

SECTORAL ACTIVITIES PROGRAMME

Working Paper

**Health worker migration flows in Europe:
Overview and case studies in selected CEE countries –
Romania, Czech Republic, Serbia and Croatia**

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Working papers are preliminary documents circulated
to stimulate discussion and obtain comments

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List of abbreviations and acronyms

| | |
|------------|-----------------------------------------------------------------------------|
| AMEE | International Association for Medical Education |
| CEE | Central and Eastern Europe |
| CIS | Commonwealth of Independent States |
| EEA | European Economic Area: European Union plus Iceland, Liechtenstein, Norway. |
| EECA | East European and Caucasus countries |
| EFN | European Federation of Nurses Associations |
| EHPF | European Health Policy Forum |
| EU | European Union |
| EU-15 | EU with 15 Member States until April 2004 |
| EU-25 | EU with 25 Member States as of May 2004 |
| EURES | European Employment Services |
| ILO | International Labour Office, International Labour Organization |
| ILO SECTOR | Sectoral Activities Department at the International Labour Office |
| IOM | International Organization for Migration |
| NIS | newly independent states |
| OECD | Organisation for Economic Co-operation and Development |
| UK | United Kingdom |
| WFME | World Federation of Medical Education |
| WHO | World Health Organization |
| WHO EURO | WHO Regional Office for Europe |

Introduction

The international migration of health workers has become a major feature on the health policy agenda. The main emphasis of international debate is currently on the South-North migration flows, following the urgent concerns expressed in the wake of skilled health worker emigration from developing countries in Africa and Asia to the developed world. These migration flows have been labelled a “brain drain” because of the damaging effect that the loss of qualified health workers has had on source countries’ health systems. Yet, skilled health worker migration also occurs at regional levels, drawing attention to the issue of South-South and North-North movements in times of global health workforce shortages and labour market changes.

Health worker mobility is an emerging topic in the European region, including the European Union (EU), the European Economic Area (EEA) and neighbouring countries. At present, health labour migration between countries in the European region is developing at a slow pace, mostly due to bureaucratic hurdles and lack of harmonization in professional regulations, and – last but not least – language barriers. However, within the European Union it is a clearly stated political objective to facilitate labour migration within its Member States, including health professionals, which may imply increasing health worker mobility. There is rising concern among European health policy-makers who point to geographical health workforce imbalances as a key challenge in Europe, and to migration as one determinant, especially outflows of skilled health labour from East to West European countries.¹

Evidence on health worker migration globally suffers from a lack of comprehensive and comparable data; information is patchy and often anecdotal. This is also true for the European context, where media reports on health worker migration increasingly report flows from East to West Europe allowing rich countries in the West to recruit health workers from East European countries in order to fill vacancies and to an “exodus” of qualified health professionals in East European countries, despite systematic evidence not being available. There is an identified need in the European region to improve comparability of health workforce data as one prerequisite for monitoring the demand and supply of health labour across countries. This would also constitute a better base for monitoring migration flows of health workers.

Background and purpose of the study

The ILO Sectoral Activities Department (ILO SECTOR), Health Services Unit, initiated an explorative research project on health worker mobility in Europe with focus on CEE countries. The purpose of the project was to explore and document current knowledge and information available in order to establish the current status, and identify both preliminary trends as well as information gaps and the need for further action.

The project contained two main components: a literature review to provide an overview on the state of the migration discussion in Europe, complemented by initial research in selected countries for obtaining country-based insight on information available.

¹ WHO Europe, 2004.

The regional research was undertaken in the framework of the ILO SECTOR “Action Programme on the International Migration of Health Care Workers: The Supply Side” (2006-07). The overall aim of the Action Programme is to develop and disseminate strategies and best practices for the management of health worker migration from the supplying nations’ perspective. For the preliminary study in Europe it was decided to conduct initial research in selected Central and Eastern European (CEE) countries: assuming that the global hierarchical pattern of labour migration, i.e. from poorer to richer countries, would also apply to the European region, CEE countries were considered potential labour supplying nations in Europe. This could be enhanced by the profound changes in the region, notably the recent European Union enlargement, facilitating international migration. With the purpose of exploring the current situation, research was initiated in four CEE countries: Croatia, Czech Republic, Romania, and Serbia and Montenegro. The selection of the countries followed a preliminary overview on research already under way or work done in the region in order to avoid duplication. The country selection also considered relations with the European Union to see if there were preliminary trends regarding potential impact following the European Union enlargement in May 2004: the sampled countries include one new European Union Member State (Czech Republic), one acceding country (Romania), one candidate (Croatia) and one non-European Union country (Serbia and Montenegro).

Methodology

An extensive literature review was carried out through the Internet and in the library resources and databases of the ILO and WHO. The search strategies included various combinations of key words (migration, labour migration, mobility, brain drain, health worker, health professional, health workforce, nurse, doctor, physician) focusing on the European region. Additionally, interviews with key informants in international organizations were conducted in order to obtain complementary information to the published literature.

Researchers in the respective countries, mostly health sector experts, conducted the four country case studies. They were asked to identify data sources and provide basic information and data on their countries’ health labour market, health workforce, health worker supply, and to identify what information was available on the migration of health workers and the potential impact on the countries’ health system.

The aim of the country studies was to generate an initial overview on the data sources for health workforce and migration data, the information available and the degree to which the subject was discussed in the countries. With regard to Serbia and Montenegro, it should be noted that the information obtained focuses on Serbia only. Data on Montenegro would have required separate research, which was not feasible in the framework of the project.

The data and information were collected between October and November 2005.

Limitations

Concerning the literature review, results must be considered non-exhaustive: due to language limitations only internationally published documents could be included. Research was carried out in English, German and French. This may mean that undetected information is available in one of the other European languages.

Structure of the report

This report presents the results of the research project in two parts:

- Part I provides an overview on the discussion of international health worker migration in Europe. It includes background information in summarizing general labour migration trends, namely in the context of European Union enlargement, looks at information on health worker flows and at migration influencing aspects such as policies managing migration, professional regulation, and demographic and labour-related determinants such as ageing and working conditions.
- Part II presents the four country case studies. As the country-based information is not directly comparable, due to the diversity of the health systems and the composition of their workforce, the country reports are presented in their original state. They thus provide a comprehensive basic overview for each country on health labour market and workforce issues as a background, and the information available on international migration of health workers within the countries.
- Part III consists of an overall summary concluding the project report.

Part I: Moving westwards? Myths and facts on international migration of health workers in the European region

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“In the 21st century, one of our most important challenges is to find ways to manage migration for the benefit of all – of sending countries, receiving countries, transit countries, and migrants themselves.” Kofi Annan, 2005¹

1. Introduction

The European region² is characterized by the diversity of its nations and peoples on cultural, political, economical and social levels. Moreover, the last two decades have brought significant political and socio-economic changes to many countries with influences on traditional social, economic and cultural ties with other peoples and changing definitions of some national identities.

An East-West gap in the region is being observed and concerns about increasing inequalities have been voiced. Disparities between the countries in the region are evident in indicators such as national income, health expenditure and life expectancy at birth. Countries with high-income economies are predominantly found in the western part of the region (with the exception of Slovenia and Israel), while low-income and low-middle income economies in majority are located in the eastern part.³ The range of health expenditure rates reflects the economic situation of the countries, with Western European countries showing the highest total health expenditures (e.g. Switzerland with 11.5 per cent of gross domestic product (GDP) in 2003), whereas countries with the lowest health expenditure were located in the eastern part of the region, namely CIS countries (e.g. Azerbaijan with 3.6 per cent of GDP in 2003). Expressed in health expenditure per capita, the disparities become even more obvious: while the former EU-15 countries on average spent US\$2,543 (Purchasing Power Parity dollars) per capita in 2003, CIS countries on average spent US\$413 per capita.⁴ In 2003, the gap between countries with the average highest and lowest life expectancy was 15 years.⁵

¹ Cited in E. Leopold, 2005.

² The European region within this report refers to the ILO European region, which corresponds to the WHO European region, including countries of the EU, the EEA, Switzerland, Turkey, Israel, Central and Eastern European countries, as well as Central Asian countries, such as the CIS, NIS and the Russian Federation.

³ World Bank Country Classification, 2005.

⁴ WHO EURO, HFA database.

⁵ WHO Europe, 2005.

The concerns about massive East-West movements that were expressed especially in the period prior to European Union enlargement may stem from these socio-economic disparities. Sections of the population and politicians in Western European countries developed fears regarding the potential influx of “cheap labour” in times of structural unemployment in their own countries. Politicians in Eastern European countries were concerned about potential outflows of their young and qualified workforce, weakening their countries’ productivity and development prospects. On the other hand there was hope regarding the positive effects of migration, notably a reduction of unemployment and an increase in remittances.⁶

A steadily growing demand for health workers in Western European countries due to ageing populations and advanced technologies combined with prevailing and increasing shortages within the domestic health workforce makes the international recruitment of health professionals a potential solution for health policy-makers. The European Union enlargement is gradually opening labour markets, offering extended opportunities to recruit from abroad. Health worker mobility at European regional levels therefore is an issue that is increasingly found on the health policy agenda.

This overview looks at the information available on health worker migration in Europe. It considers the context of general migration trends and policies and summarizes the influencing factors that enhance or constrain health worker mobility.

2. General migration and demographic trends in the European region

Migration constitutes a complex phenomenon affecting source and destination countries in diverse ways, involving economical, political, social and individual human aspects. The numbers of migrants alone can provide a crude indicator for various layers of factors determining migration and its impact. Economically active migrants are estimated to account for some 26.5 million workers in the European region, representing about 4 per cent of the region’s total workforce, which is a modest or low rate, but the consequences for the countries go beyond the sheer numbers.⁷ Similarly, the migration of health professionals globally only constitutes a small part of labour migration,⁸ but the effects on the health systems of countries concerned may be significant.

A common categorization of regular migration is associated with the anticipated duration of stay. ILO (2004) distinguished three main types:

- permanent migration; mainly for highly skilled migrants, family reunification and refugee settlement;
- temporary migration for employment, for migrants to take up all kinds of employment, to fill vacant posts, such as nursing positions – also known as “guest workers”;

⁶ Moreno-Fontes Chammartin et al., 2005.

⁷ ILO, 2005.

⁸ Stilwell et al., 2003.

-
- temporary migration for time-bound employment, for migrants that take up seasonal jobs or jobs that will end with a project, and services providers, trainees and students.⁹

This classification refers mainly to documented migrants. In general, migrant categories also include undocumented labour migrants, asylum seekers, recognized refugees, and externally displaced persons (not recognized as refugees).¹⁰ This report focuses on documented labour migrants, as migrating health workers are mostly found in this group.

While for more than two centuries Western European countries have been primarily source countries of emigration, during the last 50 years most of these countries gradually became destination countries for international migrants. The European Union (EU-25)¹¹ had 456 million inhabitants in 2004, of which 34-37 million were international migrants, representing about 8 per cent of the total population. Europe has now become as comparably important an immigration destination as North America, with 56.1 million migrants in the region compared to 40.8 in North America. Today all Western European and some of the Central European countries have net positive migration figures. Nevertheless, European countries are ambivalent about immigration and in acknowledging the fact that they increasingly have become destination countries.¹² This has become a constraint in developing and implementing active migration policies.¹³

Migration has become an increasingly discussed issue especially in the context of European Union enlargement. When European Union enlargement was undertaken, fears and scepticism predominated among the public of the EU-15 countries in anticipating a potential threat that a cheap Eastern workforce could flood Western labour markets.¹⁴ However, a European Foundation study published in 2004 at the time of enlargement came to the conclusion that the EU-15 countries should not expect a tidal wave of emigration from the Eastern and Mediterranean accession countries. It could be shown that only 1 per cent of the potentially economic active population (15 years and older) in the accession and candidate countries had the firm intention to migrate within the next five years. Thus the overall volume of expected migrant inflows after enlargement was much less than predicted by some politicians and in the public debate. In addition, it has been estimated that two-thirds of all migration would likely be of a temporary nature.¹⁵ Similarly, a German economic institute estimated that until 2030 not more than 3.7 million people would move from the new to the old European Union Member States and confirmed that the old fear of massive inflows from Eastern European countries, promoted by former politicians, was not based on realistic figures.¹⁶ Furthermore, by 2003 most of the new European Union Member States already had a positive net migration balance. Only

⁹ ILO, 2004: pp. 9-10.

¹⁰ Stilwell et al., 2003.

¹¹ EU-25 = European Union with 25 Member States as of 1 May 2004.

¹² Boswell, 2005; Münz, 2004.

¹³ Holzmann et al., 2004.

¹⁴ Traser, 2005.

¹⁵ European Foundation for the Improvement of Living and Working Conditions, 2004.

¹⁶ Tenbrock, 2004.

Lithuania, Latvia, Estonia and Poland show modest emigration rates (migration balances of -1.4; -0.3; -0.1 and -0.4 respectively).¹⁷

The fears and scepticism in Western Europe in the context of enlargement may have been triggered by the experience of inflows from Eastern Europe in the early 1990s when significant movements in the Eastern European countries took place. After the disintegration of communism, many people from CEE countries moved to the West in the context of family reunification or in search of a better quality of life. An estimated 550,000 persons from the CEE countries were legally living in Western European countries by 1998, with many more having entered irregularly. Countries that lost significant numbers of their population included Poland, Slovenia and the Czech Republic. The problem was especially severe in the Baltic States, as parts of the population of Russian origin left.¹⁸ At present, most movements in Eastern Europe take place to the Russian Federation from CIS countries such as Ukraine, Kazakhstan and Azerbaijan, and from China.¹⁹

The migration phenomenon has also to be seen in the context of the demographic situation in Europe. Most European countries face the challenge of an ageing population due to rising life expectancy in conjunction with negative natural population growth rates, thus a projected shrinking of populations in the decades to come. The reverse of the age pyramid implies less younger people, an ageing workforce and increasing dependency ratios.²⁰ It has been estimated that Western and Central Europe's²¹ total population will remain stable in the next two decades, but subsequently will decrease with significant implications for the workforce. If no countermeasures are taken, the number of people aged 15-64 will decrease by 5.5 per cent until 2025 and by nearly one-fifth (-19.6 per cent) by 2050. In parallel, the number of people of retirement age will increase by 42.5 per cent until 2025 and will reach a growth of 71 per cent by 2050.²² In 2000, the average dependency ratio was nearly 25 per cent in the EU-15 countries, and the new Members showed ratios slightly below the EU-15 average, with figures between 16 and 22 per cent (Slovakia and Estonia respectively).

However, it is estimated that the dependency ratios in the new ten member countries will increase rapidly as a large proportion of the workforce reaches retirement age.²³ In 2002, the dependency ratio in Bulgaria represented 24.9 per cent, in Hungary 22.4 per cent, in Romania 20.5 per cent, in the Czech Republic 19.7 per cent and in Poland 18.2 per cent.²⁴ Furthermore, similar to many West European countries, most of the Central European new European Union Members have natural population growth rates that are close to zero or negative. The situation is especially worrying in Latvia, Estonia and

¹⁷ Holzmann et al., 2004.

¹⁸ Moreno-Fontes Chammartin et al., 2005.

¹⁹ ILO, 2005.

²⁰ Dependency ratio = proportion of population aged 65+ to economically active population (aged 15-64).

²¹ The figures refer to the countries of EU-25 and EEA plus Switzerland.

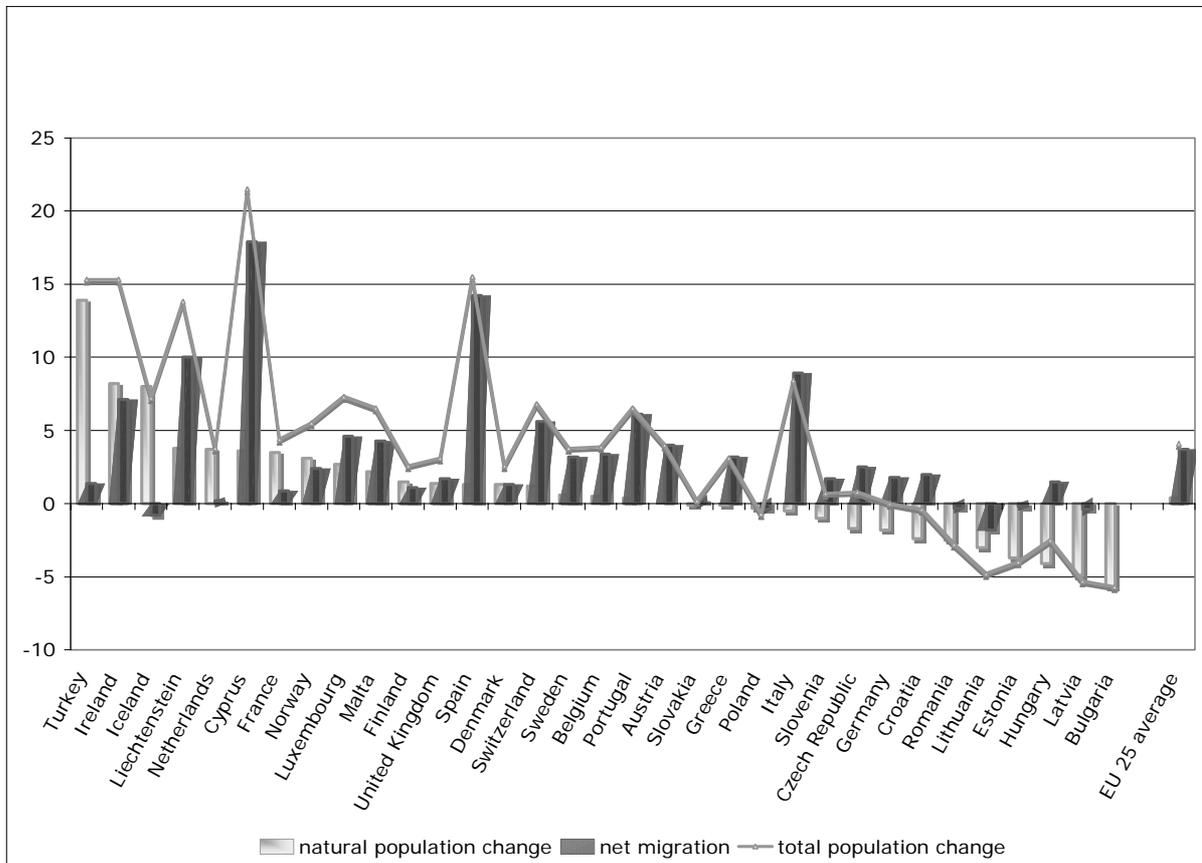
²² Holzmann et al., 2004.

²³ Moreno-Fontes Chammartin et al., 2005.

²⁴ Kaczmarczyk et al., 2005.

Lithuania, where high rates of population decrease coincide with net emigration.²⁵ Figure 1 provides an overview of the population changes in selected countries of the European region and the EU-25 average in 2003.

Figure 1. Population changes in selected European countries, 2003
(sorted by natural population change; for Bulgaria no net migration data were indicated)



Source: Chart by Salumondi, based on Eurostat data in IOM, 2005.

As Figure 1 illustrates, the majority of the countries experienced low growth rates or a decrease of their native population. In several countries, positive population growth rates were related to immigration, especially Austria, the Czech Republic, Italy, Germany, Greece, Slovenia and Slovakia. Ninety per cent of the population growth in the EU-25 was due to immigration: the total population growth rate of 4.1 per cent consisted of 3.7 per cent net migration and only 0.4 per cent natural population growth.²⁶

For the entire European region a significant decrease in the workforce has been projected. Assuming that 60-80 per cent of the 15-64 age group is economically active, the decrease in Western and Central Europe (EU-25) will reach 16 million workers by 2025. In the East European and Caucasus countries (EECA region²⁷) there will be an increase of an

²⁵ Moreno-Fontes Chammartin et al., 2005.

²⁶ IOM, 2005.

²⁷ EECA region includes 20 CEE and CIS countries: Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Georgia, Kazakhstan, Kyrgyzstan, Macedonia, Republic of Moldova, Romania, Russian Federation, Serbia and Montenegro, Tajikistan, Turkey, Turkmenistan, Ukraine, Uzbekistan (see Holzmann et al., 2004).

estimated 7 million active or job-seeking population, mainly in Turkey and Central Asia. By 2050 the native workforce in EU-25 countries will shrink by 46 million workers and in the EECA region by 28 million economically active population.²⁸ In the same period, the neighbouring countries in the Middle East and North Africa will experience an estimated increase of 158 million potential labour force.

In 2000, the UN Population Division estimated that the EU-15 countries would need about 47 million migrants to maintain the size of the population until 2050; about 79 million migrants would be required to maintain the size of the 15-64 age group; and about 674 million migrants would be needed to maintain a constant dependency ratio. The ILO estimated in two scenarios that by 2050 there would be a substantial labour shortage in EU-15 of either about 38 million workers or 88 million respectively,²⁹ if no corrective measures were taken. A substantial reduction in the standard of living would be the consequence with an estimated 78 per cent decline of expected GDP per capita.³⁰

Against this demographic background and considering that since the 1990s the social security systems in many European countries have reached their limits due to the ageing population and increasing dependency ratios, it can be concluded that for the European region migration contributes to the necessary population growth and in particular labour migration constitutes an important component in balancing demand for and supply of workforce participation.

However, OECD data show a mixed picture concerning the share of foreign or foreign-born labour force in European OECD countries. Between 1998 and 2003 there was a sharp growth in foreign labour, especially in South European countries, such as Greece, Italy, Spain and Portugal, as well as in Ireland and Finland. In some countries the figures were stagnating or declining, for example in Austria, Belgium, Denmark and France. In several countries the participation of foreigners in the labour force is significant, notably in Luxembourg (45 per cent), and Switzerland (21.9 per cent), as well as in Greece (9.5 per cent), Austria (9.2 per cent) and Germany (9 per cent). OECD (2004) stated that the employment of foreigners is associated with economic recessions and recovery in the host countries. While during the 1990s in some countries significant increases in foreign employment accompanied a period of economic expansion, the economic recession period 2000-03 implied declining employment of foreigners, especially in France, Belgium, Germany and the Netherlands.³¹

Within the EU-15 countries, labour mobility has never been at high levels. Despite the freedom of movement guaranteed to European Union citizens, the low level of geographical mobility has hardly changed in the past 30 years. The percentage of workers from the European Union Member States who lived in a different Member State from their country of origin was put at 1.5 per cent in 2002.³² According to other recent EU-15 mobility studies, 8 per cent of the European Union population indicated an intention to migrate within the next five years, but only 4 per cent did so in the past ten years.³³

²⁸ Turkey: + 17 million; rest of EECA: -45 million workers.

²⁹ Assuming a rise in labour productivity of 2.5 per cent and 2 per cent respectively.

³⁰ ILO, 2004.

³¹ OECD, 2004.

³² European Commission, 2005.

³³ IOM, 2005.

Intra-European Union mobility remained at a modest level, with the exception of Belgium and Luxembourg. In six of the EU-15 Member States, the proportion of Europeans in total foreigners only reached 25 per cent or less. The proportion of European foreigners in the total population was below 2 per cent, except for Belgium, Luxembourg and Germany.³⁴

There is common sense in recent studies that the potentials for further East-West movements in Europe are at a low level. The total migration potential has been set at 3-4 million people in the next 20 years, and as already mentioned it concerns only 1 per cent of the population in the new European Union Member States. Furthermore, experiences with previous European Union enlargements indicate that the potential migration flows are more likely to decrease after accession. In the case of the ten new Member States, it has been argued that due to their demographic situation they do not have the potential for large-scale emigration, rather they will become increasingly immigration countries. For example, it is expected that in countries such as Poland, Hungary and Slovakia, new immigrants from Ukraine, Romania and Bulgaria will fill vacant jobs, especially in rural areas.³⁵

A challenge for source countries will be the shift in labour migrants from a majority of unskilled workers in the 1960s and 1970s towards a higher proportion of young people and skilled workers from the 1990s onwards.³⁶ Source countries may on average lose 2-3 per cent of young people; in Bulgaria and Romania this may even amount to 10 per cent of their young population in the next five years. The potential outflow of 3-5 per cent of people with tertiary education and up to 10 per cent of students constitutes a concern for the labour supplying countries.³⁷

3. Health labour market

The health sector is an important employer in European countries. Health labour markets have developed rapidly at national and international levels. The average share of health services employment in total employment varies in relation to the economic situation of the countries. This may be related to the variations in health expenditure share in GDP, which in most European countries is associated with the national income level. Recent OECD studies suggest that one of the factors influencing the demand for nurses and physicians is the health expenditure share in GDP.³⁸ In 2000, health services employment was estimated to account for around 10 per cent of total employment in high-income economies and 6 per cent in transition economies in the European region.³⁹ The annual growth rates in health services employment between 1995 and 2000 show variances across the region. In most developed economies in Western Europe an increase has taken place, most pronounced in Spain (5 per cent), Portugal (3.9 per cent) and Germany (3.2 per

³⁴ Moreno-Fontes Chammartin, 2005; based on OECD data for 1998.

³⁵ IOM, 2005.

³⁶ European Commission, 2005.

³⁷ European Foundation for the Improvement of Living and Working Conditions, 2004.

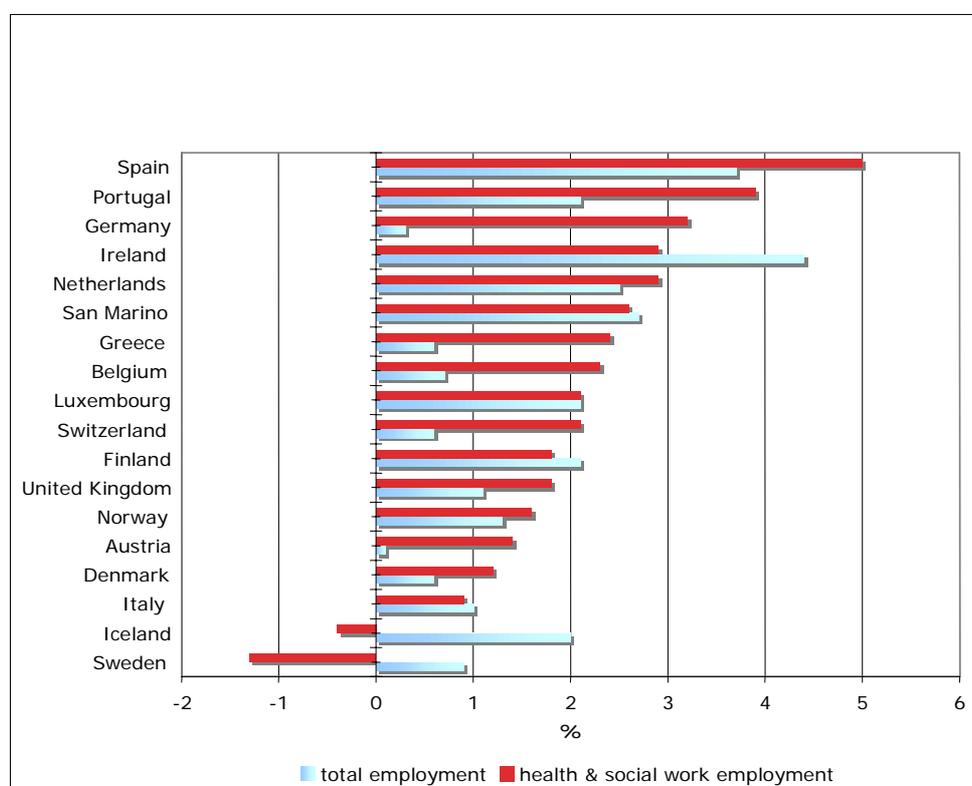
³⁸ Simoens et al., 2005; Simoens et al., 2006.

³⁹ ILO, 2002. Statistics of employment in health services by ILO refer to the International Standard Industrial Classification of all Economic Activities (ISIC, Ref. 3, 1990). Within the type of economic activity "health and social work", social work accounts for only a minor share of this category. ILO, 2002:8.

cent). Exceptions were Sweden and Iceland where employment in the health sector decreased by an annual average of 1.3 and 0.4 per cent respectively. In the majority of countries, health services employment had higher growth rates compared to total employment. In transition economies, the picture was more mixed. Four countries showed a significant decline in health sector employment: Estonia, Latvia, Bulgaria and Poland, with an annual average decline of -4, -3.6, -2.5 and -0.8 per cent respectively. An increase, while more modest, was reported in six transition countries, namely Croatia (1.4 per cent), Czech Republic, Hungary, Lithuania, the Russian Federation and Slovakia (0.9, 0.6, 0.4, and 0.9 per cent respectively).

Figures 2 and 3 provide an overview of the annual average growth rates in health and social work employment compared to total employment in selected countries⁴⁰ of the European region for the period between 1995 and 2000.

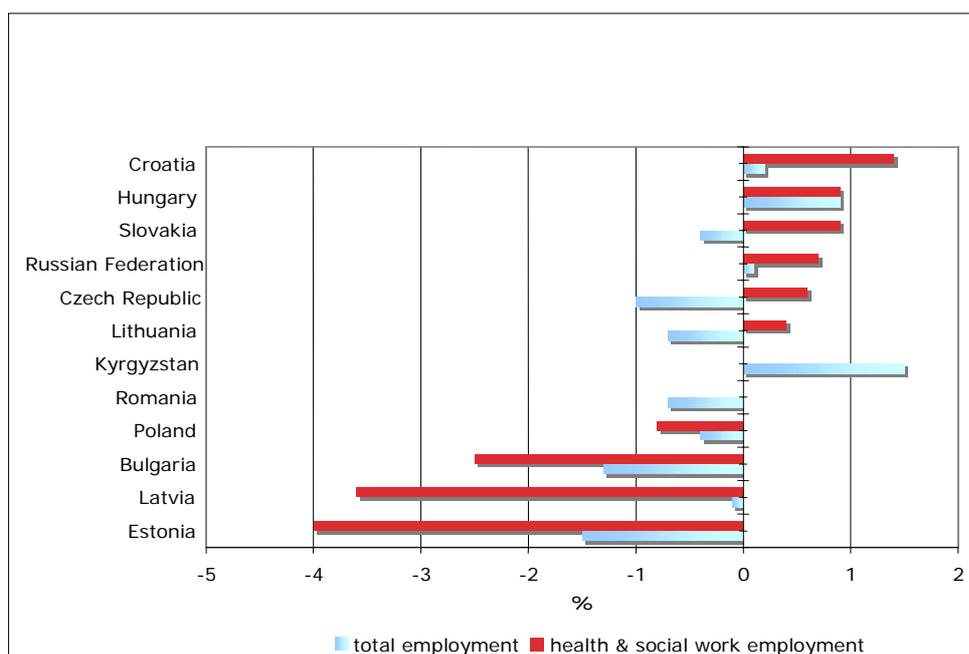
Figure 2. Annual growth rates in health services employment 1995-2000, selected developed economies in Europe



Source: Adapted from ILO, 2002: pp. 9-13.

⁴⁰ For those countries where data were available.

Figure 3. Annual growth rates in health services employment 1995-2000, selected transition economies in Europe



Source: Adapted from ILO, 2002: pp. 9-13.

The participation of women in health employment is very high and exceeds by far their share in general employment. In 2000, the share of women in health services employment was an average 77 per cent in developed economies and 79 per cent in transition economies of CEE countries.

The density of the various health professions varies significantly across the region. These variations may be related to the differences in the design of the health systems, including the major demand and supply aspects, such as financing and health insurance coverage, changes in the population, health needs, education and training, and terms and conditions of service and remuneration. Furthermore, variations are also explained in the range of definitions of professions and their tasks across countries, which determine the composition of the health workforce. Several studies have suggested that higher density ratios of physicians and nurses are associated with better health outcomes and patient safety.⁴¹

For the European region, CIS countries tend to have a higher average physician density (374 per 100,000 population) compared to the EU-15 average (356, with the exception of Italy scoring highest with 618). The nurse density on average is high in EU-15 (817), but varies substantially between Turkey with the lowest (244) and Finland with the highest rate (2,166).⁴²

⁴¹ Simoens et al., 2005; Simoens et al., 2006.

⁴² WHO European Health for All database, data for 2002.

4. Health worker migration in Europe

The international migration of skilled workers has been of political concern since the 1970s. Joint discussions in 1973 between WHO and ILO on the working conditions of nurses, for example, included the issue of international nurse migration. As a result, the ILO Nursing Personnel Recommendation (R.157), adopted in 1977,⁴³ refers to ethical international recruitment issues, a topic that gained momentum in the late 1990s with the development of the United Kingdom Code of Practice on International Recruitment in the National Health Service (NHS) and with the adoption of the Commonwealth Code of Practice in 2003.

In Europe, the question of health worker migration is increasingly discussed in the media, especially in the context of European Union enlargement. A special working group on health services and medical care within the European Commission placed health worker mobility on its agenda in 2005. Following research on the impact of nurse and doctor mobility across six countries, the group stated that robust data related to migration were limited. A first analysis however suggested that the number of migrating health professionals was relatively small.⁴⁴

4.1. Data sources

Worldwide there is a general lack of comprehensive and internationally comparable data, which would allow monitoring of health labour migration. One of the early studies that tried to establish a global picture on physician and nurse migration in the mid-1970s was constrained by the lack of reliable data. The data situation has not changed much since then: findings of the early study showed that in general, receiving countries had better information on inflows than on outflows, while in source countries mobility information was weak or non-existent.⁴⁵ More recently, this has been confirmed as a prevailing situation:⁴⁶ data are incomplete and often not compatible for reasons of definitions or methods, as even within a country they have to be retrieved from various data sources. Stilwell et al. (2003) listed the potential data sources for health worker cross-border movements and stated that the data available tend to reflect the migration systems and policies of national governments, as there is little standardization of migration statistics. Main potential data sources include:

- administrative registers, such as population registers and foreign registers;
- work and residence permit data, visa data and border statistics;
- census data;
- surveys.

Additional sources for regulated health professions consist of the professional registers of national regulatory bodies or professional associations.

⁴³ ILO Nursing Personnel Convention, 1977 (No. 149) and the Nursing Personnel Recommendation, 1977 (No. 157) are available from www.ilo.org/ilolex.

⁴⁴ European Commission, HLG on health services and medical care, 2005.

⁴⁵ Mejia, 1978.

⁴⁶ Stilwell et al., 2003.

All of these sources partly provide aspects of migration, for instance the stock of foreign health workers in the health workforce, entry data, licensing data or the intention to migrate. However, there is no data source providing a comprehensive picture on the complexity of the migration phenomenon, including internal and international movements, trajectories, duration of migration and their determinants.⁴⁷ Thus, information on health worker migration has to be gathered from different data sources, and data vary across countries. Buchan (2006) suggested taking a national focus and using available data for describing the country within the international dynamics for assessing the interrelationships with other countries in terms of health worker flows.⁴⁸ This approach has been taken with the country case studies in Part II of this report.

