g. outpatient departments of hospitals, polyclinics, ambulatories, medical centres, medical aid posts, etc. which are staffed with at least one health professional (physician or nurse).

DATA 1996 - 2000

The data are presented in Table 39 and in Figure 20.

Table 39: Data for MHIS PH-SEE indicator 18 - Number of primary health care units per 100 000 population, 1996 – 2000 (Main data source: WHO Health for All Database 2002^{*}).

Country	Year				
	1996	1997	1998	1999	2000
Albania	74.23	64.83	64.19	63.82	-
Bosnia-Herzegovina	-	-	40.71	31.84	-
Bulgaria	44.69	43.40	43.44	43.20	-
Croatia	14.98	22.81	46.61	65.92	78.74
FYR Macedonia	59.20	60.29	56.24	54.68	53.79
Greece	-	-	-	-	-
Moldova	13.92	13.71	14.55	11.09	13.37
Romania	26.80	25.88	21.98	5.49	4.05
Slovenia	3.57	3.38	3.19	3.24	3.24 ^{**}
Yugoslavia FR [#]	55.00	50.25	52.79	53.65	-
Kosovo	-	-	-	-	-
EU average	-	-	-	-	-
MIN PH-SEE	3.57	3.38	3.19	3.24	3.24
MAX PH-SEE	74.23	64.83	64.19	65.92	78.74

* If not stated otherwise, the data source in present table is WHO HFAdb 2002

** The data source of data additionally provided by PH-SEE countries :

Slovenia: Institute of Public Health of Republic of Slovenia

- No data/ no additional data available till the end of redaction of the report

Data with Kosovo

NOTES ON DATA AVAILABILITY AND QUALITY

HFAdb: The title has been modified in the June 2000 version to "Number of non-in-patient health care establishments" to better reflect the definition.

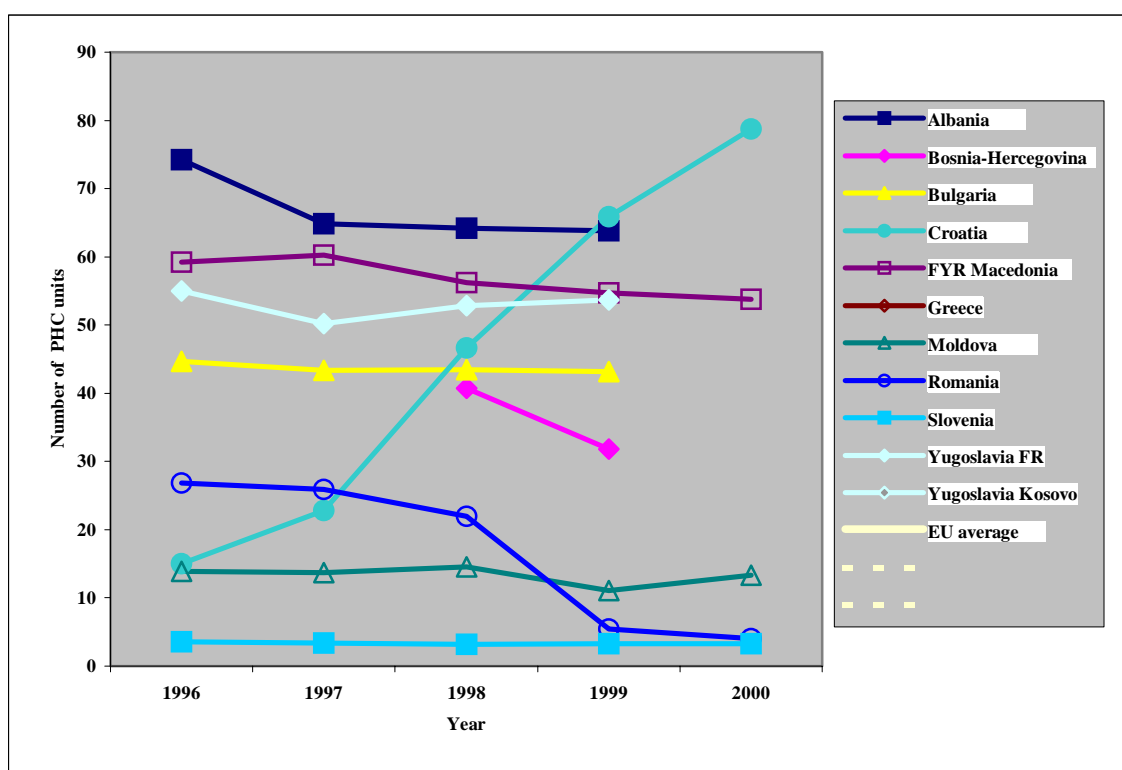


Figure 20: Data for MHIS PH-SEE indicator 18 - Number of primary health care units per 100 000 population, 1996 – 2000 (Main data source: WHO Health for All Database 2002 – see comments in Table 39).

PH-SEE Group: The notes are presented in Table 40.

Table 40: Source of data, data holder, publications and comments on data* for MHIS PH-SEE indicator 18 - Number of primary health care units per 100 000 population, by country.

Country	Source of data	Data holder	Publications	Comments
Albania	-	INSTAT - National Institute of Statistics of Albania	Annual Report	Data are annually collected and available at national and regional level
Bosnia-Herzegovina	-	Public Health Institute	Annual Report	/
Bulgaria	Regional Health Centers	National Center for Health Informatics	Health Services	Data are annually collected and available at national and regional level.
Croatia	Health Service Statistics	Croatian Institute for Public Health Also Croatian Institute for Health Insurance	Croatian Health Service Yearbook	Data of high quality Private practice units (surgeries, laboratories, pharmacies), practice rentals, polyclinics and care in home units incl.

Table 40: Cont.

Country	Source of data	Data holder	Publications	Comments
FYR Macedonia	Statistics of Health Care Institutions Network	Institute for Health Protection of Republic of Macedonia Ministry of Health Health Insurance Fund State Institute of Statistics	Statistical Yearbook of Republic of Macedonia; Annual Reports of the Health Status of the Population and Organi-zation and Performance of Health Care Service in Rep. of Macedonia	Data of high quality
Greece	-	-	-	-
Moldova	-	-	-	-
Romania[#]	Reports from Statistical Services of health care units (without beds)	National Institute of Statistics (NIS) National Centre of Health Statistics (NCHS)	Statistical Yearbooks (one published by NIS, and one published by NCHS)	In Romania GPs are independent (not employees) and they can change their status anytime (can be individuals, associates or groups of practice or civile society). That is the reason for which there doesn't exist the number of units, only the number of physicians.
Slovenia	Health care providers database	Institute of Public Health of the Republic of Slovenia	Health Statistical Annual of the Institute of Public Health of the Republic of Slovenia	Data of good quality Collected permanently
Yugoslavia FR	Index of Health Care Institutions.	Republic and Federal Public Health Institutes	Health Statistical Year-book FR Yugoslavia Health Statistical Yearbook of Serbia Statistical yearbook of Serbia & Montenegro	Last report 1999
Kosovo	-	-	-	-

* Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)

/ No comment / non-existing data

- No data available till the end of redaction of the report

In Romania there exists a special situation because of the health system reform which started in 1998. Since 1998 the general practitioners (family doctors) became independent, so instead of medical clinics there are many individual offices. That's the reason of the decrease of medical clinics number and the reason for which in Romania especially the number of physicians is collected (which is practically the same).

Indicator**19****Number of hospital beds per 100,000 population**HFAdb Indicator N^o 5050 270205**DEFINITION**

WHO HFAdb: A hospital bed is a regularly maintained and staffed bed for the accommodation and full-time care of a succession of inpatients and is situated in wards or areas of the hospital where continuous medical care for inpatients is provided. It is a measure of hospital capacity.

DATA 1996 - 2000

The data are presented in Table 41 and in Figure 21.

Table 41: Data for MHIS PH-SEE indicator 19 - Number of hospital beds per 100 000 population, 1996 – 2000 (Main data source: WHO Health for All Database 2002*).

Country	Year				
	1996	1997	1998	1999	2000
Albania	314.32	304.81	305.19	-	-
Bosnia-Herzegovina	-	-	382.39	379.60	323.55
Bulgaria	1046.89	1027.53	840.79	749.46	741.13
Croatia	618.53	600.81	606.22	593.03	615.22
FYR Macedonia	519.94	515.70	514.71	510.28	505.74
Greece	553.71	-	-	483.76	-
Moldova	1214.98	1162.41	1123.23	818.88	759.19
Romania	756.18	738.10	731.14	730.95	743.55
Slovenia	566.30	567.32	562.12	554.52	543.44**
Yugoslavia FR#	550.78	552.6	547.92	540.63	-
Kosovo	-	-	-	-	-
EU average	625.17	611.42	600.98	595.53	-
MIN PH-SEE	314.32	304.81	305.19	379.60	323.55
MAX PH-SEE	1214.98	1162.41	1123.23	818.88	759.19

* If not stated otherwise, the data source in present table is WHO HFAdb 2002

** The data source of data additionally provided by PH-SEE countries :

Slovenia: Institute of Public Health of Republic of Slovenia

- No data/ no additional data available till the end of redaction of the report

Data with Kosovo

NOTES ON DATA AVAILABILITY AND QUALITY

HFAdb: The number of hospital beds should be measured, whenever possible, in available bed-years during the calendar year or, if this is not possible, in available beds at mid-year (preferably) or end-year count depending on the current national practice. Hospital beds exclude: cots for neonates; day beds; provisional and temporary beds, beds in storerooms; beds for special purposes or belonging to special health devices, e.g. dialysis, delivery (but not post-delivery beds in maternity hospitals), etc.

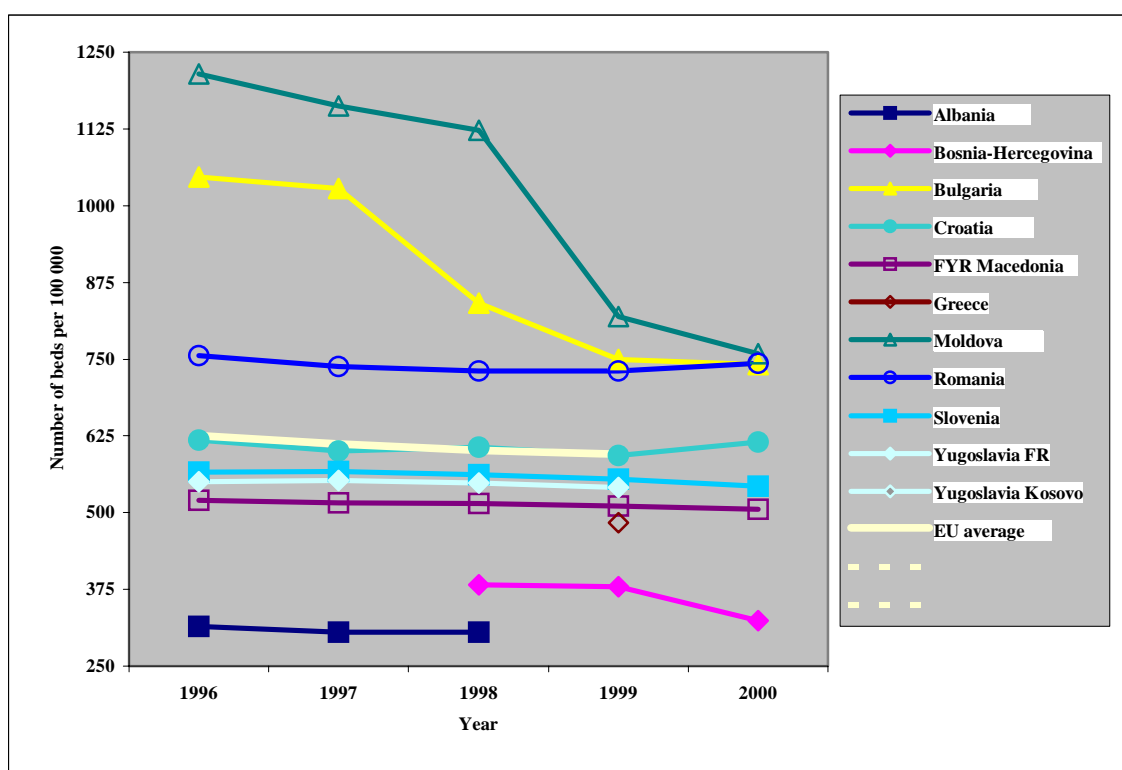


Figure 21: Data for MHIS PH-SEE indicator 19 - Number of hospital beds per 100 000 population, 1996 – 2000 (Main data source: WHO Health for All Database 2002 – see comments in Table 41).

PH-SEE Group: The notes are presented in Table 42.

Table 42: Source of data, data holder, publications and comments on data* for MHIS PH-SEE indicator 19 - Number of hospital beds per 100 000 population, by country.

Country	Source of data	Data holder	Publications	Comments
Albania	-	INSTAT - National Institute of Statistics of Albania	Annual Report	Data are annually collected and available at national and regional level
Bosnia-Herzegovina	-	Public Health Institute	Annual Report	/
Bulgaria	Annual statistical information from Hospitals	National Center for Health Informatics	Health Services	Data are annually collected and available at national and regional level.
Croatia	Health Service Statistics	Croatian Institute for Public Health	Croatian Health Service Yearbook Last update: 2002	All hospitals except nursing homes and the like Childbirth, abortion, and hospital rehabilitation beds included

Table 42: Cont.

Country	Source of data	Data holder	Publications	Comments
FYR Macedonia	Statistics of Health Care Institutions Network	Institute for Health Protection of Republic of Macedonia Ministry of Health Health Insurance Fund State Institute of Statistics	Statistical Yearbook of Republic of Macedonia; Annual Reports of the Health Status of the Population and Organization and Performance of Health Care Service in Republic of Macedonia	Data of high quality
Greece	-	-	-	-
Moldova	-	-	-	-
Romania	NCHS database	National Institute of Statistics (NIS) National Centre of Health Statistics (NCHS)	“Units-beds” Year book of NCHS Statistical Yearbook of INS	Ministry of Health and Family establishes the number of beds
Slovenia	Database on hospital activities	Institute of Public Health of the Republic of Slovenia	Health Statistical Annual of the Institute of Public Health of the Republic of Slovenia	Data of good quality Collected semi-annually
Yugoslavia FR	-	-	-	Hospital beds include all hospital beds, but data are also reported for each hospital separately
Kosovo	-	-	-	-

* Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)

/ No comment / non-existing data

- No data available till the end of redaction of the report

Indicator
20

Number of physicians per 100,000 population

HFAdb Indicator N^o 5250 270201

DEFINITION

WHO HFAdb: A physician is a person who has completed studies in medicine at university level.

DATA 1996 - 2000

The data are presented in Table 43 and in Figure 22.

Table 43: Data for MHIS PH-SEE indicator 20 - Number of physicians per 100 000 population, 1996 – 2000 (Main data source: WHO Health for All Database 2002^{*}).

Country	Year				
	1996	1997	1998	1999	2000
Albania	141.49	130.10	128.94	133.22	-
Bosnia-Herzegovina	-	-	142.67	143.82	142.23
Bulgaria	353.85	344.74	344.88	344.20	336.91
Croatia	224.99	225.94	228.81	229.17	238.26
FYR Macedonia	225.10	224.90	224.56	220.56	219.85
Greece	-	-	-	434.07	-
Moldova	356.83	358.23	363.05	325.04	317.98
Romania	181.00	179.09	183.58	191.36	188.87
Slovenia	213.49	214.70	217.77	215.25	218.33 ^{**}
Yugoslavia FR [#]	205.13	212.24	213.67	213.17	-
Kosovo	-	-	-	-	-
EU average	373.14	377.22	376.20	381.62	387.41
MIN PH-SEE	141.49	130.10	128.94	133.22	142.23
MAX PH-SEE	356.83	358.23	363.05	434.07	336.91

* If not stated otherwise, the data source in present table is WHO HFAdb 2002

** The data source of data additionally provided by PH-SEE countries :

Slovenia: Institute of Public Health of Republic of Slovenia

- No data/ no additional data available till the end of redaction of the report

Data with Kosovo

NOTES ON DATA AVAILABILITY AND QUALITY

HFAdb: To be legally licensed for the independent practice of medicine (comprising prevention, diagnosis, treatment and rehabilitation), (s)he must in most cases undergo additional postgraduate training in a hospital (from 6 months to 1 year or more). To establish his or her own practice, a physician must fulfil additional conditions. The number of physicians at the end of the year includes all active physicians working in health services (public or private), including health services under other ministries than the Ministry of Health. Interns and residents, i.e. physicians in postgraduate training, are also included.

The number of physicians excludes: physicians working outside the country; physicians on the retired list and not practising or unemployed; physicians working outside health services, e.g. employed in industry, research institutes etc.; dentists (stomatologists) who should be defined as a separate group.

Stomatologists are not included in this indicator. The number of FTE should be calculated by adding the full and appropriate proportion of part-time occupied posts.

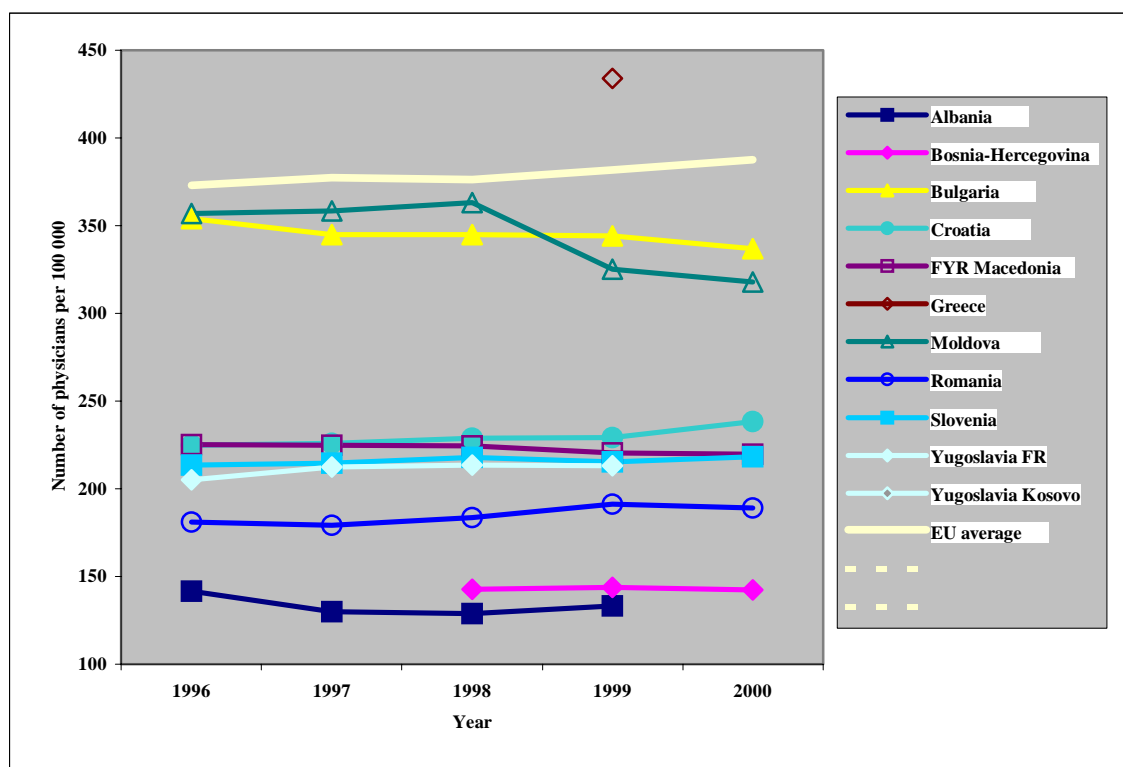


Figure 22: Data for MHIS PH-SEE indicator 20 - Number of physicians per 100 000 population, 1996 – 2000 (Main data source: WHO Health for All Database 2002 – see comments in Table 43).

