



**Country report on health
worker migration and mobility**
Serbia

November 2022

Pillars of Health – Towards solidarity for health worker balance in Europe

Project initiation phase: contextualisation - desk review guidelines

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1. Introduction

The OSF-funded Programme “Pillars of Health – Towards solidarity for health worker balance in Europe” is a 3-year programme focusing on building evidence, strengthening civil society and carrying out advocacy, in selected countries and at EU level, with the aim to improve health worker availability and accessibility for all European citizens.

A visual and narrative Theory of Change has been developed by the Programme partners that will guide:

- The activities to be carried out at EU level
- The preparation of activities in the participating country (2021: Romania and Serbia).

The Programme is loosely divided into 3 phases:

1. Project initiation phase (June - September 2021)
2. Project execution with a focus on evidence building, reactivating civil society and awareness raising (October 2021-2022)
3. Project execution, finalization and measures to ensure sustainability, with a focus on further awareness raising and targeted advocacy (2022-2023)

2. Project initiation phase: contextualisation

During the Project Initiation Phase in 2021, project partners concentrate on contextualising the Programme’s Theory of Change by carrying out the following activities:

- a. A series of 3-4 workshops aimed at identifying: changes needed in the respective contexts (countries or EU level); most relevant actors and their power and interest (power analysis); possible pathways to change; selecting a selected number of critical pathways to be pursued; strategies and action plans; resulting in a workplan.
- b. Stakeholder consultations, in various iterations if needed, to inform the work in the workshops and/or the finalisation of the workplan.
- c. A desk review resulting in a context (country or EU) analysis. The current document provides the guidelines for this activity.

The Project Initiation Phase will result in a Country Project Document, for which a template will be provided. The different chapters in the Country Project Document are nothing more than a consolidation of results of the activities mentioned under a, b and c.

For a visualisation, see figure 1.

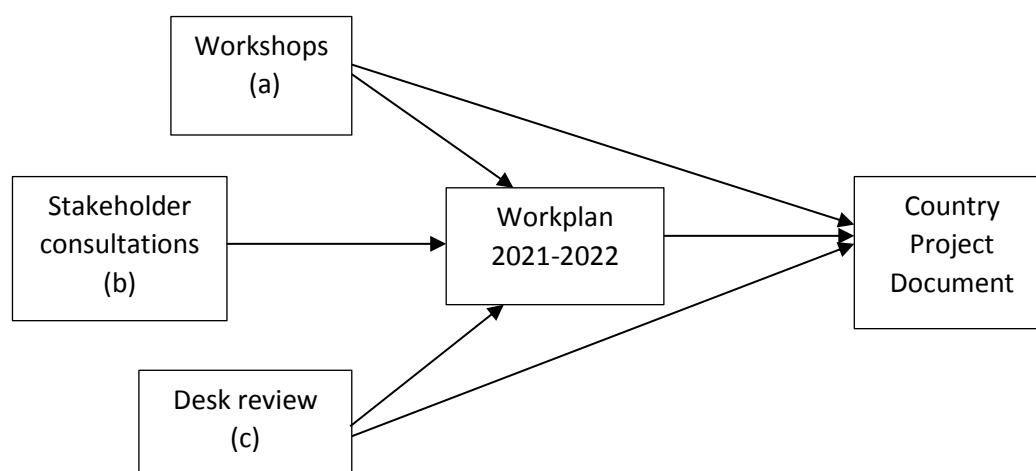


Figure 1: Visualization of activities and outputs in Project Initiation Phase – Pillars of Health

3. Desk review

The desk review is executed to describe and analyse the specific context (country or EU) situation. It provides a baseline document with data and information on the status quo, and therefore an indispensable building block for the workplan.

Since we want to change the status quo, this is a document against which we can eventually measure our progress and performance against.

To keep the desk review concise and comparable across the different contexts, we have developed guidelines. The cross-country analysis will be performed by VU Athena institute.

4. Desk review guidelines

The desk review is focused on three main areas:

- 1) Developing a country situation report (5-day effort according to indicative workplan), including:
 - a) health labour market data (see further down)
 - b) data on health worker migration & mobility (to the extent available)
 - c) relevant initiatives to strengthen workforces in the context of existing health worker migration
- 2) Conducting an analysis of the national political/legal framework regarding health workforce migration & mobility (5-day effort according to indicative workplan)
- 3) Additional, context-specific research questions identified during the workshops and/or stakeholder consultations.

The present guidelines will help you get underway. However, you may want to be flexible in the implementation of these guidelines and leave room for some iterations and updates, based on your specific context.

(Note: the indicative workplan for 2021 includes 10 working days for focus areas 1 and 2. Since we have added a 3rd focus area, let's agree on 10 working days for the total package, to be divided over the different activities according to the situation in your country: information needs, data availability, etc.)

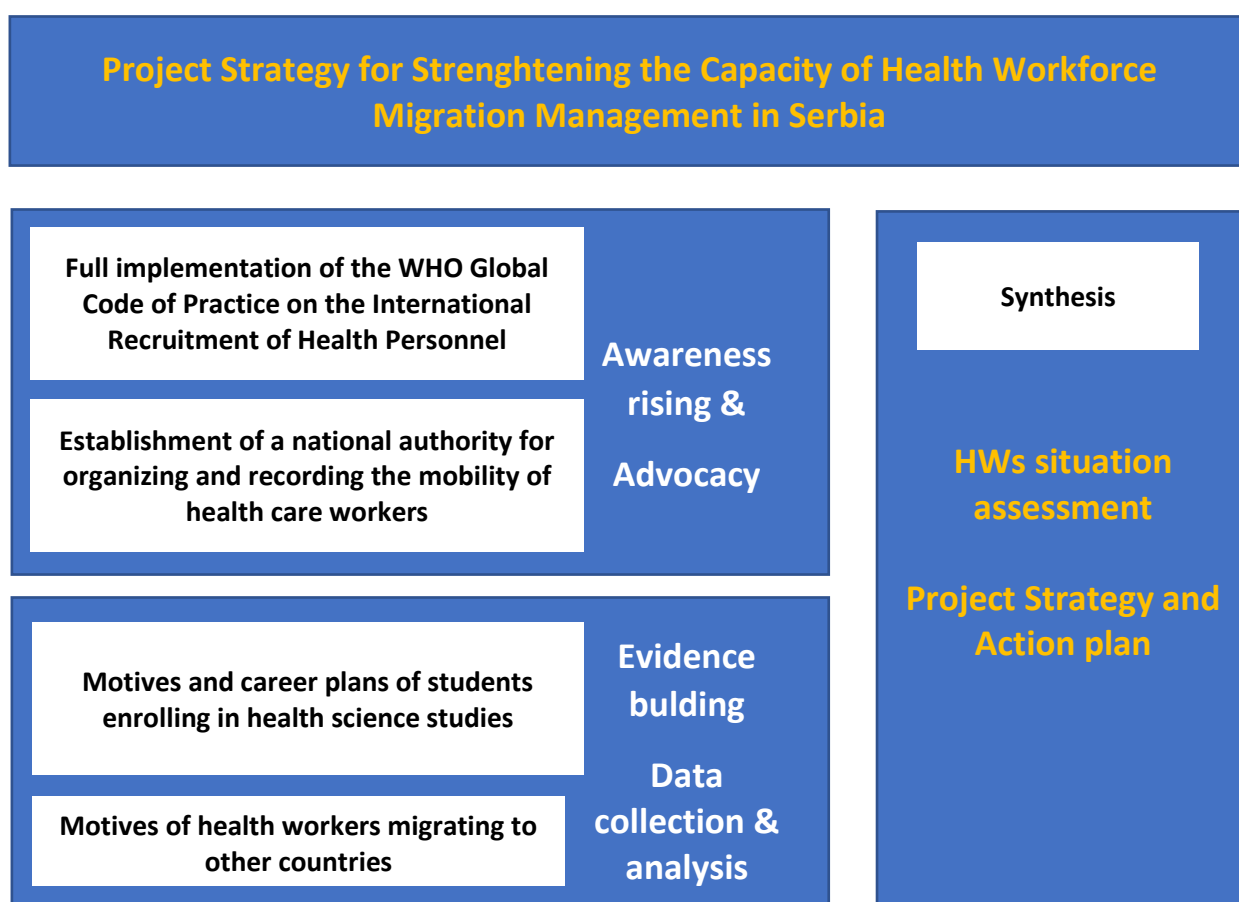
4.1. Country situation report - SERBIA

SUMMARY

The purpose of the country report

The OSF-funded Programme “Pillars of Health – Towards solidarity for health worker balance in Europe” is a 3-year programme focusing on building evidence, strengthening civil society and carrying out advocacy, in selected countries and at EU level, with the aim to improve health worker availability and accessibility for all European citizens. The Desk review is executed to describe and analyze the specific context (country or EU) situation. It provides a baseline document with data and information on the status quo, and therefore an indispensable building block for the workplan (Scheme 1). To keep the Desk review concise and comparable across the different contexts, a guideline has been developed (**blue letters**). The cross-country analysis will be performed by VU Athena institute. Since we want to change the status quo, this is a document against which we can eventually measure our progress and performance against.

Scheme 1. Draft of the Country Report Design



Key findings of the HWs situation assessment in Serbia (Desk research)

- In regard to the country capacity to mobilize HWs to address the population needs, the COVID-19 pandemic has reminded us of the utmost importance of the safety and quality of working conditions assurance for health workers in crises situation. Not only in current crises, but for the post COVID-19 pandemic, we should include the modern guidelines and standards for assurance of the safety and quality of working conditions in health care settings as this will probably be the requirement posed to employers by potential voluntary returners among the migrant HWs. Health care providers should look at it as a pull factor in the process of recruitment and retainment of the staff in shortage.
- Though the public sector is the major employer of health workers in Serbia, there are no estimates about the total number of full-time equivalent staff or full data on the size of the workforce (e.g., practicing, and active (that is, licensed for practice may not be employed, therefore not practicing)) and their distribution (by age and sex groups, urban/rural level and localities) in private and other sectors than the public health care sector.
- The Institute of Public Health of Serbia does not contain sufficiently valid data on the work and structure of private practitioners in Serbia. Incomplete data hampers the analysis of the health labor market capacity and comprehensive and strategic planning of health workforce requirements at the national and community level.
- Due to significant variations in the district coverage of physicians and nurses per 100,000 population, and related inequities in health care services access it is not recommended to use national annual average density data as benchmarks for equitable distribution of health workforce, and they might be misleading in the decision making for resource allocation and priorities setting in development of health care services.
- District differences in the density of dentists, pharmacists and midwives in the public sector also exists indicating the need to further analyze the patterns of health workers mobility and emigration.
- SORS data indicate a slight variation in the number of employees in human health and social work activities over time, which is mostly prominent in public sector and toward long-term employment.
- High unemployment indicates problems with strategic planning of the health personnel. There is no official health workforce strategy or Master Plan. There is evidence of high intention to work abroad, although information on workforce migration trends is lacking.
- The potential supply of health workers in 2019 (unemployed and newly registered) corresponds to 20% of the staff in the public sector. A small part of the vacancies was filled through the National Employment Service, which indicates the potential activity of other employment mechanisms. The main features of the labour market are high unemployment of health workers with intermediate and high education, and worryingly high long-term and youth unemployment - above 50%. The significant gap between the supply and demand of the health workforce is worrying, as the number of unemployed health workers surmounts the absorbing capacity of the public sector.
- A question of sustainability of the supply of quality medical doctors rises as one of the main issues with healthcare system in Serbia. Surveys could be used for further action plans of creating sustainable health workforce and work environment in order to retain medical graduates in the country.
- Migration management is a multisectoral cooperation of several ministries, of which the role of Ministry of Health does not stand out. HWs stakeholders' motives and roles towards

effective recruitment and retention strategies need to be strengthened. The Republic of Serbia has legal regulations that are not focused only on migratory flows of health personnel, but are focused on migration of the population in general, and especially on refugees and displaced persons. It is necessary to design and implement specific measures to control the international recruitment of personnel and prevent the outflow of talented, quality, experienced and productive health workers from the country and the consequent threat to the quality of health services. It is necessary to plan, implement policy, build a database and study the professional expectations and intentions of health workers.

- It would be important to understand the motives and career plans of students enrolling in health science studies despite the large number of unemployed young professionals in the country.
- Valid and complete information on the trends in workforce migration is not available, although research provides evidence on high intention to emigrate for work abroad.
- Further analysis of possible implications of COVID-19 pandemic on current and future health worker migration and mobility with gender-specific information would be welcome. In this analysis, relevant stakeholders should assess the success (or lack thereof) of existing policies, programmes, partnerships, other initiatives, as well as of key success factors / factors that contributed to failure.
- An action to prevent a shortage of necessary health workforce should be formal and evidence based, therefore it requires setting up a regulative framework for intersectorial and international cooperation for HRH mobility for which there is a need to establish solid information base on health workers' migration.
- Serbia does not have an official health workforce strategy. The current health workforce policy aims to maintain the present staffing levels in the health system, while reversing the shortage of some specialists by allowing voluntary (self-financed) specializations as well as offering permanent jobs for the best graduates of medical faculties. However, there is no official health workforce strategy.
- In the Republic of Serbia, there is still no clearly defined plan and policy that would regulate, i.e., monitor the flow of health workers. In recent years, we are facing the departure of a large number of health workers, which may lead to a decrease in the quality of health services in some institutions.
- Considering the complexity of the problems that can be caused by the migration of the health workers, it is concluded that it is necessary that there are international and national norms that are applied in the Republic of Serbia to regulate migratory flows and mobility of health workers. International norms refer to multilateral and bilateral agreements, which by their legal force are immediately behind the RS Constitution. Multilateral agreements are laws and regulations that define relations between the Republic of Serbia and several countries, while bilateral agreements mostly refer to readmission.
- Health workforce mobility and migration in Serbia is not monitored in such a way to provide a precise set of indicators on annual net inflow and outflow of health professionals. There is no professional authority that organizes and records the mobility and migration of health workers in Serbia. The country has not implemented the 2010 WHO Global Code of Practice on the International Recruitment of Health Personnel that requires the establishment of a national authority for organizing and recording the mobility of health care workers. However, there are many sources of information such as institutes of public health, statistical office, educational institutions, health professional records, employment offices, projects and research studies, none of which is providing comprehensive or reliable information.

- The most important segment in mobility and migration management is the establishment of a single system for collecting, analyzing, processing, organizing, exchanging, protecting and storing data necessary for efficient migration management. The goal of this unique system is to create a database that will be available to all state administration bodies that join this system.