4.2. Dynamic health worker movements in Europe

This section summarizes the information available on international movements of health workers in the European region. The literature provides a fragmented picture, which allows a kind of kaleidoscope of snapshots on the movements of workers or on recruitment efforts in the region.

An idea of the dynamic health worker flows within the region can be gained from a recent OECD study on physician supply. The data suggest that a large part of foreign physicians in European OECD countries have migrated within the European region and that the flows are not unidirectional; for instance, there were Irish physicians in the United Kingdom and United Kingdom physicians in Ireland.⁴⁹ In Germany, a large part of physicians were from abroad (see table 2), with increasing inflows from East European countries in 2002 (an estimated 2,000 doctors from East European countries), while at the same time 6,000 German physicians were working abroad, including 2,600 in the United Kingdom.⁵⁰ A 2002 study in Scotland revealed that 40 per cent of graduates from Scotland's medical schools had left the country, while in Glasgow one-fifth of medical graduates left to continue their training in England or abroad.⁵¹ Furthermore, it has been suggested that physicians prefer to move to countries with the same language, as the flows between Denmark and Norway or between Germany, Austria and Switzerland show.⁵²

Table 1 provides an overview of the composition of the foreign or foreign-trained physician workforce in European OECD countries.

⁴⁷ Stilwell et al., 2003.

⁴⁸ Buchan, 2006.

⁴⁹ OECD, 2006.

⁵⁰ Hyde, 2005.

⁵¹ *Evening Times*, 7 Oct. 2004.

⁵² OECD, 2006.

Table 1. Composition of foreign (-trained) physicians in selected European countries

| Destination country | Country of origin | Share in foreign physician workforce (%) | Destination country | Country of origin | Share in foreign physician workforce (%) | |
|------------------------|-----------------------------------------|------------------------------------------|---------------------|-------------------|------------------------------------------|--|
| Belgium (2001) | Netherlands | 28.0 | Denmark (2000) | Norway | 50.0 | |
| | Italy | 17.7 | | Spain | 24.7 | |
| | United Kingdom | 16.5 | | Germany | 20.1 | |
| | France | 16.4 | | United States | 5.2 | |
| | | Slovakia | 12.4 | | | |
| | | Africa | 9.0 | | | |
| Germany (2000) | EU countries | 27.5 | Norway (2001) | Germany | 32.7 | |
| | Other European countries | 37.0 | | Sweden | 19.9 | |
| | Non-European countries | 35.5 | | Denmark | 15.8 | |
| | | CEE | | 11.5 | | |
| | | United Kingdom | | 6.2 | | |
| | | Iceland | | 6.1 | | |
| | | Finland | | 5.3 | | |
| | | Netherlands | 2.4 | | | |
| United Kingdom (2000) | India | 18.3 | Ireland (2001) | United Kingdom | 29.2 | |
| | Ireland | 15.2 | | EU countries | 13.6 | |
| | South Africa | 7.0 | | Germany | 6.0 | |
| | Other Africa | 7.0 | | Australia | 4.2 | |
| | South-East Asia | 7.0 | | United States | 3.4 | |
| | Northern Africa | 5.3 | | France | 3.2 | |
| | Greece | 4.7 | | Italy | 3.2 | |
| | Pakistan | 4.4 | | Canada | 3.1 | |
| | Germany | 4.0 | | CEE | 3.1 | |
| | Algeria | 3.6 | | Others | 31.2 | |
| | Iraq | 3.1 | | | | |
| | Spain | 2.6 | | | | |
| | South America | 2.4 | | | | |
| | Ukraine | 1.7 | | | | |
| | Poland | 1.6 | | | | |
| | Australia | 1.6 | | | | |
| | Belgium | 1.6 | | | | |
| | China | 1.6 | | | | |
| | Denmark | 1.5 | | | | |
| | France | 1.5 | | | | |
| Western Asia | 1.5 | | | | | |
| Italy | 1.4 | | | | | |
| Bosnia and Herzegovina | 1.4 | | | | | |
| Austria (2001) | Germany | 84.3 | France (2000) | Europe | 49.0 | |
| | Italy | 7.3 | | North Africa | 33.0 | |
| | | Sub-Saharan Africa | | 7.0 | | |
| | | Middle East | | 5.0 | | |
| Switzerland (2001) | Germany | 59.7 | | | | |
| | The former Yugoslavia Rep. of Macedonia | 13.1 | | | | |
| | Belgium | 7.4 | | | | |
| | Sweden | 4.9 | | | | |
| | Italy | 4.8 | | | | |
| | Albania | 4.0 | | | | |
| | Spain | 3.2 | | | | |
| Argentina | 2.9 | | | | | |

Source: OECD, 2006: p. 34.

These data show where the foreign physicians came from or where they have been trained, but no information is available on the implications for the source countries. The importance of foreign health workers for the domestic health system in turn can be read from the share of foreign professionals in the health workforce.

Table 2 summarizes data on the stock of foreign health workers in European countries and the numbers within the total inflow of health workers to the health system, as they were available.

Table 2. Stock of foreign (-trained) health workers in selected countries

| Country | Stock of international health workers | % of total stock | International inflow (% of total inflow) |
|----------------|------------------------------------------------------------|-----------------------------------------|-----------------------------------------------------------------------|
| Austria | | Nurses: 6.7 (2001) | |
| France | Doctors: 7 000-8 000 | 3 | |
| Germany | Doctors: 15 143 | | |
| Norway | Doctors: 2 623 | 15 (includes Norwegians trained abroad) | Doctors: 32 Nurses: 260 Active recruitment (2002) |
| United Kingdom | Medical staff in NHS hospitals: approximately 23,000 (33%) | Registered nurses: 8 | Nurses: 12 000 (43%) (2002-03) Doctors: 10 000-15 000 (70%) (2003) |
| Switzerland | | Nurses: 23.1 (2001) | |

Source: Compiled and adapted from Buchan, 2006, and Simoens et al., p. 2005.

The data demonstrate that international health workers in some countries constitute an important part of the health workforce. This is particularly the case in the United Kingdom, where in recent years nearly half of new nurses and nearly three-quarters of new doctors came from abroad. Without the foreign health workers the health system could not function; this is one of the reasons why the government made international recruitment an integral part of its national health workforce development strategy. But other countries also rely heavily on foreign health workers, for example Switzerland, where in 2001 nearly one-quarter of nurses were from abroad.

Similar to physician movements, the flows of nurses are not unidirectional. In the United Kingdom, for example, while 8.3 per cent of the nurse stock were foreign trained in 2001, between 0.9 and 1.4 per cent of British nurses left the country. Seven hundred nurses leave Scotland every year to work abroad.⁵³ In Ireland, 3,000 nurses were recruited from abroad in a one-year period (2004-05), while in the same period 1,800 nurses left the Irish health service to work overseas.⁵⁴ In Norway, while 0.9 per cent of nurses left the country in 2001, 228 foreign nurses were recruited from abroad in the same year.⁵⁵

⁵³ Macleod, 2004.

⁵⁴ *Irish Independent*, 18 Nov. 2005.

⁵⁵ Buchan, 2006; Simoens et al., 2005; Buchan et al., 2003.

Norway has an agreement with the other Scandinavian countries on free movement of nurses. Registration data between 1996 and 2002 show decreasing trends of foreign nurse registrations: in 1998 there was a peak of more than 1,800 applications of foreign nurses compared to approximately 1,300 in 2002. The vast majority was from other Nordic countries and only a minor part from European Union countries. Recently nurses were recruited in Poland and in the Philippines, but only in small numbers (see above).⁵⁶

For the United Kingdom, international health worker flows are exceptionally well documented. Several studies showed that the European Union and other European countries were not the major source of the foreign health workforce in the United Kingdom.⁵⁷ Despite the free movement of persons within the European Union that facilitates intra-European labour mobility, physicians from European countries represent approximately one-third of foreign physicians in the United Kingdom (see table 1). The proportion is even smaller in the international nursing workforce with a decreasing tendency: between 1998-99 and 2000-01, the share of registrants from European countries fell from 28 to 13 per cent of the total inflow of overseas nurses.

On the other hand, the flows between Ireland and the United Kingdom have reversed in recent years with Ireland now being a major destination country for United Kingdom registered nurses.⁵⁸ However, Buchan et al. (2004) suggested that the dynamics of international health worker recruitment to the United Kingdom might change with European Union enlargement, arguing that the significant wage differentials between Eastern and Western European countries may stimulate migration. This may be a realistic prospect, as 500 physicians from Poland registered in the United Kingdom in the accession year 2004, 30 times more than the previous year.⁵⁹ In total, more than 1,000 doctors registered at the British General Medical Council following European Union enlargement, a large part of them from Central and Eastern European countries.⁶⁰ This important inflow may be explained by the fact that the United Kingdom was one of only three EU-15 countries not to impose immigration restrictions on labour migrants from the ten new Member States in the context of enlargement.

Statistics in receiving countries provide indicators on the scope of outflows of health workers from Europe. In 2000, foreign-born nurses comprised 11 per cent of the total nurse stock in North America, however only a small portion originated from the European region. In total, 9,646 nurses were from Eastern Europe, including the Russian Federation, representing 3 per cent of the foreign nurses. The numbers of nurses from the United Kingdom and Ireland were merged with those from Canada, together representing 18 per cent of foreign nurses, but it is not clear to what extent they came from the two European countries. In the same year the newly registered nurses from the United Kingdom (261) represented less than 2 per cent of the total of foreign nurse inflows.⁶¹ However, the Royal College of Nursing in the United Kingdom warned that foreign nurses in the United Kingdom were considering leaving, because of recruitment campaigns offering better conditions in Australia and America. These carousel or revolving-door movements could

⁵⁶ Buchan et al., 2003.

⁵⁷ For example, Buchan, 2006 and 2002; Buchan et al., 2005, 2004 and 2003.

⁵⁸ Buchan, 2002; Buchan et al., 2005 and 2004.

⁵⁹ Bala et al., 2005.

⁶⁰ BBC, 10 Nov. 2005.

⁶¹ Aiken, 2005.

mean a big challenge to appropriate staffing in the NHS, considering also the fact that the nurse workforce was ageing with an average age of 44 years.⁶²

4.3. A glance on the situation in East European countries

Labour migration has been a feature in East European countries increasingly after freedom of movement was guaranteed in the 1990s. However, documentation on the migration of health professionals is hardly published.⁶³ The presence of foreign health workers appeared to be at a low level when looking at the total stock of foreign workers in a country.

In Lithuania, in 1997, physicians constituted a modest 2 per cent of the overall stock of foreign workers (seven in total numbers). In comparison, the proportion of teachers was six times and that of engineers five times greater and there were 12 times more foreign students in the country.⁶⁴ In the same year, work permit data in Hungary showed similar rates of health workers (1.9 per cent; 268 in total numbers) in the total stock of foreign workers, more than half of them (138) coming from Romania.⁶⁵

More recently, in the lead-up to European Union enlargement, most media reports voiced concerns from inside the East European countries that the expected outflows of health workers to West European countries could have negative effects on the health service delivery in their own countries. In 2003, the Czech Doctors' Trade Union warned that potential migration of hospital doctors would add to an already existing shortage of 550 hospital doctors. The United Kingdom and Germany were the most popular destination countries. Similarly, the Slovak Doctors' Association predicted a huge outflow of doctors from Slovakia upon European Union enlargement, aggravating an already critical shortage of doctors. A major concern was that especially young doctors would be ready to leave.⁶⁶

The flows of physicians are dynamic, indicating trends in movements from East to West with revolving-door effects, where staff from one country fill vacancies left by emigrants.

In 2003, 700 Czech physicians were working in Germany. Most of the Czech doctors were replacing German colleagues in the eastern part of Germany, as these went to take up better-paid opportunities in West Germany. In turn, health workers from Slovakia were recruited to fill the gaps left in the Czech Republic. According to the Czech Medical Chamber, there were 700 Slovak physicians working in the Czech health system. In some hospitals one-third of the personnel was from Slovakia, and European Union enlargement raised concerns that the functioning of the Czech health services could be constrained if the Slovak health workers went to West European countries. This concern was also supported by the fact that the physician population was ageing with nearly half being

⁶² J. Revill, 2005.

⁶³ Referring to publications at international levels, there may be information available which could not be accessed due to language limitations.

⁶⁴ Sipaviciene, 1997.

⁶⁵ J. Juhasz, 1997.

⁶⁶ Krosnar, 2003.

45 years and older. There were already reports of hospitals where vacancies had to be filled with personnel from countries farther east in Europe.⁶⁷ Czech policy-makers and a recent study scotched the exodus scenario and argued that vacancies were filled with Slovak and Polish doctors. Shortages were eased this way, but a critical situation was admitted concerning certain specialties. In addition, outflows of doctors could help reduce unemployment, which was expected in the context of the privatization of hospitals in one of the provinces.⁶⁸ After the European Union enlargement, the mass exodus of Czech doctors did not happen; however, the number of physicians considering working abroad was growing, according to the Czech Doctors' Association, which received 520 verification requests in the period 2004-05.⁶⁹

Fears concerning significant outflows of qualified health workers were fed by the results of studies on migration intentions. In 2004, a study in Hungary showed that more than 60 per cent of recent graduates of the country's largest medical school were considering leaving Hungary. If only half of the young physicians actually migrated, the study concluded, it would pose a serious problem for the health services. Hungary noted a physician shortage in certain specialties and increasing difficulties in recruiting general practitioners in rural areas. Results of a wider survey in 2003 showing that only 1 per cent of Hungarians planned to seek work in EU-15 countries after European Union enlargement, demonstrated that migration figures might differ between sectors and professions.⁷⁰ An Internet-based survey among Polish physicians found that one-third of all Polish doctors between 25 and 35 years old, equivalent to 10,000 physicians, planned to work in Western European countries. The Polish Medical Chamber pointed out that they welcomed chances for doctors to gain experiences abroad, but if the outflows were too massive this could be a threat to the functioning of the health system.

The active recruitment of medical personnel by West European countries has been criticized in this context, stating that this may be a good solution for the countries in the West but not for the Polish health system.⁷¹ Recent data on the issuing of professional verification certificates, allowing Polish doctors to apply for employment in other European Union Member States, show rates of 3.7 per cent of active doctors (total number 4,223) and 4.6 per cent of active dentists (total number 1,385) having received such certificates in 2005.⁷² These figures correspond to other findings in the region: a 2002 survey in the Czech Republic, Hungary, Lithuania and Poland found that one-quarter to one-half of the respondents had intentions to leave, while between 4 and 10 per cent were definitely going to move.⁷³ Intentions to migrate may provide a preliminary estimate of the migration potential, but it is not sure to what extent the intention will lead to definite migration.

⁶⁷ Mareckova, 2004.

⁶⁸ Spritzer, 2004; Bruthansová et al., 2005.

⁶⁹ *CTK Daily News*, 16 Sep. 2005.

⁷⁰ Condon, 2004.

⁷¹ Burgermeister, 2004.

⁷² Office of the Committee for European Integration, Warsaw, Poland; personal communication.

⁷³ Buchan, 2006.

In Warsaw, a training school has been established to prepare Polish dentists to work in the United Kingdom. Candidates attend a six-week course, with language training and information on the United Kingdom health system. In 2004, 120 dentists were recruited in the United Kingdom and the programme will continue until 230 more vacancies are filled.⁷⁴

A 2003 survey conducted by the WHO Regional Office for Europe among ministries of health in the European region revealed that international migration of health professionals was discussed as a challenge in more than half of the 52 WHO Member States. As a tendency, more high-income countries in Western Europe reported inflows of foreign health workers and six of those stated that they were actively encouraging international recruitment for addressing their domestic staff shortages. Finland experienced both inflows and outflows of health workers. Outflows had been significant in the 1990s when due to the economic recession a large number of health workers became unemployed. This situation has been reversed, outward migration is declining and annually about 300 foreign health workers are licensed to work in Finland.

Outflows of health workers were reported mostly from East European countries. The Republic of Moldova, for example, lost significant numbers of health workers to international migration: in the first six months of 2003, 105 physicians, 346 nurses, and 700 specialists left the country. In the same period, 83 physicians left Kazakhstan, which does not appear significant, but in conjunction with those who left the health sector, it lost 458 physicians within six months. Similarly, the Slovak Republic reported outflows of health workers to the Czech Republic, Austria and Germany.⁷⁵

Israel, in contrast, experienced a wave of physician immigration from the countries of the former Soviet Union in the period between 1989 and 1995. More than 14,000 physicians arrived with a significant impact on the health labour market. Data in 2000 showed that 9,000 of those immigrant doctors had been licensed to practice in Israel and two-thirds of them could be absorbed in the health system.⁷⁶ Physician immigration in Israel in turn meant that the new nations born from the former Soviet Union had significant losses of physicians after 1989.

4.4. Determinants of health worker migration

The factors influencing health worker migration are commonly called “push and pull” factors. Most of them apply to labour migrants in general; however, some are specific to the health sector. The main factors have remained the same throughout the years: health workers consider migration when they expect this move can improve their professional and economic situation.⁷⁷ In many studies and publications, low salaries, poor working conditions and lack of professional opportunities were identified as push factors, while demand for health professionals in destination countries in combination with higher pay, better working conditions and professional development opportunities act as pull factors. Other circumstances that can trigger migration intentions include the employment situation and societal as well as security issues, such as workplace violence, an unstable economic

⁷⁴ Traser, 2005.

⁷⁵ Wiskow and Perfilieva, 2005, unpublished.

⁷⁶ Borow, forthcoming.

⁷⁷ Mejia, 1978; Buchan, 2006.

or political situation, or an increased risk of exposure to infectious diseases, e.g. HIV/AIDS.

In the 1970s, major determinants identified were related to the demand and supply of health workers, with oversupply and accompanying unemployment acting as push factors and demand due to shortages in receiving countries acting as pull factors.⁷⁸ This is still the case, but it represents only one level of influence on migration. The underlying reasons for migration decisions are multi-factorial with complex interrelationships and the various factors interact with the individual situation of the health professional when considering migration.

Pay differentials have been frequently mentioned as the most important trigger for migration potentials. Throughout the European region there are great disparities in the remuneration of health workers, both in absolute figures and in relative proportion. In several East European countries a significant part of the health workforce is paid at or below the minimum wage, and often below subsistence levels. In several countries, remuneration in the health sector is below the national average salaries.⁷⁹ Respondents to the WHO EURO HRH survey 2003 reported average health worker salaries of US\$21 in Azerbaijan, representing half of average national earnings, and US\$40 in the Republic of Moldova that was among the country's lowest levels of public sector salaries.⁸⁰ Polish doctors were paid an average 6,200 euros a year, while they could earn ten times more in a West European country such as Germany.⁸¹ A young hospital doctor in Poland, having an average net income of 300 euros per month, could not live from this and was dependent on financial support from his/her family or by taking up a second job.⁸²

Salaries in the Czech Republic were four to eight times less than in Western European Union countries, with average gross monthly salaries of 1,060 euros. The Czech salaries, in turn, could attract Slovak physicians, because their average basic monthly salary was 420 euros.⁸³ However, the comparison of gross salaries often risks neglecting the aspect of purchasing power parity, a reason why many migrants were disappointed when discovering that the cost of living in the destination countries left less savings than expected. Therefore it is often the relative low pay within a country, in comparison with other sectors, that discourages health workers in their efforts. Considering that the remuneration partly reflects the valuation of the health workforce in the society, the demoralization of health workers is one understandable consequence.

But pay by far has not been the only driving factor in migration. The lack of professional and educational opportunities has been mentioned as very important in the decision to seek employment abroad, as well as under-funded health systems which do not provide adequate resources for effective medical and care work. The lack of educational opportunities concerned Polish and Scottish physicians in training programmes alike.⁸⁴

⁷⁸ Mejia, 1978.

⁷⁹ Afford, 2003.

⁸⁰ Wiskow and Perfilieva, 2005, unpublished.

⁸¹ Burgermeister, 2004.

⁸² Bala, 2005.

⁸³ Mareckova, 2004; Krosnar, 2003.

⁸⁴ Pawlak, 2004; Puttick, 2005.

Better equipped and funded facilities also pulled researchers and qualified health workers away from West European countries to the United States, a concern that led the European Union to launch an information network programme to facilitate access to research grants as a retention strategy.⁸⁵ Working conditions that influenced migration decisions included working-time differentials as well.⁸⁶

Oversupply or unemployment have been reasons for seeking work abroad in various countries across the region, a phenomenon that fluctuated with the economic situation and the demand for health professionals in a given country, as the Finnish example illustrates. Recently in Scotland, one-half of physiotherapist graduates were left without employment due to a lack of entry-level posts, encouraging some of them to apply for jobs abroad.⁸⁷ Unemployment rates among physicians were reported to be at 5 per cent in Switzerland, 5-10 per cent in Spain and 3-4 per cent in Sweden in 1998, and were estimated at 7-8 per cent in Greece in 2002. Migration may be a solution to better balance demand and supply, but in the context of European Union enlargement, concerns were also raised about potential medical oversupply by migrant doctors from East European countries.⁸⁸

On the other hand, additional demand as a pull factor has been induced by European Union policies, notably the European Union Working Time Directive (No. 93/104/EC), which had to be implemented by 2003 in its amended version and applied to doctors in training by August 2004.

Estimates on the numbers of additionally needed physicians for Germany ranged between 10,000 and 27,000 after the implementation of the European Union Directive, for Scotland an additional need of 6,000 new doctors has been foreseen, for the United Kingdom the estimates accounted for up to 12,550 more doctors and in the Netherlands 10,000 more health-care personnel would be needed.⁸⁹

5. Policies affecting health worker migration in Europe

Throughout the European region various approaches to migration have evolved and differences in the situation of countries shape their abilities and constraints in addressing the concerns that they may face regarding migration.⁹⁰

In general, health worker migration is ruled by general labour migration laws at national levels. The freedom of movement is an individual human right, and since the 1990s all countries in the European region adhere to this right. However, visa regulations are being applied in various degrees to manage inflows into countries, and work permit systems aim to monitor and regulate the inflows to national labour markets.

⁸⁵ *The Guardian*, 2005; Berndt, 2006.

⁸⁶ BBC, 2005.

⁸⁷ Puttick et al., 2005.

⁸⁸ Avgerinos et al., 2004.

⁸⁹ Burgermeister, 2004; *Evening News* – Scotland, 2004; MacDonald, 2004.

⁹⁰ ILO, 2005.

Within the European Union the freedom of movement has been a principle from the very beginning. Under the Rome Treaty, European Union citizens have the right to reside and work in another Member State without any restriction. However, in the course of the recent European Union enlargement (just like in the earlier enlargements) the majority of the “old” EU-15 Members opted for policies protecting their domestic labour markets and this despite the low migration flows forecast. For a transition period of seven years, various levels of immigration restrictions are being applied for the citizens of the ten new Member States. The four types of immigration regimes currently applied include:

- *restrictive immigration regime*: workers from the new Member States require a work permit which will be issued only if no native or EU-15 citizen can fill the position (Belgium, Finland, Germany, Greece, France, Luxembourg, Spain);
- *restrictive immigration regime with quota*: work permits are required but quotas are applied for workers from the new Member States (Austria, Italy, the Netherlands, Portugal);
- *general access to the labour market*: no restrictions, but limited welfare benefits; the granting of residence and work permits is linked to certain requirements (Ireland, the United Kingdom);
- *free movement*: the community rules on free movement of workers are fully applied (Sweden).⁹¹

The relations between the European Union and other countries in the European region have been regulated through multilateral and bilateral agreements. From the fall of the Berlin wall, the European Community started to settle agreements with the CEE countries and the Baltic States (the Europe agreements) and CIS (the partnership and cooperation agreements). These agreements all provide for a right of establishment for nationals of one country on the territory of the partner without discrimination and they guarantee protection under national labour laws with regard to non-discrimination in working conditions, remuneration and dismissal. Bilateral agreements have been established between the European Union and individual CEE countries including provisions on trainees, contract-based employment, and seasonal workers.⁹²

The free movement of workers is one of the founding principles within the European Union. Workers’ mobility, understood as occupational and geographical mobility, is being promoted and facilitated because it is seen as a factor contributing to the strengthening of labour markets in Europe, and for workers as a way to acquire new skills, to adapt to an increasingly fluctuating labour market and obtain better living and working conditions. Mobility is also regarded as a means to respond to workforce imbalances according to needs and opportunities and in addressing unemployment.

Mobility, including cross-border movement of workers, is therefore an explicit policy of the European Union. The Lisbon European Council in 2000 set as a target that the European Union should become the most competitive and dynamic knowledge based society in the world by 2010. Promoting quality education and training, optimizing human resources and developing flexible labour markets, should achieve this. In order to create an environment conducive to migration, the European Union launched an action plan on skills and mobility in 2002, a European health insurance card in 2004 and pursued the

⁹¹ Traser, 2005: p. 8.

⁹² OECD, 2001.

coordination of social security schemes, including the portability of pension rights. In 2003, the European Employment Services (EURES) was established, consisting of a network of 650 advisers providing targeted information and personally tailored assistance to workers and their families. It was expected that by end-2005 EURES could provide direct access to one million job offers in Europe through Internet-based services. Despite all these efforts the European Commission found that worker mobility has remained at an extremely low level. It has been suggested that constraints consisted of legal and administrative obstacles but were also of a linguistic and socio-cultural nature. The European Commission approach to stimulating more labour mobility is a promotion campaign that declared 2006 the “Year of Workers’ Mobility”.⁹³

The mobility of health workers has been high on the European Union health policy agenda in recent years. This has to be understood in the context of the cooperation among European Union Member States to harmonize health policy and health service provision. The overall goal is to create a “strategy for developing a shared vision for the European health-care and social protection systems”.⁹⁴ The health professions in majority are regulated occupations requiring licensing procedures and registration in all countries. The regulation of health professions is a feature to ensure the quality of care and patient safety. For migrant health workers the registration and licensing procedures add to the visa, work and residence permit procedures. Across the European region, the health profession profiles and the regulation mechanisms are as heterogeneous as the health systems design in the countries. A harmonization process is needed for developing more common standards, competencies and qualifications including more common educational standards.⁹⁵ The recognition of professional qualifications is an important procedure within health worker migration processes.

Within the European Union, a first directive on the recognition of professional qualifications was adopted in 1977 with the aim of ensuring the quality of care while facilitating health worker mobility. This directive guided the recognition of qualifications in the six main health professions: physicians, nurses, midwives, dentists, pharmacists and veterinary surgeons. The directive was completely reviewed and the revised version adopted in September 2005. The aim of the new Directive (No. 2005/36/EC) is to provide a more uniform, transparent and flexible regime for the recognition of qualifications. The directive, which applies also to the EEA countries, contributes to the aim of the Lisbon Strategy (2000) to make the free provision of services within the European Union as simple as within a country.⁹⁶

In the education context, the Bologna Declaration has become a key reference. The Declaration, signed by 29 countries⁹⁷ in 1999, represents a commitment to reform the national higher education systems in order to create overall convergence at European level, while respecting the principles of autonomy and diversity. The common goal is to create a European space for higher education in order to enhance the employability and mobility of citizens and to increase the international competitiveness of European higher education.⁹⁸

⁹³ European Commission, 2005; EU Health Policy Forum, 2003.

⁹⁴ Commission of the European Communities, 2004.

⁹⁵ WHO EURO, 2004.

⁹⁶ European Union, 2005.

⁹⁷ EEA countries plus Switzerland, Bulgaria and Romania.

⁹⁸ Confederation of EU Rectors’ Conferences et al., 2000.

In a recent statement, the World Federation for Medical Education and the International Association for Medical Education endorsed the purpose of the Bologna Declaration and stated that medical education should be fully involved in the Bologna Declaration.⁹⁹ Similarly, in many CEE and CIS countries initiatives have been undertaken to harmonize their education standards with the principles outlined in the Bologna Declaration.

The European Health Policy Forum (2003) stated that mobility of health professionals should also be improved in the interest of patients who should receive quality health services. The free movement with the aim to exchange skills and knowledge and ongoing professional education could contribute to the improvement of the quality of health services. In enhancing the necessary adaptability of labour markets, the mobility of health workers had the potential to ensure equal access to care for all, provided that a fair balance was found between the sustainability of health services and the fundamental right to move. A set of recommendations has been suggested, which are outlined in box 1.

Box 1

EHPF recommendations on the mobility of health professionals

- *Compilation of comparable data:* A European Union system for the collection of good quality, comparable data on the consequences of free movement of health-care workers from the perspective of the quality of health services in the European Union should be developed.
- *Workforce planning and retention:* Governments should focus their strategies on the growing needs of domestic health professions.
- *International recruitment:* Recruitment guidelines should be developed and action taken to exclude aggressive recruitment of health professionals.
- *Quality management:* A European Union system of proof of good conduct should be created.
- *Social dialogue:* Sectoral social dialogue should be recognized as a valuable tool in addressing the issues about recruitment, retention, the ageing workforce and the identification of skills needed.

Source: Adapted from EHPF, 2003.

The European Health Committee (CDSP) established in 2003 a committee of experts on transborder mobility of health professionals with the purpose of exploring the issues involved in health worker migration and the implications for the functioning of health-care systems. The Committee of Experts focused its work on the challenges that health worker migration caused for the health services in the destination and source countries and the individual migrant health worker. The Committee found that improved information exchange was critical in facilitating mobility of health professionals while mitigating negative effects of migration in source countries. Many authorities for registration, for example, would not know who their counterparts in other European Union countries were. Migrant workers could get easier access to information if there was a single source of information. In this context there were plans to develop an Internet-based database as a platform. There was also a lack of reliable data, as many countries would not keep a record of foreign workers in their health workforce. The Committee suggested several policy issues to the governments, including setting up a statistical database in each country and building up a unified mechanism for information exchange, concluding multilateral or bilateral agreements for exchange of health workers, ensuring better coordination between the competent authorities and developing ethical international recruitment guidelines for avoiding the poaching of health professionals from vulnerable health systems.¹⁰⁰

⁹⁹ WFME et al., 2005.

¹⁰⁰ Personal communication; key informant interview EFN.

6. Bilateral agreements and international recruitment

Bilateral agreements

Bilateral agreements are generally recommended as a policy option to manage migration. Several such agreements have been concluded between European countries in the health sector. Some selected examples are summarized in this section.

Joint statement by Spain and the United Kingdom: The exchange of physicians and nurses as well as the exchange of best practice in health services delivery was agreed between Spain and the United Kingdom in 2001. Two hundred and eighty nurses were sent from Spain to the United Kingdom in 2001 and further 104 nurses and 30 doctors were selected for work in the NHS in 2002. The cooperation further included the exchange of policy and management approaches in the health sector and innovative joint research projects and the extension of networks between medical and nursing faculties.¹⁰¹

The Netherlands – Poland nurse exchange programme: In 2002, a letter of intent was signed between the Ministries of Health to conduct a pilot project. The project was carried out in 2003 and 2004 and monitored by IOM. It aimed at addressing the nurse shortages in Dutch health services and improving the competencies of Polish nurses for recognition of their diplomas after two years' employment. In total, 91 nurses were employed in the context of the project, of whom 19 returned before the end of the project. The participants were employed as nurse assistants in nursing homes for the elderly; they received pre-departure preparation and continuous education opportunities during their stay. The monitoring survey revealed that the majority of the participating nurses went to the Netherlands to improve their financial situation. They were positive about the working conditions and relations at work. One major problem faced was difficulties with the language despite pre-departure language training, which also created an obstacle in following occupational training. Most of the nurses thought that the continuous training provided had not added value to their professional skills. Employers in general were satisfied with the performance of the Polish nurses. The satisfaction of employers and nurses with the project process varied depending on the recruitment agency involved. For those nurses who returned to Poland there seemed to be a lack of employment opportunities. The evaluation of the project was generally positive and provided recommendations on what should be improved at operational levels for more efficient health worker migration.¹⁰²

French-German agreement on cross-border cooperation: In 2005, the French and German Ministries of Health signed an agreement on cooperation of health services in the border region. The agreement aims at facilitating the use of ambulances and emergency staff on foreign territory, in order to improve emergency care in accidents. Further, it facilitates the cooperation of hospitals in the border regions through partnerships and exchange of personnel and knowledge. The overall goal is to improve access to continuous care for the population in the region.¹⁰³

¹⁰¹ WHO, 2004, forthcoming.

¹⁰² IOM, 2005.

¹⁰³ Bundesministerium für Gesundheit, 2005.

Nurses' recruitment programme Romania-Italy: In 2002, the Autonomous Region of Friuli-Venezia-Giulia in Italy initiated a programme to recruit nurses in Romania to address nurse shortages. An association was formed under Romanian law, involving various stakeholders, including a trade union, with the aim to improve recruitment quality. The implementation included evaluation of candidates, preparation of successful candidates for expatriation and participation in retraining individuals. At that time there was increased nurse unemployment in Romania due to restructuring of the hospital sector. Many of the nurses applying for work abroad did so because of poor working conditions and low salaries, and they were ready to work abroad under their specialization levels. The range of skill levels varied widely. Five programme elements were found to be very important for successful nurse recruitment:

- facilitating administrative procedures in Romania and Italy for expatriation, including recognition of diplomas;
- facilitating the flows among several groups: newly graduated nurses, unemployed nurses looking for work, employed nurses looking for work abroad, and nursing vacancies resulting from emigration flows of these nurses;
- importance of having an on-site capacity to evaluate the professional abilities of candidates, in order to guarantee quality of care;
- preparation of nurses for emigration to facilitate quick integration at socio-professional levels;
- ensuring that the sending country also benefits from the nurse migration.

It has been suggested that the programme should consider several aspects simultaneously: responding to the destination country's needs, protecting workers' rights and preventing a sudden void of highly-specialized nurses in the sending country. A cooperation programme that focused on training and re-training would be the best support, including the components of trainee posts, contract posts for the purposes of training in the receiving country and professional training posts in the sending country for unemployed nurses, sponsored by European funds.¹⁰⁴

Guidelines on ethical international recruitment

Several publications at policy level suggested the development of guidelines on ethical international recruitment. This approach addresses the concerns that extensive international recruitment could harm health systems in sending countries by creating severe staff shortages there. Ethical international recruitment is one policy option that aims to balance the individual right to freedom of movement with the needs of the society for functioning health systems.

In the European region, the United Kingdom is far ahead in developing and implementing a code of practice on international recruitment of health workers. This code applies to all NHS employers and regulates the conditions under which they can actively recruit health personnel from other countries. Restrictions to recruit from several countries are meant to protect developing countries and apply mostly to countries in the South. Recruitment from European Union and EEA countries is given priority in the various instruments of the Department of Health. The code of practice was revised in 2004, incorporating lessons learned from the earlier guidelines.

¹⁰⁴ Barbin, 2004.

