Mapping of national health workforce planning and policies in the EU-28

Final study report

SUPPORT FOR THE HEALTH
WORKFORCE PLANNING AND
FORECASTING EXPERT NETWORK

Authors

This study has been undertaken by a team of experts of the Semmelweis University, Budapest and the Katholieke Universiteit Leuven.

Semmelweis University

Dr Eszter Kovács

Péter Szegner

Lívia Langner

Márta Sziklai

Dr Miklós Szócska

Katholieke Universiteit Leuven

Prof. Walter Sermeus

Michel Van Hoegaerden

Elias Van Deun

Britt Snyers

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ABSTRACT

Background: Healthcare systems face various and sometimes unexpected challenges, e.g. providing care for clients with increasing multimorbidity, territorial imbalances of capacity, or emergency situations in care provision. Health workforce planning is a complex activity that highly contributes to ensuring the right and resilient health workforce tailored to the local needs.

Objectives: The aim of this mapping study was to provide a comprehensive overview of health workforce planning systems and policies in the EU-27Member States and the United Kingdom[1].

Methods: A literature review was conducted based on the scientific and grey literature, policy reports in order to define the framework of analysis and draft Member States' profiles. Data were extracted from international sources. Key country informants were requested to provide in-depth information and formal validation on their national planning systems.

Results: 75% of EU Member States have HWF planning systems in place. The focus remains mainly on planning medical professions (GPs, medical specialists), but an enhancement towards the five sectoral health professions (physicians, dentists, nurses, midwives, pharmacists) can be observed in several countries. Both methodological challenges of planning (e.g. data availability and validity, models) and policy-related challenges (e.g. shortages, imbalances in geographical distribution or skill-mix, mobility, eHealth) were identified.

Conclusion: Although significant efforts have been implemented by Member States in the last decade to ensure adequate HWF supply through systematic planning, it is still required to further improve data utilization and planning models, while incorporating disruptive factors such as digital transformation.

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[1] As of 1 February 2020, the United Kingdom is no longer part of the European Union. The analysis was carried out before this date so the mapping represents the pre-Brexit status of EU membership.

EXECUTIVE SUMMARY

Background

Health workforce (HWF), health professionals working in the health and care sectors, are the main building block of any healthcare system, and the main enabler of high quality and effective healthcare delivery. Healthcare systems face various and sometimes unexpected challenges, e.g. providing care for patients with increasing prevalence of multimorbidity, territorial imbalances of capacity, or emergency situations in care provision. Particularly in times of rapid demographic, technological and behavioural changes in the borderless world, and with the growing pressure of emerging new trends, health systems and healthcare provision heavily rely on the dedication and commitment of the workforce. Consequently, health workforce management, planning and forecasting have crucial roles in ensuring the appropriate HWF supply for a sustainable and resilient healthcare system, responding to the needs of the populations. Planning the health workforce is a complex activity with various methods and diverse approaches in different Member States.

Objectives

The aim of the SEPEN mapping study was to provide a general overview, a detailed description and an updated summary of the health workforce planning systems and policies in the 27 EU Member States (MS), including the United Kingdom[2]. The report provides 28 country fiches of national health policies and health workforce of the MS, including a summary of the health workforce planning systems, a list of health workforce policies in place, health workforce data and the top three major challenges for the future.

Methods

In the first phase of the mapping study, a literature review was conducted based on the scientific and grey literature, policy reports and information available on the internet. Also the international data sources were screened. The results provided a basis to generate pre-filled health workforce country fiches and define a set of policy questions to be discussed in the next stage with the identified key country informants. Three countries, namely Belgium, Hungary and Italy served as pilot cases for the mapping study. The country profiles were filled with the latest available information and data on health workforce stock and replacement data, mobility data and the number of practising physicians, nurses and midwives by NUTS2 region in the EU Member States. Eight different health policies were discussed with the key country

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informants: (1) to measure the stock, the shortages and the maldistribution of skills, (2) to address performance, (3) to address mobility, (4) to address the education and the attractiveness of the profession, (5) the capacities of education the health workforce, (6) the system of continuous professional development, (7) to regulate the private sector and (8) to support appropriate working conditions.

Results

As a result, more than 40 country informants in the 27 Member States including the United Kingdom, from which 45% work in academia, 40% in the department of health in ministries and 15% in other stakeholder organizations were involved in the exercise. The mapping study resulted in an e-book consisting of a glossary, a description of methodology, a summary of the findings and a 3-page country fiche for each EU MS. Additionally, these are accompanied by online appendices as an in-depth supplementary document providing more details on HWF data, policies and further references.

The main findings of the study concluded that 75%, 21 out of the 28 countries object of the study have HWF planning systems in place. Both health workforce planning objectives and systems tend to differ significantly in the European Union. The main categories of systems are: planning of subsidized education and setting training quotas, resource planning of national health systems' supply, geographic strategic planning of (public) health facilities including their staffing and planning is health insurance system including the health care providers. The focus remains mainly on the planning of medical professionals (GPs, medical specialists), but an enhancement towards the five sectoral health professions (physicians, dentists, nurses, midwives, pharmacists) is prevalent in a growing number of countries. When pharmacies are planned, the method is often targeting their geographic availability. A few countries expanded their focus to include all health professions in the planning models. Another important conclusion is that the time horizon of forecasting varies widely. With regards to structural characteristics, HWF planning is a separate planning system in most of the Member States, but there is a growing trend of shifting towards a more comprehensive national health system and capacity planning (e.g. in Bulgaria, Cyprus and Poland).

All EU Member States and the United Kingdom maintain data on supply on the individual or professional level. Such data are based on registers, but data ownership varies among countries. The diversity of demand data is more significant compared to supply data. Seventeen countries use all types of healthcare consumption data to estimate demand, while a limited number of countries are using epidemiological data. Specific data on population demand and needs are collected in a scarce number of countries. Some of these countries organize specific surveys to obtain such data (e.g. Latvia, Ireland and the UK).

With regards to mobility data, most countries collect some data on foreign-trained and foreign-born professionals. The inflow of foreign professionals is appropriately recorded in several Member States, while the outflow however, is commonly difficult to capture. Many countries build some estimates on the intention-to-leave data supported by certificates for recognition

of healthcare qualifications that are requested before delivering care in another country. A growing number of countries rely on the OECD outflow information. In general, methodological differences and timeliness of data are significant limitations in international comparability and precise tracking of mobility trends. Bilateral/international data exchange initiatives may further increase the validity and completeness of international mobility analyses.

The decrease in supply and the increase in demand may lead to significant imbalances in the provision of health services and HWF. Regarding the most important current and future challenges, two main types of challenges were reported by the country informants: instrumental, methodological challenges in health workforce planning (e.g. data quality, planning models) and policy-related health workforce challenges that countries are facing (e.g. shortages, imbalances in geographical distribution or skill-mix, outflows). Several countries are moving from a more operational focus of HWF planning to a more strategic and comprehensive focus in reorganising their health system, such as shifting to prevention and primary care, skill-mix optimisations, introduction of new professions, patient empowerment and self-care management, and telemedicine.

Managing shortages and maldistribution of skills is a high priority in many Member States. A majority of countries report on shortages (mainly in remorse and rural areas) of general practitioners and of some medical specialists, as well as a persistent shortage of nurses. Most are experimenting policies to attract and retain the health workforce, though those latest policies could not yet be evaluated to be successful or sufficient due to the short timeframes. As response to challenges, several countries set training quota targets, mainly for medical students, and the establishment of scholarships and claw-back contracts to retain young professionals are also applied in many countries. Several Member States initiated task shifting between physicians and nurses (e.g. advanced practice nursing), and some countries are promoting digital consultations in order to address GP shortages.

Performance of the health workforce is not generally monitored throughout the Member States. Most countries monitor continuous professional development of health professionals or use competency frameworks to HWF upskilling without linking it to the performance. With regards to enhancing the performance of the health workforce, several Member States formulate high expectations toward the digital transformation and integrated care initiatives.

Concerning HWF mobility, there is a major discrepancy between source and destination countries. Source countries tend to focus on the management of outflow. Destination countries often tend to rely on foreign-trained workforce which is creating tensions between both types of countries. Still some destination countries are also source countries, and emigrants might move from one destination to another in a short timeframe. Also some EU Member states do not have the critical size to provide all necessary infrastructure for education, hence reliance on foreign but same-language countries remains the only option.

Most Member States tend to regulate the admission to training in health professional education, mainly by setting training and/or resident quotas or by funding a limited number of

candidates. When there is no quota system in place, the admission to health professional education is free, or regulated by an entry exam and/or based on academic records. Only a minority of Member States did significantly enhance quotas by increasing the capacity e.g. by opening new training facilities, although predictions highlight significant future shortages in HWF.

The state of continuous professional development (CPD) is relatively mixed across Europe. CPD is mandatory for most sectoral professions in two thirds of the countries, while in the other third, the same programmes are voluntary. Moreover, there is a significant heterogeneity in CPD requirements between different professions.

In each of the Member States, all regulations for health professionals apply to both the public and private sector. In the Member States, two main policies are applied to improve the working conditions of health professionals, on the one hand by improving the working environment and on the other hand by increasing salaries.

Conclusions

Although significant progress can be observed with regards to the availability and standardisation of national-level data, the comparability of information of countries of this volume would greatly benefit from further country-level dialogue. Still, a full comparability is not in sight as the health systems and political organisation remain quite different. Comparability could be first targeted by clusters of countries.

The country fiches offer an in-depth overview of health workforce planning and policies in the 27 EU Member States and the United Kingdom. The study also analysed the legal framework of the Member States, and provides the main references to decisions, laws and regulations applying and, when relevant, plans of action for the upcoming years. These are listed in the online appendices. This is a strength of this volume, but the main task is further exploring the relevant implementations and the achieved impacts. Such tasks performed on a regular (e.g. yearly) basis would make this volume an essential collection on the health workforce framework in the 27 EU Member States and the United Kingdom.

To facilitate this process, the network of experts is essential to stay intact and be reinforced, while maintaining regular contact and organise meetings, and needs to be provided editing access to editing the report and its annexes. The network itself would benefit from including more experts from different professional backgrounds, roles and perspectives. It is recommended to improve the production and exchange of knowledge on all of the healthcare sectors, its policies and professions throughout the European Union.

Expanding the knowledge of Member States on health workforce was a key objective of the mapping study, and additionally it can serve as an essential tool for supporting evidence-based health system and health workforce planning. It could support policies, at EU, national or subnational level, targeting high-quality and accessible healthcare services to the EU population. As a future implication, we recommend prioritising comparative studies in the most

needed health workforce policy areas, such as strategies for addressing the acute shortage of nurses, eHealth policies influencing the future of health care organisation and alternative organisation of healthcare systems impacting the needs.

FOREWORD

Health workforce, health personnel, healthcare staff or human resources for health, no matter how we refer to them, they are the professionals who work in the health and care sectors, and everybody knows there would be no healthcare without them. Several reports and studies open with this very important statement that the workforce is the cornerstone, the main building block or the beating heart of any healthcare system, which is true (European Commission, 2012a; Global Health Workforce Alliance, 2014; WHO, 2016). Particularly in times of rapid demographic, technological and behavioural changes in the borderless world, and with the growing pressure of emerging new pandemics, health systems and healthcare rely heavily on the dedication and commitment of the workforce.

Previous studies of the last few decades have highlighted that the European Union has been facing a health workforce crisis (European Commission, 2012a&b; WHO 2016). Some countries experience significant shortages of certain specialists, or moderate attractiveness of certain fields urging replenishment. The territorial imbalances cause difficulties in ensuring equal access and continuity of care in underserved and/or remote areas for the population. The rising demand for long-term care by the ageing population requires new care models in the light of multiple chronic conditions and new types of patient-professional relationships. The ageing workforce also jeopardises the sustainability of systems due to high attrition rates and retirement without appropriate amounts of new entries to the labour market. These dynamics require thorough and continued analysis and monitoring. National health policy can prepare the workforce for the foreseeable changes and train them how to be resilient and adapt amid emerging trends and new disruptions e.g. technological advancements.

We tend to focus on the obstacles and challenges, as health workforce development and the real need of planning become even more apparent in critical situations, despite the tremendous efforts made by many countries. Several European Member States have addressed workforce development in their national health policy agenda, and initiated strategic health workforce planning to cope with the current and upcoming difficulties. Some have already prepared national plans or strategies for managing appropriate and efficient health workforces, sometimes integrated into a higher level healthcare planning. Some have long standing control over student intake numbers, specialist positions and revise training quota by numerus clausus on a regular basis. Some have already set up a central data warehouse and collect quantitative and qualitative data that enable precise calculations and in-depth modelling. These are crucial steps in successfully combating external demographic and epidemiological trends, as well as various other inevitable evolutions that are

approaching. Health workforce planning is a complex activity that involves many processes e.g. legislation, education, financing, licensing, recruiting, upskilling, continuous professional development, retention, data collections, evidence-informed decision-making and policy

regulations. The uniqueness of planning lies in the significance of system thinking, governance, management, leadership and stewardship. Health workforce planning is not an activity that can be managed in isolation. Cooperation of different stakeholders from diverse sectors, and the co-creation of dedicated bodies and committed workforce experts result in fruitful outcomes. Health workforce planning can work efficiently, if the work at organisational level is coordinated by the policy level, and involves the professionals as well.

The responsibility is shared among various stakeholders, therefore common solutions, transferring knowledge and good practices can support EU countries in implementing health workforce development and planning in an effective way, tailored to the local healthcare environment. The recent dialogues call for a change, a systemic transformation that drives the shift towards prioritising health workforce planning and increasing preparedness for unexpected changes.

GLOSSARY

Age groups	A division of the population according to age, in a predetermined range, used to distinguish differences among populations. Examples: 0-4; 5-9; 10-14; …. 55-64; 65+.
Advanced practice nurse (APN)	A registered nurse who has acquired the expert knowledge base, complex decision-making skills and clinical competencies for expanded practice, the characteristics of which are shaped by the context and/or country in which s/he is authorised to practise. A master's degree is recommended for entry level.
Continuous professional development (CPD)	The systematic maintenance, improvement and continuous acquisition and/or reinforcement of the lifelong knowledge, skills and competences of health professionals. It is pivotal to meeting patient, health service delivery and individual professional learning needs. The term acknowledges not only the wide-ranging competences needed to practise high-quality care delivery but also the multi-disciplinary context of patient care. (For example, this might include technical, scientific, regulatory and ethical developments, as well as research, management, administration and patient relationship skills. Activities can be categorised as formal/informal and mandatory/voluntary.)
Demand (of HWF)	The number of health professionals required to respond to the planning objectives. It should ideally be expressed in both headcount and full-time equivalent (FTE), depending on the forecasting purpose.
Density (of HWF)	HWF density is the number of health workforce per unit of population (e.g. per 10,000/100,000 inhabitants).
Dentists	Dental practitioner is one of the sectoral health professions in the EU defined by the Directive EC/2005/36 (see section 4 for details of training requirements, activities and rights).
Emigration (outflow)	The act of leaving one's current country, in this context with the intention to permanently practise a profession abroad.

Forecasting model (quantitative)	A quantitative forecasting model is a set of formal statements about variables and relationships among variables. The scope is to estimate future data as a function of past data (time series, cross-sectional or longitudinal data) on the basis of specific assumptions. Accordingly, it is appropriate when past data are available. Quantitative forecasting models are usually applied to short- or intermediate-range decisions. On the other hand, qualitative forecasting models (in which estimates are based on the opinion and judgement of experts, stakeholders or users) are appropriate when past data are not available and they are usually applied to intermediate- or long-range decisions. A combination of both models supports the definition of quantitative assumptions through a qualitative assessment process.
Full-time equivalent (FTE)	Unit used to measure employed persons to make them comparable, as they work a different number of hours per week, in different sectors. The unit is obtained by comparing an employee's average number of hours worked to the average number of hours of a full-time worker of the same kind. A full-time worker is therefore counted as one FTE, while a part-time worker gets a score in proportion to the hours he or she works or studies. For example, a part-time worker employed for 24 hours a week where full-time work consists of 48 hours, is counted as 0.5 FTE.
Graduate	A graduate is someone who has successfully completed a first degree at a university or college.
Health professionals	Individuals working in the provision of health services, whether as individual practitioners or as an employee of a health institution or programme. Health professionals are often defined by law through their sets of activities reserved under provision of an agreement based on training prerequisites or equivalents. Health professionals can be characterised by different health profession categories (e.g. see the sectoral professions in the Directive EC/2005/36).
Health professions	Health and care professions defined by the national legal framework and subject to recognition of skills through the mechanisms are defined by the Directive 2005/36/EC of the European Parliament and of the Council on the recognition of professional qualifications. Within this definition, nurses, midwives, doctors (general practitioners and specialists),

	dental practitioners, pharmacists, architects and veterinary surgeons are the sectoral professions (see beneath).
Health workforce (HWF)	The overarching term for the body of health professionals working in a healthcare system. We differentiate licensed to practise, professionally active and practising professionals by activity status.
Health workforce planning	Strategies that address the adequacy of the supply and distribution of the health workforce, according to policy objectives and the consequential demand for health labour (Feasibility study on EU-level collaboration on forecasting health workforce needs, workforce planning and health workforce trends, 2012).
Key country informants	Key informants are the knowledge brokers from the EU-27 and the United Kingdom. They provide and summarise the current health workforce planning and policy information at national level, listing key stakeholders at national level, providing sources, and validating the data and information of the country profiles and appendixes.
Licensing	Licensing has been defined as the process of authorisation or authenticating the right of a physician to engage in medical practice, its monitoring (regulation) and renewal or extension. Often used with registration interchangeably (Kovacs et al., 2014).
Maldistribution	The geographical maldistribution or imbalance due to the aggregation of health workers in urban and suburban areas, leaving large populations, especially members of minority groups and rural residents, underserved.
Midwives	Midwives represent one of the sectoral health professions in the EU defined by the Directive EC/2005/36 (see section 6 for details of training requirements, activities and rights).
Migration (inflow)	The act of (either temporarily or permanently) moving into a country, in this context in order to practise a profession.
Mobility (of HWF)	All processes in which persons cross borders between countries with the purpose or result of working as (qualified) health professionals in the country to which they move.

Nurses	Nurses responsible for general care is one of the sectoral health professions in the EU defined by the Directive EC/2005/36 (see section 3 for details of training requirements, activities and rights).
NUTS 2	Represents basic regions for the application of regional policies e.g. "Provincies/Provinces" in Belgium.
Pharmacists	Pharmacists are one of the sectoral health professions in the EU defined by the Directive EC/2005/36 (see section 7 for details of training requirements, activities and rights).
Physicians	Doctors of medicine represent one of the sectoral health professions in the EU defined by the Directive EC/2005/36 (see section 2 for details of training requirements, activities and rights).
Planning system	Strategies that address the adequacy of the supply and distribution of the healthcare workforce in relation to policy objectives and the consequential demand for health labour force. Strategies contain the following: right attitude, commitment, doing the right work at the right cost and at the right productivity rate. Basic planning can be considered as: recognising the major imbalances of HWF and analysing the imbalances. Therefore, the following health workforce planning activities shape the planning systems: supply forecasting, demand forecasting, forecasting requirements, estimating future conditions and action planning.
Population	Number of inhabitants in the Country or Region considered at the reference date.
Population health and care needs	The requirements at the individual, family, community and population level of care and services to achieve physical, cognitive, emotional and social well-being, taking the broad determinants of health into account.
Positions	Defined employment, roles and responsibilities in the healthcare system.
Productivity	Labour productivity represents the total volume of output (measured in terms of Gross Domestic Product, GDP) produced per unit of labour (measured in terms of the number of employed persons) during a given time reference period. The indicator allows data users to assess GDP-to-

	labour input levels and growth rates over time, thus providing general information about the efficiency and quality of human capital in the production process for a given economic and social context, including other complementary inputs and innovations used in production (ILOSTAT, 2019).
Projection	A mathematical estimate, prognosis or forecast of a future situation based on a study of present and past trends, often steered by scenarios that apply to modelling factors (EC, 2012).
Recognition activity	Carrying out the recognition process of healthcare qualifications obtained in a foreign country, and the procedure of issuing certificates for recognition in a foreign country concerning healthcare qualifications obtained, or recognised, in certain countries.
Registration	Registration is defined as all the processes associated with the issuing of licences/authorisations to practise medicine and ensuring that the professional activities carried out under this authority maintain the professional standards on which it is based. Often used with licensing interchangeably (Kovacs et al., 2014).
Retirement	Annual number of professionals retiring, thus exiting the labour market.
Revalidation	The process through which registered health professionals demonstrate periodically that their knowledge is up-to-date and their continuing fitness to practise. It can be a tool for showing that CPD activities undertaken are appropriate for supporting and enhancing professional practice. It may be a prerequisite for re-licensing and re-registration, and can be tied to professional appraisals.
Sectoral Health Professions	The professional qualifications of physicians, nurses, midwives, pharmacists, and dentists, as included in the Directive 2005/36/EC of the European Parliament and of the Council.
Shortage	The gap in supply of human resources in health. The demand for healthcare is not covered by the available workforce.

Source country, also: ● **Sending country** ● **Country of origin** ● **Donor country**	The home country of the mobile health professional, ● where he/she was born ● has his/her nationality from ● where he/she obtained his/her first medical diploma/ qualification AND was born there and/or has its nationality and/or has the language of the country as mother tongue
Stakeholder	Groups or individuals that have an interest in the organisation and delivery of healthcare, and who either deliver, sponsor, have an advisory role or benefit from healthcare.
Stock (of HWF)	Number of available practising and non-practising health professionals in a country, recorded in a registry or database. It should ideally be expressed in headcount and in full-time equivalent (FTE).
Supply (of HWF)	Number of newly graduated health professionals available to fill in open vacancies. It can be expressed in headcount or in full-time equivalent (FTE).
Target country, also: ● **Country of destination** ● **Destination country** ● **Host country** ● **Recipient country** ● **Receiving country**	The country the mobile health professional intends to work in as a practising health professional.
Training	The process by which a person acquires the necessary knowledge, skills and competencies for delivering healthcare, possibly through postgraduate training programmes (in the framework of Continuous Professional Development) in addition to graduate training programmes.
Trend	An emerging pattern of change, likely to impact a system.
Underserved areas	A region or area that has a relative or absolute deficiency of healthcare personnel or healthcare resources. This deficiency could present itself in shortages of facilities/professionals/specialties/skills required to deliver health services.

Universal health coverage	A healthcare system that provides effective, high-quality and free of expense preventive, curative, rehabilitative and palliative health services to all citizens, regardless of socio-economic status, and without discrimination.
Variables	A characteristic, number or quantity that can increase or decrease over time, or take various values in different situations.
Workforce forecasting	Estimating the required health workforce to meet future health service requirements and the development of strategies to meet those requirements (Roberfroid et al, 2009; Stordeur and Leonard, 2010).

INTRODUCTION

The "Support for the health workforce planning and forecasting expert network - SEPEN" joint tender has been working in the field of on European health workforce planning in the last few years. SEPEN is supported by the Health programme of the European Union and aimed to establish an expert network on health workforce planning and forecasting.

The purpose of this joint tender was to sustain cross-country cooperation and provide support to Member States to increase their knowledge, improve their tools and succeed in achieving a higher effectiveness in health workforce planning processes and policy development. SEPEN also builds on the results and work undertaken by the Joint Action on European Health Workforce Planning and Forecasting (EU JAHWF) and aims to further contribute to the health workforce planning and forecasting agenda in Europe.

In the course of SEPEN's work, we conducted a mapping exercise and gathered up-to-date information on national health workforce planning and health workforce-related policies in the European Union. One of the main aims was to provide a general overview, a detailed description, and an updated summary of the health workforce planning systems and policies. The study covers the 27 EU Member States[3], including the United Kingdom. Therefore, this report provides 28 health workforce country profiles, with short descriptions of health workforce planning systems, policies in place, health workforce data and major challenges for the future. Additionally, an appendix contains a detailed policy-specific summary with references to legal sources and further data and materials of national health workforce development.

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[3] As of 1 February 2020, the United Kingdom is no longer part of the European Union. The analysis was carried out before this date so the mapping represents the pre-Brexit status of EU membership.

METHODOLOGY

The main objective is to provide an overview of the main characteristics and a detailed description of the health workforce planning systems and policies in each of the 27 EU Member States plus the United Kingdom.