The way forward:

- Recognize the motives, capacities and plans of key stakeholders towards HWs migration and mobility.
- Evidence building to support the high-level stakeholders and CSO understanding of the characteristics and patterns of the HWs migration
- Better understand the motives and career plans of students enrolling in health science studies, as well as health workers migrating to other countries.
- Initiating dialogs, multilateral communication and relations toward facilitation of the CSO activism and professional diaspora around the topic “How can freedom of HWs mobility and migration work for Serbia?”
- Awareness rising and advocating for the full implementation of the 2010 WHO Global Code of Practice on the International Recruitment of Health Personnel and Development of a health workforce strategy.
- Identification of enablers for the development of a strategy for the establishment of a national authority for organizing and recording the mobility of health care workers to acquire valid and complete data on trends in health workforce migration
- Creating a Project Strategy and action plan towards Strengthening the Capacity of Health Workforce Migration Management in Serbia

POH Desk research guideline

General country profile, baseline data:

- Geographical location/description (including description of provinces, regions, governance, etc.), World Bank classification (e.g., higher-lower-middle-income country), population size and percentage of 65+, fertility rate, surface area, Gross national income (or GDP) per capita (Purchasing Power Parities in Euro), relative poverty rate, annual economic growth rate, main GDP sectors, unemployment as a percentage of total labour force (if available). Cross-cutting: look for gender-specific data. *Recommended source:* World Bank, OECD or others.

Serbia is a country situated at the crossroads of central and south-east Europe, located in the Balkans, a region with about 75% territory in south-east Europe and in the Pannonian Plain, and about 25% in central Europe. It has common borders with Hungary to the north, Romania and Bulgaria to the east, North Macedonia to the south, Montenegro to the southwest, and Bosnia and Croatia to the west. Serbia covers 88 361 km², with mountains covering almost 40% of its territory, and the Pannonian Plain covering around one quarter of its territory. There are four statistical regions: Vojvodina, Belgrade, Šumadija and western Serbia, and southern eastern Serbia.

The population of Serbia according to the census of 2011 was 7.519 million, and almost 60% lives in urban areas. The number of inhabitants has been decreasing continuously. In 2019, population estimates (without data for Kosovo and Metohija) show that Serbia has 6945235 inhabitants (3383732 males and 3561503 females)¹. The percentage of the population aged 65 and above was 17.6% in 2016, and 23.06% in 2019. The total fertility rate (15-49) was 1.46 in 2015, and 1.52 in 2019.

According to the World Bank, Serbia is an upper middle-income economy, and in 2018 the GDP per capita was \$7 234. The at-risk-of-poverty rate in 2018 was 24.3%. Serbian economy is based mainly on services which account for 51% of GDP, with industry contributing to 25.9% and agriculture to 6.2%. GDP average annual growth rate was 4.3% and unemployment was 12.7% in 2018.

- Per capita current health expenditure (government/compulsory, voluntary schemes, out of pocket and total) and % of health expenditure in GDP, government health expenditure as % of general gov. expenditure, population covered in health finance, per capita health workforce numbers (doctors and nurses) as well as distribution across regions. Cross-cutting: look for gender-specific data. *Recommended source:* OECD health data and country health profiles; WHO Regional Office for Europe

¹ SORS. Demographic Yearbook 2019. Belgrade: Statistical Office of the Republic of Serbia, 2020.

(<https://gateway.euro.who.int/en/>). For the health workforce indicators specifically: OECD health data or Eurostat can be used in case the country that is being reported on is an OECD or EU member state. OECD, Eurostat and WHO-Euro use a joint questionnaire to gather, among other things, statistics on health workforce. So, these are the data you can find in OECD and Eurostat databases. For the WHO European Region, they should be made available in the Gateway (see link above), but these data have not been updated for several years now. Alternatively, data from the National Health Workforce Accounts (NHWA) can be used (see below for more information, this is the official data source for reporting on SDG indicator 3.c.1 Health worker density and distribution), or from the WHO Global Health Observatory, which draws from the NHWA (<https://www.who.int/data/gho/data/themes/topics/health-workforce>).

After the continual increase in the proportion of GDP allocated to health in Serbia from 2001 to 2014, a similar or higher share of GDP spending on health was reached in 2014 than that of the majority of central and south-eastern European countries. Total health spending reached 8.8% of GDP in 2017, at 1 319 US\$ (PPP) per capita spending. However, public expenditure on health has steadily decreased in the last decade, at 60.0% of total expenditure on health in 2018, while private expenditure has increased (40.0% in 2018). In 2018, Serbia spent 8.55% of GDP in health, and per capita spending was 1 437 US\$ (PPP). Health expenditure per capita is still one of the lowest in the WHO European Region. However, there has been an important increase in spending on health in absolute terms: total health expenditure per capita increased from 335 US\$ (PPP) in 1995, to 1 437 US\$ (PPP) in 2018, the highest in the last two decades. Health financing from public sources is based on a nationally pooled health insurance system, with compulsory health insurance accounting for 94% of public expenditure on health.

Table 1. Selected ratio indicators* for expenditures on health, Republic of Serbia, 1995-2018

Selected ratio indicators* for expenditures on health	1995	2000	2005	2010	2015	2016	2017	2018
Total expenditure on health (THE) as % of GDP	8.84	9.57	8.70	10.09	9.40	8.98	8.76	8.55
General government expenditure on health (GGHE) as % of THE	79.2	78.5	66.0	61.9	58.1	58.0	57.6	60.0
Private sector expenditure on health (PvtHE) as % of THE	20.8	21.5	34.0	38.1	41.9	42.0	42.4	40.0
GGHE as % of General government expenditure	22.3	24.0	14.3	14.3	12.0	11.7	11.7	12.5
Social security funds as % of GGHE	59.5	59.5	92.7	94.2	93.9	93.9	94.0	93.6

Prepaid and risk-pooling plans as % of PvtHE			1.6	0.9	1.0	1.4	1.7	2.0
Private households' out-of-pocket payment as % of PvtHE	84.8	84.7	88.0	95.5	96.8	96.3	96.0	95.9
Total expenditure on human resources on health as % of THE			59.5	56.2	51.9	51.6	52.2	50.3
Total expenditure on health / capita at international dollar rate	335	553	771	1 193	1 275	1 261	1 319	1 437
General government expenditure on health / cap int. \$ rate	265	434	509	738	741	732	760	863

Private health expenditure is related to expenditure in voluntary health insurance (VHI), OOP expenditure, and other private health expenditure. Private expenditure on health in 2017 reached 42.4% of total health expenditure, which is two times higher than in 1995. In 2018, private expenditure on health was 40.0%. The main share of private expenditure is OOP expenditure, reaching 96% in 2017, and was similar in 2018, while VHI accounted for 2% of private expenditure on health in 2018. The 2018 Household Budget Survey determined that 4.4% of household revenue was spent as OOP expenditure on health in 2017 (SIPRU, 2018). It does not provide information on which percentage of this amount comprises OOP user fees and which percentage comprises informal payments.

The average salary in the health sector in Serbia in September 2018 was 565 euros per month, which was in line with the total average salary in the country, but 70–80% lower than in financing, insurance and ICT sectors. In order to reduce these differences, the Serbian Government decided to increase the salaries in public health institutions from January 2019 onwards. The salaries were increased by 10% for doctors, dentist, and pharmacists, 12% for nurses and 7% for other employees (Government of the Republic of Serbia, 2019)².

- **UHC service coverage index: WHO,**
<https://www.who.int/data/gho/data/themes/topics/service-coverage>

² Bjegovic-Mikanovic V, Vasic M, Vukovic D, Jankovic J, Jovic-Vranes A, Santric-Milicevic M, Terzic-Supic Z, Hernández-Quevedo C, World Health Organization. Serbia: health system review.

According to the WHO³, the UHC service coverage index for Serbia is 51.43%. This number is the same as for Croatia (an EU country), somewhat higher than Hungary, Romania and Bulgaria (also EU countries), and much higher than other neighbouring countries such as Bosnia and Herzegovina, Montenegro, Albania, and North Macedonia.

- Population health status (by means of a few key indicators, e.g., life expectancy, maternal mortality, infant mortality, main causes of death, main causes of disability/morbidity, vaccination coverage, preventable mortality, treatable mortality). For some countries indicators TB/HIV incidence can be relevant/useful as well). *Recommended source:* Eurostat, OECD health data, OECD country profile, HiT reports / Health Systems Review Reports from the European Observatory (if not too outdated).

Serbia has a low birth rate, low fertility rate, low rate of population growth, and an increasing life expectancy – resulting in an ageing population (average age of population in mid-2019 was 43.3 years (41.9 years of males, and 44.7 years of females)⁴. Females on average have a longer life expectancy at birth (78.35) compared to males (73.09). The recent estimates show that life expectancy is unequal across regions⁵; the highest life expectancy is found in Belgrade, and the lowest in the Severnbanatski district in Vojvodina, where men live 69.7 and women 76.3 years. The main causes of death are cardiovascular diseases and cancers, accounting for almost three quarters of all deaths. Infant mortality rate in 2019 was 4.78 per 1000 live births, while the maternal mortality rate in 2015 was 12 per 100,000 live births while in 2019 it was 6 per 100,000 live births. The immunization coverage is compulsory against TB, diphtheria, tetanus, pertussis and polio, hepatitis B, measles, mumps, rubella, Haemophilus influenza type b and pneumococcus.

- High level description of the health system (health finance, service provision, governance). *Recommended source:* HiT reports / Health Systems Review Reports from the European Observatory (if not too outdated), OECD country profile, State of Health in the EU country profile.

Three institutions organize and manage the Serbian health system: Ministry of Health, the National Health Insurance Fund, and the Institute of Public Health “Dr Milan Jovanović Batut”. Administrative and regulatory functions of the health system are the responsibility of ministries and state agencies. Publicly owned health institutions comprise a wide network at the primary,

³ <https://www.who.int/data/gho/data/themes/topics/service-coverage>

⁴ SORS. Demographic Yearbook 2019. Belgrade: Statistical Office of the Republic of Serbia, 2020.

⁵ World Health Organization. Regional Office for Europe, European Observatory on Health Systems and Policies, Bjegovic-Mikanovic, Vesna, Vasic, Milena, Vukovic, Dejana. et al. (2019). Serbia: health system review. World Health Organization. Regional Office for Europe. <https://apps.who.int/iris/handle/10665/331644>

secondary and tertiary level, and this network is overseen by the Ministry of Health. Relevant international partnerships, e.g., EU (or neighbourhood instrument agreements), CIS, OECD. Cross-cutting: do these partnerships include gender-specific actions and goals?

In 2008, the Serbian Government signed the financing agreement with the European Commission related to the Instrument of Pre-Accession (IPA) assistance. International donors include the EU, through the European Agency for Reconstruction (EAR) (now the European Delegation), the Global Fund to Fight AIDS and Tuberculosis, World Bank, the Canadian International Development Agency (CIDA), the World Health Organization, UNICEF, the International Red Cross and a number of bilateral donors – Norway, China and Japan, being the most important.

- Briefly, developments during COVID-19 pandemic, its impact on health system and awareness created in the country. Specific gender-related data would be welcome. Other data sources:
- If there are good quality, more recent national (and/or subnational) statistics, please use them!

In Serbia, in 2020, 10,356 people died (8.9% of all deaths, i.e., 6,629 men and 3,727 women) from diseases that can be connected to COVID-19, and these diseases are in the third place after ‘Diseases of the circulatory system’ (which are in the first place with 47.3% of all deaths) and ‘Tumors’ (which are in the second place with 18.3% of all deaths) [14]. But, in capital Belgrade, according to the percentual proportion in overall mortality for both sexes, COVID-19 was the second leading cause of death⁶ The COVID-19 pandemic has put the focus on healthcare workers and stressed the health system.⁷ In the public health system, health workers were, according to the increasing needs (and even building of additional COVID-19 hospitals) transferred to other workplaces and required to work in areas outside of their regular department/clinic. Most health workers were not satisfied with the way human resources were managed during the pandemic, and there were (and still are) big issues with training of healthcare workers regarding the use of personal protective equipment and general infection control protocols (Table 2).

⁶ Rosić N , Šantrić Milićević M. COVID-19 mortality in Belgrade. Serbian Journal of the Medical Chamber 2021; 2 (3):236-247.

⁷ Dinić M, Šantrić Milićević M, Mandić-Rajčević S, Tripković K. Health workforce management in the context of the COVID-19 pandemic: A survey of physicians in Serbia. Int J Health Plann Manage. 2021 May;36(S1):92-111. doi: 10.1002/hpm.3141.

Table 2⁷. Areas of necessary change identified by physicians in Serbia, according to their engagement in the treatment of patients with COVID-19

Areas of necessary changes	Physicians: grouped by their engagement with patients with COVID-19 [†]			Chi-square test
	[ALL] N=1,553	Yes N=992	No N=561	p
Workforce management:				<0.001
Yes	1,130 (72.8%)	782 (78.8%)	348 (62.1%)	
No	207 (13.3%)	103 (10.4%)	104 (18.5%)	
I do not know	216 (13.9%)	107 (10.8%)	109 (19.4%)	
Workforce requirements planning:				<0.001
Yes	1,250 (80.5%)	859 (86.6%)	391 (69.7%)	
No	176 (11.3%)	83 (8.5%)	93 (16.6%)	
I do not know	127 (8.2%)	50 (5.0%)	77 (13.7%)	
Education and training:				<0.001
Yes	1,140 (73.4%)	779 (78.5%)	361 (64.3%)	
No	201 (12.9%)	109 (11.0%)	92 (16.4%)	
I do not know	212 (13.7%)	104 (10.5%)	108 (19.3%)	
Recruitment and dismissal:				<0.001
Yes	933 (60.1%)	643 (64.8%)	290 (51.7%)	
No	269 (17.3%)	140 (14.1%)	129 (23.0%)	
I do not know	351 (22.6%)	209 (21.1%)	142 (25.3%)	
Organizational models:				<0.001
Yes	1,230 (79.2%)	831 (83.8%)	399 (71.1%)	
No	133 (8.6%)	69 (7.0%)	64 (11.4%)	
I do not know	190 (12.2%)	92 (9.2%)	98 (17.5%)	
Workload measurement				<0.001
Yes	1,254 (80.7%)	851 (85.8%)	403 (71.8%)	
No	152 (9.8%)	73 (7.4%)	79 (14.1%)	
I do not know	147 (9.5%)	68 (6.9%)	79 (14.1%)	
Performance assessment:				<0.001
Yes	1,153 (74.3%)	781 (78.7%)	372 (66.3%)	
No	207 (13.3%)	111 (11.2%)	96 (17.1%)	
I do not know	193 (12.4%)	100 (10.1%)	93 (16.6%)	
Reward and incentive system:				<0.001
Yes	1,309 (84.3%)	878 (88.5%)	431 (76.8%)	
No	138 (8.9%)	68 (6.9%)	70 (12.5%)	
I do not know	106 (6.8%)	46 (4.6%)	60 (10.7%)	
Payment and compensation:				<0.001
Yes	1,266 (81.5%)	852 (85.8%)	414 (73.8%)	
No	142 (9.2%)	70 (7.1%)	72 (12.8%)	
I do not know	145 (9.3%)	70 (7.1%)	75 (13.4%)	
Control:				0.037
Yes	1,155 (74.4%)	759 (76.5%)	396 (70.6%)	
No	209 (13.5%)	123 (12.4%)	86 (15.3%)	
I do not know	189 (12.1%)	110 (11.1%)	79 (14.1%)	

[†]Physicians' engagement in the COVID-19 system of health care institutions or physicians who worked with SARS-CoV-2-positive patients

In regard to the country capacity to mobilize HWs to address the population needs, the COVID-19 pandemic has reminded us of the utmost importance of the safety and quality of working conditions assurance for health workers in crises situation. Not only in current crises, but for the post COVID-19 pandemic, we should include the new

guidelines and standards⁸ for safety and quality of working conditions assurance, as this will probably be the requirement posed by potential voluntary return of migrant HWs to employers. Health care providers should look at it as a pull factor in the process of recruitment and retainment of the staff in shortage.