The European Federation of Nurses' Associations issued guidelines on ethical recruitment in 2004. Its concern was to prevent potentially damaging effects of mass recruitment of nurses from the new European Union Member States in the context of European Union enlargement. The guidance includes information for employers and nurses on good employment practices, supporting nurses in the recruitment process, development of adaptation and induction programmes and European Union employment legislation.¹⁰⁵

7. Concluding summary

Europe has evolved from a source of emigration to a major destination for labour migration in the last 50 years. Despite some ambivalence among policy-makers and the public towards immigration policies most countries show positive migration balances. Moreover, positive population growth in many countries is related to net migration. Demographic prospects clearly point to the increasing need for migrants in the European region for ensuring sustainable socio-economic development. This is also true for most of the countries in the eastern part of the region, with many of the CEE countries showing similar trends in shrinking native population and increasing dependency ratios. A majority of the new European Union Member States currently show positive migration balances.

The fears and scepticism among the “old” and wealthy West European countries concerning migratory waves from the east in the context of European Union enlargement have not proven to be realistic. Despite significant income gaps between East and West European countries, the migratory flows have remained at modest levels. An estimated 1 per cent of the population in the new European Union Member States had firm intentions to migrate in the next five years. All together, labour mobility within the European Union remained at low levels in the past. There have been trends, however, in a changing composition of migrants, with increasingly young and highly qualified people moving abroad. This aspect poses a major challenge for source countries where an expected “youth drain” may be accompanied by a “brain drain”.

Information available on health worker migration in the European region shows similarities to global trends: health professional migrants represent a relatively small proportion of skilled labour migration in general. However, there are variations across the region. In some countries the reliance on foreign health workers to maintain appropriate workforce numbers is significant.

The demographic developments in the European region with ageing populations needing higher levels of care imply an increasing demand for health workers. There are signs that wealthy countries in the West European part will attract more foreign health workers to fill shortages in their domestic health workforce. Registration and verification data in destination and source countries suggest growing health worker outflows from Eastern European countries in favour of better employment opportunities in the West. However, the supply potential of Eastern European countries also varies, with some countries struggling with health worker oversupply and unemployment, while others report increasing shortages. Health worker cross-border flows are dynamic and multi-directional; many countries across the region experience outflows as well as inflows, with a carousel or revolving-door effect where migrant health professionals fill vacancies left by emigrating nationals.

¹⁰⁵ EFN, 2004.

The major determinants of migration have been identified at economic and professional levels. The demand for foreign health workers fluctuates with the economic situation of a country. The individual decision to migrate is influenced by pay differentials, professional opportunities and working conditions alike.

The European Union actively promotes worker mobility and is on the way to develop a shared vision on health-care and social protection systems through a process of open coordination. In this context, health worker mobility has become a topic in recent policy discussions and is seen as a means to enhance the balance of health labour markets as well as ensuring equal access to care for populations. Several policy initiatives have been taken to facilitate health worker migration, including the simplification of administrative procedures with the recently revised directive on recognition of professional qualifications and the establishment of information platforms. However, constraints to cross-border movements persist which have been identified as a lack of information exchange among competent authorities resulting in delays of administrative procedures, as well as linguistic and socio-cultural aspects. A lack of reliable data on health worker movements hinders provision of a complete picture on the flows of health professionals and thus their monitoring.

There is a certain awareness in the region on the potentially detrimental effects that international recruitment campaigns can have on the health systems of source countries. In several policy documents the development of guidance on ethical international recruitment has been evoked. Further recommendations include improving the access to comparable data on health worker migration, addressing health workforce needs and issues of recruitment and retention at country level, quality management in health worker mobility for ensuring quality of care, accelerated information exchange among competent authorities and promotion of social dialogue in addressing the challenges in the health sector.

Several bilateral agreements and initiatives provide examples for good practice and lessons learned in international recruitment in the European region. The essence of an ethical approach may have already been described in the nurse recruitment programme between Italy and Romania, which suggests considering simultaneously the needs of the destination country, the protection of the migrant workers' rights and preventing the sudden void of health worker positions in the sending country.

References

- C.W. Afford: *Corrosive reform: Failing health systems in Eastern Europe* (Geneva, ILO), 2003.
- L.H. Aiken: "United States and international nurse migration". Paper prepared for the Bellagio Conference on International Nurse Migration, 5-10 July 2005. Accessed through personal communication with EFN, Brussels.
- R. Armstrong: "'Brain drain' robs city of new medics", in *Evening News*, Scotland, 7 Oct. 2004. Accessed through <http://global.factiva.com>.
- E.D. Avgerinos; S.A. Koupidis; D.K. Filippou: "Impact of the European Union enlargement on health professionals and health care systems", in *Health Policy* 2004; 69: pp. 403-408.
- M.M. Bala; W.M. Lesniak: "Poland is losing its doctors", letter, in *British Medical Journal*, 2005; 331: p. 235.
- J.G. Barbin: "Recruitment of Nurses in Romania by the Friuli-Venezia-Giulia Region in Italy" *OECD. Migration for Employment-Bilateral Agreements at a Crossroads*, Paris: Organisation for Economic Co-operation and Development, 2004.
- BBC News Online. "Foreign doctors fill vacant posts", *BBC News Online*, 10 Nov. 2005. Accessed through <http://global.factiva.com>.
- C. Berndt: *Lockruf aus America. Süddeutsche Zeitung*, 7 Feb. 2006. Accessed through <http://global.factiva.com>.
- M. Borow: *Migrating physicians: The Israeli experience – A case study*, forthcoming publication of the World Health Organization.
- C. Boswell: *Migration in Europe*. A paper prepared for the Policy Analysis and Research Programme of the Global Commission on International Migration. Geneva: Global Commission on International Migration, 2005. Available from www.gcim.org.
- D. Bruthansová; J. Bruthans; A. Červenková; J. Vavrečková; M. Pechanová: "Summary: Brain drain in health services – Czech doctors and nurses migrating abroad" (Title of the original article: *Odliv mozků ze zdravotnictví – možnost odchodu lékaře a sestry za prací do zahraničí*). *Zdravotnictví v České republice*; 3/VIII/2005:132.
- J. Buchan: "Migration of health workers in Europe: policy problem or policy solution?" C.A. Dubois; M. McKee; E. Nolte (eds.): "Human resources for health in Europe", in *European Observatory on Health Systems and Policies Series*, Maidenhead, New York: Open University Press, 2006. Available from www.euro.who.int/observatory.
- ; R. Jobanputra; P. Gough; R. Hutt: "Internationally recruited nurses in London – Profile and implications for policy", London: King's Fund, 2005.
- ; —; —: "London calling? The international recruitment of health workers to the capital", London: King's Fund, 2004.
- ; T. Parkin; J. Sochalski: *International nurse mobility – Trends and policy implications*, Geneva: World Health Organization, 2003.
- : "International recruitment of nurses: United Kingdom case study", London: Royal College of Nursing, 2002.

Bundesministerium für Gesundheit und Soziale Sicherung: Deutsch-französisches Rahmenabkommen über grenzüberschreitende Zusammenarbeit im Gesundheitsbereich unterzeichnet, Pressemitteilung Nr. 159, 22. Juli 2005. Berlin: Bundesministerium für Gesundheit und Soziale Sicherung, 2005. Available from www.bmgs.bund.de.

J. Bürgermeister: “Exodus of Polish doctors could threaten health system”, in *British Medical Journal* 2004; 328: p. 1280.

Commission of the European Communities: “Modernising social protection for the development of high-quality, accessible and sustainable health care and long-term care: support for the national strategies using the ‘open method of coordination’”. Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions. COM(2004)304 final. Brussels, Commission of the European Communities, 2004.

C. Condon: “Accession countries fear ‘brain drain’ for vital sectors as talent disappears”, London: *Financial Times*, 30 July 2004. Accessed through <http://global.factiva.com>.

Confederation of EU Rectors’ Conferences; Association of European Universities: *The Bologna Declaration on the European space for higher education: An explanation*. Brussels: European Commission, 2000. Available from <http://europa.eu.int/comm/education/policies/educ/bologna/bologna.pdf>.

CTK (*Ceska Tiskova Kancelar*) Daily News, “Brain drain among doctors – doctors’ association”. *CTK Daily News*, 16 Sep. 2005. Accessed through <http://global.factiva.com>.

European Commission: “2006 – European Year of Workers’ Mobility, the importance of the mobility of workers to the implementation of the Lisbon strategy”. MEMO/05/229, Brussels, 30 June 2005. Brussels: European Commission, 2005. Available from www.ibeurope.com/files/209eywm.htm.

—: High Level Group on health services and medical care. Work of the High Level Group on health services and medical care during 2005. HLG/2005/16. Brussels: European Commission, Health & Consumer Protection Directorate General, 2005.

European Federation of Nurses’ Associations: “Good practice guidance for international nurse recruitment”. Brussels: European Federation of Nurses’ Associations. Available from www.pcnweb.org/version1/en/pos_stat_Work.html.

European Foundation for the Improvement of Living and Working Conditions: “Migration trends in an enlarged Europe”. Summary. Luxembourg: Office for Official Publications of the European Communities. Available from www.eurofound.eu.int.

European Union; European Council: Directive 2005/36/EC of the European Union and of the Council of 7 Sep. 2005 on the recognition of professional qualifications (text with EEA relevance). Brussels: Official Journal of the European Union, 30 September 2005, L 255/22-27. Available from <http://europa.eu.int/eur-lex/lex/JOIndex.do>.

European Health Policy Forum (EHPF): Recommendations on Mobility of Health Professionals. Brussels: European Health Policy Forum, 2003. Available from http://europa.eu.int/comm/health/ph_overview/health_forum/hforum_mob_en.pdf.

Evening Times. “40% of junior docs are quitting Scotland”, in *Evening Times*, 7 Oct. 2004. Accessed through <http://global.factiva.com>.

-
- R. Holzmann; R. Münz: "Challenges and opportunities of international migration for the EU, its Member States, neighbouring countries and regions: A policy note", Stockholm: Institute for Future Studies, 2004.
- R. Hyde: "Germany plans to lure doctors back from west to east", in *The Lancet* 2005; Vol. 366: pp. 279-280.
- International Organization for Migration: *World migration 2005: Costs and benefits of international migration, IOM World Migration Report Series*, Vol. 3. Geneva: International Organization for Migration, 2005.
- ILO: *Managing transitions: Governance for decent work*, Report of the Director-General, Vol. II. Seventh European Regional Meeting; Budapest, February 2005, Geneva, 2005.
- : *Towards a fair deal for migrant workers in the global economy*, International Labour Conference, 92nd Session 2004, Report VI, Geneva, 2004.
- : *Social dialogue in the health services: Institutions, capacity and effectiveness*, Report for discussion at the Joint Meeting on Social Dialogue in the Health Services: Institutions, Capacity and Effectiveness. Geneva, 2002.
- International Organization for Migration: *Monitoring of the pilot project "Polish nurses in the Netherlands; development of competencies"*. Final Report to the Ministry of Health Care of the Netherlands. The Hague: IOM, 2005; unpublished report.
- Irish Independent: "Nursing: the great brain drain", in *Irish Independent*, 18 Nov. 2005. Accessed through <http://global.factiva.com>.
- J. Juhász: *Illegal labour migration and employment in Hungary. Informal network on foreign labour in Central and Eastern Europe*, ILO/Luxembourg Cooperation: Project RER/97/MO2/LUX. International Migration Papers No. 30. Geneva: International Labour Office, 1997.
- P. Kaczmarczyk; M. Okólski: *International migration in Central and Eastern Europe – Current and future trends*, United Nations Expert Group Meeting on International Migration and Development, New York, 6-8 July 2005. UN/POP/MIG/2005/12, 5 July 2005. New York: United Nations Population Division, 2005. Available from www.un.org/esa/population/publications/ittmigdev2005/P12_Kaczmarczyk&Obolskyi.pdf.
- K. Krosnar: "Doctors warn of exodus from Czech Republic and Slovakia", in *British Medical Journal* 2003; 327: p. 72.
- E. Leopold: "Migrants spur economic growth, but treated harshly", *Reuters News*, 6 Oct. 2005. Accessed through <http://global.factiva.com>.
- R. MacDonald: "How protective is the working time directive?", in *British Medical Journal* 2004; 329: pp. 301-302.
- M. MacLeod: "Health chiefs to count losses as nurses quit in droves for England and overseas", in *Scotland on Sunday*, 7 Nov. 2004. Accessed through <http://global.factiva.com>.
- M. Mareckova: "Exodus of Czech doctors leaves gaps in health care", in *The Lancet*, 2004; Vol. 363: pp. 1443-1446.
- A. Mejia: "Migration of physicians and nurses: A world wide picture", in *International Journal of Epidemiology*, 1978, Vol. 7, No. 3; reproduced in Bulletin of the World Health Organization, Aug. 2004, 82(8): pp. 626-630.

-
- G. Moreno-Fontes Chammartin; F. Cantú-Bazaldúa: "Migration prospects after the 2004 enlargement of the European Union", in *International Migration Papers*, No. 73. Geneva: International Labour Office, 2005.
- R. Münz: "Migrants, labour markets and integration in Europe: A comparative analysis", *Global Migration Perspectives* No. 16. Geneva: Global Commission on International Migration, 2004. Available from www.gcim.org.
- L. Nordling: "Show me the money: The European Union has launched an information network aimed at luring researchers back from the US", in *The Guardian*, 22 Feb. 2005. Accessed through <http://global.factiva.com>.
- OECD: Trends in international migration, *Annual Report*, 2004 edition, Paris, 2005.
- : Migration for employment – Bilateral agreements at a crossroads, Paris, 2004.
- : Migration Policies and EU Enlargement – The case of Central and Eastern Europe, Paris, 2001.
- M.A. Pawlak: "Money is not the major factor". Response to J. Burgermeister, "Exodus of Polish doctors could threaten health system", in *British Medical Journal*, 2004; 328: p. 1280.
- H. Puttick: "Fear of GP brain drain under new training regime", in *The Herald*, 9 Nov. 2005. Accessed through <http://global.factiva.com>.
- ; M. McLaughlin: "Physio brain drain signals crisis ahead – Half of Scots graduates fail to find jobs", in *The Herald*, 28 Nov. 2005. Accessed through <http://global.factiva.com>.
- J. Revill: "Britain faces nursing exodus", in *The Observer*, 20 Nov. 2005. Accessed through <http://global.factiva.com>.
- S. Simoens; M. Villeneuve; J. Hurst: Tackling nurse shortages in OECD countries, *OECD Health Working Papers*, No. 19. Paris: Organisation for Economic Co-operation and Development, 2005.
- ; J. Hurst: The supply of physician services in OECD countries, *OECD Health Working Papers*, No. 21, Paris: Organisation for Economic Co-operation and Development, 2006.
- A. Sipavičienė; V. Kanopienė: "Foreign labour in Lithuania: Immigration, employment and illegal work". Informal network on foreign labour in Central and Eastern Europe, ILO/Luxembourg Cooperation: Project RER/97/MO2/LUX. *International Migration Papers*, No. 31. Geneva: International Labour Office, 1997.
- D.A. Spritzer: "Czech Republic fears EU membership will lure doctors", in *CMAJ/JMAC*, 3 Aug. 2004; 171(3): pp. 224-225.
- B. Stilwell; K. Diallo; P. Zurn; M.R. Dal Poz; O. Adams; J. Buchan: "Developing evidenced-based ethical policies on the migration of health workers: Conceptual and practical challenges", *Human Resources for Health*, 2003; 1:8. Available from www.human-resources-health.com/content/1/1/8.
- C. Tenbrock: "Verkehrte Angst", *Die Zeit*, No. 35, p. 19, 19 Aug. 2004.
- J. Traser: "Report on the free movement of workers in EU-25: Who's afraid of EU enlargement?", T. Venables (ed.) *Brussels: European Citizen Action Service*, 2005.

World Health Organization (WHO): *The management of international health worker migration: Instruments on ethical recruitment and other policy options*, Geneva: WHO, 2004, unpublished internal working paper, Department of Human Resources for Health.

WHO Europe: *The European health report 2005*, Copenhagen: WHO Regional Office for Europe, 2005. Available from www.euro.who.int.

—: *Human resources and national health systems: Shaping the agenda for action in the European Region*, workshop in Berlin, Germany, 22-23 May 2004, Copenhagen: WHO Regional Office for Europe, 2004.

WHO Regional Office for Europe: The European Health For All database. Version 2006. Available from www.euro.who.int/information/sources.

C. Wiskow, G. Perfilieva: Human Resources for Health Development in the Member States of the WHO region in Europe: Perceptions, Knowledge and Experiences. Report on the responses to the WHO Europe HRH Development Survey 2003. WHO Regional Office for Europe, 2005, unpublished internal working paper, Human Resources for Health Development Programme.

World Bank. Country Classification – List of economies (July 2005). Available from www.worldbank.org.

World Federation for Medical Education (WFME); International Association for Medical Education (AMEE). Statement on the Bologna Process and Medical Education. Copenhagen, Dundee: WFME, AMEE, 2005.

Part II: Health worker migration in selected CEE countries – Romania, Czech Republic, Serbia and Croatia

Romania

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1. Background

General migration trends

There are extremely few studies in Romania that attempt to assess the state of the emigration phenomenon, and even fewer focusing on health workers. This is due to the fact that there are very scarce sources of information and, moreover, they are not publicly available. There is also a shortage of standardized and comparable methodologies and study designs in this field, even of broadly accepted definitions (e.g. “foreign-born persons”, “temporary migration”, etc).

However, there are international studies in the field of health worker migration, some of them also addressing the issues of Romanian health worker migration. Even at international level, due to the abovementioned problems, health worker migration is a research domain that needs further development and efforts.

There are few comparably detailed studies on health worker migration, with a big gap between the 1970s when WHO undertook a detailed study on the flow and stocks of physicians and nurses in 40 countries (Mejia et al., 1979) and today. This fact reflects the limitations of the existing data sources, a difficulty that is generic to migration studies. The study done by WHO concluded that in 1972 about 6 per cent of the world’s physicians (140,000) were located in countries other than those of which they were nationals. Moreover, about 86 per cent of all migrant physicians were working in five countries (Australia, Canada, the Federal Republic of Germany, the United Kingdom and the United States). The stock of nurses overseas was estimated to be lower, at about 5 per cent, but the main recipient countries were the same as for physicians with the exception of Australia.¹

At present, in Europe, the movement of nurses and physicians between countries remains at a relatively low level, partly because of linguistic and cultural barriers, despite the promotion of the free movement of labour within the European Union.²

¹ A. Mejia et al.: *Physician and nurse migration: Analysis and policy implications* (Geneva, WHO, 1979), pp. 399-400.

² S. Bach: *International migration of health workers: Labour and social issues*. Geneva, International Labour Office (2003), available from www.ilo.org/public/english/dialogue/sector/papers/health/wp209.pdf.

Researchers have noted that data on inflows into receiving countries are considered more reliable than data on outflows. This can be due to the fact that registration data record the number of nurses or doctors registered to practice in a particular recipient country. It is also a widespread belief that many countries, through error or omission, underestimate the extent of outflows.

Historical links and associated cultural ties play a role in explaining migration pathways. For instance, throughout the history of Romania, there were some ethnic groups of the population that emigrated. These were Germans, Hungarians and Jews. They wanted to join their countries of origin, with massive emigration before 1989, especially Germans and Jews. Table 1 summarizes the emigration trends between 1980 and 2000 among the higher-educated population,³ i.e. persons having at least a university degree.

Table 1. Emigration trends among higher-educated population by ethnic group, 1989-2000, Romania

| Period | Total number | Romanians | Germans | Hungarians | Jews | Other |
|-----------|--------------|-----------|---------|------------|-------|-------|
| 1980-1989 | 34 410 | 12 634 | 14 761 | 4 829 | 1 450 | 736 |
| % | 100 | 36.7 | 42.9 | 14.0 | 4.2 | 2.2 |
| 1990-2000 | 36 117 | 23 509 | 8 012 | 3 866 | 294 | 436 |
| % | 100 | 65.1 | 22.2 | 10.7 | 0.8 | 1.2 |
| 1980-2000 | 70 527 | 36 143 | 22 773 | 8 695 | 1 744 | 1 172 |
| % | 100 | 51.2 | 32.3 | 12.3 | 2.5 | 1.7 |

Source: Romanian Office for Labour Force Migration.⁴

As can be noted in table 1, after 1990 (when the communist regime was brought to an end) higher-educated Romanians were the prevailing emigrants, while the number of Germans and Jews who emigrated almost halved. Physicians and nurses were included in these higher-educated people.

The same study analysed patterns of emigration in 2001. It revealed that the number of emigrants from Romania declined in 2001, a boom being registered immediately after 1990. When analysing the structure of emigration in 2001 by profession, it is worth mentioning that emigrants with a high level of education (engineers, architects, physicians and economists) represent an important share (27.5 per cent) of the total number of emigrants (see table 2).

Table 2. Structure of emigration from Romania by profession, 2001

| Profession | Number of emigrants | % of total emigrants |
|-----------------------|---------------------|----------------------|
| Engineers, architects | 1 543 | 15.5 |
| Teachers | 540 | 5.5 |
| Economists | 456 | 4.6 |
| Physicians, chemists | 192 | 1.9 |
| Artists, musicians | 44 | 0.5 |

³ G. Zaman; S. Sandu: *Flows and non-EU Europe – Romania*, report for Romania within the project “The brain-drain – Emigration flows for qualified scientists”, 2004, available from http://www.merit.unimaas.nl/braindrain/Part5.Flows_and_non-EU%20Europe-Romania.pdf.

⁴ *ibid.*

| Profession | Number of emigrants | % of total emigrants |
|------------------------------|---------------------|----------------------|
| Technical personnel, foremen | 289 | 2.9 |
| Workers | 2 655 | 26.8 |
| Other | 4 202 | 42.3 |
| Total | 9 921 | 100 |

Source: National Institute of Statistics. ⁵

It is not clear and valid information is not available if the Romanian emigrant physicians, even if they represent a small share of total emigrants (approximately 1.9 per cent) continue to practice medicine in the receiving countries. Rough estimates show that a higher number of Romanian engineers, architects, physicians and chemists continue to practice in their profession, while teachers and economists are more willing to change profession.

It is also important to analyse the age structure of the emigrants, as it is well known that the receiving countries require professional experience when seeking highly educated personnel. Table 3 demonstrates that most Romanian emigrant physicians are 30-39 years of age and with professional experience and skills. Another reason for emigrating mostly at this age is the span of active life remaining, and readiness for training and continuing education programme enrolment.

Table 3. Age group structure of Romanian emigrants, by profession, 2001

| Age group | Total (%) | Engineers/ architects | Physicians/ chemists | Teachers | Economists |
|-------------|-----------|--------------------------|-------------------------|----------|------------|
| 20-24 | 0.7 | 0.7 | – | 0.9 | – |
| 25-29 | 14.5 | 14.8 | 5 | 20.4 | 7.5 |
| 30-34 | 17.6 | 38.8 | 25 | 24.4 | 31.8 |
| 35-39 | 8.7 | 17.8 | 27.1 | 16.3 | 21.3 |
| 40-44 | 6.9 | 15.5 | 17.7 | 7.6 | 7.9 |
| 45-49 | 3.8 | 4.7 | 8.3 | 6.1 | 7 |
| 50-59 | 2.3 | 2.3 | 6.2 | 6.3 | 5.7 |
| Total 20-59 | 54.5 | 94.6 | 84.8 | 79 | 81.2 |

Source: National Institute of Statistics. ⁶

The analysis of emigration trends among physicians reveals the decline of emigration after 1999 (see table 4). Whereas in 1980, 15.5 per cent of the total number of higher-educated emigrants were physicians/pharmacists, in 2000 this proportion declined to only 9.9 per cent. This can be attributed to the fact that before starting employment, health professionals have to fulfil the appropriate registration and licensing requirements of the destination country that can be very difficult for this profession. Licensing procedures are frequently viewed as lengthy, complex and costly and may delay or prevent integration into the destination country's workforce, especially in countries such as the United States or Canada. Some emigrants prefer to retake courses at a medical university in the receiving

⁵ *ibid.*

⁶ *ibid.*

country rather than follow the licensing procedures. This licensing system may act as a barrier to the employment of overseas-trained health workers or hinder registration.

Table 4. Trends of emigration among higher-educated population, Romania, 1980-2000

| Year | Total No. of higher-educated emigrants | Engineers/architects (%) | Physicians/pharmacists (%) | Economists (%) | Other (%) |
|------|----------------------------------------|--------------------------|----------------------------|----------------|-----------|
| 1980 | 100 | 35.4 | 15.5 | 6.9 | 42.3 |
| 1981 | 100 | 36.7 | 15.2 | 6.5 | 41.6 |
| 1982 | 100 | 38.4 | 14.1 | 7 | 40.5 |
| 1983 | 100 | 34.3 | 13.9 | 7.1 | 44.7 |
| 1984 | 100 | 38.4 | 14.3 | 8 | 39.3 |
| 1985 | 100 | 39.3 | 13.6 | 8.2 | 38.8 |
| 1986 | 100 | 39 | 16.6 | 7 | 37.5 |
| 1987 | 100 | 39.4 | 13.4 | 7.9 | 39.4 |
| 1988 | 100 | 42.3 | 15.4 | 8.2 | 34.1 |
| 1989 | 100 | 41.7 | 15.7 | 7.5 | 35.2 |
| 1990 | 100 | 46 | 14.2 | 7.7 | 32.1 |
| 1991 | 100 | 54.3 | 12.4 | 7.9 | 25.3 |
| 1992 | 100 | 49.7 | 12 | 8.1 | 30.1 |
| 1993 | 100 | 66.3 | 15.8 | 10.7 | 7.2 |
| 1994 | 100 | 52.2 | 11.3 | 17.2 | 19.3 |
| 1995 | 100 | 49.9 | 11.7 | 16.3 | 22.2 |
| 1996 | 100 | 50.5 | 11.4 | 17.6 | 20.5 |
| 1997 | 100 | 52.1 | 12.2 | 16.8 | 18.9 |
| 1998 | 100 | 59.7 | 13.2 | 17.9 | 9.3 |
| 1999 | 100 | 65.9 | 12.3 | 16.8 | 5.1 |
| 2000 | 100 | 52.9 | 9.9 | 16.8 | 20.4 |

Source: National Institute of Statistics. ⁷

Main destination countries

The study carried out by Zaman et al. highlighted that before 2000, Germany was the main receiving country for higher-educated Romanian emigrants (see table 5). Before 1990, this was due to the absorption of German ethnics. After the collapse of communism in 1990, the United States, Canada, France and Italy became increasingly attractive to Romanian emigrants. But, after 2000, there was a clear shift from Western European countries towards Canada and the United States. Possible explanations for this shift are:

- Canada has a very good system of selection and integration policies for immigrants;
- the United States has also implemented a good integration policy;

⁷ *ibid.*

- the Romanian diaspora from Canada and the United States has a key role in attracting new higher-educated immigrants from Romania.

Table 5. Structure of higher-educated Romanian emigrants by country of destination, 1980-2001

| Period | Total | Austria | Canada | France | Holland | Hungary | Israel | Italy | Germany | United States | Other |
|-----------|--------|---------|--------|--------|---------|---------|--------|-------|---------|---------------|--------|
| 1980-1989 | 34 410 | 1 098 | 895 | 560 | | | 1 748 | 353 | 17 919 | 4 064 | 7 773 |
| % | 100 | 3.2 | 2.6 | 1.7 | | | 5.1 | 1 | 51.8 | 11.8 | 22.8 |
| 1990-2000 | 36 117 | 2 253 | 3 133 | 1 788 | | | 708 | 2 481 | 13 481 | 4 132 | 8 151 |
| % | 100 | 6.2 | 8.7 | 9.9 | | | 1.9 | 6.9 | 37.3 | 11.4 | 22.5 |
| 1980-2000 | 70 527 | 3 351 | 4 028 | 2 338 | | | 2 456 | 2 834 | 31 400 | 8 196 | 16 029 |
| % | 100 | 4.8 | 5.7 | 3.3 | | | 3.5 | 4 | 44.4 | 11.6 | 22.7 |
| 2001 | 2 688 | | | | | | | | | | |
| % | | 1.2 | 54.4 | 2.6 | 1.4 | 4.7 | 2.3 | 3 | 5.3 | 16 | |

Source: National Institute of Statistics. ⁸

According to a study carried out by Mullan in 2005, ⁹ Romania was placed among the top 20 countries providing physicians to Canada in 2002. Romania is ranked 16th, providing 187 physicians, representing 0.3 per cent of Canada's physician workforce or 1.2 per cent of the total Canadian immigrant physicians (physicians whose country of qualification – medical school – is not the country of practice). (Based on Canadian Institute for Health Information, CAPER, 2002.)

2. Health workforce and health labour market in Romania

Data sources

Information on Romanian health workers is derived from different data sources:

- Romanian Ministry of Health, the Centre for Health Statistics and Medical Documentation – there is a national registry of physicians;
- National Institute of Statistics – performing a yearly survey on health system resources, including human resources;
- National College of Physicians, Bucharest and district level branches – operating another registry of physicians;
- Medical Nurses and Midwives Organization – operating the national registry of nurses.

⁸ *ibid.*

⁹ F. Mullan: *Quantifying the brain drain: International medical graduates in the United States, the United Kingdom, Canada and Australia*, AcademyHealth, 4 Feb. 2005, available from www.academyhealth.org/nhpc/foreignpolicy/mullan.pdf.

Current situation of human resources in the Romanian health system

Data from 2003 indicate that Romania has one physician for every 463 people, or 195.7 per 100,000 population (see tables 6 and 7). Trend analysis shows that these figures improved slightly, especially after 2000. However, they are significantly lower in comparison with the European Union average – almost half (see table 6). The same comments apply to nurses. On the other hand, until recently, this was considered an acceptable ratio for providing satisfactory access to primary and specialty care for the population, because the coverage problem in the rural area was neglected. However, the Health Insurance Fund¹⁰ estimated that there was a deficit of 1,930 family doctors in 2004, while 1.35 per cent of the rural population was not registered with any family doctor.

Even if these rates have not notably changed during the last 15 years, they mask geographic and medical specialty inequalities. There are significant imbalances in the territorial distribution of physicians. Thus, three-quarters of the Romanian districts are significantly below the country average.¹¹ Most of the health workers are concentrated in the major university cities (Bucharest, Cluj-Napoca, Iași, Timișoara, etc.) or in the most economically developed districts (from Transylvania and western Romania). While 86 per cent of physicians practise in the urban areas, only 14 per cent practise in the rural areas, providing health care for 47 per cent of the Romanian population. This situation is associated with the lack of incentives for the physicians to work in rural or deprived areas.

Private practice is now developed and almost all dentists, pharmacists and family doctors work exclusively privately. Only a small part of these professional groups works mainly for the public medical institutions. For instance, in 2003, there were only five private hospitals in Romania, out of 427.¹² There are no publicly available figures on the ratio of public/private physicians.

Numbers also hold back the quality of care dimension. Some reports document insufficient clinical problem-solving skills at certain levels of service provision that can be only partially explained by lack of appropriate diagnostic and therapeutic equipment and supplies. Epidemiological changes require new training models, especially designed for the professionalization of nursing, as well as massive retraining of other providers at all levels, in line with the new patterns of the burden of disease.

According to the National Health Statistic Centre (2000), the following figures for health medium-level staff by specialty were: 57,630 general nurses, 15,339 paediatric nurses, 8,919 midwives, 3,618 public health nurses, and 1,610 community nurses. Some home visiting is undertaken by nurses who work in primary health care. Nurses making home visits have been trained in small programmes offered by different national and international non-governmental organizations.

¹⁰ National Health Insurance Fund: *Activity Report*, 2004, available at http://www.casan.ro/pdf/raport_2004/Rap_CNAS_2004.pdf.

¹¹ E.G. Stoicescu: *Medical education in European integration context: New challenges for candidate countries*, available from <http://health.osf.lt/downloads/news/medical%20education.pdf>.

¹² National Institute of Statistics: *Statistical Yearbook 2004*, available from www.insse.ro.

Table 6. Health personnel per 100,000 population, Romania and EU-25, 1995-2003

| Year | Physicians | | Family doctors | | Dentists | | Pharmacists | | Nurses | |
|------|------------|-------|----------------|------|----------|------|-------------|-------|--------|--|
| | RO | EU | RO | RO | EU | RO | EU | RO | EU | |
| 1995 | 176.9 | 312.6 | | 26.7 | 57.4 | 11.7 | 68.4 | 431.1 | 732.3 | |
| 1996 | 181 | 319 | | 26.4 | 58.4 | 11.4 | 70.7 | 441 | 739.7 | |
| 1997 | 179.1 | 323.3 | | 23.5 | 59.1 | 7.5 | 71.2 | 406.4 | 739.7 | |
| 1998 | 183.6 | 326.2 | | 23.9 | 59.8 | 7.3 | 72.3 | 408.9 | 746.6 | |
| 1999 | 191.4 | 331 | | 23.4 | 59.7 | 7.1 | 72.6 | 404 | 752 | |
| 2000 | 188.9 | 336.6 | 51 | 22.2 | 60.4 | 7.1 | 74.9 | 401.9 | 759.6 | |
| 2001 | 188.9 | 339.7 | 51 | 22.6 | 60.8 | 6.7 | 77.4 | 403.1 | 766.8 | |
| 2002 | 190.6 | 343.4 | 52 | 22.4 | 61.7 | 6.3 | 77.7 | 418 | 779.3 | |
| 2003 | 195.7 | | 53 | 22.6 | 61.8 | 5.9 | | 399.4 | | |

Source: WHO/Europe, European HFA database, June 2005.

Even if some physicians do not practise, medical unemployment is not yet a real problem. There are jobs available in rural areas and not only there, but the doctors prefer to work only in some specific areas or as medical representatives for pharmaceutical companies.¹³ There are no additional measures to encourage orientation of physicians to medical units located in rural areas.

Table 7. Health personnel coverage of population, Romania, 1995-2004

| Year | Population per physician | Population per family doctor | Population per dentist | Population per pharmacist | Population per nurse |
|------|--------------------------|------------------------------|------------------------|---------------------------|----------------------|
| 1995 | 565 | | 3 752 | 8 572 | 177 |
| 1996 | 552 | | 3 784 | 8 769 | 177 |
| 1997 | 546 | | 3 436 | 3 786 | 185 |
| 1998 | 530 | | 3 200 | 3 624 | 183 |
| 1999 | 486 | | 2 914 | 3 398 | 189 |
| 2000 | 490 | 1 957 | 2 701 | 3 121 | 188 |
| 2001 | 479 | 1 950 | 2 577 | 3 070 | 186 |
| 2002 | 476 | 1 915 | 2 468 | 2 974 | 176 |
| 2003 | 463 | 1 900 | 2 300 | 2 789 | 180 |
| 2004 | 450 | 1 882 | 2 188 | 2 473 | 178 |

Source: Ministry of Health, Health Statistical Yearbook, 2004.¹⁴

Concerning gender distribution, data show that in the Romanian health system female physicians are predominant, their number being twice as high as the number of males. However, males are predominant within the better-paid specialities. As regards nurses, females represent the vast majority in this profession (see table 8).