The work is structured as shown in the flow chart:

1
- **Literature review** - Identifying the research questions

2
- **Piloting the country fiches template and the knowledge broker form**

3
- **Data collection** - Summarizing the latest health workforce data

4
- **Information validation** - Interviews with key stakeholders

5
- **Final editing**

Figure 1: Flowchart of the methodology used in the mapping exercise

Literature review – identifying the research questions

In the first phase of the mapping, with the aim to examine recent developments in the health workforce planning of EU/EEA countries, a literature review and analysis of academic literature were conducted, focusing on changes and trends of the last decade.

The systematic literature review and analysis revealed that there are a moderate number of country-level publications in the health workforce field in renowned international journals, even though important international work has been published. For example, the European Commission 'Feasibility study on EU level collaboration on forecasting health workforce needs, workforce planning and health workforce trends' (2012), the materials published by the Joint Action on European Health Workforce Planning and Forecasting, OECD, WHO and State of Health in the EU and Country Profile reports were reviewed and utilised. The aim of this

review was to support the generation of the pre-filled health workforce country profiles and define the set of policy questions to be discussed with key country informants, also known as knowledge brokers.

Referring to the indicators of the National Health Workforce Accounts Handbook, published by the WHO, and examining the most common variables influences the forecasting models; we took the following policy categories into account:

1) Policies to measure the stock, the shortages and the maldistribution (of skills)
   ○ Balancing the supply and the needs in health workforce planning
2) Policies to address performance
   ○ Influencing the capacity to fulfil the needs in health workforce planning
3) Policies to address mobility
   ○ Influencing the evolution of the supply in health workforce planning
4) Policies to address the education, the attractiveness and limitations of studies
   ○ Influencing the sustainability of the supply in health workforce planning
5) Policies related to the capacities of educating health workforce
   ○ Influencing the adaptability of the supply in health workforce planning
6) Policies related to the continuous professional development
   ○ Influencing the match between the supply and the needs.
7) Policies to regulate the private sector
   ○ Influencing the capacity to fulfil the population needs as a health system in health workforce planning
8) Policies to support appropriate working conditions
   ○ Influencing the retention and the intake on the supply side of the health workforce planning equation

The sections of the templates are described graphically below:

SUPPORT FOR THE HEALTH WORKFORCE PLANNING AND FORECASTING EXPERT NETWORK

COUNTRY

HEALTH WORKFORCE PLANNING

PLANNING SUMMARY — This section focusses on the strategic aspects and the context of the planning system.

PLANNING SYSTEM — This section focusses on the operational description of the various steps and responsibilities for running the planning system.

PLANNING GOALS — This section focusses on the goals of the planning efforts.

HEALTH WORKFORCE DATA

SUPPLY DATA	DATA SUPPLIERS
The supply data are grouped by individual or aggregated data.	The list of data suppliers - more detailed being available in the online appendix.

DEMAND DATA	MOBILITY DATA
The demand data, grouped by categories when possible.	The mobility data are grouped by inflow and outflow information.

CURRENT AND FUTURE CHALLENGES

→ A selection of challenges selected out of recent policy report or/and national political agreement and validated by the knowledge broker.

Figure 2: Country Fiche Template Page 1 out of 3

COUNTRY

HEALTH WORKFORCE POLICIES

Policy category	Details	Impacted professions
Manage shortages and maldistribution of skills	Policies to ensure the coverage, the retention, a renewed organisation of skills in the health care, ...	
Improving performance	Policies like measuring and promoting quality, setting performance targets, re-organising the resources in the health system, using tools, ...	
Address mobility	Depending on the country, policies to ensure self-sufficience, limit mobility or recruit abroad, ...	
Education, enrolment and recruitment	Policies to regulate the number of students and of post-academic trainees or to promote the studies in health care.	
Education staff & infrastructure	New changes to the available training capacity, additionnal skills teached and special structures to ensure appriopriate training.	
Continuous professional development (CPD)	CPD system of the country and relation to the labour market.	
Regulation of private sector	Involvment of the private sector and specific rules applying, e.g. when delegating a role in the universal coverage to the private sector.	
Working conditions	Recent incentives or negative factors influencing the retention of health workforce.	
Others		

PHYSICIANS   DENTISTS   PHARMACISTS   NURSES AND MIDWIVES   ALLIED HEALTH PROFESSIONS

HEALTH WORKFORCE STOCK AND MOBILITY

Table 1: Health workforce stock and replacement

Indicates the physicians and nurses available for providing health care services in the country.

Figure 1: OECD mobility level in absolute numbers

Indicates the migration movements of doctors and nurses in the country.

Outflow: non-EU   EU | Inflow: EU   non-EU — Unknown

Figure 3: Country Fiche Template Page 2 out of 3

COUNTRY

HEALTH WORKFORCE DENSITY AT SUB-NATIONAL LEVEL

Figure 2a: Number of practicing physicians per 1.000 inhabitants (regional distribution latest data available)

Indicates the availability of physicians per NUTS 2 region unless
mentioned otherwise.

Average

Figure 2b: Number of practicing nurses and midwives per 1.000 inhabitants (regional distribution latest data available)

Indicates the availability of nurses and midwives per NUTS 2 region
unless mentioned otherwise.

Average

Scan or click
for more
information,
definitions
and sources

Figure 4: Country Fiche Template Page 3 out of 3

Pre-filling and piloting the country fiches

Three countries were identified for the piloting phase. Hungary, Belgium and Italy were selected as "pilot countries", as SEPEN-consortium members have good knowledge of the health workforce planning systems in each of these countries and direct access to the key country informant, the knowledge broker. The country fiches were pre-filled with the use of the 'Feasibility study on EU level collaboration on forecasting health workforce needs, workforce planning and health workforce trends' (2012), the State of Health in the EU - Country Health Profiles and the Health Systems in Transition volumes. Internationally available data were retrieved from the OECD and Eurostat databases.

The Hungarian and Italian draft country profiles were submitted to the in-country key informants, who gave feedback on the structure and interpretability of the template. Their remarks served as input for refining the county fiche and appendix template. The Belgian, Hungarian and Italian key country informants also provided feedback on the data collection methodology and supported SEPEN to update the template with some aspects e.g. to consider countries with a strong sub-national role.

Activation of, and collaboration with, the key country informants

A list of key country informants from the SEPEN Expert network was prepared and they were contacted and invited to participate in the mapping study exercise. Senior experts were also considered in the selection and invitation process. The lists of country informants have been continuously refined due to the fluctuation.

The country informants were requested to review and update the prefilled country fiches, providing new insights, validation and special input on the future challenges section. In addition, they were asked to deliver the list of key national language policy documents of their respective countries, focusing on national or regional levels to be included in the online appendices. We mainly asked for the expertise of key country informants to guide us through the latest updates of country information.

The communication with the country informants was initiated via an online semi-structured interview, consisting of discussions of each section of the country fiche. A second interview was conducted with the aim to review a draft version of the country fiche and online appendices. The interviews and a continuous revision process with the key country informants supported a specific literature search and generic enrichment. The advanced versions of the country fiches and online appendices were subsequently subjected to a coherence- and language check, and were shaped into a solid design. Parallel to the country fiche, the online appendices of each country was created, providing a more enriched view of the information

and sources of the country fiche. The online appendices were enhanced by a desk research and input from the key country informants, cross-checked with the literature sources.

Collection of health workforce data

The main international sources were used in order to capture the latest information available in English and to explore comparable information on health workforce. The 'State of Health Report' (EC, 2019) 'OECD Health at a glance' (OECD/EU, 2020), 'Health System in Transition' reports (published by the European Observatory on Health Systems and Policies) and 'Handbook on Health Workforce Planning Methodologies across EU Countries' (Malgieri, Michelutti and Van Hoegaerden, 2015) supported the summary of the statistics.

Data sources used throughout the mapping exercise: 'Health workforce stock and replacement (OECD)', 'OECD mobility level in absolute numbers', 'Health workforce stock and replacement (Eurostat)' and 'Eurostat mobility level in absolute numbers' and 'Health personnel by NUTS 2 regions (Eurostat)', depending on the latest data available. Data from national sources were used in cases where it provided more recent data for the given category. The description of data sources and additional remarks are presented in the online appendices. Each country fiche includes three figures of the most important statistics:

1. Health workforce stock and replacement

Health workforce is generally classified into three categories: 'practising'[4], 'licensed to practise'[5] and 'professionally active'[6] professional categories, based on OECD/WHO definitions. Both OECD and Eurostat prefer the concept 'practising', as it describes best the availability of healthcare resources.

The table contains information on the following: 'total stock, 'stock 55-64 years' and 'graduates' data for both physicians and nurses. These data indicate who is working in healthcare, who will leave and who will enter the healthcare sector. All data are extracted from the latest updates of OECD (for OECD Member States) and Eurostat (for non-OECD Member States) databases, unless specified otherwise in the appendices. Age characteristics of the nursing stock are not reported in the OECD and Eurostat databases.

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[4] Practising: providing services for individual patients (OECD Health Statistics, 2019)
[5] Licensed to practise: completed a programme of education and is qualified and authorised in his/her country to practise. They include practising and other (non-practising) health professionals
[6] Professionally active: include practising care personnel and other care personnel for whom their education is a prerequisite for the execution of the job e.g. administration, management, research, education.

2. OECD mobility level

The latest data extracted from the OECD and Eurostat databases were used. Some countries provided more recent data by the KBs that are presented in the online appendices. The graph shows both outflow (EU and non-EU) and inflow (EU and non-EU) data, for both physicians and nurses. The same classification is used as in the previous table.

Outflow data are indicated in green, with a lighter green for non-EU migrants and a darker green for EU migrants. Inflow data are indicated in blue, with a lighter blue for non-EU immigrants and a darker blue for EU immigrants. When the origin of the immigrant is uncertain, it is indicated as 'unknown'. In some cases, only a total number of the inflow is available, without knowing the origin of the immigrants. This is indicated as 'total'. The graph additionally indicates the percentage of immigrants/migrants in relation to the total stock.

Only inflow data for OECD countries are available. The data produced are, therefore, incomplete to overview the HWF mobility. Not all OECD-countries register the country of origin of health professionals and some do not register entering health professionals at all. Outflow data are based on inflow numbers in other OECD countries, as outflow as such is not registered or reported. Timeliness of data is also a significant limitation, the mapping study incorporates the latest data available for the given country.

3. Number of practising physicians, nurses and midwives per 1,000 inhabitants

These figures present maps, which are formatted according to the NUTS classification (Nomenclature of territorial units for statistics); a hierarchical system for dividing up the economic territory of the EU and the UK. To measure the density of the health workforce, NUTS 2 data - basic regions for the application of regional policies - were used. The NUTS 2 data are obtained from Eurostat, unless the key country informant provided more recent national data from additional validated sources available (e.g. Bulgaria, Czechia, Lithuania and Romania). The map is visualising the density of the health workforce for both physicians and nurses and midwives. The national average is derived from the OECD/Eurostat databases. Timeliness is considered as an issue for this type of stratified regional data, especially for nurses and midwives, where data were not or scarcely reported in the past few years for many countries. Please note that the data year for the sub-national (NUTS 2-level) and national averages might differ, if more recent information was published for the national-level. The EU average value was used based on the "Health at a Glance: Europe" report published in November 2020, as that is the latest available official value. OECD indicates the average for the nurses' category, while the data used at the level of each Member State refers to the data of nurses and midwives. In fact, the definition of these professions varies significantly between Member States - e.g. some Member States do not recognise the profession of midwives separately from nursing. Considering the difference between the number of nurses and that of midwives at EU level, the density measurement does not exceed 5%.

Final editing

Once the series of interviews were completed, the revision processes and validation rounds of all information for the -28 country fiches and appendices were finalised in the summer of 2020. The last update of the data was carried out in the autumn, then the eBook was created and all content was formatted and uploaded to the dedicated web platform entitled the "HWF Planning and Policy Repository" in October 2020:

http://healthworkforce.eu/countrysheets/

KEY HIGHLIGHTS AND CONCLUSIONS OF THE MAPPING STUDY

The present report provides a novel overview of health workforce planning and policies in the 27 EU Member States and the United Kingdom, including the latest development of the last few years. It is based on a joint effort involving more than 40 key country informants in the 28 countries, from which 45% work in academia, 40% in departments of health in ministries and 15% in other stakeholder organisations.

1. Health Workforce Planning Systems

Twenty-one out of twenty-eight (75%) EU Member States have health workforce (HWF) planning systems in place. Some of these countries have long-standing traditions, having operated these systems for more than 20 years. Seven of these countries, however, have been developing these systems since 2015, often inspired, supported and stimulated by the results of the EU JAHWF[7].

Both **health workforce planning objectives and systems tend to differ significantly** in the European Union. The main differences are stemming from the fundamentals of the health systems (state vs. insurances-based) and the levels of responsibility in providing healthcare coverage to the population (national vs. subnational), and with a lower impact of the country population density and urban ratio.

Although each Member State's active **planning maintains a strong focus on medical professions** (GPs, medical specialists, dentists), remarkably, eight countries have expanded their focus to the five sectoral health professions (physicians, dentists, nurses, midwives, and pharmacists) and five countries have already expanded their focus to all health professions. This results in a wide diversity of planning professions, including social care. As an example, Italy considers planning up to 30 recognised health professions. Most of these planning systems are multi-professional (considering a wide range of professions) and only a few are interprofessional (taking into account the interrelationships and interdependencies of the different professions). **The time horizon varies** from short-term (1-year, 2-5 years) to long-term (10 years, 15 years, 25 years). The frequency of these projections varies between annual, 3-year (e.g. in The Netherlands) or 4-year (e.g. in Finland).

In most Member States, the HWF planning system is a separate, explicitly identified system. In some countries, including Bulgaria, Cyprus and Poland, HWF **planning is part of a more comprehensive national health system planning**. In Finland, planning of the healthcare sector is part of the multi-sectoral planning of the labour market.

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[7] Final Guide of the Joint Action on Health Workforce Planning and Forecasting, 2016
http://healthworkforce.eu/wp-content/uploads/2016/11/WP2_FINAL_GUIDE_final_version.pdf

2. Health workforce data

Availability of data is a key component of health workforce planning. In HWF planning, supply and demand data are considered in data collections, and additionally, several data categories can support planning purposes. **All EU Member States maintain data on supply on the individual professional level**. Such data are based on registers, owned and maintained by professional chambers and/or by health authorities. Both types of registers can co-exist. **Although each of the Member States maintain physician registers, other health professions' registries tend to vary**. Individual data on age, gender, qualification, place of residence, specialisation, etc. are common data sets of those registers. Aggregated data, such as unemployment rates, geographical distribution, vacancies, wages, productivity etc. are mainly available. Inflow data, such as the number of new graduates, duration of training, attrition rates, and outflow data including retention rates, retirement rates, and job/sector mobility rates are mostly available on an aggregated level. In some specific cases, the existing data may be supplemented by surveys and specific data collections.

The diversity of demand data is significantly higher than that of supply data. **Seventeen countries use all types of healthcare consumption data**, while in some countries, hospital capacity data are also collected. A limited number of countries use epidemiological data, such as public health and morbidity data. **Specific data on population demand and need are collected in a few countries only,** including Latvia, Ireland and the UK, and such data are **collected by specific surveys.** In addition, Latvia collects qualitative data on healthcare needs. Apparently, measuring and collecting information regarding demand for healthcare is still relatively challenging. The notion that more emphasis is placed on consumption and activity data than on population needs and demands indicates that most models are rather conservative and extrapolate the way the current health system is operating.

With regards to mobility data, registration processes appear to be relatively difficult when it comes to precisely monitoring trends of mobility. **Most countries collect some data on the number of foreign-trained and foreign-born professionals.** Such data are based on the registers of health professionals and governed by the professional chambers and/or health authorities. A limited number of countries lack adequate information on foreign-born professionals, but do maintain information on foreign-trained workforce. **Outflows, however, are even more difficult to capture.** Many countries record some data and use an estimate about the **intention-to-leave based on certificates for the recognition of healthcare qualifications** that are requested before delivering care in another country. These data only serve as a proxy indicator about outflow, since the certificate does not necessarily result in realised mobility. In addition, a growing number of countries – as mentioned by **nine countries - prefer to rely on the OECD outflow information**. Inflow data (capturing migration from the country of origin to the host country) appears to be measured in the host country in a relatively precise manner. It implies that inflow data from the host country could also provide relevant information for the "sending country". Such data are collected and linked by OECD[8]. **Bilateral/international data exchange initiatives may further increase the likelihood to track international mobility.**

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[8] Health workforce migration in http://www.oecd.org/els/health-systems/health-data.htm

3. Current and future challenges

Regarding current and future challenges, **two types of challenges** were reported by the knowledge brokers: **methodological**, **instrumental challenges in health workforce planning (e.g. quality of data, models, etc.) and policy-related health workforce challenges that countries are facing (e.g. shortages, geographical imbalances, major outflows etc.)**.

Not all countries could report the same horizon for future challenges. Some countries are faced with a sub-national segmentation of competence in the organisation of healthcare or some challenging, politically unstable situations; and some are in the middle of reforms. This might have caused reports on short- to medium-term operational challenges rather than long-term strategic challenges.

Instrumental challenges are mainly addressed in terms of availability of timely and reliable data and indicators. Models are continuously being improved. The main challenge, indicated by several countries, lies in modelling the demand side of the equation: how to quantify unmet needs of populations? How to combine population and epidemiological data into projected needs and the demand for health professionals? **Several countries are moving from a more operational focus of health workforce planning (e.g. monitoring shortages and vacancies, setting quota etc.) to a more strategic and comprehensive focus, involving a wide range of stakeholders in health and social care, and also from education system to ensure an appropriate supply of health and social care workforce that meets population needs.**

Future shortages in health workforce supply are mentioned among the top three challenges in 18 out of 28 countries. In terms of shortages, an ageing health workforce with a significant retirement rate can be expected. The cohorts of young health professionals are not sufficient to provide an adequate level of replenishment. In parallel, the ageing population with an increase in the prevalence of chronic diseases is also posing a challenge for the health system. **The decrease in supply and the increase in demand may lead to significant imbalances in the provision of health services and HWF**. Eleven out of 28 countries expect to face serious geographical imbalances within the country between rural and urban areas and regions. Primarily smaller countries, such as Cyprus and Luxembourg, are highly dependent on foreign-trained workforce and reliance on foreign HWF might not be sustainable in the future. Mainly Central European countries indicated their concern with regards to the high ratios of emigration and the consequent threat to the sustainability of their health systems. Many country representatives foresee that the solution of the workforce crisis is not the exponential increase of health workforce quantity, as this would not be possible, taking the population forecasts into account.

A feasible solution to manage the crises might be the reorganisation of health systems. Fifteen out of 28 countries prioritise the reorganisation of health systems, **devoting a more prominent role for prevention and primary care** (actions referred to as upstreaming), while **reducing avoidable hospital admissions and providing treatment at the earlier stage of disease progression**. Several countries see significant potential in **task shifting, skill-mix optimisations, and multidisciplinary teamwork, so that skill utilisation of health professionals can be enhanced at all levels of care**. Such initiatives might lead to **new professions and career pathways**, and to more blended and integrated roles. Many countries are planning to **prioritise patient empowerment** and aim to provide more patient-

centred and personalised care. The expectation is that besides the impact on quality of care and health gains, such actions might lead to a **higher proportion of self-care management** among patients and would have an impact on the role of health professionals. Eight out of 28 countries **strongly emphasise the role of e-health, m-health, telemedicine, information and communication technology (ICT), and artificial intelligence in reforming healthcare**, identifying a positive impact on the health workforce.

Besides reorganising the health provision system, **retention management** is also emphasised to keep the workforce in their jobs for a longer period of time. This can be related to wages and other financial incentives, which are provided to ensure the adequate health personnel supply in remote regions. In general, the aim is to improve working conditions and provide better work-life balance to retain health professionals in their jobs for longer.

4. Health workforce policies

Eight different health workforce policy groups were surveyed in more detail: management of shortages and maldistribution of skills, improving performance, addressing mobility, enrolment and recruitment in education, education (staff & infrastructure), continuous professional development (CPD), regulation of the private sector, and working conditions. The scope of these policies were evaluated with regards to the five sectoral professions, namely physicians, dentists, pharmacists, nurses and midwives, as well as the allied health professionals.

4.1. Managing shortages and maldistribution of skills

All Member States are monitoring the health workforce mainly for physicians, dentists, nurses and midwives. Most of the countries perform some monitoring for pharmacists and other allied health professionals. Regarding allied health professionals, the recent evolution of the policies often relates to the inclusion of the mental health care professions and physiotherapists. **Several countries mention shortages of general practitioners, mainly medical specialists** - such as emergency and intensive care physicians, rheumatologists, psychiatrics, nephrologists, and geriatricians. **A high number of countries report shortages in the number of nurses.** Several programmes have been initiated in order to attract candidates for some of these professions, improve the prestige of nursing and strengthen the role of nurses. Slovakia and Hungary for example, offer scholarships to attract nursing students to facilitate retention processes. Another example is England, where the so-called 'Golden Hello' programmes provide financial incentives for new GPs and specialised nurses in remote areas. **Training quota, mainly for medical students, have been set in several countries.** Although these interventions were initially utilised for better control and a limitation of entry to the medical profession and/or for setting the funding of residency**, more recently, these quotas are rather utilised as targets with the aim of addressing shortages for some specialties.** Attracting physicians and nurses to remote areas is manifested as a policy in twelve out of 28 countries, and most of these programmes apply financial incentives to reach their goals. Depending on the context, these **incentives tend to be combined with different scholarships and claw-back contracts to retain young professionals working in these remote areas for several years.** However, these incentives often tend to be non-financial: offering more free time to facilitate a better work-life balance,

or improved working conditions by offering more support for recruiting administrative and/or practice assistant(s) and for starting interprofessional practices, e.g. the 'close care' programme in Sweden. **Several countries initiated task-shifting programmes, defined by delegating specific tasks from physicians to nurses** (e.g. Finland, France, Greece, and the Netherlands), providing upskilling programmes for nurses up to Advanced Practice, and for healthcare assistants to undertake nursing/midwifery, or establishing new professional roles e.g. medical assistants in Latvia. **Some countries are promoting digital consultations in order to address the shortage of GPs.**

4.2. Improving performance

Systems aimed to monitor performance are still insufficiently distributed among different Member States. **Most countries do not report on explicit policies to measure, evaluate or improve the performance of the health workforce.** Many countries rely on individual measures, such as providing continuous professional development (CPD), or competency frameworks. Malta is a case in point, establishing the Standard Operating Procedures and Performance Management Programmes to improve performance. Even though several countries conduct quality monitoring by involving quality indicators, many of these are not directly connected to the health workforce. One example of such an initiative is from Estonia, where a quality bonus scheme on primary care, based on a series of indicators, was introduced in 2018. Ireland also commissioned specific reports to address workforce-performance issues in some areas.

To improve performance, several countries tend to rely on e-health and digital transformation, while other countries demonstrate high expectations towards reorganising healthcare by integrated hospital and primary care services.

4.3. Addressing mobility

Concerning HWF mobility, there is a major discrepancy between source and destination countries. Source countries tend to focus on the management of outflow. Generally, two types of measures can be identified.
- The first measure comprises scholarships offered for medical and nursing students, and conditional on retaining to practise for an agreed period of time in their national healthcare systems. These types of contracts can be observed in countries such as Bulgaria, Hungary and Poland.
- The second measure consists of the raise of salaries and improvement of working conditions to facilitate retention. Such types of policies can be observed in countries including Croatia, Hungary, Lithuania and Romania.

Destination countries often rely on foreign-trained workforce. These countries include Portugal (highly relying on Brazil), Spain (from South-America) and the UK (from Commonwealth and EU countries). Some destination countries (e.g. Ireland and the UK, Scandinavian countries) are also source countries as a consequence of attractive positions in the US, Canada or other English-speaking countries. When these source countries experience shortages in their national settings, the numbers of destination countries also tend to drop. Destination countries delegate significant efforts to maintain the inflow figures high and constant: by negotiating bilateral agreements with the source countries, by simplifying the visa-

process for non-EU citizens, and also with the help of targeted recruitment campaigns. As an example, Slovakia offers 'temporary' internships for non-EU physicians (mainly from Serbia)

prior to starting the official process of recognition of qualifications. France even offers naturalisation for non-EU physicians and dentists. In parallel, countries are aiming to reduce the reliance on foreign health workforce by training and recruiting more domestic professionals.