Health labour market, using existing data

Recommended data source = National Health Workforce Accounts, Eurostat, and OECD health workforce data. Please suggest others if they are more appropriate or more up-to-date, including national data sources & please indicate what data are available and what the data gaps are. Effort required: 4-8 working hours.

Health Workforce Data in the National Health Workforce Accounts (<https://apps.who.int/nhwportal/>) for Republic of Serbia are scarce and not updated (cover period from 2013 to 2016).

Please follow the following protocol (and continue to be on the lookout for gender-specific data!):

- Find the number of jobs in the health and care sector in your country. If possible: disaggregated per sector and profession / cadre.

The number of jobs is determined by the Health Care Act 2019 and a bylaw that defines standards for the opening and operation of health facilities, including staffing standards as a minimum, but for state-owned health facilities employment standards are also the annual minimum, optimal and maximum number of employees, who have a contract with the National Health Insurance Fund. The main employer in Serbia in health and care sector is the state. Total number of health care institutions according to the Decree on the plan of the network of health care institutions in 2019 in Serbia amounted to 350⁹ (of which at the 35 pharmacies, 158 primary health care centres, 41 general hospitals, 34 special hospitals, 4 clinical-hospital centres, 4 clinical centres, 7 clinics, 16 institutes, 25 institutes of public health, 22 zavod, and 4 military institutions).

In 2019, the health care service of the Republic of Serbia (health institutions in the Network Plan) employed a total of 100,880 persons¹⁰. There were 24,550 health workers and health associates with university education. Of those, 19,984 (81%) were doctors, 1596 (7%) dentists, 1528 (6%) pharmacists and 1542 (6%) were other professionals. Of all physicians in the

⁸ Mandić-Rajčević S. 2020. Bezbedan Povratak na radno mesto. Priručnik za poslodavce i zaposlene. Savez mašinskih inženjera i tehničara Srbije (SMEITS).

⁹ Decree on the plan of the network of health care institutions ("Official Gazette of RS", no. 42/06, 119/07, 84/08, 71 and 85/09, 24/10, 6 and 37/12, 8 / 2014, 92/2015, 111, 114/2017, 13/2018, 15/2018 and 68/2019).

¹⁰ Institute of public health of Serbia "Dr Milan Jovanovic Batut" (2020) Health Statistical Yearbook of Republic of Serbia 2019. Belgrade: Institute of public health of Serbia "Dr Milan Jovanovic Batut".

Republic of Serbia 5309 were non-specialists (27%), of whom 2754 were general medicine doctors (14%) and 2555 were in specialist training (13%). The total number of specialists was 14,575 (73%). The structure of employed doctors by sex was the following: 35% were male and 65% were female doctors. Of the total number of 1596 dentists, 839 (53%) were specialists. Health care institutions employ a total of 1653 pharmacists, of whom 303 (20%) were specialists. In 2019, there was a total of 10,269 health workers and associates with college education in health care institutions, of whom 5818 (57%) nurses-medical technicians. 44,666 health workers and associates had secondary education, of whom 31,165 (70%) were nurses-medical technicians. Health care institutions employed a total of 21,020 non-medical staff, of whom 7231 (34%) administrative and 13,789 (66%) of technical staff. In 2019, physicians made up 19.8% of the total personnel in the Network (out of these, 14.3% were medical specialists). The ten leading specializations are internal medicine (13.2%), pediatricians (11.0%), general medicine (10.0%), gynecology and obstetrics (7.4%), anesthesiologists (5.8%), radiologists (5.5%), general surgery (5.0%), physical medicine (3.8%), psychiatry (3.7%), and urgent medicine (3.5%).

According to the Statistics of employment and earnings (Statistical release 13, SERB013 ZP20 280121), the total number of employed in the Republic of Serbia in 2020 amounted to 2,215,475 (annual average¹¹), of which 155,240 (7.01%) were registered employees in human health and social work activities. Most of the registered employees in human health and social work activities work in public sector (152,073, or 97.96%), and this number includes employees in "long-term employment" and in "temporary and occasional employment" (Table 3). The highest number of employees in section human health and social work activities was in Belgrade region (48,805), and the lowest in the region of South and East Serbia (31,171). In 2020 relative to 2019 year, the decrease of the number of employees was noted in section human health and social work activities (1,680 persons, or 1.1% decrease). In the second quarter of the 2021 (table 3), data of the Statistical Office of the Republic of Serbia (SORS)¹² registered 153,214 employees in human health and social work activities work in public sector, indicating a slight increase of employees over the last six months of the year 2021 (1,141, or 0.75%). **In summary, these data indicate a slight variation in the number of employees in human health and social work activities, which is mostly prominent in public sector and toward long-term employment.**

¹¹ Annual average is calculated as the arithmetic mean of the number of employees for 12 months

¹² <https://data.stat.gov.rs/Home/Result/24021305?languageCode=en-US>

Table 3. Employees in "long-term employment" and in "temporary and occasional employment" in Health and social work in public sector, in 2020 and 2021, Republic Serbia

Period	Modalities of registered employment	Employees, n
2020/III quarter	Total	151165
	"Long-term employment"	146471
	"Temporary and occasional employment"	4694
2020/IV quarter	Total	152073
	"Long-term employment"	147914
	"Temporary and occasional employment"	4159
2021/I quarter	Total	152959
	"Long-term employment"	148933
	"Temporary and occasional employment"	4025
2021/II quarter	Total	153214 ^(p)
	"Long-term employment"	149140 ^(p)
	"Temporary and occasional employment"	4073 ^(p)

Source: SORS P provisional value

The last updated data (27 of April 2021) of SORS¹³ show slight changes of the density of health workers over the period from 2003-2020, (table 4). Due to the negative population growth, the density rates have increased. The last increase in the number of health workers was registered in 2013, and the freeze of job posts was initiated in 2014 and continued in the years after.

Table 4. Health worker density 2003-2020 [per 10 000 population], Republic of Serbia

Period	Physicians	Dentists	Pharmacists	Nurses and midwives
2003	27.5	4.7	2.5	59.2
2004	28.1	4.8	2.7	60.9
2005	27.9	4.5	2.7	58.9
2006	28.2	3.5	2.8	58.6
2007	28.9	3.5	2.8	60.3
2008	29.8	3.5	3	62
2009	30.2	3.5	3	61.8
2010	30.6	3.5	3.1	62.3
2011	31	3.5	3.3	63.4
2012	31	3.4	3.3	63.2
2013	31	3.3	3.3	63.4
2014	30.7	3.2	3.3	62.9

¹³ <https://data.stat.gov.rs/Home/Result/SDGUN031201?languageCode=en-US&displayMode=table&guid=d4e5ebf5-96a1-42c5-bbf6-448485b16c4d>

2015	30.8	3.1	3.3	63.6
2016	30.5	2.8	3.1	64
2017	30.5	2.8	2.9	64.9
2018	30.8	2.8	2.7	65.8
2019	28.6			
2020	28.6			

The last available age analysis of the health workforce was published in 2015, the average age of permanently employed physicians (94.4% of all physicians) was 47.42 years, while it was 33.97 years for those with temporary employment. The same analysis showed contradictory situation: over 2 000 physicians are unemployed (mainly young professionals), and there is a shortage of specialists (surgeons, anesthesiologists, reanimation and intensive therapy; radiation oncologists; otorhinolaryngologists, etc.), as well as an unequal geographical distribution (Šantrić-Milicevic et al., 2015)¹⁴. The medical workforce tends to be allocated in urban areas with better infrastructure and concentrated within medical universities and highly specialized medical centers. In 2015, the variation of the medical workforce density at district level versus the national average rates was most prominent for general medical professionals on specializations, and for midwifery professionals (-59%; +62%) (Šantrić-Milicevic et al., 2015)¹⁵. The highest difference between district rates was for midwifery professionals and medical doctors on specializations (3.6:1) (Šantrić-Milicevic et al., 2015). The lowest difference between district rates was for nursing professionals (1.8:1) and health technicians (1.9:1). In 2015, female workers were 76.7% of all workers, while staff younger than 35 years comprise 26.9% of all workers (Šantrić-Milicevic et al., 2015).¹⁶

Health workers in the private sector

The data on the structure and work of health workers in the private sector refer to data collected from private institutions that have fulfilled their legal obligation and submitted data to the relevant institutes of public health in 2017 and 2018. In total, there were 2,868 institutions with 8,245 employees of which 2,296 were physicians, 3,573 nurses and medical technicians, 2,092

¹⁴ Santric-Milicevic M, Vasic M, Edwards M (2015). Mapping the governance of human resources for health in Serbia. *Health Pol.*119:1613–1620.

¹⁵ Santric-Milicevic M, Vasic M, Edwards M (2015). Mapping the governance of human resources for health in Serbia. *Health Pol.*119:1613–1620. Ili Ibid

¹⁶Santric-Milicevic M, Vasic M, Edwards M (2015). Mapping the governance of human resources for health in Serbia. *Health Pol.*119:1613–1620.

stomatologists, 526 pharmacists and 31 health associates. Their distribution varies across districts, from zero workers in most districts to 679 physicians, 882 nurses /health technicians and 779 stomatologists providing outpatient (ambulatory) care services in the Belgrade district, and 190 pharmacists in the South Bačka district. However, these data should be checked with record of the health workers chambers, as it is hard to believe that no pharmacists in the private sector were employed in the Belgrade district at that time. **Therefore, the Institute of Public Health of Serbia does not contain sufficiently valid data on the work and structure of private practitioners in Serbia, hampering the analysis the health labor market capacity and comprehensive and strategic planning of health workforce requirements at the national and community level.**

- Look for number of vacancies in health and care. If possible, disaggregated per sector and profession / cadre.

According to the National Employment Service - NES of the Republic of Serbia in January 2021, the total number of vacancies was far less than the supply of cadre (table 5). Women comprise 55% of all unemployed persons and younger than 30 years old 21.2%. 58.4% of unemployed persons are seeking for job over the last 2-3 years.

In health and social care, the requests for job matching services in vacancy filling was 0.44% of the unemployed persons. At that point of time, the total number of unemployed persons in health and social care comprise 3.3% of all unemployed persons in Serbia and the share of women unemployed women in health and social care was 5.4% of all unemployed women. However, NES data show that majority of unemployed persons are women, as well as that most of the newly registered persons seeking the job were also women. The highest number of all unemployed persons is registered in the region of Šumadija and Western Serbia, while the lowest in Belgrade region. An overview of the most frequently demanded occupations by education levels according to the requests for job matching services in vacancy filling during January of 2021, show vacancies for 17 nurses, 11 medical doctors, 3 specialists in orthopedics, 2 specialists in internal medicine, 2 specialists in ophthalmology and 1 specialist in general medicine.

Table 5. Unemployment, requests for job matching services in vacancy filling by occupations groups and sex during January of 2021, Republic of Serbia

	Unemployed persons		Newly registered		Requests for job matching services in vacancy filling
	Total	Women	Total	Women	
All occupation groups	509,818	282,041	39,936	20,521	4,101
<i>Health, pharmacy and social protection</i>	<i>19,693</i>	<i>15,293</i>	<i>1,551</i>	<i>1,186</i>	<i>87</i>
<i>Health and pharmacy Sum</i>	<i>19,338</i>	<i>14,986</i>	<i>1526</i>	<i>1169</i>	<i>81</i>
Doctors and other medical occupations	14,359	11,286	1,110	855	55
Dentists	2,935	2,049	210	149	11
Pharmacists	2,044	1,651	206	165	15
<i>Social protection occupations</i>	<i>355</i>	<i>307</i>	<i>25</i>	<i>17</i>	<i>6</i>

Source: Republic of Serbia National Employment Service - NES (2021)¹⁷

While in January 2017, the National Employment Service¹⁸ has registered 24,376 unemployed¹⁹ health workers among which 77.5% are females, in 2019, that number is 19,338 among which 77.5% are females again (table 5). As in 2017, in 2019 also the majority of the unemployed persons were medical doctors, nurses and health technicians (18,455 and 14,359, respectively), dentists (3,483 and 2,049, respectively) and pharmacists (2,438 and 2,049, respectively). The number of newly registered also decreased. In 2017, there are 1,466 newly registered or 6% of all unemployed health workers. While in 2019, there were 1,110 newly registered or 8% of all unemployed health workers. While in 2017, there were 156 requests for job matching services in vacancy filling and 3,999 posts filled, in 2019, the requests for job matching services in

¹⁷ Republic of Serbia National Employment Service - NES (2021) Unemployment and employment in the Republic of Serbia. Table 4. Unemployment, requests for job matching services in vacancy, filling by occupations groups and sex, during January of 2021. Monthly Statistic Bulletin January 2021; 221: 16.

http://www.nsz.gov.rs/live/digitalAssets/15/15708_bilten_nsz_januar_2021.pdf

¹⁸ Republic of Serbia National Employment Service - NES (2017) Unemployment and employment in the Republic of Serbia. Table 4 Unemployment, requests for job matching services in vacancy, filling by occupations groups and sex, during January of 2017. Monthly Statistic Bulletin January 2017; 173: 13.