¹³ E.G. Stoicescu, op. cit.

¹⁴ Ministry of Health, Centre for Health Statistics: *Health Statistical Yearbook 2004*, Romania, 2005.

Zaman¹⁵ noticed that females also prevail among emigrant physicians, together with chemists, teachers and economists. On the other hand, females seem to be more willing to emigrate on a temporary basis than males, usually for family reunification reasons.

Table 8. Gender distribution of Romanian health workers, 1995-2003

| Year | Physicians | | Dentists | | Pharmacists | | Nurses | |
|------|------------|------|----------|------|-------------|------|--------|------|
| | F | M | F | M | F | M | F | M |
| 1995 | 61.7 | 38.3 | 65.1 | 34.9 | 89.4 | 10.6 | 89.2 | 10.8 |
| 1996 | 63.6 | 36.4 | 65 | 35 | 85.4 | 14.6 | 88.7 | 11.3 |
| 1997 | 62.7 | 37.3 | 63.7 | 36.3 | 91.4 | 8.6 | 89.3 | 10.7 |
| 1998 | 63.1 | 36.9 | 63.6 | 36.4 | 88.5 | 11.5 | 88.9 | 11.1 |
| 1999 | 64.1 | 35.9 | 65.4 | 34.6 | 87.3 | 12.7 | 89.3 | 10.7 |
| 2000 | 66.5 | 33.5 | 66.9 | 33.1 | 87.5 | 12.5 | 89.8 | 10.2 |
| 2001 | 65.6 | 34.4 | 62.1 | 37.9 | 87.4 | 12.6 | 90.1 | 9.9 |
| 2002 | 66.7 | 33.3 | 64.4 | 35.6 | 88.8 | 11.2 | 91 | 9 |
| 2003 | 67.1 | 32.9 | 64.8 | 35.2 | 90.3 | 9.7 | 91.2 | 8.8 |

Source: Statistical Yearbook, 2004.¹⁶

3. Health worker supply – Education and training

Undergraduate training of doctors takes place in ten state-owned universities (four of which were set up after 1989) and three private (all created the last 12 years).¹⁷ Undergraduate training lasts six years for doctors, with an adequate number of teaching hours (more than 5,500). The Ministry of Education is responsible for undergraduate training and establishes the number of students to be enrolled each year. Unfortunately, there is little cooperation with the Ministry of Health to establish the number based on real needs. The Ministry of Health does not perform a valid evaluation of the need for physicians in different medical specialties. The number of graduates per year of public or private Medical Schools stabilized at around 2,500 in the last few years.¹⁸ Losses during the university stage are practically zero.

After the undergraduate training period, doctors may pass a national examination to start a specialist training programme (residency), including the specialty of family medicine, or work as non-specialist ambulatory physicians (general practitioners), in accordance with the score obtained in the test. Specialties and the length of training for each specialty comply with European Union regulations. After completing the specialist training period, doctors have to pass a new exam to obtain the title of specialist. Afterwards, they are registered with the College of Physicians and obtain the licence to practise as a specialist (membership of the college is compulsory). The Ministry of Health is still responsible for licensing but only until Romania becomes a European Union

¹⁵ G. Zaman; S. Sandu: op. cit.

¹⁶ National Institute of Statistics: op. cit.

¹⁷ E.G. Stoicescu: op. cit.

¹⁸ *ibid.*

member.¹⁹ By law, after European Union accession, the College of Physicians will take over this responsibility.

Recertification is the process by which specified requirements must be met periodically by doctors in order to maintain their right to practice. In many European countries there are discussions about introducing a mandatory process for recertification of physicians. Recertification methods vary. In some countries, mandatory recertification is based on credits for continuous medical education (CME), as it is the case in Romania. Introducing the obligation to participate in various forms of accredited continuing medical education may represent an important step forward, especially where there is no obligation for periodic examination. In Romania the recertification of physicians is done by producing proof of having accumulated professional credits from CME. It usually requires a minimum of 40 hours of CME/year. Credits may be different, giving more weight to interactive forms or practice audits, at the expense of classic forms, involving a Masters-disciple relationship. Continuing medical education should not be limited to keeping specialty knowledge up to date. CME should also meet certain needs that are felt in modern practice, and exercised in public and private systems, such as: computer applications in medicine, management, ethics, evaluation, communication, evidence-based medicine, teamwork, inter-professional cooperation, etc. In Romania, recertification for physicians is done by the College of Physicians every five years.

The Institute for Postgraduate Training of Physicians and Pharmacists, the Ministry of Health and the College of Physicians are responsible for specialist training (residency), accreditation (“competence”) and continuing education.

There have been changes in the training curricula of dentists in order to comply with European Union regulations. The academic and professional title of dental practitioners has changed from “medical stomatology” to dental physician.

Middle-level medical staff include nurses (general, public health, paediatric, community and pharmacy nurses), midwives, dental technicians, etc. Before 1990, there were several training schemes in nursing. Since 1990 nurses have been trained only at nursing colleges. This takes three years of study after completing high school. There were estimated to have been at least 114 colleges (public and private) with approximately 31,000 students yearly.²⁰ At present, new Faculties of Midwives and Nurses exist at the Universities of Medicine and Pharmacy. (The training period lasts at least three years, with the possibility of subsequently attending Masters courses. The Medical Nurses and Midwives Organization, the professional association of middle-level medical staff, is responsible for issuing the licence to practice. For nurses working at hospital level, the recertification process is in place, and is under development for other specialties.

There was a shortage of social workers due to the lack of training in this field, but after 1990, new schools of social assistance were developed at university level and new structures are emerging to use the new social workers. Since 1999, this situation has improved. For the future, the plan is to increase the number of social workers, to train personnel for community care and to increase the number of trained public health and management specialists.

¹⁹ HiT summary: Romania, 2005 (not published).

²⁰ HiT: *Romania 2000*, available from <http://www.euro.who.int/document/e71423.pdf>.

4. Health worker migration

Data sources

There is some information on international migration of Romanian health workers, but it is fragmented, scarce and, most importantly, not publicly available. Information can be obtained only on special request from the following:

- Ministry of Administration and Interior (Passport Department);
- National Institute of Statistics;
- Romanian Office for Labour Force Migration;
- Romanian Ministry of Health;
- College of Physicians, Bucharest;
- Medical Nurses and Midwives Organization.

Current state of information

As mentioned above, data on emigration of health workers are extremely scarce and of poor quality. They are not collected in a standardized way, or regularly in the health system. Specific data for health workers are not easily retrievable within data sources out of the health system.

However, the Ministry of Health of Romania collects some data concerning health workers who have left Romania, either temporarily or permanently, but only on special request. Data from MoH show that in 2004, there were 2,012 Romanian health personnel working abroad. Of these, 360 (18 per cent) were physicians, the rest (82 per cent) being nurses. Most of the physicians working abroad were specialists working in hospitals (76 per cent) and only 6 per cent were family doctors. The same situation also applied to nurses: 82 per cent were nurses working in hospitals. However, this is only a rough estimate of health staff working abroad, possibly underestimating the phenomenon. The data do not provide clear information on the temporary/permanent emigration pattern or on the destination countries.

While for nurses it is more likely that they are practising the same profession in the country of destination, due to the bilateral agreements between Romania and Greece, Spain and Italy on diploma recognition, this is not so clear for physicians who left Romania. There are no data to evidence their practice within the health systems of the destination countries.

The same data show that most of the physicians leaving Romania in 2004 were from the major university cities: Cluj-Napoca and Bucharest. It is possible that many of them were going abroad for training or doctoral studies, due to the existing international cooperation in the field of education, where Romanian universities are partners, but this is not supported by data.

If data on emigration are difficult to retrieve, data on immigration are even scarcer. The definitions used for immigration are different for different data providers. For instance, the National Institute of Statistics defines an immigrant as a person having a stable official residence in Romania (expatriates and foreign persons with Romanian

citizenship), while the Ministry of Administration and Interior defines immigrants as foreigners living in Romania for more than 120 days.

Rough estimates, unlike the trend detected in Central European countries, show that Romania cannot be considered a favourite destination country for higher-educated people. On the contrary, lack of regulation for immigrants during the first years of transition (1990-96), attracted poorly educated people to work illegally in Romania.

The main source countries for immigration to Romania are: Republic of Moldova (150,000 Moldavians obtained Romanian citizenship between 1990-2000), Germany (repatriates), Austria, Hungary, France and the United States.²¹ Data do not allow determination of the structure of immigrants by profession, so the number of immigrant health workers is unknown. According to the Ministry of Administration and Interior data, there are two prevailing categories of immigrants in Romania: associates and employees with work permits (about 41 per cent of all immigrants) and persons studying in Romania (30 per cent).²²

Push and pull factors

At present, the social status of doctors as well as of other health workers is still quite low in Romania, being directly related to their income/wages. Since 1990, physicians have been particularly concerned about their low official income, and the limited technological environment.²³ In this respect, to improve their income, doctors warmly supported the introduction of a health insurance system and increased private medicine in the early 1990s. However, it seems that this initial enthusiasm for radical change has now weakened. A possible explanation could be that physicians (mainly specialists working in hospitals) have realized the benefits of under-the-table and untaxed payments from patients. At the same time, the first years of health insurance did not bring spectacular improvements in their social and financial status. Moreover for some physicians (especially family doctors) more administrative work was required at incomes similar to what they earned before the introduction of the health insurance system.

According to the National Institute of Statistics,²⁴ the average net wage in the health sector (all health workers included) was of RON644²⁵ (around 200 euros), which was less than the national average net wage (RON734) in August 2005. The low level of salaries mainly affects non-physicians and young resident physicians.

Before 1978, when nurse training was established by law to be attained only at high-school level in specialized “sanitary high-schools” (not at post high-school level as before), nursing was a respected profession, but their role and responsibilities have continuously declined since then.²⁶ Even their professional title has been downgraded. According to the

²¹ G. Zaman; S. Sandu: op. cit.

²² *ibid.*

²³ C. Vladescu: *1999–2003. Satisfaction of population and providers surveys*, Bucharest: CPSS.

²⁴ National Institute of Statistics: *Population expenditure, income and consumption*, available from http://www.insse.ro/com_castig/a05/cs08r05.pdf.

²⁵ RON = Romanian New Leu; 1 euro = RON3.6 (Aug. 2005).

²⁶ E.G. Stoicescu: op. cit.

law passed in 1978, medical assistants were completely subordinated to the medical doctor, having only low qualified duties. Even at present, when their training has just been established at university level (in 2005), nurses have no sense of autonomy, weak teamwork skills and there is still little understanding that nursing and medicine require complementary skills. The role of the midwife is similar to that of a medical assistant. There are many obstetricians, and little perceived need to develop the role of the midwife; midwives cannot officially take charge of a birth at present.

Zaman shows an interesting comparison between the levels of net wages of the Romanians with temporary working permits abroad (see table 9).²⁷ For individuals, the opportunity to substantially increase earnings remains a basic factor in explaining emigration. Differentials in wage levels between source and destination countries are an important motivation to migration, even if the cost of living is substantially higher in the receiving countries.

Table 9. The level of wages of Romanian health personnel working abroad, first quarter 2003

| Country | Field of activity | Length of contract (months) | Average monthly wage per person (euros) |
|-------------|------------------------|-----------------------------|-----------------------------------------|
| Germany | ■ seasonal agriculture | 3 | 670 |
| | ■ agriculture | 18 | 1 200 |
| | ■ seasonal gastronomy | 3 | 670 |
| | ■ gastronomy | 18 | 1 200 |
| | ■ health | 18 | 1 200 |
| Switzerland | ■ health | 18 | 3 081 |
| | ■ hotels | 18 | 3 081 |
| | ■ agriculture | 18 | 3 081 |

Source: Romanian Office for Labour Force Migration.²⁸

Another important reason for emigration among Romanian health workers, especially the younger ones, is the opportunities offered by foreign countries for continuous professional development. There are now many postgraduate students with scholarships for different types of education: specialist training, MBA, doctoral studies, research grants, etc. The main destination countries for Romanian students are Western Europe, the United States and Canada. Some Romanian students receiving their education abroad do not return to Romania, thus generating a brain drain.

Currently in the European Union, migration, especially of the economically motivated type, is more sensitive to pull than to push factors. Like the United States and Canada, which seem to have understood needs by attracting qualified migrants from all over the world, the European Union has become a preferred destination even for people who are not so dependent on push factors in their own countries.

Other influencing factors

It is obvious that the elimination of the Schengen visa in 2001 for Romanian citizens was the main facilitating factor for exploring the opportunities of a legal job abroad, even if temporary.

²⁷ G. Zaman; S. Sandu: op. cit.

²⁸ *ibid.*

In order to regulate the outflows of the Romanian workforce, the Government set up in 2001 the Office for Labour Force Migration. This Office has the role of ensuring compliance with legal requirements set up by bilateral labour treaties. At present, Romania has signed bilateral labour agreements with Germany, Spain, Luxembourg, Switzerland, Hungary and France, and is in the process of signing with Portugal and Italy.

The main constraint for Romanian emigrant health workers is represented by the registration and licensing requirements of the destination country. Romania has special agreements only with Greece, Spain and Italy for the recognition of a nurse's diploma.

Information not supported by strong evidence reveals some discrimination in terms of payment and living conditions of the emigrants, but only when cases are taken to national employment tribunals/labour courts.²⁹ The employment of migrant labour is also associated with a high frequency of fixed-term contracts that often arise from their temporary status within the destination country.

It is probably too early for Romania to report on the impact of European Union enlargement. Currently, there are some studies planned to evaluate the impact of enlargement among new European Union Members and accession countries like Romania and Bulgaria.

5. Impact of migration on the health system

In May 2003, health ministers from the majority of British Commonwealth countries agreed a code of practice and companion document that highlighted concerns about the brain drain:

In recent years, international migration, fuelled by many factors, has grown to such proportions that it is affecting the sustainability of health systems in some countries. While both developed and developing countries are experiencing the negative impact of loss of skills, such loss is more keenly felt in developing countries, which are finding it increasingly difficult to compete for skilled human resources in the existing global market (Commonwealth Secretariat, 2003, p. 1).

The main consequences of international migration for health systems are usually discussed in terms of its impact on the destination and source countries.

It is quite clear that the extent to which international migration can be used to address staff shortages represents the main benefit for the destination country.

For the source countries international migration represents firstly an economic loss due to the funds invested by the State in providing education and training for physicians. This is the case of Romania, where the vast majority of Medical Universities are state-owned, so that the State is the main payer for the education and practical stages.

Secondly, permanent migration may represent an important loss of expertise for the source country. Recent studies demonstrate that highly skilled professional workers from developing countries are unlikely to leave after a few years of residence. Analysis of the stock of overseas-trained nurses and physicians in countries like Canada, the United Kingdom and the United States is more likely to conclude that health migration has not been a predominantly temporary phenomenon. On the other hand, due to common agreements with some European Union countries, many Romanian nurses are working

²⁹ S. Bach: op. cit.

abroad at present with temporary contracts. It is not clear if they intend to return to Romania after the end of their contract, but the skills and knowledge achieved while working abroad can be beneficial for the Romanian health system.

Lastly, because mainly young doctors are leaving Romania, the health system may lose part of its best stock of young human resources together with its innovative capacity.

Even if the emigration phenomenon among Romanian physicians is quite low, emigrant physicians represented only 0.8 per cent of the total number of physicians in 2004,^{30, 31} it is expected to grow as soon as Romania becomes a European Union Member State. However, this fact can be beneficial for the Romanian health system because it is most likely that migration will be mainly temporary contract-based and physicians will return with improved skills and knowledge. The same comments are applicable for nurses, but it is worthwhile noting that the emigration phenomenon among them is already somewhat higher than for physicians – 1.5 per cent in 2004.

There is no information available to track the return of Romanian health workers after a temporary job or after the end of a scholarship. Such an information system may be developed in future, when Romania will become a Member State and will have to align its data reporting systems on the European Union.

6. Conclusions and recommendations

The migration of Romanian health workers was not a matter of concern, either for the Government or for researchers. One possible explanation could be that the level of the emigration phenomenon described above is still at a low level, but it is expected to increase as soon as Romania will become a European Union Member State. But, even at European level, this issue has not been studied comprehensively. This is why it is very difficult to retrieve reliable and comparable data for health worker migration.

Another sensitive factor contributing to the scarcity of migration data is represented by the lack of consistency in classification of education and skills at international level, making international comparisons very difficult. Furthermore, there is not wide acceptance of the terms and definitions used for migration. Thus, there is a real need for further efforts by international organizations interested in the field to agree on common classifications and standardized definitions in order to improve data quality and comparability.

Many studies in the field emphasize that it is easier to retrieve data on emigration in destination countries than in source countries. Furthermore, there is even less information on the itineraries of the emigrants or on their possible return to the country of origin.³² It seems that a greater effort to implement a reliable information system related to human migration is needed in source countries, Romania being at present predominantly a source country.

³⁰ Ministry of Health: op. cit.

³¹ National Institute of Statistics: op. cit.

³² B. Stilwell et al.: "Migration of the health-care workers from developing countries: Strategic approaches to its management", *Bulletin of the WHO*, 2004; 82: pp. 595-600 <http://www.who.int/bulletin/volumes/82/8/en/595.pdf>.

As presented here, data on Romanian health worker emigration are scarce and of uncertain quality. Even if at present this phenomenon does not look like significantly affecting the delivery of health care, it can be a warning sign for future human resources planning and development, as it is expected that the flow of Romanian health worker migration will grow in the near future. This is why Romania obviously needs to monitor and control the phenomenon. This can be done firstly by regulating the flow through common agreements with other countries, mainly European Union Member States. Based on these regulations, an information system to support the policy and monitoring of human resources in the field can be more easily implemented. This information system can be based on a regular exchange of data between countries and on standards for data collection.

As a general remark, in Romania, like in many other source countries, more information is available about physician emigration than for nurses. This can be due to the fact that governments consider the emigration of physicians a bigger loss for the health system than that of nurses, despite the fact that the phenomenon is smaller among physicians. Nevertheless, even if the training period of nurses is shorter and cheaper, the growing amplitude of nurse emigration may have a serious impact on health-care delivery in the future. Thus, monitoring and control through a valid information system on the migration of nurses is also vital.

A European information system on people movement, including health workers, can be built starting from the General Agreement on Trade in Services (GATS) regulations. This can lead to the harmonization of classifications, definitions and terms at European level, ensuring the comparability of data. It is also true that GATS regulates the temporary movement of people. Therefore, an important aspect that should be considered is the availability and quality of data for permanent migration.

Building a good quality information system at European level is not an easy task. Joint efforts are necessary from international organizations (Eurostat, ILO, etc.) together with national institutions (e.g. National Institutes of Statistics) to set up a standardized and comprehensive database, publicly available, containing more detailed information that can support better human resources planning at national and European level. At present, the Eurostat database contains little data on population migration, because data are missing or unreliable at country level:

Since most countries either do not have accurate figures on immigration and emigration or have no figures at all, net migration is estimated on the basis of the difference between population change and natural increase between two dates. The statistics on net migration are therefore affected by all the statistical inaccuracies in the two components of this equation, especially population change.³³

³³ Eurostat database, available from http://epp.eurostat.cec.eu.int/portal/page?_pageid=1090,30070682,1090_33076576&_dad=portal&_schema=PORTAL.

References

- S. Bach: *International migration of health workers: Labour and social issues*, International Labour Office (Geneva, 2003), available from www.ilo.org/public/english/dialogue/sector/papers/health/wp209.pdf.
- Eurostat database, available from http://epp.eurostat.ec.eu.int/portal/page?_pageid=1090,30070682,1090_33076576&_dad=portal&_schema=PORTAL.
- HiT summary: Romania, 2005 (not published).
- HiT: *Romania 2000*, available from <http://www.euro.who.int/document/e71423.pdf>.
- A. Mejia et al.: *Physician and nurse migration: Analysis and policy implications* (Geneva, WHO, 1979), pp. 399-400.
- Ministry of Health, Centre for Health Statistics; *Health Statistical Yearbook 2004*, Romania, 2005.
- F. Mullan: *Quantifying the brain drain: International medical graduates in the United States, the United Kingdom, Canada and Australia*, *AcademyHealth*, 4 Feb. 2005, available from www.academyhealth.org/nhpc/foreignpolicy/mullan.pdf.
- National Health Insurance Fund: *Activity Report*, 2004, available at http://www.casan.ro/pdf/raport_2004/Rap_CNAS_2004.pdf.
- National Institute of Statistics: *Population expenditure, income and consumption*, available from http://www.insse.ro/com_castig/a05/cs08r05.pdf.
- National Institute of Statistics: *Statistical Yearbook 2004*, available from www.insse.ro.
- B. Stilwell et al.: "Migration of the health-care workers from developing countries: strategic approaches to its management", *Bulletin of the WHO*, 2004; 82: pp. 595-600 <http://www.who.int/bulletin/volumes/82/8/en/595.pdf>.
- E.G. Stoicescu: *Medical education in European integration context: New challenges for candidate countries*, available from <http://health.osf.lt/downloads/news/medical%20education.pdf>.
- C. Vladescu: *1999–2003. Satisfaction of population and providers surveys*, Bucharest: CPSS.
- G. Zaman; S. Sandu: *Flows and non-EU Europe – Romania*, report for Romania within the project "The brain-drain – Emigration flows for qualified scientists", 2004, available from http://www.merit.unimaas.nl/braindrain/Part5.Flows_and_non-EU%20Europe-Romania.pdf.

Czech Republic

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1. Introduction

Issues related to health worker migration are relatively new in the Czech Republic. There is a lack of information and experience in this specific area. Harmonizing policy with the European Union led to changes in monitoring health workers when Act No. 96/2004 Coll. was implemented. The migration of young health workers especially can have an impact on the age structure of health workers generally or on the quality of health care in the Czech Republic.

2. Health workforce and health labour market in the Czech Republic

Data sources

In the Czech Republic the Institute of Health Information collects health worker data and Statistics (ÚZIS), the other institutions that have such data at their disposal are the Ministry of Health and partly the Czech Medical Chamber.

Workforce data

Until 2004, there was no accurate statistical database in the Czech Republic in which health workers could be monitored as a major professional group by ISCO or WHO. ÚZIS tracked health-care workers until 2003 (table 1).

Table 1. The development in the number of health workers in non-entrepreneurial health-care organizations in the Czech Republic

| Category | Number of health workers | | | | | | |
|----------------------------------------|--------------------------|---------|---------|---------|---------|---------|---------|
| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
| Physicians and dentists | 16 040 | 15 825 | 15 758 | 16 104 | 16 278 | 16 122 | 14 853 |
| Pharmacists | 435 | 440 | 458 | 473 | 471 | 483 | 456 |
| Nurses and midwives | – | – | – | – | – | – | 46 983 |
| PWPQ | – | – | – | – | – | – | 9 872 |
| PWSQ | – | – | – | – | – | – | 3 781 |
| HWUS | – | – | – | – | – | – | 15 935 |
| OP | – | – | – | – | – | – | 1 532 |
| Pedagogical workers | 309 | 318 | 314 | 255 | 247 | 241 | 329 |
| Technical-economic personnel | 11 249 | 11 568 | 11 575 | 11 707 | 11 793 | 11 487 | 10 782 |
| Manual workers and operating personnel | 23 622 | 22 536 | 21 686 | 20 952 | 20 204 | 18 795 | 16 024 |
| Total* | 135 896 | 134 838 | 133 960 | 134 819 | 136 215 | 133 015 | 120 547 |

* In total for the period 1998-2003 former categories are also included (SZP, NZP, PZP and JOP).

Source: *Výsledky odměňování zaměstnanců ve zdravotnictví ČR za rok 2004*, Ministry of Health, www.mzcr.cz.

Two Acts in 2004 caused significant changes of registration of health-care workers: Act No. 95/2004 Coll. on the conditions for obtaining and recognition of professional qualifications for pursuing the medical professions of doctor, dental practitioner and pharmacist, and Act no. 96/2004 Coll. on the conditions for obtaining and recognition of professional qualifications for pursuing paramedical professions and carrying out activities in connection with the provision of health care and on amendments of some related acts.

Act No. 96/2004 redefines the categories of health workers and, in accordance with European Union standards for health human resources, adapts the conditions for acquisition of professional and specialized qualification for working in the health-care sector, specifies the education and the requirements necessary for eligibility to work in health care for nationals of European Union or other countries. The law replaces “middle health-care workers” by “non-physicians capable of working without supervision” (ZPSZ) as a category.

Nurses, rehabilitation workers and assistant hygienists, such as laboratory technicians and dental technicians, were in the category “middle health-care workers”.

The new category of “non-physicians capable of working without supervision” includes categories such as: general nurse, midwife, occupational therapist, radiological laboratory technician, medical laboratory technician, health social worker, optometric and orthoptic assistant for protection of public health, orthodontist, nutrition therapist, dental technician, dental hygienist, rescue worker, pharmaceutical assistant, biomedical and radiological technician.

Until 2004, the category of “lower health-care workers” was still monitored. This category included hospital attendants, nannies, dental nurses, masseurs, sterilizers, post-mortem laboratory technicians, laboratory technicians, and ambulance drivers.

Since 2004, the classification of categories has become much more detailed: ¹

- OZPBD = PWPQ = paramedical worker with professional qualification;
- ZPSZ = PWSQ = health-care professional qualified to pursue a paramedical profession without professional supervision on obtaining specialized qualification;
- ZPOD = HWUS = health-care worker qualified to pursue the paramedical profession under professional supervision or direct guidance;
- JOP = OP = other professionals.

Comparison with previous years is only possible in the categories of physicians, dentists, pharmacists, pedagogical workers, technical and economic personnel, manual workers and operational personnel.

Gender distribution ²

The participation of women in health care was 79.5 per cent in 2003 and 79.6 per cent in 2002. The total number of female physicians slightly exceeds the number of male physicians.

¹ *Czech health statistics yearbook 2004*. Institute of Health Information and Statistics of the Czech Republic. Prague, 2005.

² Institute for Health Information and Statistics: *Current information*, No. 78/2004, 57/2005.

In the Czech Republic, male physicians predominate in the surgical occupation; female physicians predominate in occupations such as dermatology and in paediatrics. Two-thirds of dentists are female as well as 81 per cent of pharmacists.

Average age ³

The average age of doctors is rising. Forty-five per cent of Czech doctors are between 45 and 64 years, and 25 per cent are between 55 and 65. The average age of physicians is 46, male physicians 45.4 and female physicians 45.7. The average age for dentists is the same for both male and female at 48.4. The average age of pharmacists in 2004 for males was 41.8 and for females 40.7. ⁴

Retirement

Health workers become retirees in accordance with the law. Currently, the retirement age is increasing and at present is 62 years for males and 60 years for females. ⁵

Health labour market

Until April 2005, the Labour Office registered 241 unemployed physicians while there were officially 336 jobs available (table 2). There were 213 graduate students registered and of these 42 were graduate students of medical schools. ⁶

Table 2. Unemployed physicians 2001-04

| | Total | | Graduate students | |
|------|-------|------|-------------------|------|
| | 30.4 | 30.9 | 30.4 | 30.9 |
| 2001 | 213 | 254 | 53 | 97 |
| 2002 | 214 | 261 | 56 | 75 |
| 2003 | 233 | 292 | 38 | 131 |
| 2004 | 277 | 468 | 55 | 139 |

Source: Unpublished data received directly from the Labour Office.

Average working hours ⁷

According to labour law, normal working hours are eight hours per day and 40 hours per week. Seven hours overtime and 12 hours standby per physician in hospitals are allowed and for ambulance duty, there are four hours overtime and four hours standby duty. For workers in rescue services, there are six hours overtime and nine hours of standby duty.

³ *ibid.*, *Current information*, No. 57/2005.

⁴ *ibid.*, *Current information*, No. 57/2005.

⁵ Ministry of Labour and Social Affairs, www.mpsv.cz.

⁶ Unpublished data received directly from Labour Office (1.6.2005).

⁷ Health and Social Care Trade Union of the Czech Republic (<http://osz.cmkos.cz>).

Physicians' overtime depends on the type of workplace. In 2004, physicians in hospitals worked 308 hours overtime per physician, in ambulance duty it was 168 hours, in special medical institutions 192 hours and in rescue services 297 hours per physician.

Average wages

Because of the new definition of health worker categories, it is difficult to compare 2003 and 2004. In 2004, the average gross wage of the adjusted number of health workers in health-care organizations which administer wages according to Act No. 143/1992 Coll. (120,547 health workers) was CZK18,911 (637 euros)⁸ and year-on-year change was 2.53 per cent. The average gross basic pay (Act No. 96/2004 Coll.) CZK10,801 (364 euros) increased in comparison to 2003 by about 9.1 per cent and resulted in increasing the share of the total average gross wage from 53.7 per cent to 57.1 per cent. Bonuses and remunerations increased by 1.9 per cent and the share in gross basic pay totalled 22.7 per cent (in the case of physicians 41.5 per cent).⁹ The annual rates differed during the last eight years (table 3).

Table 3. The development in the average gross wage in non-entrepreneurial health-care organizations in the Czech Republic

| | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|--------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Average gross wage (CZK) | 10 608 | 10 896 | 12 409 | 12 880 | 14 913 | 17 018 | 18 444 | 18 911 |
| Annual rate (%) | | 2.71 | 13.89 | 3.80 | 15.78 | 14.12 | 8.38 | 2.53 |

Source: *Výsledky odměňování zaměstnanců ve zdravotnictví ČR za rok 2004*, Ministry of Health, 2005, www.mzcr.cz.

Because of the changes in the salary grades (their number increased to 16) it is not possible to make a real comparison. At the same time, a system of monitoring of wages according to salary grades has been introduced. The average gross wage of physicians increased 3.5 per cent to CZK37,093 (1,249 euros) in 2004. The average gross base pay was CZK17,016 (573 euros) and its share in total average gross wage was 45.9 per cent. Bonuses and remunerations decreased 3.5 per cent to CZK7,054 (238 euros). The other important components of physicians' wages are overtime and standby pay and on average total CZK6,608 (223 euros)¹⁰ (table 4).

Table 4. The development in the average gross wage of physicians in non-entrepreneurial health-care organizations in the Czech Republic

| | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|--------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Average gross wage (CZK) | 20 258 | 20 857 | 23 692 | 24 854 | 28 839 | 33 270 | 35 843 | 37 093 |
| Annual rate (%) | | 2.96 | 13.59 | 4.90 | 16.03 | 15.36 | 7.73 | 3.49 |

Source: *Výsledky odměňování zaměstnanců ve zdravotnictví ČR za rok 2004*, Ministry of Health, 2005, www.mzcr.cz.

⁸ The amounts are adjusted for the euro according to the Czech National Bank exchange rates valid at 31 Dec. 2004 (1 euro : CZK29.69).

⁹ *Výsledky odměňování zaměstnanců ve zdravotnictví ČR za rok 2004*, Ministry of Health, 2005 (www.mzcr.cz).

¹⁰ *ibid.*

The average gross wage of nurses and midwives was CZK17,926 (604 euros). In comparison with the former “middle health-care workers” category, it is possible to deduce that the increasing number of salary grades led to an increase of its share of the total gross wage.¹¹

Real wages decreased 0.26 per cent and, in the case of pedagogical workers, reached the decline in average gross wage – CZK1,296 (46 euros) (table 5).¹² The difference between average gross wage in the health-care sector and in the national economy is very small. In 2002, the average gross wage decline in the health-care sector was higher than in the national economy (about CZK806, 27 euros). In 2003, it increased by CZK999, 34 euros), while in 2004 it decreased by CZK329, 11 euros). This is the consequence of both the government directive on cuts in wages and the small rise of wage scales within the new 16-grade system of wages.¹³

Table 5. The average gross wage in non-entrepreneurial health-care organizations

| Category of workers | (CZK) | (Euros) |
|--------------------------------------|--------|---------|
| Physicians and dentists | 37 093 | 1 249 |
| Pharmacists | 32 426 | 1 092 |
| Nurses and midwives | 17 926 | 603 |
| PWPQ | 19 243 | 648 |
| PWSQ | 18 539 | 624 |
| HWUS | 13 216 | 445 |
| OP | 20 995 | 707 |
| Pedagogical workers | 20 995 | 707 |
| Technical-economic workers | 17 922 | 603 |
| Manual workers and operating workers | 10 543 | 355 |

Source: *Výsledky odměňování zaměstnanců ve zdravotnictví ČR za rok 2004*, Ministry of Health, www.mzcr.cz.

The above data cover those health workers in the health-care organizations that administer wages according to Act No. 143/1992 Coll. There is another group of health workers who are employed in the health-care organizations established by regional authorities, which administer wages according to Act No. 1/1992 Coll. Generally, the employees (65,879 health-care workers) in these organizations earned less money. In 2004, the average gross wage was CZK17,752 (598 euros).¹⁴

¹¹ *ibid.*

¹² Health and Social Care Trade Union of the Czech Republic (<http://osz.cmkos.cz>).

¹³ *Výsledky odměňování zaměstnanců ve zdravotnictví ČR za rok 2004*, Ministry of Health, 2005 (www.mzcr.cz).

¹⁴ *ibid.*

3. Health worker supply information

Data sources

The data are based on the results of statistical surveys made by the Ministry of Education, Youth and Sport (www.msmt.cz). The collection and processing of these data was carried out by the Institute for Information on Education (www.uiv.cz).

Annual output of educational institutes ¹⁵

In the Czech Republic, there are seven faculties of medicine. In 2004, 12,676 students attended these faculties (tables 6, 7), two-thirds of them female. In 2004, 2,362 new students were enrolled and 1,719 students graduated from faculties of medicine (69 per cent female) (tables 8, 9). In Masters programmes, 6,679 students of general medicine and 980 dentists were enrolled at 31 October 2004.

Table 6. Number of students (at 31 October 2004)

| | Bachelor studies | Connect Masters studies | Masters studies | Doctoral studies | Total |
|------------------------|------------------|-------------------------|-----------------|------------------|--------|
| Medical school | 2 209 | 363 | 7 659 | 2 445 | 12 676 |
| Pharmaceutical faculty | 159 | – | 1 577 | 216 | 1 952 |
| Medical social school | 1 643 | 259 | 441 | 80 | 2 423 |

Source: Institute for Health Information and Statistics.

Table 7. Number of medical schools students in 2000-04 (Masters studies programme)

| Year | 2000 | 2001 | 2002 | 2003 | 2004 |
|------------------|-------|-------|-------|-------|-------|
| General medicine | 7 905 | 8 223 | 8 635 | 8 998 | 9 587 |
| Dental schools | 976 | 1 034 | 1 063 | 1 116 | 1 258 |

Source: Institute for Health Information and Statistics.