PH-SEE Group: The notes are presented in Table 44.

Table 44: Source of data, data holder, publications and comments on data* for MHIS PH-SEE indicator 20 - Number of physicians per 100,000 population, by country.

Country	Source of data	Data holder	Publications	Comments
Albania	-	INSTAT - National Institute of Statistics of Albania	Annual Report	Data are annually collected and available at national and regional level.
Bosnia-Herzegovina	-	Public Health Institute	Annual Report	/
Bulgaria	Regional Health Centers	National Statistical Institute	Annual public health Statistics, Health Services	Data are annually collected and available at national and regional level

Table 44: Cont.

Country	Source of data	Data holder	Publications	Comments
Croatia	National Health Workers Register	Croatian Institute for Public Health	Croatian Health Service Yearbook	Accurate and detailed data
FYR Macedonia	Statistics of Health Care Institutions Network and Manpower	Institute for Health Protection of Republic of Macedonia Ministry of Health Health Insurance Fund State Institute of Statistics	Statistical Yearbook of Republic of Macedonia; Annual Reports of the Health Status of the Population and Organization and Performance of Health Care Service in Republic of Macedonia	Data of high quality
Greece	-	-	-	-
Moldova	-	-	-	-
Romania	Physician Register, NCHS database	National Institute of Statistics (NIS) National Centre of Health Statistics (NCHS) (only total number and regional number)	Statistical Yearbooks (one published by NIS, and one published by NCHS)	Official statistics include only physicians who work within Ministry of Health and Family network; stomatologist (physicians) are reported separately; good quality of data.
Slovenia	Health care providers database	Institute of Public Health of the Republic of Slovenia	Health Statistical Annual of the Institute of Public Health of the Republic of Slovenia	Good quality of data, collected permanently
Yugoslavia FR	-	-	-	-
Kosovo	-	-	-	-

* Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)

/ No comment / non-existing data

- No data available till the end of redaction of the report

Indicator
21

Number of general practitioners in PHC per 100,000 population

HFAdb Indicator N^o 5290 992733

DEFINITION

WHO HFAdb: General practitioners (GPs), including assistant GPs. Includes only physicians working in outpatient establishments in specialties such as general practice, family doctor, internal medicine, general medicine.

DATA 1996 - 2000

The data are presented in Table 45 and in Figure 23.

Table 45: Data for MHIS PH-SEE indicator 21 - Number of general practitioners in PHC per 100 000 population, 1996 – 2000 (Main data source: WHO Health for All Database 2002*).

Country	Year				
	1996	1997	1998	1999	2000
Albania	48.74	-	46.36	46.15	-
Bosnia-Herzegovina	-	-	29.46	25.36	24.56
Bulgaria	80.18	-	-	-	74.59
Croatia	67.76	68.45	68.12	68.03	70.53
FYR Macedonia	93.39	92.89	92.15	91.71	91.30
Greece	-	-	-	-	-
Moldova	34.51	34.92	40.33	53.02	59.03
Romania	74.40	81.31	-	-	43.93**
Slovenia	40.83	39.39	46.75	45.03	-
Yugoslavia FR [#]	58.33	59.63	60.56	60.32	62.10
Kosovo	-	-	-	-	-
EU average	103.33	103.02	103.07	102.80	-
MIN PH-SEE	34.51	34.92	29.46	25.36	24.56
MAX PH-SEE	93.39	92.89	92.15	91.71	91.30

* If not stated otherwise, the data source in present table is WHO HFAdb 2002

** The data source of data additionally provided by PH-SEE countries :

Romania: Ministry of health and Family, General secretary (Data are calculated for family doctors working in Ministry of health and Family Network)

- No data/ no additional data available till the end of redaction of the report

Data with Kosovo

NOTES ON DATA AVAILABILITY AND QUALITY

HFAdb: GPs do not limit their practice to certain disease categories, and they assume the responsibility for providing or referring patients for continuing and comprehensive medical care. In most eastern European countries, the GP roughly corresponds to the district therapist.

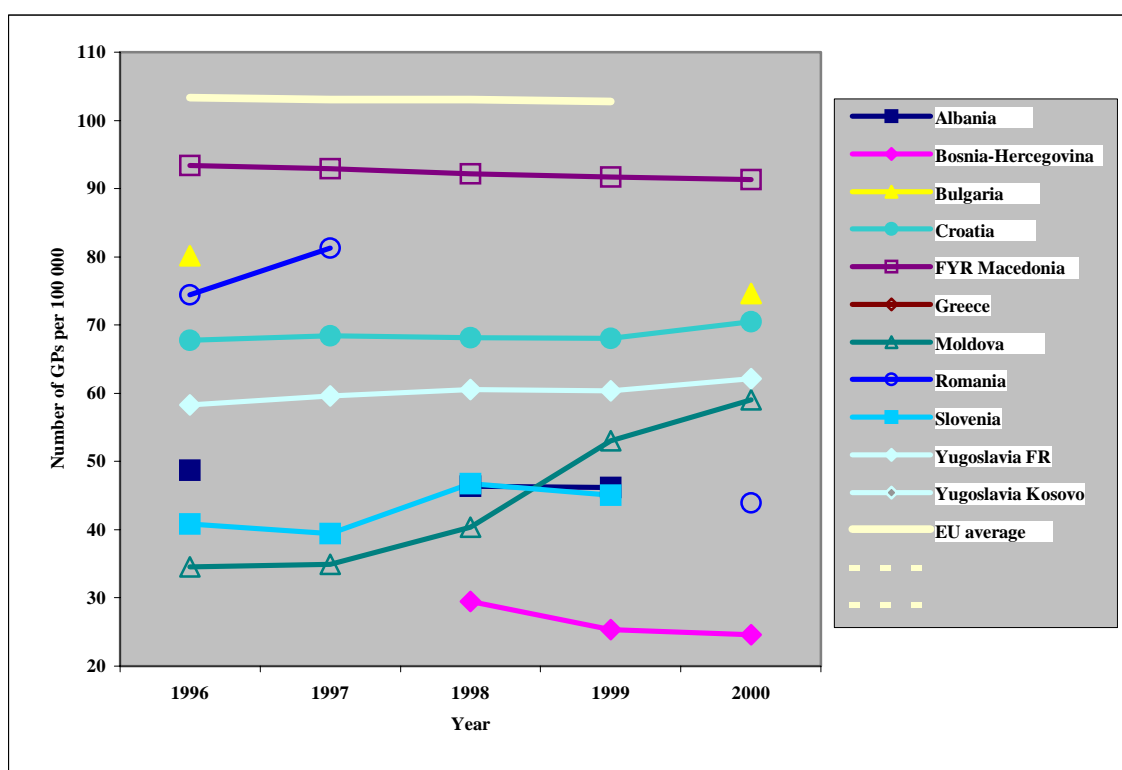


Figure 23: Data for MHIS PH-SEE indicator 21 - Number of general practitioners in PHC per 100 000 population, 1996 – 2000 (Main data source: WHO Health for All Database 2002 – see comments in Table 45).

PH-SEE Group: The notes are presented in Table 46.

Table 46: Source of data, data holder, publications and comments on data* for MHIS PH-SEE indicator 21 - Number of general practitioners in PHC per 100 000 population, by country.

Country	Source of data	Data holder	Publications	Comments
Albania	-	-	-	-
Bosnia-Herzegovina	-	-	-	-
Bulgaria	-	-	-	-
Croatia	National Health Workers Register	Croatian Institute for Public Health	Croatian Health Service Yearbook	
FYR Macedonia	Statistics of Health Care Institutions Network and Manpower	Institute for Health Protection of Republic of Macedonia Ministry of Health Health Insurance Fund State Institute of Statistics	Statistical Yearbook of Republic of Macedonia; Annual Reports of the Health Status of the Population and Organization and Performance of Health Care Service in Republic of Macedonia	Data of high quality

Table 46: Cont.

Country	Source of data	Data holder	Publications	Comments
Greece	-	-	-	-
Moldova	-	-	-	-
Romania	Physicians Register; Reports from Statistical Services of Regional Public Health Departments - only for Ministry of Health Network	National Centre of Health Statistics (NCHS)	Annual reports of NCHS Statistical Yearbook of NIS	Data are collected separately since 2000. Until then, we collected only the total number of physicians.
Slovenia	Health care providers database	Institute of Public Health of the Republic of Slovenia	Health Statistical Annual of the Institute of Public Health of the Republic of Slovenia	Data of good quality Collected permanently
Yugoslavia FR	-	-	-	-
Kosovo	-	-	-	-

* Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)

/ No comment / non-existing data

- No data available till the end of redaction of the report

Indicator**22****Number of dentists per 100,000 population**HFAdb Indicator N^o 5300 270203**DEFINITION**

WHO HFAdb: A dentist (or stomatologist) is a person who has completed university-level studies at a faculty or school of dentistry (stomatology) and who is working in dental care, or a physician with postgraduate training in stomatology practising dental care only. The number of FTE should be calculated by adding the full and appropriate proportion of part-time occupied posts.

DATA 1996 - 2000

The data are presented in Table 47 and in Figure 24.

Table 47: Data for MHIS PH-SEE indicator 22 - Number of dentists per 100 000 population, 1996 – 2000 (Main data source: WHO Health for All Database 2002*).

Country	Year				
	1996	1997	1998	1999	2000
Albania	31.46	-	-	8.68	-
Bosnia-Herzegovina	-	-	18.99	19.62	19.21
Bulgaria	65.68	63.04	58.59	56.69	82.96
Croatia	61.62	62.05	65.74	64.08	67.88
FYR Macedonia	54.36	54.53	56.99	55.92	55.72
Greece	-	-	-	114.36	-
Moldova	42.62	43.27	42.64	41.54	37.35
Romania	26.42	23.50	23.85	23.43	22.21
Slovenia	56.65	58.84	60.53	60.42	58.62**
Yugoslavia FR#	39.27	39.78	39.28	38.46	-
Kosovo	-	-	-	-	-
EU average	67.72	68.22	68.75	69.18	-
MIN PH-SEE	26.42	23.50	18.99	8.68	19.21
MAX PH-SEE	65.68	71.18	71.30	114.36	82.96

* If not stated otherwise, the data source in present table is WHO HFAdb 2002

** The data source of data additionally provided by PH-SEE countries :

Slovenia: Institute of Public Health of Republic of Slovenia

- No data/ no additional data available till the end of redaction of the report

Data with Kosovo

NOTES ON DATA AVAILABILITY AND QUALITY

HFAdb: No note.

PH-SEE Group: The notes are presented in Table 48.

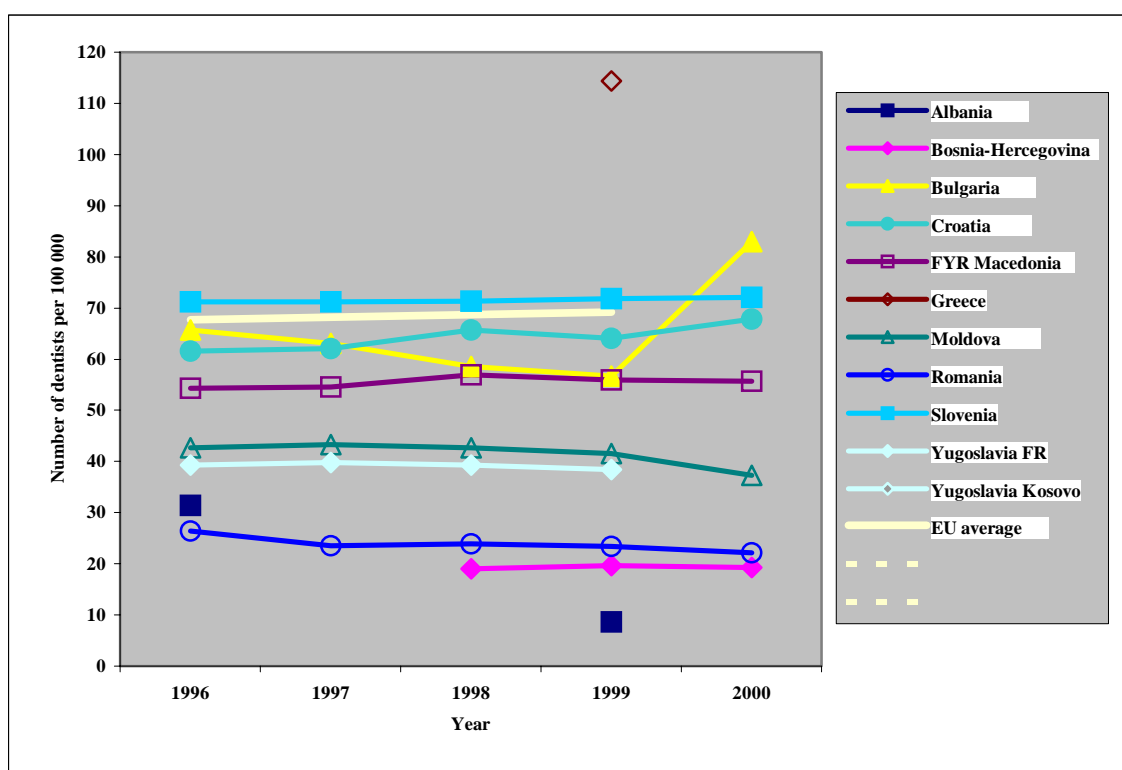


Figure 24: Data for MHIS PH-SEE indicator 22 - Number of dentists per 100 000 population, 1996 – 2000 (Main data source: WHO Health for All Database 2002 – see comments in Table 47).

Table 48: Source of data, data holder, publications and comments on data* for MHIS PH-SEE indicator 22 - Number of dentists per 100 000 population, by country.

Country	Source of data	Data holder	Publications	Comments
Albania	-	INSTAT - National Institute of Statistics of Albania	Annual Report	/
Bosnia-Herzegovina	-	Public Health Institute	Annual Report	/
Bulgaria	Regional Health Centers	National Statistical Institute	Annual public health Statistics, Health Services	Data are annually collected and available at national and regional level
Croatia	Natioanl Health Workers Register	Croatian Institute for Public Health	Croatian Health Service Yearbook	Accurate and detailed data. Mostly private stomatologists
FYR Macedonia	Statistics of Health Care Institutions Network and Manpower	Institute for Health Protection of Republic of Macedonia Ministry of Health Health Insurance Fund State Institute of Statistics	Statistical Yearbook of Republic of Macedonia; Annual Reports of the Health Status of the Population and Organization and Performance of Health Care Service in Republic of Macedonia	Data of high quality

Table 48: Cont.

Country	Source of data	Data holder	Publications	Comments
Greece	-	-	-	-
Moldova	-	-	-	-
Romania	Physicians Register; NCHS database	National Institute of Statistics (NIS) National Centre of Health Statistics (NCHS)	Statistical Yearbooks (one published by NIS, and one published by NCHS)	Good quality
Slovenia	Health care providers database	Institute of Public Health of the Republic of Slovenia	Health Statistical Annual of the Institute of Public Health of the Republic of Slovenia	Data of good quality Collected permanently
Yugoslavia FR	-	-	-	-
Kosovo	-	-	-	-

* Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)

/ No comment / non-existing data

- No data available till the end of redaction of the report

Indicator**23****Number of nurses graduated per 100,000 population**HFAdb Indicator N^o 5410 360302**DEFINITION**

WHO HFAdb: A nurse is a person who has completed a programme of basic nursing education and is qualified and authorized in his/her country to practise nursing in all settings for the promotion of health, prevention of illness, care of the sick and rehabilitation.

DATA 1996 - 2000

The data are presented in Table 49 and in Figure 25.

Table 49: Data for MHIS PH-SEE indicator 23 - Number of nurses graduated per 100 000 population, 1996 – 2000 (Main data source: WHO Health for All Database 2002*).

Country	Year				
	1996	1997	1998	1999	2000
Albania	-	-	-	-	-
Bosnia-Herzegovina	-	-	66.26	-	-
Bulgaria	-	-	-	-	-
Croatia	-	-	-	-	-
FYR Macedonia	-	-	28.64	32.27	38.49
Greece	6.52	6.46	7.65	-	-
Moldova	28.16	36.08	23.79	20.56	19.27
Romania	14.83	-	-	15.88	-
Slovenia	7.48	7.07	9.42	7.08	16.39**
Yugoslavia FR#	4 2.88	4 2.87	4 3.00	4 3.12	42.38
Kosovo	-	-	-	-	-
EU average	27.19	27.34	-	-	-
MIN PH-SEE	2.88	2.87	3.00	3.12	16.39
MAX PH-SEE	42.88	42.87	66.26	43.12	42.38

* If not stated otherwise, the data source in present table is WHO HFAdb 2002

** The data source of data additionally provided by PH-SEE countries :

Slovenia: Institute of Public Health of Republic of Slovenia

- No data/ no additional data available till the end of redaction of the report

Data with Kosovo

NOTES ON DATA AVAILABILITY AND QUALITY

HFAdb: Basic nursing education is a formally recognized programme of study (normally at least 2 years or more, including university level) which provides a broad and sound foundation for the practice of nursing and for post- basic education which develops specific competency. Some countries have difficulties in separating statistics on midwives from the total number of nursing personnel. Therefore it is recommended that midwives should be included in the broader category of nurses, but whenever possible statistics should also be provided separately for midwives. It is also proposed to include feldschers (physician's assistants - a category of health personnel present in some eastern European countries) under

the broad category of nurses. The number of nurses at the end of the calendar year includes only active nurses, i.e. those working in hospitals, primary health care, nursing homes, etc. The number of nurses includes: qualified nurses; first- and second-level nurses; feldschers; midwives; and nurse specialists. It excludes: nurses auxiliaries (without formal education in nursing); other personnel without formal education in nursing. See WHO indicator no. 275202.