¹⁹ Law on Employment and Unemployment Insurance, Article 2, "The Official Gazette of the Republic of Serbia" no. 36/09: "Unemployed person is a person between 15 years of age and the age eligible for retirement (or 65 years of age at the most), capable and immediately ready to work, who has not entered into an employment contract or exercised the right to work in any other way, who is in the unemployment register and who is looking for a job actively".

vacancy filling declined by half, i.e., to 81. **In conclusion, a small part of the vacancies was filled through the National Employment Service, which indicates the potential activity of other employment mechanisms. The significant gap between the supply and demand of the health workforce is worrying, as the number of unemployed health workers surmounts the absorbing capacity of the public sector. The potential supply of health workers in 2019 (unemployed and newly registered) corresponds to 20% of the staff in the public sector. The main features of the labour market are high unemployment of health workers with intermediate and high education, and worryingly high long-term and youth unemployment - above 50%.**

- Calculate the need = numbers of health workers needed to ensure Universal Health Coverage (differentiated to different cadres if this is available) (include benchmark indicators; 4,45 general²⁰; differentiated per cadre if data are available).

According to the Institute of Public Health of Serbia, with the stock of health workers in the public sector –the Network Plan of the health care institution in the public sector, Serbia provides health workforce coverage with 2.8 physicians and 5.6 nurses per 1000 population in 2019 (table 6), which is sufficient to ensure Universal Health Coverage (benchmark indicators of 4.45 physicians and nurses²¹). There is a significant variation in the health workers density per 100, 000 population among districts, ranging from minimum of 186 physicians and 358 nurses (in 7. Sremski district) to maximum registered of 388 physicians (in 21. Nisavski district) and 696 nurses (in 16. Zajecarski district). The lowest registered number of general practitioners is 41 per 100,000 population in 25. Pcinjski district, while the highest is almost triple i.e., 73 in 23. Pirotski district. **District differences in the density of dentists, pharmacists and midwives also exists indicating the need to further analyze the patterns of health workers mobility²² and emigration.**

Table 6. Distribution of health workers (per 100,000) across 25 districts of the Republic of Serbia and at the national level in 2019

National/ district	Physicians	General practitioners	Dentists	Pharmacists	Nurses	Midwives
Republic of Serbia	286	53	23	22	564	35
1 Severnobački	214	48	21	22	455	43
2 Srednjobanatski	228	62	22	10	520	18

²⁰ <https://apps.who.int/iris/bitstream/handle/10665/250330/9789241511407-?sequence=1>

²¹ <https://apps.who.int/iris/bitstream/handle/10665/250330/9789241511407-?sequence=1>

²²

3	Severnobanatski	250	46	20	4	559	22
4	Juznobanatski	220	51	11	9	545	21
5	Zapadnobacki	217	48	22	5	440	23
6	Juznobacki	307	46	27	10	570	38
7	Sremski	186	52	21	14	358	23
8	Beograd	351	49	20	36	684	39
9	Macvanski	227	54	22	17	472	22
10	Kolubarski	245	57	38	18	527	10
11	Podunavski	229	46	23	21	456	36
12	Branicevski	255	59	19	34	573	31
13	Sumadijski	333	57	23	20	584	39
14	Pomoravski	293	54	22	17	594	28
15	Borski	342	66	22	4	678	83
16	Zajecarski	346	67	21	45	696	43
17	Zlatiborski	256	69	22	27	518	46
18	Moravicki	221	48	21	25	449	41
19	Raski	255	46	26	22	495	33
20	Rasinski	222	51	22	20	457	27
21	Nisavski	388	62	31	29	647	38
22	Toplicki	257	65	32	23	619	17
23	Pirotski	288	73	22	27	573	44
24	Jablanicki	256	64	25	2	488	38
25	Pcinjski	259	41	32	11	467	39

In addition to data presented in table 6, the Boxplot 1 with indicators shows that density of physicians and nurses at national level correspond well to averages of respective 80% of densities at districts level of the Republic of Serbia in 2019. This is even more obvious if we analyze national densities fitness to the 90% of all district values (Boxplot 2), since the density ranges are wider for some health workforce categories such as midwives and pharmacists. **In summary, due to significant variations in the district coverage of these and other health workers per 100,000 population, and related inequities in health care services access (Santric-Milicevic et al., 2015)²³ it is not recommended to use national annual average density data as benchmarks for equitable distribution of health workforce, and they might be misleading in the decision making for resource allocation and priorities setting in development of health care services.**

²³ Santric-Milicevic M, Vasic M, Edwards M (2015). Mapping the governance of human resources for health in Serbia. *Health Pol.*119:1613–1620.

Figure 1. District and national indicators of health workers densities in Serbia in 2019
 (green represents 80% of district values and national densities are marked with ^)

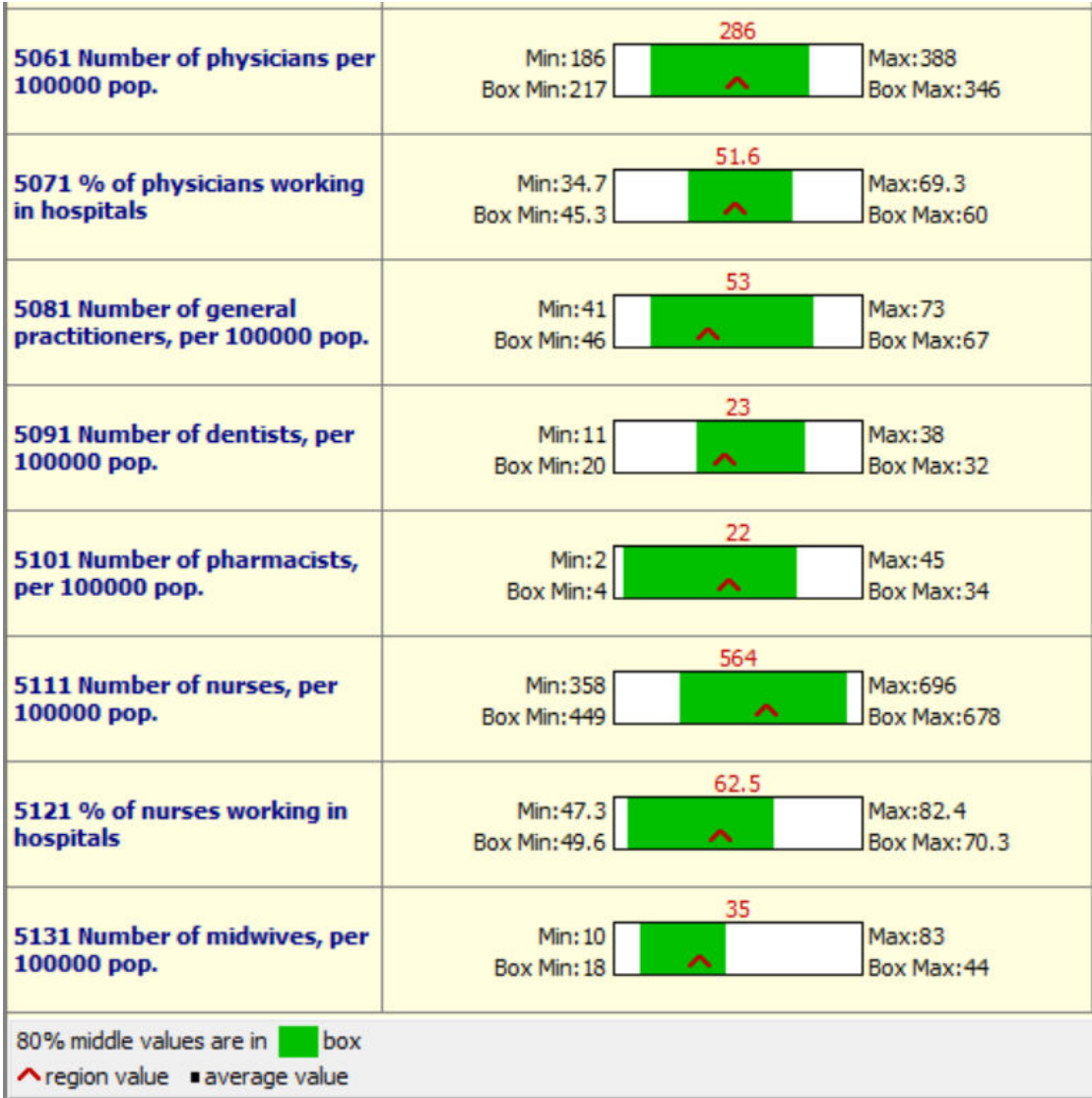
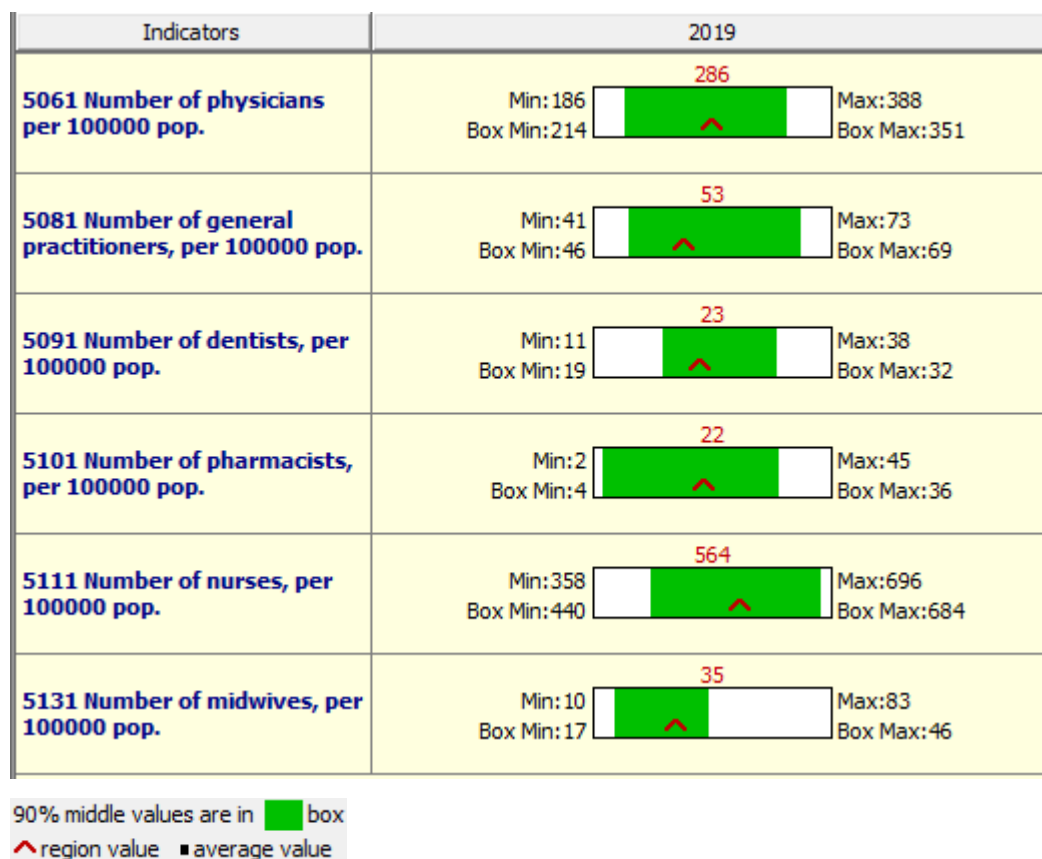


Figure 2. District and national indicators of health workers densities in Serbia in 2019 (green represents 90% of district values and national densities are marked with ^)



- Calculate supply = number of graduates in key cadres. If possible, reflect on trends in this supply: popularity of professions in health care/cure/prevention; other explanations of trends (if known).

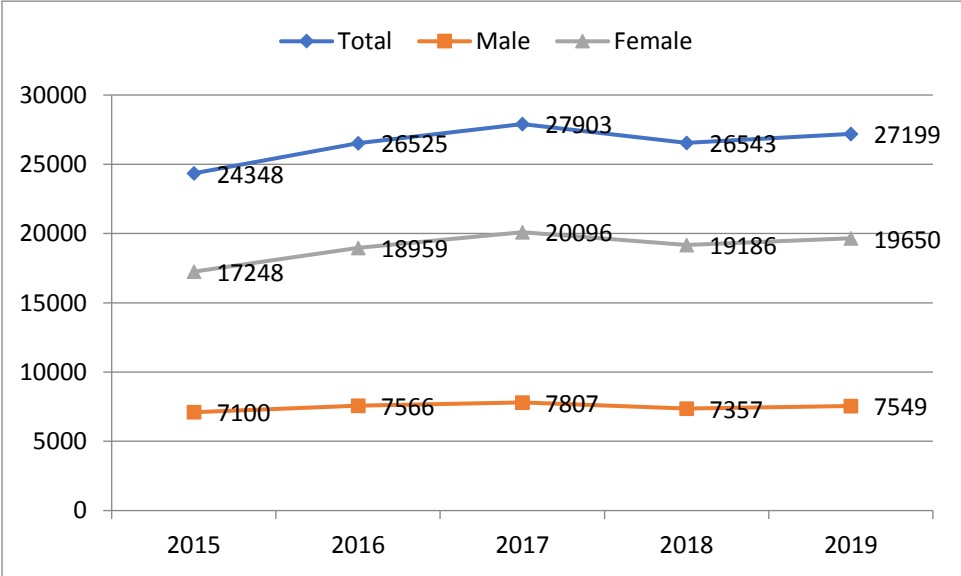
The information on HRH education at national level is scattered across numerous departments of the Ministry for Education, Science and Technological Development²⁴. Majority of information is likely still available only at institutional level, although some information is collated and presented by the Republic Statistical Office of Serbia (RSOS) such as enrolments at all study years, the number of graduates and teachers by the level of education, region and type of field of education. However, some data (that is cost of studies, drop out data for HRH

²⁴ According to the website information, this Ministry has 11 organisational units, and operates in accordance with over 230 regulations out of which there are 26 different laws. (<http://www.mpn.gov.rs/>). There are new laws, to be implemented as of 7th of October 2017- Law on basics of the educational system and the Law on high education (http://paragraf.rs/savetovanja_strane/primena_zakona_o_osnovama_sistema_obrazovanja_i_vaspitanja_i_zakona_o_viso_kom_obrazovanju.html)

students, the number of enrolments per study years, the average length of studying, the number of graduates entering the employment, etc) should be researched across 64 educational institutions and 16 research institutions²⁵. The lack of data creates difficulties for undertaking a comprehensive impact analysis of investment on HRH education including the rule that number of students may increase 20% of the previous year²⁶.