Table 8. Number of graduates in 2004

| | Bachelor studies | Connect Masters studies | Masters studies | Doctoral studies | Total |
|------------------------|------------------|-------------------------|-----------------|------------------|-------|
| Medical school | 474 | 122 | 960 | 163 | 1 719 |
| Pharmaceutical faculty | – | – | 270 | 23 | 293 |
| Medical social school | 219 | – | 122 | 10 | 342 |

Source: Institute for Health Information and Statistics.

¹⁵ Institute for Health Information and Statistics.

Table 9. Number of medical school graduates in 2000-04 (Masters studies programme)

| Year | 2000 | 2001 | 2002 | 2003 | 2004 |
|------------------|------|------|------|------|-------|
| General medicine | 950 | 922 | 843 | 999 | 1 006 |
| Dental schools | 125 | 94 | 138 | 129 | 141 |

Source: Institute for Health Information and Statistics.

Seventy per cent of students at the medical and dental faculties are from the Czech Republic and 30 per cent are foreigners (half of them from Slovakia).

At the medical-social faculties there are 2,423 students, in all kind of studies, almost 87 per cent female. Three hundred and forty-two students graduated in 2004.

At pharmaceutical faculties in 2005 there were 1,952 students (1,594 females). At those faculties 293 students graduated in 2004.

In the medical high schools 18,370 students study in the present form and 2,032 students studied in all other forms of studies in 2004; 4,538 students graduated.

The total amount of graduate students (medical and dental studies) in 2004 included 70 per cent citizens of the Czech Republic and 30 per cent foreigners, more than half of them Slovaks.

Table 10. Number of upper secondary paramedical school and tertiary paramedical schools students and graduates in 2004-05

| | Total | Female |
|-------------------------------------------|--------|--------|
| Upper secondary paramedical school | | |
| Students in year 2004-05 | 20 402 | 18 686 |
| Graduate in year 2004-05 | 4 538 | 4 263 |
| Tertiary paramedical schools | | |
| Students in year 2004-05 | 6 551 | 5 622 |
| Graduate in year 2004-05 | 1 932 | 1 716 |

Source: Institute for Health Information and Statistics.

Faculties of medicine

Bachelor study includes the departments of nursing, rehabilitation and specialization in health service. Post-bachelor studies include departments for economy and management of the health service, nursing, rehabilitation and specialization in the health-care service. The Masters programme covers general medicine and dental medicine. Doctoral studies include experimental surgery, physiology, neurology and general medicine.

Studies in the medical social school include the departments of economy and management in the health service, nursing, rehabilitation and specialization for health service, social policy and social work.

Studies in the pharmaceutical faculties are focused on pharmacy and health bio-analytics and organic chemistry.

Upper secondary paramedical school students may study in the departments of nursing, and as dental technician, ophthalmic technician, and pharmaceutical and dental laboratory technician.

Tertiary paramedical schools include the departments of midwifery, nursing, physiotherapy, occupational therapy, ophthalmic technician, dental technician, dental hygienist, radiology assistant, and rescue worker.

Upper secondary paramedical school and **tertiary paramedical schools** prepare the non-physician health workers and middle health-care workers.

4. Health worker migration

Sources for health worker migration data

In the Czech Republic there is little information, knowledge or evidence available on migration and migration intentions of health workers. The main source of information is the Czech Medical Chamber, which issues certificates of professional integrity for doctors for migration purposes. Because the professional organizations collect data only in the context of issuing of documents necessary for potential emigration, they do not provide a picture of how many applicants actually leave the country. In the case of immigration the numbers of foreign health workers are registered by the Ministry of Health. The faculties of medicine register only the numbers of students accepted and graduates including foreigners. The foreigners' police department records data on immigration at the state level and does not differentiate between health workers. The database of labour offices registers only numbers of available work positions in the health sector and the numbers of unemployed health workers and unemployed graduates.

The data and information for this section were based on analysis of publications and articles.

Current state of information

The main destinations for migration of Czech health workers are Germany, Austria, the United Kingdom, the United States and Canada. The main source countries are Slovakia, Poland and the Russian Federation.

Most frequent reasons for emigration are low salaries in the Czech Republic compared to the destination country; differences in salary of doctors and other professions, expectation of a better life, better working conditions and presence of family or friends abroad. The main barriers to emigration include separation from family and friends, expensive and lengthy formalities for working abroad, difficult living conditions, language barriers and a guarantee that after returning home, health workers can find work.

The other factors which facilitate migration are information on possibilities of migration available to the health-care workforce,¹⁶ increased flexibility in the mutual recognition procedure for qualifications, improving language capability, and better representation for mediators for health-care workers in foreign countries. The other constraints are mainly the changing life of the family, the exclusion of children from their former community, language barriers and the challenges of beginning a new life abroad.

The migration of health workers has both advantages and disadvantages for a country's health system. The most important advantages include the possibility of a more qualified and experienced returning labour force, the reduction of social and health-care insurance and the strengthening of economic and social integration. The advantages of immigration for a country's health system are acquisition of a qualified, low-cost, workforce, a more stable pension system and a positive impact on the demographic situation.

But due to emigration, the health system loses its qualified workforce with possible impact on the health status of the population and experiences economic hardship. Theoretically, in the case of mass migration there is the risk of negative impact on the demographic situation.

The concerns of immigration for the health system are the possible negative impact on wages, the increase of individual risk of unemployment and the possibility of negative impact on cultural and social differences (e.g. mistrust of patients).

In the Czech Republic there are no available statistics to monitor the specific numbers of migrating health-care workers. According to the latest information from agencies, which contract the health workforce abroad, after Czech accession to the European Union, there was no significant change in the numbers of applicants wanting to work abroad. But the trend is rather increasing. It can be seen in the numbers of professional integrity certificates, which are issued by the Czech Medical Chamber. In 2003, 200 were issued, in 2004, 500 and 300 for first half 2005.¹⁷

The number of foreigners employed in the Czech Republic as physicians is increasing (table 11), while the number of foreign pharmacists is decreasing.

¹⁶ The Ministry of Labour and Social Affairs of the Czech Republic runs the project for citizens of Bulgaria, Croatia, Kazakhstan, Belarus, the Republic of Moldova, Serbia and Montenegro and recent graduates of Czech universities from all States worldwide who can apply to join the project on the territory of the Czech Republic. This project is targeted at foreigners with at least higher education and offers permanent residence. At 3 October 2005 there were 8 per cent (26 in total) foreigners participating; working at health-care services. More information available on <http://www.imigrace.mpsv.cz/>.

¹⁷ Czech Medical Chamber, <http://www.lkcr.cz>.

Table 11. Number of unemployed physicians and the foreigners employed in the Czech Republic

| | Unemployed physicians | Available jobs for physicians | Foreigners from Slovakia employed in the Czech Rep. | | Other foreigners from Slovakia employed in the Czech Rep. | |
|--------------|-----------------------|-------------------------------|-----------------------------------------------------|-------------|-----------------------------------------------------------|-------------|
| | | | Physicians | Pharmacists | Physicians | Pharmacists |
| 30 Apr. 2003 | 233 | 460 | 711 | 118 | 118 | 12 |
| 30 Sep. 2003 | 292 | 378 | 906 | 120 | 140 | 9 |
| 30 Apr. 2004 | 277 | 327 | 968 | 146 | 129 | 6 |
| 30 Sep. 2004 | 468 | 310 | 995 | 101 | 111 | 4 |
| 30 Apr. 2005 | 241 | 336 | 1 033 | 118 | 155 | 14 |

Source: Unpublished data received directly from Labour Office.

5. Conclusions and recommendations

There is a lack of data for migration and migration trends in the health workforce. The main sources of information available are the Institute of Health Information and Statistics, the Ministry of Health and the Czech Medical Chamber, but without the time series because of the new Act (No. 96/2004 Coll.). The main reason for health worker emigration is a “better paid job”.¹⁸ The ex-President of the Chamber and present Minister of Health, David Rath, forecast that: “I expect that within a year or two we will face a serious problem. A number of Czech hospitals will be on the verge of closing because of shortage of physicians. And it won’t be just single cases.” But this did not happen and Czech entry into the European Union did not have a dramatic impact on migrating physicians or other health workers.¹⁹ Trends in the slowly growing number of migrants continue regardless. The mass exodus of qualified health-care workers or of unregulated immigration of the labour force did not happen.

The real numbers of health workers abroad are unknown. It would be beneficial if the Ministry of Health or professional organizations in the health sector collected and published these data. There are no data on emigration/immigration for professional groups.

¹⁸ M. Marečková: “Exodus of Czech doctors leaves gaps in health care”, *The Lancet*, Vol. 363, 1 May 2004.

¹⁹ *ibid.*

References

Specific references on health worker migration

- I. Bláhová: “Pracovní adresa: Allegheny General Hospital”, *Zdravotnické noviny*, č. 10/2005.
- : “Lékaři bez hranic: zdravotníků je stále málo”, *Zdravotnické noviny*, č. 25/2005.
- A. Borzeda et al.: *European enlargement: Do health professionals from candidate countries plan to migrate? The case of Hungary, Poland and the Czech Republic*. Paris. June 2002.
- I. Lesková: “Lékaři: Do ciziny nejdeme jen pro peníze”, *MF Dnes*, 23 June 2005.
- A. Malina: *Volný pohyb zdravotnických pracovníků v rámci EU. Institut postgraduálního vzdělávání*, 2003.
- M. Marečková: “Exodus of Czech doctors leaves gaps in health care”, *The Lancet*, Vol. 363, 1 May 2004.
- J. Prezentace: *Obstojí české zdravotnictví po vstupu do EU?*
- J. Vachová: *Odliv lékařů se zatím nekoná. Zdravotnické noviny č. 20/2005*.
- M. Wichterlová: *Uchazeči zařazení do pilotního projektu “Výběr kvalifikovaných zahraničních pracovníků” IOM 2005*. (available on www.imigrace.mpsv.cz).

Appendix

Table 12. The average gross wage of physicians in non-entrepreneurial health-care organizations in the Czech Republic

| Categories | Average gross wage | | | | | | |
|--------------------------------------|--------------------|--------|--------|--------|--------|--------|--------|
| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
| Physicians and dentists | 20 857 | 23 692 | 24 854 | 28 839 | 33 270 | 35 843 | 37 093 |
| Pharmacists | 19 737 | 22 632 | 23 285 | 26 074 | 29 494 | 31 478 | 32 426 |
| Nurses and midwives | - | - | - | - | - | - | 17 926 |
| OZPBD | - | - | - | - | - | - | 19 243 |
| ZPSZ | - | - | - | - | - | - | 18 539 |
| ZPOD | - | - | - | - | - | - | 13 216 |
| JOP | - | - | - | - | - | - | 20 995 |
| Pedagogical workers | 11 663 | 13 453 | 13 383 | 18 133 | 19 641 | 21 441 | 20 145 |
| Technical-economic workers | 11 469 | 13 004 | 13 470 | 14 877 | 16 465 | 17 468 | 17 922 |
| Manual workers and operating workers | 6 930 | 7 901 | 8 101 | 8 806 | 9 674 | 10 415 | 10 543 |
| Total* | 10 896 | 12 409 | 12 880 | 14 913 | 17 018 | 18 444 | 18 911 |

*Total for period 1998-2003 includes the former categories (SZP, NZP, PZP and JOP).

Source: Výsledky odměňování zaměstnanců ve zdravotnictví ČR za rok 2004, Ministry of Health, 2005, www.mzcr.cz.

Table 13. Average gross wage in the health-care organizations in non-entrepreneurial health-care organizations in the Czech Republic

| | Total | | | | | | | |
|------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
| Average gross wage (CZK) | 10 608 | 10 896 | 12 409 | 12 880 | 14 913 | 17 018 | 18 444 | 18 911 |
| Annual rate | | 2.71 | 13.89 | 3.80 | 15.78 | 14.12 | 8.38 | 2.53 |
| Includes | | | | | | | | |
| Base pay | 5 502 | 5 601 | 6 594 | 6 627 | 7 668 | 8 898 | 9 903 | 10 801 |
| Base pay as % of average wage | 51.87 | 51.40 | 53.14 | 51.45 | 51.42 | 52.29 | 53.69 | 57.11 |
| Annual rate (%) | | 1.80 | 17.73 | 0.50 | 15.71 | 16.04 | 11.29 | 9.07 |
| Supplemental wages and remunerations | 1 286 | 1 489 | 1 522 | 1 737 | 2 218 | 2 459 | 2 404 | 2 450 |
| Supp. wages and remunerations as % of base pay | 23.37 | 26.58 | 23.08 | 26.21 | 28.93 | 27.64 | 24.28 | 22.68 |
| Annual rate (%) | | 15.79 | 2.22 | 14.13 | 27.69 | 10.87 | -2.24 | 1.91 |
| Overtime and standby wage | 1 018 | 1 008 | 1 136 | 1 232 | 1 163 | 1 310 | 1 448 | 1 528 |
| Annual rate (%) | | -0.98 | 12.70 | 8.45 | -5.60 | 12.64 | 10.53 | 5.52 |
| Other components | 1 102 | 1 121 | 1 217 | 1 302 | 1 445 | 1 581 | 1 701 | 1 763 |
| Other wages | 645 | 672 | 782 | 809 | 937 | 1 084 | 1 147 | 435 |
| Refund wages | 1 055 | 1 005 | 1 158 | 1 173 | 1 482 | 1 686 | 1 841 | 1 934 |

Source: Výsledky odměňování zaměstnanců ve zdravotnictví ČR za rok 2004, Ministry of Health, 2005, www.mzcr.cz.

Serbia

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1. Introduction

Serbia and Montenegro, as two republics, agreed in March 2003 to enter into untied arrangements, which provide for a federal assembly and president and joint handling of defence and foreign affairs. Their governments are separated, as well as the ministries of health. Data collection is also being conducted on the territorial principle and the data presented here concern only Serbia.

Serbia has 7,498,000 inhabitants (Montenegro 660,000) (Census 2002). There are an estimated 362,000 refugees and 172,300 internally displaced people from Kosovo living in Serbia. The country's population, both domiciled and refugee, is characterized by ageing, smaller families, and declining numbers in rural and remote areas (UN Common Country Assessment, 2003).

During the 1990s, Serbia was faced with severe economic and social crisis. The collapse of the former Yugoslavia in the early 1990s, United Nations Security Council sanctions against the Federal Republic of Yugoslavia, NATO bombing in 1999 and the ten-year autocratic rule of Milosevic, led to significant decline in economic activity. In 2002, GDP was US\$1,912 per capita, following an improvement from 2000 when pro-reform governments took power, but was still less than a half what it was in 1990. The above factors significantly affected the standard of living, and according to the Census 2002, approximately 400,000 Serbs had left the country and were living abroad, including 30,000 highly educated persons. It is thought that the real number is even higher.

This report analyses characteristics of migration of health workers from Serbia, in an attempt to systematize information, knowledge and evidence available on health worker migration and migration intentions, as well as facilitating factors and constraints.

2. Health worker supply: Education and training

Graduate nurses and technicians

In Serbia there are 23 general medical high schools, and one specialized in dentistry. Training lasts four years. When applying for enrolment at the age of 14, pupils choose careers as general nurse, paediatric nurse, physiotherapist, laboratory assistant, etc. Table 1 presents the output of new graduates of schools for the last five available years.

Table 1. The annual output of new graduates of medical schools in Serbia, from 1999-2000 to 2003-04

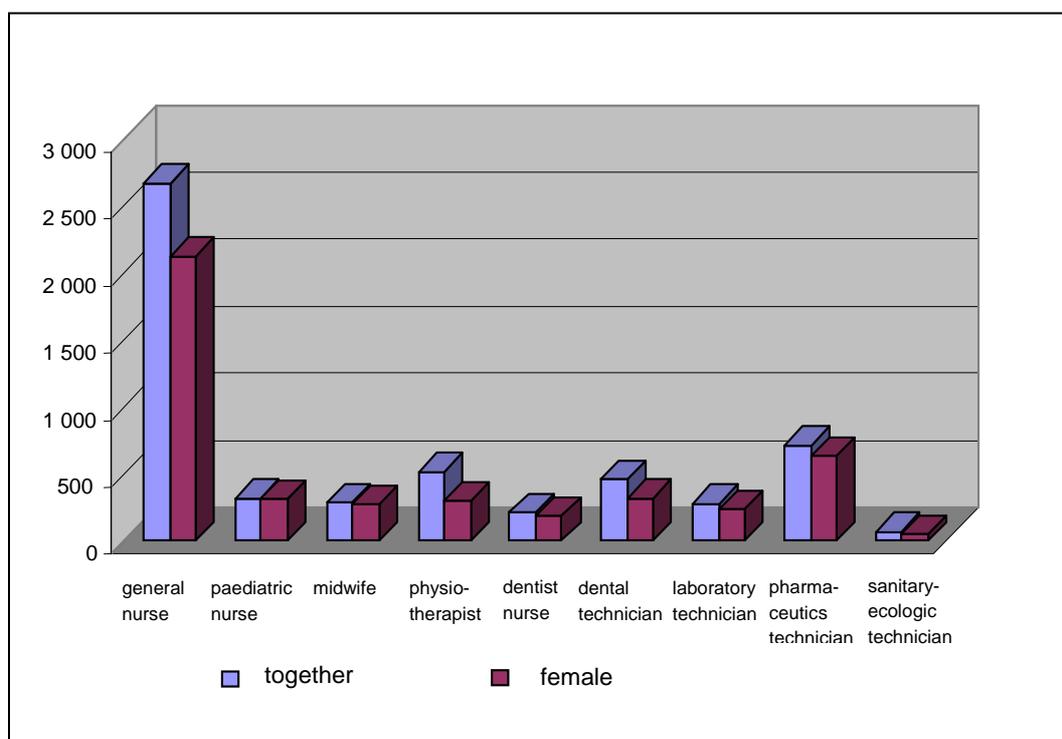
| | 1999-2000 | | 2000-01 | | 2001-02 | | 2002-03 | | 2003-04 | |
|------------------------------------|-----------|--------|---------|--------|---------|--------|---------|--------|---------|--------|
| | Total | Female | Total | Female | Total | Female | Total | Female | Total | Female |
| Medical technician – general nurse | 2 649 | 2 195 | 2 755 | 2 304 | 2 854 | 2 315 | 2 984 | 2 367 | 2 662 | 2 117 |
| Paediatric nurse | 324 | 320 | 339 | 324 | 281 | 261 | 341 | 334 | 312 | 308 |
| Midwife | 207 | 207 | 303 | 290 | 350 | 347 | 259 | 264 | 284 | 274 |
| Physiotherapist | 466 | 202 | 466 | 268 | 363 | 225 | 544 | 338 | 511 | 292 |
| Dentist nurse | 246 | 219 | 244 | 223 | 257 | 228 | 247 | 226 | 210 | 181 |
| Dentist technician | 444 | 307 | 408 | 267 | 490 | 343 | 499 | 338 | 456 | 312 |
| Laboratory assistant | 316 | 275 | 178 | 150 | 241 | 194 | 282 | 213 | 275 | 229 |
| Pharmaceutical technician | 726 | 634 | 783 | 680 | 690 | 620 | 888 | 763 | 709 | 630 |
| Sanitarian-ecology technician | 67 | 41 | | | 103 | 69 | 61 | 44 | 65 | 46 |

Source: Statistical Office of Serbia.

Medical high schools are predominantly attended by female students, especially in the field of paediatrics and midwifery, and also dental nurses. Males are more attracted to professions such as physiotherapy and dental technician. Gender distribution for 2003-04 graduates is given in figure 1.

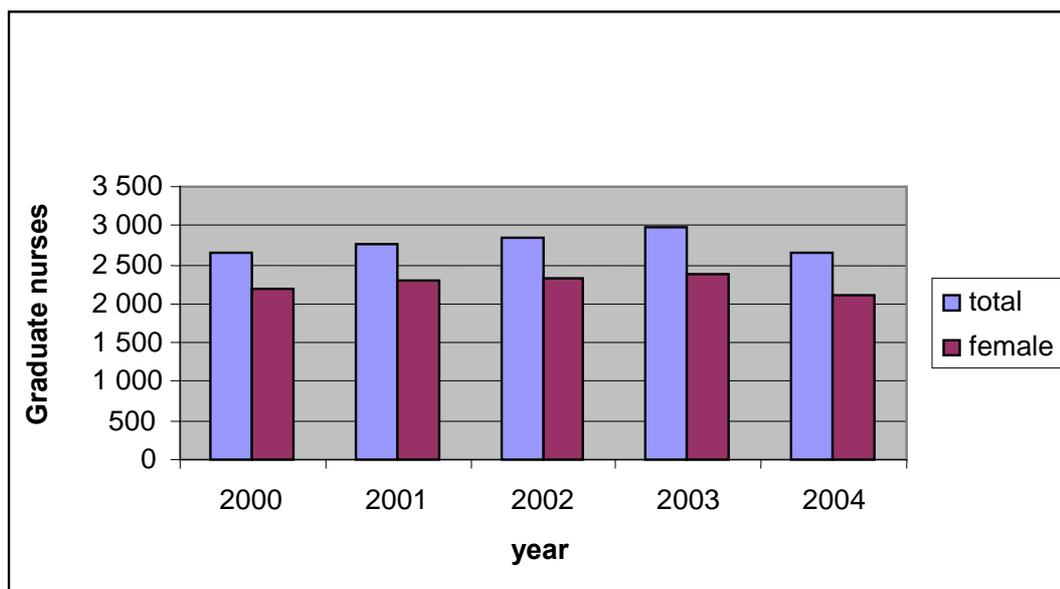
The gender distribution of general medical nurses/technicians among graduates from 2000-04 is given in figure 2. The ratio between female and male is relatively stable and varies from 3.83 in 2003 to 5.10 in 2001. Trend analysis shows a slight increase of this ratio – males being more interested in medical schools.

Figure 1. Gender distribution of graduate nurses/technicians in 2004



Source: Computed from data obtained from the Statistical Office of Serbia.

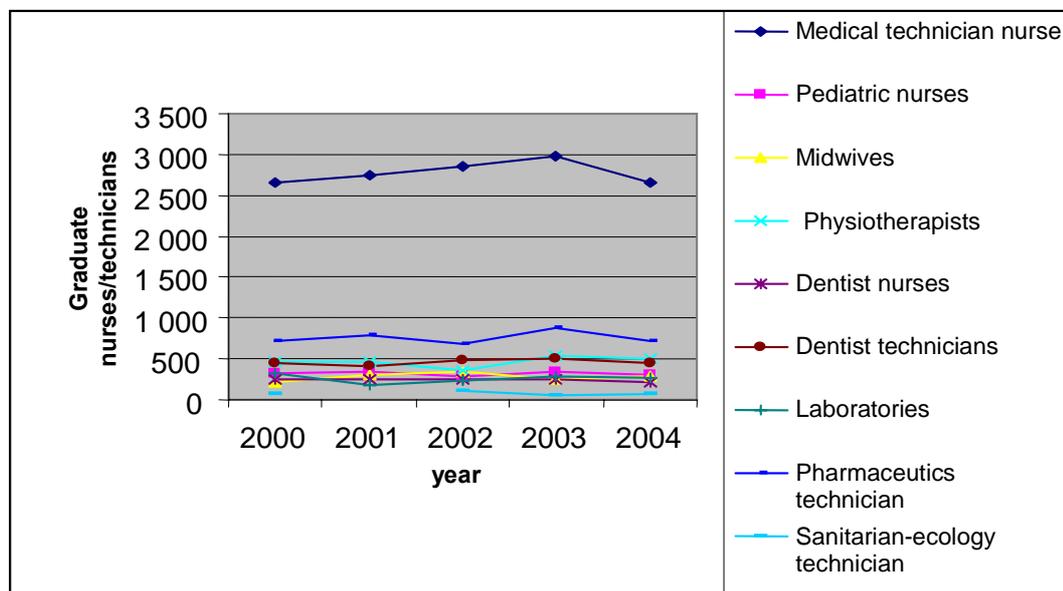
Figure 2. The number of graduate medical nurses (technicians) 2000-04



Source: Computed from data obtained from the Statistical Office of Serbia

Trends in the numbers of graduate nurses and technicians peak in 2003, which corresponds to 1999 as a year of enrolment (figure 3). Explanation of this year will be given later.

Figure 3. Graduate nurses/technicians in Serbia



Source: Computed from data obtained from the Statistical Office of Serbia.

Graduate physicians, dentists and pharmacists

There are four Schools of Medicine in Serbia: Belgrade, Kragujevac, Nish and Novi Sad in Vojvodina. Data presented here do not include data from Prishtina School of Medicine, in Kosovo and Metochia. One School of Dentistry exists in Belgrade, and in Novi Sad and Nish dentistry education is offered the Departments for Dentistry within the Schools of Medicine. Pharmacist education is offered at the School of Pharmacy in Belgrade, and also within medical faculties in Novi Sad, Kragujevac and Nish, as department and study groups. The Departments of Pharmacy within the Schools of Medicine in Novi Sad were established in 2001, and in Nish in 2002, so the first generation of enrolled students has not yet graduated.¹

The Schools of Medicine are faculties within the Universities, which are established and financed by the State.

Annual outputs of graduate physicians, dentists and pharmacists, for the seven latest years available, are given in table 2, as well as the total number of graduates from 1945-97.² Education for physicians lasts six years. After successful finalization of studies, and award of the diploma, students are obliged to do one year of internship (discussed later).

The highest number of graduate physicians was in 2000 (figure 4). This might be the result of a cumulative effect of incoming medical students from Yugoslav republics at war. Further, as a result of the revolution in Serbia in 2000, political change was followed by a complete change of management staff in every single institution.

From 2003 on, there were increasing numbers of graduates. Worth mention is the fact that in 1999, when Serbia suffered NATO bombing, education policy changed and enrolment procedures for all faculties in the Republic were greatly facilitated, based on average marks from high school without entrance exams. The number of students admitted to faculties almost doubled for the sake of social peace (these data are not given here). A realistic forecast of graduating trends in future points to further saturation for all kinds of health workers, which is expected to lead to increasing unemployment rates in health professions.

Table 2. Number of graduate physicians, dentists and pharmacists in Serbia

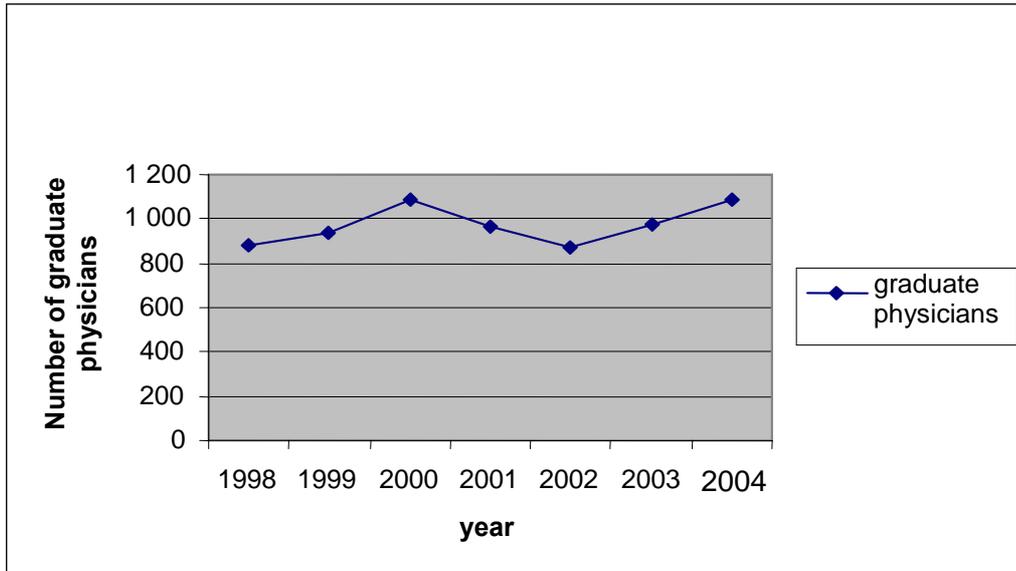
| | 1945-1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|----------------------|-----------|------|------|-------|------|------|------|-------|
| Graduate physicians | 40 102 | 877 | 936 | 1 092 | 963 | 871 | 977 | 1 084 |
| Graduate dentists | 10 055 | 209 | 218 | 216 | 253 | 245 | 243 | 302 |
| Graduate pharmacists | 6 518 | 183 | 238 | 262 | 259 | 270 | 376 | 585 |

Source: Statistical Yearbook of Serbia 2001, 2002, 2003, 2004 and 2005.

¹ Belgrade University School of Medicine www.med.bg.ac.yu, University of Novi Sad www.medical.ns.ac.yu, University of Nish www.medfak.ni.ac.yu, and University of Kragujevac www.medf.kg.ac.yu. Accessed on 10 Dec. 2005.

² Data source: Statistical Office of Serbia, Department of Education.

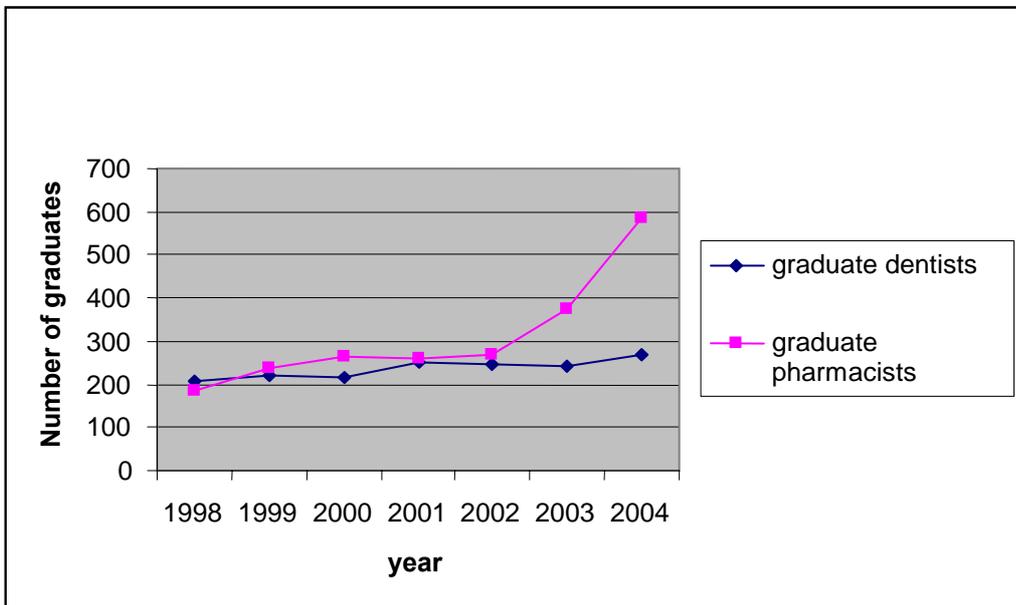
Figure 4. Annual outputs of physicians from medical faculties in Serbia 1998-2004



Source: Computed from data obtained from the Statistical Office of Serbia.

Pharmacy was recently recognized as a rewarding profession in many ways, especially in financial terms and possibilities for entrepreneurial activity (figure 5). This could be an explanation for increased student interest in pharmacy and the positive trend in graduation output. As Faculties of Pharmacy in Novi Sad and Nish have been established recently, the positive trend will most probably continue.

Figure 5. Annual outputs of dentists and pharmacists in Serbia 1998-2004



Source: Computed from data obtained from the Statistical Office of Serbia.

Specialists

Specialization education lasts four years on average for most of the professional fields (between three and six years, depending on complexity of specialization). The number of newly trained specialists in the fields of medicine, dentistry and pharmacy in 1999-2003 are shown in table 3.

In 2003, a new classification system of educational fields was introduced, according to the recommendations of EUROSTAT, UNESCO and OECD. Thus, since 2003, those data have been internationally comparable.

Table 3. Number of graduate specialists: Physicians, dentists and pharmacists from 1999 to last available year

| Specialists in field of: | 1999 | 2000 ¹ | 2001 ¹ | 2002 ¹ | 2003 ² |
|--------------------------|------|-------------------|-------------------|-------------------|-------------------|
| Medicine | 181 | 176 | 174 | 133 | 129 |
| Dentistry | | 19 | 82 | 96 | 45 |
| Pharmacy | | 1 | 0 | 1 | 1 |

Source: Statistical Yearbook of Serbia 2001, 2002, 2003, 2004 and 2005.

¹ Specialists, masters and doctors of sciences are presented as a sum of those in the field of basic medicine, internal medicine, surgery, clinical medicine, health care and so on.

² Due to international data comparability and on EUROSTAT, UNESCO and OECD recommendations a classification of educational spheres has been introduced and applied instead of classifications of scientific divisions and fields from 2003.

Up to 2002, it was possible to apply for different kinds of specialization, within non-transparent procedures and rules, and not based on the actual and appraised demands of health care. Most of the graduates met their specialization choices, but on a voluntary and self-financed basis.

Starting from 2002, the Ministry of Health adopted and implemented a very restrictive policy in terms of regulating the overproduction of health professionals. Voluntary specializations were stopped; instead, strict and transparent rules for obtaining specialization were established, based on the needs, of the employing health-care institutions. The other criterion is at least two years' working experience in the field. Effects of this policy cannot be seen yet, but certainly future trends will be declining numbers of trained specialists. This is one of the most important factors influencing the decision of young doctors (physicians much more than dentists and pharmacists) to go abroad.

The new policy was also implemented through a reduction of openings in medical faculties.

Master of Science

Scientific education consists of two years' postgraduate studies including a Master of Science (MSc) thesis.

Table 4. Number of MSc in medicine, dentistry and pharmacy from 1999 to latest available year

| Masters of Science in field of: | 1999 | 2000 ¹ | 2001 ¹ | 2002 ¹ | 2003 ² |
|---------------------------------|------|-------------------|-------------------|-------------------|-------------------|
| Medicine | 192 | 207 | 206 | 153 | 181 |
| Dentistry | | 6 | 2 | 1 | 2 |
| Pharmacy | | 7 | 5 | 7 | 3 |

Source: Statistical Yearbook of Serbia 2001, 2002, 2003, 2004 and 2005

¹ Specialists, masters and doctors of sciences are presented as a sum of those in the field of basic medicine, internal medicine, surgery, clinical medicine, health care and so on.

² Due to international data comparability and on EUROSTAT, UNESCO and OECD recommendations a classification of educational spheres has been introduced and applied instead of classifications of scientific divisions and fields from 2003.

Doctor of Science

Further scientific work goes towards a PhD degree. This is required for university staff, although other non-teaching health workers can conduct this research, upon certain prerequisites regarding publishing in the field. The yearly output of Doctors of Science (PhD), shown in table 5, clearly shows the trend in decreasing numbers of those obtaining a PhD degree.