4.4. Education, enrolment and recruitment

Most of the Member States regulate the admissions to training in health-professional education. The most frequently used method is by setting training and/or resident quotas. To determine if a candidate is admitted, competitive entrance exams are organised. In several countries, the quota and entrance exams apply to all health professionals, such as Bulgaria, Italy, Slovenia or England. However, in most countries, quotas are limited to specific

professions: mainly medical training, but sometimes also for dentistry, pharmacy and nursing. **When there is no quota system in place, the admission to health professional education is free, or regulated by an entry exam and/or based on academic records** (e.g. nursing education in Portugal). Lithuania regulates admissions to health professional education by offering state grants: bigger grants are provided when shortages are foreseen, and smaller grants are given when a surplus is expected. Smaller countries, such as Luxembourg, offer grants to students for covering education costs abroad. Specifically, in Belgium, the intake of French-speaking foreign students has to be managed to prevent negative effects on the national capacity and planning.

4.5. Education staff & Infrastructure

In general, most Member States do not have policies to increase the capacity by opening new training facilities. The exception is Poland, where the number of medical faculties increased by 30% between 2016 and 2019, and Luxembourg, where medical faculties were not available until now, medical training begins in 2020-21. They have also opened some nursing specialties and allied professionals' training to become more self-sufficient. The same trend was observed in the number of nursing training institutions. On the other hand, several new programmes for new professions have been established, including programmes for clinical psychologists (Belgium), dental hygienists (Belgium), emergency care workers (France), spiritual care workers (UK), and medical assistants (e.g. Germany and Latvia). Several countries invested in online and digital training programmes even before the COVID-19 pandemic crisis (including Finland and the UK).

A general trend to offer health professional education (mainly medicine) in English can also be observed to attract an international student audience (particularly in Bulgaria, Hungary, Estonia, the Netherlands, Poland, and Romania). Sweden even started specific training programmes to attract refugees into health workforce education.

4.6. Continuous Professional Development (CPD)

The state of continuous professional development (CPD) is relatively mixed across Europe. **CPD is mandatory in two thirds of the countries, while in one third, the same programmes are only voluntary. However, there is heterogeneity between different professional groups**. Some countries maintain a mandatory system for physicians and a voluntary system for all other professions (e.g. Austria), while others have a mandatory system for nurses and a voluntary system for physicians (e.g. Portugal). In some countries, CPD is connected with financial benefits (e.g. Belgium, Czech Republic). In some countries (e.g. Hungary), CPD is linked to licensing and revalidation, however the cycles of CPD vary from 3-yearly (e.g. Italy, France) to 5-yearly cycles, (e.g. Lithuania, Hungary, and the Netherlands) and even 7-yearly in Slovenia.

4.7. Regulation of private sector

In each of the Member States, all regulations for health professionals are applied to both the public and private sectors. Specific policies regulating the private sector were not mentioned. In Greece, the reimbursement framework for physicians (comprising a fee-for-service mechanism) had some impact on the attractiveness of a few specialties, resulting in a surplus of specialists. Consequently, in 2019, the private clinics were regulated.

4.8. Working conditions

Policies aiming to improve working conditions of health professionals are important with regards to the management of retention and well-being. **Two main policies are utilised by the Member States: improving the working conditions of health workers and increasing salaries.**

The first step of this process is the assessment of the quality of life, work-life balance, job satisfaction, burn-out, turnover and workload of health professionals. Most of the countries have established studies, surveys and evaluations relevant to such issues. Many programmes have been initiated to improve the work environment by providing more autonomy and flexibility for health professionals throughout their work. As an example, the Netherlands have implemented the concept of self-managing teams in home care, while 'best place to work' programmes have been implemented in the UK. Spain also introduced 'health of physicians' programmes. As an attempt to improve work-life balance, some countries e.g. Germany) have initiated childcare support, flexible working hours, part-time contracts and maternity and annual leave programmes to make workplaces more attractive. Slovakia has introduced social benefit packages and holiday vouchers.

In order to enhance the attractiveness of working in the healthcare sector, salary increases have been negotiated between national or subnational governments and social partners in many countries, such as Bulgaria, Denmark, Estonia, Hungary, Latvia, Malta, Poland, Romania and Slovakia.

5. Health workforce stock

In order to conceptualise the existing stock of health professionals, three different indicators can be used: the number or density of licensed-to-practice professionals, the number or density of practicing professionals and the number or density of professionally active professionals. **The difference between these categories is highly relevant and important for health workforce planning.** All three categories are generally not available and reported

in each of the Member States, and there is heterogeneity regarding which indicator is reported in a given setting. Consequently, the comparability of all Member States is not fully applicable and has limitations. Concerning the number of physicians, practising physicians is reported in 22 countries (78,6%), while professionally active and licensed to practise is reported in 4 (14,3%) and 2 countries (7,1%), respectively. Concerning the number of nurses, practising category is available in 24 countries (85,7%), while professionally active and licensed to practise categories are reported in 1 (3,6%) and 3 (10,7%) countries. Differences can also be observed with regards to the timing and availability of reported data, and only estimates are available for some countries.

6. Health workforce mobility

In most Member States, the number of annual outflows is provided, which is estimated mainly through the OECD health workforce data reporting. These annual numbers are divided by the total stock of health providers in a given country, mostly leading to small migration streams of less than 1% per year. **Only Belgium (1,3%), Ireland (8,7%), Sweden (1,4%), and the UK (4,3%), have inflow percentages higher than 1% for physicians. Denmark (1,2%), Hungary (1,6%), Ireland (4,8%), Latvia (1,6%) Lithuania (1,1%) Luxembourg (2,0%), Malta (4,6%), Romania (2,2%) and Slovakia (2,0%) have outflow percentages higher than 1% for physicians. Regarding nurse migration, inflow is higher than 1% in Ireland (3,9%) and the UK (1,2%), while the outflow rate exceeds the 1% threshold in Croatia (1,3%).**

Mobility of physicians seems to be more significant than the mobility of nurses in any of the countries. The overview also indicates that many countries are presenting a mixed profile, being the source as well as the destination country. Finally, it has to be noted that data availability and timeliness have significant limitations for comparison, therefore these figures should be interpreted as estimates for mobility.

RECOMMENDATIONS FOR FUTURE DEVELOPMENTS

The country fiches provide a novel overview of health workforce planning and policies in the 27 EU Member States and the United Kingdom. The material can serve as a ground-breaking resource, providing the overview and summary in a three-page synopsis, as well as in details and in depth by the online appendices at the same time. By the valuable contribution of country-based key informants and extensive local language desk research, the country fiches provide an insight into, and understanding of, each Member State's health workforce and their planning systems. The eBook can serve as an essential tool for supporting evidence-based planning and policies in the EU. The mapping study is presented in a standardised framework and language, allowing some international comparability. The results of the mapping study were also uploaded to a dedicated web platform in order to increase its utilisation and information uptake: http://healthworkforce.eu/countrysheets/

What is defined as the strength of this volume could also be seen as its limitation. Despite the important research investment in various policies addressing health workforce issues in all health care sectors, the final picture remains a collection of summaries, and is per definition incomplete.

Consequently, this mapping study enriches the State of Health in the EU volumes and Country Health Profiles and updates the Feasibility study on EU level collaboration on forecasting health workforce needs, workforce planning and health workforce trends (2012) and the work undertaken in the Joint Action on European Health Workforce Planning and Forecasting in a detailed manner. However, it still remains work in progress, given the continuously ongoing developments in various Member States. Moreover, it is a call for experts and academics to analyse the different policies applied by EU Member States, understand those differences, foster the spread of good practices and more. This mapping study, the country fiches and the online appendices could favour and strengthen expert collaboration and cross-breeding knowledge on the EU health workforce.

Although major efforts have been made by the SEPEN mapping exercise to make the information within the health workforce profiles comparable, still a long way is ahead of us. Further analysis is required, no longer as a stand-alone action of the key country informants and the research team but merely through stakeholders who are familiar, strongly engaged and directly involved with the national regulations, policies and issues. Examples of open discussions are the way to count more appropriately the number, performance, FTE, availability rate of health professionals in a country. Also selecting the most relevant indicators for HWF planning and policy making is essential for common understanding and requires a continuous dialogue. Although significant progress can be observed with regards to the availability and standardisation of national-level data, the comparability between the countries'

information from this volume would greatly benefit from further country-level dialogue. In parallel, further European-level collaboration is required to enable a better comparable international overview of health workforce planning. As the impact of COVID-19 further emphasises the importance of health workforce planning and management based on real-time data, we believe that this will incentivise Member States into more structured collaborations.

While the current report of the country fiches' mapping is up-to-date, the study also provided several references to decisions and regulations recently adopted and plans that are going to be executed in the upcoming years. This notion is definitively a strength of this volume, but the main task of further exploring the relevant implementations and impacts achieved are open for an update of the volume. Such tasks performed on a regular basis, e.g. bi-annually or quarterly, would make this collection an essential report on health workforce planning in the Member States. To facilitate this process, the network of key country informants is required to stay active, maintain regular contact and organise meetings, and need to be provided editing access to update the report and its annexes, potentially on the dedicated web platform.

Although the volume is a snapshot on national health workforce planning and policies in the EU member states, it provides a standard structure and template for every country and provides helpful guidelines for the key country informants to adequately structure their available information. The report is complementary for the Joint Questionnaire of OECD, Eurostat and WHO Europe[9], that at this moment is mainly focused on collecting the quantitative data of the Member States. The template allows to add insights and understanding beyond the level of the quantitative data with references to policies and regulations to explore and identify connections between the data.

A limitation of the study is that the listed planning and policies might be influenced by the key country informants' perspectives and official publications being publicly available. The differences in the level of detail on some aspects might be influenced by the background of the key country informants and the choice from the very start to collect at least all relevant policies on the sectoral health professions. We would recommend that for future updates, a team of key country informants for each of the Member States would be involved, possibly from different backgrounds, roles and perspectives.

Expanding the countries' knowledge on health workforce planning and policy, and the exchange of information and practices are not only goals on their own, but the mapping study itself is an essential tool for supporting evidence-based planning and policies in the EU at all levels in providing patient care services to the EU population.

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[9] https://www.oecd.org/statistics/data-collection/Health%20Data%20-%20Guidelines%202.pdf

LIST OF COUNTRY FICHES

HEALTH WORKFORCE PLANNING

PLANNING SUMMARY

Health workforce is indirectly covered by the federal and state level health care plans which determine the capacity required to operate the system. Austria plans admissions to basic (university) education and specialist training of medical students and physicians. The Austrian Structural Plan for Healthcare provides nonbinding targets of the number of physicians in the ambulatory care. In 2018, the Ministry decided to create a forecasting model for the entire workforce, in the area of health and nursing professions, as well as social-care professions. The ambition is to project the health workforce needed up to 2030.

PLANNING SYSTEM

The Austrian Federal Health Agency (BGA) issues the structural plan for healthcare on a regular basis. This plan is supported by the Federal Target-Based Governance Commission (B-ZK) and technically facilitated by the Austrian Public Health Institute (GÖG). The State plan is translated in Regional Structural Plans for Healthcare. These plans are negotiated by the Main Association of Austrian Social Security Institutions HVB and the corresponding regional medical chambers. In 2019, a study entitled "Nursing staff demand forecast" included the first assessment of the nursing workforce.

PLANNING GOALS

One of the main principles is to provide citizens to have a choice between at least two providers located within a reasonable travel distance.

HEALTH WORKFORCE DATA

SUPPLY DATA

Individual data: historically collected (personal and qualification data) through the central registry for physicians for decades run by the Austrian Medical Chamber. Since 2018, the following professions have been required to register in the health professions register, in order to be licensed to practise: graduate nurses, nurse assistants, biomedical analysts, dieticians, occupational therapists, speech therapists, orthoptists, physiotherapists and radiology technologists.

DATA SUPPLIERS

- Ministry of Health (incl. Gesundheit Österreich Gmbh (GÖG)),
- Austrian Medical Chamber,
- Austrian health insurers,
- Hospital statistics.

DEMAND DATA

For producing the Austrian structural plan for healthcare, the following demand data are taken into account:
- current or expected shortages,
- changes of working time regulation in hospital sector,
- optimisation measures,
- structural changes,
- other relevant demand-driven factors.

MOBILITY DATA

Inflow: foreign-born and -trained data are available, however solely the physicians' data are reliable due to the longstanding mandatory registration at the Medical Chamber.

Outflow: no reliable data on outflow.

CURRENT AND FUTURE CHALLENGES

→ Demography of medical and nursing workforce indicate current and upcoming concerns. The health system experiences difficulties to contract general practitioners. Part of the recent increase in public hospital visits is due to vacancy in general practitioners. Therefore, waiting time is rising in Austria. The age distribution of physicians indicates high retirement and attrition rates for the upcoming period.

→ The Austrian demography is facing population growth, ageing population and further urban and sub-urban concentration. These trends bring pressure to bear on the healthcare system and urges reforms, budget reallocation and new developments (e.g. using telemedicine).

→ Outflow of young professionals, reported as brain-drain, adversely affects the medical workforce demography. Therefore, medical training and working conditions should be improved.

HEALTH WORKFORCE POLICIES

Policy category	Details	Impacted professions
Manage shortages and maldistribution of skills	The Länder level - in partnership with the health insurance organisations - is responsible for planning the healthcare infrastructure and staffing based on the needs.	
	Several studies highlight the need for investing in strengthening primary care, particularly improving general practices (e.g. measures for tailored services, team competences in team practices, and strengthening health promotion and health literacy).	
Improving performance	Austria records quality data in the hospitals, and provides a quality assessment for medical practice and outpatient clinics.	
Address mobility	No specific policy reported, while the Austrian Medical Chamber highlights the impact of an outflow of physicians.	
Education, enrolment and recruitment	In Austria, training for all health care professions is regulated by federal law. The training and residency quota are regularly planned.	
Education staff & infrastructure	No specific policy reported while the Austrian Medical Chamber points out the need to improve the training conditions.	
Continuous professional development (CPD)	Mandatory CME/CPD requirements are established for physicians by the Austrian Medical Act and specified in the Regulation on CPD (DFP-Verordnung).	
Regulation of private sector	No specific policy reported.	
Working conditions	In 2019, the Austrian Chamber of Physicians conducted an evaluation of the working conditions in hospitals, highlighting a considerable increase in workload and discomfort without any proportionate compensation for the workforce.	

PHYSICIANS   DENTISTS   PHARMACISTS   NURSES AND MIDWIVES   ALLIED HEALTH PROFESSIONS

HEALTH WORKFORCE STOCK AND MOBILITY

Table 1: Health workforce stock and replacement

	Physicians[1]	Nurses[1]
Total stock 2018	46.337	60.694
Stock 55-64 years 2018	11.772	Not reported
Graduates	1.346[2]	2.842[3]

1 Practising
2 Latest available data, 2018
3 Latest available data, 2017

Figure 1: Mobility level in absolute numbers (2018)

Outflow: ■ non-EU ■ EU | Inflow: ■ EU ■ non-EU

4 % of the practising physisians and nurses

Note: Inflow data not available for nurses 2018

HEALTH WORKFORCE DENSITY AT SUB-NATIONAL LEVEL

Figure 2a: Number of practising physicians per 1.000 inhabitants (regional distribution latest data available, 2018)

4,19 — 6,78

Average

5,24 (2018)

3,80
(EU average 2018 for physicians)

Wien
6,78

Niederösterreich
4,65

Oberösterreich
4,20

Salzburg
5,67

Steiermark
5,18

Burgerland
4,19

Vorarlberg
4,33

Tirol
5,60

Kärten
4,81

Figure 2b: Number of practising nurses and midwives per 1.000 inhabitants (regional distribution latest data available, 2015)

5,39 — 9,98

Average

7,13 (2018)

8,20
(EU average 2018 for nurses)

Wien
9,98

Niederösterreich
6,30

Oberösterreich
8,23

Salzburg
8,95

Steiermark
8,73

Burgerland
5,39

Vorarlberg
6,31

Tirol
8,57

Kärten
8,43

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definitions
and sources

BELGIUM

HEALTH WORKFORCE PLANNING

PLANNING SUMMARY

In 1996, Belgium established a 'Planning Commission for Medical Supply'. This multi-stakeholders' advisory body issues non-binding advice to physicians, dentists, physiotherapists and other professions (e.g. nurses and midwives). An annual quota defines the number of new physicians licensed to practise within national health insurance guidelines. The federal social security minister is in charge of applying the quota, while education ministers (at the language community level) tailor admission to training to match the future intake within the health insurance guidelines.

PLANNING SYSTEM

The planning commission supported by the Federal Public Service of Health utilises an extensive dataset, obtained by linking data from the register of health professions with data from the health insurance and the Data Warehouse of Labour Market and Social Protection. The supply and demand model applies stock and flow data using multiple parameters. Stakeholders discuss both data and hypothesis, ultimately delivering scenario-based projections. The commission uses the results to advise the federal minister on the quota, and finally the government validates the results by law.

PLANNING GOALS

The goals of the planning commission are legally defined as follows: 1. Examine the needs in terms of medical supplies for physicians and dentists, taking into account the quality of care, sociological and demographic evolutions and the organisation of care. 2. Evaluate continuously the impact of planning on access to studies for these professions 3. Report to the ministers of health and of social affairs on the relationship between needs, studies and the transiti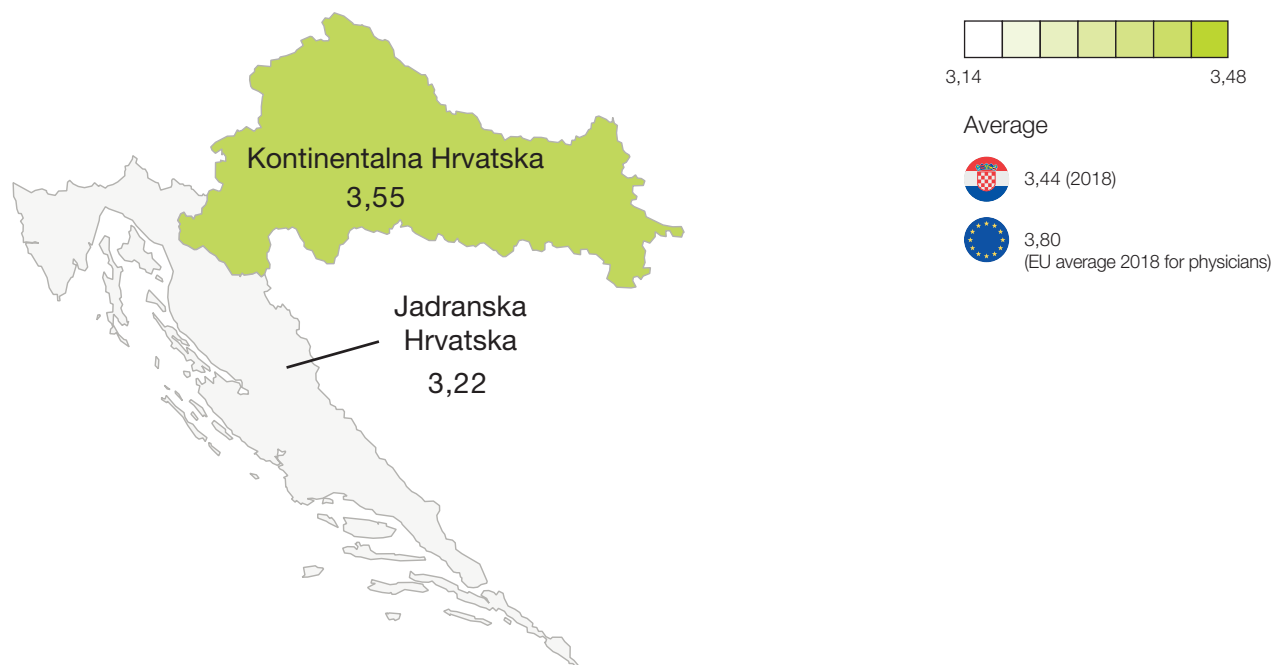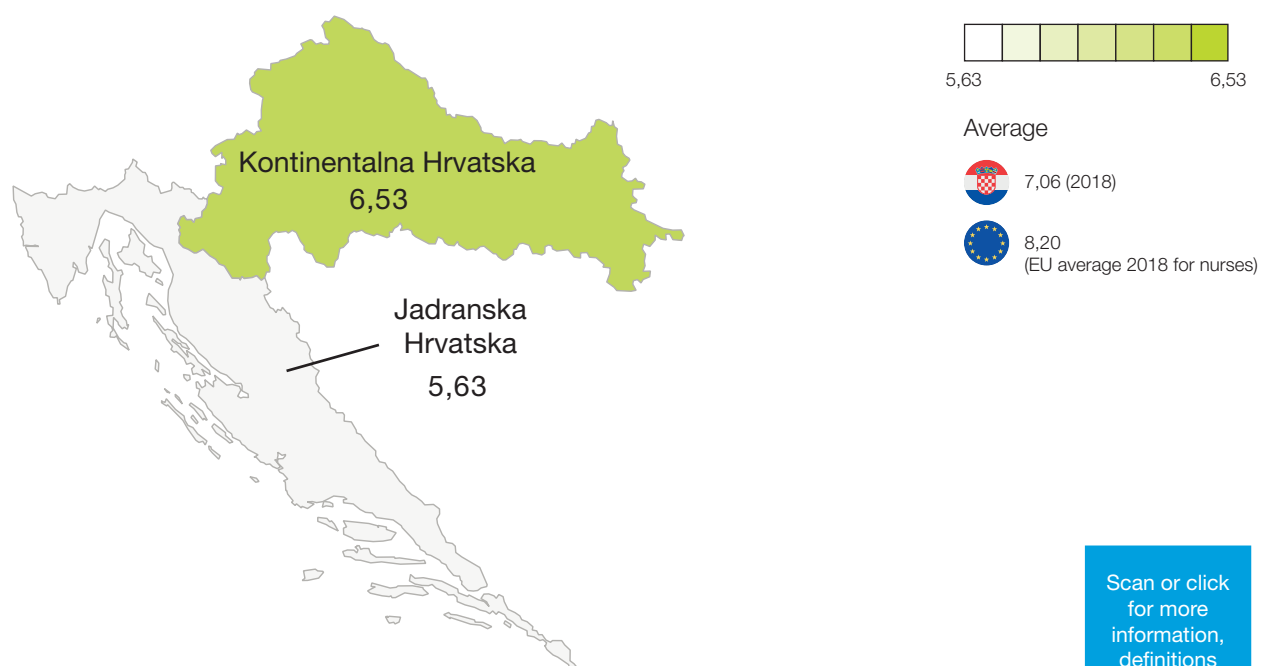on to access to the required internships 4. Enhance these roles to other professions (currently nurses, midwives, physiotherapists, speech therapists and audiologists).

HEALTH WORKFORCE DATA

SUPPLY DATA

Individual data: age category, gender, place of residence, place of work, qualification, (medical) specialisations, professional status (employee/self-employed/retired).

Aggregated data: productivity information per category of professionals.

DATA SUPPLIERS

- Federal Public Service of Health
- Ministry of Education of the Flemish and of the French speaking Communities
- National register of health care professions
- Various social security and pensions institutions through the Crossroads Bank for Social Security (CBSS) and its Data Warehouse of Labour market and Social protection
- Professional associations and chambers
- Sciensano (scientific institute of public health)

DEMAND DATA

The demand is based on the demographic evolution of the Belgian population (by age, gender and community) and on health expenditures gathered through the compulsory social security system. The demand can also be based on national health surveys.

MOBILITY DATA

Inflow: Belgium registers foreign-born and foreign-trained professionals as they are being admitted to training, as they start their specialisations and at the entry to the Belgian labour market.

Outflow: Belgium estimates the total outflow from the health system, regardless of the reasons, and applies no specific data collection on emigration. OECD data provide excellent proxy value.

CURRENT AND FUTURE CHALLENGES

→ Improvement of data quality and access to different data sources are permanent concerns of the planning commission. This also includes the application of new indicators and improved calculations.