In the 2020 calendar year in the Republic of Serbia, 41 331 students graduated at all levels of studies and at all higher education institutions. Of the total number of graduated students, 16 488, i.e. 39.9% are men and 24 843, i.e. 60.1%, are women. The figure 3 shows the number of students in health and welfare. During the last five years, the peak of enrollment was registered in 2017, since when it has been decreasing.

Figure 3. Number of students enrolled in health and welfare, by gender



Secondary medical education is regulated as the 4-year programme producing over 6000 graduates every year. Secondary medical education - high schools are gymnasium (general and specialized), vocational school or mixed type of school (gymnasium and professional). Over 5000 students enroll annually in 35 schools for secondary education in the field of nursing, the majority of which are public. About 2.6 more enrolments than graduates were throughout the five-year period (from 2011/2016 to 2015/2016 school year) (Table 7). At state owned faculties

²⁵ Counts for September 2017.

²⁶ Article 99 of the Law on High Education (Off. Gazette RS 88/2017)

there were about 6.5 times more freshman than medical graduates, 5.9 times more at dentistry graduates, 4.5 more at pharmacy graduates and 3.3 times nurses graduates. In the private sector, there were 4.7 times more entrants than graduates at dental faculties, and 3.5 times more at private medical colleges. The number of graduates is also rising throughout the period with an average total rate of 2.1%. At medical faculties, the increasing trend of enrolments was interrupted in 2011/2012, with a drop by 1.7% between 2013/2014 and 2014/2015 school-year. The obvious decrease is recorded at higher and secondary medical education for nurses (an average rate of -3.0%) and health technicians (an average rate of -1.5%), while the number of midwives is rising. The number of graduates is also rising throughout the period with an average total rate of 1.8% (the highest graduation rate among pharmacists and nurses, and the lowest among midwives and dentists). **It would be important to understand the motives and career plans of students enrolling in health science studies despite the large number of unemployed young professionals in the country.**

Table 7. Number of entrants and graduates by year in Serbia (Source: Republic Statistical Office of Serbia)²⁷

	Number of entrants					Number of graduates				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Physicians	10216	11276	11664	11470	11585	1718	1778	1756	1561	1868
Dentists*	2315	2449	2579	2730	2941	542	473	385	392	532
Pharmacists	3391	3533	3477	3825	3742	688	901	848	801	800
Nurses **	3267	3263	3219	2890	2879	2818	3102	3163	3369	3220
Midwives	267	299	350	289	359	318	295	293	255	293
Health technicians***	2824	2699	2731	2732	2654	2494	2551	2736	2649	2642
Total	22280	23519	24020	23936	24160	8578	9100	9181	9027	9355

*Dentists at public and private faculties;

** Nurses include nurse educators, college and vocational nurses and nurse technicians and pediatric nurses;

*** Health technicians include sanitary-ecological technician, physiotherapeutic technicians, cosmetic technician, dental nurse and dental technician, laboratory technician, pharmacy technicians, fitness and other technicians.

²⁷ Santric Milicevic M. HRH assessment in Serbia (2017). WHO Project Report. Internal document.

- Look for data on surpluses and shortages in different cadres. Unemployment data are a proxy indicator of absorption capacity.

For the last 20 years, the Republic of Serbia has been facing all types of migration: external (going abroad), internal (from village to city), forced (refugees, internally displaced persons and returnees based on readmission agreements) and voluntary, legal and labor migration.

According to the data from the records of the National Employment Service, in October 2019, 15,000 health workers were waiting for a job. Out of that, 10,100 have the 4th degree, of which the most are nurses (4484), medical technicians (1640), physiotherapists (1036), and the least are X-ray technicians (10), beauticians and sanitary-ecological nurses (91). With the 6th degree, there were a total of 2170 unemployed at the bureau, mostly occupational therapists (465), professional nurses (402) and physiotherapists (292). With a 7.1 degree, a total of 2660 health workers are waiting for a job, of which the most numerous are doctors of medicine (2323), sanitary and environmental engineers (63) and therapists (35). While with 7.2 degrees of education, 96 health workers are waiting for a job, mostly specialists in physical medicine (10), internal medicine (9) and doctors of medicine (9). **High unemployment indicates problems with strategic planning of the health personnel.**

Serbia does not have an official health workforce strategy. **The current health workforce policy (Official Gazette, 2015)²⁸ aims to maintain the present staffing levels in the health system, while reversing the shortage of some specialists by allowing voluntary (self-financed) specializations (Ministry of Health, 2015)²⁹ as well as offering permanent jobs for the best graduates of medical faculties. However, there is no official health workforce strategy or Master Plan. There is evidence of high intention to work abroad, although information on workforce migration trends is lacking.**

The fact that there is no Master Plan, nor strategy for HRH development in Serbia can be partly explained by the fact that there is no centralised information system that functions for processing and management of HRH data, and partly due to a shortage of competent and formally qualified managers in the health system and for management of health institutions. There is no scientific study exploring the size and effects of ghost workers in health sector,

²⁸

²⁹

however, that cannot mean health sector does not suffer from this kind of problem as some unofficial information indicate operational problems due to staff shortage in reality as opposed to the staffing sufficiency in staffing annual plans and in the payroll.

The surplus of nonmedical workers and uneven geographical HRH distribution still exist, and quality of care needs strengthening. Some of the challenges for Serbian health system are also lack of fair business practices, transparency, and high unemployment of qualified nurses and physicians.³⁰

As of 2016, Ministry of Health decided that shortage of specialists are present in certain fields and that a worker can voluntary self-finance specialization after completing his apprenticeship and pass the professional exam. These are the following: Abdominal surgery; Vascular surgery; Breast surgery; Children's surgery; Neurosurgery; Cardiosurgery; Orthopedic surgery with traumatology; Plastic, reconstructive and aesthetic surgery; Anesthesiology, Reanimatology and intensive therapy; Pediatrics; Gynecology and obstetrics; Dermatovenerology; Radiology; Radiation oncology; Otorhinolaryngology; Urology; Ophthalmology; Infectious medicine; General medicine; Nuclear medicine; Pathology; Medical microbiology; Clinical pharmacology; Immunology; Transfusion medicine; Epidemiology; Social medicine; Sports medicine, Internal oncology and Psychiatry. **An action to prevent a shortage of necessary health workforce should be formal and evidence based, therefore it requires setting up a regulative framework for intersectorial and international cooperation for HRH mobility for which there is a need to establish solid information base on health workers' migration.**

- Trends over time in surpluses and shortages: looking back 10-15 years (according to what is available) and looking forward 15-20 years, e.g. taking into account demographical developments, retirements, trends and forecasts in economically active population (according to what is available in terms of forecasts).

The last available comprehensive and overall health workforce forecasts were done by 2017³¹. In this study, the main finding was the significant mismatch between the forecasted supply of physicians and available posts. This mismatch should be used as a pointer to decision-making on intake planning for the medical schools in Serbia. Serbia needs an inter-sector strategy for

³⁰ Santric Milicevic et al. Mapping the governance of human resources for health in Serbia. *Health Policy* 2015; 119:1613-1620.

³¹ Santric-Milicevic, M., Vasic, V. & Marinkovic, J. Physician and nurse supply in Serbia using time-series data. *Hum Resour Health* 11, 27 (2013). <https://doi.org/10.1186/1478-4491-11-27>.

HRH development that is more coherent with healthcare objectives and more accountable in terms of professional mobility. The use of a modeling approach can help project future supply of healthcare practitioners in Serbia and help understand the balance of supply with need. The relative dimension, not the specific accuracy of the continued upward trend in numbers of physicians and nurses is important for HRH stakeholders.

Additional forecasting study were done for public health workers³². Mid and long-term public health specialists' supply and demand estimations out to 2025 were developed based on national staffing standards and regional distribution of the workforce in public health institutes of Serbia. By 2025, the supply of specialists, taking into account attrition rate of -1% reaches the staffing standard. However, a slight increase in attrition rates has the impact of revealing supply shortage risks. Demand side projections show that public health institutes require an annual input of 10 specialists or 2.1% annual growth rate in order for the four public health fields to achieve a headcount of 487 by 2025 as well as counteract workforce attrition rates. Shortage and poor distribution of public health specialists underline the urgent need for workforce recruitment and retention in public health institutes in order to ensure the coordination, management, surveillance and provision of essential public health services over the next decade. In summary, **though the public sector is the major employer of health workers in Serbia, there are no estimates about the total number of full-time equivalent staff or full data on the size of the workforce (practicing, active (that is, licensed for practice may not be employed, therefore not practicing), etc.) and their distribution (age, sex, urban/rural level and district) in private and other sectors than the public health care sector. Valid and complete information on the trends in workforce migration is not available, although research provides evidence on high intention to emigrate for work abroad (Šantrić-Milicevic et al., 2014, 2015b; Gacevic et al., 2018).**

- Recommended data sources:
 - National Health Workforce Accounts (you can register and access data here: <https://apps.who.int/nhwportal/>)
 - OECD has good data ([stats.OECD.org](https://stats.oecd.org) and [data.OECD.org](https://data.oecd.org)), but they don't seem to have data on Serbia and Romania
 - World Bank?

³² Santric Milicevic M, Vasic M, Edwards M, Sanchez C, Fellows J. Strengthening the public health workforce: An estimation of the long-term requirements for public health specialists in Serbia. Health Policy. 2018 Jun;122(6):674-680. doi: 10.1016/j.healthpol.2018.03.012.

- Eurostat (not for Serbia?)
- latest HiT (Health in transition) / [Health Systems Reviews](#)
- Health Systems And Policy Monitor pages of the Observatory: <https://www.hspm.org/mainpage.aspx>
- and of course national data sources: MOH, MOH executing agencies, Research institutes.

Data and information on HW migration and mobility

(FYI: For definitions on health worker migration and mobility, see Annexe 1)

- Numbers of health workers leaving the country (plus reasons / push factors). Data and trends. Disaggregated for professions / cadres. And for gender.

According to the study of Santric Milicevic and Vasic³³, the share of health workers with intention to keep their job in public healthcare institutions is decreasing since 2006 (in 2015-2018: <30%, in 2009-2014: >30, while in 2006 -2008: >50%). The same study indicates that a share of those with intention to work abroad is increasing (in 2015: 15%, while in 2018: 17.2%). Potential levers are mostly nurses, health associates, and physicians; employees from hospital sector, and the major reasons for emigration were poor management and work conditions. Remedy actions should be strengthening human resource management capacity in the public health care sector, including the improvement of salaries and incentives schemes, equitable workforce availability and distribution, adequate personal and work equipment, less administrative workload, better organization and interpersonal relations. In conclusion, although measures to retain workers are declared to be in the focus of health authorities, the majority of health professionals in public health institutions are neutral toward measures for improving the job satisfaction over the last ten years, while the share of those unsatisfied with job in public healthcare sector is rising. Since no significant resolution has been seen so far regarding these issues, health workers perceive commenting on their emigration is useless.

In addition, from 2016 to 2019 a total of 374 graduates of medicine in Belgrade have issued personalized curriculums that include detailed plan and program of studies for the purpose of employment out of Serbia³⁴. That study showed that a high number of medical graduates

³³ Santric Milicevi M, Vasic M. A human side of migration: Serbian doctors and nurses. How to make a future health workforce happen? Policy, practice and people EUPHA Health Workforce Research (HWR) Section Mid-term Conference, Cluj-Napoca, Romania, 18-19 June 2020. Book of Abstract https://drive.google.com/file/d/1Jf-WFDUABF7GfnZYOPaFDw6zBrr_dPf7/view?pli=1

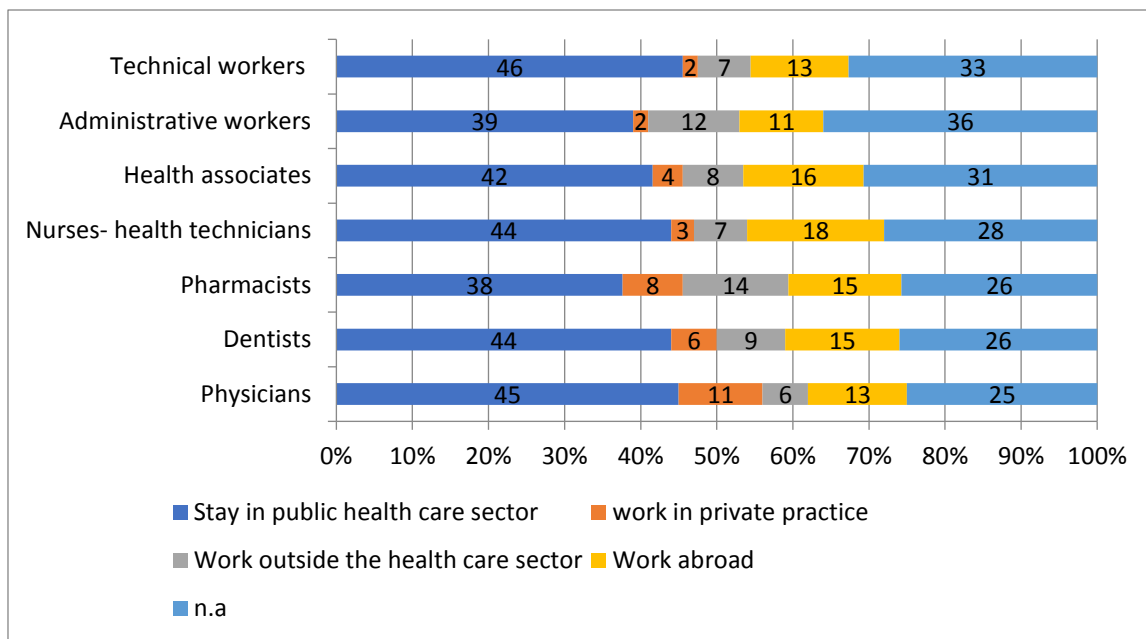
³⁴ Buljugic B. Brain drain of graduate students of medicine at the Faculty of Medicine University of Belgrade. How to make a future health workforce happen? Policy, practice and people EUPHA Health Workforce Research (HWR) Section Mid-term Conference, Cluj-Napoca, Romania, 18-19 June 2020. Book of Abstract <https://drive.google.com/file/d/1ACboTyfhCHKWK8Vg6QQQ43PLbc9tSno0/view>

without employment in Serbia prepare for official submission of documents in other countries for employment. The majority of graduates either ask for personalized curriculum for the purpose of recognition of foreign specialization in Serbia or for the purpose of the employment abroad (332 medical graduates were in the process of submitting the documents for “approbation” status in Germany, 6 for Norway, 3 for Great Britain, 9 for Croatia, 18 for Montenegro, 4 for Slovenia, 2 for Switzerland). **A question of sustainability of the supply of quality medical doctors rises as one of the main issues with healthcare system in Serbia. This kind of surveys could be used for further action plans of creating sustainable health workforce and work environment in order to retain medical graduates in the country.**

In the 2019 job satisfaction survey in state health institutions of the Republic of Serbia ³⁵ 27.1% of all surveyed employees reported an intent to leave the job in the next five years (7.5% of all surveyed employees would look for jobs outside the health care system, 4.6% would go to work in the private health sector, and 15% said they intended to go abroad). In relation to the current occupation in state health care institution, 12.8% of all physicians, 18% of nurses and health technicians, 15.6% of health associates, 14.8% of dentists, and 14.6% pharmacists intend to go abroad (Figure 1).