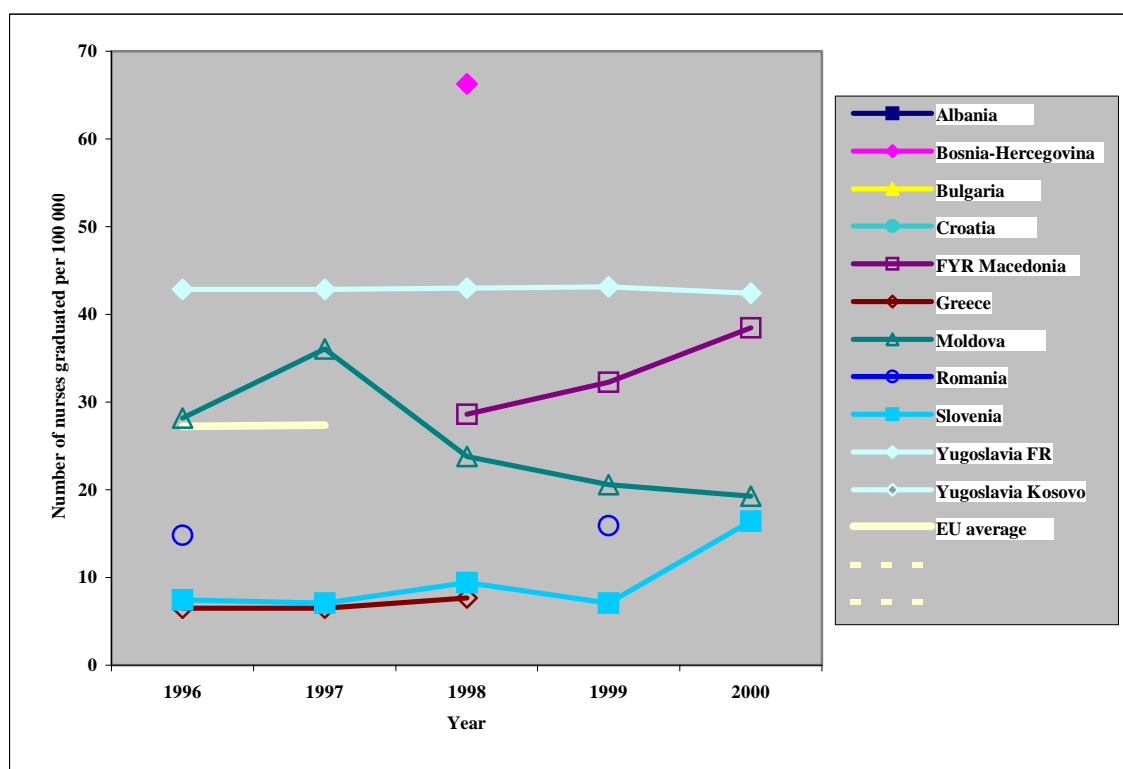


Figure 25: Data for MHIS PH-SEE indicator 23 - Number of nurses graduated per 100 000 population, 1996 – 2000 (Main data source: WHO Health for All Database 2002 – see comments in Table 49).

PH-SEE Group: The notes are presented in Table 50.

Table 50: Source of data, data holder, publications and comments on data* for MHIS PH-SEE indicator 23 - Number of nurses graduated per 100 000 population, by country.

Country	Source of data	Data holder	Publications	Comments
Albania	-	INSTAT - National Institute of Statistics of Albania	Annual Report	/
Bosnia-Herzegovina	-	Public Health Institute	Annual report	/
Bulgaria	Regional Health Centers	National Statistical Institute	Annual public health Statistics, Health Services	Data are annually collected and available at national and regional level

Table 50: Cont.

Country	Source of data	Data holder	Publications	Comments
Croatia	National Health Workers Register	Croatian Institute for Public Health	Croatian Health Service Yearbook	Absolute number of nurses of either higher or secondary education
FYR Macedonia	Statistics of Health Care Institutions Network and Manpower	Institute for Health Protection of Republic of Macedonia Ministry of Health Health Insurance Fund State Institute of Statistics	Statistical Yearbook of Republic of Macedonia; Annual Reports of the Health Status of the Population and Organization and Performance of Health Care Service in Republic of Macedonia	Data of high quality
Greece	-	-	-	-
Moldova	-	-	-	-
Romania	Human resources reports of health care units (human resources departments); NCHS database	National Institute of Statistics (NIS) National Centre of Health Statistics (NCHS)	Statistical Yearbooks (one published by NIS, and one published by NCHS)	Good quality, usually calculated for 10.000 inhabitants
Slovenia	Health care providers database	Institute of Public Health of the Republic of Slovenia	Health Statistical Annual of the Institute of Public Health of the Republic of Slovenia	Data of good quality Collected permanently
Yugoslavia FR	-	-	-	-
Kosovo	-	-	-	-

* Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)

/ No comment / non-existing data

- No data available till the end of redaction of the report

HEALTH CARE UTILIZATION AND COSTS

Indicator

24

Average length of stay, all hospitals

HFAdb Indicator N^o 6100 992901

DEFINITION

WHO HFAdb: Total number of occupied hospital bed-days divided by the total number of admissions or discharges. Length of stay (LOS) of one patient = date of discharge - date of admission. If these are the same dates, then LOS is set to one day. ALOS should preferably be provided to the accuracy of hundreds, i.e. 0.01.

DATA 1996 - 2000

The data are presented in Table 51 and in Figure 26.

Table 51: Data for MHIS PH-SEE indicator 24 - Average length of stay, all hospitals, 1996 – 2000 (Main data source: WHO Health for All Database 2002^{*}).

Country	Year				
	1996	1997	1998	1999	2000
Albania	8.10	7.90	7.60	7.50	-
Bosnia--Hercegovina	-	-	11.50	11.00	11.10
Bulgaria	13.20	12.90	12.50	11.90	11.50
Croatia	13.36	12.88	12.57	12.32	11.92
FYR Macedonia	14.00	13.40	12.70	12.60	12.20
Greece	8.20	8.60	-	-	-
Moldova	18.10	18.00	17.60	16.30	14.20
Romania	10.00	10.00	10.00	9.50	8.90
Slovenia	10.50	10.00	9.50	9.00	8.60 ^{**}
Yugoslavia FR [#]	12.00	12.00	12.00	11.00	10.05
Kosovo	-	-	-	-	-
EU average	10.75	10.25	10.02	-	-
MIN PH-SEE	8.10	7.90	7.60	7.50	8.60
MAX PH-SEE	18.10	18.00	17.60	16.30	14.20

* If not stated otherwise, the data source in present table is WHO HFAdb 2002

** The data source of data additionally provided by PH-SEE countries :

Slovenia: Institute of Public Health of Republic of Slovenia

- No data/ no additional data available till the end of redaction of the report

Data with Kosovo

NOTES ON DATA AVAILABILITY AND QUALITY

HFAdb: No note.

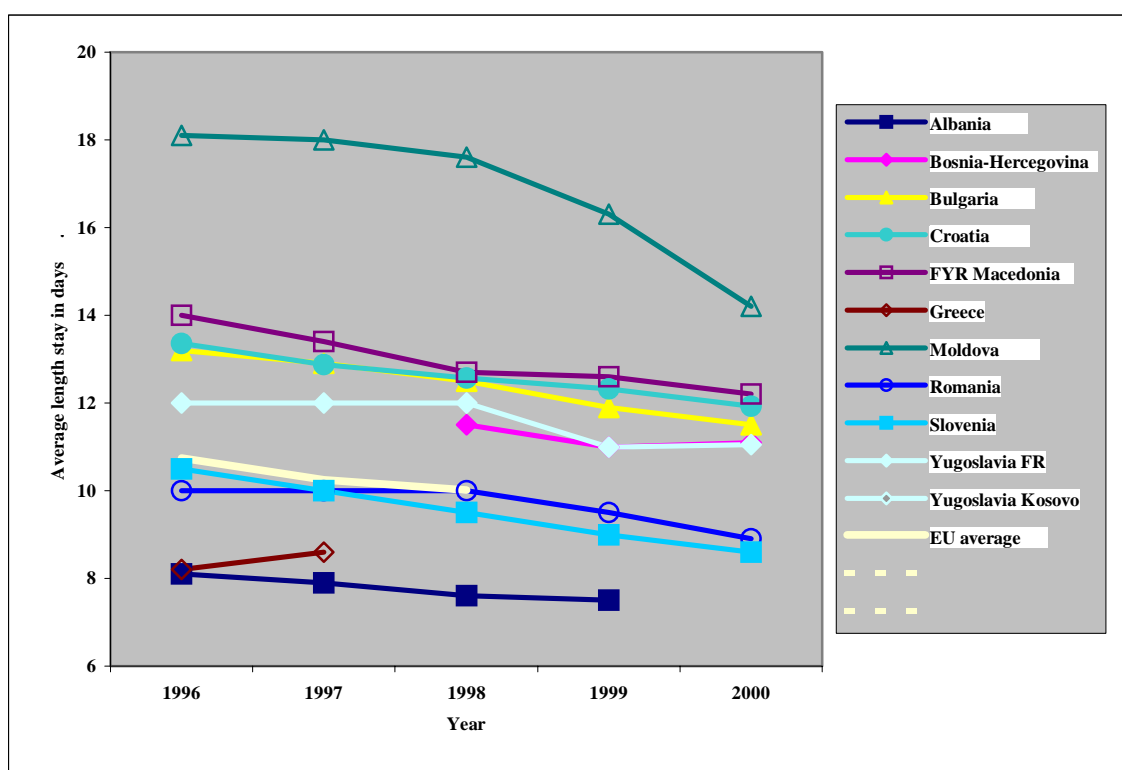


Figure 26: Data for MHIS PH-SEE indicator 24 - Average length of stay, all hospitals, 1996 – 2000 (Main data source: WHO Health for All Database 2002 – see comments in Table 51).

PH-SEE Group: The notes are presented in Table 52.

Table 52: Source of data, data holder, publications and comments on data* for MHIS PH-SEE indicator 24 - Average length of stay, all hospitals, by country.

Country	Source of data	Data holder	Publications	Comments
Albania	-	INSTAT - National Institute of Statistics of Albania	Annual Report	Data are annually collected and available at national and regional level.
Bosnia-Herzegovina	CSO war period just for the part of FBiH.	Public Health Institute - Department of health statistics and informatics	-	Available up to the war time on yearly
Bulgaria	Annual statistical information from Hospitals	National Center for Health Informatics	Health Services	Data are annually collected and available at national and regional level
Croatia	Health Care Service Statistics	Croatian Institute for Public Health	Croatian Health Service Yearbook	Regular data

Table 52: Cont.

Country	Source of data	Data holder	Publications	Comments
FYR Macedonia	Statistics of Health Care Institutions Network and Performance	Institute for Health Protection of Republic of Macedonia Ministry of Health Health Insurance Fund State Institute of Statistics	Statistical Yearbook of Republic of Macedonia; Annual Reports of the Health Status of the Population and Organization and Performance of Health Care Service in Republic of Macedonia	Data of high quality
Greece	-	-	-	-
Moldova	-	-	-	-
Romania	Statistical departments of hospitals	National Centre of Health Statistics (NCHS)	Statistical yearbook of NCHS	Good quality of data
Slovenia	Database of hospital activities	Institute of Public Health of the Republic of Slovenia	Health Statistical Annual of the Institute of Public Health of the Republic of Slovenia	Data of good quality Collected semi-annually
Yugoslavia FR	-	-	-	-
Kosovo	-	-	-	-

* Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)

/ No comment / non-existing data

- No data available till the end of redaction of the report

Indicator
25

Total health expenditure as percent of GDP (Gross Domestic Product)

HFAdb Indicator N^o 6710 340102

DEFINITION

WHO HFAdb: Whenever possible, the OECD definition of total expenditure on health is applied (see OECD health systems, Vol. II, page 89, for details).

DATA 1996 - 2000

The data are presented in Table 53 and in Figure 27.

Table 53: Data for MHIS PH-SEE indicator 25 - Total health expenditure as percent of GNP (Gross Domestic Product), 1996 – 2000 (Main data source: WHO Health for All Database 2002*).

Country	Year				
	1996	1997	1998	1999	2000
Albania	-	-	-	-	-
Bosnia-Herzegovina	-	-	-	-	-
Bulgaria	-	-	-	-	-
Croatia	-	-	-	-	-
FYR Macedonia	-	-	-	5.60	4.50
Greece	8.90	8.70	8.40	9.30	8.70
Moldova	6.90	6.00	4.30	2.90	3.00
Romania	2.80	2.60	2.60	-	-
Slovenia	7.80	7.70	7.70	7.70	8.00**
Yugoslavia FR#	8.04	9.10	7.58	6.91	7.58
Kosovo	-	-	-	-	-
EU average	8.58	8.44	8.40	8.52	-
MIN PH-SEE	2.80	2.60	2.60	2.90	3.00
MAX PH-SEE	8.90	9.10	8.40	9.30	8.70

* If not stated otherwise, the data source in present table is WHO HFAdb 2002

** The data source of data additionally provided by PH-SEE countries :

Slovenia: Institute of Public Health of Republic of Slovenia

- No data/ no additional data available till the end of redaction of the report

Data with Kosovo

NOTES ON DATA AVAILABILITY AND QUALITY

HFAdb: It includes: household health expenses, including goods and services purchased at the consumer's own initiative and the cost-sharing part of publicly financed or supplied care; government-supplied health services including those in schools, prisons and armed forces and special public health programmes such as vaccination; investment in clinics, laboratories etc.; administration costs; research and development, excluding outlays by pharmaceutical firms; industrial medicine; outlays of voluntary and benevolent institutions. In the case of most central and eastern European countries the following has to be included: direct state budget allocated to the health sector, state subsidies to the mandatory health insurance system; mandatory health insurance contributions by employers and employees; direct health expenditure of employers for running industrial medical facilities; direct health expenditures of ministries and governmental agencies; charity health expenditures; foreign assistance; outstanding debt at the end of the

year; private health insurance and direct private health charges. It is important to ensure that funding from the general budget revenues and health insurance contributions do not overlap. For OECD countries data are available from the OECD health database.

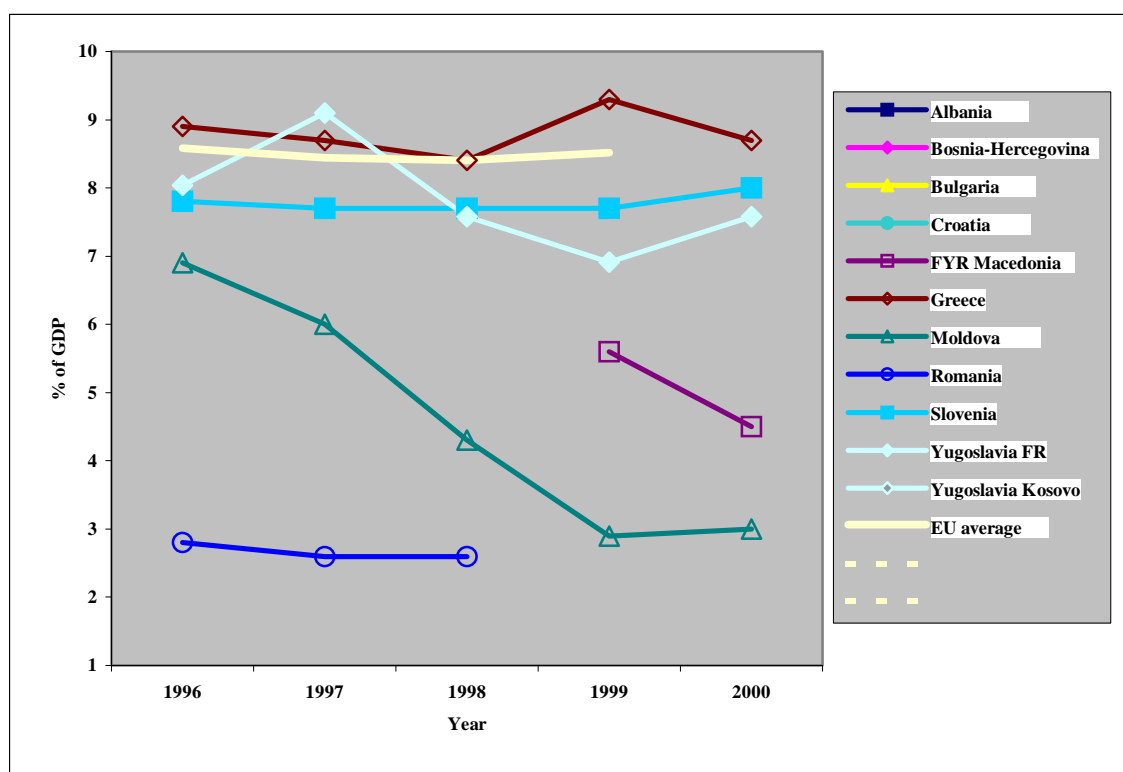


Figure 27: Data for MHIS PH-SEE indicator 25 - Total health expenditure as percent of GNP (Gross national product), 1996 – 2000 (Main data source: WHO Health for All Database 2002 – see comments in Table 53).

PH-SEE Group: The notes are presented in Table 54.

Table 54: Source of data, data holder, publications and comments on data* for MHIS PH-SEE indicator 25 - Total health expenditure as percent of GDP (Gross Domestic product, by country).

Country	Source of data	Data holder	Publications	Comments
Albania	-	INSTAT - National Institute of Statistics of Albania	Annual Report	Data are provided from Government Budget
Bosnia-Herzegovina	-	Public Health Institute – Department of Health Economics.	Annual Report	/
Bulgaria	-	National Statistical Institute	Annual public health Statistics	/
Croatia	State Statistics	Croatian Bureau of Statistics	Statistical Yearbook of the Republic of Croatia	Calculated accordingly to IMF – GFS methodology

Table 54: Cont.

Country	Source of data	Data holder	Publications	Comments
FYR Macedonia	Statistics of Health Care Institutions Network and Performance State Macroeconomic Statistics	Institute for Health Protection of Republic of Macedonia Ministry of Health Health Insurance Fund State Institute of Statistics	Statistical Yearbook of Republic of Macedonia Annual Reports of Financial Performance of Health Care Service in Macedonia	Estimated data
Greece	-	-	-	-
Moldova	-	-	-	-
Romania	Financial Departments of Ministries with health networks; Health Insurance House	Ministry of Public Finances; National Institute of Statistics (NIS)	Statistical Yearbook (NIS)	Estimated data (only Insurance fund and budgetary funds, without household expenses)
Slovenia	State Macroeconomic Statistics Health Insurance Institute Statistics	Institute for Macroeconomic Analyses and Development (IMAD) of Republic of Slovenia Health Insurance Institute Statistics	Annual of Institute for Macro-economic Analyses and Development (IMAD) of Republic of Slovenia Annual of the Health Insurance Institute of Slovenia	Data of good quality
Yugoslavia FR	-	-	-	-
Kosovo	-	-	-	-

* Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)

/ No comment / non-existing data

- No data available till the end of redaction of the report

MATERNAL AND CHILD HEALTH

Indicator

26

Percent of infants vaccinated against diphtheria

HFAdb Indicator N° 7160 280101

DEFINITION

WHO HFAdb: Percent of infants reaching their first birthday in the given calendar year who have been fully vaccinated against diphtheria (3 doses of DPT or DT).

DATA 1996 - 2000

The data are presented in Table 55 and in Figure 28.

Table 55: Data for MHIS PH-SEE indicator 26 - Percent of infants vaccinated against diphtheria, 1996 – 2000 (Main data source: WHO Health for All Database 2002).*

Country	Year				
	1996	1997	1998	1999	2000
Albania	98.00	99.00	96.00	97.00	91.50
Bosnia-Herzegovina	-	79.00	91.00	94.70	80.40
Bulgaria	95.00	94.00	95.10	96.00	88.60
Croatia	91.00	92.00	92.00	93.00	93.20
FYR Macedonia	92.50	96.60	98.20	95.00	97.10
Greece	90.00	90.00	-	-	-
Moldova	98.00	98.00	97.40	97.40	98.60
Romania	98.00	97.00	97.50	97.30	96.10**
Slovenia	98.00	94.00	90.10	92.40	91.36**
Yugoslavia FR#	91.00	94.00	-	96.60	92.20
Kosovo	-	-	-	-	-
EU average	-	-	-	-	-
MIN PH-SEE	90.00	79.00	90.10	92.40	80.40
MAX PH-SEE	98.00	99.00	98.20	97.40	98.60

* If not stated otherwise, the data source in present table is WHO HFAdb 2002

** The data source of data additionally provided by PH-SEE countries :

Romania: Ministry of health and Family, General secretary (Data are estimated for age 18 – 24 months and 4 doses)

Slovenia: Institute of Public Health of Republic of Slovenia

- No data/ no additional data available till the end of redaction of the report

Data with Kosovo

NOTES ON DATA AVAILABILITY AND QUALITY

HFAdb: No note.