Table 5. Number of doctors in medicine, dentistry and pharmacy from 1999 to latest available year

| Doctors of Science in field of: | 1999 | 2000 ¹ | 2001 ¹ | 2002 ¹ | 2003 ² |
|---------------------------------|------|-------------------|-------------------|-------------------|-------------------|
| Medicine | 130 | 115 | 124 | 79 | 79 |
| Dentistry | | 7 | 3 | 1 | 2 |
| Pharmacy | | 2 | 0 | 3 | 1 |

Source: Statistical Yearbook of Serbia 2001, 2002, 2003, 2004 and 2005.

¹ Specialists, masters and doctors of sciences are presented as a sum of those in the field of basic medicine, internal medicine, surgery, clinical medicine, health care and so on.

² Due to international data comparability and on EUROSTAT, UNESCO and OECD recommendations a classification of educational spheres has been introduced and applied instead of classifications of scientific divisions and fields from 2003.

3. Licensing and professional associations

Residence programme

On graduation, health workers could not independently carry out their professional duties (although certain tasks could be undertaken, regulated by law), until a residence programme is finished and professional exam passed (so called "State exam"). This is laid down in the Health Care Law of 1992. Residence programmes take one year for highly educated health professionals (physicians, dentists, pharmacists) and six months for nurses and other health workers educated in four-year medical high schools (article 69).

The Ministry of Health is in charge of organizing professional exams for highly educated health workers, while the Institute of Public Health is responsible for nurses and high-school health professionals (article 71).

A successfully completed residence programme and a pass in the professional exam are required when applying for further professional education, such as specialization (article 74).

Chamber of physicians and licensing

Although foreseen in the Health Care Law of 1992, the Chamber of Physicians and Chamber of Pharmacists still do not exist. In recent years the importance of establishing chambers became vital, a fact recognized and emphasized in The Proposal for Health Care, launched on 31 December 2004,³ and now in Parliamentary procedure. This Proposal envisages establishing chambers of physicians, dentists, pharmacists, biochemists, and nurses. Chambers should be independent, professional and expert organizations, with regulated functions and tasks.

One of the most important responsibilities assigned to the chambers is authorization for issuing, renewing and withdrawing of a licence for self-organized work of chamber members.

Professional associations – Serbian Medical Society

The Serbian Medical Society is an organization of physicians and dentists which aims to work on improving public health care.⁴ According to their web site⁵ there is nothing specified in terms of facilitating procedures, recognizing membership, or registration procedures which could influence migration of health workers.

International cooperation in the statutes of the Serbian Medical Society is stated as “change of experience, coordination of different activities and providing mutual support”.

Professional associations – The Association of Health Workers of Serbia

The Association of Health Workers of Serbia is the biggest association of this type in Serbia. Members are mainly nurses and technicians, though membership is open to all health workers with the appropriate skill (high school or faculty), medical collaborators, teachers at medical and health schools, students, final grade pupils at medical and health schools.

In May 2005, the Health Workers Association became a member of the International Council of Nurses (ICN).

Activities cover:

- issues concerning the world market and employment for health workers at home and abroad;
- verification of membership in the Association and of documents for employment of its members in foreign countries;
- legal representation of members (if requested).

³ Proposal for Health Care Law (2004). Available also at the Ministry of Health www.zdravlje.sr.gov.yu.

⁴ Data on Serbian Medical Society available at their official web site www.sld.org.

⁵ www.szr.co.yu.

Since May 2005, it has issued around 100 membership verifications with a view to working abroad.

4. Health workforce and health labour market in Serbia

According to the Statistical Health Yearbook of the Republic Institute of Public Health, the total number of medical staff in Serbia in 2004 was 89,007, across all categories given below in table 6 and figure 6.

Table 6. Medical staff employed in public health services, from 1997-2003, and the number of inhabitants per physician

| | Physicians | General dental practitioners | Graduate pharmacists | Medical workers with secondary and high school education | Medical workers with lower school education | Number of inhabitants per physician |
|-------|------------|------------------------------|----------------------|----------------------------------------------------------|---------------------------------------------|-------------------------------------|
| 1997 | 19 296 | 3 592 | 1 870 | 54 231 | 895 | 403 |
| 1998 | 19 478 | 3 437 | 1 767 | 54 872 | 899 | 398 |
| 1999 | 19 430 | 3 458 | 1 827 | 55 814 | 892 | 397 |
| 2000 | 19 698 | 3 438 | 1 339 | 56 510 | 836 | 390 |
| 2001 | 19 908 | 3 374 | 1 830 | 58 322 | 668 | 388 |
| 2002 | 20 243 | 3 393 | 1 842 | 60 118 | 878 | 371 |
| 2003 | 19 900 | 3 378 | 1 869 | 60 290 | 921 | 282 |
| 2004* | 21 771** | 3 335 | 1 923 | 60 999*** | 979 | |

Source: Statistical Yearbook of Serbia 2005 (those data are up taken from the Serbian Institute for Health Care), and for 2004 Statistical Health Yearbook from the Republic Institute of Public Health 2004 and include data from Kosovo.

* Those data for 2004 are found in the Statistical Health Yearbook of Republic Institute of Public Health 2004.

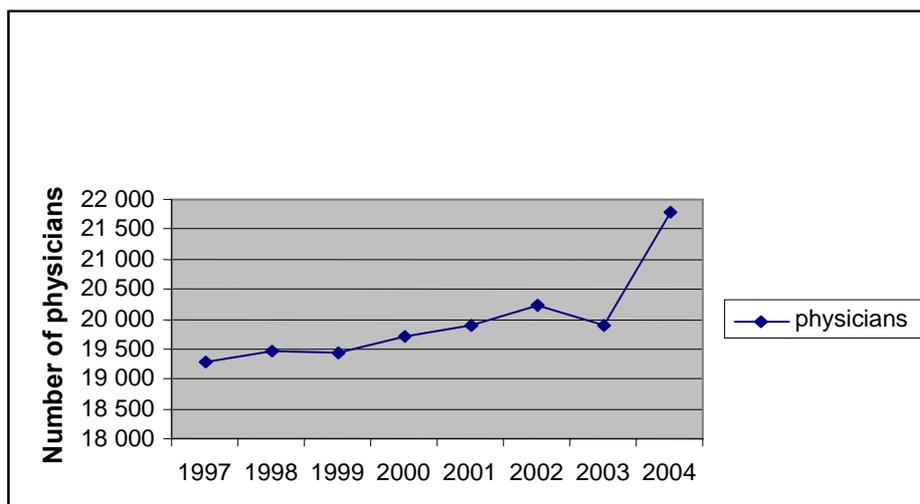
** This number is the sum of general practitioners (3,208), physicians on specialization (1,889), specialists (15,082) and the rest (1,592).

*** This number is the sum of high school medical workers (53,835) and higher nurses (7,164).

The higher number of physicians employed in 2004 can be explained by the diversity of data sources used here, and that the stock in 2004 includes Kosovo. Based on demographic census data from 2002, the physician density in 2003 would be 265 physicians per 100,000 population, compared to 268 in 2002.⁶

⁶ 2002 physician density data from WHO European Health for All database.

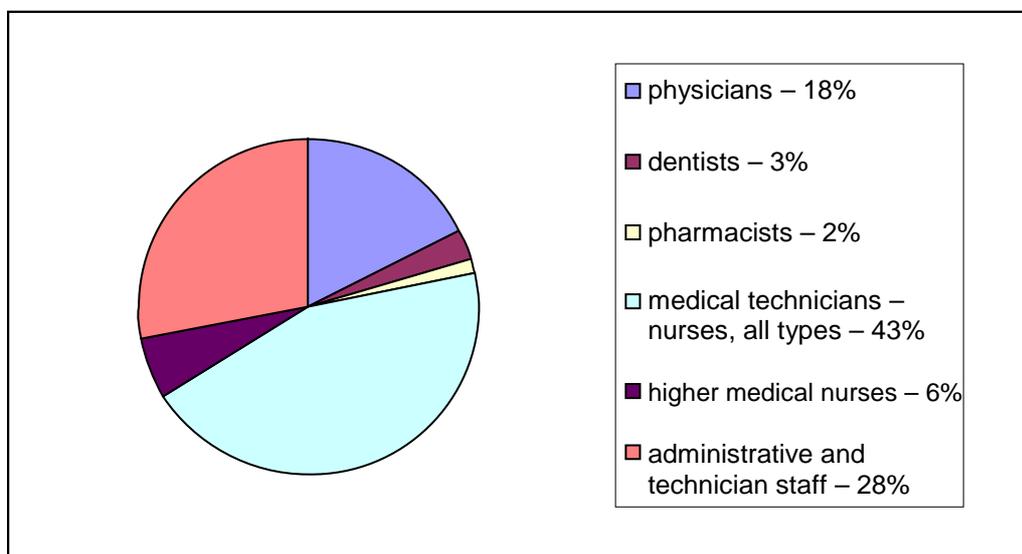
Figure 6. Physicians employed in health-care sector from 1997-2004



Source: Computed from data from the Statistical Yearbook of Serbia 2005 and Statistical Health Yearbook of the Republic Institute of Public Health, 2004.

Apart from this, the Serbian health-care system has a very high number of non-medical, administrative and technical support staff – 34,473 in total.⁷ This represents 38.7 per cent of total medical staff employed in the health sector, and 28 per cent within the whole system (figure 7). Oversupply of non-medical staff is unjustifiable, and inherited from the past, where the civil service was very sought after in ensuring a permanent job. Within other worker groups in the health sector, salaries constitute a significantly recurrent cost item for the health insurance fund and the health system.

Figure 7. Structure of employees in the health-care sector in Serbia in 2004

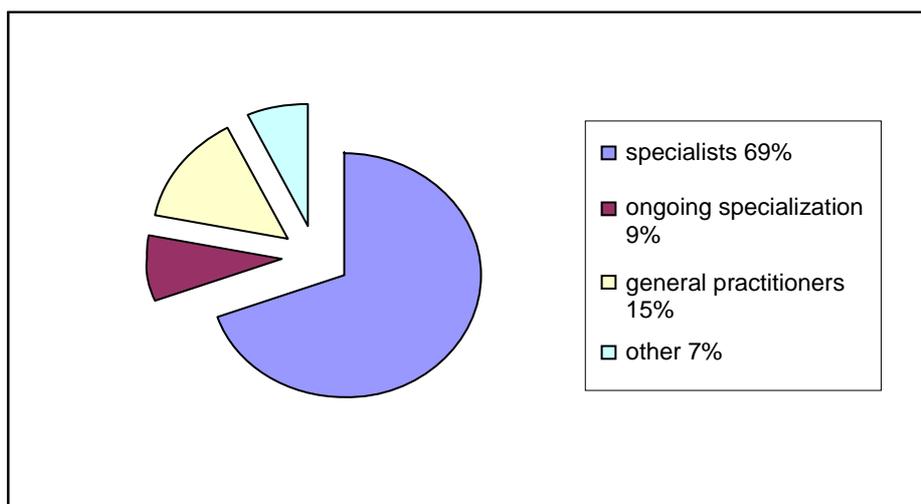


Source: Computed from the Statistical Health Yearbook of the Republic Institute of Public Health, 2004.

Within the “physicians” (18 per cent) category, the number of specialists forms the largest share before general practitioners, specialists and others. The structure is given below in figure 7a.

⁷ Health Yearbook of the Republic Institute of Public Health, available from www.batut.org.yu.

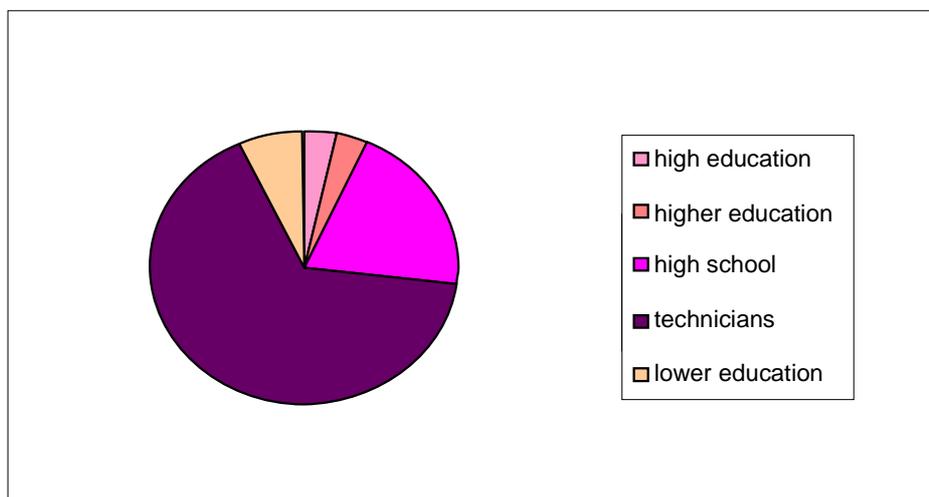
Figure 7a. Structure of physicians employed in the health-care sector in Serbia in 2004



Source: Computed from the Statistical Health Yearbook of the Republic Institute of Public Health, 2004.

The structure of non-medical, administrative and technical support staff, according to their level of education, is given in figure 8. The data source it is not specified for professions belonging to this category. It can be assumed that lawyers, economists and accountants, cleaners and other maintenance staff have appeared here, at a time when they were uncritically employed in the health-care sector.

Figure 8. Structure of the non-medical, administrative staff in health care according to their level of education

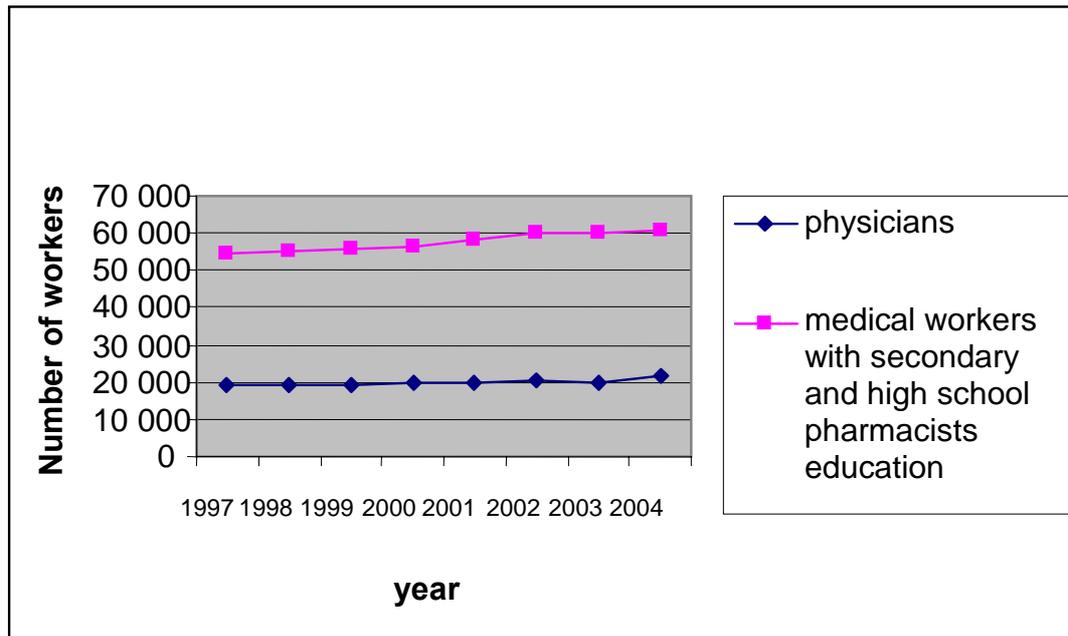


Source: Computed from data from the Statistical Health Yearbook of the Republic Institute of Public Health, 2004.

Recently the International Monetary Fund (IMF) recommended that the Government of Serbia reduce public expenditure. Within measures that the Government devised in order to meet IMF conditions and rationalize expenditure in 2005, was an offer to all health workers to leave their workplace, with financial incentives offered according to years of service. This offer was most favourable for health workers with secondary school education who were close to retirement. Eventually, in November 2005, 7,140 workers in the health sector (both medical and non-medical) accepted to leave their jobs with financial

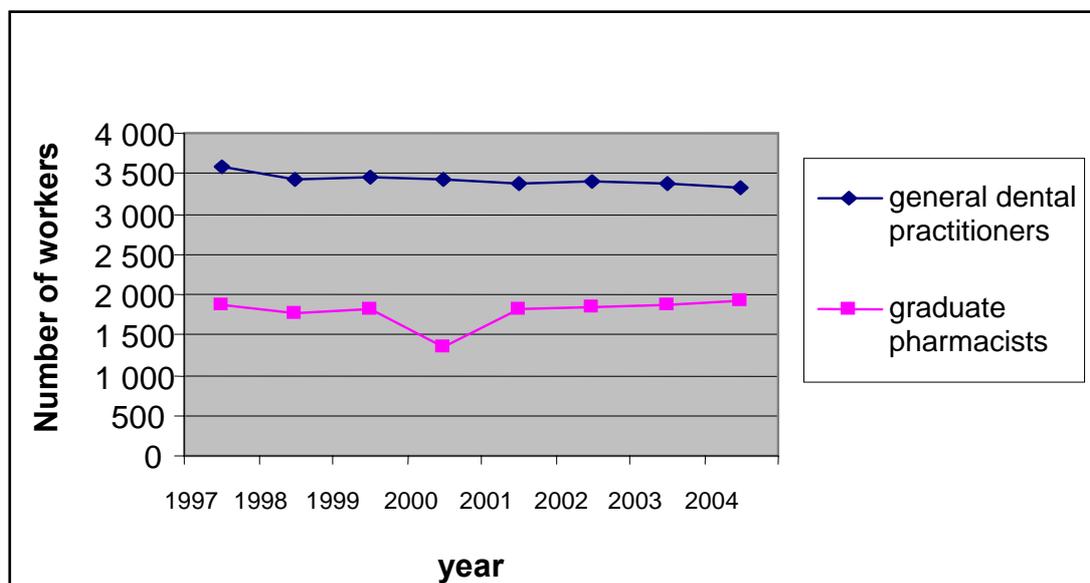
compensation. At the same time, due to this rationalization, the Minister of Health announced job openings for 200-300 young physicians and 800 nurses.⁸

Figure 9. The number of physicians and nurses in Serbia during the period 1997-2004



Source: Computed from data from the Statistical Yearbook of Serbia 2005 and the Statistical Health Yearbook of the Republic Institute of Public Health, 2004.

Figure 10. The number of dentists and pharmacists employed in the health sector



Source: Computed from data from the Statistical Yearbook of Serbia 2005 and the Statistical Health Yearbook of the Republic Institute of Public Health, 2004.

⁸ Newspaper "Politika", 7 Dec. 2005, p. 10.

Salaries in the health-care sector

In the Statistical Yearbook data are available on average annual gross and net salaries per month, classified for work in the economy and outside the economy (this includes public administration and social insurance, education, health and social work, and other community, social and personal service activities), and in the health sector separately (as an activity out of the economy). These data are given in the table below, in national currency. Salaries earned in the health-care sector presented here are average earnings of all profiles of employees in the health sector.

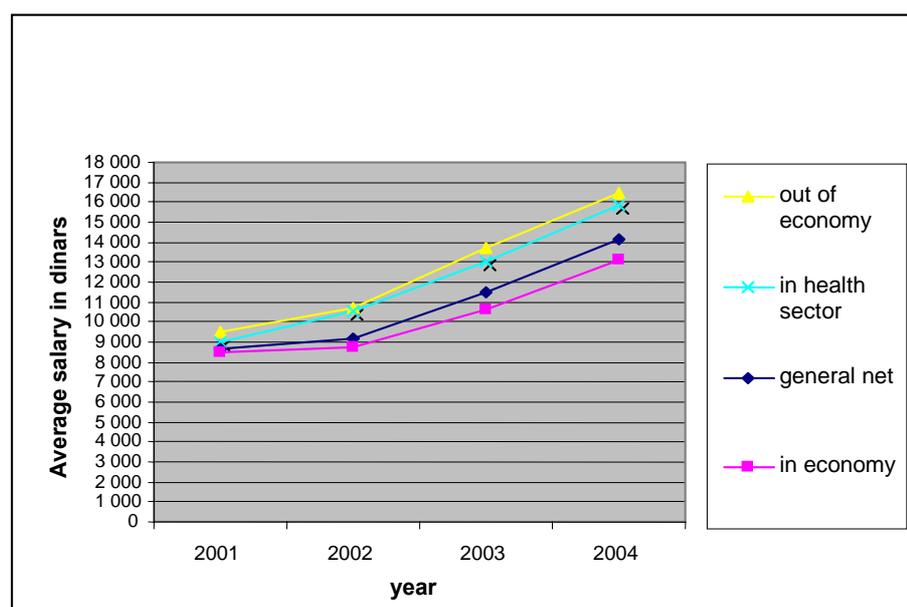
Table 7. Average gross and net earnings per month in different sectors of work in Serbia

| | Average monthly earnings in years | | | | Indices of salary growth previous year=1 | | |
|-------------------------|-----------------------------------|---------------|---------------|--------------|------------------------------------------|--------------|--------------|
| | 2004 | 2003 | 2002 | 2001 | 04/03 | 03/02 | 02/01 |
| gross | 20 555 | 16 616 | 13 206 | | 1.237 | 1.258 | |
| in economy | 19 216 | 15 387 | 12 560 | | 1.248 | 1.225 | |
| out of economy | 23 990 | 19 846 | 15 368 | | 1.208 | 1.291 | |
| in health sector | 23 064 | 18 817 | 15 091 | | 1.225 | 1.246 | |
| net | 14 108 | 11 500 | 9 208 | 8 691 | 1.226 | 1.248 | 1.059 |
| in economy | 13 128 | 10 648 | 8 714 | 8 473 | 1.232 | 1.221 | 1.028 |
| out of economy | 16 464 | 13 749 | 10 706 | 9 525 | 1.197 | 1.284 | 1.123 |
| in health sector | 15 868 | 13 063 | 10 550 | 8 988 | 1.214 | 1.238 | 1.173 |

Source: Computed from data of the Statistical Yearbook of Serbia.

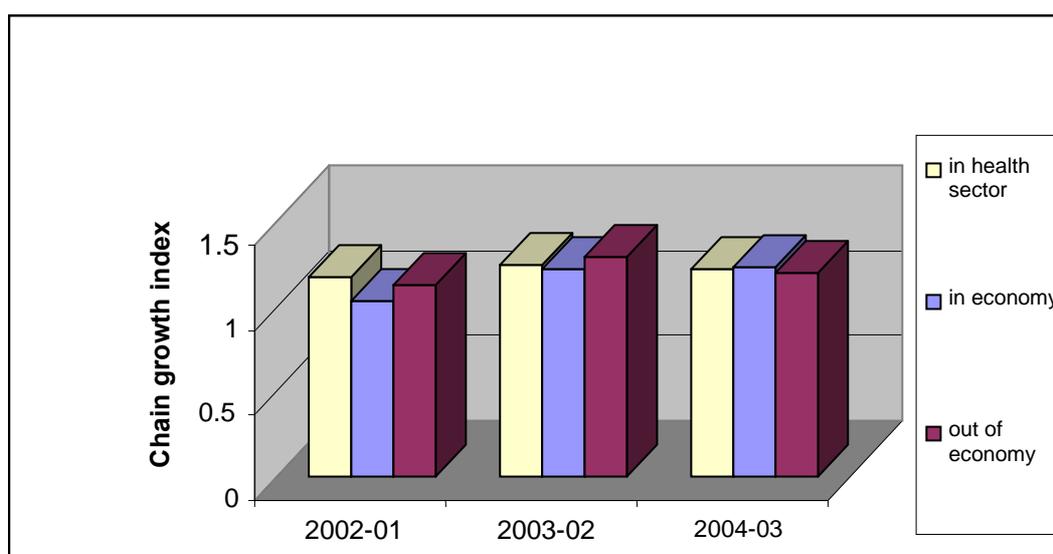
In the period 2001-04, the exchange rate was 70-80 dinars per 1 euro, which means that the net average salary in the health-care sector in 2004 was around 200 euro, which is a little higher than the average salary, but less than earnings in the economy sector, although the trends in growth did not show discrepancies. This official income is not sufficient to cover the cost of everyday life.

Figure 11. Comparison of general net salaries and net salaries earned in health sector, economy and out-of-economy in period 2001-04



Source: Computed from data of the Statistical Yearbook of Serbia.

Figure 12. Comparison of chain growth indexes of average earnings in fields of economy, out-of-economy and in the health-care sector



Source: Computed from data of the Statistical Yearbook of Serbia.

Unemployment rate

Data on unemployment are available from the National Employment Service. The system was established in 2000.

Unemployed nurses and technicians

Trends in unemployment of different types of nurses are relatively stable (table 8), and are more or less equivalent to the annual output of nurses from medical high schools (see figure 3 also).

Table 8. Unemployed nurses and technicians 2000-05 ⁹

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|------------------------------|-------|-------|-------|-------|-------|-------|
| General nurses-technicians* | 6 577 | 6 622 | 7 158 | 7 477 | 7 090 | 7 692 |
| Paediatric nurses | 839 | 823 | 901 | 883 | 840 | 866 |
| Midwives | 759 | 795 | 982 | 995 | 1 003 | 1 033 |
| Physiotherapists | 654 | 781 | 940 | 966 | 991 | 1 110 |
| Dentist nurses | 724 | 760 | 805 | 755 | 693 | 733 |
| Dentist technicians | 1 002 | 1 202 | 1 304 | 1 319 | 1 311 | 1 379 |
| Laboratory assistants | 709 | 721 | 785 | 845 | 797 | 903 |
| Pharmaceutical technicians | 935 | 1 077 | 1 219 | 1 265 | 1 088 | 1 054 |
| Sanitary-ecology technicians | 439 | 450 | 501 | 473 | 478 | 465 |

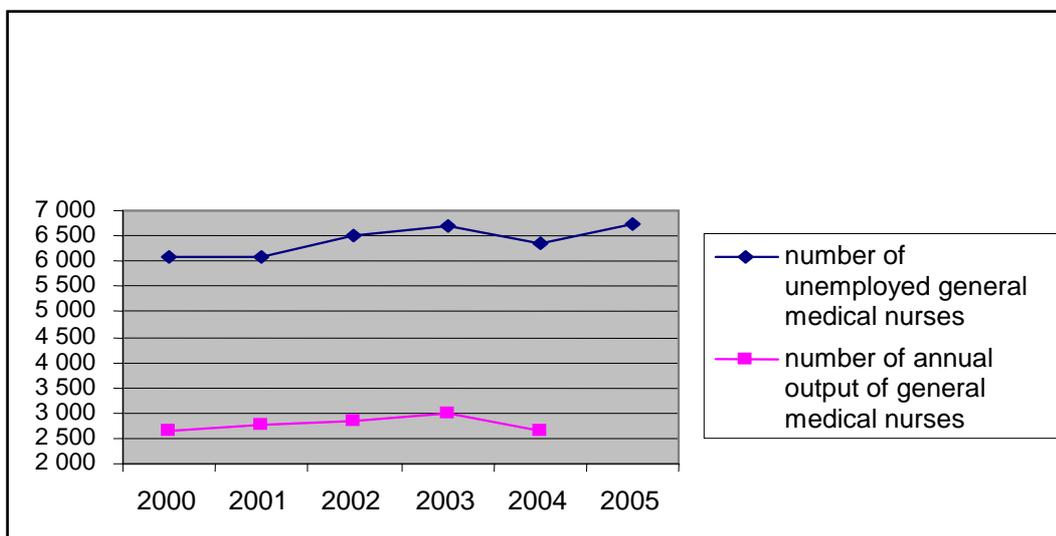
Source: National Employment Service of Serbia, 2000, 2001, 2002, 2003, 2004 and 2005.

* General nurse-technician comprises two categories registered at the National Employment Service: medical nurse and medical technician, without clear boundaries within them (both categories consist of male and female).

⁹ Data for 2000-04 are cumulative at the end of December each year, and for 2005 as of 30 September.

In a five-year period (figure 13) the annual output of general medical nurses varied from 2,649 to 2,984 (in 2003 as a result of facilitated admission in 1999). The same trend follows unemployment of medical nurses, which varied from 6,085 in 2000, to 6,741 in September 2005. Overall, the line shows a slight increase in the unemployment rate. Annual outputs for 2004/2005 are still unavailable.

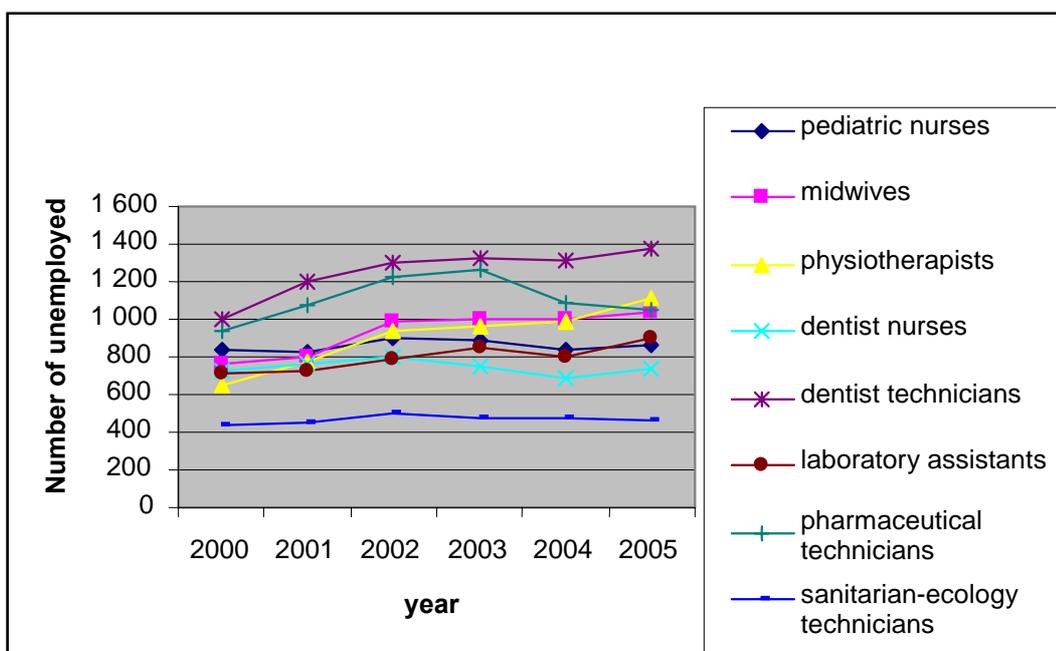
Figure 13. Unemployed general medical nurses and their annual output from educational institutions – medical high schools



Source: Calculated from the National Employment Service of Serbia, 2000-05 and the Statistical Office, Serbia data.

There is no noteworthy trend in unemployment within other medical nurses – technicians' professions. They show slight increases in numbers of unemployed, except for pharmaceutical technicians (figure 14).

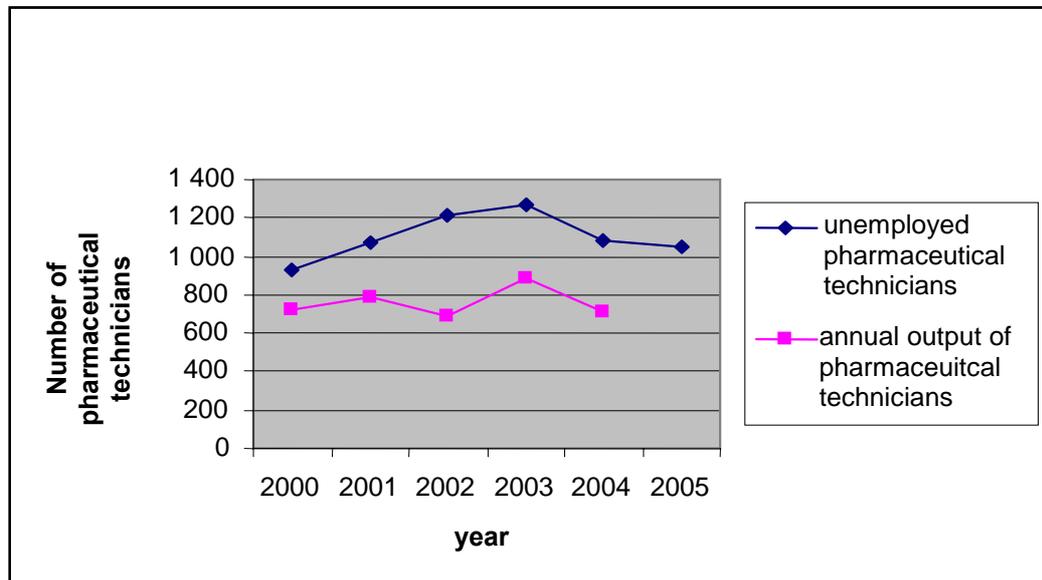
Figure 14. The number of unemployed nurses in the period 2000-05



Source: National Employment Service of Serbia, 2000, 2001, 2002, 2003, 2004 and 2005.

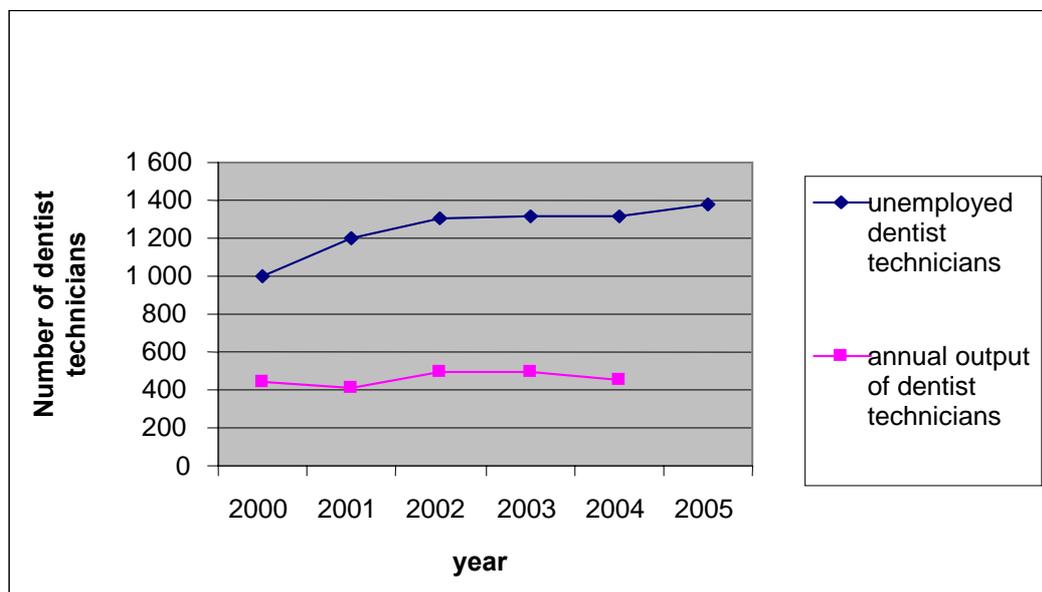
Comparing the annual output rates, pharmaceutical and dental technicians are among the most popular, mainly because of the possibilities for self-employment and profitable work (figures 15 and 16).