Figure 2. Employees’ next 5-year plan, by profile, the Network of public health care institutions of Serbia, 2019.

³⁵ IPHS (2020) Analysis of employee satisfaction survey in state health institutions of the Republic of Serbia 2019. Belgrade: IPHS.



- Data and information on causes, mechanisms and consequences of health workforce mobility: please provide an overview of existing literature (white and grey), as well as your professional insights, on the causes (why do they leave/come), mechanisms (how do they migrate/ become mobile) and consequences of health workforce mobility (positive, neutral and negative consequences for the case country). (please distinguish the published/ evidence based information from expert opinions). Gender-specific information would be welcome.

HRH mobility in Serbia is not monitored in such way to provide precise core indicators on annual net in-migration and out-migration of health professionals. The country has not implemented the WHO Global Code of Practice on the International Recruitment of Health Personnel that requires establishment of a national authority for organising and recording the mobility of healthcare workers. However, there are other sources of information such as research studies, or health professional records and employment office, none of which is providing comprehensive or reliable information.

High intention to work abroad was estimated in a study among students: 81% of 931 of medical students (84% of the fifth-year students and 78% of the first-year students)³⁶ and in a sample of 719 nurses graduates, 70% college nurses and 66% specialist nurses³⁷.

³⁶ Santric Milicevic M et al. First and fifth-year medical students' intention for emigration and practice abroad: A case study of Serbia. *Health Policy* 2014; 118:173–183.

³⁷ Santric Milicevic M et al. Determinants of intention to work abroad of college and specialist nursing graduates in Serbia. *Nurse Education Today* 2015; 35: 590–596.

Health professional chambers also have data on potential leavers from the health sector measured by the number of persons requesting Certificates of good standing. A health professional requires a *Certificates of Good Standing* in case of trying to work or continue professional education abroad. This information can be retrieved from health professional chambers. The Chamber of nurses and health technicians as well as Chamber of pharmacists do not have evidences of the workers' migration,

Health workforce mobility in Serbia is not monitored in such a way to provide a precise set of indicators on annual net inflow and outflow of health professionals. There is no professional authority that organizes and records the mobility of health workers in Serbia. The country has not implemented the 2010 WHO Global Code of Practice on the International Recruitment of Health Personnel (WHO, 2010a) that requires the establishment of a national authority for organizing and recording the mobility of health care workers. However, there are other sources of information such as research studies, or health professional records and employment offices, none of which is providing comprehensive or reliable information.

With regard to immigration, many foreign students are studying in Serbia, some have diplomas which are recognized in Serbia and have the same rights as all other health workers. It is hard to tell the exact number of immigrants who practice in the country, because they need residence in Serbia if they want to establish the practice. Accordingly, there were 7 dentists who have immigrated and required the temporary license in Serbia (table 8).

Table 8: Indicators of migration of HRH in Serbia in 2015³⁸

Migration	Indicator	The Republic of Serbia
net in-migration	% of licensed foreign health professionals	From 2009 to 2016: Less than 1% of dentists (temporary license)
net out-migration	% of licensed professionals that were asking for <i>Certificates of Good Standing</i> from their health professional chambers	From 2009 to 2016:1.2% of licensed biochemists From 2016 to 2017:approx. 5-7% dentists

³⁸ Santric Milicevic M (2017) Assessment of HRH in Serbia. The WHO funded project report.

The data on flow of HRH in and out of the health system are missing, or are imprecise, implicit and unrefined. That description stands for both sub-national and international HRH mobility. Such imperfect data are indicating that although in the period 2009–2016 about 14% of medical doctor and 17% of nurses had intention to work abroad, less than 5% of all licensed health workers (approximately 3% of physicians, 1.2% of biochemists, 5% of dentists, no data for other staff categories) had taken steps for outmigration, while the immigration of health workers is even smaller (1% dentists, no available data for other categories). The Chamber of nurses, for example does not have data on migration since its members do not need to have Certificate of Good Standing for work abroad.

The high intention of new generations to work abroad (over 80% medical students and over 70% of nursing students), as well as experiences of other countries (had similar outmigration picture in the period of pre EU accession period and suffered from serious staff shortages in the post EU accession period) are calling for the attention of the Serbian HRH policy stakeholders to undertake immediate consideration of strategic and tactic action in order to prevent similar scenarios and worsen the current considerable inequalities in staff availability and accessibility, and consequently further deteriorate serious health and demographic situation in Serbia. An action to prevent a shortage of necessary health workforce should be formal and evidence based, therefore it requires setting up a regulative framework for intersectorial and international cooperation for HRH mobility for which there is a need to establish solid information base on health workers' migration.

- Possible implications of COVID-19 pandemic on current and future health worker migration and mobility. Gender-specific information would be welcome.

An expert opinion is that the COVID-19 pandemic has only increased the dissatisfaction among healthcare workers regarding their working conditions and pay. Many healthcare workers have quit their job in public health institutions to continue working full time in private health institutions. This has left a gap in skilled healthcare workers in public health institutions, and increased the workload on the remaining healthcare workers. These could be drivers of further health worker migration.

- Data and information sources³⁹:

³⁹ <https://www.oecd.org/health/recent-trends-in-international-migration-of-doctors-nurses-and-medical-students-5571ef48-en.htm>

- Eurostat
- OECD health workforce data and reports
 - https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_WFMI
 - <https://www.oecd-ilibrary.org/docserver/7ca8643e-en.pdf?expires=1625561072&id=id&accname=guest&checksum=3D895D824D1AFOBE28F3E3F98E541980>
 - https://www.oecd-ilibrary.org/social-issues-migration-health/international-migration-and-movement-of-nursing-personnel-to-and-within-oecd-countries-2000-to-2018_b286a957-en
- European Health Systems and Policies Observatory reports on HWF mobility (until about 2014)
- Other mobility / migration data collected from personal communications (e.g. recruitment agencies, associations of migrant doctors/nurses, other stakeholders) (please indicate when this is personal communication, as opposed to unpublished data, and provide the source as much as possible.)

Relevant HRH initiatives

This includes policies, programmes, partnerships, and other initiatives to strengthen the health workforce in the context of existing health worker migration:

- High level description of governance for health workforce and HWF planning, development training, employment and management, as well as migration and mobility. Who is responsible for what when it comes to the country's health workforce (education, training, residencies, planning offices, needs prognosis, demographics, how capacities of schools are determined, overall governance mechanisms related to these...)

Higher education is based on the Bologna Declaration, which Serbia has signed and fully implemented, including mutual recognition of academic degrees. Within the preparation for the EU accession, the Ministry of Health, in cooperation with educational institutions and the Ministry responsible for education, recognizes professional qualifications according to Directive 2005/36/EC and 2013/55/EU on the recognition of professional qualifications and Regulation (EU) No. 1024/2012 on administrative cooperation through the Internal Market Information System (European Parliament and Council, 2013).

After primary school (8 years), and secondary school, with 4-year programmes (gymnasiums and vocational medical schools), there are three stages in the tertiary training of health professionals: undergraduate medical education (at college or university), postgraduate medical education (specialist, sub-specialist, Master's or doctoral studies) and continual professional education (CPD). The duration of secondary (middle) medical education for a nurse, midwife and health technician qualification is 4 years. Studies at the college last 2 years (120 credits ECTS equivalents); 3 years – specialist studies (180 credits ECTS equivalents) – for a title of higher nurse, midwife and health technician.

At the national level, the Ministry of Health develops a plan of the number of health professionals in health institutions based on the Network Plan (Official Gazette, 2006b), which comprises the employees covered by the individual health plans of health institutions. The plan of continuing professional development of personnel includes (as specified in the 2019 Health Care Law): the programme of professional training of health workers and health care associates; the number of specializations and subspecializations that are approved on an annual basis; criteria and closer conditions for approving specializations and subspecializations; and other issues of relevance for the professional development of health workers and health care associates.

An internship for health workers with a university degree lasts 12 months, except for medical doctors whose basic integrated studies of medicine for a period of 6 years in a faculty of medicine require an internship which lasts 6 months. The next step is the registration within the appropriate Chamber, which issues licenses and holds an electronic database of all licensed health workers.

Continuing education accredited by the Health Council of Serbia is a condition for periodic re-licensing (each fifth year). According to the 2019 Health Care Law, each state and private health institution is responsible for providing favorable circumstances for continuing the professional development of their health workers, including specialization, sub-specialization and continuing education, based on the institutional plan developed by the Professional Council.

- [A brief list of key problems/ challenges in terms of planning, development, training, employment and management of human resources for health.](#)

Serbia does not have an official health workforce strategy. The current health workforce policy (Official Gazette, 2015b) aims to maintain the present staffing levels in the health system, while reversing the shortage of some specialists by allowing voluntary (self-financed) specializations (Ministry of Health, 2015) as well as offering permanent jobs for the best graduates of medical faculties. However, there is no official health workforce strategy. Therefore, it would be relevant to assess and understand the HWs stakeholders' motives and roles towards effective recruitment and retention strategies need to be strengthen.

The HRH situation in Serbia is complex, regulated with many legislations, regulations, strategies, and programmes belonging to health and other sectors and such fragmentation does

not provide sufficiently clear governance in terms what are common goals and objectives regarding health workforce, i.e. what HRH capacity and quality Serbia needs for the near future (by 2025) or in the long-term (by 2030). As a common strategic goal for HRH management and development is that a country ensures sufficient capacities of the health workforce that is “fit for practice and fit for purpose”⁴⁰ in order to provide universal health care for its residents. Whatever the strategic pathways are chosen eventually they will be bounded with macroeconomic, microeconomic and socio-demographic limits, and will likely encompass problems related to arrears, and insolvent capacity investments in the health care institutions. This journey starts with shifting the perspective of HRH governance from “health as a cost disease and a drag on the economy” (Baumol 1967, Hartwig, 2008 and 2011) toward perspective of the “health as a multiplier for inclusive economic grow” (Arcand et al., World Bank 2016).⁴¹ It is hard journey for countries such as Serbia which is under inevitable fiscal constraints for several years. Facing the first traces of overall improvement in terms of “investing in new health workforce employment opportunities may also add broader socio-economic value to the economy and contribute to the implementation for the 2030 Agenda for Sustainable Development”⁴².

Toward development of a national strategy for HRH, the Global Health Workforce Strategy provides objectives justifiable for the current situation in Serbia as well:

1. Optimize the existing workforce in pursuit of the Sustainable Development Goals and universal health care (e.g. education, employment, retention)
2. Anticipate future workforce requirements by 2030 and plan the necessary changes (e.g. a fit for purpose, needs-based workforce)
3. Strengthen individual and institutional capacity to manage HRH policy, planning and implementation (e.g. migration and regulation)
4. Strengthen the data, evidence and knowledge for cost-effective policy decisions (e.g. National Health Workforce Accounts)
 - Establishment of single accountable mechanism reporting to the HRH planning units of the MoH and government body; Defining datasets with disaggregated data that describes HRH availability, accessibility, acceptability and quality of in Serbia,

⁴⁰ Campbell J. Towards universal health coverage: a health workforce fit for purpose and practice. Bull World Health Organ 2013 Nov 1;91(11):887-8.

⁴¹ Campbell J, Why focus on skills mix and scopes of practice? OECD Workshop Towards a more efficient use of health human resources: What lessons can we learn from innovation across OECD countries? Paris, France 27 June 2016.

⁴² United Nations General Assembly resolution A/RES/70/183 December 2015

- which will be routinely collated and regularly reported;
- Capacity building of the national health and HRH planning intelligence.
 - Policies, programmes and partnerships to improve education, training, recruitment, retention, skills mix, etcetera.
 - official (government) policies and programmes, but also one-off initiatives by one (or a limited number of) actor(s) (e.g. partnerships between health facilities; health insurers; others)
 - as reflected or referenced in official documents, but grey literature (or stakeholder consultations) may also provide relevant information.

Creating a clear and coherent strategy for migration management, as well as legal and institutional frameworks for the implementation of migration policy, and effective coordination between bodies and institutions are prerequisites for successful migration management of health workers.⁴³

The existing institutional and policy framework for migration management is neither powerful nor effective enough to deal with the negative aspects of migration movements or to take advantage of the positive effects of international migration. The key problems of inefficient migration management policy are, among other things, the poor use of the economic, cultural and social capital of emigration.

In the Republic of Serbia, there is still no clearly defined plan and policy that would regulate, i.e., monitor the flow of health workers. In recent years, we are facing the departure of a large number of health workers, which may lead to a decrease in the quality of health services in some institutions, and at the same time reduce the transfer of knowledge and experience to younger generations. This trend, called "brain drain", represents a submerged cost in terms of losing investment in the development of health workers.

The highest legal act of the Republic of Serbia is the Constitution from 2006. Article 13 deals with the issue of protection of citizens and Serbs abroad in terms of protection of rights and interests abroad and development and improvement of relations of Serbs abroad with the home country.

Article 39 of the Constitution states that everyone has the right to move and inhabit the Republic of Serbia, to leave it and to return to it with legal restrictions in certain cases (criminal

⁴³International Organization for Migration. Migration Management and Reintegration of Returnees Project (2012): Fundamentals of Migration Management in the Republic of Serbia. Belgrade: International Organization for Migration.

proceedings, prevention of the spread of infectious diseases, defense of the RS, etc.).⁴⁴ Article 60 also states that “everyone has the right to respect for the dignity of his or her person at work, safe and healthy working conditions, necessary protection at work, limited working hours, daily and weekly rest, fair remuneration for work and legal protection in the event of termination of employment.”