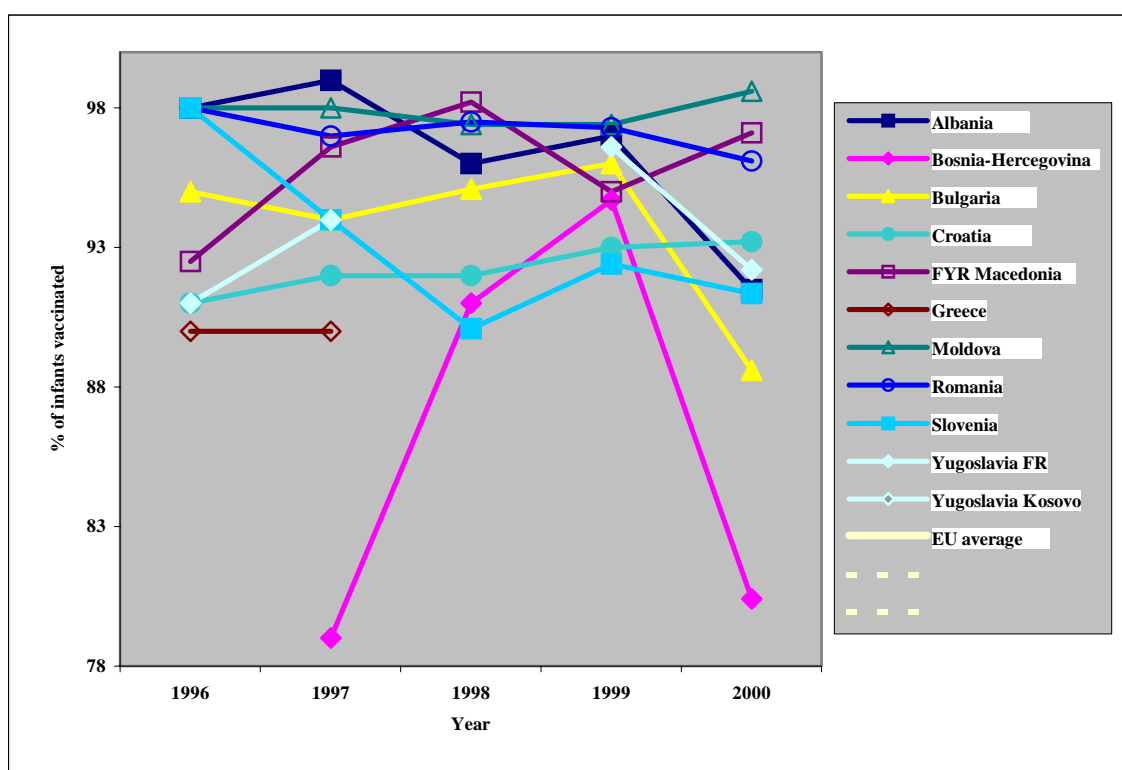


Figure 28: Data for MHIS PH-SEE indicator 26 - Percent of infants vaccinated against diphtheria, 1996 – 2000 (Main data source: WHO Health for All Database 2002 – see comments in Table 55).

PH-SEE Group: The notes are presented in Table 56.

Table 56: Source of data, data holder, publications and comments on data* for MHIS PH-SEE indicator 26 - Percent of infants vaccinated against diphtheria, by country.

Country	Source of data	Data holder	Publications	Comments
Albania	-	INSTAT – National Institute of Statistics of Albania	Annuals of Public Health Institute	Data are annually collected and available at national and regional level.
Bosnia-Herzegovina	Health institutions (health centres)	Public Health Institute – Department of Epidemiology.	Annuals of Public Health Institute	/
Bulgaria	Hygiene-epidemiological health centers	National Center for Health Informatics	-	Data are semi-annually and annually collected and available at national and regional level
Croatia	Vaccination Statistics	Croatian Institute for Public Health	Croatian Health Service Yearbook	Data collected by pediatricians and GPs

Table 56: Cont.

Country	Source of data	Data holder	Publications	Comments
FYR Macedonia	Vaccination Statistics	Institute for Health Protection of Republic of Macedonia (Dept. of Epidemiology) State Institute of Statistics	Statistical Yearbook of Republic of Macedonia; Annual Reports of the Health Status of the Population and Organization and Performance of Health Care Service in Republic of Macedonia	Data of high quality
Greece	-	-	-	-
Moldova	-	-	-	-
Romania	Vaccination Statistics made by Public Health Department, Ministry of Health and Family	Public Health Department, Ministry of Health and Family	Biannual Report	Data are biannually collected and available at national and regional level.
Slovenia	Reports on vaccination (computerized follow-up)	Institute of Public Health of the Republic of Slovenia, Center for Communicable Diseases.	Annual Report on Vaccination Programme in Slovenia of the Institute of Public Health of the Republic of Slovenia	Data of high quality
Yugoslavia FR	-	-	-	-
Kosovo	-	-	-	-

* Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)

/ No comment / non-existing data

- No data available till the end of redaction of the report

Indicator

27

Percent of infants vaccinated against tetanusHFAdb Indicator N^o 7170 280102**DEFINITION**

WHO HFAdb: Percent of infants reaching their first birthday in the given calendar year who have been fully vaccinated against tetanus.

DATA 1996 - 2000

The data are presented in Table 57 and in Figure 29.

Table 57: Data for MHIS PH-SEE indicator 27 - Percent of infants vaccinated against tetanus, 1996 – 2000 (Main data source: WHO Health for All Database 2002^{*}).

Country	Year				
	1996	1997	1998	1999	2000
Albania	98.00	99.00	96.00	97.00	97.50
Bosnia-Herzegovina	-	79.00	91.00	94.70	84.90
Bulgaria	95.10	94.20	95.10	96.00	-
Croatia	91.00	92.00	92.00	93.00	93.30
FYR Macedonia	92.50	96.60	95.70	95.00	95.10
Greece	90.00	90.00	-	-	-
Moldova	98.00	98.00	97.40	97.40	94.50
Romania	98.00	97.00	97.50	97.30	96.10 ^{**}
Slovenia	98.00	94.00	90.10	92.40	91.36 ^{**}
Yugoslavia FR [#]	91.00	94.00	-	96.60	97.10
Kosovo	-	-	-	-	-
EU average	-	-	-	-	-
MIN PH-SEE	90.00	79.00	90,10	92,40	84,90
MAX PH-SEE	98.00	99.00	97,50	97,40	97,50

* If not stated otherwise, the data source in present table is WHO HFAdb 2002

** The data source of data additionally provided by PH-SEE countries :

Romania: Ministry of health and Family, General secretary (Data are estimated for age 18 – 24 months and 4 doses)

Slovenia: Institute of Public Health of Republic of Slovenia

- No data/ no additional data available till the end of redaction of the report

Data with Kosovo

NOTES ON DATA AVAILABILITY AND QUALITY

HFAdb: No note.

PH-SEE Group: The notes are presented in Table 58.

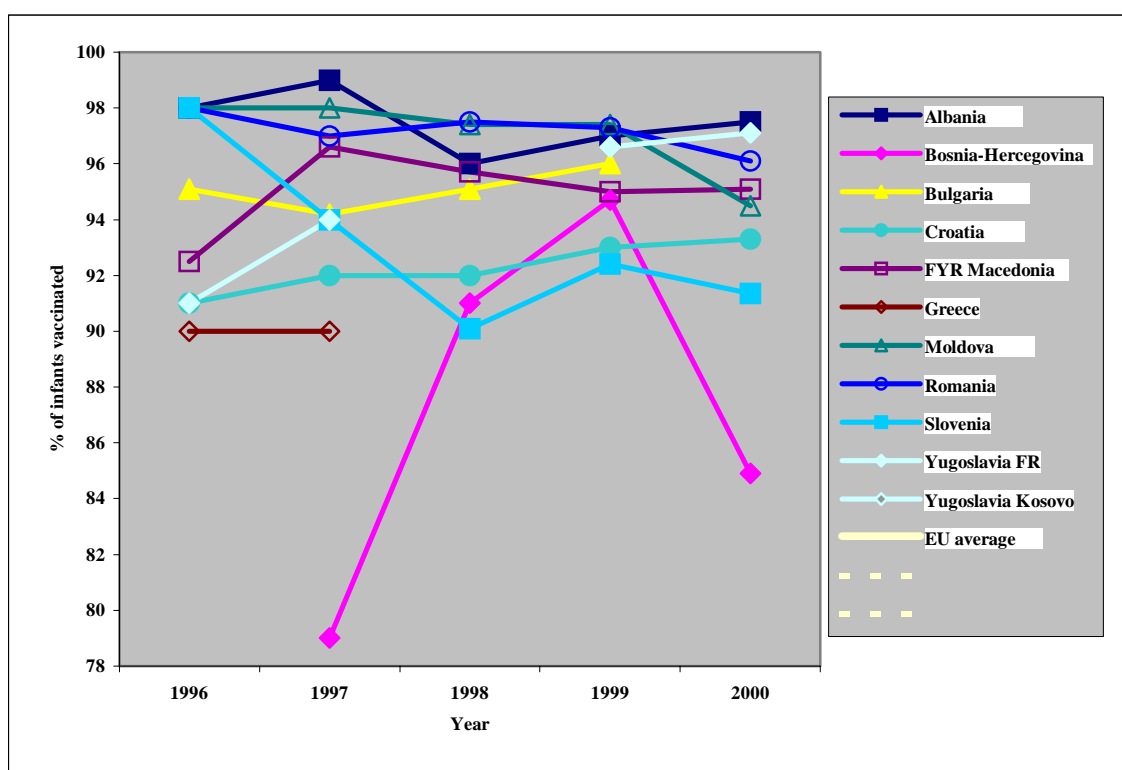


Figure 29: Data for MHIS PH-SEE indicator 27 - Percent of infants vaccinated against tetanus, 1996 – 2000 (Main data source: WHO Health for All Database 2002 – see comments in Table 57).

Table 58: Source of data, data holder, publications and comments on data* for MHIS PH-SEE indicator 27 - Percent of infants vaccinated against tetanus, by country.

Country	Source of data	Data holder	Publications	Comments
Albania	-	INSTAT – National Institute of Statistics of Albania	Annuals of Public Health Institute	Data are annually collected and available at national and regional level.
Bosnia-Herzegovina	Health institutions (health centres)	Public Health Institute – Department of Epidemiology.	Annuals of Public Health Institute	/
Bulgaria	Hygiene-epidemiological health centers	National Center for Health Informatics	-	Data are semi-annually and annually collected and available at national and regional level
Croatia	Vaccination Statistics	Croatian Institute for Public Health	Croatian Health Service Yearbook	Data collected by pediatricians and GPs

Table 58: Cont.

Country	Source of data	Data holder	Publications	Comments
FYR Macedonia	Vaccination Statistics	Institute for Health Protection of Republic of Macedonia (Dept. of Epidemiology) State Institute of Statistics	Statistical Yearbook of Republic of Macedonia; Annual Reports of the Health Status of the Population and Organization and Performance of Health Care Service in Republic of Macedonia	Data of high quality
Greece	-	-	-	-
Moldova	-	-	-	-
Romania	Vaccination Statistics made by Public Health Department, Ministry of Health and Family	Public Health Department, Ministry of Health and Family	Biannual Report	Data are biannually collected and available at national and regional level.
Slovenia	Reports on vaccination (computerized follow-up)	Institute of Public Health of the Republic of Slovenia, Center for Communicable Diseases.	Annual Report on Vaccination Programme in Slovenia of the Institute of Public Health of the Republic of Slovenia	Data of high quality
Yugoslavia FR	-	-	-	-
Kosovo	-	-	-	-

* Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)

/ No comment / non-existing data

- No data available till the end of redaction of the report

Indicator
28

Percent of infants vaccinated against pertussis

HFAdb Indicator N^o 7180 280103

DEFINITION

WHO HFAdb: Percent of infants reaching their first birthday in the given calendar year who have been fully vaccinated against pertussis.

DATA 1996 - 2000

The data are presented in Table 59 and in Figure 30.

Table 59: Data for MHIS PH-SEE indicator 28 - Percent of infants vaccinated against pertussis, 1996 – 2000 (Main data source: WHO Health for All Database 2002).*

Country	Year				
	1996	1997	1998	1999	2000
Albania	98.00	99.00	97.00	97.00	97.50
Bosnia-Herzegovina	-	79.00	91.00	94.70	84.90
Bulgaria	95.10	94.20	95.10	96.00	-
Croatia	91.00	92.00	92.00	93.00	93.30
FYR Macedonia	92.50	97.00	98.20	95.00	95.10
Greece	78.00	85.00	-	-	-
Moldova	97.00	97.00	96.80	97.00	94.50
Romania	98.00	97.00	97.50	98.20	96.10**
Slovenia	97.00	92.00	89.50	91.89	91.19**
Yugoslavia FR#	91.00	94.00	-	96.60	97.10
Kosovo	-	-	-	-	-
EU average	-	-	-	-	-
MIN PH-SEE	78.00	79.00	89.50	91.89	84.90
MAX PH-SEE	98.00	99.00	98.20	98.20	97.50

* If not stated otherwise, the data source in present table is WHO HFAdb 2002

** The data source of data additionally provided by PH-SEE countries :

Romania: Ministry of Health and Family, General secretary (Data are estimated for age 18 – 24 months and 4 doses)

Slovenia: Institute of Public Health of Republic of Slovenia

- No data/ no additional data available till the end of redaction of the report

Data with Kosovo

NOTES ON DATA AVAILABILITY AND QUALITY

HFAdb: No note.

PH-SEE Group: The notes are presented in Table 60.

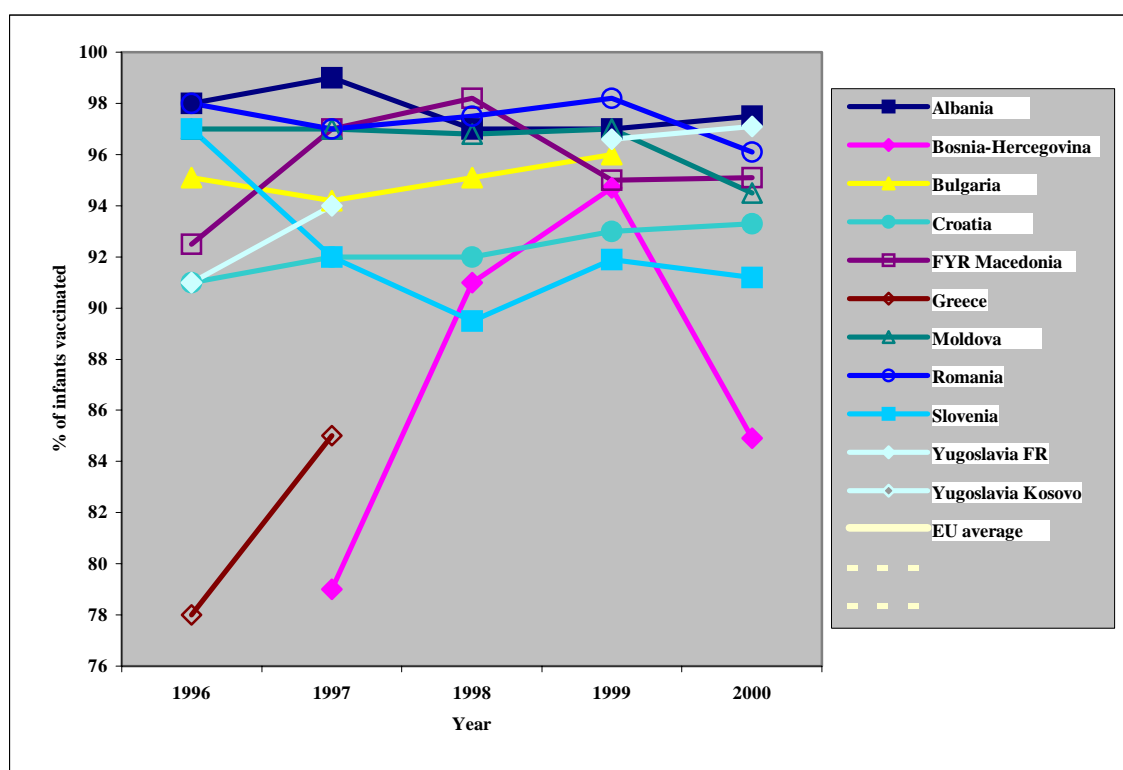


Figure 30: Data for MHIS PH-SEE indicator 28 - Percent of infants vaccinated against pertussis, 1996 – 2000 (Main data source: WHO Health for All Database 2002 – see comments in Table 59).

Table 60: Source of data, data holder, publications and comments on data* for MHIS PH-SEE indicator 28 - Percent of infants vaccinated against pertussis, by country.

Country	Source of data	Data holder	Publications	Comments
Albania	-	INSTAT – National Institute of Statistics of Albania	Annuals of Public Health Institute	Data are annually collected and available at national and regional level.
Bosnia-Herzegovina	Health institutions (health centres)	Public Health Institute – Department of Epidemiology.	Annuals of Public Health Institute	/
Bulgaria	Hygiene-epidemiological health centers	National Center for Health Informatics	-	Data are semi-annually and annually collected and available at national and regional level
Croatia	Vaccination Statistics	Croatian Institute for Public Health	Croatian Health Service Yearbook	Data collected by pediatricians and GPs
FYR Macedonia	Vaccination Statistics	Institute for Health Protection of Republic of Macedonia (Dept. of Epidemiology) State Institute of Statistics	Statistical Yearbook of Republic of Macedonia; Annual Reports of the Health Status of the Population and Organization and Performance of Health Care Service in Republic of Macedonia	Data of high quality

Table 60: Cont.

Country	Source of data	Data holder	Publications	Comments
Greece	-	-	-	-
Moldova	-	-	-	-
Romania	Vaccination Statistics made by Public Health Department, Ministry of Health and Family	Public Health Department, Ministry of Health and Family	Biannual Report	Data are biannually collected and available at national and regional level.
Slovenia	Reports on vaccination (computerized follow-up)	Institute of Public Health of the Republic of Slovenia, Center for Communicable Diseases.	Annual Report on Vaccination Programme in Slovenia of the Institute of Public Health of the Republic of Slovenia	Data of high quality
Yugoslavia FR	-	-	-	-
Kosovo	-	-	-	-

* Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)

/ No comment / non-existing data

- No data available till the end of redaction of the report

Indicator**29****Percent of infants vaccinated against measles**HFAdb Indicator N^o 7190 280104**DEFINITION**

WHO HFAdb: Percent of children reaching their second birthday who have been fully vaccinated against measles (1 dose).

DATA 1996 - 2000

The data are presented in Table 61 and in Figure 31.

Table 61: Data for MHIS PH-SEE indicator 29 - Percent of infants vaccinated against measles, 1996 – 2000 (Main data source: WHO Health for All Database 2002*).