→ Continuous improvements of the planning system and projection model are required to monitor all health professions on a permanent basis. Among the improvements on both demand and supply side, Belgium plans to investigate how to consolidate the network-type organisation of hospitals, how to detect and measure unmet needs of the population and how to find synergies between health professionals to enhance their performance.

→ Further improvement is necessary with regards to the accuracy and efficiency of institutional communication of the planning commission, not only at the federal level, but also at community, regional and district levels, to aid health workforce monitoring.

HEALTH WORKFORCE POLICIES

Policy category	Details	Impacted professions
Manage shortages and maldistribution of skills	The federal government and the communities are accountable for health care. They both adopt specific policies to regulate imbalances. The two main levers are admission to training (entrance exam) and to health insurance related specialization (federal maximum quota). Communities define the distribution of specialization quotas according their specific needs.	
	Financial incentives support the settlement of general practitioners.	
Improving performance	At federal level, various performance programs are set up in primary care and hospitals. National health performance indicators are utilised.	
Address mobility	Belgium receives a significant amount of foreign-born students. The French speaking community applies a limitation on foreign medical, dental, speech- and physiotherapy students. The validation of this practice by law is under investigation.	
Education, enrolment and recruitment	The number of new physicians and dentists working within the national health insurance is limited by quota and applied in case of specialists with a Belgian first qualification. The synchronization of the measures to take by the communities to reach the targets occurs in an Intergovernmental negotiation.	
	Flanders employs a Care Ambassador running coordinated campaigns for the promotion of healthcare jobs.	
Education staff & infrastructure	In 2019, Belgium created a legal framework of skills recognition for clinical psychologists and clinical remedial teachers within the healthcare professions. Dental hygienists have also been added to the recognised health professions in 2019.	
Continuous professional development (CPD)	All health professions must comply to a mandatory CPD to fulfil license to practice / registration requirements.	
Regulation of private sector	A vast majority of the Belgian health system is organised through the compulsory social security system. The private sector has to comply to the same rules as the publicly funded system.	
Working conditions	Belgium runs various projects for improving working conditions by alternative work organisation, e.g. special investment in group practice and medical houses, the organization of out-of-hours duty and call center for general practitioners (1733), financing quality development of the medical internships.	

PHYSICIANS   DENTISTS   PHARMACISTS   NURSES AND MIDWIVES   ALLIED HEALTH PROFESSIONS

HEALTH WORKFORCE STOCK AND MOBILITY

Table 1: Health workforce stock and replacement

	Physicians[1]	Nurses[2]
Total stock	35.762[4]	214.318[5]
Stock 55-64 years	9.109[4]	43.001[3]
Graduates 2019	2.020	3.569

1 Practising
2 Licensed to practise
3 Latest available data, 2017
4 Latest available data, 2018
5 Latest available data, 2019

Figure 1: Mobility level in absolute numbers (2018)

0,72%[6]	Physicians	1,29%[6]
0,17%[7]	Nurses	0,30%[7]

Outflow: non-EU EU | Inflow: EU non-EU

6 % of the practising physicians
7 % of the licensed to practise nurses

HEALTH WORKFORCE DENSITY AT SUB-NATIONAL LEVEL

Figure 2a: Number of practising physicians per 1.000 inhabitants (regional distribution latest data available, 2018)

2,28   5,09

Average

3,13 (2018)

3,80
(EU average 2018 for physicians)

West-Vlaanderen 2,57
Oost-Vlaanderen 2,89
Antwerpen 2,67
Limburg 2,52
Vlaams-Brabant 4,03
Brabant Wallon 5,13
Hainaut 2,56
Liège 3,57
Namur 3,53
Luxembourg 2,28
Brussels Hoofdstedelijk Gewest - Région de Bruxelles-Capitale 3,88

Figure 2b: Number of practising nurses and midwives per 1.000 inhabitants (regional distribution latest data available, 2017)

Belgium 11,91

Average

11,91 (2017)

8,20
(EU average 2018 for practising nurses)

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BULGARIA

HEALTH WORKFORCE PLANNING

PLANNING SUMMARY

Bulgaria has been planning and developing health care since 1999 in accordance with the Health Care Establishment Act. The so-called 'National Health Map' (NHM) aims to organize adequate accessibility of care. The NHM established a methodology in 2015, including national benchmarks for the availability of GPs, specialists and hospital beds, accounted for regional specificity and national health priorities (such as maternal and child health, and leading causes of death). In 2018, the NHM identified the needs of physicians (generalist and specialists), dentists and nurses, and the need for hospital beds, service provision and equipment. Additionally, an annual training quota was set for university studies.

PLANNING SYSTEM

Bulgaria regularly promotes the NHM. The 2018 fourth edition defined target numbers of physicians, dentists and specialists in the field of outpatient care at national, regional and sub-regional levels. The National Health Map is prepared by a national, multi-stakeholder commission chaired by the Minister of Health. This mandatory Map controls the decisions of the commission licensing new service provision in hospitals and new hospitals. The training quota, prescribed annually, takes the current and projected capacities into account, upon proposal of the Minister of Education (university) or (regional) inspectorate of health (medical and non-medical specialisations).

PLANNING GOALS

The NHM defines and plans territorial needs of the population for accessible outpatient and hospital care, and implements national health policy. Its main purpose is to guarantee equal access to health services to Bulgarian citizens. The training quota tailors the admission to training to the country's needs and sustains the quality.

HEALTH WORKFORCE DATA

SUPPLY DATA

Individual data:
- gender,
- age,
- rural/urban location,
- qualification and specialisation of physicians.

DATA SUPPLIERS

- National Centre of Public Health and Analyses
- Ministry of Health
- National Statistical Institute
- National Health Insurance Fund
- Ministry of Education and Science

DEMAND DATA

The NHM is based on:
- demographic data,
- epidemiological information (e.g. disease prevalence),
- health consumption (e.g. hospital admissions).

MOBILITY DATA

Inflow: data on foreign-trained health professionals are recorded upon individual registration at the professional chamber.

Outflow: statistical data on physicians and nurses outflow are not publicly available. Professional organisations and the Ministry of Health record certificates of recognition of professional qualification.

CURRENT AND FUTURE CHALLENGES

→ Bulgaria faces a severe shortage of nurses. The country has the second-lowest ratio of nurses to population and the lowest nurse to physician ratio among all EU Member States. The significant outflow is projected to increase, considering the high average age of nurses and midwives, and the migration of predominantly young nurses. It has already resulted in a heavy workload for domestic practising nurses.

→ The outflow of young physicians and nurses and the aging of all health professionals, particularly among nurses and general practitioners, pose a threat to the health system.

→ Imbalances in geographical distribution of health professionals by districts and shortages in rural areas are key concerns. Rural areas suffer from low levels of attractiveness. This has a snowball effect in terms of the decline in working conditions in Bulgaria.

HEALTH WORKFORCE POLICIES

Policy category	Details	Impacted professions
Manage shortages and maldistribution of skills	Financial incentive is granted to general practitioners to work in remote areas - monthly allowances are specified in the National Framework Contract (by settlements, remoteness of practice, accessibility, the number of settlements served, the population covered and environmental pollution).	🧑‍⚕️
	The methodology introduced in the National Health Map specifies population needs for physicians, dentists and nursing professionals in outpatient care by district.	🧑‍⚕️ 🦷 ⚕️
Improving performance	No policy reported.	
Address mobility	Resident physicians who received a state grant for studying are obliged to practise 3 years in the public service after obtaining specialised qualification.	🧑‍⚕️
Education, enrolment and recruitment	Regarding the specialisation of health professionals, the Minister of Health annually determines the training quota in specialties subsidised by the state following the goals and priorities of the national health strategy.	🧑‍⚕️ 🦷 💊 ⚕️ ➕
	Bulgaria is applying training quotas for undergraduate and graduate students to face the challenge of physicians and nurses' demographic trends more effectively.	🧑‍⚕️ 🦷 💊 ⚕️
Education staff & infrastructure	Six Bulgarian universities run academic programmes in English (medical, often dental and pharmacy), and develop their capacity to train international students.	🧑‍⚕️ 🦷 💊
Continuous professional development (CPD)	Both mandatory and voluntary CPD for pharmacists, midwives, and nurses. Mandatory CPD for physicians and dentists.	🧑‍⚕️ 🦷 💊 ⚕️ ➕
Regulation of private sector	Regulation of the health establishment subject to authorisation through the National Health Map.	
Working conditions	Salary increase in public service and emergency care were established by the 2018 NHM.	🧑‍⚕️ ⚕️ ➕

🧑‍⚕️ PHYSICIANS   🦷 DENTISTS   💊 PHARMACISTS   ⚕️ NURSES AND MIDWIVES   ➕ ALLIED HEALTH PROFESSIONS

HEALTH WORKFORCE STOCK AND MOBILITY

Table 1: Health workforce stock and replacement

	Physicians[1]	Nurses[1]
Total stock 2018	29.625	30.589
Stock 55-64 years 2018	10.249	Not reported
Graduates 2018	1.102	593

1 Practising

Figure 1: Mobility level in absolute numbers (2018)

Outflow: ■ non-EU ■ EU | Inflow: ■ EU ■ non-EU

2 % of the practising physicians and nurses

HEALTH WORKFORCE DENSITY AT SUB-NATIONAL LEVEL

Figure 2a: Number of practising physicians per 1.000 inhabitants (regional distribution latest data available, 2018)

3,35 — 4,46

Average

4,24 (2018)

3,80
(EU average 2018 for physicians)

Severen tsentralen 3,35
Severozapaden 4,46
Severoiztochen 3,95
Yugoiztochen 4,44
Yugozapaden 4,05
Yuzhen tsentralen 3,46

Figure 2b: Number of practising nurses and midwives per 1.000 inhabitants (regional distribution latest data available, 2018)

3,71 — 4,57

Average

4,83 (2018)

8,20
(EU average 2018 for nurses)

Severen tsentralen 3,81
Severozapaden 4,57
Severoiztochen 3,71
Yugoiztochen 4,42
Yugozapaden 4,22
Yuzhen tsentralen 3,93

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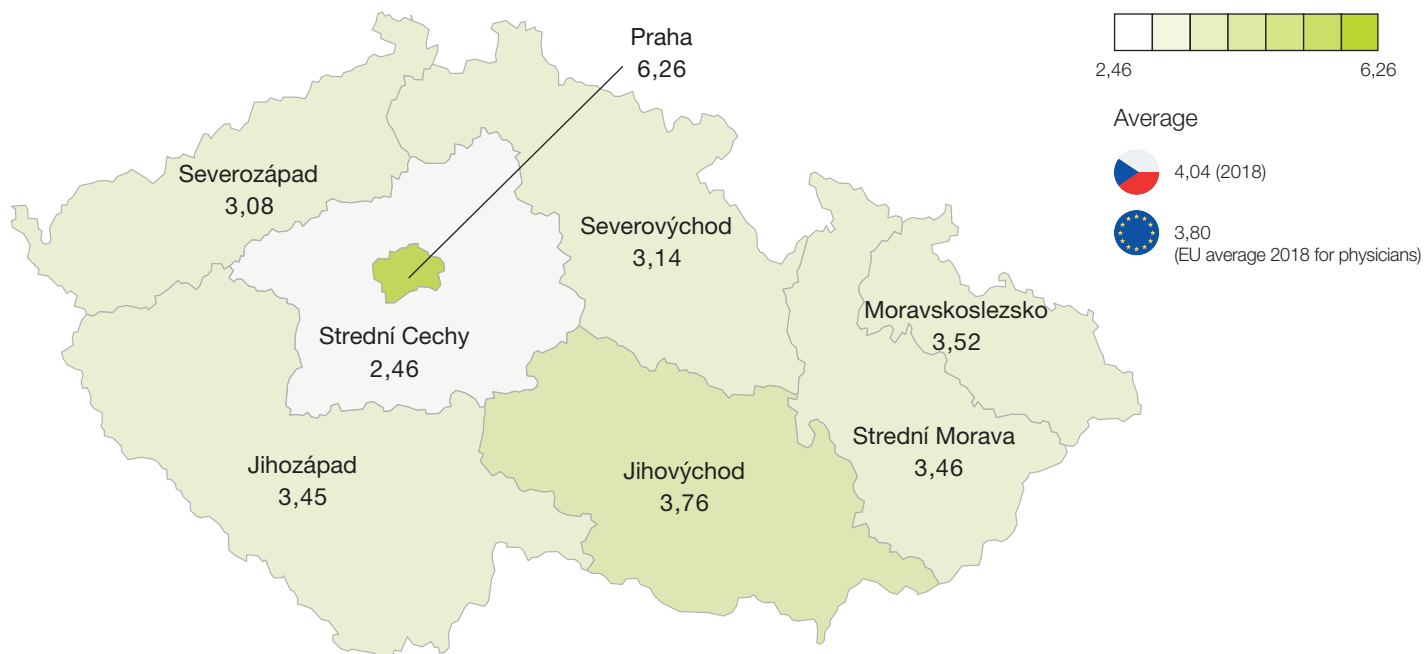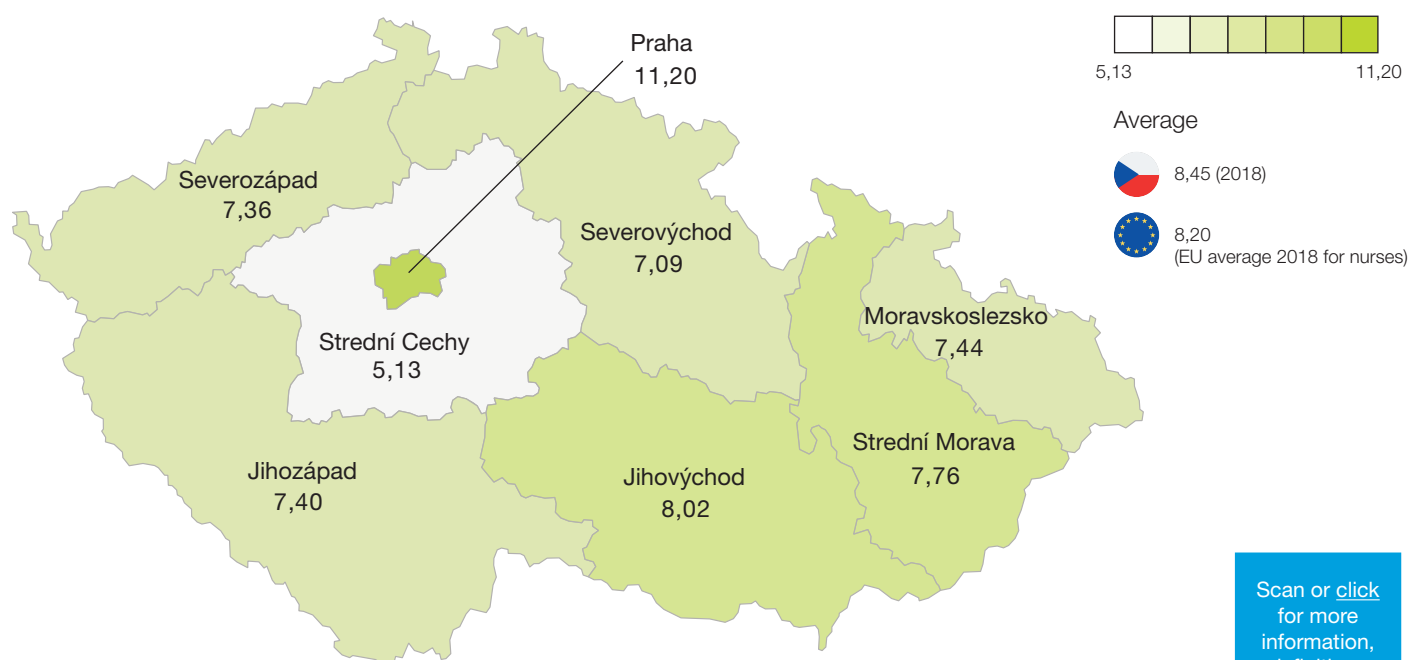
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CROATIA

HEALTH WORKFORCE PLANNING

PLANNING SUMMARY

Croatia develops national health plans, focusing mainly on the capacity of hospital facilities needed and setting targets for public access to these facilities. Additionally, a strategic plan for health workforce development in 2015-2020 has been created and implemented, with a focus on the integration of primary care and hospital sector, emergency care. The current government intends to build a human-resources management system.

PLANNING SYSTEM

The Ministry of Health develops the national health plans following suggestions from the Croatian Institute of Public Health and hospital needs. Regarding healthcare workforce, the process of registration and planning system are under construction.

PLANNING GOALS

The main goals at the national level and according to the existing strategic framework are the following: establishing and implementing a human-resources management system, determining the process of registration of health workforce in the healthcare system, improving coordination of different stakeholders at the strategic and operational level, and mitigating the negative trends, in particular for medical professions.

HEALTH WORKFORCE DATA

SUPPLY DATA

Individual data:
- Demographic data: headcount, age, gender, nationality,
- Activity data: type of employment, activity, place of practice,
- Qualification data.

Aggregated data:
- Health labour market and health education, regional data.

DATA SUPPLIERS

- Central Bureau of Statistics
- Croatian Public Health Institute
- National Health Insurance Fund
- Professional chamber registries
- Croatian Employment Service
- County Public Health Institutes
- Hospitals
- Private medical institutions

DEMAND DATA

Health status, network and activity of health establishment.

MOBILITY DATA

Inflow: number of foreign health workforce is not subject to systematic national monitoring or reporting.

Outflow: number certificates issued for the recognition of the healthcare qualifications for medical professions.

CURRENT AND FUTURE CHALLENGES

→ Improving health workforce management and planning in healthcare is key for Croatia to address the shortage in certain medical specialties, and in nursing, reduce the migration trend and fulfil the future needs of the public healthcare service. Croatia aims to implement a simple monitoring and planning system to balance the supply and demand of the population, and introduce a performance-based reward system.

→ Croatia identifies that the ICT solutions in healthcare are key to improve citizens' health and the productivity and efficiency of health workforce on top of eHealth solutions. Croatia intends to put supportive solutions in place to promote accessibility to healthcare by managing waiting lists, setting up appointments and providing accounting. This should also alleviate the administrative burden on health professions.

→ The Croatian Government urges to improve the availability, quality and efficiency of primary health care, including emergency medicine. On-call period for family medicine, dental care and pediatrics is needed by the public to reduce the burden on the hospitals.

HEALTH WORKFORCE POLICIES

Policy category	Details	Impacted professions
Manage shortages and maldistribution of skills	Croatia has issued a 'Strategic Plan for Human Resources Development in Healthcare 2015 -2020' that promotes the planning of a Public Health Service Network and target coverage.	
	Croatia is developing a mandatory process of registration for the health workforce.	
Improving performance	Performance is monitored at facility level. Mandatory CPD aims to improve quality.	
Address mobility	Despite the existing drivers for influencing outward migration, the ratio of physicians and nurses per head of the population has slightly increased. Incentives for students and salary increases are some measures taken to counter outward migration.	
Education, enrolment and recruitment	The Healthcare Act (Section XIV) regulates education, enrolment and recruitment, and also describes the process of the medical residency programme.	
Education staff & infrastructure	Policy framework regarding education in a wider context is part of Croatia's education policy. The Healthcare Act and Medical Workforce Act regulate medical training.	
	All domestically-trained health professionals work under supervision after obtaining qualifications (1-2 years). The state exam at the commission of the Ministry verifies the completion of the training.	
Continuous professional development (CPD)	The Healthcare Act (Art. 138) ratifies mandatory CPD. Chambers issuing licences to practise include CPD among the revalidation criteria.	
Regulation of private sector	The legal framework applies also to the private sector and the Healthcare Act (Section XV) defines specifically private-practice rights and duties.	
Working conditions	Working conditions are defined by the Collective Negotiation Agreement for the healthcare and health insurance sector between the Government and the Trade Unions and by the Healthcare Act (Section XVI). On-call service time is considered as salaried working time by law.	
Others	Croatia issues an annual plan for the implementation of the statistical data collections on medical workforce.	

PHYSICIANS   DENTISTS   PHARMACISTS   NURSES AND MIDWIVES   ALLIED HEALTH PROFESSIONS

HEALTH WORKFORCE STOCK AND MOBILITY

Table 1: Health workforce stock and replacement

	Physicians[1]	Nurses[1]
Total stock 2018	14.075	27.235
Stock 55-64 years 2018	3.633	Not reported
Graduates 2018	627	2.439

1 Practising

Figure 1: Mobility level in absolute numbers (2018)

Outflow: ■ non-EU ■ EU

2 % of the licensed to practising physicians and nurses

Note: Inflow data not available

HEALTH WORKFORCE DENSITY AT SUB-NATIONAL LEVEL

Figure 2a: Number of practising physicians per 1.000 inhabitants (regional distribution latest data available, 2018)

3,14   3,48

Average

3,44 (2018)

3,80
(EU average 2018 for physicians)

Kontinentalna Hrvatska
3,55

Jadranska
Hrvatska
3,22

Figure 2b: Number of practising nurses and midwives per 1.000 inhabitants (regional distribution latest data available, 2015)

5,63   6,53

Average

7,06 (2018)

8,20
(EU average 2018 for nurses)

Kontinentalna Hrvatska
6,53

Jadranska
Hrvatska
5,63

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CYPRUS

HEALTH WORKFORCE PLANNING

PLANNING SUMMARY

Since the implementation of Cyprus Health Care System legislation on 1/1/2019, a Capacity Planning Group has been established with stakeholders at a national level (Ministry of Health, Health Insurance Organisation, state Health Services Organisation, Private Sector Organisations, Pancyprian Federation of Patients Associations and Friends, Cyprus Nurses and Midwives Association and Cyprus Medical Association). The Group has designed a Capacity Master Plan, ensuring the optimal operation and performance of the healthcare system.

PLANNING SYSTEM

Since the implementation of Cyprus Health Care System on 1/1/2019, the Ministry of Health, (Medical and Public Health Services, Nursing Service Administration, Mental Health Services, Dental Services, Pharmaceutical Services, State General Laboratory), jointly with the State Health Services Organisation, are creating a planning system to integrate the analysis of health workforce demand and supply into the audit of current and planned facilities.

PLANNING GOALS

Cyprus aims to plan health workforce within a broader context of health care services. One focus is to link the demand for health workforce to facilities, and consider health workforce performance in relation to the impact of regulations. The overall objective is to provide integrated and quality public health care.

HEALTH WORKFORCE DATA

SUPPLY DATA

Individual data: Cyprus records individual data, when individuals are licensed to practise, e.g. nationality (place of birth), age, gender, and place of study.