The Law on Migration Management⁴⁵, adopted at the end of 2012, defines the concept of migration management through the following processes:

- data collection and analysis;
- establishment of a single information system;
- determining and proposing priorities and goals of migration policy;
- proposing and implementing migration policy measures;
- coordination of state administration bodies that perform tasks related to migration management.

This law determines the competencies of the Commissariat for Refugees and Migration that perform professional and other tasks related to migration management. The Commissariat cooperates with state administration bodies and, within its competences, collects, consolidates and analyzes data and indicators for migration management, also reports on immigration and emigration, develops and regularly updates the migration profile of the Republic of Serbia, establishes a single system for data collection and exchange, cooperates with members of the European Migration Network, conducts training and qualification of persons who will deal with migration management and other tasks. According to this law, the competent branch in migration management at the level of autonomous provincial and local self-government is the Migration Council. Its task is to monitor and report to the Commissariat on migration in the territory of the autonomous province or local self-government unit. **The most important segment in migration management is the establishment of a single system for collecting, analyzing, processing, organizing, exchanging, protecting and storing data necessary for efficient migration management. The goal of this unique system is to create a database that will be available to all state administration bodies that join this system.** All data contained in the unified system are to be determined by the Government of the Republic of Serbia, based on the proposal of the Commissariat. In accordance with the Law on Migration

⁴⁴ The Constitution of the Republic of Serbia. Off. Gazette RS 2006;98, article 13, 39 and 60.

⁴⁵ Law on Migration Management, Of. Gazette RS 2012:107, article 2.

Management, in February 2019, the Decree on determining the incentive program for the implementation of measures and activities necessary to achieve the established goals in the field of migration management in local self-government units for 2019 has passed⁴⁶. The program includes incentive measures and activities, the amount of funds for their implementation, as well as criteria for their distribution and participation of local governments in the program.

Measures and activities relate to the following:

1. Improving living conditions for internally displaced persons and internally displaced persons while in displacement;
2. Reintegration of returnees based on readmission agreements;
3. Promoting and strengthening tolerance towards migrants in local self-government units;
4. Strengthening the capacity of the local self-government unit to solve the problems of migrants;
5. Strengthening the capacity of the local self-government unit in whose territories there is an increased number of migrants.

Funds for the implementation of the program are provided by the Law on the Budget of the RS for 2019, and the distribution of funds is based on points in accordance with the criteria provided by this Decree.⁴⁷

- Their effects / impact (and key success factors / factors that contributed to failure). This can include societal factors such as attitudes towards (migrant) health workers; but also broader economic developments that have hindered the efforts to strengthen the health workforce. (The Mural provides additional inspiration on what to look at.)
 - In principle, we only use existing evaluation studies. If these are not available, we appreciate partners' comments and opinions (but the distinction between the two should be made clear in the report).
 - Another option is to ask relevant stakeholders, during the planned consultations, what their assessment is of the situation and the success (or lack thereof) of existing policies, programmes, partnerships, other initiatives.

Cross-cutting issue = gender-transformative elements in those actions, programmes, policies, partnerships.

In 2019, a total of 434 employees of the University Clinical Center of Serbis participated in the

⁴⁶ Decree on determining the incentive program for the implementation of measures and activities necessary to achieve the established goals in the field of migration management in local self-government units. Official Gazette 2019;10.

⁴⁷ the Law on the Budget of the RS for 2019.

study done for the Master thesis in health management.⁴⁸ The analysis of the answers in the questionnaire shows the knowledge, attitudes and experiences of managers and employees regarding the measures used to manage migration. Main finding showed that respondents do not know about the measures used to manage the migratory flows of health workers. The only measure they recognize is the salary, and most of them are not satisfied with the salary. The attitudes and experiences of the respondents showed that they value the support of the health institution the most, and possibility for dual health care practice, then, management, conditions for career development and challenging work, and less valued are training, recruitment, performance assessment, hygiene conditions. These factors are more important for doctors than for nurse technicians. The salary, image and benefits of this institution were scored as essential measures by the smallest number of respondents, and there is no difference in these responses between physicians and nurse technicians. In most respondents the desire to stay is positively correlated with good interpersonal relationships and with aspects that describe policy transparency and the reward system.

4.2. Analysis of political and legal frameworks

This refers to the desk review of national and EU political/ legal /programmatic frameworks regarding health workforce migration & mobility. This desk review could / should look at:

- Regulatory possibilities and impossibilities (drivers and obstacles) for health workforce migration & mobility, such as:
 - Immigration (or emigration) laws

The national regulatory framework for health workforce migration & mobility includes primarily all those laws and bylaws that regulate migration flows in the Republic of Serbia.⁴⁹ The Government of the Republic of Serbia has drafted a number of laws regulating population migrations, as follows:

⁴⁸ Vasilijevic N. Migration of health workers as a challenge for the management of health institutions. Master thesis of the master studies, Management in the Health Care System. Belgrade: Faculty of Medicine and Faculty of Organisational Sciences University of Belgrade, 2021.(mentor Prof dr M. Santric Milicevic)

⁴⁹ Government of RS (2012). Migration Profile of Serbia for 2010. Belgrade: International Organization for Migration RS;

1. Law on Migration Management ("Official Gazette of RS", No. 107/12),
2. Law on Diaspora and Serbs in the Region ("Official Gazette of RS", No. 88/09),
3. Law on Foreigners (" Official Gazette of RS ", No. 24/18 and 31/19),
4. Law on Border Control ("Official Gazette of RS", No. 24/18),
5. Law on Employment of Foreigners ("Official Gazette of RS", No. 128/14, 113/17, 50/18 and 31/19),
6. Labor Law (" Official Gazette of RS ", No. 95/18),
7. Law on Employment and Unemployment Insurance (" Official Gazette of RS ", No. 36/09, 88/10, 38/15, 113/17 - other law and 113/17),
8. Law on Conditions for Sending Employees to Temporary Work Abroad and on Their Protection ("Official Gazette of RS", No. 91/15 and 50/18),
9. Law on Residence and Stay of Citizens ("Official Gazette", No. 87/11),
10. Law on Primary Education and Upbringing (" Official Gazette ", No. 55 / 13,101 / 17, 27/18 - other law and 10/19), Law on Secondary Education and Upbringing (" Official Gazette of RS ", No. 55/13, 101/17, 27/18 - other law and 6/20) and
11. Law on Higher Education (" Official Gazette of RS ", No. 88/17, 27/18 - other. law, 73/18, 67/19 and 6/20).⁵⁰

Also, in March 2020, the Government of the Republic of Serbia drafted the Strategy on Economic Migration of the Republic of Serbia for the period 2021 - 2027 ("Official Gazette of the RS", No. 21 of March 6, 2020), which is the basis for regulating migration flows in the Republic of Serbia. Some of the strategies are:

- Migration Management Strategy - implies that the monitoring of external and internal migration movements must be planned and organized so that the implementation of activities can encourage regular and suppress irregular migration. This is the most important document that, together with the Action Plan from 2011, preceded the drafting of the Law on Migration Management.
- Strategy for combating irregular migration in the Republic of Serbia for the period from 2018 to 2020 with the accompanying Action Plan - implies establishing a clear policy in the field of combating irregular migration. Includes implementation plans in the rooms, defines strategic goals and roles and responsibilities of state entities in establishing a long-term system of combating irregular migration.

⁵⁰ Стратегија о економским миграцијама Републике Србије за период 2021-2027. године: 21/2020-45.

- The strategy of preserving and strengthening the relations between the home country and the diaspora and the home country and Serbs in the region aims to establish continuity in relations with the diaspora and Serbs in the region, which is in line with the Constitution of Serbia.
- Strategy for reintegration of returnees based on the Readmission Agreement - the main goal is efficient reception and socio-economic readmission of returnees to Serbia. This strategy also includes the establishment of a database on returnees.
- National Strategy for Youth for the period 2015 to 2025 and Action Plan for the period from 2018 to 2020. Which include questions about the life of young people in the Republic of Serbia (employment, acquisition of qualifications, youth culture, development of competencies, health and well-being, etc.)
- National Employment Strategy for the period 2011 - 2020 - With the basic goal of establishing an employment growth trend by the end of 2020 that will be efficient, stable, sustainable and in line with the *acquis communautaire*.
- Industry Development Strategy of the Republic of Serbia from 2011 to 2020 - defines the direction and goals of industrial development of the Republic of Serbia. This is a basic document that defines the priorities in the development of RS industry, as well as the way to achieve them.
- Strategy for support of young and medium enterprises, entrepreneurship and competitiveness from 2015 to 2020 with the aim of sustainable socio-economic development as well as successful economic development.
- Strategy of Agriculture and Rural Development of the Republic of Serbia for the period 2014-2024. year - the goal is to reduce the backwardness of development with competing countries as well as more efficient coping of agriculture with climate change. The priority is to achieve social, environmental and economic goals of sustainable agricultural development in the Republic of Serbia.
- Education Development Strategy in Serbia until 2020 - As the education system is the basis for the development of each individual, society and state, this strategy includes the purposes, goals, directions, instruments and mechanisms of education system development in the Republic of Serbia until 2020.
- Strategy for the development of official statistics in the Republic of Serbia in the period from 2016 to 2020 - the most important task of official statistics is to provide a clear and realistic picture of economic and social trends in the country and it is very important

to provide a reliable basis for decision making at various levels, business entity, citizens).

- Strategy of integrated border management in the Republic of Serbia 2017 - 2020 and the accompanying Action Plan aimed at preserving the security of citizens and eliminating threats to the state border, protection of public order and preservation of health and environment and finally facilitating international trade and protection of financial interests .
- The National Security Strategy is the highest strategic document which protects the national values and interests of the Republic of Serbia, which starts from preserving sovereignty and territorial integrity, military neutrality, care for the Serbian people outside the borders of the Republic of Serbia. This document expresses the readiness of the Republic of Serbia to participate in the processes of cooperation and joint action with other countries in building and improving national, regional and global security.
- In addition to these strategies, there are other strategic documents that refer to the overall social development, education, scientific and technological development, national security, population policy, spatial planning, environment, etc. Some of them are:
 - Public Health Strategy in the Republic of Serbia 2018 -2026. years,
 - National Strategy for Resolving the Issues of Refugees and Internally Displaced Persons for the period from 2015 to 2020,
 - Strategy for the development of the information society in the Republic of Serbia until 2020,
 - Strategy for Prevention and Suppression of Trafficking in Human Beings, Especially Women and Children and Protection of Victims 2017 - 2020,
 - Strategy for social inclusion of Roma men and women in the Republic of Serbia for the period from 2016 to 2025,
 - Strategy for sustainable survival and return to Kosovo and Metohija,
 - Birth achievement strategy.

Considering the complexity of the problems that can be caused by the migration of the health workers, it is concluded that it is necessary that there are international and national norms that are applied in the Republic of Serbia to regulate migratory flows and mobility of health workers. International norms refer to multilateral and bilateral agreements, which by their legal force are immediately behind the RS Constitution. Multilateral

agreements are laws and regulations that define relations between the Republic of Serbia and several countries, while bilateral agreements mostly refer to readmission.

- [Recognition of qualifications](#)

To work abroad, Serbian physicians are usually required to pass the recognition and equivalence assessment (nostrification) procedure whereas, according to the *acquis communautaire*, health professionals who are EU citizens may use a general system for the recognition of higher education diplomas (European Parliament and Council of the European Union, 2013). Most Serbian nursing categories are not recognized in the EU because they do not qualify for consideration under Directive 2005/36/EC (European Parliament and Council of the European Union, 2013) for several reasons, mostly because of the degree and competencies acquired during schooling as well as topics covered and number of practical hours during schooling. Since most Serbian nurses do not hold a higher education degree, they mostly migrate to work in nursing homes for older people and rehabilitation centres in Italy, the United Kingdom, Australia, Canada and Switzerland, though there is no data on this.

- [Contractual: Equal pay for equal work; provisions for permanent contracts, equal social protection \(e.g. portability of pension rights\)](#)
- [On-going and planned relevant major reforms](#)

Migration management is a multisectoral cooperation of several ministries, of which the following stand out:

- The Ministry of Labor, Employment, Veterans' Affairs and Social Affairs, which is obliged to perform the implementation of activities in the field of: safety and health at work; labor records; concluding agreements on sending employees to work abroad and sending employees to temporary work abroad; exercising and protecting the rights from the employment of workers temporarily employed abroad; international conventions in the field of work, safety and health at work; return on the basis of readmission; marriage; family planning and other activities.
- The Ministry of the Interior performs activities related to: control of border crossings as well as movement and stay in the border zone; security of state borders; international assistance and cooperation in the field of internal affairs; prevention of illegal migration, etc.
- The Ministry of Foreign Affairs performs activities related to the protection of the interests of the citizens of the Republic of Serbia abroad, collects and publishes documentation on the foreign policy of the Republic of Serbia, etc.

- The Ministry of Youth and Sports, which performs all tasks related to youth, ie the implementation of the national youth policy, giving advice to young people on employment, etc.
- The Ministry of Education, Science and Technological Development performs activities in the field of research, planning and development of all levels of education (preschool, primary, secondary and higher).
- Ministry of Economy related to the economy and economic development.
- The Ministry of Finance supervises the implementation of regulations in the field of trade in goods and services abroad.
- The Ministry of State Administration and Local Self-Government participates in the preparation of regulations on human and minority rights and creates conditions for access to and implementation of projects financed from European Union funds, donations and other forms of development power.
- Office for Kosovo and Metohija.
- The Commissariat for Refugees and Migration, which deals with activities that include the care, return and integration of refugees, proposes a program for foreigners who are staying illegally on the territory of the Republic of Serbia.
- The Republic Bureau of Statistics organizes and conducts surveys, collects, processes, statistically analyzes and publishes statistical survey data, etc.
- The Chamber of Commerce of Serbia, within which is the Business Council for the Diaspora, and whose basic task is to harmonize, formulate and protect the interests of its members. It regulates and defines measures of economic policy and cooperation of the economy with foreign countries.

The Coordination Body for Monitoring Economic Migration Flows in the RS, the Republic Employment Council, the Office for Human and Minority Rights, the Council for the Integration of Returnees under the Readmission Agreement, and the Commission for Monitoring the Visa-Free Travel Regime have also played a part in this multisectoral cooperation European Union, etc.