Country	Year				
	1996	1997	1998	1999	2000
Albania	92.00	95.00	89.00	91.00	97.50
Bosnia-Herzegovina	-	86.00	81.00	75.00	84.90
Bulgaria	95.10	92.80	95.40	96.50	93.30
Croatia	92.00	91.00	91.00	92.00	93.30
FYR Macedonia	91.00	97.80	96.20	98.40	95.10
Greece	90.00	90.00	-	-	-
Moldova	98.00	99.00	99.20	98.80	94.50
Romania	94.00	97.00	97.20	98.20	97.80**
Slovenia	93.00	82.00	91.60	96.26	95.15**
Yugoslavia FR#	90.00	91.00	-	92.40	97.10
Kosovo	-	-	-	-	-
EU average	-	-	-	-	-
MIN PH-SEE	90.00	82.00	81.00	75.00	84.90
MAX PH-SEE	98.00	99.00	99.20	98.80	97.80

* If not stated otherwise, the data source in present table is WHO HFAdb 2002

** The data source of data additionally provided by PH-SEE countries :

Romania: Ministry of Health and Family, General secretary (Data are estimated for age 18 – 24 months)

Slovenia: Institute of Public Health of Republic of Slovenia

- No data/ no additional data available till the end of redaction of the report

Data with Kosovo

NOTES ON DATA AVAILABILITY AND QUALITY

HFAdb: No note.

PH-SEE Group: The notes are presented in Table 62.

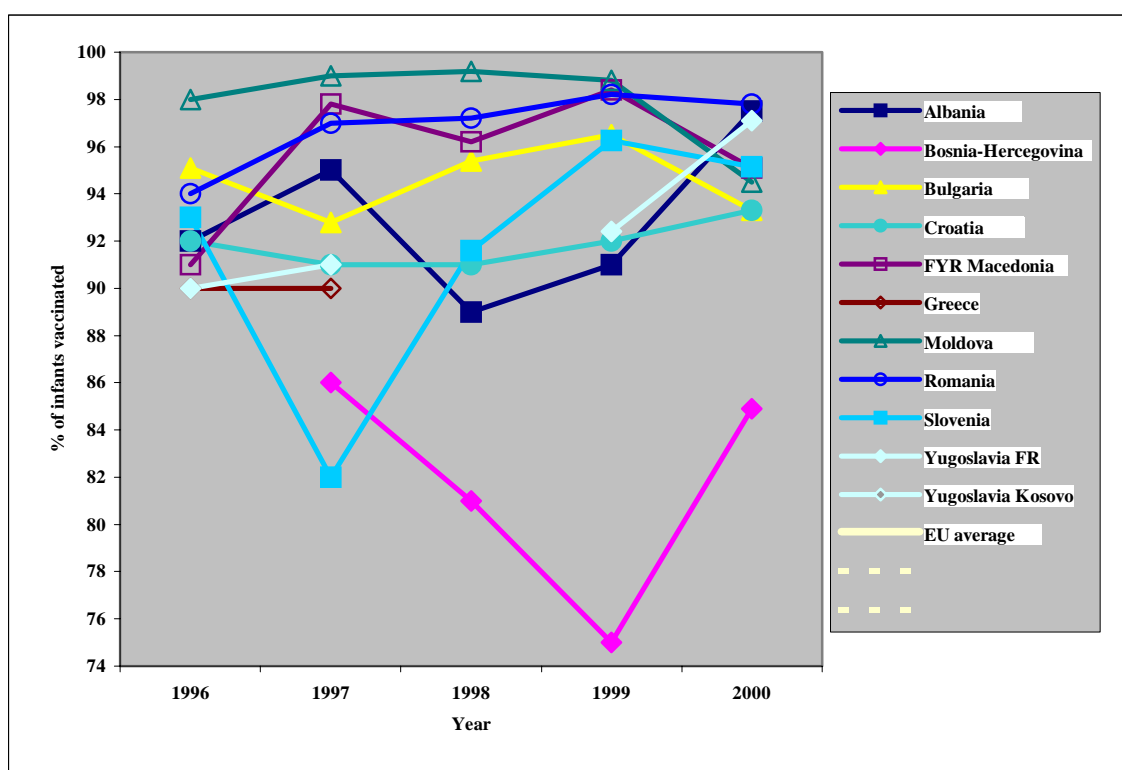


Figure 31: Data for MHIS PH-SEE indicator 29 - Percent of infants vaccinated against measles, 1996 – 2000 (Main data source: WHO Health for All Database 2002 – see comments in Table 61).

Table 62: Source of data, data holder, publications and comments on data* for MHIS PH-SEE indicator 29 - Percent of infants vaccinated against measles, by country.

Country	Source of data	Data holder	Publications	Comments
Albania	-	INSTAT – National Institute of Statistics of Albania	Annuals of Public Health Institute	Data are annually collected and available at national and regional level.
Bosnia-Herzegovina	Health institutions (health centres)	Public Health Institute – Department of Epidemiology.	Annuals of Public Health Institute	/
Bulgaria	Hygiene-epidemiological health centers	National Center for Health Informatics	-	Data are semi-annually and annually collected and available at national and regional level
Croatia	Vaccination Statistics	Croatian Institute for Public Health	Croatian Health Service Yearbook	Data collected by pediatricians and GPs
FYR Macedonia	Vaccination Statistics	Institute for Health Protection of Republic of Macedonia (Dept. of Epidemiology) State Institute of Statistics	Statistical Yearbook of Republic of Macedonia; Annual Reports of the Health Status of the Population and Organization and Performance of Health Care Service in Republic of Macedonia	Data of high quality

Table 62: Cont.

Country	Source of data	Data holder	Publications	Comments
Greece	-	-	-	-
Moldova	-	-	-	-
Romania	Vaccination Statistics made by Public Health Department, Ministry of Health and Family	Public Health Department, Ministry of Health and Family	Biannual Report	Data are biannually collected and available at national and regional level.
Slovenia	Reports on vaccination (computerized follow-up)	Institute of Public Health of the Republic of Slovenia, Center for Communicable Diseases.	Annual Report on Vaccination Programme in Slovenia of the Institute of Public Health of the Republic of Slovenia	Data of high quality
Yugoslavia FR	-	-	-	-
Kosovo	-	-	-	-

* Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)

/ No comment / non-existing data

- No data available till the end of redaction of the report

Indicator
30

Percent of infants vaccinated against poliomyelitis

HFAdb Indicator N° 7200 280105

DEFINITION

WHO HFAdb: poliomyelitis (3 doses). See WHO indicator 280105.

DATA 1996 - 2000

The data are presented in Table 63 and in Figure 32.

*Table 63: Data for MHS PH-SEE indicator 30 - Percent of infants vaccinated against poliomyelitis, 1996 – 2000
(Main data source: WHO Health for All Database 2002*).*

Country	Year				
	1996	1997	1998	1999	2000
Albania	100.00	99.00	97.00	97.00	98.40
Bosnia-Herzegovina	-	80.40	91.00	94.70	86.90
Bulgaria	95.40	95.90	96.50	97.20	-
Croatia	91.00	92.00	93.00	93.00	93.50
FYR Macedonia	94.40	96.60	93.30	95.40	96.00
Greece	95.00	95.00	-	-	-
Moldova	98.60	98.40	97.60	98.20	97.20
Romania	96.80	97.30	99.90	97.40	96.30**
Slovenia	98.00	91.60	90.20	93.25	93.02**
Yugoslavia FR#	90.50	94.20	-	96.90	97.10
Kosovo					
EU average	-	-	-	-	-
MIN PH-SEE	90.50	80.40	90.20	93.00	86.90
MAX PH-SEE	100.00	99.00	99.90	98.20	98.40

* *If not stated otherwise, the data source in present table is WHO HFAdb 2002*

** *The data source of data additionally provided by PH-SEE countries :*

Romania: Ministry of Health and Family, General secretary (Data are estimated for age 18 – 24 months and 4 doses)

Slovenia: Institute of Public Health of Republic of Slovenia

- *No data/no additional data available till the end of redaction of the report*

Data with Kosovo

NOTES ON DATA AVAILABILITY AND QUALITY

HFAdb: No note.

PH-SEE Group: The notes are presented in Table 64.

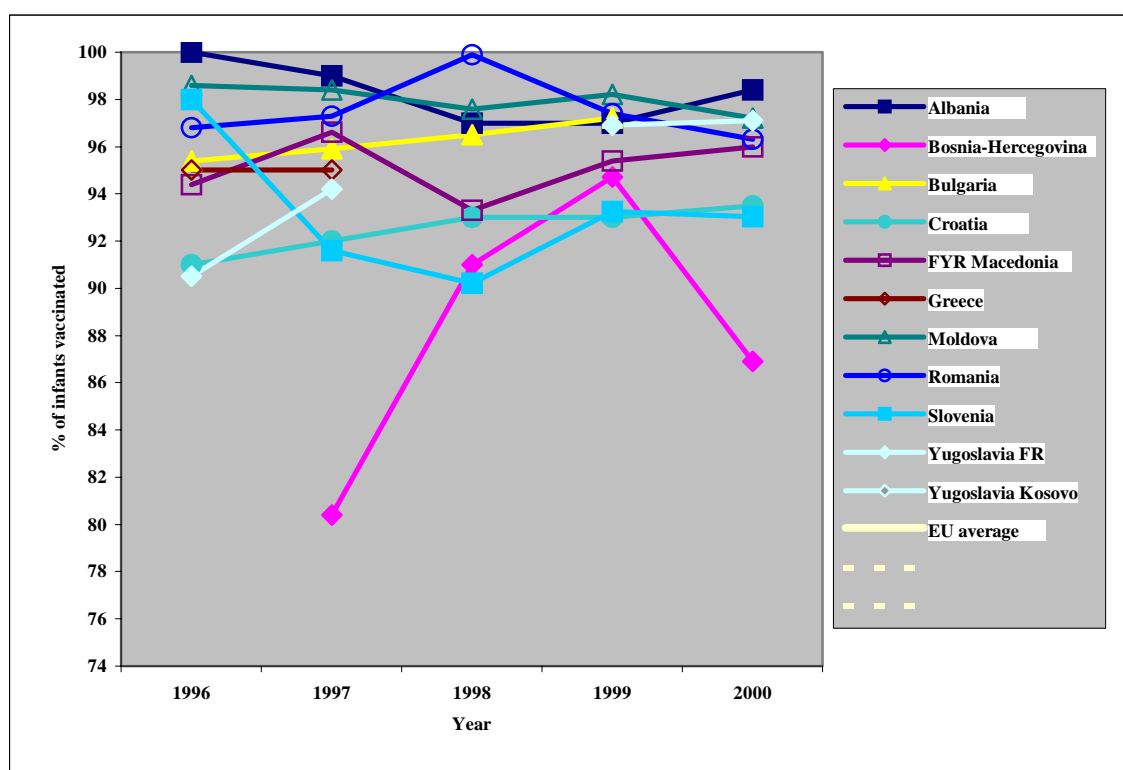


Figure 32: Data for MHIS PH-SEE indicator 30 - Percent of infants vaccinated against poliomyelitis, 1996 – 2000 (Main data source: WHO Health for All Database 2002 – see comments in Table 63).

Table 64: Source of data, data holder, publications and comments on data* for MHIS PH-SEE indicator 30 - Percent of infants vaccinated against poliomyelitis, by country.

Country	Source of data	Data holder	Publications	Comments
Albania	-	INSTAT – National Institute of Statistics of Albania	Annuals of Public Health Institute	Data are annually collected and available at national and regional level.
Bosnia-Herzegovina	Health institutions (health centres)	Public Health Institute – Department of Epidemiology.	Annuals of Public Health Institute	/
Bulgaria	Hygiene-epidemiological health centers	National Center for Health Informatics	-	Data are semi-annually and annually collected and available at national and regional level
Croatia	Vaccination Statistics	Croatian Institute for Public Health	Croatian Health Service Yearbook	Data collected by pediatricians and GPs
FYR Macedonia	Vaccination Statistics	Institute for Health Protection of Republic of Macedonia (Dept. of Epidemiology) State Institute of Statistics	Statistical Yearbook of Republic of Macedonia; Annual Reports of the Health Status of the Population and Organization and Performance of Health Care Service in Republic of Macedonia	Data of high quality

Table 64: Cont.

Country	Source of data	Data holder	Publications	Comments
Greece	-	-	-	-
Moldova	-	-	-	-
Romania	Vaccination Statistics made by Public Health Department, Ministry of Health and Family	Public Health Department, Ministry of Health and Family	Biannual Report	Data are biannually collected and available at national and regional level.
Slovenia	Reports on vaccination (computerized follow-up)	Institute of Public Health of the Republic of Slovenia, Center for Communicable Diseases.	Annual Report on Vaccination Programme in Slovenia of the Institute of Public Health of the Republic of Slovenia	Data of high quality
Yugoslavia FR	-	-	-	-
Kosovo	-	-	-	-

* Data provided by students of 2nd PH-SEE Summer School, Ljubljana, 2002, or by responsible person in particular PH-SEE country (see acknowledgements)

/ No comment / non-existing data

- No data available till the end of redaction of the report

3. Analysis of Data on MHIS PH-SEE Indicators

AVAILABILITY OF MHIS PH-SEE INDICATOR DATA

INFORMATION ON DATA SOURCE AND COMMENTS ON
DATA COLLECTION

OVERVIEW OF MHIS PH-SEE INDICATOR DATA 1996 - 2000

AVAILABILITY OF MHIS PH-SEE INDICATOR DATA

AVAILABILITY OF INDICATORS

In Table 65, information on the availability of data for each of the 30 MHIS PH-SEE indicators is given. The indicators are ranked first by the median value reported by 10 PH-SEE countries and Kosovo. In the case of the same median value, the interquartile range was the second criterion. In all cases with the same value of interquartile range, the proportion of PH-SEE countries with a complete 1996 – 2000 report was the next criterion.

Table 65: Availability of data on MHIS PH-SEE indicator data by indicator.

Rank	MHIS PH-SEE No.	Indicator	Availability		
			Median	Interquarile range*	Proportion of PH-SEE countries (+Kosovo) with complete 1996 – 2000 report
1	14	Number of newly diagnosed tuberculosis cases per 100 000, all forms	5	5 - 5	10/11
2.5	26	Percent of infants vaccinated against diphtheria	5	4 - 5	7/11
2.5	29	Percent of infants vaccinated against measles	5	4 - 5	7/11
5	27	Percent of infants vaccinated against tetanus	5	4 - 5	6/11
5	28	Percent of infants vaccinated against pertussis	5	4 - 5	6/11
5	30	Percent of infants vaccinated against poliomyelitis	5	4 - 5	6/11
7.5	02	Life expectancy at birth, in years, males	5	3 - 5	7/11
7.5	03	Life expectancy at birth, in years, females	5	3 - 5	7/11
10.5	04	Infant mortality rate per 1000 live births	5	3 - 5	6/11
10.5	19	Number of hospital beds per 100 000 population	5	3 - 5	6/11
10.5	20	Number of physicians per 100 000 population	5	3 - 5	6/11
10.5	24	Average length of stay, all hospitals	5	3 - 5	6/11
13	22	Number of dentists per 100 000 population	5	2 - 5	6/11
14	01	Percent of population aged 65+ years	5	0 - 5	7/11
18.5	06	Standardized death rate, circulatory system diseases, all ages per 100 000, males	5	0 - 5	6/11
18.5	07	Standardized death rate, circulatory system diseases, all ages per 100 000, females	5	0 - 5	6/11

Table 65: Cont.

Rank	MHIS PH-SEE No.	Indicator	Availability		
			Median	Q1 – Q3*	Proportion of PH-SEE countrie (+Kosovo) with complete 1996 – 2000 report
18.5	08	Standardized death rate, malignant neoplasms, all ages per 100 000, males	5	0 - 5	6/11
18.5	09	Standardized death rate, malignant neoplasms, all ages per 100 000, females	5	0 - 5	6/11
18.5	10	Standardized death rate, external cause injury and poison, all ages per 100 000, males	5	0 - 5	6/11
18.5	11	Standardized death rate, external cause injury and poison, all ages per 100 000, females	5	0 - 5	6/11
18.5	12	Standardized death rate, infectious and parasitic diseases, all ages per 100 000, males	5	0 - 5	6/11
18.5	13	Standardized death rate, infectious and parasitic diseases, all ages per 100 000, females	5	0 - 5	6/11
23	05	Maternal deaths, all causes per 100 000 livebirths	4	3 - 5	5/11
24	18	Number of primary health care units per 100 000 population	4	2 - 5	5/11
25	21	Number of general practitioners in PHC per 100 000 population	3	0 - 5	3/11
26	25	Total health expenditure as percent of GDP (Gross Domestic Product)	2	0 - 5	4/11
27	23	Number of nurses graduated per 100 000 population	2	0 - 4	2/11
28	16	Percent of population whose homes are connected to water suply system, total	0	0 - 1	0/11
29	15	Number of decayed, missing or filled teeth at age 12 (DMFT-12 Index)	0	0 - 0	2/11
30	17	Percent of population with access to hygienic sewage disposal, total	0	0 - 0	1/11

* *interquartile range (1st quartile – 3rd quartile)*

Note: Greece data were not amended yet

The results of the analysis of the availability of data on MHIS PH-SEE indicators show that reporting among PH-SEE countries is as follows:

- excellent reporting:
 - on newly diagnosed tuberculosis cases,
- very good reporting:
 - on all indicators of maternal and child health (all of them concerning vaccination),
 - on some of the indicators on health care resources (number of hospital beds, number of physicians and number of dentists per 100,000 population) and
 - on one indicator on health care utilization and costs (average length of stay in hospitals).
- good reporting
 - on most of the mortality-based indicators,
- insufficient reporting:

- for most indicators on health care resources and health care utilization and costs
- very insufficient reporting:
 - almost no reporting on the environment group of indicators (in HFAdb there is no reporting at all in this group of indicators).

AVAILABILITY OF DATA IN PH-SEE COUNTRIES

In table 66 the availability of data on MHIS PH-SEE indicators in each of the 11 countries (10 PH-SEE countries + Kosovo) is presented. The countries are listed by alphabet.

Table 66: Availability of data on MHIS PH-SEE indicators data by PH-SEE countries (+ Kosovo).

PH-SEE Country (+ Kosovo)	Availability		
	Median	Interquartile range*	Proportion of indicators in which complete 1996–2000 report
Albania	3	3 – 4.25	7/30
Bosnia-Herzegovina	0	0 - 3	1/30
Bulgaria	5	4 - 5	20/30
Croatia	5	5 - 5	25/30
FYR Macedonia	5	5 - 5	25/30
Greece**	3	1.75 - 3	2/30
Moldavia	5	5 - 5	27/30
Romania	5	5 - 5	24/30
Slovenia	5	5 - 5	27/30
Yugoslavia FR	4	0 - 4	5/30
Yugoslavia - Kosovo	0	0 - 0	0/30

* interquartile range (1st quartile – 3rd quartile)

** Greece data were not amended yet

The results of the analysis of the availability of MHIS PH-SEE indicator data in PH-SEE countries show that the best reporting in all PH-SEE countries is done in Moldavia and Slovenia. Also very good reporting is done in Croatia, Macedonia, Romania and Bulgaria. On the other hand, very insufficient reporting over this period of time was done in Bosnia-Herzegovina. A particular problem in this context is Kosovo where no data seem to be available at all.

INFORMATION ON DATA SOURCE AND COMMENTS ON DATA COLLECTION

Table 67 shows the availability of data on the data source of 30 MHIS PH-SEE indicators and comments on the data collection method for each PH-SEE country (10 PH-SEE countries + Kosovo). The countries are listed by alphabet.

Table 67: Availability of data on data source of 30 MHIS PH-SEE indicators and comments on data collection by PH-SEE countries (+ Kosovo).