Figure 15. Pharmaceutical technicians – unemployment and annual output 2000-05



Source: Calculated from the National Employment Service of Serbia, 2000-05 and the Statistical Office of Serbia data.

Figure 16. Dentist technicians – unemployment and annual output 2000-05



Source: Calculated from the National Employment Service of Serbia, 2000-05 and the Statistical Office of Serbia data.

Unemployed doctors and specialists

Health policy in Serbia regarding employment of newly graduate physicians and specialists has been very restrictive in recent years. Under the authority of the last Minister of Health in the Milosevic regime in 2000, large numbers of young physicians were admitted to work, based upon one condition only: to have an average mark higher than

9.00/10 in undergraduate studies. This political decision was not linked to any kind of analysis of needs or plans regarding human resources development in the health-care system. As a result, health-care facilities were saturated with graduate health workers, and the consequences are still being felt.

According to the National Employment Service, the trend in unemployed physicians in the last six years is growing significantly (figure 17). It is reasonable to expect the same trend in the near future, since those enrolled in 1999 (in the conditions described above) are expected to graduate in the coming years.

It seems that the ratio between male and female is constant regarding unemployment in the health-care sector (figure 17).

Table 9. The number of unemployed physicians, dentists and pharmacists in the period 2000-05 *

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|----------------------|-------|-------|-------|-------|-------|-------|
| Physicians ** | 1 281 | 1 358 | 1 553 | 1 727 | 1 709 | 1 880 |
| Physicians – female | 845 | 910 | 1 073 | 1 197 | 1 240 | 1 346 |
| Dentists *** | 508 | 532 | 619 | 669 | 727 | 795 |
| Dentists – female | 314 | 324 | 372 | 442 | 488 | 530 |
| Pharmacists | 218 | 258 | 273 | 246 | 228 | 229 |
| Pharmacists – female | 193 | 222 | 241 | 210 | 199 | 201 |

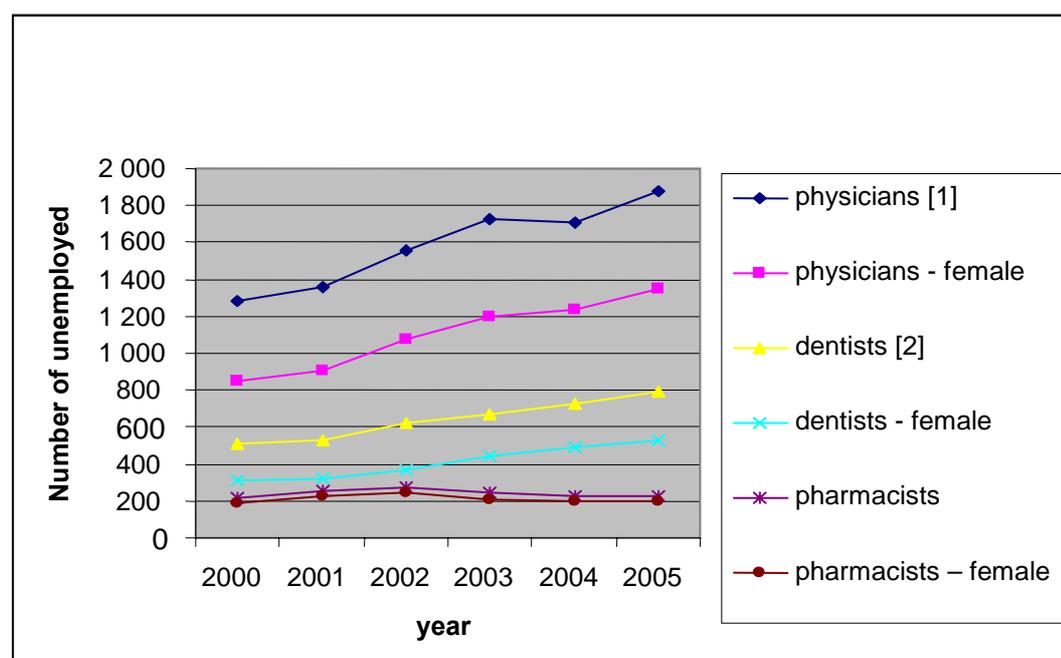
Source: National Employment Service of Serbia.

* Data for 2000-04 are cumulative at the end of December each year, and for 2005 as of 30 September.

** The number of unemployed physicians presented here comprises two categories of graduates registered at National Employment Service, Serbia: doctor of medicine, and physician in general medicine. The title "Physician in general medicine" is written on the Diploma for 1963-85. From 1985 to date, it changed to "Doctor of Medicine".

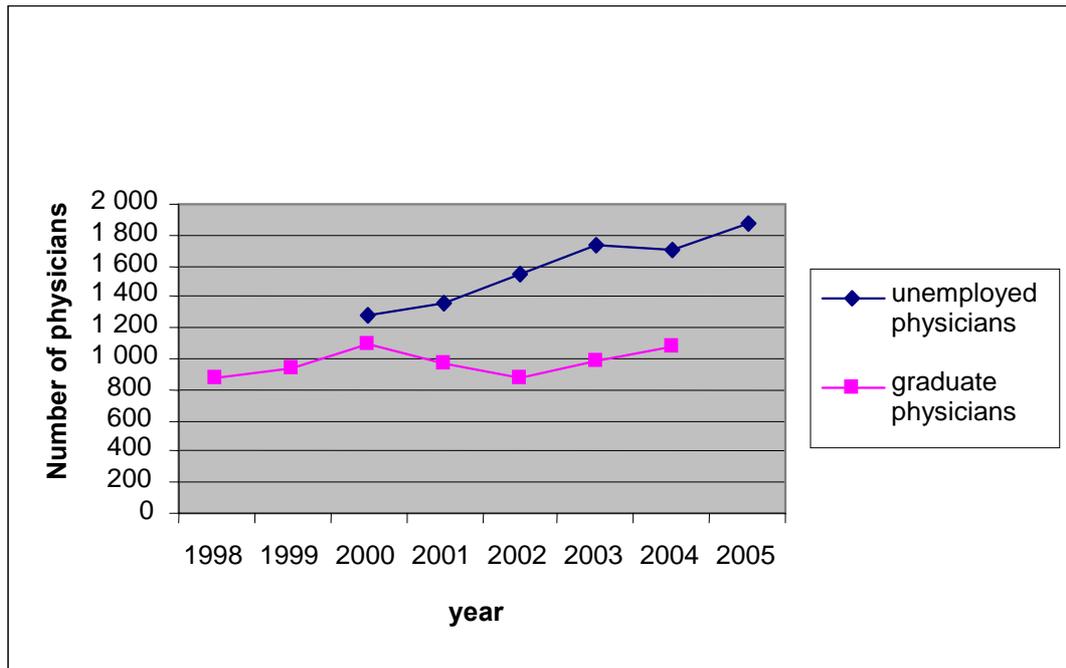
*** The number of unemployed dentists comprises two categories of graduate: doctor of dentistry, and dentist of general dentistry.

Figure 17. Unemployed physicians, dentists and pharmacists and their gender in the period 2000-05



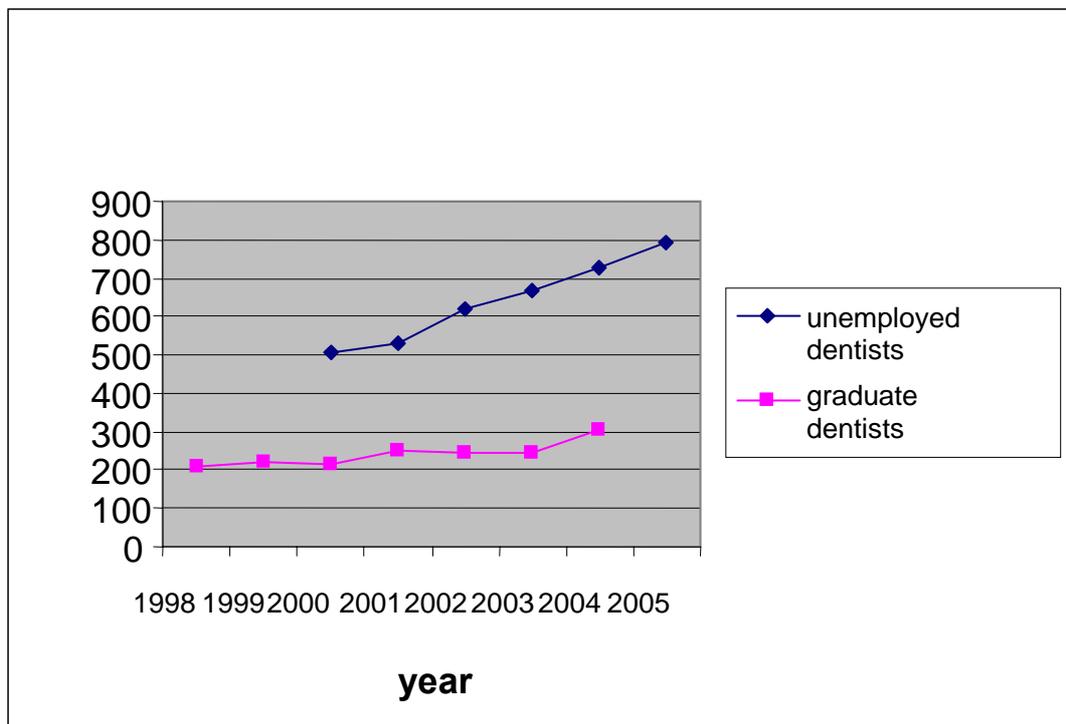
Source: Calculated from National Employment Service of Serbia data, 2000-05.

Figure 18. Unemployed physicians versus annual output of graduate physicians



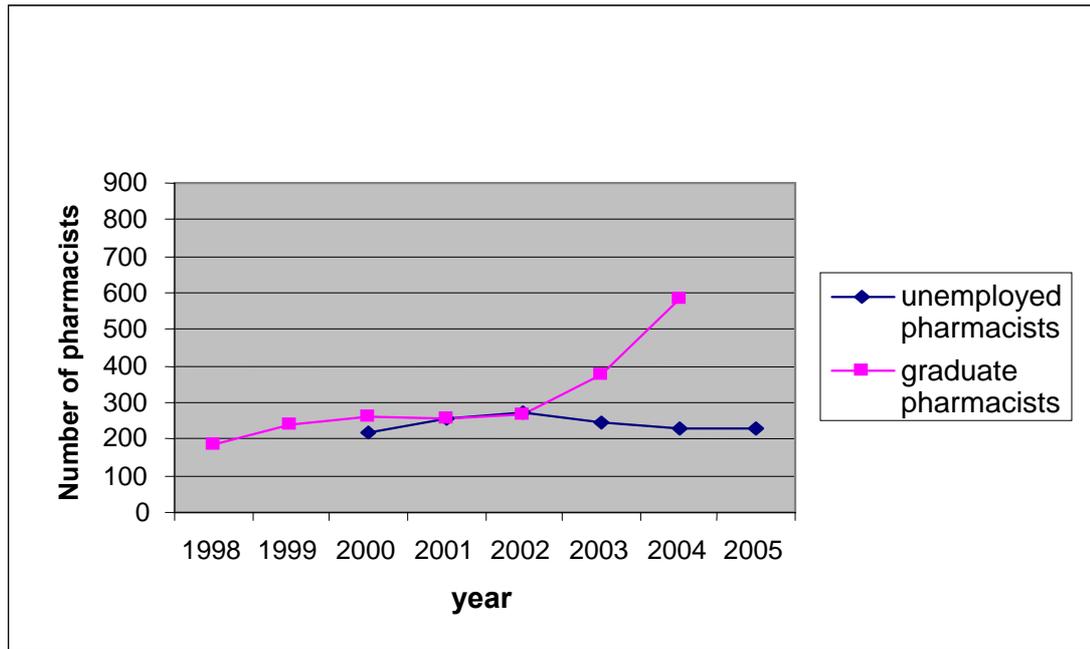
Source: Calculated from the National Employment Service of Serbia, 2000-05 and the Statistical Office of Serbia data.

Figure 19. Unemployed dentists versus annual output of graduate dentists



Source: Calculated from the National Employment Service of Serbia, 2000-05 and the Statistical Office of Serbia data.

Figure 20. Unemployed pharmacists versus annual output of graduate pharmacists



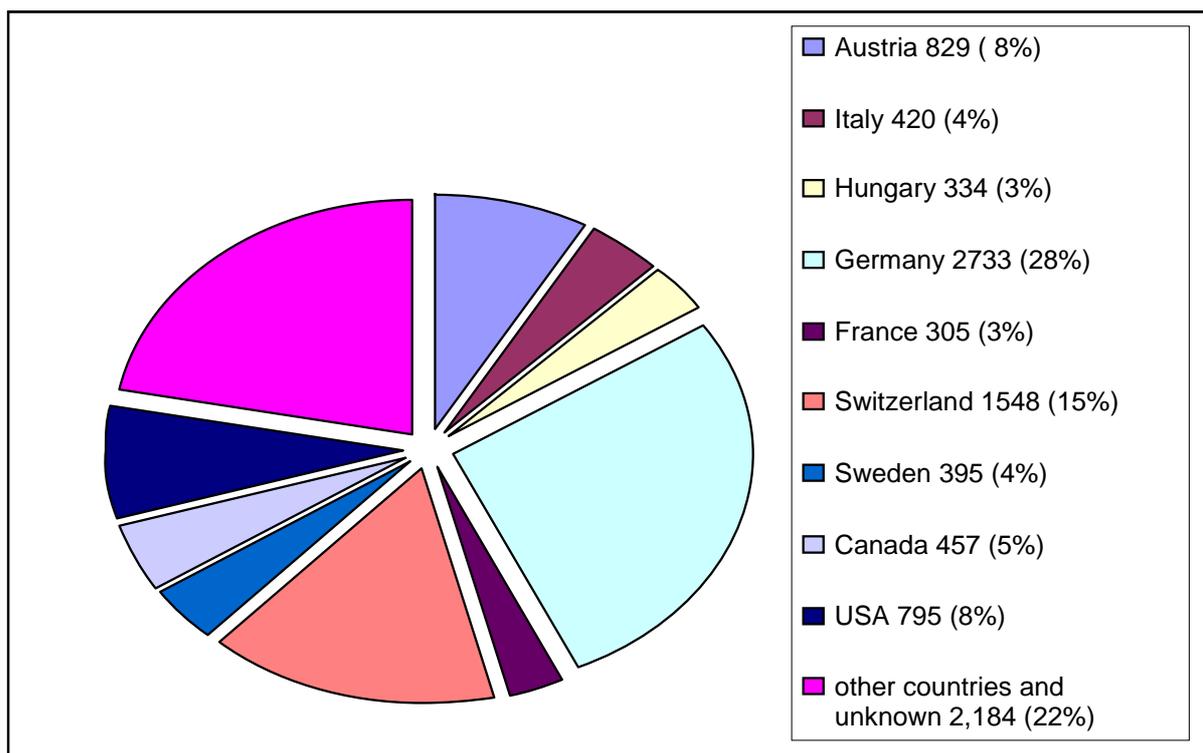
Source: Calculated from the National Employment Service of Serbia, 2000-05 and the Statistical Office of Serbia data.

5. Health worker migration

The latest census in Serbia was conducted in 2002. Census data can be used for obtaining information on health worker migration as they provide data regarding Serbian citizens abroad. These data are not published routinely, but are available on request from the Statistical Office of Serbia. According to the census, the total number of health professionals working abroad is exactly 10,000. Most probably this number is much higher, since the data are collected mainly by proxies and relatives who are in Serbia.

Most popular destinations for health workers are Germany (28 per cent), and Switzerland (15 per cent). The lowest percentage of health workers is in Hungary (3 per cent). Other countries, not mentioned here (e.g. United Kingdom, Norway, Australia, Netherlands, Slovenia, Libyan Arab Jamahiriya, United Arab Emirates) might be the part of “other countries and unknown”, but represent less than 3 per cent (figure 21).

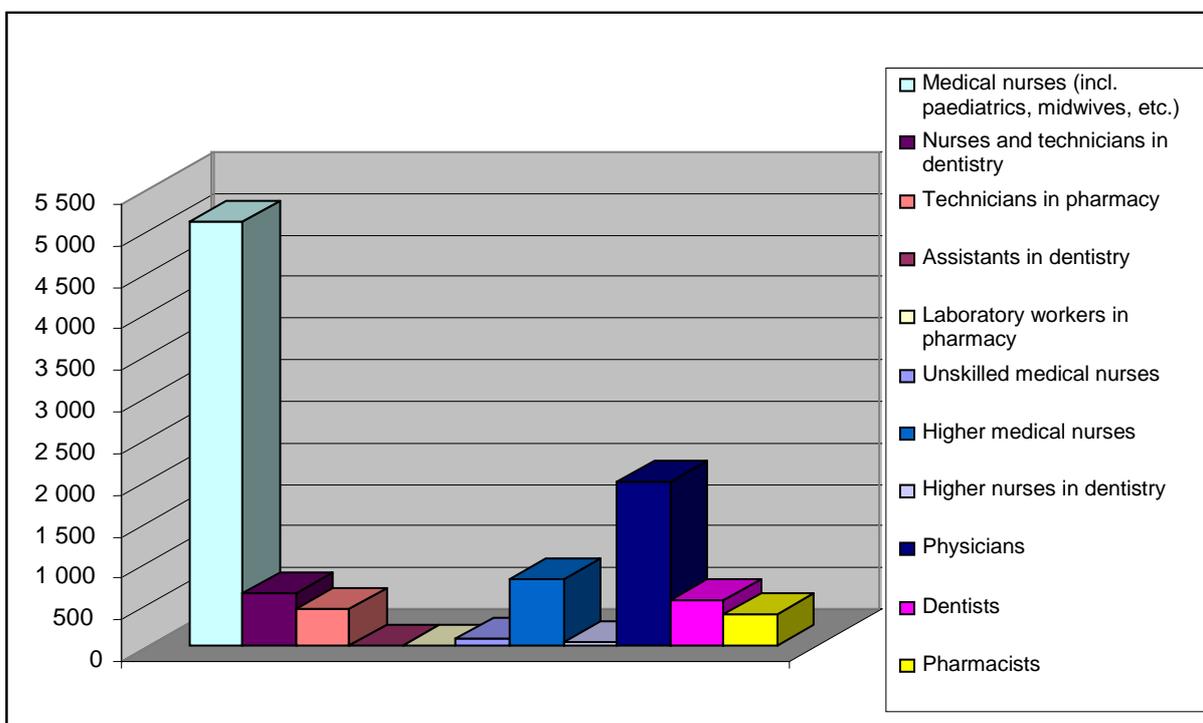
Figure 21. Health workers employed abroad according to the 2000 census



Source: Census 2002, Statistical Office of Serbia.

Different categories of health workers abroad have been identified during the last census. These data are presented in figure 22.

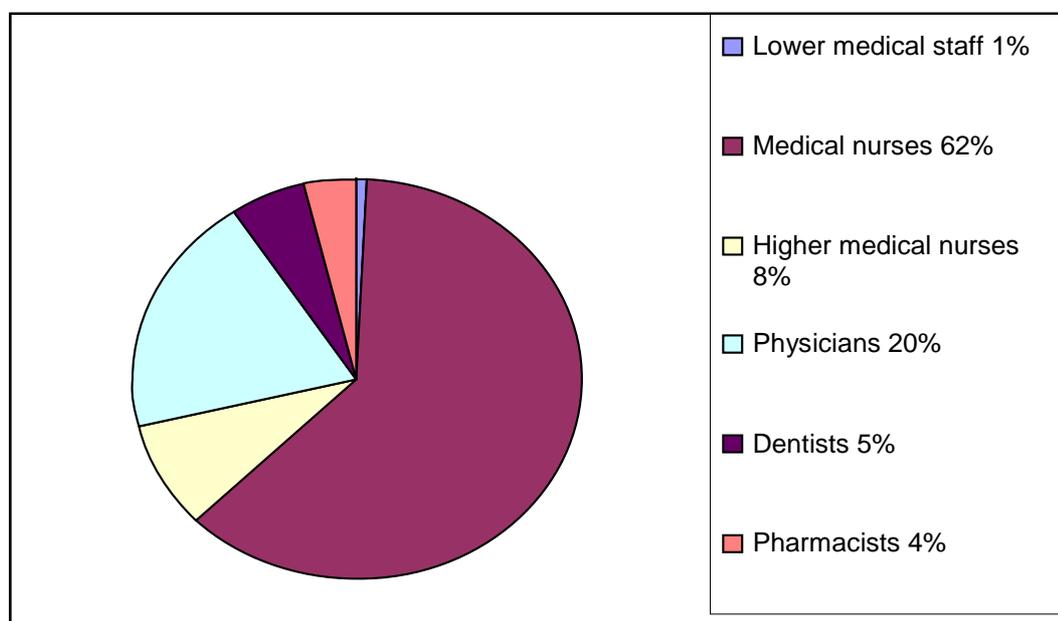
Figure 22. Absolute number of health workers abroad according to their level of education



Source: Census 2002, Statistical Office of Serbia.

In order to avoid wrong conclusions regarding the absolute number of different health professionals abroad, and for the purpose of comparison with the structure of health professionals employed in Serbia, the above data are comprised of the following categories: medical nurses and technicians (first six categories), higher medical nurses (seventh and eighth category), and then physicians, dentists and pharmacists (figure 23).

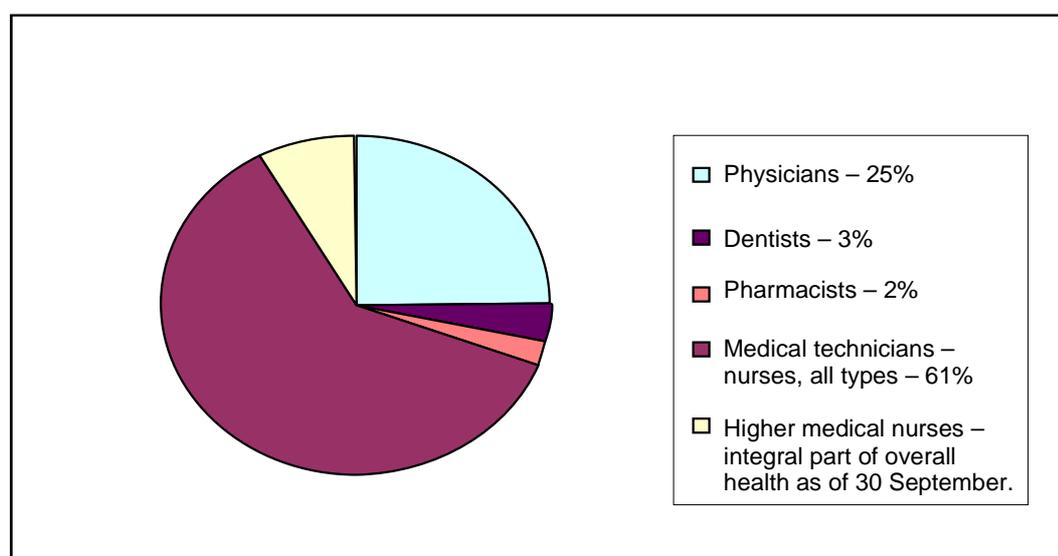
Figure 23. Structure of health workers employed abroad according to their education



Source: Census 2002, Statistical Office of Serbia.

Data for Serbia are adjusted in terms of excluding administrative and technical staff (figure 24).

Figure 24. Health professionals employed in the health-care sector in Serbia in 2004



Source: Computed from the Statistical Health Yearbook of the Republic Institute of Public Health, 2004.

The data show slight differences in the composition of the health workforce abroad and in Serbia: the share of medical nurses, dentists and pharmacists is a little higher in employment abroad, while the share of physicians employed in Serbia compared to those abroad is higher. It seems that the health labour market abroad is opened in a selective

way, with more administrative hurdles for physicians, who usually have to fulfil specific requirements such as verification (external validation of diploma specific to each country – USMLE for USA, PLUB for UK, MIR in Spain, which include approximately 1-2 years of studying in order to pass all required medical exams) and licensing procedures, use of foreign language exams, which is very demanding, time-consuming and also implies a financial burden. All these issues are the main constraining factors for physicians considering migration abroad, much more than for nurses and technicians, who usually only need to present their diploma and to prove domestic professional membership.

Table 10. Comparison of the composition of health workers in Serbia, and Serbian health workers who went to work abroad

| | Medical nurses (%) | Higher medical nurses (%) | Physicians (%) | Dentists (%) | Pharmacists (%) |
|------------------------|--------------------|---------------------------|----------------|--------------|-----------------|
| Abroad ¹ | 62 | 8 | 20 | 5 | 4 |
| In Serbia ² | 61 | 8 | 25 | 3 | 2 |

¹ Data as of Census 2002.
² Data as of 2004, Statistical Yearbook of Republic Institute of Public Health, 2005.

From the Census 2002 data, information can be obtained on the number of years spent abroad, for different professional profiles. The major five profiles are given below in table 11 and figure 25. It seems that highest number of nurses – almost half of all nurses employed abroad – left many years ago (ten years and more), which means before the crisis in the former Yugoslav republics. This is not the case for physicians – the greatest number of them had spent two to nine years abroad in 2002, meaning that they left during the 1990s. In that period, the medical profession and physicians were faced with deterioration of health facilities and equipment and shortages of drugs and other supplies. Their official wages plummeted and most of them were deeply dissatisfied with working conditions and also personal relationships with colleagues, due to the erosion of moral values. These can be assumed as the main trigger factors for leaving.

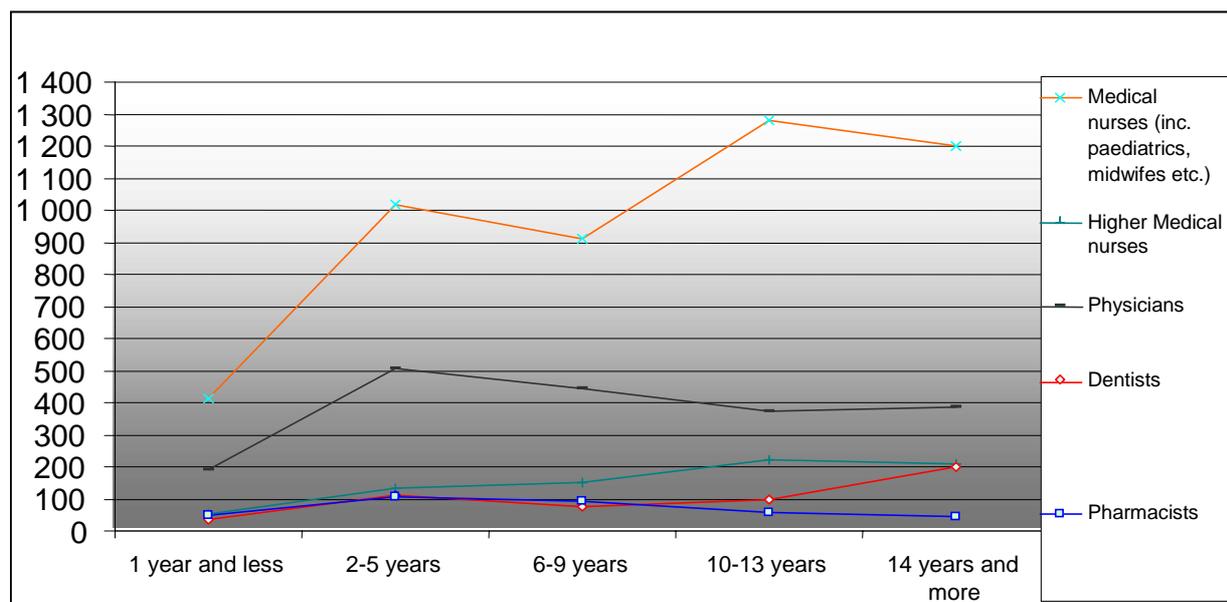
The same can be attributed to pharmacists, while the greatest number of dentists and higher medical nurses went abroad 14 and more years ago.

Table 11. Health workers and years spent abroad

| | Total | 1 year and less | 2-5 years | 6-9 years | 10-13 years | 14 and more years |
|----------------------------------------------|--------|-----------------|-----------|-----------|-------------|-------------------|
| Total | 10 000 | 852 | 2 096 | 1 913 | 2 275 | 2 369 |
| Unskilled medical nurses | 80 | 6 | 13 | 13 | 18 | 28 |
| Assistants in dentistry | 3 | 0 | 0 | 1 | 0 | 2 |
| Laboratory workers in pharmacy | 5 | 1 | 1 | 0 | 0 | 3 |
| Medical nurses (incl. paediatrics, midwives) | 5 097 | 415 | 1 016 | 909 | 1 279 | 1 201 |
| Nurses and technicians in dentistry | 633 | 53 | 98 | 120 | 139 | 179 |
| Technicians in pharmacy | 440 | 43 | 100 | 95 | 77 | 108 |
| Higher medical nurses | 805 | 52 | 133 | 152 | 222 | 207 |
| Higher nurses in dentistry | 43 | 3 | 9 | 7 | 8 | 11 |
| Physicians | 1 978 | 193 | 505 | 444 | 374 | 387 |
| Dentists | 546 | 37 | 113 | 77 | 100 | 198 |
| Pharmacists | 370 | 50 | 108 | 92 | 58 | 45 |

Source: Computed from Census 2002, Statistical Office of Serbia.

Figure 25. Health workers according to the years spent abroad



Source: Computed from Census 2002, Statistical Office of Serbia.

6. Conclusions and recommendations

In Serbia there is a rising trend in unemployed health professionals of all profiles, and at all levels of education. Physicians and dentists especially show positive trends in unemployment, while unemployment rates for pharmacists are lower.

Due to the budget and public expenditure constraints imposed by IMF, 7,140 health workers (8 per cent of the total number of health-care workers in Serbia) had left their jobs in November 2005, supported by financial compensation, and went to the Unemployment Service. This rationalization opened the possibility for employment of 200-300 young physicians and 800 nurses, according to the Ministry of Health.

Considering the 1,880 unemployed physicians (as of September 2005), who are deprived of an opportunity to enrol for any kind of specialization without being officially employed with two years of working experience, it can be assumed that mostly young, newly graduate physicians will be those considering migration. Overproduction of physicians was caused by high enrolment rates (especially up to 2000), which were not based on real needs. Because of the complicated and demanding procedure of notarization diplomas abroad, which means re-studying medicine and preparing exams, especially for the United States, United Kingdom and Scandinavian countries, and also strengthening capacities in dealing with foreign languages, trends in emigration will mainly be among young physicians, within the first year after graduation. This can be indirectly concluded from data obtained from the National Employment Service. There are significantly less physicians who wait two years for a job, compared with those who wait up to one year, so the decision to migrate is usually taken within the first year after graduation.

Although there is no evidence available, Slovenia announced an insufficient number of health workers, and since the procedure is not too complicated, experienced doctors see professional opportunities there. An additional push factor for encouraging physicians to go abroad is salaries that do not even cover daily needs.

Intentions to go abroad can be estimated from the 10-15 daily requests made by the American Commission for diploma validation to the School of Medicine in Belgrade. Further, from May to November 2005, since the Association of Nurses of Serbia and Montenegro has become a member of the ICN, the Association has received approximately 100 requests for verifications for employment abroad.

Since Serbia has a sufficient number of unemployed health professionals, a brain drain is not an issue. There is no evidence that EU enlargement affects health professionals in Serbia.

A recommendation regarding the oversupply of health workers crisis could be to review the intake policies of the Schools of Medicine in Serbia and to introduce needs-oriented planning of health worker education.

As the trend in unemployed doctors is expected to continue, mechanisms at national level are required for registering professionals going abroad.

Croatia

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1. Introduction

Education, planning and management have a long tradition in the Croatian health-care labour market. In the late 1980s, demographic changes and internal migration accentuated the need for more in-depth long-term planning. Thus, a project recording national and regional employment of health-care professionals was initiated. However, during the 1990s, due to processes such as transition, health-care reforms and especially the war, labour force planning was not considered a priority. In the short term, it seemed that there was no need for labour market planning as a large number of unemployed health-care professionals guaranteed a steady inflow of workers into the system.

In the mid-1990s, there were so many unemployed medical doctors that, on several occasions, the Croatian Chamber of Physicians expressed concern that too many doctors were being produced by Medical Schools. This period was also marked by significant emigration of medical professionals to European countries and the United States. Unfortunately, systematic numeric and structural data were not recorded. One study recorded that 139 medical scientists had left the country.¹ There is no available data on other migration, although some information was reported in the media about medical professionals' migration to Western European countries.

The 1990s and early 2000s were marked by high unemployment of health-care professionals. However, in the last couple of years the process seems to have been reversed and shortages are now an issue. Shortages seem partly due to inadequate distribution, although estimates of the Croatian Chamber of Physicians, published in July 2005, indicate that the trend might lead to an overall shortage in the near future.²

2. Data sources for health workforce information

Medical worker registry

At the end of the 1980s, health-care planning professionals recognized health workforce management as an integral part of overall health-care management. Thus, in line with WHO recommendations and directives of the Croatian "Health for All by the Year 2000" strategy, a national Medical Worker Registry was set up at the Croatian Institute of Public Health (CIPH). It was an essential precondition for the transformation of the Croatian health service in 1990-91.

¹ M.Adamović; S. Mežnarić: Potencijalni i stvarni "odljev" znanstvenog podmlatka iz Hrvatske: empirijsko istraživanje. Revija za sociologiju, Vol. XXXIV. (2003), Nos. 3-4: 143-160.

² Liječničke novine: Suočavamo se s nedostatkom liječnika. Godina V. Broj 41.6-8.

Before the establishment of the Registry, annual reports were the basis of monitoring health workforce data. Then, a process of ongoing data collection on staff and institutions in the health system was developed. The Medical Worker Registry is a unique professional registry, and one of the national public health registries at CIPH. Monitoring the data on the workforce in the health system is simultaneously one of the statistical research projects run for the State by CIPH. Data on medical labour and associates are monitored according to all required characteristics. Chronologically, this is by degree of the technical and scientific background achieved, type of employment, activity and workplace in the health-care system. The criteria for inclusion and monitoring of medical workers were set according to the WHO Health for All methodology.

As to the monitoring of the data on clerical and technical workforces, this is done for health institutions only according to the end-of-the-year workforce count.³

Despite the fact that the Medical Worker Registry collects data regularly there are some shortages and missing information on the workforce in Croatia, such as unemployment rates, number of physicians who are not currently employed in the health-care system, and particularly workforce migration. Even professional groups have limited activities on their own workforce analysis or planning.