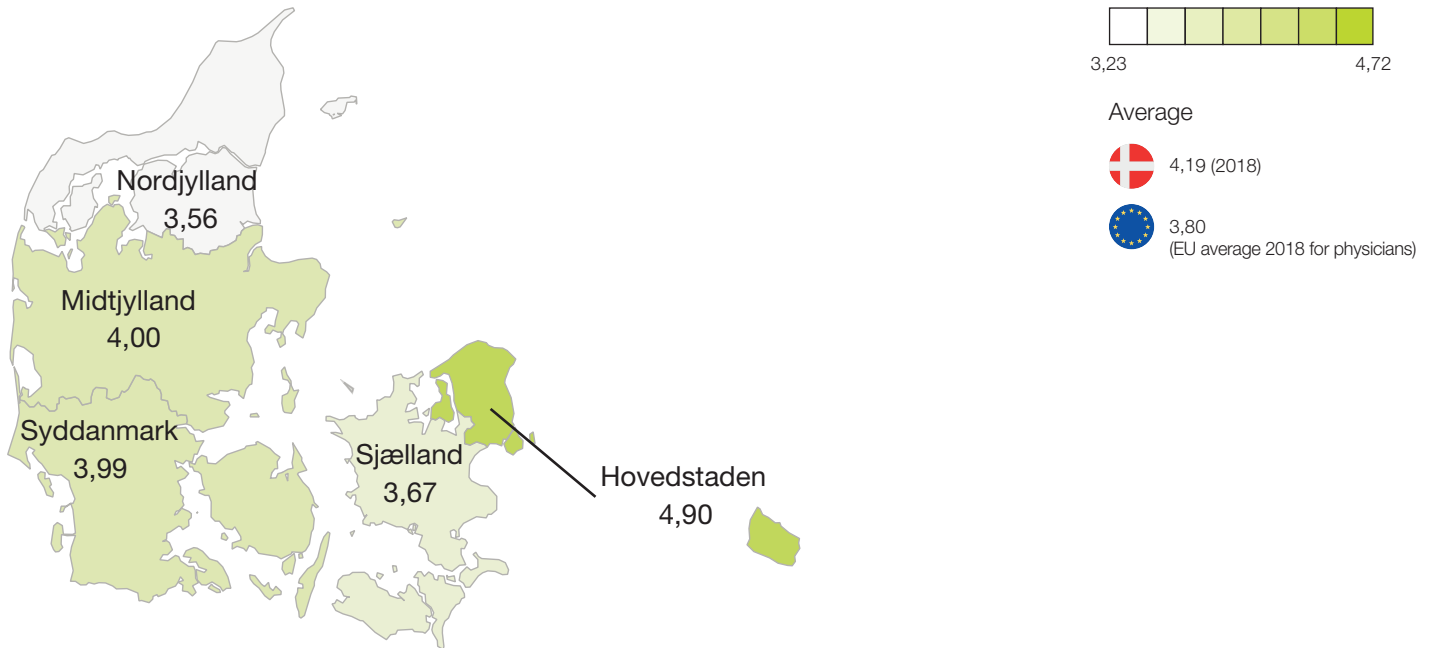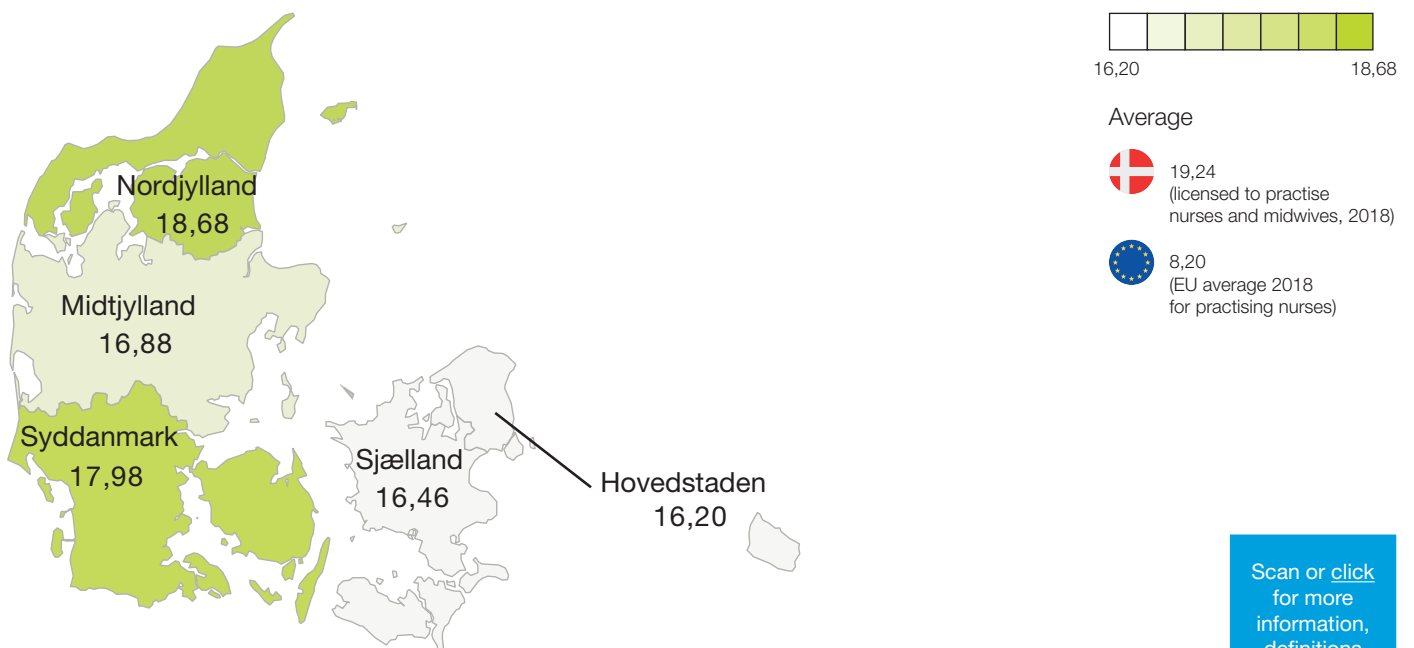**Aggregated data:** at this early stage of health workforce planning, Cyprus does not yet collect systems information to calculate the demand.

DATA SUPPLIERS

The statistical service of Cyprus is the competent authority responsible for the compilation and the publication of most of the statistical data in Cyprus.

DEMAND DATA

At this early stage of health workforce planning, Cyprus does not collect systems information yet to calculate the demand.

MOBILITY DATA

Inflow: registration data provide information about the foreign-trained and foreign-born health workforce. All physicians of Cyprus are foreign-trained.

Outflow: Cyprus does not report to the WHO/OECD/Eurostat data collection. Monitoring of nurses in training and registration shows that only an insignificant number of nurses leave the country.

CURRENT AND FUTURE CHALLENGES

→ To collect and produce data for health workforce planning is rather challenging, because of the data needed to understand the effects and patterns of mobility, the lack of valid data for monitoring physician shortages, and the improvement of the health system indicators.

→ To maintain and develop a close collaboration between the Ministry of Health and the Universities in order to provide postgraduate training based on health system needs instead of attractive specialties.

→ The reliance on foreign-born and foreign-trained professionals (mainly in Greece) within the public health care service as a consequence of the official language barrier (Greek language requirements).

HEALTH WORKFORCE POLICIES

Policy category	Details	Impacted professions
Manage shortages and maldistribution of skills	Four Universities in Cyprus run nursing and midwifery programmes (BSc, MSc, PhD). Nursing education tailored to the needs of the country is the main strategy to ensure that there is no skills shortage.	Physicians, Nurses
	A lack of skilled personnel is identified particularly among specialised physicians e.g. in emergency and intensive care, intensive neonatal care, rheumatology, nephrology, psychiatry or child psychiatry. These shortages will be addressed by the new planning initiatives.	Physicians
Improving performance	The Ministry of Health promotes various education programmes to public and private nursing workforce to foster performance through upskilling.	Nurses
Address mobility	While no record regarding outflow of physicians is available, Cypriot physicians are all trained overseas as there is no medical academic programme in the country. No nurse outflow is reported.	Physicians
Education, enrolment and recruitment	No specific policy reported.	
Education staff & infrastructure	Cyprus offers four BSc University Degree in Nursing & Midwifery compliant with 2005/36/EC and Master level programmes, which match the national demand. Although there is no medical academic programme in the country, medical specialisation training is available. A current dialogue with stakeholders aims to issue a legal coordinated framework on medical specialisation training.	Physicians, Nurses
Continuous professional development (CPD)	Mandatory CPD is required for nurses and midwives to renew their license to practise every four years. CPD training is offered by various organisations and is monitored by the Nursing and Midwifery Council.	Nurses
	The medical profession is subject to a voluntary CPD framework (150 credits over three years recommended), based on physicians' ethical obligation and sustained in a code by the professional body. CPD activities are mainly provided by professional organisations and scientific societies. Physicians' compliance is monitored by the Medical Association and the Medical Council.	Physicians, Pharmacists, Allied health
	No mandatory CPD is in place for dentists, though a voluntary framework is currently on a trial period.	Dentists
Regulation of private sector	Act on the Control, Supervision, Foundation and Operation of Private Hospitals N. 90(I)/2001 - Part X deals with the Nursing Staff Ratios	Nurses
Working conditions	No specific policy reported.	

PHYSICIANS   DENTISTS   PHARMACISTS   NURSES AND MIDWIVES   ALLIED HEALTH PROFESSIONS

HEALTH WORKFORCE STOCK AND MOBILITY

Table 1: Health workforce stock and replacement

	Physicians[1]	Nurses[1]
Total stock 2018	3.544	4.717
Stock 55-64 years 2018	905	Not reported
Graduates 2018	0	134

1 Practising

Figure 1: Mobility level in absolute numbers (2018)

Outflow: ■ non-EU ■ EU

0,59%[2] Physicians
0,17%[2] Nurses

2 % of the practising physicians and nurses
Note: Inflow data not available

57

HEALTH WORKFORCE DENSITY AT SUB-NATIONAL LEVEL

Figure 2a: Number of practising physicians per 1.000 inhabitants (regional distribution latest data available, 2018)

Average

4,07 (2018)

3,80
(EU average 2018 for physicians)

Cyprus
4,07

Figure 2b: Number of practising nurses and midwives per 1.000 inhabitants (regional distribution latest data available, 2018)

Average

5,76 (2018)

8,20
(EU average 2018 for nurses)

Cyprus
5,76

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definitions
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CZECHIA

HEALTH WORKFORCE PLANNING

PLANNING SUMMARY

Czechia has not put a systematic health workforce planning in place to date. In recent years, several projections have been produced focusing on the medical workforce in primary care (general practitioners, dentists and gynaecologists). These calculations use health insurance data and estimate adequate staffing levels for health services to address the total potential demand. The current aging trend of physicians requires an increased training quota of medical students.

PLANNING SYSTEM

Detailed calculations are available. Demographic information is used to estimate the number of physicians needed to respond to demand, while the age structure of physicians is used to calculate the attrition rate of the current stock. The equation allows health insurance companies to contract the right number of physicians. Both calculations and evidence support a working group on primary care planning. Another working group on mental care is already on the agenda.

PLANNING GOALS

The aim is to maintain a long-term balance between the supply of health workforce and the demand of care.

HEALTH WORKFORCE DATA

SUPPLY DATA

Individual data:
- The registers of the health care insurance companies, cross-checked with the National Register of Healthcare Workers, provide demographic and qualification information at individual level.
- Universities and chambers provide data on the inflow.

DATA SUPPLIERS

- Institute of Health Information and Statistics
- Ministry of Health, Health Insurance Companies
- Institute of Postgraduate Medical Education
- Ministry of Education
- Czech Medical Chamber, Czech Dental Chamber, Professional associations
- Czech Statistical Office

DEMAND DATA

Population demographic data correlated with health care consumption (average patients per physician) supports the calculation of demand. The main health insurance company integrates territorial care provision data with the place of residence to model the distribution of demand.

MOBILITY DATA

Inflow: foreign-trained students and foreign-born health professionals are registered.

Outflow: number of certificates issued for the recognition of the healthcare qualifications in a foreign country, number of students following English language academic programme.

CURRENT AND FUTURE CHALLENGES

→ The age structure of physicians indicates a significant outflow in the short-term due to retirement, particularly in primary care. Replenishment strategies are needed.

→ Worsening of an already insufficient coverage in rural or underserved areas due to low attractiveness for young physicians to practise, combined with the significant outflow in the short-term due to retirement.

→ The healthcare system faces a growing demand for healthcare services as a result of an ageing population, changes in the morbidity pattern and shifts in the population disease profiles.

HEALTH WORKFORCE POLICIES

Policy category	Details	Impacted professions
Manage shortages and maldistribution of skills	The working group on primary care carries out situation analysis and calculations on the evolution of medical/dental density in Czechia. Health care insurance companies run the demand and supply modelling and contract physicians according to the expected numbers of future supply. Still, both the Ministry of Health and insurance companies provide additional funding to underserved areas' with insufficient coverage.	
Improving performance	Within the insurance-based social security and healthcare system, only providers aiming at higher effectiveness evaluate performance.	
Address mobility	No country policy reported and not considered a major issue in Czechia.	
Education, enrolment and recruitment	Czechia is currently running a training programme assessment to increase quality of qualifications of physicians, dentists, pharmacists and nurses.	
Education staff & infrastructure	Czechia centralises the administration of physician specialisation and residency training places. Additional training opportunities for specialists are funded in underserved areas.	
Continuous professional development (CPD)	Mandatory CPD is related to financial benefits within the social security and health insurances.	
Regulation of private sector	Not applicable as the insurance-based system is mainly built on a free market-demand and supply policy.	
Working conditions	In Czechia, attention is paid to improving the work-life balance of health professionals.	

PHYSICIANS   DENTISTS   PHARMACISTS   NURSES AND MIDWIVES   ALLIED HEALTH PROFESSIONS

HEALTH WORKFORCE STOCK AND MOBILITY

Table 1: Health workforce stock and replacement

	Physicians[1]	Nurses[2]
Total stock 2019	42.484	97.553
Stock 55-64 years 2019	8.069	18.281
Graduates 2018	1.700	1.550

1 Practising

Figure 1: Mobility level in absolute numbers (2018)

Outflow: ▨ non-EU ▨ EU | Inflow: ▨ EU ▨ non-EU

2 % of the licensed to practising physicians and nurses

Note: Inflow data not available

HEALTH WORKFORCE DENSITY AT SUB-NATIONAL LEVEL

Figure 2a: Number of practising physicians per 1.000 inhabitants (regional distribution latest data available, 2017)

2,46 — 6,26

Average

4,04 (2018)

3,80
(EU average 2018 for physicians)

Praha
6,26

Severozápad
3,08

Severovýchod
3,14

Strední Cechy
2,46

Moravskoslezsko
3,52

Jihozápad
3,45

Jihovýchod
3,76

Strední Morava
3,46

Figure 2b: Number of practising nurses and midwives per 1.000 inhabitants (regional distribution latest data available, 2017)

5,13 — 11,20

Average

8,45 (2018)

8,20
(EU average 2018 for nurses)

Praha
11,20

Severozápad
7,36

Severovýchod
7,09

Strední Cechy
5,13

Moravskoslezsko
7,44

Jihozápad
7,40

Jihovýchod
8,02

Strední Morava
7,76

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DENMARK

HEALTH WORKFORCE PLANNING

PLANNING SUMMARY

Denmark is regularly applying time-series monitoring and regression analyses. The quantitative forecasting model is based on a simple method and is flexible as projections are re-assessed by qualitative assumptions. The projections are discussed in the frames of a broad stakeholder dialogue. The planning process regulates both admission to training and specialisation, as well as residency positions. The number of training positions is distributed centrally and regionally in the five Danish regions.

PLANNING SYSTEM

Based on registration and health insurance data, the Danish Health Authority produces health workforce planning reports projecting the supply of physicians, dentists, clinical dental technicians and dental hygienists on short (3-5 years) and long (25 years) term projection horizons. Physician and dental care committees organise assemblies for relevant stakeholders, to provide opportunities for dialogues aimed to tailor admissions to training processes and facilitate proper distribution of specialisation and residency positions.

PLANNING GOALS

The goal of the Danish planning process is to monitor the evolution of the health workforce and regulate the training quotas with a view to, meeting the future needs.

HEALTH WORKFORCE DATA

SUPPLY DATA

Individual data: head count of health workforce, qualification, medical specialisation, age, retirement.

Aggregated data: unemployment and geographical distribution of health workforce.

DATA SUPPLIERS

- Authorisation Register (Autorisationsregistret) - licensed to practice data, managed by the Danish Patient Safety Authority
- Occupation Register (Beskæftigelsesregistret), managed by Danish Statistical Office and providing data through tax information and social security services
- Human resources reports from hospitals
- Danish Statistical Office (Danmarks Statistik)
- Danish Regions, responsible for healthcare at local level

DEMAND DATA

- Demographic data (e.g. population size),
- Information on health consumption from both health professionals and organisations from the five Danish regions.

MOBILITY DATA

Inflow: foreign born and foreign data available for all registered professions.

Outflow: Denmark relies on the OECD database to monitor the outflow of physicians and nurses. Qualitative data from different stakeholders is also taken into account.

CURRENT AND FUTURE CHALLENGES

→ Managing geographical distribution and optimal healthcare coverage in both urban and rural areas in Denmark is a constant challenge. Denmark manages imbalances between medical specialties by reinforcing general practitioners' gatekeeper role within an optimal distribution of generalists and specialists. In addition, based on the last calculations, Denmark identified an urgent action for improving the nursing coverage. A recent agreement between the Danish Government and Regions dedicates 900 million DKK for 2020-2021 to recruit 2500 nurses for the hospitals.

→ Ageing population and demographic growth require improvements in the healthcare system and up-/reskilling the health workforce. Additionally, e-Health should be implemented including e-Consultation for elderly patients, therefore increasing digital health literacy of the population is a crucial emerging need.

→ Denmark intends to develop healthcare along with the main goals of providing a high quality of care, a geographical equality and a stronger collaboration for implementing digital health. The national strategy aims to enhance patient empowerment and fostering data sharing, which might impact the demand for new health professions.

HEALTH WORKFORCE POLICIES

Policy category	Details	Impacted professions
Manage shortages and maldistribution of skills	The Ministry of Health created a framework to ensure proper distribution of health professionals in all areas of the country. In 2018 the Ministry decided to increase the training quota in general medicine specialisation.	
	In 2020, a funding has been agreed between the Government and the Regions for recruiting 2500 full time nurses.	
	The initiative to conduct e-consultations through the app called "Min Læge" (My doctor) has been put into operation among general practitioners starting with elderly patients.	
Improving performance	Health facilities and professionals are managed at regional level. Jointly with the Ministry of Health, they conduct close monitoring, consolidated through national health goals.	
	Denmark eHealth strategy 2018-2022 with the quote "One safe and coherent one health networks for all" ensures patient partnerships, knowledge management and quality among the top priorities.	
Address mobility	No policy reported.	
Education, enrolment and recruitment	The Minister of Children and Education decides the maximum training quotas, based on recommendations from the National Health Authority. The number of training positions is distributed centrally and regionally.	
Education staff & infrastructure	Denmark has a framework of specialist training programmes evaluated by both trainees from the different medical specialities and inspectors appointed by the Danish Health Authority.	
Continuous professional development (CPD)	The continuous development of professional skills, knowledge and competence of health professions is legally required but not enforced. Diligence of employers (i.e. the five Danish regions) and professionals is expected.	
Regulation of private sector	Both public and private sectors are regulated according to a common framework of finance, performance and staffing.	
Working conditions	The state and the social partners produce collective agreements as tools for joint management of the wages and working conditions.	

PHYSICIANS   DENTISTS   PHARMACISTS   NURSES AND MIDWIVES   ALLIED HEALTH PROFESSIONS

HEALTH WORKFORCE STOCK AND MOBILITY

Table 1: Health workforce stock and replacement

	Physicians[1]	Nurses[1]
Total stock 2018	24.301	58.509
Stock 55-64 years 2018	4.801	Not reported
Graduates 2018	1.335	2.587

1 Practising

Figure 1: Mobility level in absolute numbers (2018)

1,20%[2]	Physicians	1,01%[2]
0,84%[2]	Nurses	0,13%[2]

Outflow: ▮ non-EU ▮ EU | Inflow: ▬ Total

2 % of the practising physicians and nurses

DENMARK 🇩🇰

HEALTH WORKFORCE DENSITY AT SUB-NATIONAL LEVEL

Figure 2a: Number of practising physicians per 1.000 inhabitants (regional distribution latest data available, 2018)
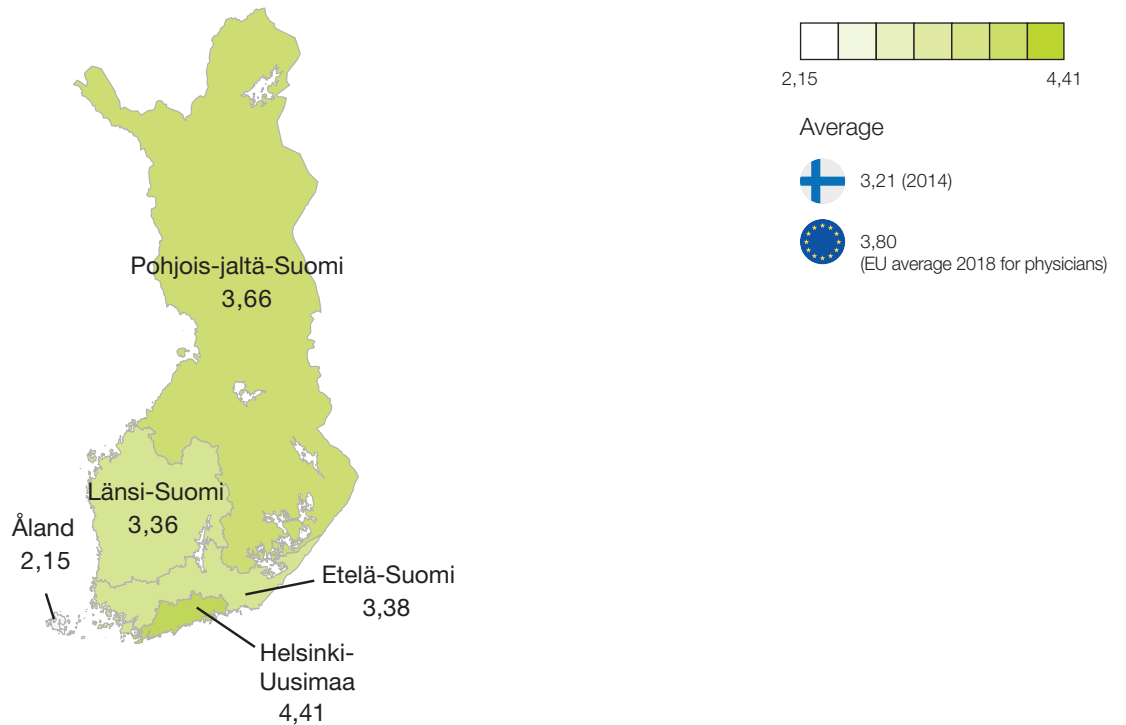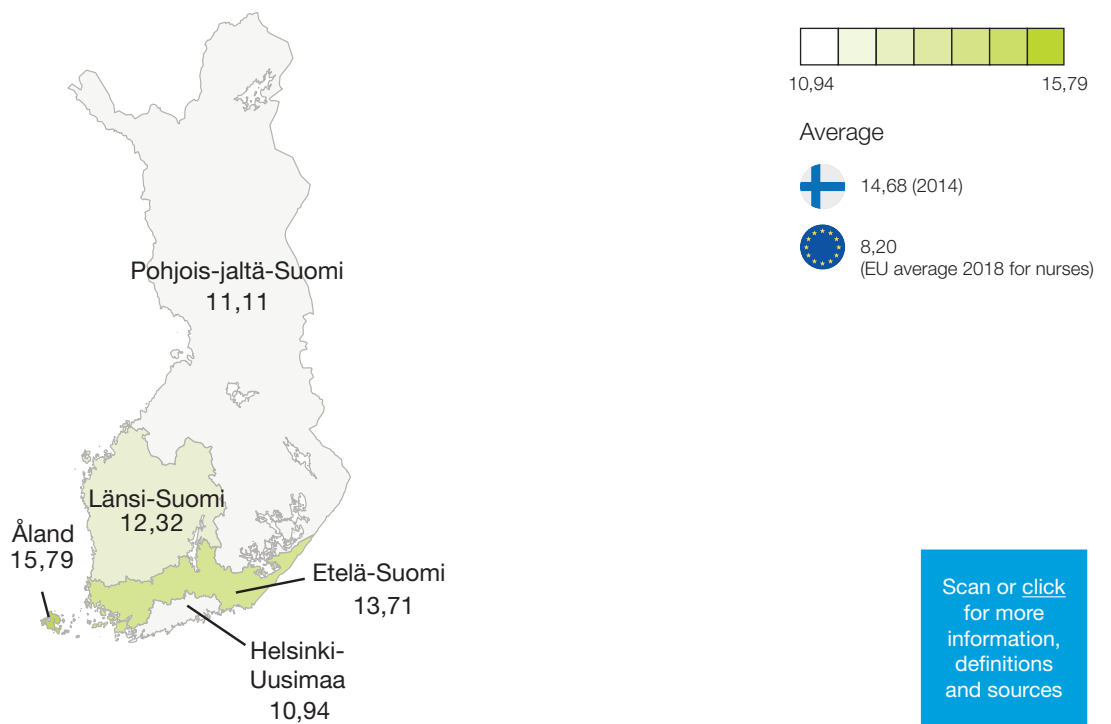
3,23 — 4,72

Average

4,19 (2018)

3,80 (EU average 2018 for physicians)

Nordjylland 3,56
Midtjylland 4,00
Syddanmark 3,99
Sjælland 3,67
Hovedstaden 4,90

Figure 2b: Number of licensed to practise nurses and midwives per 1.000 inhabitants (regional distribution latest data available, 2014)

16,20 — 18,68

Average

19,24 (licensed to practise nurses and midwives, 2018)

8,20 (EU average 2018 for practising nurses)

Nordjylland 18,68
Midtjylland 16,88
Syddanmark 17,98
Sjælland 16,46
Hovedstaden 16,20

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HEALTH WORKFORCE PLANNING

PLANNING SUMMARY

The Estonian Health Care Professionals Register was created in 2009 to improve the evidence-based policy making on future health workforce challenges. Mandatory registration in the Estonian Health Care Professionals Register and Employment Register results in accessible and reliable data for monitoring. Estonia has been regulating the admission to basic (university) education, specialist medical training and residency positions since 2018. Admission quota for nursing schools have been established since 2020.