PH-SEE Country (+ Kosovo)	Source of data	Data holder	Publications	Comments
Albania	5/30	29/30	29/30	29/30
Bosnia-Herzegovina	6/30	28/30	25/30	28/30
Bulgaria	26/30	27/30	22/30	27/30
Croatia	30/30	30/30	30/30	30/30
FYR Macedonia	30/30	30/30	30/30	30/30
Greece *		No data available *		
Moldavia		No data available		
Romania	30/30	30/30	30/30	30/30
Slovenia	30/30	30/30	30/30	30/30
Yugoslavia FR	8/30	8/30	5/30	9/30
Yugoslavia - Kosovo		No data available		

* Greece data were not amended yet

The results of the analysis of the availability of data on the data source of MHIS PH-SEE indicators in PH-SEE countries show that this information has so far been fully compiled in 4/11 countries (Croatia, FYR Macedonia, Romania and Slovenia). This information is very well covered also in Albania, Bosnia-Herzegovina and Bulgaria. No data are so far available for Moldavia and Yugoslavia-Kosovo. Also for Greece no data has so far been provided, but this country was the last one to be included into the analysis and due to the short time frame the data have not been amended yet.

OVERVIEW OF MHIS PH-SEE INDICATOR DATA 1996 - 2000

The data for the time period 1996 – 2000 could only be roughly assessed. All assessments and also rough comparisons are made exclusively with regard to values in PH-SEE countries.

To avoid any implication of good – bad position of any of the PH-SEE countries, all values are assessed exclusively in the sense of high – intermediate – low and trends exclusively in the sense of increasing – decreasing.

Table 68 gives an overview of all MHIS PH-SEE indicator values and trends except for Yugoslavia FR (Kosovo) as for this region no data have so far been provided.

Table 68: The overview on all MHIS PH-SEE indicators values and trends in period 1996 – 2000.

Indicators	Assessment of status of values/ assessment of trend of values											Comments
	5-year MIN – MAX	Albania	Bosnia- Hercegovina	Bulgaria	Croatia	FYR- Macedonia	Greece	Moldavia	Romania	Slovenia	Yugoslavia FR	
	Lower third limits Middle third limits Upper third limits											
01 Percent of population aged 65+ years	6.11 - 16.73 -9.64 9.65 – 13.19 13.20+	LT (SS)		UT (COI)	MT (SLI)	LT-MT (COI)	UT (STI)	MT (SLI)	MT-UT (COI)	MT-UT (COI)	MT (SLI)	
02 Life expectancy at birth, in years, males	62.96 – 75.77 -67.23 67.24 – 71.50 71.51+	MT-UT (SLI)		MT (COI)	MT (SLI)	MT (SLI)	UT (SLI)	LT (COI)	LT-MT (STI)	MT-UT (SLI)	MT (SS)	
03 Life expectancy at birth in years, females	70.40 – 81.00 -73.93 73.94 – 77.47 77.48+	MT-UT (COI)		MT (COI)	MT (SS)	MT (COI)	UT (SLI)	LT (COI)	LT-MT (STI)	UT (SLI)	MT (SS)	
04 Infant mortality rate per 1000 live births	4.56 – 22.30 -10.47 10.48 – 16.39 16.40+	UT-MT (STD)		MT (COD)	LT (SLD)	MT (SID)	LT (SLD)	UT (COD)	UT (SID)	LT (SS)	MT (SLD)	
05 Maternal deaths, all causes per 100 000 live births	0 – 50.46 -16.82 16.83 – 33.64 33.65+	LT (SLI)		MT (SLI)	LT (SLI)	LT (STI)	LT (SLI)	UT-MT (SID)	UT-MT (COD)	LT (SLD)	LT (SLD)	The exact calculation of the indicator should be known
06 SDR, circulatory system diseases, all ages per 100 000, males	366.20 – 1005.11 -579.17 579.18 – 792.14 792.15+	MT (SS)		UT (SLD)	MT (SLI)	MT (SS)	LT (SS)	UT (SLI)	UT-MT (COD)	LT (SLD)	MT (SLD)	
07 SDR, circulatory system diseases, all ages per 100 000, females	251.20 – 730.72 -411.04 411.05 – 570.88 570.89+	LT (SLI)		UT (SLD)	MT (SLI)	MT (SLI)	LT (SS)	UT (SLI)	UT (COD)	LT (SLD)	UT	

Table 68: Cont.

Indicators	Assessment of status of values/ assessment of trend of values											Comments
	5-year MIN – MAX											
	Lower third limits	Albania	Bosnia- Hercegovina	Bulgaria	Croatia	FYR- Macedonia	Greece	Moldavia	Romania	Slovenia	Yugoslavia FR	
Middle third limits												
Upper third limits												
08 SDR, malignant neoplasms, all ages per 100 000, males	178.13 – 369.05 -241.77 241.78 – 305.41 305.42+	LT (SS)		LT (SLD)	UT (COI)	LT (SLI)	LT (SS)	LT (SLD)	LT (SLI)	MT (SS)	UT	
09 SDR, malignant neoplasms, all ages per 100 000, females	69.83 – 170.66 -103.44 103.45 – 137.05 137.06+	LT (SS)		MT (SLD)	UT (COI)	MT (SLI)	MT (SLD)	MT (SLD)	MT (SLI)	UT (SLD)	OT	
10 SDR, external cause injury and poison, all ages per 100 000, males	51.02 – 192.36 -98.13 98.14 – 145.25 145.26+	LT–MT		LT (SLD)	MT (SLD)	LT (SLI)	LT (SS)	UT (COD)	MT (COD)	MT (SLD)	UT (SLD)	
11 SDR, external cause injury and poison, all ages per 100 000, females	17.46 – 57.80 -30.91 30.92 – 44.35 44.36+	LT–MT		LT (SLD)	MT (SLD)	LT (SLI)	LT (SS)	UT (STI)	MT–LT (COD)	UT–MT (COD)	UT (SLD)	
12 SDR, infectious and parasitic diseases, all ages per 100 000, males	4.03 – 37.90 -15.32 15.33 – 26.61 26.62+	LT (SLD)		LT (SS)	MT (SLI)	LT (SS)	LT (SS)	UT (STI)	MT (SLD)	LT (SLI)		
13 SDR, infectious and parasitic diseases, all ages per 100 000, females	2.67 – 9.95 -5.10 5.11 – 7.52 7.53+	LT (COD)		LT–MT (COI)	LT–UT (STI)	UT–MT (COD)	LT (SLI)	MT–UT (COI)	MT–UT (COI)	LT (COD)		
14 Number of newly diagnosed tuberculosis cases per 100 000, all forms	6.60 – 122.44 -45.21 45.22 – 83.83 83.84+	LT (SS)	MT (SLI)	MT (SLI)	MT–LT (SLD)	LT (SLD)	LT (SS)	MT (SS)	UT (COI)	LT (SLD)	MT–LT (COD)	

Table 68: Cont.

Indicators	Assessment of status of values/ assessment of trend of values											Comments
	5-year MIN – MAX	Albania	Bosnia- Hercegovina	Bulgaria	Croatia	FYR- Macedonia	Greece	Moldavia	Romania	Slovenia	Yugoslavia FR	
	Lower third limits Middle third limits Upper third limits											
15 Number of decayed, missing or filled teeth at age 12 (DMFT-12 Index)	Not enough data									(SS)	(SS)	
16 Percent of population whose homes are connected to water supply sy., total	Not enough data									(SLI)		OT (COI)
17 Percent of population with access to hygienic sewage disposal, total	Not enough data									(SLI)		
18 Number of primary health care units per 100 000 population	3.19 – 78.74 -28.37 28.38 – 53.56 53.57+	UT (SLD)	MT	MT (SS)	LT-UT (SLI)	UT (SLD)		LT (SS)	LT (COD)	LT (SS)	MT-UT (SS)	The exact calculation of the indicator should be known
19 Number of hospital beds per 100 000 population	304.81 – 1214.98 -608.20 608.21 – 911.59 911.60+	LT (SS)	LT (SLD)	UT-MT (SLI)	MT-LT (SS)	LT (SS)	LT	UT-MT (SLI)	MT (SS)	LT (SS)	LT (SS)	
20 Number of physicians per 100 000 population	128.94 – 434.07 -230.65 230.66 – 332.36 332.37+	LT (SS)	LT (SS)	UT (SS)	LT-MT (SLI)	LT (SS)	UT	UT-MT (SLD)	LT (SLI)	LT (SS)	LT (SS)	
21 Number of general practitioners in PHC per 100 000 population	24.56 – 93.39 -47.50 47.51 – 70.45 70.46+	LT-MT	LT (SLD)	UT	MT-UT (SLI)	UT (SS)		LT-MT (COI)	UT-LT	LT (SLI)	MT (SS)	

Table 68: Cont.

Indicators	Assessment of status of values/ assessment of trend of values											Comments
	5-year MIN – MAX	Albania	Bosnia- Hercegovina	Bulgaria	Croatia	FYR- Macedonia	Greece	Moldavia	Romania	Slovenia	Yugoslavia FR	
	Lower third limits Middle third limits Upper third limits											
22 Number of dentists per 100 000 population	8.68 – 114.36 -43.91 43.92 – 79.13 79.14+	LT	LT (SS)	MT–UT (COI)	MT (SLI)	MT (SS)	UT	MT–LT (SLD)	LT (SS)	MT (SS)	LT (SS)	
23 Number of nurses graduated per 100 000 population	2.87 – 66.26 -24.00 24.01 – 45.13 45.14+		UT			MT (COI)	LT (SLI)	MT–LT (SLD)	LT	LT (COI)	LT (SS)	
24 Average length of stay, all hospitals	7.50 – 18.10 -11.03 11.04 – 14.57 14.58+	LT (SLD)	MT (SLD)	MT (SLD)	MT (SLD)	MT (SLD)	LT	UT–MT (SID)	LT (SLD)	LT (COD)	MT–LT (SLD)	
25 Total health expenditure as percent of GDP (Gross Domestic Product)	2.60 – 9.30 -4.83 4.84 – 7.07 7.08+					MT–LT	UT	MT–LT (SID)	LT (SS)	UT (SS)	MT–UT	
26 Percent of infants vaccinated against diphtheria	79.00 – 99.00 -85.67 85.68 – 92.33 92.34+	UT–MT (COD)	LT–UT	UT–MT (SLD)	MT–UT (SLI)	UT (COI)	MT	UT (SS)	UT (SLD)	MT–UT	MT–UT	
27 Percent of infants vaccinated against tetanus	79.00 – 99.00 -85.67 85.68 – 92.33 92.34+	UT (SLD)	LT–UT	UT (SLI)	MT–UT (SLI)	UT (SLI)	MT	UT (SLD)	UT (SLD)	MT–UT	MT–UT (COI)	
28 Percent of infants vaccinated against pertussis	78.00 – 99.00 -85.00 85.01 – 92.00 92.01+	UT (SS)	LT–UT	UT (SLI)	UT–UT (SLI)	UT (SLI)	LT	UT (SLD)	UT (SS)	MT–UT	MT–UT (COI)	

Table 68: Cont.

Indicators	Assessment of status of values/ assessment of trend of values											Comments
	5-year MIN-MAX	Albania	Bosnia-Herzegovina	Bulgaria	Croatia	FYR-Macedonia	Greece	Moldavia	Romania	Slovenia	Yugoslavia FR	
	Lower third limits Middle third limits Upper third limits											
29 Percent of infants vaccinated against measles	75.00 - 99.00 -83.00 83.01 - 91.00 91.01+	MT-UT (SL)	LT-MT	UT (SL)	UT (SL)	MT-UT (COI)	MT	UT (SS)	UT (SL)	LT-UT	MT-UT (COI)	
30 Percent of infants vaccinated against poliomyelitis	80.40 - 100 -86.93 86.94 - 93.47 93.48+	UT 3	LT-UT	UT (SL)	MT-UT (SL)	UT-MT (SS)	UT	UT 3	UT (SS)	MT-UT	MT-UT (COI)	

NOTE: In some cases trend could not be assessed due to no or insufficient data or due to nonconstant trend

SDR: Standardized Death Rate

LEGEND: LT values of the indicator in the lower third of values
MT values of the indicator in the middle third of values
UT values of the indicator in the upper third of values

STD strong decrease in values
COD considerable decrease in values
SLD slight decrease in values
SS situation stable
SLI slight increase in values
COI considerable increase in values
STI strong increase in values

SECTION III

- 1. Results**
- 2. Discussion**
- 3. Conclusions**
- 4. References**

1. Results

POPULATION-BASED DATA

MORTALITY-BASED INDICATORS

INDICATORS ON MORBIDITY

INDICATORS ON ENVIRONMENT CONDITIONS

INDICATORS ON HEALTH CARE AND COSTS

MATERNAL AND CHILD HEALTH

RESUMÉ

RESULTS OF THE ANALYSIS OF THE HEALTH STATUS AND HEALTH CARE UTILIZATION IN THE PH-SEE COUNTRIES AND CONCLUSIONS FOR THE MHIS – REVISED VERSION

The aim of the project was to select a limited number of indicators for the countries of South Eastern Europe which should allow a comparable assessment of the health status and health care utilization within the SEE-countries and consider the special conditions and developments of the postwar situation of the Balkan region.

The main goal of the setting-up of a Minimum Indicator Set was to define key indicators which could reflect areas in which the health status deteriorates and to monitor changes in the improvement of health indicators as markers of the situation. The comparison between the SEE-countries could be a criterion for the successful overcoming of the postwar situation.

Two problems arise when looking at the indicators selected for the pilot phase:

1. The data quality for many indicators is insufficient or seems to be insufficient
2. Some of the selected indicators seem to be less significant, but some important indicators are missing.

So we will try to analyse the collected data and propose some changes to the indicator set.

Population-based data

For an overview of the population and socio-economic situation in the SEE-countries, data such as population size, structure of the population by gender and age groups, birth rate and mortality rate are needed as a minimum. Target 5 of the WHO Health 21 strategy reads as follows: “By the year 2020, people over 65 years of age should have the opportunity of enjoying their full health potential and playing an active social role.”

In the MHIS pilot phase only the indicator „**Percent of population aged 65+ years**“ was used. Instead of the mortality rate life expectancy (indicator reflecting the mortality) was used. An important factor governing the question of the future efficiency of health care systems is the age structure of the population. Problems may arise particularly at a point in time when health expenditures rise due to an increase in the elderly population and revenues decrease for example through a reduction of the proportion of the working population. There is no indicator reflecting the age structure, but all countries deliver data on the age structure classified by sex and 5-year age groups to WHO. So in future we will need these population data for background information and the calculation of dependency ratios of the old and young population. The dependency ratio of the old population refers to that part of the population of 65 years and older related to the population between 15-64 years of age. The dependency ratio of the young population is calculated from the 0-14-year-old population related to the group of the 15-64-year-olds. In this way statements can be made on the part of young and/or elderly people related to 100 persons of working age between 15-64 years.

Indicator 01 „Percent of population aged 65+ years“ reflects that part of the population which has reached pension age.

The increasing trend of the proportion of elderly people in all countries which delivered data demonstrates the fact that the health status is improving, so life expectancy has to increase. The data for Albania may be of minor quality because there seems to be a discrepancy between the low % of population aged 65+ years and a relatively high life expectancy.

For the revised version of the indicator set we would propose:

1. To deliver additional data on the population by gender and age structure for an overview of the demographic development in each of the SEE-countries and in the SEE-region
2. To add an indicator „birth rate“ per 1,000 of the average population
3. To add an indicator „mortality rate“ per 1,000 of the average population and age standardized.

So we could follow up the development of the population as the underlying group for the health indicator set.

Concerning the socio-economic situation, one indicator would be helpful: either the proportion of the employed population in the age group 15-64 years or the proportion of unemployed in the age group 15-64 years.

Population indicators for the revised MHIS version

1. *Male population by gender and age groups (5-year age groups up to 85+ years) at the end of the year and average population as background information*
2. *Female population by gender and age groups (5-year age groups up to 85+ years) at the end of the year and average population as background information*
3. *% of population aged 65 + years*
4. *Birth rate per 1,000 of average population*
5. *Employed (or unemployed) population in % of the population aged 15-64 years.*

Mortality-based indicators

Health target No. 1 (Solidarity for health in the European region) of the Health for All strategy 21 reads as follows: “The present gap in health status between Member States of the European regions should be reduced by at least one third by the year 2020.” To monitor this target, indicators about mortality, incidence or prevalence and indicators about health expenditures can be used.

In the MHIS, indicators about life expectancy by sex are used. Additionally, some indicators about mortality rates by main categories of causes of death are used.

The quality of the mortality data of the SEE-countries has been assessed as good. The mortality indicators include life expectancy, infant mortality, maternal mortality, mortality of diseases of the circulatory system, of malignant neoplasms, of infectious diseases and of external causes of injuries and poisoning per 100,000 of the average population by sex. We can observe an increase in **life expectancy for males** (indicator 02) and for females (indicator 03). (The data for Greece are excluded or mentioned in the sense of benchmarking criteria).

The lowest life expectancy for males was calculated for Moldova (1996: 62.96 years and 2000: 63.99 years) and the highest life expectancy was calculated for Slovenia (1996: 71.20 years and 2000: 71.94 years). So excluding Greece and Albania (questionable data quality), in 1996 we had a span in life expectancy for men of 8.24 years and in the year 2000 this span decreased to 7.95 years between the compared SEE-countries.

The **life expectancy for females** is higher than the life expectancy for males and follows the European trend.

The lowest life expectancy was calculated for Moldova (1996: 70.40 years and 2000: 71.45 years) and the highest life expectancy was calculated for Slovenia (1996: 79.07 years and 1999: 79.52 years, up to the year 2000: 79.10 years). So excluding Greece and Albania

(questionable data quality), in 1996 we had a span in life expectancy for women of 8.67 years and by the year 2000 this span decreased to 7.65 years between the compared SEE-countries. Life expectancy is an indicator reflecting mortality from all causes of death at all ages. This indicator demonstrates a trend towards an increase in life expectancy for males and females and shows the difference in life expectancy for males and females in each of the SEE-countries. A further increase in the life expectancy of men and women would follow the European trend to diminish the differences in life expectancy between both sexes. The WHO target (HFA2000) to reach a life expectancy of at least 75 years was by the year 2000 only reached for females in Bulgaria, Croatia, Macedonia and Slovenia.

Infant mortality (indicator 03) reflects the socio-economic situation and the efficiency of the health care system. Health target No. 3 (Healthy start in life) of the Health for All strategy 21 reads as follow: “By the year 2020, all newborn babies, infants and pre-school children in the regions should have better health, ensuring a healthy start in life.” To monitor this target, indicators about infant mortality, maternal mortality, birth weight and immunisation can be used. In the MHIS, indicators about infant mortality and maternal mortality are used.

The goal of HFA2000 for all countries of the European region was to reach an infant mortality of maximally 20 per 1,000 live births by the year 2000. In 1996, the span in the values for infant mortality was very high: With 22,3 ‰ Romania published the highest value and with 4,76 ‰ Slovenia recorded the lowest value. It is not possible to check if there are differences in the definitions and calculations. Up to the year 2000, infant mortality rates decreased in all SEE-countries, so the range between the highest infant mortality rate of 18,63 ‰ in Romania and 4,90 ‰ in Slovenia means that the difference between the countries decreased from 17,54‰ to 13,73 ‰. The level of infant mortality in Romania and Moldova exceeded 15‰, but it is below 20‰ (the target of HFA2000). So it would be helpful to add another indicator in order to find causes for the high infant mortality in some SEE-countries. We would propose to add an indicator, i.e. early neonatal infant mortality (infant mortality rate during the first 6 days of life) or to add the stillborn babies and to calculate the perinatal mortality rate per 1,000 births. It has to be found out if the indicator: % of low birth weight of live-born infants (less than 2,500 g - up to and including 2,499 g) should again be included on the list of indicators. For international comparisons live-born infants with a birth weight of less than 1,000 g should be excluded. This is a WHO recommendation (rules for classification, ICD-9 and ICD-10). All SEE-countries should check their data and deliver the early neonatal mortality rate as the number of early neonatal deaths divided by the number of all live births * 1,000. The early neonatal mortality rate reflects this part of infant mortality caused by infants with a very low birth weight and born under insufficient conditions. To add the stillborn babies would add some information, but this could also be added some years later.