Professional chamber registers

Professional chambers collect data about their members. It could be used as a useful source to analyse in-depth professional capacities for professionals who are licensed to work in the Croatian health-care system. There is a technical problem – licence means only the right to work in Croatia. Many professionals have a valid licence but work outside the health-care system or abroad. There is no comprehensive system for such surveillance or obligation for professionals to report on migration. An indicator for the present situation could be the “disappearance” of some medical doctors from official evidence.⁴

National Institute for Employment

The National Institute for Employment is a government agency and has general data about professionals who are looking for job or are offered jobs. They have no data on medical professionals who do not work in health care or emigrated from Croatia. As most primary health-care practices are organized as single medical doctor or dentist practice they temporarily employ particularly young colleagues during their vacation or sick leave. These data are also not available.

National Institute for Health Insurance (CIHI)

The National Institute for Health Insurance is not directly involved in health workforce planning, but as the dominant financing agency it creates a national network for primary health care and hospitals. Data available and especially shortages of a medical workforce in some regions (rural areas, underdeveloped regions, islands, etc.) could serve as a good source for workforce distribution analyses.

³ According to health-care legislation the “health workforce” is defined as professionals educated at some official medical programme. Professional groups are divided by achieved level of education (semi-skilled, high school, junior college, university diplomas) and profession (medical care assistants, nurses, midwives, laboratory analysts, pharmacists, dentists and medical doctors).

⁴ *ibid.*

3. Health worker supply: Education and training

The health workforce in Croatia is educated through many educational programmes:

- secondary schools (nurses, midwives, technicians, assistants);
- undergraduate bachelor degrees (nurses, technicians in medical radiology, analysts in medical biochemistry);
- graduate five-year programme for pharmacists;
- graduate six-year programme for doctors (medical doctors, dentists, etc.).

Secondary school programmes are organized across Croatia, with varying numbers of enrolled students. Graduate and postgraduate programmes are organized by four main Universities (Zagreb, Rijeka, Osijek and Split). Due to lack of systematic workforce planning there are continuous discussions about the number of enrolled students.

Prior to practising, graduates of all medical professions must take a one-year internship and pass the state exam. Full employment or further specialization could take place after the internship. All professionals are obliged to attend programmes for continuous education as a precondition for licensing and re-licensing by professional chambers. Therefore professional chambers have a major influence on health workforce educational programmes.

As high unemployment was a problem during the 1990s some decisions were made to decrease the number of enrolled students. As a result of these changes, a decrease was recorded in the number of graduate students in Medical Schools (figure 1).

Figure 1. Enrolled students 1990-2004

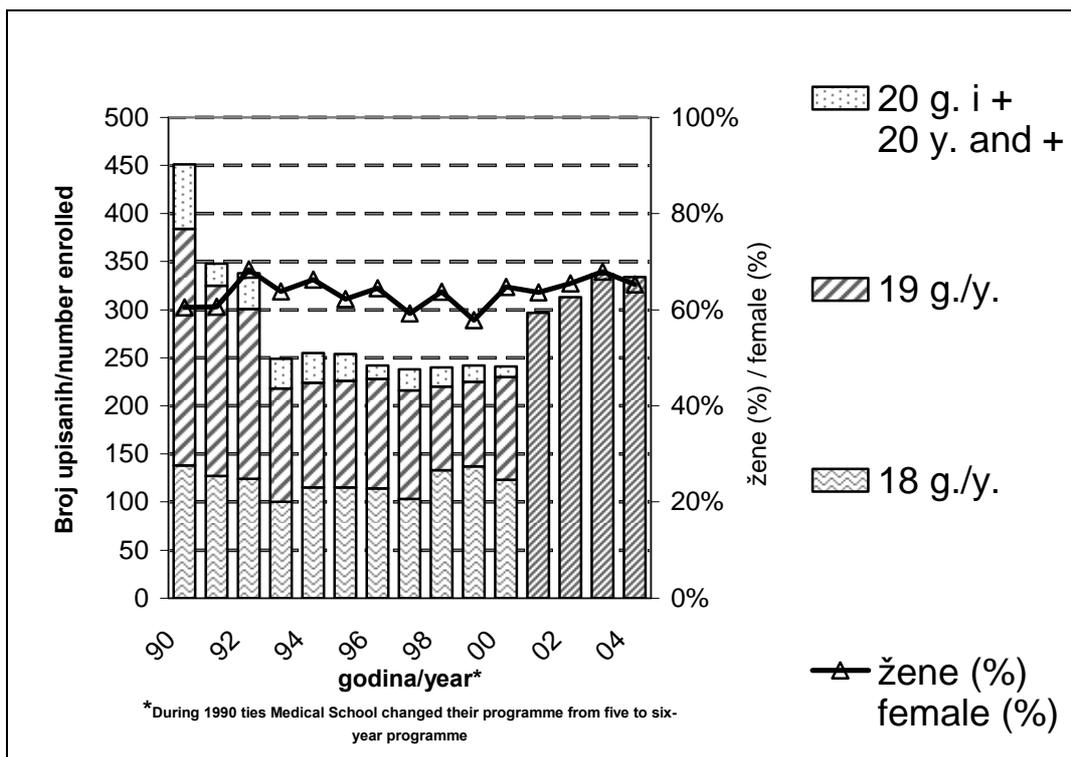
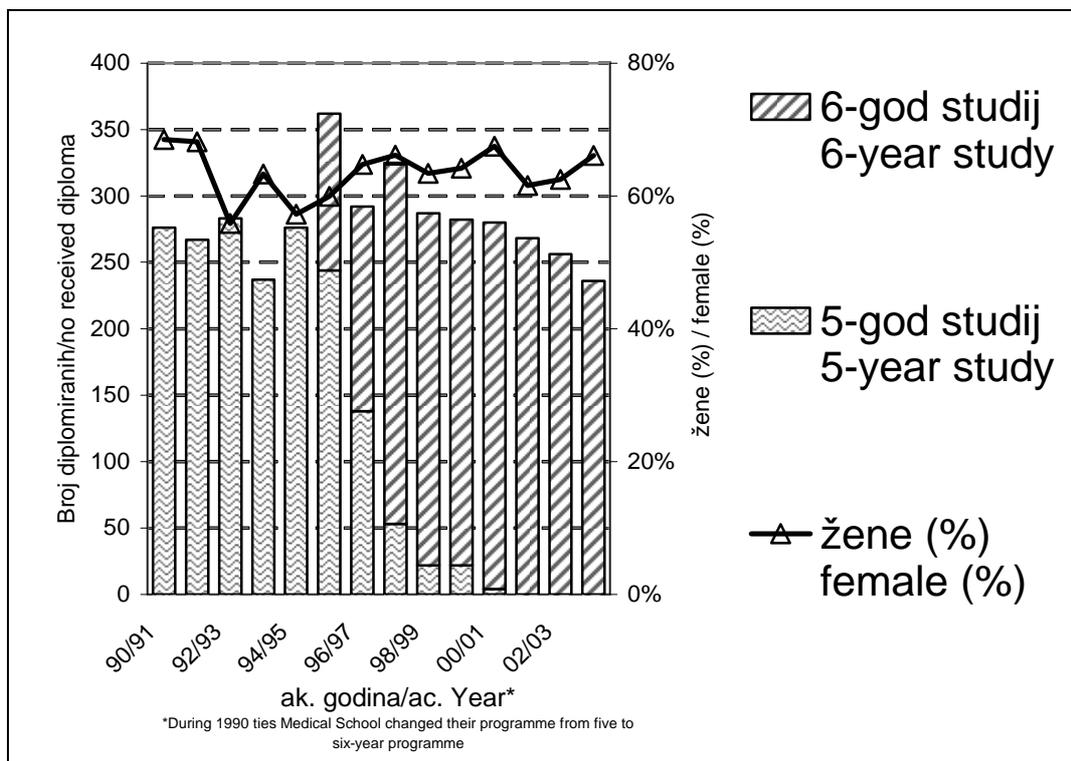


Figure 2. Graduate students/medical doctors



4. Health workforce and health labour market in Croatia

Employment situation in the health system

At the end of 2004 Croatia's health sector had a full-time employed workforce of 67,525. Of these 49,371 were health workers and associates, 4,977 clerical, and 13,177 technical staff (26.9 per cent clerical and technical staff). Apart from this there were an extra 7,434 part-time health workers and associates at the end of 2004. All together, full- and part-time employed, there were 56,805 health workers and associates. Among those permanently employed in health care, the proportion of secondary school qualification health workers was 37.4 per cent and 16.4 per cent doctors. The share of post secondary level health workers was 9.4 per cent, dentists 4.6 per cent, pharmacists 3.6 per cent, and health associates 1.1 per cent. A distinction is made between health workers according to whether they are employed by the State or privately owned institutions.

In 2004, 7,825 of the 11,093 permanently employed physicians worked in state, county or city of Zagreb owned institutions (70 per cent). Private institutions and doctors' offices on private premises employed 1,105 (10 per cent) physicians, while 2,161 (20 per cent) worked in rented doctors' offices. Apart from permanent-job physicians at end-2004, there were 828 part-time physicians, making a total of 11,921. At the end of 2004 there were 7,411 specialists, or 66.8 per cent, and female doctors accounted for 57.5 per cent of the permanently employed physicians. By type of employing health institution, 55 per cent of physicians worked in hospitals, 9.4 per cent in health centres, 19.5 per cent in rented doctors' offices, 6.7 per cent in private doctor's offices, 4.5 per cent in state health institutes. Other physicians worked in private polyclinics, in emergency care stations, and nursing care institutions.

Of the 3,133 dentists, 519 worked in state health institutions, 1,463 in private institutions and offices, while 1,151 worked in rented dentists' offices. Apart from permanently employed dentists, at the end of 2004, there were 141 part-time dentists, a total of 3,274. Of the permanently employed dentists 63.8 per cent were female and 17.3 per cent (543) were specialists.

There were 2,414 full-time pharmacists, of whom 1,012 in state institutions, 1,032 in private institutions and pharmacies, and 370 in rented offices.

Health workers with secondary and post-secondary backgrounds who were employed in the health sector numbered 31,563. Of these 72.2 per cent were nurses (22,799) with 1,505 midwives, representing a ratio of 2.1 nurses to one employed doctor.

Table 1. Health workers employed in state institutions and in private practice (permanent job, total and population per one health worker), Croatia 2004

| Health workers | Total health worker | Population per one health worker | Health workers per 100 000 population |
|-------------------------------|---------------------|----------------------------------|---------------------------------------|
| Medical doctors | 11 921 | 372 | 269 |
| Dentists | 3 274 | 1 355 | 74 |
| Pharmacists | 2 580 | 1 720 | 58 |
| Other university degree staff | 871 | 5 095 | 20 |
| Junior college education* | 7 207 | 616 | 163 |
| High school education* | 30 457 | 146 | 688 |
| Semi-skilled** | 495 | 8 965 | 11 |
| Total | 56 805 | 18 269 | 1 282 |

* Nurse, technicians.

** Stopped educational programmes/courses for medical care.

Figure 3. Medical doctors employed in state institutions and private health sector, Croatia 1995-2004

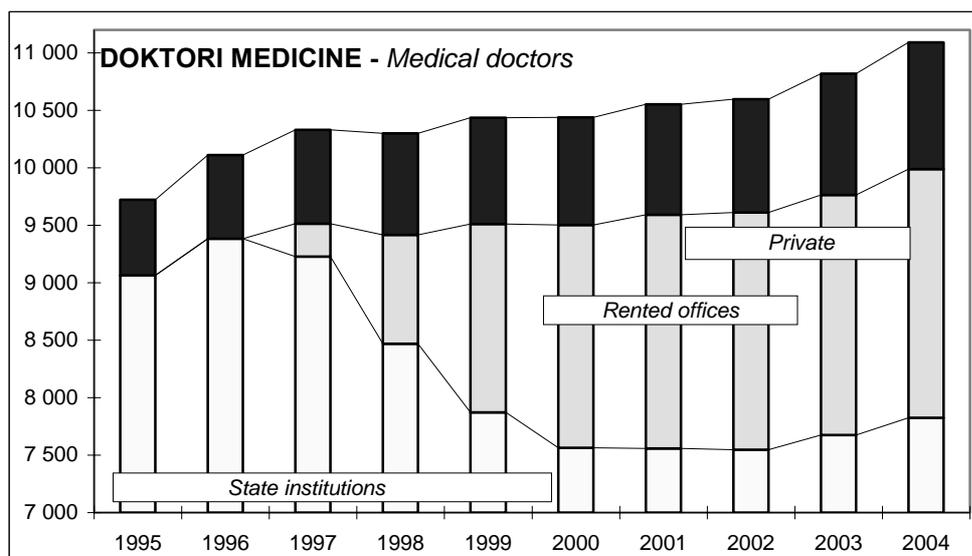


Figure 4. Dentists employed in state institutions and private health sector, Croatia 1995-2004

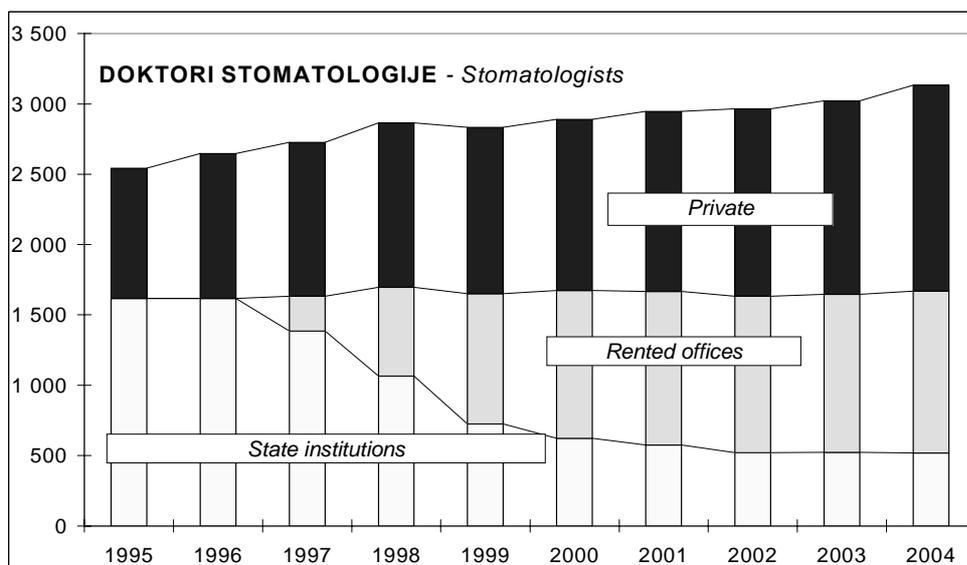
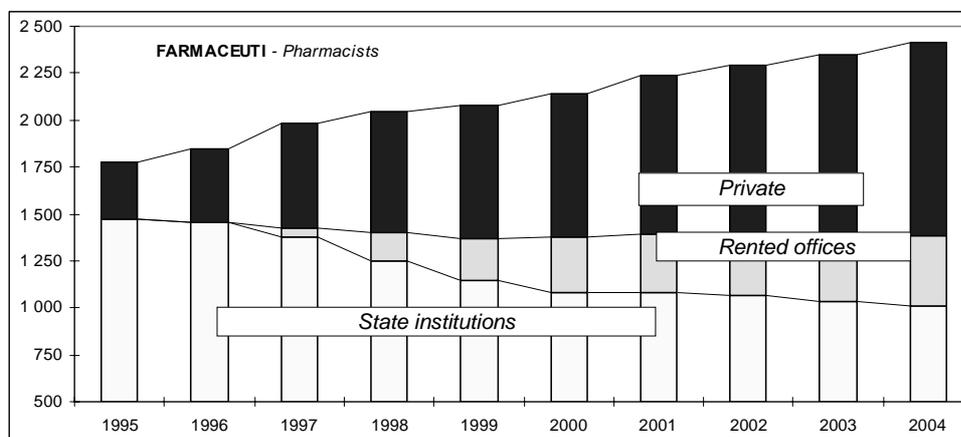


Figure 5. Pharmacists employed in state institutions and private health sector, Croatia 1995-2004



Trends by professional groups

Physicians

The number of active physicians in Croatia has been rising constantly in recent years, from a total of 10,110 in 1996 to 11,627 in 2003. In 2003, at a rate of 2.4 physicians per 1,000 population, Croatia is still well below the EU-25 average of 3.4. The rate of physicians per 1,000 population has, however, risen slightly over a period of seven years, from 2.2 per 1,000 in 1996 to 2.4 in 2003. (Source: Croatian Institute for Public Health – Croatian Health Service Yearbook 2003 and WHO Health for All database).

In the last ten years, Croatia started experiencing a continuous decrease in numbers of candidates interested in acquiring a medical education. Available statistics from WHO indicate that the number of medical graduates fell from 629 in 1996 to 450 in 2000.

Case study: Medical doctors in Croatia – Croatian Medical Chamber*

The Croatian Chamber of Physicians warns that the number of physicians is decreasing and that Croatia might soon be facing shortages, particularly among specialists. They note that:

- average age of specialist medical doctor in Croatia – 55 years;
- according to Croatian regulations and minimal standards – in 2007 a shortage of 389 specialists of internal medicine and 340 surgeons will exist.
- according to the Croatian Institute for Health Insurance data from February 2005, Croatia is missing in primary health care a total of 159 family medicine teams, 85 paediatric teams and 71 gynaecological health-care teams.

Data on numbers of medical doctors in Croatia covers doctors employed in institutions in Croatia. Besides them, a great number of doctors licensed by the Chamber do not work in health care or are abroad. According to the Croatian Chamber of Physicians data, there are:

Members of the Croatian chamber of physicians

Total licensed doctors: **15,334**

Number of specialists: **7,869 (51.3 per cent of the licensed)**

of whom:

- 5,881 in hospitals
- 1,988 in other institutions

Private doctors: **723 (4.7 per cent)**

Private doctors contracted by the Croatian Health Insurance Fund: **2,158 (14 per cent of those licensed)**

of whom:

- 195 family medicine specialists
- 1,656 general medicine specialists
- 73 gynaecologists
- 135 paediatricians
- 99 other specialists

Doctors not employed in clinical medicine: **4 275 (27.8 per cent of those licensed)** of whom:

- 457 Institutes of Public Health
- 163 Ministry of Defence
- 163 Health Insurance Fund
- 169 abroad
- 1,410 retired
- 1,913 others

Unemployed (on 30 September 2005): **407** (of which 88 licensed)

* All available data are published on the Croatian Medical Chamber web site: www.hlk.hr. Data were collected from members' records, published analysis and research performed for internal use. There are no specific data for physicians' migrations.

Dentists

The number of dentists in Croatia rose substantially over seven years, from a total of 2,769 in 1996 to 3,181 in 2003, a 13.9 per cent increase. In 2003, of the 3,181 dentists registered, only 523 were employed in publicly owned institutions, the others in private practices. At a rate of 68.13 dentists per 100,000 population in 2002, Croatia was well over the EU-25 average of 60.27 in 2002.

Pharmacists

The number of pharmacists in Croatia rose substantially from 1,845 in 1996 to 2,510 in 2003; a 36 per cent increase. At a rate of 0.51, pharmacists per 1,000 population in 2002, Croatia was slightly below the EU average of 0.76 in 2001. The rate of pharmacists per 1,000 population, in line with the increase in the absolute number of pharmacists, rose slightly, from 0.4 per 1,000 in 1996 to 0.51 in 2002.

Nurses

The number of nurses in Croatia has been rising constantly over the past years, from a total of 19,878 in 1996 to 22,185 in 2001. At a rate of five nurses per 1,000 population in 2001, Croatia is well below the EU average of 6.7 in 2000. The rate of nurses per 1,000 population rose slightly over a period of five years, from 4.4 per 1,000 in 1996 to five in 2001.

Currently, according to data from the Croatian Chamber of Nurses there are 25,871 nurses in Croatia. For high school and college educated nurses a total of 17,060⁵ licences have been issued, of these 13,547 for high school educated nurses, 1,022 for medical technicians, 2,405 for college educated nurses and 102 for college educated medical technicians. The register also numbers 1,517 midwives.

Health worker unemployment

The number of unemployed medical doctors is decreasing significantly. The Institute for Employment registered 1,030 unemployed doctors on 21 January 2000, of whom 384 were licensed. In May 2005, the total number of unemployed doctors was 322 of whom 72 were licensed. Simultaneously, the number of doctors per 1,000 inhabitants did not rise (2.4 in Croatia). In comparison, the ratios in other countries are Austria 3.2, Italy 5.7, Hungary 3.6, Slovenia 2.2, Romania 1.9 and Albania 1.4.

⁵ Differences were due to the ongoing process of licensing, and therefore show differences between those who obtain a licence and those who are "in process". The expectation is that all nurses working in health care will be registered and monitored by their professional chamber.

Table 2. Unemployed doctors, dentists, and college educated medical personnel in Croatia – October 2005

| | |
|-------------------------------------|-------|
| Medical doctor | 437 |
| Dentist | 198 |
| Pharmacist | 20 |
| Medical radiology – operator | 74 |
| Medical lab - engineer | 68 |
| Sanitary engineer | 85 |
| College educated dental technician | 6 |
| College educated physical therapist | 99 |
| College educated nurse | 69 |
| Grand total | 1 107 |

Most of the medical doctors are in the process of internship after graduation. In May 2005, there were 322 unemployed medical doctors, but only 72 with a licence.

5. Migration of health workers

Besides migration abroad, mostly to Slovenia, Italy (particularly nurses), Western European countries and the United States, several other migratory pathways occur. A certain proportion of unemployed health-care workers “migrate” to other professions, for example sales representatives for pharmaceutical companies. Inside Croatia, regional migration exists from less developed rural areas to city centres. As a consequence certain rural communities are currently experiencing shortages. These shortages could be an indicator for “internal” migration in Croatia, but systematic analysis is missing. Some doctors that are residents of other countries (particularly Bosnia and Herzegovina), but are of Croatian nationality and have Croatian citizenship, migrate to Croatia.

None of the abovementioned migrations are subject to systematic national surveillance or reporting.

Medical student attitudes about migration and factors influencing possible emigration were analysed in the research with 312 out of 408 (76 per cent) final year medical students of all Croatian Medical Schools (Zagreb, Rijeka, Osijek and Split) graduating in 2004. Research found that 76 per cent (104/137) of the students would consider emigration if they failed in pursuing the desired specialty in Croatia. The target group of countries (for 95 students who reported it) was the European Union (59 per cent), with Slovenia at the top of the list. The most frequent reasons for emigration involved “better earnings” (47 per cent) and “getting a job” (27 per cent). Other reasons involved “better organization of the health system” (14 per cent), “better opportunities for career advancement” (7.6 per cent), and “more respect for the medical profession in the society” (4.4 per cent). There was no evidence of gender differences in emigration preferences. There were no differences in emigration preferences between regular students and those failing any academic year.

Changes in the workforce market during last few years and some action undertaken (by the Croatian Medical Chamber) could be the sign of an emerging new situation in Croatia. During the 1990s there were two dominant problems: brain drain and unemployment. Some professionals choose emigration as a solution for high rates of unemployment in Croatia. In recent years some changes took place, and in 2006, it was publicly announced that Croatia would have a shortage in one medical profession – medical doctors. Similar changes could not be confirmed for other professions, but lack of certain coordination between education and management could cause similar problems.

The lack of relevant data about medical doctors' migration is important, but general shortage of data for other medical professionals is more serious. Such a situation is still supported by high rates of unemployment in some professional groups (nurses, dentists,) but trends in the medical doctor workforce market increase the significance of this issue.

6. Conclusions and recommendations

Besides data on employment in the health-care system, data regarding the labour market for health professionals in Croatia is largely absent. Systematic surveillance and planning that would connect production (education) and demand for health-care workers in the system is also non-existent as is data on trends, migration, etc. Unemployment in the health-care sector has been decreasing and certain reports (such as the report issued by the Chamber of Physicians) indicate that Croatia might soon face shortages of health professionals, rather than unemployment. Capacity for education of health-care professionals exists through the network of medical and nursing schools and is well developed, but further efforts need to be invested in analysing the current situation in the health labour market, trends, needs and projections in the future.

To take control and change negative trends in the medical workforce market Croatia should:

- coordinate all relevant “professional registries” and documents to collect data on each professional group, even non-medical employees in health care;
- prepare analyses, simulations, and programmes for long-term planning in health workforce education and management;
- change the system to be more flexible, allowing easier migration inside Croatia, and workforce and skill mix.

A precondition for the activities recommended is the establishment of an authority responsible for health workforce surveillance, education and management.

References

Sources

This document was created based on data available in published documents or web sites; the authors also used their professional findings, published or unpublished.

Due to overall shortage of data on this topic some comments reflect the authors' opinions.

Internet sources

www.hlk.hr (Croatian Medical Chamber)

www.dzs.hr (National Bureau of Statistic)

www.hzjz.hr (Croatian Institute for Public Health)

www.hzzo-net.hr (Croatian Institute for Health Insurance)

www.hkms.hr (Croatian Nurse Chamber)

www.hzz.hr (Croatian Institute for Employment)

Specific references

M. Adamović; S. Mežnarić: Potencijalni i stvarni “odljev” znanstvenog podmlatka iz Hrvatske: empirijsko istraživanje. *Revija za sociologiju*, Vol. XXXIV, (2003), Nos. 3-4: 143-160.

A. Dzakula: *Personal communication with professionals*.

www.hzzo-net.hr (Ugovaranje u primarnoj zdravstvenoj zaštiti). Downloaded: 29 October 2005.

Kolčić; O. Polašek; H. Mihalj; E. Gombač; V. Kraljević; I. Kraljević; G. Krakar: *Research involvement, specialty choice, and emigration preferences of final year medical students in Croatia*, *CMJ*: 2005;46(1):88-95.

Liječničke novine: Suočavamo se s nedostatkom liječnika. *Godina V. Broj 41.6-8*.

Part III. Concluding summary and recommendations

Summary of the country studies

Results of the explorative research in four CEE countries¹ show common lines concerning health worker migration as well as some interesting nuances between them.

In general it can be stated that in all four countries the subject of international health worker migration is not yet of public interest, and accordingly data are either not available or not easy to obtain. Where data are available, they indicate that the numbers of emigrating health professionals are small or of a level that does not appear to be of concern for policy-makers. The Czech Republic is the only country reporting recruitment of foreign health workers, most of them from the Slovak Republic as a result of the historical relationship between the two countries.

The migration phenomenon appears to be linked to the employment situation in the health sectors of the countries, notably to unemployment rates and professional opportunities for specialization as well as working conditions such as low remuneration.

Health labour market

For Serbia increasing unemployment among health workers was reported, due to the overproduction of education institutions, especially medical schools, combined with recent restrictive employment policies in the public health system. In Croatia, in contrast, unemployment among health workers has been decreasing since the early 2000s and the Medical Chamber has voiced concerns about potential physician shortages in the near future. In Romania, unemployment is not seen as a problem, there are rather concerns about physician shortages, especially in rural areas. Similarly, in the Czech Republic unemployment rates for physicians are below the registered job vacancies. Additionally, the ageing health workforce raises concerns, with one quarter of Czech doctors above 55 of age. For Croatia, the Medical Chamber notes that the average age of specialist doctors is 55.

In all four countries, women represent approximately 80 per cent of the health workforce. There are, however, varieties in the gender distribution among the professions: while between 80 and 90 per cent of nurses are female, their share in doctors remains at around two-thirds. For Romania it has been pointed out that while females are predominant in physicians, males are predominant within the better-paid specialities.

All countries reported problems with internal imbalances of the health workforce with tendencies to underserved rural areas and oversupply in urban areas.

Health worker migration data

In Croatia, no data on international health worker migration were available from official statistical sources, or for monitoring internal movements. Patchy and anecdotal information, however, showed that migration abroad is happening, but there is no consistent evidence on its extent. Destinations appear to be mainly Western Europe or the United States, with primary destinations Slovenia and Italy, particularly for nurses. The

¹ As available on 18 Dec. 2005.

Medical Chamber recorded 169 licensed doctors abroad, representing as few as 0.01 per cent of its members. Indications on the intention to migrate might be estimated from a survey among medical students, revealing that 76 per cent of graduates would consider emigration if they could not get the opportunity for specialization after graduation. Data on immigration of health professionals have not been available, but it appears that some physician inflow occurred in the context of repatriation after the war.

In the Czech Republic there are no statistical resources to monitor the number of migrating health workers. Partial information on emigration intentions could be obtained through verification procedures within the Medical Chamber and professional associations. Immigrant health workers, in contrast, are registered within the Ministry of Health. In general, the trends have not shown significant changes in recent years, and it can be said that European Union accession had no major impact on migration trends. However, the verification data showed slight and constant increases during the past years. At the same time, the numbers of foreign physicians have been increasing while those of foreign pharmacists were decreasing. The majority of foreign health workers were from the Slovak Republic.

In Romania, data on health worker migration are not publicly available and the information that could be obtained is fragmented, scarce and of poor quality. There is some information on health worker outflows that could be retrieved from Ministry of Health data. These showed that in 2004 around 2,000 health workers were working abroad, of which 82 per cent were nurses and 18 per cent physicians. There was no clear information whether migration is temporary or permanent or what the destination countries were. Bilateral agreements on mutual recognition of nurses' qualifications exist with Greece, Spain and Italy and suggest that those countries are major destinations for nurses. Other information on skilled migration showed that physician outflow rates have been estimated at a low level, accounting for less than 1.9 per cent of all highly skilled emigrants in 2001. Data on immigrant health workers could not be obtained and general information rather points to a trend that Romania is not attracting a highly skilled workforce at present.

For Serbia, information on health worker migration has been obtained from the 2002 census data. According to these data, 10,000 health workers were employed abroad representing nearly 12 per cent of the health workforce employed in the public health services in the same year. Nurses and physicians constituted the majority of the professionals working abroad, accounting for 70 and 20 per cent of migrant health workers respectively. The same data suggested that nurse migration tends to be permanent, with the majority being abroad for more than ten years, while physician migration showed more mixed trends. Regarding the duration of migration, the peak in numbers of physicians working abroad coincides with the period of war and political instability, major triggering factors for emigration at that time. Main destination countries for migrant health workers were Germany (28 per cent) and Switzerland (15 per cent), followed by other countries such as Austria, United States, Canada, Italy, France and Hungary.

Push and pull factors

Commonly the working conditions and employment situation have been reported as major factors encouraging migration. The low social status, directly related to low remuneration seemed of concern especially in Romania where average net salaries have been reported at around 200 euros per month. The fact that wages in the health sector are below the national average salaries clearly demonstrates the low valuation of health workers in Romania. In the Czech Republic, while average wages are approximately the same as the national average, the comparably higher salaries in destination countries have been mentioned as a pull factor. Czech physicians earned average gross wages of 1,250 euros per month, while nurses and midwives received an average 604 euros. For

Serbia, it was pointed out that the average gross wages of 200 euros per month in the health sector were not sufficient to cover the cost of living. Other factors influencing migration intentions were the expectation of better professional opportunities, reported especially among young medical graduates in Croatia.

Concluding remarks and recommendations

The findings of the country case studies concur with the general trends discussed in the literature.

In all four countries the lack of robust data concerning health worker migration has been stated. As indicated in the case of Croatia this may be associated with lack of surveillance of the health workforce in general, which also hinders the monitoring of internal health workforce imbalances. In all four countries, information had to be gathered on special request from various data sources, thus demonstrating the fragmentation of information available. This is in line with the general situation in the European region.

In contrast to the fears of mass migration in the context of EU enlargement, the mobility of the health workforce in the surveyed countries appeared to be at a low level and did not show significant trends related to this change in the region. More significant was the peak of physician emigration in the context of war in Serbia, also of relevance in Croatia. Trends in employment indicated concerns regarding health worker shortages in three of the cases, while in Serbia overproduction and thus unemployment suggested potentials for increasing outflow rates in future. Of concern in all countries was the age structure of emigrating health workers, suggesting rather that the young professionals will go abroad in seeking professional opportunities, leaving behind an ever-ageing workforce. In Romania especially the age group of young physicians with some years of professional experience were among those most migrating, representing a loss of qualified health workers. These findings correspond with the recent studies on labour migration trends at European level.

The overall scale of outflows was reported to be at low levels and this may be the reason why health worker migration is not yet of concern in the countries. Yet, the information suggests that monitoring the situation may be recommendable, considering the overall increases reported (though mild) and the overall global health worker shortages, especially in the Western European region.

The development and establishment of information systems providing comparable data has been recommended in this context. This should be associated with an overall improvement of health workforce surveillance, in order to better match the supply with the demand for health labour.

The country-based recommendations confirm the call for consistent data allowing the monitoring of health worker migration on European levels. They indicate beyond this a need for monitoring internal mobility of health workers for addressing health workforce imbalances in the countries. The country cases show the profile of potential supply countries facing the challenge of “youth drain” that had been identified by recent European studies. The case of Serbia, with its significant oversupply could be an example where outward migration reduces pressures on unemployment in the health professions. The fact that health worker emigration in general is still at a low level provides for time to raise awareness on the importance of addressing this issue at policy levels in order to create an environment that facilitates migration for the benefit of professional development while preventing shortfalls in the countries’ health workforce.

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Sectoral working papers ¹

| | <i>Year</i> | <i>Reference</i> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------------|
| The Warp and the Web Organized production and unorganized producers in the informal food-processing industry: Case studies of bakeries, savouries' establishments and fish processing in the city of Mumbai (Bombay) (Ritu Dewan) | 2000 | WP.156 |
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| Safety and health in small-scale surface mines – A handbook (Manfred Walle and Norman Jennings) | 2001 | WP.168 |

¹ Working Papers Nos. 1-155 are not included on this list for reasons of space, but may be requested from the Sectoral Activities Branch (SECTOR), Social Dialogue, Labour Law, Labour Administration and Social Activities Department, Social Dialogue Sector, International Labour Office (ILO).

| | <i>Year</i> | <i>Reference</i> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------------|
| Le rôle des initiatives volontaires concertées dans la promotion et la dynamique du dialogue social dans les industries textiles, habillement, chaussure (Stéphanie Faure) | 2001 | WP.169 |
| The role of joint voluntary initiatives in the promotion and momentum of social dialogue in the textile, clothing and footwear industries (Stéphanie Faure) | 2001 | WP.170 |
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| The world tobacco industry: trends and prospects (Gijsbert van Liemt) | 2002 | WP.179 |
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| A study of the tobacco sector in selected provinces of Cambodia and China (Yongqing He, Yuko Maeda, Yunling Zhang) | 2002 | WP.185 |

| | <i>Year</i> | <i>Reference</i> |
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| | <i>Year</i> | <i>Reference</i> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------------|
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| | <i>Year</i> | <i>Reference</i> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------------|
| The role of local authorities in promoting decent work. Towards an applied research agenda for the construction and urban development sector (Jeroen Klink) | 2006 | WP.243 |
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