PLANNING SYSTEM

The Ministry of Social Affairs, the University of Tartu and the Estonian Hospitals Association, along with other employers in the medical field, are involved in the annual planning process of training and residency positions. The planning involves an interprofessional, evidence-based dialogue and linked to the funding of healthcare.

PLANNING GOALS

The common goal is to improve access to healthcare and ensure that the right number of physicians are practising in the country.

HEALTH WORKFORCE DATA

SUPPLY DATA

The Estonian Health Care Professionals Register includes:
- **Individual data:** employment (previous and current), qualifications, primary care service area (general practitioners and nurses), license to practise, and place of residence.

The Employment Register includes:
- **Individual data:** employer information and contract information

Health Board Registry:
- List of primary care physicians and their practice activities, and the pharmacy/pharmacist register.

DATA SUPPLIERS

- Health professionals
- Population Register
- Estonian Education Information System
- Register of activity licenses for the provision of health care services
- Health Board
- Ministry of Social Affairs
- Unions of specialists
- Employers representatives

DEMAND DATA

The Ministry of Social Affairs models the demand based on a multi-stakeholders data processing as:
- state-owned data (demography, health consumption, …),
- specialist unions data,
- employers' representatives data,
- Budget remains a key determinant of the equation.

MOBILITY DATA

Inflow: Individual data on foreign training through the registers.

Outflow: no reliable data on outflow.

CURRENT AND FUTURE CHALLENGES

→ Shortages of medical workforce and insufficient coverage are current and future concerns. The shortages are reinforced by the volume of outward migration of physicians, the lack of appeal of several specialities, and the steady increase in the average age of physicians. The slightly insufficient quotas also play a role. Additionally, geographical imbalances are recognised, specialists and nurses tend to practise close to the two major university cities, leaving the countryside underserved. Wages of nurses are rather low, with a negative impact on the attractiveness of the profession.

→ The Government highlights the necessary reinforcement of primary care, supporting the general practices' gateway role, also creating new health centres where needed. Both strategies would reduce the work pressure on specialist physicians and emergency care. In parallel, the digital innovation and training to empower patients and support the provision of healthcare in the countryside are among Estonia's priorities.

→ The current training capacity for allied health professions is insufficiently related to the healthcare needs. Planning should be put in place to address future challenges, particularly the growing demand of elderly care. Working conditions and wages of nurses are quite low, posing a negative impact on the attractiveness of employment within the national healthcare system.

HEALTH WORKFORCE POLICIES

Policy category	Details	Impacted professions
Manage shortages and maldistribution of skills	Since 2009, Estonia has been promoting the Estonian Health Care Professionals Register. In 2019, a new legislation emphasises to gather widespread information on healthcare management and a more detailed overview of the health workforce. Estonia has been promoting digital consultation since 2016, first between general practitioners and specialists, and recently between patients and general practitioners. Medical and dental specialists who receive a state-grant must practise in specified remote areas for the 5 first years of their careers based on the needs of the national coverage.	
Improving performance	A report published on 'Quality Bonus Scheme on Primary Care' in 2018, identified three indicators: preventive care, chronic disease management and enhanced services (e.g. safe prescribing).	
Address mobility	Estonian labour market dynamic shows internal mobility of the workforce to private sector. Mobility is managed by the State by measures e.g. granting an initial medical allowance, a benefit for physicians employed as specialists in public sector in Estonia.	
Education, enrolment and recruitment	State funding is available for domestic students in medical and dental education. State funds are provided for studying abroad, particularly for physicians. The number of annual admissions to medical training and residency places are regulated by the Ministry of Social Affairs and the Ministry of Education, the University of Tartu and the Estonian Hospitals Association, along with other employers in the medical professions. An upgrade of the curricula of pharmacists to Master's level has been initiated, currently standing as a requirement for owning a pharmacy.	
Education staff & infrastructure	Estonia has one university for medical studies and two colleges for nursing. The university runs an academic programme in English, which attracts some foreign-born students. While it is recommended to enhance the number of first-year admissions, there is no need for new infrastructure.	
Continuous professional development (CPD)	Employers have to offer the opportunity of CPD and performance amounting to 60 hours per annum for their employees (paid by the employer and financed by the State). CPD is voluntary-based.	
Regulation of private sector	All regulations apply to the private sector as the Estonian health system is mainly financed through the public health care fund.	
Working conditions	The 2019 budget of the Estonian Health Insurance Fund granted wage increases for physicians and nurses.	

PHYSICIANS   DENTISTS   PHARMACISTS   NURSES AND MIDWIVES   ALLIED HEALTH PROFESSIONS

HEALTH WORKFORCE STOCK AND MOBILITY

Table 1: Health workforce stock and replacement

	Physicians[1]	Nurses[1]
Total stock 2018	4.605	8.317
Stock 55-64 years 2018	1.214	Not reported
Graduates 2019	138	383

1 Practising

Figure 1: Mobility level in absolute numbers (2018)

$0,26\%^2$ Physicians $0,52\%^2$
$0,13\%^2$ Nurses $0,05\%^2$

Outflow: non-EU EU | Inflow: EU non-EU

2 % of the practising physicians and nurses

HEALTH WORKFORCE DENSITY AT SUB-NATIONAL LEVEL

Figure 2a: Number of practising physicians per 1.000 inhabitants (regional distribution latest data available, 2018)

Estonia
3,48

Average

3,48 (2018)

3,80
(EU average 2018 for physicians)

Figure 2b: Number of practising nurses and midwives per 1.000 inhabitants (regional distribution latest data available, 2018)

Estonia
6,64

Average

6,64 (2018)

8,20
(EU average 2018 for nurses)

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FINLAND

HEALTH WORKFORCE PLANNING

PLANNING SUMMARY

Finland operates a multi-sectorial planning of the labour market, including the health care sector. The planning process is a multi-stakeholder-supported, institutionalised forecasting model, which plans education capacity, future skill development, employment and supply for local needs. Data are continuously updated, while the planning process is run every 4 years with a 15 years' projection horizon.

PLANNING SYSTEM

The Government Institute for Economic Research (VATT) and the National Board of Education (FNBE) develop forecasts on future workforce needs for 28 industries and occupational groups (including health workforce) and related educational needs. Projections are provided to the Ministry of Education and Culture and the regional councils which, in consultation with the Ministry of Finance and the Ministry of Social Affairs and Health, draft a 'Development Plan for Education and Research', focusing on the medium-term (not only annual). Two models are used: the 'Vattage model' used by the Institute for Economic Research to forecast workforce future demands, and the 'Mittena model' used by the National Board of Education to forecast educational needs.

PLANNING GOALS

To promote the availability of skilled workforce in accordance with developments in industrial and occupational structures and to guarantee all young people an opportunity to apply for vocationally/professionally-oriented education and training.

HEALTH WORKFORCE DATA

SUPPLY DATA

Individual data: headcount, age, gender, place of residence, place of practice, active workforce, retirement age, and medical specialisation.

Aggregated data: professional flow and geographical flow data.

DATA SUPPLIERS

- National Statistical Office
- National Supervisory Authority for Welfare and Health (VALVIRA)
- National Board of Education
- Finnish Medical Association and Finnish Dental Association
- Union of the Local Government Employers

DEMAND DATA

Global projections: demographic and economic data and trends, estimation of future changes in GDP and health expenditure, considering future economic growth as one of the main patterns affecting demand of the health services.
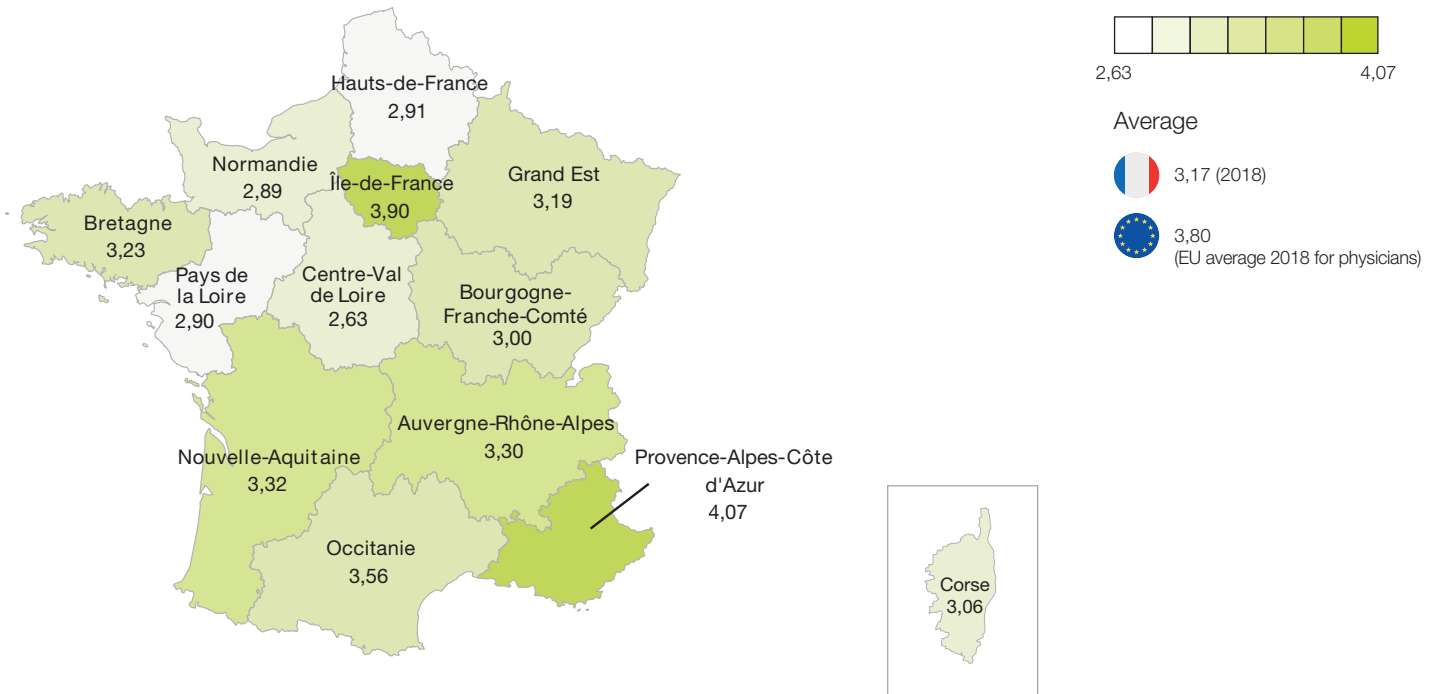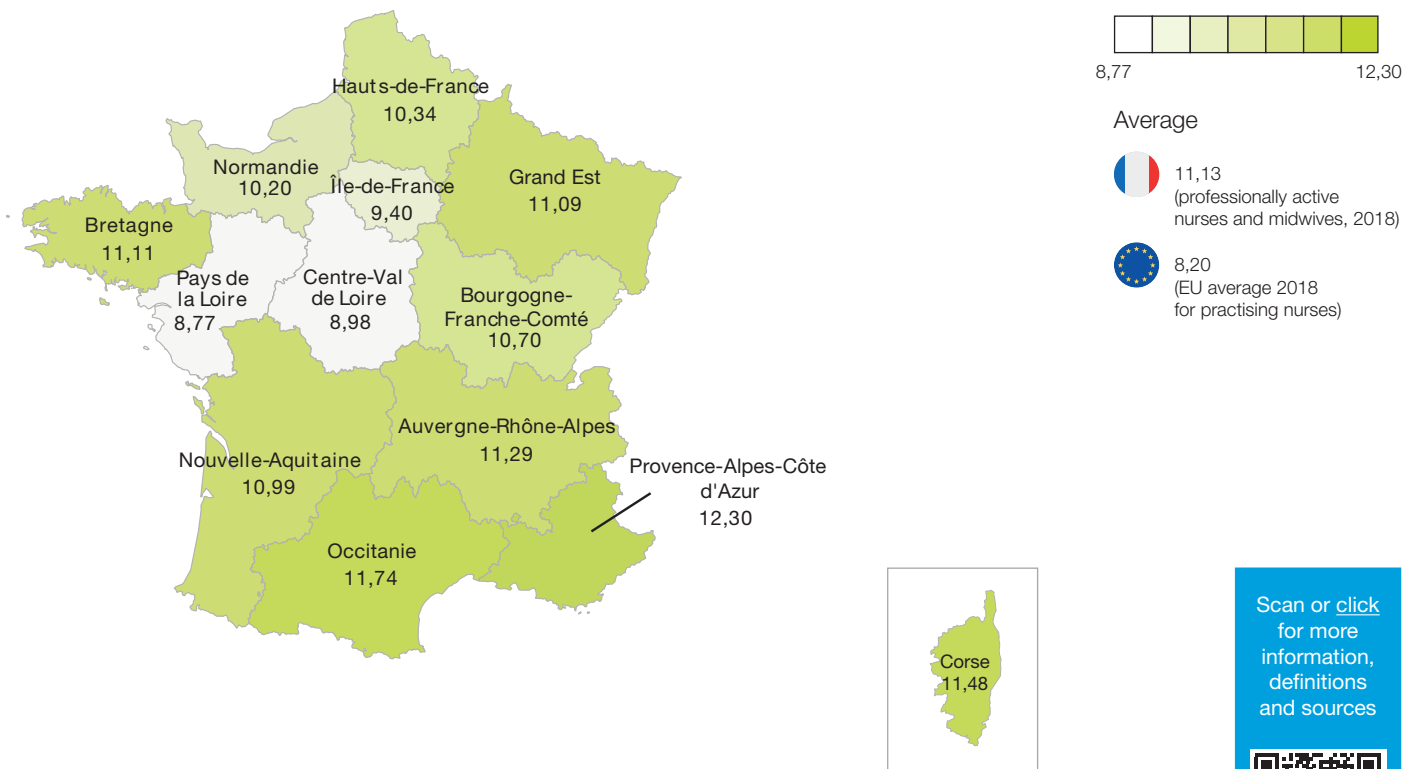
Sectorial information: collection of Health Regional councils forecasts of workforce demand and educational needs.

MOBILITY DATA

Inflow: Central Register of Health Care Professionals maintained by the National Supervisory Authority for Welfare and Health (Valvira) records foreign-trained, foreign-born and foreign-national professionals.

Outflow: OECD survey information is used to monitor outflow on demand.

CURRENT AND FUTURE CHALLENGES

→ The government of Finland identifies as major challenges a fair, equal and financially sustainable services, the strengthening of basic-level health and social services and the provision of preventive and rehabilitation services. The healthcare reform needs to be implemented with a focus on primary care, task shifting and multidisciplinary work, and better integration of health and social services.

→ Finland considers that increased resources is mandatory to ensure quality and effectiveness of the primary care services, emergency care and elderly care. Finland seeks to recruit up to 2,600 physicians, particularly general practitioners, while reducing waiting times for non-emergency care to 7 days. The recruitment of resources needs to be accompanied by retention policies for benefiting the remote areas.

→ Finland needs to keep demand under control within a changing demography and important geographical disparities. Healthy ageing policies, preventive care, investment in mental care, individual responsibility of the population and addressing unhealthy behaviours (e.g. illegal drugs use and tobacco consumption), good vaccination coverage and cancer screening are identified as key to reduce demand.

HEALTH WORKFORCE POLICIES

Policy category	Details	Impacted professions
Manage shortages and maldistribution of skills	Finland manages task shifting from physicians to nurses in order to address general practitioner shortages in remote areas. Finland appoints multi-professional teams, paired with physicians in health care centres. Geographical distribution of training admissions is used as a driver to cover underserved areas. Training quota is increased according to the forecasts. Retention of late middle-aged professionals to continue practising until retirement age is in place. In addition, incentives for settlement in underserved areas, including salary benefits and freedom of working time, are also in place.	👨‍⚕️ 👩‍⚕️ ➕
Improving performance	Strengthening primary care and the integration of health and social services, novel service designs, professional job descriptions and multidisciplinary teamwork aim to improve performance. The introduction of digital and distant services (e-Health), and a national health and social care reform aimed at reducing the fragmentation of the municipality based health care system is underway.	👨‍⚕️ 🦷 💊 👩‍⚕️ ➕
Address mobility	The Finnish projection model does not take migration into account quantitatively, although qualitative information is used.	👨‍⚕️ 🦷 💊 👩‍⚕️ ➕
Education, enrolment and recruitment	The number of training admissions is subject to the planning process. The training quota is taken into account for the selection of future students' applications. Finland supports several models for anticipating skills needs in many professional areas.	👨‍⚕️ 🦷 👩‍⚕️
Education staff & infrastructure	Renewed models of pedagogical training in medical faculties for training staff responsible for undergraduate as well as medical specialist training. Multidisciplinary courses and learning sessions are promoted. Finland invests in digital and virtual learning tools or methods and in simulation equipment.	👨‍⚕️ 🦷
Continuous professional development (CPD)	CPD is mandatory in Finland for the 5 regulated professions but not linked to revalidation. A digital tool "Taitoni" is developed by national medical associations for documenting CPD activities (portfolio) for physicians.	👨‍⚕️
Regulation of private sector	No specific policy reported.	
Working conditions	Leadership training is being promoted. Since local projects are being initiated to improve well-being at work, many well-being surveys are ongoing among health professionals.	👨‍⚕️ ➕

👨‍⚕️ PHYSICIANS   🦷 DENTISTS   💊 PHARMACISTS   👩‍⚕️ NURSES AND MIDWIVES   ➕ ALLIED HEALTH PROFESSIONS

HEALTH WORKFORCE STOCK AND MOBILITY

Table 1: Health workforce stock and replacement

	Physicians[1]	Nurses[1]
Total stock 2018	25.627	115.988
Stock 55-64 years 2014	4.871	Not reported
Graduates 2018	645	4.728

1 Licensed to practise

Figure 1: Mobility level in absolute numbers (2018)

Outflow: ▨ non-EU ▧ EU

2 % of the licensed to practise physicians and nurses

Note: Note: Inflow data not available for 2018

HEALTH WORKFORCE DENSITY AT SUB-NATIONAL LEVEL

Figure 2a: Number of practising physicians per 1.000 inhabitants (regional distribution latest data available, 2014)

2,15   4,41

Average

3,21 (2014)

3,80
(EU average 2018 for physicians)

Pohjois-jaltä-Suomi
3,66

Länsi-Suomi
3,36

Åland
2,15

Etelä-Suomi
3,38

Helsinki-
Uusimaa
4,41

Figure 2b: Number of practising nurses and midwives per 1.000 inhabitants (regional distribution latest data available, 2011)

10,94   15,79

Average

14,68 (2014)

8,20
(EU average 2018 for nurses)

Pohjois-jaltä-Suomi
11,11

Länsi-Suomi
12,32

Åland
15,79

Etelä-Suomi
13,71

Helsinki-
Uusimaa
10,94

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FRANCE

HEALTH WORKFORCE PLANNING

PLANNING SUMMARY

France operates health workforce planning at national and regional level supported by the National Observatory of Health Workforce Demography and regional committees, respectively. Health workforce planning regulates the admissions of residency positions for physicians. Incentives are granted for practising in underserved areas. While a numerus clausus instrument has been applied since 1971, further revision and improvement of the access to health care study are ongoing.

PLANNING SYSTEM

The National Observatory provides information to the Ministry of Health with both a geographical distribution of health professionals and a projecti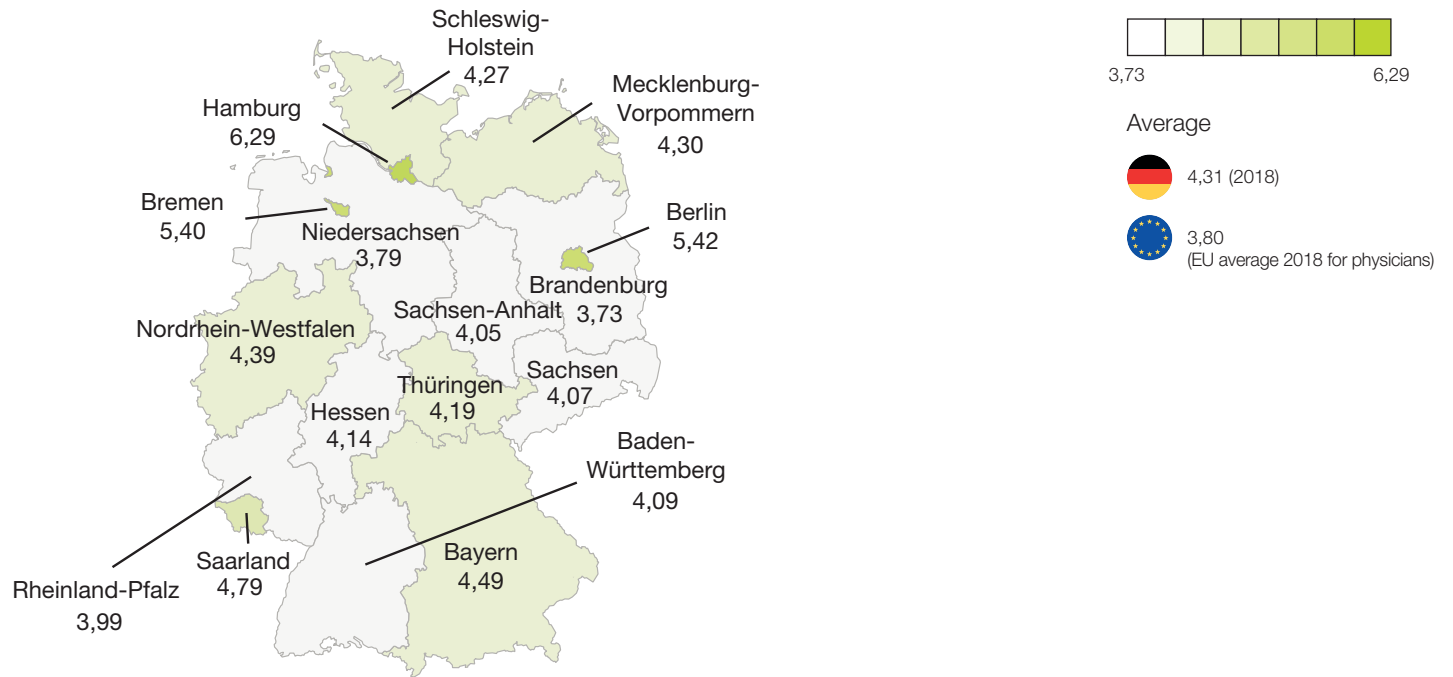on of student admissions in each region. The regional health programmes determine residency quotas and allocate internship positions for specialists at institutional level. Projections use a supply and demand-based approach which includes projections on the workforce capacities.

PLANNING GOALS

The main aim of the planning process is to ensure care delivery at the right level of quality and patient safety through an appropriate geographic distribution of resources and skills.

HEALTH WORKFORCE DATA

SUPPLY DATA

Individual data are collected in two Registers:
- The Shared Registry of Health Professions (RPSS) for physicians, dentists, pharmacists, midwives and physiotherapists. The main data providers are the professional chambers, but data are enriched by various sources.
- The National Registry of Health Professionals (ADELI) gathers all relevant registrations of health professionals (nurses, lab technicians, …) at regional level.

These registers collect identification data, qualifications and data on activity and practice. All data are consolidated by the Ministry of Solidarities and Health.

DATA SUPPLIERS

- Ministry of Solidarities and Health: Directorate of Research, Studies, Evaluation & Statistics
- Regional Committees and Health Agencies
- Ministry of Higher Education and Research
- National Observatory of Health Workforce Demography
- Professional associations and professional chambers

DEMAND DATA

The Ministry of Solidarities and Health continuously gathers health and expenditures indicators through several stakeholders and completes national health reports. The ministry also applies a measurement of the demand through e.g. target density numbers.