Maternal death (indicator 04) reflects the socio-economic situation and the efficiency of preventive services during pregnancy as well as the quality of inpatient obstetric care. Maternal death rates can be grouped in pregnancy-related deaths, in direct obstetric deaths and in indirect obstetric deaths. Deaths caused by accidents or self-inflicted causes should be excluded.

None of the SEE-countries which delivered data could reach the EU-average level. The highest maternal mortality rates were registered in Romania and Moldova during the years 1996 - 2000, but the trend is decreasing.

The span between the highest and lowest maternal mortality rate per 100,000 live births in 1996 amounted to figures between 42.42 for Moldova and 16.04 for Slovenia. The data for some of the countries seem to be very questionable. The maternal mortality rate for Greece corresponds to the EU-average. Up to the year 2000, the maternal mortality rate decreased in Bulgaria, Moldova and Romania, the data for Slovenia are stable on a relatively low level. The maternal mortality rates for the other SEE-countries are missing or fluctuate too strongly, so an assessment cannot be made. The target of HFA 2000 to decrease maternal mortality to a level of maximally 15 per 100.000 live births, did not reach Bulgaria, Moldova and Romania.

For the revised version of the indicator set we would propose:

1. To check the definition for infant death events (exclude death events with a birth weight of less than 1,000 g)
2. To add an indicator on early neonatal infant mortality (0-6 days of life)
3. Live births (%) weighing 2,500 g and more
4. To check the definition of maternal mortality rate
5. To add an indicator: Maternal death rate during pregnancy or during delivery.

Indicators on life expectancy, infant and maternal death rate for the revised MHIS version

5. *Life expectancy at birth in years, for males*
6. *Life expectancy at birth in years, for females*
7. *Infant mortality rate per 1,000 live births*
8. *Early neonatal infant mortality rate (during 0-6 days of life) per 1,000 live births*
9. *Live births (%) weighing 2,500 g and more*
10. *Maternal deaths, all causes, per 100,000 live births*
11. *Maternal death rate during pregnancy per 100,000 live births.*

Indicators on the main categories of **causes of death** are used to monitor health target 8 (Reducing non-communicable diseases) which reads as follows: “By the year 2020, morbidity, disability and premature mortality due to major chronic diseases should be reduced to the lowest feasible levels throughout the Region.”

The indicators about the standardized death rates on circulatory system diseases, on malignant neoplasms, and on external causes of injuries and poisoning as well as on infectious and parasitic diseases by sex illustrate the most important chapters of the international classification of diseases and mortality (ICD-9 and ICD-10). The countries deliver all death events by causes, age groups and sex to the WHO, and the calculation of standardized death rates is done in the Regional Office of WHO for Europe. So, regarding indicators 06-13, more information would be necessary: the number of all death events by age groups and gender as the basis for a descriptive analysis.

Comparing the different groups of causes of death, there might be differences between the SEE-countries caused by a different age structure and coding habits. Due to a higher percentage of the population aged 65+ years (see indicator 01) diseases such as cancer, stroke, and myocardial infarction will increase. So it would be useful to have additional information about the age distribution of the causes of death.

For the underlying causes of death we can describe the following trends for the data from Bulgaria, Croatia, FYR Macedonia, Moldova, Romania and Slovenia (rather complete data and of good quality):

The **standardized death rates of circulatory diseases** (indicators 06) for males show a decreasing trend only for Romania and Slovenia, but a very high level and an increasing trend for Moldova. Between the years 1996 and 2000, the span between the minimum and maximum values increased from 380/961 (Diff. 515) to 406/1001 (Diff. 595) death events per 100,000 male population.

This means that the standardized male mortality rate of circulatory diseases reached in Moldova is twice as high as in Slovenia.

Comparing the standardized mortality rates of circulatory diseases for females (indicator 07) between the SEE-countries, an increasing trend for Croatia and Moldova and a decreasing trend for Romania and Slovenia can be noticed. Between the years 1996 and 2000, the span between the minimum and maximum values increased from 263/695 (Diff. 393) to 251/731 (Diff. 479) death events per 100,000 female population. The level of mortality rates for women is lower than the level of mortality rates for men, but the span between maximum and minimum values is wider (threefold difference).

The **standardized death rates of malignant neoplasms** (indicator 08) for males show an increasing trend for Croatia and Romania, but a decreasing trend for Moldova and Slovenia. The interpretation of the decreasing trend in cancer mortality rates in Moldova and Slovenia may have different reasons. Between the years 1996 and 2000, the difference between the minimum and maximum values increased from 199/328 (Diff. 128) to 192/369 (Diff. 177) death events per 100,000 male population.

Comparing the standardized mortality rates of malignant neoplasms (indicator 09) for females between the SEE-countries, an increasing trend for Croatia and a decreasing trend for Bulgaria, Moldova and Slovenia can be observed. The interpretation of the very low standardized cancer mortality rates for Bulgaria and Moldova has to be explained. Between the years 1996 and 2000, the difference between the minimum and maximum values increased from 118/157 (Diff. 39) to 112/171 (Diff. 58) death events per 100,000 female population.

Health target No. 9 (Reducing injury from violence and accidents) of the Health for All strategy 21 reads as follows: „By the year 2020, there should be a significant and sustainable decrease in injuries, disability and death arising from accidents and violence in the Region.”

To monitor this target, suggested areas for formulating indicators are mortality rates from main external causes of injury and poisoning, incidence rates of accidents and injury-related disability.

The proposed indicator set contains additional indicators on suicides and homicides, but for the pilot testing of the indicators only one indicator about all external causes of death was selected because of the supposed lack of coding correctness.

The **standardized death rates of external causes of injury and poisoning** (indicator 10) for males show some up and down for Croatia and Macedonia, but for Bulgaria, Moldova, Romania and Slovenia a clearly decreasing trend. The interpretation of the variations in the data on Croatia and Macedonia may be influenced by war conditions.

Between the years 1996 and 2000, the difference between the minimum and maximum values decreased from 51/192 (Diff. 141) to 56/167 (Diff. 111) death events per 100,000 male population.

The standardized death rates of external causes of injury and poisoning (indicator 11) for females show some up and down for Bulgaria and Macedonia, but for Croatia, Moldova, Romania and Slovenia a clearly decreasing trend.

The highest level of mortality caused by injuries and poisoning is registered for Moldova, but the mortality rate for men is four times as high.

The interpretation of the high mortality rates in the data for Croatia and Slovenia has to be explained.

Between the years 1996 and 2000, the difference between the minimum and maximum values decreased from 17/58 (Diff.41) to 20/45 (Diff. 25) death events per 100,000 female population.

The mortality rate of infectious and parasitic diseases was selected on the basis of health target 7 (Reducing communicable diseases), which reads as follows: „By the year 2020, the adverse health effects on communicable diseases should be substantially diminished through systematically applied programmes to eradicate, eliminate or control infectious diseases of public health importance.“ Measles have to be eradicated by the year 2007 within Europe.

The **standardized death rates of infectious and parasitic diseases** (indicator 12) for males show some up and down for Bulgaria, Croatia, Macedonia and Slovenia and an increasing trend for Moldova, but a decreasing trend for Romania. The interpretation of the up and down for some countries and some trends of increased values can be explained by various reasons such as war conditions or deterioration of the socio-economic conditions. Between the years 1996 and 2000, the difference between the minimum and maximum values increased from 5/31 (Diff. 26) to 6/38 (Diff. 32) death events per 100,000 male population.

Comparing the standardized death rates of infectious and parasitic diseases (indicator 13) for females between the SEE-countries, an increasing trend with some up and down in all SEE-countries with the exception of Slovenia can be noticed. The interpretation of this surprising result may be explained by experts. But this fact reflects the deterioration in the health status of women in connection with poor socio-economic conditions and poverty.

Between the years 1996 and 2000, the difference between the minimum and maximum values increased from 3.6/7.7 (Diff. 4.1) to 2.9/8.1 (Diff. 5.2) death events per 100,000 female population.

Comparing the standardized death rates for Moldova and Slovenia for the year 2000 we register the following differences:

Standardized death rates 2000	per 100,000 males	
	Moldova	Slovenia
Circulatory system diseases	1001.02 (max)	406.00 (min)
Malignant neoplasms	196.31	298.00
Injuries and poisoning	167.28 (max)	107.60
Infectious and parasitic diseases	37.90 (max)	6.30 (min)

Standardized death rates 2000	per 100.000 females	
	Moldova	Slovenia
Circulatory system diseases	730.72 (max)	251.20 (min)
Malignant neoplasms	112.10 (min)	151.60
Injuries and poisoning	44.81 (max)	37.80

Infectious and parasitic diseases

8.10 (max)

2.90 (min)

So, the indicators used for demonstrating the main causes of mortality are very well suited. But the overall mortality rate is missing, so we cannot calculate the proportion of the main causes of death within the mortality rate. For a scientific analysis of the trends in the health status of the population of the SEE-countries, additional age-structured mortality data by main diagnoses would be needed.

For the revised version of the indicator set we would propose:

1. To check the coding habits for death certification within the SEE-countries
2. To add two indicators on mortality per 100,000 males and females for all causes of death
3. To keep the indicators on mortality to four main categories of mortality for males and females.

Indicators on mortality for the revised MHIS version

12. *Standardized death rate per 100,000, all ages, male population*

13. *Standardized death rate per 100,000, all ages female population*

14. *Standardized death rate, circulatory system diseases, all ages, per 100,000 males*

15. *Standardized death rate, circulatory system diseases, all ages, per 100,000 females*

16. *Standardized death rate, malignant neoplasms, all ages, per 100,000 males*

17. *Standardized death rate, malignant neoplasms, all ages, per 100,000 females*

18. *Standardized death rate, external causes, injuries and poisoning, all ages, per 100,000 males*

19. *Standardized death rate, external causes, injuries and poisoning, all ages, per 100,000 females*

20. *Standardized death rate, infectious and parasitic diseases, all ages, per 100,000 males*

21. *Standardized death rate, infectious and parasitic diseases, all ages, per 100,000 females.*

Indicators on morbidity

Only two indicators on morbidity were proposed by the working group which checks the data availability of morbidity data. So it was decided to select „Incidence of tuberculosis“ and the „DMFT-12 Index“ (Decayed, Filled and Missing Teeth of 12-year-old children).

All SEE-countries (10, including Greece) delivered data on the „**Number of newly diagnosed tuberculosis cases per 100,000, all forms**“ (indicator 14). The data are qualified as good data. The tuberculosis incidence rates are going up and down in most of the SEE-countries, with an outbreak situation for the years 1998 and 1999. Between the years 1996 and 2000, a decreasing trend can be observed in Croatia, Macedonia, Slovenia and FR Yugoslavia (without Kosovo). An increasing trend is noticed for Romania which has the highest rates. Looking at the standardized death rates of infectious and parasitic diseases (indicators 12 and 13), we noticed an increasing trend with some up and down in all SEE-countries with the exception of Slovenia.

The increasing tuberculosis incidence rates reflect the deterioration of the health status in connection with poor socio-economic conditions and poverty in most of the SEE-countries. Between the years 1996 and 2000, the difference between the minimum and maximum values increased from 22/107 (Diff. 86) to 18/122 (Diff. 104) newly diagnosed tuberculosis cases per 100,000 population.

Target 7 for the 21st century of WHO demands that “by the year 2020, the adverse effect of communicable diseases should be substantially diminished through systematically applied programmes to eradicate, eliminate or control infectious diseases of public health importance.”

Suggested areas for formulating indicators concern the incidence of selected communicable diseases such as for example measles, diphtheria, tetanus, pertussis, etc. So it would make sense to add a second indicator on communicable diseases.

Target 8 (Reducing non-communicable diseases) for the 21st century of WHO demands: “By the year 2020, disability and premature mortality due to major chronic diseases should be reduced to the lowest feasible levels throughout the region. Indicators are related to the incidence and prevalence rates of the major non-communicable diseases, including selected indicators for oral health.

Data for indicator 14 „**Number of decayed, missing or filled teeth at age 12 (DMFT-12 Index)**, which reflects the prevalence of caries in 12-year-old children, were not available in the WHO HFA21 database. For two countries the data were provided by special institutes. For the future this indicator will be very useful, but at present this indicator should be removed from the indicator list.

For the revised version of the indicator set we would propose:

1. To keep the indicator on tuberculosis incidence
2. To add one indicator on one selected communicable disease which has a special importance for the region and which is preventable by immunization. We would propose measles because this communicable disease has to be eradicated by the year 2007.
3. To remove the indicator on DMFT-12 Index.

Indicators on morbidity for the revised MHIS version

22. *Number of newly diagnosed tuberculosis cases per 100,000, all forms*

23. *Incidence of measles per 100,000 population.*

Indicators on environment conditions

Target 10 for the 21st century of the WHO Health for All strategy demands that “by the year 2020, all people in the region should live in a safer environment, with exposure to contaminants hazardous to health at levels not exceeding internationally agreed standards”. Suggested areas for formulating indicators were proposed such as „drinking water supply“ and „hygienic sewage disposal“. But the SEE-countries could deliver no data for the WHO-database HFA21. For three countries data for indicator 16 „**% of population whose homes are connected to water supply system, total**“ were provided by special institutes. For two countries some data for indicator 17 „**% of population with access to hygienic sewage disposal, total**“ were provided by special institutes. So the provision of data is insufficient. For the future these two indicators will be very useful, but at present these indicators should be removed from the indicator list.

For the revised version of the indicator set we would propose:

1. To remove both indicators on environment conditions
2. To use data on environment conditions at country level for health reporting.

Indicators on health care resources

Indicators on health care resources are based on targets 15 and 18 of the Health for All strategy 21.

Target 15 of HFA21 „an integrated health sector“ reads as follows: “By the year 2010, people in the region should have much better access to family- and community-oriented primary

health care, supported by a flexible and responsive hospital system“. Target 18 of HFA21 „Developing human resources for health“ reads as follows: „By the year 2010, all Member States should have ensured that health professionals and professionals in other sectors have acquired appropriate knowledge, attitudes and skills to protect and promote health.“ Indicators 18 up to 23 deal with health care resources and human resources for health.

Indicator 18 „**Number of primary health care units, per 100,000 population**“ includes all health care establishments providing outpatient care which are staffed with at least one health professional (physician or nurse). The data are of insufficient quality. The structure of the health care systems differs very much between the SEE-countries, so the number of primary health care units cannot be compared between these countries. Slovenia prefers polyclinics, but some other countries prefer small medical centres. So we will not analyse these data and propose to delete this indicator for a comparison between the SEE-countries.

Indicator 19 „**Number of hospital beds per 100,000 population**“ is of good quality. There are large differences in available bed-years between the countries and between 1996 and 2000. In 1996, Moldova had the highest provision with hospital beds with 1,214 beds per 100,000 population, Albania had the lowest provision with 314 hospital beds per 100,000 population (if the denominator is correctly calculated). Up to the year 2000, we notice a decrease in hospital beds in all countries.

Between the years 1996 and 2000, the difference between the minimum and maximum values decreased from 901 to 436 hospital beds per 100,000 population. The EU-average is higher than the available hospital beds per 100,000 population in Albania (305), Hercegovina 324) and Slovenia (543). So there could be some problems with inadequate provision in the hospital sector in some SEE-countries.

Indicator 20 „**Number of physicians per 100,000 population**“ is important for guaranteeing access to the outpatient and inpatient health care system. There are rather large differences between the SEE-countries. The number of physicians per 100,000 population is in all SEE-countries lower than the EU-average.

Between the years under report 1996-2000, we notice a decreasing number of physicians per 100,000 population in Albania (141 to 133), in Bulgaria (354 to 337), in Macedonia (225 to 220), and in Moldova (357 to 318). The other SEE-countries register either a stable situation or a light increase in the number of physicians.

Between the years 1996 and 2000, the difference between the minimum and maximum values decreased from 216 to 195 physicians per 100,000 population. So, the situation did not ameliorate during the years 1996-2000.

We can observe the same problem for indicator 21 „**Number of general practitioners per 100,000 population**“.

There are rather large and increasing differences between the SEE-countries. The number of general practitioners per 100,000 population is in all countries lower than the EU-average (data from Greece are missing).

Between the years under report 1996-2000 we notice a decreasing number of general practitioners per 100,000 population in Bosnia-Hercegovina (29 to 25), in Bulgaria (80/75), in Macedonia (93 to 91) (highest level) and in Romania (74 to 44), but an increasing level in Moldova (34 to 59) and Slovenia (40 to 45).

Between the years 1996 and 2000 the difference between the minimum and maximum values increased from 59 to 66 general practitioners per 100,000 population. So, the situation did not ameliorate during the years 1996-2000 and follows the trend of the number of all physicians per 100,000 population.

Stomatology is a part of the community-oriented primary health care sector - see target 15 - an integrated health sector - of the HFA21 strategy. Indicator 22 „**Number of dentists per 100,000 population**“ shows the development of the supply with dentists and stomatologists between 1996-2000.

For the years 1996-2000 a clear improvement in the provision with dentists cannot be noticed. But before analysing the situation in detail, some additional information is required because education and dental medicine courses in stomatology and dentistry may be very different. So in the year 2000 Bulgaria had 83 dentists per 100,000 population, but Bosnia-Herzegovina only had 19 dentists per 100,000 population.

Between the years 1996 and 2000 the difference between the minimum and maximum values increased from 39 to 64 dentists per 100,000 population. In most of the SEE countries we watch an up and down with an increasing trend in Croatia and Slovenia and a decreasing trend in Moldova and Romania.

Community-oriented health care includes nurses who are working in outpatient and inpatient facilities.

Indicator 23 „**Number of nurses graduated per 100,000 population**“ cannot be used for comparisons or analysis because only some data are available. The delivering countries assess the quality of the data as good, but it seems that the definitions and kind of data collection are different. So it seems that these data are not comparable. The extreme values are 66 nurses graduated per 100,000 population for Bosnia-Herzegovina (1998) and 3 nurses graduated per 100,000 population for FR Yugoslavia (1996-1999). So it would be better to remove this indicator from the MHIS indicator list.

For the revised version of the indicator set we would propose:

1. To keep the indicators about hospital beds, physicians, general practitioners and dentists on the list
2. To remove the indicators about primary health care units and nurses graduated
3. To check the definition on dentists (stomatologists) and the data collection in PH-SEE countries.

Indicators on health care resources

24. Number of hospital beds per 100,000 population

25. Number of physicians per 100,000 population

26. Number of general practitioners per 100,000 population

27. Number of dentists per 100,000 population.

Health care utilization and costs

Target 15 of the HFA21 strategy treats the hospital system as a part of the integrated health sector, and target 17 deals with the funding of health services and allocation of resources. Target 17 is formulated as follows: „By the year 2020, WHO Member States should have sustainable financing and resource allocation mechanisms for health care systems based on the principles of equal access, cost-effectiveness, solidarity and optimum quality.”

On the basis of the availability of data, two indicators have been selected.