Given that this is a systemic problem, the cooperation of all mentioned ministries and the implementation of all these laws and strategies can greatly help regulate not only migratory flows but can also create conditions in all institutions, including health care institutions in the Republic of Serbia, for improvement of the job satisfaction. Whether it is an internal or external migration of the health personnel, it is clear that will induce change in the structural characteristics of the HRH. In both countries of origin and

countries of destination, HRH is changing due to demographic, economic, political and social consequences. Therefore, a well-developed special migration policy for health workers is necessary to reduce the negative effects of migration on health of the population.

- (Please add as necessary / relevant in your context)

As part of the global project of the International Organization for Migration (IOM) Inclusion of migration in national development strategies, a study on Migration and Development in Serbia was created. This project, which lasted for four years, from 2014 to 2018, was implemented in eight countries, and the implementation was completed in cooperation with the United Nations Development Program. The study on migration and development in Serbia has three main goals:

1. Provide a comprehensive view of decision makers on the mutual impact of migration on development priorities and national policy;
2. Provide support to policy institutions and measures to regulate migration flows;
3. Support the development of realistic and proactive migration recommendations.

The existing migration picture creates strong pressure on the institutions involved in organizing, financing, finding measures and implementing them in order to manage migratory flows.⁵¹

Good migration management should not imply limited movement of people, but should encourage conditions in which statistical registers for monitoring migration will be developed, the living standard of the population will increase and economic inequality between countries will be alleviated, as well as the positive effects of migration will be felt, both in countries of origin and in countries that are the final destinations of migrant health workers.⁵²

It can be concluded that the international mobility of health workers requires a policy that includes planning, policy implementation, building a database and studying the professional expectations and intentions of health workers. This must be a continuous process that can only be carried out with good political will and support and the efficient use of technology and information. Further analysis of possible implications of COVID-

⁵¹. Strategy on economic migration of the Republic of Serbia for the period 2021-2027. Off. Gazette RS 21 / 2020-45.

⁵² Bobic, M, Babovic, M. International migrations in Serbia - state and policies. Sociology 2013; 50 (2): 209-228.

19 pandemic on current and future health worker migration and mobility with gender-specific information would be welcome. In this analysis, relevant stakeholders should assess the success (or lack thereof) of existing policies, programmes, partnerships, other initiatives, as well as of key success factors / factors that contributed to failure.

Desk Research recommendations: The Republic of Serbia has legal regulations that are not focused only on migratory flows of health personnel, but are focused on migration of the population in general, and especially on refugees and displaced persons. It is necessary to design and implement specific measures to control the international recruitment of personnel and prevent the outflow of talented, quality, experienced and productive health workers from the country and the consequent threat to the quality of health services. It is necessary to plan, implement policy, build a database and study the professional expectations and intentions of health workers.

- [Bilateral \(inter-country / inter-government\) arrangements promoting health worker migration \(if they exist\)](#)

Special emphasis should be placed on the consequences of emigration in a larger number of persons of certain professions from the country, as health workers from the Republic of Serbia go to many European and non-European countries. As early as 1988, an Agreement on Separation with Germany was concluded between the SFRY and Germany, on the basis of which many, even health workers, went to Germany. This agreement was renewed in 2001 after the freeze in 1991. In 2013, an agreement on mediation and temporary employment of Serbian health workers in Germany was also concluded between the National Employment Service of RS and the German Federal Labor Agency in Nuremberg.⁵³

- [Level of awareness and/or implementation of the WHO Global Code of Practice on the International Recruitment of Health Personnel, HOSPEEM Code of Conduct on Cross-Border Recruitment \(others?\)](#)

WHO Global Code of Practice on the International Recruitment of Health Personnel is not implemented (see above).

- [Cross-cutting issue: every mention of gender-transformative ambitions and goals should be included as well.](#)
- [Others...?](#)

⁵³ Rašević M (2016). Migration and development in Serbia. Belgrade: International Organization for Migration. Pages 41-43.

4.3. Specific information needs identified during workshops

Specific issues that have been identified during workshops should be included here.

- *GTA Workshops: learn about GTA awareness experience from the partners, and to explore mobbing as a cause of mobility and migration.*
- *TOC workshop: Homework prepared for the TOC workshop (Annex 2.)*

Annexe 1: Definition of ‘mobility’ and ‘migration’

Definition of the terms ‘mobility’ and ‘migration’, as retrieved from the Definitions document in Teams (Source: <https://www.eurofound.europa.eu/topic/migration-and-mobility>) =

- Intra-EU **mobility**: The movement of EU nationals within the EU, whether within a Member State or between Member States, as mobile workers. Shorter-term movement includes the phenomena of posted workers and cross-border commuters.
- **Migration**: The movement of workers between Member States on a permanent or semi-permanent basis. This migration may be internal (EU) migration between Member States or third-country migration of workers from outside the EU.

Annex 2:

Pillars of Health

Country contextualization workshops - Serbia

Preparatory Work and Plan for Workshop on 26 August 2021

Homework content:

1. Serbia specific short-term, mid-term and long-term outcomes
2. Key paths, which areas/actions to focus on and identify critical paths
3. POH: Stakeholder analysis Serbia - Deeper/targeted stakeholder analysis
4. The pathways to change, and main strategies SERBIA (source country)
5. SERBIA: Data/ information need

1. Serbia specific short-term, mid-term and long-term outcomes

- **IMPACT:** For all people in Serbia there are conditions to equal access to a skilled, motivated and supported health worker as part of their human right to health and UHC
- **Mid-term outcome:** Civil society in Serbia is activated and has a meaningful dialogue with duty bearers at all levels, (there by influencing the way international recruitment is implemented and governed);
- **Short term outcome:** (Inter)national partners in Serbia are in place and engaged, and are actively engaged in evidence building and capacity building activities in Serbia

2. Key paths, which areas/actions to focus on and identify critical paths

- Relevant stakeholders are recognised to be meaningfully involved in developing and implementing policies and laws regarding effective recruitment strategies;(facilitating mutually beneficial health worker mobility that contributes to health equity);
 - There is an active civil society platform
 - civil societies and other relevant actors are engaged
- Focus country partners are fully engaged in the programme
- Relevant actors are able to provide and contribute to capacity building activities
- Relevant collaborators and country partners are able to provide and contribute to evidence building activities
- Capacity and means are available to stakeholders, thus:
 - Policy makers and other actors have:
 - knowledge of concrete and relevant policy options;
 - knowledge and skills to meaningfully contribute to dialogues, negotiations and decision-making
 - Policy-makers and other actors are convinced that:
 - health worker shortages and negative effects of health workforce mobility are priority Serbian issues to achieve UHC and people-centred (value-based) health care;
 - gender transformative policy changes are needed
- Focus country partners are able to engage other relevant collaborators , including those on EU level
- Stakeholder dialogue provide inputs for
 - Relevant actors are informed on the current evidence and encouraged to engage in discussions on health workforce mobility imbalances in the EU
 - Relevant collaborators and country partners have a clear picture of the political, social and economic context in Serbia and understand the power dynamics of different actors
 - readiness to develop and implement fair inter-country (In European region) bilateral agreements that respect freedom of movement of health workers in the EU and EEA, incl. their labour rights, while ensuring health equity.
 - high level political dialogues proposal of amendments/new policy and law:

- Serbian stakeholders have at disposal relevant means and tools to develop strategy and action programme to implement sustainable health workforce plans to retain and motivate their workforce to provide quality services in their own country positively influencing health workforce mobility dynamics (push & pull).
- Consensus is initiated to European level decision makers to implement multi-sectoral and regional EU approaches to strengthen a sustainable HWF in Serbia, facilitating mutually beneficial HW mobility that contributes to health equity in the region.

3. POH: Stakeholder analysis Serbia - Deeper/targeted stakeholder analysis

Name	HIGH to LOW (5th highest, 4 very high, 3 high, 2 low, 1 very low)						Stakeholders to be included in the next phases			
	PO WE R	INTE REST	LEADERS HIP	SUPP ORT	OPP OSE	ROLE	ACTIONS TO BE TAKEN	Most relevant	Mediu m	Less
Prime Minister / Government of the Republic of Serbia	5	1	should be leader	2		champions	need to lobby	yes		
Ministry of Health	5	5	should be leader	3		champions	need to lobby	yes		
Regional (Vojvodina) secretariat for Health	5	5		3		partnership	need to lobby	yes		
Ministry of administration and local administration	4	3	potential leader	3		partnership	need to lobby		yes	
Ministry of work, employment, veteran and social issues	4	2	potential leader	2		partnership	need to lobby	yes		
Serbian Medical Chamber	3	5	potential leader	5		partnership	need to lobby	yes		
Ministry of Finance	4	1			5	to info	need to lobby and consult			yes
Ombudsman	1	5		5		partnership	consult	yes		
Parliament of Serbia – Section of health and family	4	3		4		partnership	need to lobby		yes	
EU Rapporteur for Serbia Vladimir Bilcik	3	5		5		to inform	consult	yes		
Chair of the EP Delegation for Relations with Serbia Tanja Fajon	3	3		3		to inform	consult	yes		
World Health Organization EUROPE	4	5		5		partnership	consult	yes		
Medical universities	2	5		5		partnership	need to lobby		yes	

Chamber of health institutions of Serbia	2	5			partner ship	consult		yes	
Health Council of the Republic of Serbia	1	5		5	partner ship	consult		yes	
Youth organisations	1	5		5	partner ship	source of info / interview	yes		
Institute of Public Health of Serbia	2	1		5	partner ship	source of info / interview		yes	
Organisation of local municipalities	1	4		3	partner ship	need to lobby			yes
Society of health workers of Serbia	1	5		5	light info	interview			yes
Conference of academies and higher education institutions of Serbia	1	5		5	partner ship	source of info / interview			yes
Ministry of European Integration	4	2		2	partner ship	need to lobby	yes		
Ministry for the care of family and demography	3	3		1	source of info	source of info / interview		yes	
US AID	3	3		1	partner ship	check if oppose		yes	
National employment agency	1	2		5	source of info	consult			yes
Serbian Academy of Sciences and Arts Department of Medical Sciences	1	2		2	partner ship	source of info / interview			yes
Minister for the improvement of development of underdeveloped municipalities	3	3		2	partner ship	consult			yes
Chamber of Nurses of Serbia	2	5		5	partner ship	consult			yes
Chamber of stomatological doctors	1	5		2	source of info	consult			yes
Pharmaceutical Chamber of Serbia	1	3		3	source of info	consult			yes

Chamber of Biochemists	1	3		3		source of info	consult			yes
Recruitment agencies	3	5			3	source of info	act for mutual purpose			yes
Statistical office of Serbia	1	1		5		source of info	act for mutual purpose	yes		yes
Health Insurance Fund of the Republic of Serbia	1	0			3	light info	act for mutual purpose			yes
United Nations Development Programme	1	1		1		source of info	act for mutual purpose			yes
National Alliance for Local Economic Development (NALED)	2	5			5	gerillas	act for mutual purpose			yes
World Bank	3	4			1	gerillas	act for mutual purpose			yes
Union of patient organizations	2	4		3		partner ship	source of info / interview	yes		
Association of private health institutions	1	1		1		source of info	consult			yes

4. The pathways to change, and main strategies SERBIA (source country)

Why: Country specific GOALS AND RESULTS	What (e.g., Ranked activities)	Product	Who - key Stakeholders representatives		
	LONG TERM		Principal	Fundamental	Other
IMPACT: For all people in Serbia there are conditions to equal access to a skilled, motivated and supported health worker as part of their human right to health and UHC	(16) Comprehensive and strategic planning is needed for health workforce training, employment, development, (geographic) distribution and allocation	Strategy for HRD	Government	MoH, ME, MoL	Chambers, Hcservices
	19. Timely absorption of health workers, reprofiling and re-absorption.	Action plan HRHD	Government	MoH, ME, MoL	Chambers, Hcservices
	1. Return on investment for HW outflow (compensation mechanisms)	Action plan HRHD	Government	MoH, ME, MoL	Chambers, Hcservices
	MID TERM				
Mid-term outcome: Civil society in Serbia is activated and has a meaningful dialogue with duty bearers at all levels, (there by influencing the way international recruitment is implemented and governed);	MID TERM				
	3. Increased investment in national (public) health system	Strategy	Government		

	5. Increased investment in attractive working and living conditions, anywhere in the country	Activity in th AP	Government	MoF, MoH	
	4. Collaborative agreements with/ support from health associations / trade unions on HW outflow (skills partnerships)	Activity in th AP	Government	MoH	
	10. Health care level supported to mitigate outflow (EU level)	MoU, MoC	Government	EU/MoH	
	12.e-medicine/digital innovation	Strategy	Government	EU/MoH	Inter agents such as WB
	15. Increasing placement for foreign students (increase the fees?) Reasons: 1) increase standards of training. 2) revenues, additional income for clinical people.	Strategy	MoE		
	9. Cooperative agreement	Strategy	MoE		

	between training institutions and health workers;				
<p>Short term outcome: (Inter)national partners in Serbia are in place and engaged, and are actively engaged in evidence building and capacity building activities in Serbia</p>	SHORT TERM				
	11. Open discussion with stakeholders on ethical issues	Consensus on the need for further actions	All stakeholders	patients organisations	recruiting agencies
	13. Equity in access to healthcare: support for patient associations ;	Open dialog & policy brief	Civil society	patients organisations	recruiting agencies
	8. Raising the awareness on and full implementation of the WHO Code	A formal meeting on WHO CODE	MoH	HC institutions	recruiting agencies
	14. Support for voluntary (return) migration (policies)	Action plan for each stakeholder	recruiting agencies, health care institutions	MoH and medical chamber	MoF, MoL, Professional associations, Labor Unions
	6. Incentives for circular migration (e.g. higher status/position upon return, more responsibility, support for hiring, etc)	Policy Dialog	Medical Chambers. Health care institutions	MoF, MoL, MoH, Professional associations, Labor Unions	recruiting agencies
	15. Increasing placement for foreign students	Policy Dialog	MoE, MoS, MoH,	Medical Chambers	recruiting agencies

	(increase the fees?) Reasons: 1) increase standards of training. 2) revenues, additional income for clinical people.				
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5. SERBIA: Data/ information need

Identified further data and information that needs to be collected during desk research

are the key stakeholders (potential leaders, partners and informants)’:

- 1. Mandates**
- 2. Main ethical principles**
- 3. Policies and priorities**
- 4. Strategies and action plans and timelines**
- 5. Main goals of the stakeholders**
- 6. Concerns** **7.**
- 8. Barriers** **9.**
- 10. Mutual issues**