MOBILITY DATA

Inflow: foreign trained data are available. The national chamber of physicians registers the country's qualifications.

Outflow: no information collected as withdrawing the registration is not mandatory.

CURRENT AND FUTURE CHALLENGES

→ The health workforce composition is challenged by the demographic and epidemiologic trends, e.g. the evolving demand of the population increases the need for health professionals. An increased focus on health promotion and prevention is an additional influencing factor to take into account in the future.

→ The maldistribution, particularly of physicians across the country, jeopardises the equal right of access to healthcare among the population. Advancement strategies, e.g. upskilling specialised nurses, are seen as potential solutions, although innovation and rapid evolution in healthcare increase the complexity of planning.

→ The impact of new technologies, particularly artificial intelligence, on the current organisation of healthcare is an emerging challenge.

HEALTH WORKFORCE POLICIES

Policy category	Details	Impacted professions
Manage shortages and maldistribution of skills	The so-called medical deserts, measured by the APL indicator (localised potential accessibility), is a major concern in France. France provides legal incentives to attract professionals to underserved areas, as freedom of establishment is a guaranteed national right. In this light, financial incentives and favorable working conditions were introduced in 2012 by the reform of community care. A new strategy of patient-oriented care including task shifting and the role of new professions is described in the "My Health 2022" plan.	
Improving performance	France considers digital transformation as a strategic pathway towards increasing health workforce and system performance. This strategy is supported by a renewed legal framework. "My Health 2022" plans aim to strengthen cooperation of health professionals and patients, to enhance the range of care, to improve performance and patient pathways, and to extend consultation time.	
Address mobility	France is a destination country for physicians. The share of foreign-trained physicians increased from 4% in 2007 to 11.8% in 2017, with a rising trend of Romanian qualifications. Similar trends can be observed for dentists and physiotherapists, but not for nurses. To meet shortages and the needs of underserved areas, France aims to integrate 4,000 additional non-EU physicians through naturalisation process.	
Education, enrolment and recruitment	In 2019, France revoked the numerus clausus policy that has been applied since 1971. The admission to internship positions is planned at regional level to ensure a distribution of specialists according to the needs.	
Education staff & infrastructure	Medical training is currently under revision, as a consequence of revoking the numerus-clausus policy. Incorporating education of emergency care workers into the university framework is currently ongoing.	
Continuous professional development (CPD)	Since 2009, the National Agency for Continuous Professional Development governs all health professions in mandatory CPD. A new legal framework with a three-year cycle system was introduced in 2016.	
Regulation of private sector	Self-employed health professionals and private hospitals play an important role in France. Both the Regional Health Agencies (planning the facilities) and National Health Insurance body (setting the prices) ensure a strong regulation towards the whole health care sector.	
Working conditions	A national observatory of quality of life of health professionals and trainees was established in 2018 within the Ministry of Solidarities and Health. The mission of the observatory is to foster knowledge gathering, and to organise consultations and professional dialogues.	

PHYSICIANS   DENTISTS   PHARMACISTS   NURSES AND MIDWIVES   ALLIED HEALTH PROFESSIONS

HEALTH WORKFORCE STOCK AND MOBILITY

Table 1: Health workforce stock and replacement

	Physicians[1]	Nurses[2]
Total stock 2019	226.900	722.600
Stock 55-64 years 2019	72.200	142.400
Graduates 2017	7.300	26.000

1 Practising
2 Professionally active

Figure 1: Mobility level in absolute numbers (2018)

Outflow: non-EU, EU | Inflow: EU, non-EU, unknown

3 % of the practising physicians
4 % of the professionally active nurses

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HEALTH WORKFORCE DENSITY AT SUB-NATIONAL LEVEL

Figure 2a: Number of practising physicians per 1.000 inhabitants (regional distribution latest data available, 2018)

2,63   4,07

Average

3,17 (2018)

3,80
(EU average 2018 for physicians)

Hauts-de-France
2,91

Normandie
2,89

Île-de-France
3,90

Grand Est
3,19

Bretagne
3,23

Pays de
la Loire
2,90

Centre-Val
de Loire
2,63

Bourgogne-
Franche-Comté
3,00

Nouvelle-Aquitaine
3,32

Auvergne-Rhône-Alpes
3,30

Provence-Alpes-Côte
d'Azur
4,07

Occitanie
3,56

Corse
3,06

Figure 2b: Number of professionally active nurses and midwives per 1.000 inhabitants (regional distribution latest data available, 2016)

8,77   12,30

Average

11,13
(professionally active
nurses and midwives, 2018)

8,20
(EU average 2018
for practising nurses)

Hauts-de-France
10,34

Normandie
10,20

Île-de-France
9,40

Grand Est
11,09

Bretagne
11,11

Pays de
la Loire
8,77

Centre-Val
de Loire
8,98

Bourgogne-
Franche-Comté
10,70

Nouvelle-Aquitaine
10,99

Auvergne-Rhône-Alpes
11,29

Provence-Alpes-Côte
d'Azur
12,30

Occitanie
11,74

Corse
11,48

Scan or click
for more
information,
definitions
and sources

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GERMANY

HEALTH WORKFORCE PLANNING

PLANNING SUMMARY

Germany applies a demand-based planning ("Bedarfsplanung") of practice positions for physicians (general practitioners and specialists divided into three groups), dentists and psychotherapists, who are allowed to work under the health insurance scheme on a self-employed basis. Any new settlement is subject to a conformity check with the plan. Planning targets accessibility of care using specialisation density prognosis on planning areas. The division of the country and Länder into planning areas is key to taking various situations into account.

PLANNING SYSTEM

The density prognosis is calculated by the Federal Joint Committee every two years. Representatives from the health insurers, the German hospital federation and professional associations formulate planning guidelines. The Länder and the insurers apply these guidelines at settlement, but may deviate from the guidelines under specific circumstances.

PLANNING GOALS

The demand planning for physicians and psychotherapists seeks to ensure outpatient care by setting density ratios. Since the demand planning reform in 2019, the ratios are adjusted every two years to match the demographic evolution, and the care provision per planning area is constantly tailored to the regional morbidity structure.

HEALTH WORKFORCE DATA

SUPPLY DATA

Individual data: registration data (professional - insurance - employers): Age, gender, qualification and type of employment, activity, type of place of activity.

DATA SUPPLIERS

- DESTATIS (Statistisches Bundesamt)
- Ministry of Health (and the Federal Health Repoting system - GBE)
- Professional associations

DEMAND DATA

At federal planning level: demographic and geographic data.

At Länder level: specific health and geographic information.

MOBILITY DATA

Inflow: foreign-trained, foreign-born and foreign-nationality data on physician inflows are available by the federal chamber of physicians.

Outflow: the federal physicians chamber collects data on outflows of physicians since 2005. Generally, data on outflows are less reliable than data on inflows. No reliable data available for nurses and other health professions.

CURRENT AND FUTURE CHALLENGES

→ The German health system is one of the oldest in Europe. It is described as a largely self-governed system, decentralised and focusing on accessibility, yet its sustainability is challenged by the ageing population, increasing demands for long-term care, as well as the economic and medical-technical evolution. Workforce and facilities need to adapt to these changes in order to ensure sustainability.

→ The German health system is increasingly relying on a foreign-born and foreign-trained health workforce.

→ The German health system's efficiency could be improved to address today's high rates of inpatient care and high health expenditures per capita, together with large regional discrepancies. System changes will be accompanied by workforce adjustments.

HEALTH WORKFORCE POLICIES

Policy category	Details	Impacted professions
Manage shortages and maldistribution of skills	Germany determines the density targets of primary care physicians, dentists and psychotherapists. The Länder apply the targets through a settlement permit process and insurance funding.	
	11 out of 16 Länder offer financial incentives for general practitioners who are opening their practices in rural areas for the first time , in order to foster a more balanced geographic distribution.	
Improving performance	No specific policy reported.	
Address mobility	A new agency (German Agency for Health and Nursing Professions (DeFa)) has been created to simplify the visa requirements for foreign (non-EU) nurses to work in Germany.	
Education, enrolment and recruitment	The Länder apply university training quota according to their budget allocation to the education system.	
Education staff & infrastructure	The training of midwives has been moved entirely to Bachelor's level since 2020. The training of nurses has moved gradually to a two-tiered system: Bachelor level and vocational training. Development of AGnES (non-physician practice assistants) take over general practitioners home visits.	
Continuous professional development (CPD)	A mandatory CPD for pharmacists, dentists, nurses and physicians is in place.	
Regulation of private sector	No specific policy reported.	
Working conditions	Some large-scale family-friendly measures such as the provision of childcare support, flexible working hours, part-time contracts, good maternity and annual leave arrangements, have been put in place in some hospitals to make workplaces more attractive.	
	Programme "Ich Pflege, …" giving voice to nurses and care personnel, as well as constituting a moral reward for their job.	

PHYSICIANS   DENTISTS   PHARMACISTS   NURSES AND MIDWIVES   ALLIED HEALTH PROFESSIONS

HEALTH WORKFORCE STOCK AND MOBILITY

Table 1: Health workforce stock and replacement

	Physicians[1]	Nurses[1]
Total stock 2018	357.401	1.096.000
Stock 55-64 years 2018	137.536	Not reported
Graduates 2018	9.563	43.884

1 Practising

Figure 1: Mobility level in absolute numbers (2018)

Outflow: non-EU ■ EU | Inflow: ■ EU ■ non-EU — unknown

2 % of the practising physicians and nurses

HEALTH WORKFORCE DENSITY AT SUB-NATIONAL LEVEL

Figure 2a: Number of practising physicians per 1.000 inhabitants (regional distribution latest data available, 2018)

Schleswig-Holstein 4,27

Mecklenburg-Vorpommern 4,30

Hamburg 6,29

Bremen 5,40

Niedersachsen 3,79

Berlin 5,42

Brandenburg 3,73

Sachsen-Anhalt 4,05

Nordrhein-Westfalen 4,39

Sachsen 4,07

Thüringen 4,19

Hessen 4,14

Baden-Württemberg 4,09

Saarland 4,79

Bayern 4,49

Rheinland-Pfalz 3,99

3,73 — 6,29

Average

4,31 (2018)

3,80 (EU average 2018 for physicians)

Figure 2b: Number of practising nurses and midwives per 1.000 inhabitants (regional distribution latest data available, 2018)

Germany 13,51

Average

13,51 (2018)

8,20 (EU average 2018 for nurses)

Scan or click for more information, definitions and sources

GREECE

HEALTH WORKFORCE PLANNING

PLANNING SUMMARY

Greece has no health workforce planning system in place, though the primary care reform – defined by the Act 4486/2017 - includes some health workforce-related policies.
The health system is supply-driven. Available data demonstrate severe shortages in primary care, an oversupply of specialists, and geographical imbalances between urban and rural areas.

PLANNING SYSTEM

Greece has no health workforce planning system in place.

PLANNING GOALS

Greece sets as urgent goals the elimination of obstacles in access to care, managing significant under-coverage mainly in urban areas, and the implementation of a primary-care reform.

HEALTH WORKFORCE DATA

SUPPLY DATA

Individual data:
Place of practice, gender, age, facility type (public vs. private), personal data of the physicians contracted by the public health service, though these data are not complete.

Aggregated data:
Statistical information on the healthcare labour market.

DATA SUPPLIERS

- Ministry of Health (Business Intelligence System)
- EOPYY (National Organization for Health Provision)
- ELSTAT (Hellenic Statistical Authority)
- IDIKA (e Prescription system, e-appointment system)
- DOATAP (National Academic Recognition Authority Hellenic National Recognition Information System)
- Greek Medical association

DEMAND DATA

Quantitative data: demography, health care services consumption by region for both public and private health care, prescription behaviours.

MOBILITY DATA

Inflow: data on foreign-trained professionals are available by individual recognition of qualifications acquired abroad (DOATAP).

Outflow: chambers projections and aggregated data from the OECD reporting database.

CURRENT AND FUTURE CHALLENGES

→ Greece needs to address significant numerical and distributional imbalances in its health workforce with an oversupply of cert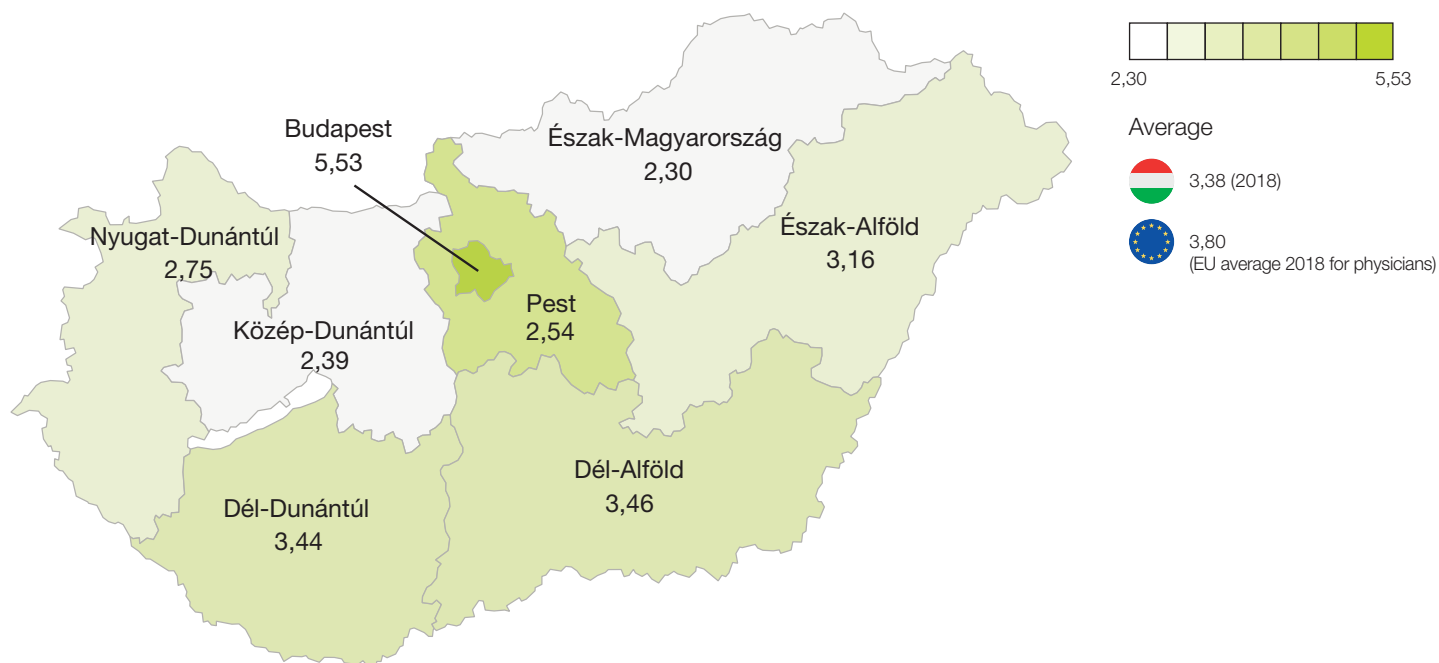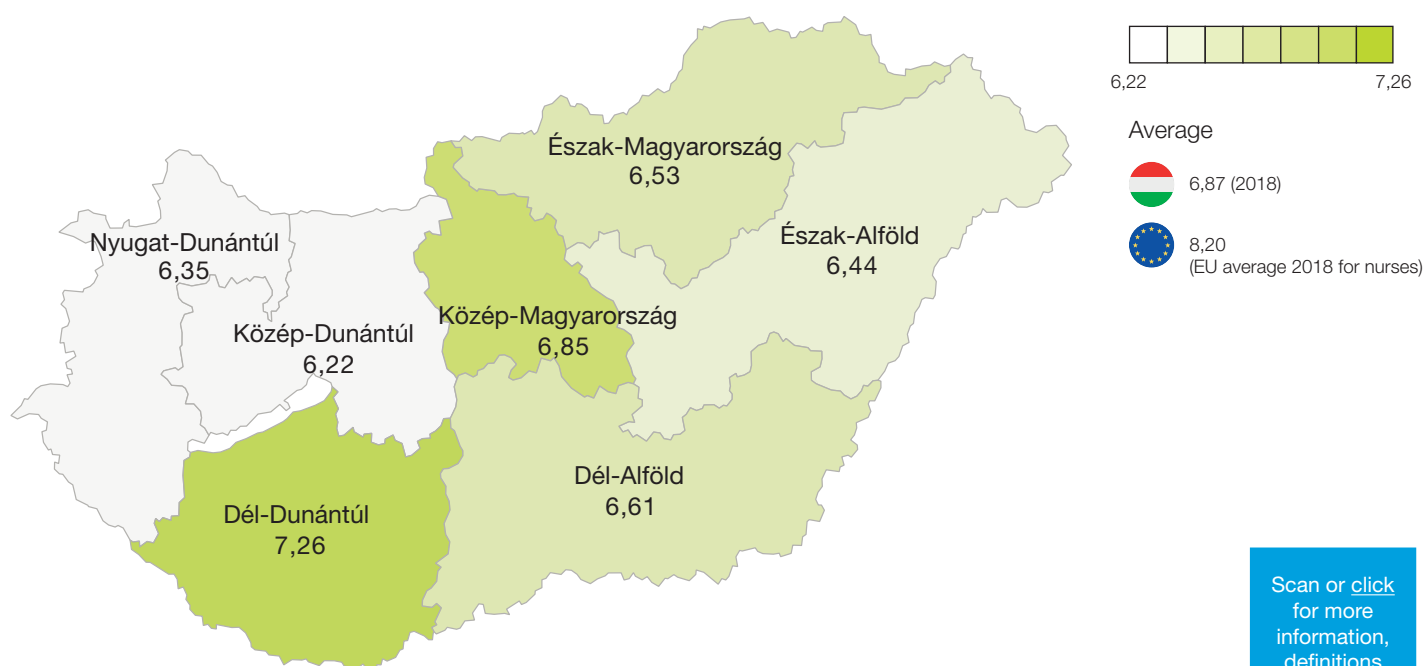ain specialties, leading to unemployment, and understaffing of public service facilities of both physicians and nurses, with acute situations in the rural and remote areas.

→ Greece needs to rebalance the proportions of medical specialties but also nursing, in order to meet the demographic challenge and the country's current and future health needs. On the supply side, setting a training quota should be driven by health workforce planning.

→ A strategy for collecting and integrating data from the private sector needs to be introduced to build capacity and to plan the overall needs of health care and the right number of health professionals.

HEALTH WORKFORCE POLICIES

Policy category	Details	Impacted professions
Manage shortages and maldistribution of skills	Greece identifies shortages of physicians in certain specialities, including Emergency Care and General Practitioners, Occupational Medicine, Geriatrics and Intensive Care.	
	Setting up of multidisciplinary group practices (general practitioners, paediatricians, nurses, health visitors/community nurses and social workers) was identified as a crucial recruitment policy.	
	Although a financial incentive framework was created to attract physicians to underserved areas, the expectations have not been met to date.	
Improving performance	There is no clinical performance improvement policy in place. The Greek public sector is highly regulated to achieve managerial performance. Extensive legislation controls the activities of service providers, the purchasing process and the pricing and reimbursement, as well as the training and licensing of health professionals.	
Address mobility	The brain drain phenomenon has been widely investigated in Greece. The main drivers include unemployment of physicians, job insecurity, or income reduction. The lack of policy to address mobility further aggravates the situation of physicians.	
Education, enrolment and recruitment	The training capacity is not related to the evolution of health care demand. Admission exams are decreasing the enrolment numbers in university studies.	
Education staff & infrastructure	Greece regulates the training programmes with a view to achieving a high level of quality within the EU.	
	Within the primary-care reform context, the GP specialisation has been raised to 5 training years. In addition, the GP curriculum development was applied to maternal and child-care and primary-health care.	
Continuous professional development (CPD)	While CPD for physicians is established by law, no enforcement is in place. Compliance to CPD relies on a moral obligation supported by conferences, seminars, scientific days and courses organised by universities, professional associations and the industry.	
Regulation of private sector	The reimbursement framework for physicians (fee-for-service system) has an impact on the attractiveness of certain specialities, creating oversupplies of specialists.	
	Recently, private clinics have been regulated by Act 4600/2019.	
Working conditions	Job satisfaction rates were recently monitored, resulting in findings of generally low satisfaction rates, as well as the rising prevalence of burnout. Policies and specific measures are highly needed to address these issues.	

PHYSICIANS   DENTISTS   PHARMACISTS   NURSES AND MIDWIVES   ALLIED HEALTH PROFESSIONS

HEALTH WORKFORCE STOCK AND MOBILITY

Table 1: Health workforce stock and replacement

	Physicians[1]	Nurses[2]
Total stock 2018	65.513	36.118
Stock 55-64 years 2018	13.912	Not reported
Graduates 2017	1.334	8.772

1 Licensed to practise
2 Practising

Figure 1: Mobility level in absolute numbers (2018)

Outflow: non-EU   EU

3 % of the licensed to practise physicians
4 % of the practising nurses
Note: Inflow data not available for 2018

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HEALTH WORKFORCE DENSITY AT SUB-REGIONAL LEVEL

Figure 2a: Number of licensed to practise physicians per 1.000 inhabitants (regional distribution latest data available, 2018)

3,04   7,92

Average

6,10
(licensed to practise physicians, 2018)

3,80
(EU average 2018 for practising physicians)

Dytiki Makedonia 3,55
Kentriki Makedonia 6,25
Anatoliki Makedonia, Thraki 4,97
Sterea Ellada 3,04
Ipeiros 6,95
Thessalia 5,21
Attiki 7,92
Ionia Nisia 5,19
Voreio Aigaio 3,60
Dytiki Ellada 4,91
Peloponnisos 3,80
Notio Aigaio 3,47
Kriti 6,23

Figure 2b: Number of practising nurses and midwives per 1.000 inhabitants (regional distribution latest data available, 2015)

1,38   4,70

Average

3,63 (2018)

8,20
(EU average 2018 for nurses)

Dytiki Makedonia 2,65
Kentriki Makedonia 3,53
Anatoliki Makedonia, Thraki 2,98
Sterea Ellada 1,38
Ipeiros 4,70
Thessalia 3,48
Attiki 4,32
Ionia Nisia 2,50
Voreio Aigaio 2,76
Dytiki Ellada 2,80
Peloponnisos 1,96
Notio Aigaio 1,96
Kriti 3,24

Scan or click for more information, definitions and sources

HUNGARY

HEALTH WORKFORCE PLANNING

PLANNING SUMMARY

Although workforce planning has not systematically performed in Hungary to date, planning activities and a legal framework for a health workforce monitoring system has been in place since 1997. Under supervision of the Hungarian National Healthcare Service Center, all the available data from different data sources are linked into one data warehouse, under the name of the Human Resources Monitoring System.

PLANNING SYSTEM

The workforce planning activities are carried out at national level and aim to determine education and training admissions by a quantitative approach, but without using a precise model. The Secretariat of State for Health determines residency quotas (overall numbers) and the lists of national and regional shortage occupations without distinguishing between specialties. Filling in the positions is based on an agreement between the hospitals and trainees, so that the current needs on the market are mirrored in a qualitative mechanism.

PLANNING GOALS

Healthcare objectives are to provide a constant supply of health workforce to meet demand, and to adapt the supply to the variations of the demand. An additional goal is to provide correct information to young people, helping them to choose their training pathway.

HEALTH WORKFORCE DATA

SUPPLY DATA

- The Human Resources Monitoring System collects all available data from different data sources as individual records. Data linkage is then possible.
- Most significant data types:
  - **Individual data:** personal characteristics, qualifications and diplomas, licensing, professional activities training, residency and continuous professional development.
  - **Aggregated data:** number of health professionals in vocational training, data on average wages and wage structure, number of employments (filled and vacant positions).

DATA SUPPLIERS

- National Healthcare Service Center (Directorate General of Human Resources Development operates the Human Resources Monitoring System, and the Basic and Operational Registry)
- National Public Health Center
- National Institute of Health Insurance Fund Management
- Medical universities and vocational schools
- National State Treasury
- The Central Statistical Office

DEMAND DATA

- Standard population demographic data (comprising territorial distribution of the population) and hospital capacities (current and planned) are the main data collected on demand.
- Hospital capacities and health consumption information are not yet included in the planning activities.