Indicator 24 „**Average length of stay, all hospitals**“ is an expression of the cost-effectiveness of using health care resources. During the years 1996-2000, the average length of stay decreased in all PH-SEE countries. In 2000, the lowest length of stay was observed in Slovenia with 8.6 days, the highest length of stay in Moldova with 14.2 days. Between the years 1996 and 2000, the difference between the minimum and maximum length of stay decreased from 10 to 5.6 days. So the SEE-countries follow the European trend of reducing the average length of stay. The average length of stay in Moldova on a high level corresponds to a low life expectancy, so there might be some problems in the quality of care.

Indicator 25 „**Total health expenditure as percent of GDP (Gross Domestic Product)**“ shows which part of the gross national product can be spent on health care. An additional indicator on the expenditure on inpatient care as a part of the total health expenditure was removed from the indicator list for the pilot phase because of insufficient data availability. Data are available only for Greece, Moldova, Romania, Slovenia and FR Yugoslavia. Greece has reached EU average level (8.5%), Slovenia (8.0%) and Yugoslavia (FR) (7.6%) as well. A decline can be noticed for Moldova (from 6.9% to 3.0%) which is on a very low level. Though the data are not complete and may be of minor quality, this indicator would be needed to express the economic basis for health care as a part of the Gross Domestic Product.

For the revised version of the indicator set we would propose:

1. To keep the indicators about health care utilization and costs
2. To check the quality of „Total health expenditure as % of GDP” and to secure data delivery for all PH-SEE countries.

Indicators on health care utilization and costs

28. Average length of stay, all hospitals

29. Total health expenditure as percent of GDP (Gross Domestic Product).

Maternal and Child Health

The WHO database HFA21 contains a special chapter on indicators „Maternal and Child Health“.

Some of the corresponding indicators belong to target 7: „Reducing communicable diseases“. Target 7 is formulated as follows: “By the year 2020, the adverse health effects of communicable diseases should be substantially diminished through systematically applied programmes to eradicate, eliminate or control infectious diseases of public health relevance.“ The indicators concern mortality and incidence rates of selected and preventable infectious diseases as well as coverage rates of immunisation of children against selected communicable diseases.

The task force proposed to select the following three indicators in the special chapter on „Maternal and Child Health:

1. Number of abortions per 1,000 live births
2. Live births weighing 2,500 g and more (%)
3. Coverage of all vaccinations in children up to one year of age (%).

For the pilot phase the indicator „Coverage of all vaccinations“ was used. As there is no composed indicator for all vaccinations, we checked the coverage rate for the most important vaccinations:

Indicator 26 „**Percent of infants vaccinated against diphtheria**“
Indicator 27 „**Percent of infants vaccinated against tetanus**“
Indicator 28 „**Percent of infants vaccinated against pertussis**“
Indicator 29 „**Percent of infants vaccinated against measles**“
Indicator 30 „**Percent of infants vaccinated against poliomyelitis**“.

The coverage rates for all vaccinations are similar for the PH-SEE countries and cover the range of 84 - 98%. The lowest coverage rates are registered in Bosnia-Herzegovina with around 85% for the year 2000, followed by 90-95% in Slovenia and in Croatia (dwindling participation in vaccination programmes).

To check the effectiveness and correctness of the vaccination rates, it would be useful to remove some of the coverage indicators and to add more incidence indicators (see ind. 23).

For the revised version of the indicator set we would propose:

1. To keep the indicators about coverage rates of children vaccinated against diphtheria and poliomyelitis
2. To add another indicator about incidence of poliomyelitis in PH-SEE countries.

Indicators on maternal and child health

30. Percent of infants vaccinated against diphtheria

31. Percent of infants vaccinated against poliomyelitis

32. Incidence of poliomyelitis/or diphtheria per 100,000 population.

Resumé

22 of the selected indicators proved to be qualified enough to reflect the health and social as well as health care situation in the PH-SEE countries. Due to the poor data situation, 8 indicators should not be continued. 8 indicators should be integrated to complement the indicator set. Some of these 8 complementary indicators had already been included in the original indicator list but had not been earmarked for the pilot phase.

The analysis of the indicators used for the pilot phase shows that with the support of a limited number of indicators the development of the health care situation can be assessed, provided the quality of the data is good.

The completion of the indicator set in accordance with the lines proposed and the continuation of the indicator set together with an annual report should be striven for under the Stability Pact.

2. Discussion

CRITERIA FOR INCLUSION OF INDICATORS IN MHS SEE

RELIABILITY AND VALIDITY OF THE DATA

MISSING DATA

BENCHMARKING

FURTHER STEPS

CRITERIA FOR INCLUSION OF INDICATORS IN MHIS SEE

A prerequisite for the selection of an indicator was its relevance to the situation in the SEE region and the availability of data. In a first step, indicators with regard to the following criteria were included in the list:

- indicators relating to the health situation, which are at the same time indicators of the social status, were considered of highest relevance. They include demographic data, such as unemployment rate, literacy rate, the proportion of children born underweight, as well as mortality and morbidity data, such as life expectancy, maternal mortality, infant mortality, mortality of children aged 1-4 years, and frequency of tuberculosis.
- environmental conditions were characterized by the living conditions (number of persons per room) and by water supply and waste water disposal.
- the population's nutritional situation plays a major role because of the danger of malnutrition and/or false nutrition for some population groups. Therefore, the number of calories per day and the portion of proteins in the total number of calories were supposed to be covered by one indicator (average number of calories per day, percentage of which comes from proteins).

When establishing the MHIS PH-SEE some problems arose:

1. The HFADB indicator defines the probability of dying before age 5 yrs instead of the mortality rate of children aged 1-4 years.
2. The HFA indicator defines all forms of tuberculosis and does not include the category: "of which pulmonary tuberculosis".
3. Up to now no decision has been taken on the indicator: "either average number of calories per person or % of total energy available from proteins".
4. Up to now no agreement has been reached on the indicator: either "Population (%) with connection to water" or "Population (%) with access to hygienic sewage disposal, total".
5. The proposal of the working group was: "Coverage of all vaccinations in children up to one year of age (%). But the HFA 21 indicator set of the WHO contains only indicators such as "% of infants vaccinated against diphtheria" or other infectious diseases but not for all infectious diseases. So a specification of this indicator will be necessary.
6. Some other indicators are listed "for 100,000 population, total and by sex." That would mean to split such indicators into three categories. So the actual list only contains the indicator for the total population, with the data for female and male ratios missing.
7. All indicators would be available by the HFA 21 Indicator set.
8. Additionally, the European average (EU-average) will be used as benchmarking criteria.

The Task Force checked the list of the HFADB version 2002 indicators and selected 32 of them as descriptive of the specific conditions in the SEE countries. 11 out of them are related to mortality. Table 69 shows the introductory list of the MHIS PH-SEE indicators.

Table 69: List of indicators selected from 'Health for All in the 21st Century' policy in accordance with specific conditions in the PH-SEE countries.

Topic	Indicator No.	Indicator
Demography/social/economy	01	Population aged ≥ 65 years (%)
	02	Unemployment rate (%)
	03	Literacy rate in population aged ≥ 15 years
Mortality-based indicators	04	Life expectancy at birth by sex
	05	Infant mortality rate per 1,000 live births
	06	Perinatal mortality rate per 1,000 births and rate of stillborn babies
	07	Maternal deaths per 100,000 live births (all causes)
	08	SDR ^a , cardiovascular diseases per 100,000 population by sex, all ages
	09	SDR ^a , malignant neoplasm per 100,000 population by sex, all ages
	10	SDR ^a , external causes, injuries, and poisoning per 100,000 population by sex, all ages
	11	SDR ^a , suicide and self-inflicted injuries per 100,000 population by sex, all ages
	12	SDR ^a , homicide and purposely inflicted injury by other persons per 100,000 population by sex, all ages
	13	SDR ^a , infectious and parasitic diseases per 100,000 population by sex, all ages
Morbidity and hospital discharges	14	Mortality rate for children aged 1-4 years per 100,000 of the age group, by sex
	15	Incidence of tuberculosis per 100,000 population, of which pulmonary tuberculosis by age and sex
Life style indicators	16	DMFT-12 index (Decayed, Missing, or Filled Teeth, aged 12)
	17	Pure alcohol consumed per person annually (L)
Environment	18	Average number of calories per person a day (kcal) or % of total energy available from proteins
	19	Population (%) with connection to water, total, or population (%) with access to hygienic sewage disposal, total
Health care resources	20	Average number of persons per room in an occupied housing unit
	21	Number of primary health care units per 100,000 population
	22	Number of hospital beds per 100,000 population
	23	Number of physicians, of which general practitioners, per 100,000 population
	24	Number of dentists (stomatologists) per 100,000 population
	25	Number of pharmacists per 100,000 population
Health care utilization/costs	26	Number of nurses per 100,000 population
	27	Average length of hospital stay (all hospitals)
	28	Total health expenditure, of which on inpatient care (US\$)
Maternal and child health	29	Gross national product (US\$), and its fraction for health expenditure
	30	Number of abortions per 1,000 live births (legal and other abortions)
	31	Life births (%) weighing 2,500 g and more
	32	Coverage of all vaccinations in children up to one year of age (%)

^aAge-standardized health rates.

This overrepresentation of mortality-related health indicators stems from the fact that mortality statistics are reasonably accurate in SEE countries, whereas morbidity statistics, like registry and hospital discharge statistics, are not equally well kept everywhere and at all times.

The indicators on homicide and suicide reflect consequences of the wars in SEE and psychological stress of the population. The incidence of tuberculosis reflects the socio-economic situation in the SEE region. The oral health status of the children reflects the efficiency of parts of the health care system. Selecting lifestyle indicators was especially difficult in view of the nutritional situation.

The planned pilot study has to show which data were available, the average number of calories per person per day or the percentage of total energy available from proteins. The preferred indicators for environmental health were water supply or hygienic sewage and “average number of persons per room”, which reflects inconvenient living conditions and factors favoring socially related diseases, such as tuberculosis. These 7 indicators altogether refer to health care resources, such as manpower and health care utilization. Two indicators refer to health expenditure and the gross national product. Since maternal and child health are very important for the SEE countries as early warnings, the following 6 indicators were selected in this area: abortions, underweight newborns, complete vaccination, infant mortality rate, perinatal mortality rate, and maternal deaths.

Finally 30 indicators were chosen to enter the MHIS PH-SEE meta-database, division by sex being incorporated. The list is presented in Section I (Table 1).

RELIABILITY AND VALIDITY OF THE DATA

Indicators have to meet high standards. WHO once again dealt with the quality criteria through its HFA 21 strategy, although the criteria had already been applied to the HFA 2000 indicators. Standards for indicator sets and their systematization have also been fixed in the ECHI Project of the European Union.

In terms of their validity, indicators usually cannot be better than the health statistics they are based on. This means for example that the “infant mortality rate (‰)” can only be calculated correctly if the number of children born alive and of those who died is correctly established. All 11 indicators derived from mortality statistics are therefore only valid if both of the official major statistics – population statistics and mortality statistics – are properly conducted. This leads to the conclusion that a comparison between the SEE countries depends on the quality of population and vital statistics. Comparing their health status and situation in health care on the basis of indicators is something new for the SEE countries.

Therefore, together with the definition of indicators, teaching materials for advanced public health training have to be developed. In this context, the HFA 2000 and HFA 21 indicator projects, which have been successfully run for years, are used as a basis.

MISSING DATA

An analysis shows that, starting with the year 1995, not all data are available for all countries in South Eastern Europe, e.g. for Bosnia and Hercegovina or FR Yugoslavia. There are no data at all available for Kosovo, because this territory has not been included in the WHO lists yet.

Also there exist no data (or almost no data) on the following indicators:

- MHIS SEE Indicator15 - Number of decayed, missing or filled teeth at age 12 (DMFT-12 Index)
- MHIS SEE Indicator16 - Percent of population whose homes are connected to water supply system, total

- MHIS SEE Indicator17 - Percent of population with access to hygienic sewage disposal, total

There are no data for Bosnia and Hercegovina, FR Yugoslavia, the territory of Kosovo, and for some countries for the years 1998 and 1999.

Looking at the data stored within the HFA21 database, no data have been stored for Bosnia-Hercegovina and Yugoslavia FR over the last years. Kosovo does not exist on the HFA21 indicator list of the WHO. So some of the Balkan countries have to complete their database. Some other data, e.g. for Albania are not very topical. So the data situation is unsatisfactory.

BENCHMARKING

The HFA 21 indicator set includes several averages, as follows:

- a) the “EU average” of the 15 Member States of the European Union,
- b) the “CEE average” of the Countries of Central and Eastern Europe and
- c) the “NIS average” of the Newly Independent States, former Soviet Union States.

The Task Force investigated these different averages and concluded that the best average and at the same time benchmarking level would be the “EU average”.

So far (up to the year 2000), only Slovenia has reached the EU-average with regard to the indicator of “Infant Mortality”. Concerning statistical tools for data analysis to be used for the Minimum Indicator Set, it was agreed to follow the recommendations of WHO and EU. For all mortality indicators, age standardization will be necessary to avoid bias caused by different age structures between the SEE countries. All indicators on mortality and morbidity must be presented for women and men separately and for the whole population.

It was also agreed to define the minimum and maximum of PH-SEE values (MIN PH-SEE and MAX PH-SEE) as another benchmarking criterion.

FURTHER STEPS

After finishing the baseline meta-database on MHIS SEE, a strategy for implementation has to be developed. The key actions for implementing the MHIS should be defined. The experience of other projects such as the development of an indicator set on reproductive health (WHO, Geneva: Reproductive Health Indicators for Global Monitoring, 2000) reveals the following steps:

1. Develop a plan for the single collection of data and their storage based on agreements under the Stability Pact.

The experience of other projects such as "Reproductive Health Indicators for Global Monitoring" (WHO Geneva, 2000) and „Common Minimum Indicator Set“ initiated by the Regional Health Network of WHO, Copenhagen, 1996-1999 (coordination by loegd, Bielefeld, Germany) demonstrated the necessity of testing a part or all indicators within a pilot phase. The

experience with data collection has to be analysed and the main steps for data collection and storing have to be fixed afterwards. Steps for reaching this target could be the following:

- to define and guarantee the national capacity for data collection and data analysis
- to define the resources needed to support implementation of the indicator set at the level of all Balkan countries and for global monitoring of the indicator list
- to collect the indicators in a standardised manner
- to disseminate the indicators and to get feed-back of the results of all levels

2. Develop a plan of work to provide guidance and technical assistance to countries in order to strengthen their capacity to collect and report on these indicators.

If all steps listed above have been reached, a plan of work with divided responsibility and timetable has to be worked out.

The proposal consists in defining one institution with guidance and to nominate a technical committee for assistance.

Some technical questions arise, e.g. concerning the HFADB software. For the project a PH-SEE specific software and specific tables will be necessary. The country list includes:

- Albania
- Bosnia-Herzegovina
- Bulgaria
- Croatia
- FYR-Macedonia
- Greece
- Moldavia
- Romania
- Slovenia
- Serbia & Montenegro
- Kosovo
- EU-average

The next technical step should consist in the implementation of the proper software for the MHIS PH-SEE. Nowadays, the HFA21 Indicator tables are limited to 5 items, for the PH-SEE region we need 12 items (columns) to be reflected. It has to be checked if this can be achieved by creating a special software for the PH-SEE region.

3. Agreement on how to jointly implement such a work plan.

New responsibilities have now to be fixed and some logistic and organisational work has to be done to implement the MHIS SEE into practice. The support of the Ministries of Health and Statistical offices of the PH-SEE region countries will be needed as well as the support of WHO, Regional Office of Europe and the support of the European Union.

3. Conclusions

CONCLUSIONS

1. The present document describes the methodology for developing a framework for comparative health monitoring in the countries of South Eastern Europe (SEE) with a limited number of relevant health and social indicators (Minimum Health Indicator Set: MHIS), based on the Health For All (HFA) database of WHO-EURO.
2. The information available through the MHIS serves the public debate, supports political and institutional decision makers, and allows the improvement of national and international health programmes.
3. The MHIS as presented has been agreed by the technical experts from all countries in SEE, on the basis of extensive discussions in the PH-SEE Network for Public Health Collaboration in South Eastern Europe.
4. The report allows for the following conclusions:
 - i. The reporting coverage and quality of most of the selected 30 core indicators of the MHIS for the majority of SEE countries is not satisfactory.
 - ii. The report has demonstrated that about 2/3 of all indicators tested (22 out of 30) show a reasonable quality, which allows their use for the comparative description and analysis of the health status and health care in the region. However, conclusions on improvement or deterioration have to be drawn with care. The validity and reliability of almost all indicators should be further enhanced.
 - iii. Given the pending environmental threats in the region it is remarkable that there is no reporting on indicators of the environment in the HFA database of WHO-EURO.
 - iv. Especially serious deficits exist for indicators which should describe health care resources, health care utilisation and costs. Therefore an essential prerequisite for effective health care reform in SEE is missing or at least deficient. A valid analysis of the old system as well as the necessary evaluation of any reform steps is impaired by a lack of reliable information on core health indicators. Nevertheless, the available data should be used for first preliminary analyses, which may help to improve the standardisation of definitions and methods of data collection.
 - v. For most of the selected indicators and for the vast majority of SEE countries the level of health is clearly below the EU average which has been used for benchmarking purposes.
5. In order to implement an effective and efficient system for health monitoring and health reporting in SEE, the following recommendations regarding the further proceedings are made by the PH-SEE experts:
 - to develop and improve national capacity to collect and analyse the data,
 - to provide resources to support implementation at country level and resources for the global monitoring of the Minimum Health Indicator Set,
 - to guarantee that the indicators will be collected in a standardized manner, and

- to disseminate the results to all levels necessary and provide feedback to the data-providers.
- 6. In order to introduce the MHIS in the SEE countries, this report will be submitted to the national Ministries of Health by the PH-SEE network member-institutions, accompanied by an official letter of the PH-SEE network.
- 7. A working meeting with the involved technical experts from SEE countries should be convened within a suitable international framework (Stability Pact/Council of Europe?), initiated and coordinated by the national governments (MOH).
- 8. The presently available data should be actively used and be analysed on an annual basis. The description of the data quality needs to be enhanced (meta-database) in order to allow their valid interpretation. The information available from the WHO-HFA database is not sufficient in this respect.

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APPENDICES

- 1. Calculation of Life Expectancy in HFAdb**
- 2. Standardized death rates in HFAdb**

APPENDIX 1 – CALCULATIONN OF LIFE EXPECTANCY IN HFAdb

Mortality-based indicators in the HFAdb are calculated by the Regional Office using reported raw mortality data or numerators of corresponding indicators.

Age-standardized death rates (SDR) are calculated using the direct method of standardization. The European Standard population is used as a standard population in these calculations. SDRs represent what the crude death rate would have been if the population had the same age distribution as the European Standard population (Table A1).

Table A1: European Standard population as used in the WHO Health for All database.

Age group (years)	European Standard population
0	1600
1-4	6400
5-9	7000
10-14	7000
15-19	7000
20-24	7000
25-29	7000
30-34	7000
35-39	7000
40-44	7000
45-49	7000
50-54	7000
55-59	6000
60-64	5000
65-69	4000
70-74	3000
75-79	2000
80-84	1000
85+	1000
Total	100000

APPENDIX 2 – STANDARDIZED DEATH RATES IN HFADB

Life expectancy is calculated in HFADB using the Wiesler's method. The age disaggregation of mortality data is: 0, 1 – 4, 5 – 9, 10 – 14, ..., 80 – 84, 85+.