MOBILITY DATA

Inflow: foreign-trained, foreign-born and foreign nationality data are available on individual basis.

Outflow: proxy indicators are available based on the head count of applicants for certificates issued for the recognition of the healthcare qualifications in a foreign country.

CURRENT AND FUTURE CHALLENGES

→ Age distribution among physicians is of high concern in Hungary, as the expected retirement rate remains high in the medium term. Additionally, attrition due to career reorientation and early retirement among the nurses and allied health professionals poses challenges for health policy.

→ Severe geographical imbalances occur between urban and rural areas, particularly in primary care with 5% of general practices unfilled.

→ Insufficient use of e-health, m-health, big data in optimising care calls for developing digital skills and digital literacy of the health workforce.

HEALTH WORKFORCE POLICIES

Policy category	Details	Impacted professions
Manage shortages and maldistribution of skills	A section of the resident scholarship programme aims to ensure presence of physicians in underserved areas (by defining the national and regional shortage occupation lists), e.g. the Primary Care Development Pilot that focused on socially-disadvantaged populations in underserved areas in Northern and Eastern Hungary.	(physicians)
Improving performance	No country-wide policy reported.	
Address mobility	High attrition rates mainly due to career reorientation, (early) retirement or outflow mobility. Hungary has been primarily active in reducing the impact of outflow of physicians through salary increases and the national level resident scholarship programme.	(physicians) (nurses)
Education, enrolment and recruitment	Hungary has established a resident scholarship programme for resident physicians (2011) and nurses (2017). Special grants are foreseen to support sectors facing acute shortages, e.g. the Hungarian ambulance service.	(physicians) (nurses)
	Hungary stimulates the assessment of training capacity needs supported by workforce quantification.	
Education staff & infrastructure	Hungary has a regulatory framework for teaching physicians that also applies to other professions.	(physicians) (dentists) (pharmacists) (nurses) (allied)
Continuous professional development (CPD)	Hungary has a regulated CPD system linked to licensing and revalidation. Physicians, dentists, nurses, midwives and pharmacists have to renew their licenses. All employers have to provide 3-10 days of paid working time for CPD per year. The development of the content of CPD activities is supervised by the professional organisation, Ministry of Health, scientific societies and higher education institutions.	(physicians) (dentists) (pharmacists) (nurses) (allied)
Regulation of private sector	No country-wide policy reported.	
Working conditions	Over recent years, salary increases have been implemented and complemented with loyalty bonuses, resulting in an approximate 30% increase for health professionals.	(physicians) (dentists) (pharmacists) (nurses)
Others	Hungary has a career framework for physicians in hospitals.	(physicians)

PHYSICIANS   DENTISTS   PHARMACISTS   NURSES AND MIDWIVES   ALLIED HEALTH PROFESSIONS

HEALTH WORKFORCE STOCK AND MOBILITY

Table 1: Number of practising physicians per 1.000 inhabitants

	Physicians[1]	Nurses[1]
Total stock 2018	33.078	64.695
Stock 55-64 years 2018	7.845	Not reported
Graduates 2018	1.560	6.053

1 Practising

Figure 1: Mobility level in absolute numbers (2018)

Physicians: 1,61%[2] (outflow) — 0,41%[2] (inflow)
Nurses: 0,33%[2] (outflow) — 0,17%[2] (inflow)

Outflow: ■ non-EU ■ EU | Inflow: ■ EU ■ non-EU

2 % of the practising physicians and nurses

HEALTH WORKFORCE DENSITY AT SUB-NATIONAL LEVEL

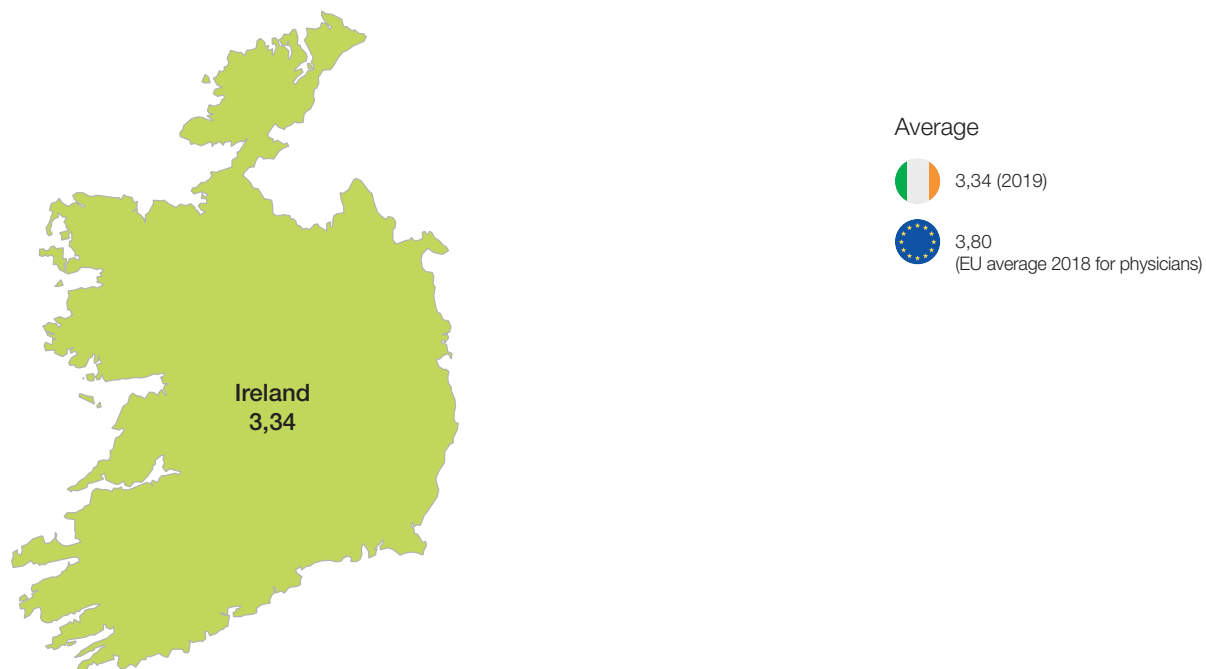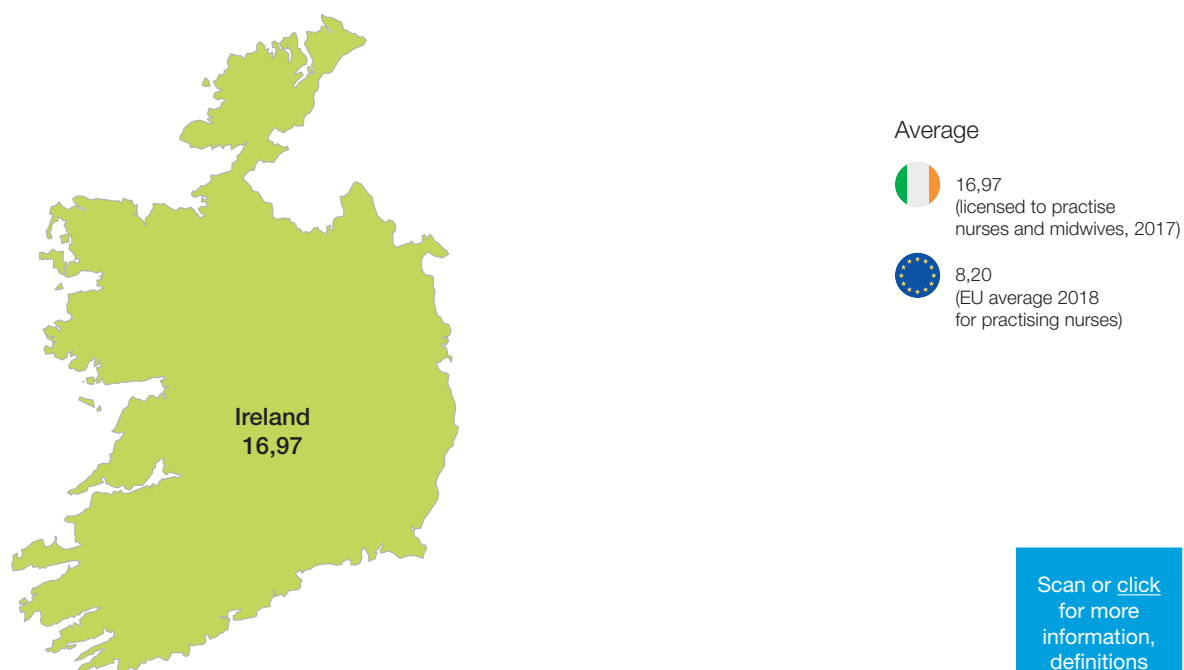**Figure 2a: Number of practising physicians per 1.000 inhabitants (regional distribution latest data available, 2018)**

2,30   5,53

Average

3,38 (2018)

3,80
(EU average 2018 for physicians)

Budapest
5,53

Észak-Magyarország
2,30

Észak-Alföld
3,16

Nyugat-Dunántúl
2,75

Közép-Dunántúl
2,39

Pest
2,54

Dél-Dunántúl
3,44

Dél-Alföld
3,46

Figure 2b: Number of practising nurses and midwives per 1.000 inhabitants (regional distribution latest data available, 2015)

6,22   7,26

Average

6,87 (2018)

8,20
(EU average 2018 for nurses)

Észak-Magyarország
6,53

Észak-Alföld
6,44

Nyugat-Dunántúl
6,35

Közép-Dunántúl
6,22

Közép-Magyarország
6,85

Dél-Dunántúl
7,26

Dél-Alföld
6,61

IRELAND

HEALTH WORKFORCE PLANNING

PLANNING SUMMARY

Ireland issued a National Strategic Framework for Health and Social Care Workforce Planning in 2017. The framework outlines the foundation for systematic workforce planning and the collaboration between stakeholders. The initial implementation phase in 2017-2019 aimed to build workforce planning capacity in the health sector, and enhance engagement between the health and education sectors. A health workforce projection model is under development for a short-(1 year), a medium-(3-5 years), and a long-term (10+ years) time horizon. The existing data warehousing within the public health sector will support the planning even though it requires further improvements.

PLANNING SYSTEM

The National Strategic Framework develops integrated workforce planning projections for the Irish health and social care workforce. Annual payroll and staffing targets determine recruitment for the public sector based on an affordability model in compliance with allocated pay budgets, approved by the Department of Health. Planning takes place at both facility service levels (e.g. mental health), and per profession at a national level for physicians, dentists, nurses and midwives.

PLANNING GOALS

Planning goals include the development of workforce planning based on population health needs over multiple time horizons, optimising health workforce knowledge and skills, identifying workforce solutions based on quality data and stakeholder engagement, national self-sufficiency from undergraduate supply of health and social care professions, and cross sectoral collaboration in health workforce development.

HEALTH WORKFORCE DATA

SUPPLY DATA

Individual data:
- Datasets on public employed staff (headcount, contract type, gender, full/part time, qualifications, age, in- and outflows, absence ratio) managed by professional regulatory bodies.

Aggregated data:
- Organisation and staffing of the services,
- Education data.

DATA SUPPLIERS

- Health Service Executive maintains the National Doctor Training and Planning Database
- Department of Health (public sector employment)
- Higher education authority
- Professional regulators including Nursing and Midwifery Board of Ireland (NMBI), Health and Social Care Professionals Council (CORU) and Irish Medical Council (IMC) - managing the medical registry.
- Central Statistics Office
- HWF Research Group of the Royal College of Surgeons in Ireland analyses mobility data of physicians and nurses

DEMAND DATA

Baseline projection through population demographics.
Specific demand studies through commissioned research, e.g.

- Healthy Ireland Survey (2016),
- ESRI – Projections of demand for healthcare in Ireland (Hippocrates Model) 2015-2030 (2017),
- PA Consulting Capacity Review (2018).

MOBILITY DATA

Inflow data: Professional registers (registration data, nationality and country of graduation) – valid for physicians, nurses and midwives, dentist and pharmacists.

Outflow data: Proxy indicators are available based on the head count of applicants for certificates issued for the recognition of the healthcare qualifications in a foreign country.

CURRENT AND FUTURE CHALLENGES

→ A lack of resources (capacity and capability of human resources) restricts the development and operation of a strategic workforce planning nationally – current focus is limited to payroll and staff management.

→ Irish health workforce planning lacks a comprehensive national up-to-date data warehouse of the health workforce (public and private), containing all the education supply and the labour market information.

→ Ireland faces an insufficiently coordinated stakeholder engagement between the health and the education sectors in order to ensure an appropriate supply of health and social care workforce, that meets population needs.

HEALTH WORKFORCE POLICIES

Policy category	Details	Impacted professions
Manage shortages and maldistribution of skills	Ireland relies on foreign health workforce, e.g. physicians from Pakistan, India and Sudan, nurses from India and the Philippines, who are passively recruited to meet the workforce needs.	
	Ireland promotes skills-upgrading programmes by means of: • graduate entry programmes, such as health care assistants to undertake nursing/midwifery, • post registration programmes leading to registration in a second nursing/midwifery discipline.	
	New roles, substitution, and skill mix are on the Irish agenda. A target is set to increase 'Advanced Practice Nursing' roles to 2% of the nursing/midwifery workforce.	
Improving performance	The Department of Health commissioned reports, such as the Bacon report, McCraith report (physicians) and the Crow Howarth report (public health), to address workforce-performance issues of certain areas.	
Address mobility	Mobility needs more insights, and the implementation of the National Strategic Framework for Health and Social Care Workforce Planning will use data for both inflows and outflows of the workforce.	
Education, enrolment and recruitment	Ireland applies various types of education quota: • Through the planning system: physicians, nurses and midwives • Through negotiations between the labour market and education section: Health and Social Care Professionals (AHPs); psychologists and radiographers.	
Education staff & infrastructure	No policy reported.	
Continuous professional development (CPD)	Regulators and employers set out the necessary CPD requirements to maintain clinical competence. Mandatory and voluntary CPD is a condition for some professions to revalidate the registration.	
Regulation of private sector	Not applicable as the major part of the national health service is public.	
Working conditions	Nationally negotiated via public service sectoral agreements. Initiatives are implemented to improve the work environment with the aim of reducing staff turnover.	

PHYSICIANS   DENTISTS   PHARMACISTS   NURSES AND MIDWIVES   ALLIED HEALTH PROFESSIONS

HEALTH WORKFORCE STOCK AND MOBILITY

Table 1: Health workforce stock and replacement

	Physicians[1]	Nurses[2]
Total stock	16.366[4]	62.700[3]
Stock 55-64 years 2019	2.551	Not reported
Graduates 2018	1.224	1.426

1 Practising
2 Professionally active
3 Latest available data, 2018
4 Latest available data, 2019

Figure 1: Mobility level in absolute numbers (2018)

Outflow: ■ non-EU ■ EU | Inflow: ■ EU ■ non-EU

5 % of the practising physicians
6 % of the professionally active nurses

HEALTH WORKFORCE DENSITY AT SUB-NATIONAL LEVEL

Figure 2a: Number of practising physicians per 1.000 inhabitants (regional distribution latest data available, 2019)
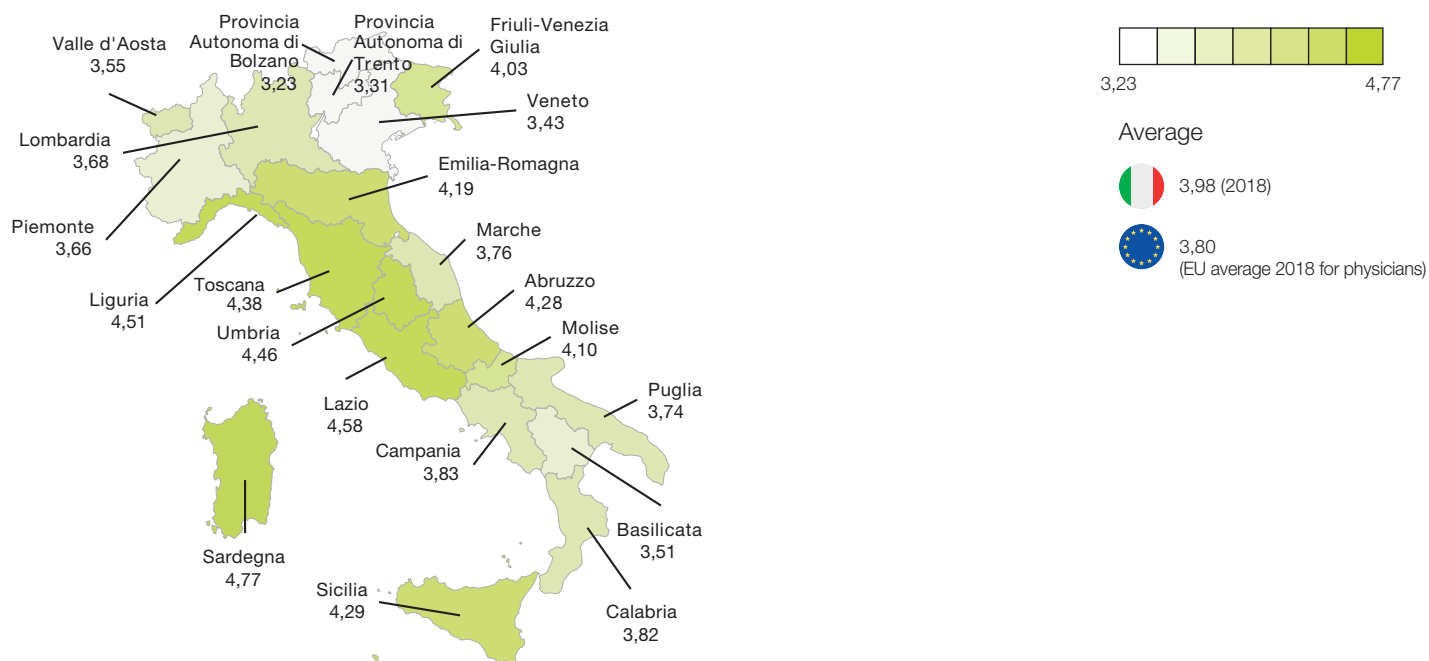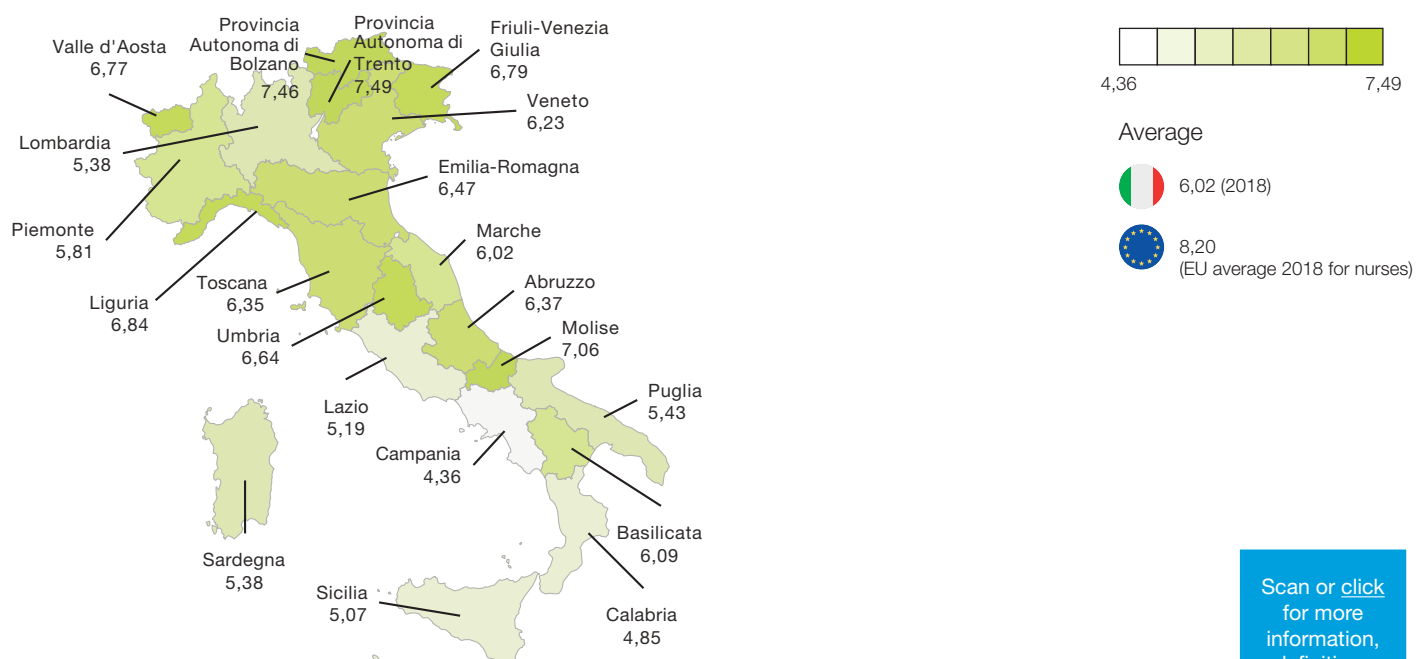
Ireland
3,34

Average

3,34 (2019)

3,80
(EU average 2018 for physicians)

Figure 2b: Number of licensed to practise nurses and midwives per 1.000 inhabitants (regional distribution latest data available, 2017)

Ireland
16,97

Average

16,97
(licensed to practise
nurses and midwives, 2017)

8,20
(EU average 2018
for practising nurses)

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and sources

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ITALY

HEALTH WORKFORCE PLANNING

PLANNING SUMMARY

An institutional dialogue between the central government and the regions annually defines the state funding for education. In 2015, Italy initiated a comprehensive health workforce planning system to provide evidence-based projections supporting this dialogue.

PLANNING SYSTEM

The planning system covers 30 recognised health professions. The dialogue between regional and national authorities, involving a wide range of stakeholders, seeks consensus on training quotas. It is supported by supply and demand projections over the next 20 years. Data collection and mathematical modelling are performed at both regional and national levels.

PLANNING GOALS

The system aims to maintain a balance between the health professionals supply and the long-term demand. A target of self-sufficiency of the national training capacity is sought through a policy addressing training quota.

HEALTH WORKFORCE DATA

SUPPLY DATA

Individual data:
Stock data on professionally active, standard data on personal characteristics and qualifications are collected. The model utilises flow data to predict inflow (e.g. labour market entry, registration and rate of practising workforce) and outflow by retirement, death, and inactivity.

Aggregated data:
Data on potential workforce are used, e.g. in training and/or inactive.

DATA SUPPLIERS

- National Statistical Office (ISTAT)
- National Health Professional Register for Continuous Professional Development (Co.Ge.A.P.S.)
- Ministry of Finance
- Ministry of Health
- Ministry of Labour
- Professional Orders (Registry data)
- Ministry of Education

DEMAND DATA

The forecasting model utilises only aggregated demographic data on population size, age and gender.

MOBILITY DATA

Inflow: foreign-trained, foreign-born and foreign-nationality data are available for licensed professionals in the Registries.

Outflow: proxy indicators are available based on the number of recognition certificates issued by the Ministry of Health.

CURRENT AND FUTURE CHALLENGES

→ Italy faces ageing trends in the population and in the professionally active health workforce, particularly among physicians and nurses, challenging the sustainability of the health system.

→ Maldistribution of health professionals is recognised at national level. Significant imbalances prevail in territorial workforce coverage between Northern and Southern regions.

→ Adapting the skill mix and upskilling the health workforce in order to cope with the increasing health needs and the fast technological advancements are rather complex to manage.

HEALTH WORKFORCE POLICIES

Policy category	Details	Impacted professions
Manage shortages and maldistribution of skills	Recently, residency programmes granted increased funding to cope with possible future shortages of specialist physicians. A new scholarship programme is adapted for General Practitioners. Increased funds support public providers on staffing ratios, thus managing replenishment and outflow due to retirement.	
Improving performance	A performance management of health facilities and professionals is run at regional level to decrease the imbalances. Hospitals and local health authorities provide annual incentives to reach the targets.	
Address mobility	No country policy reported.	
Education, enrolment and recruitment	Numerus clausus annually determines the training quota for all health professionals based on the workforce projections. Policy enables public providers to recruit physicians still attending specialisation training.	
Education staff & infrastructure	Regions sign an annual agreement with local universities to partially fund the training costs of specific qualifications (e.g. nurses and AHPs), based on their needs.	
Continuous professional development (CPD)	A mandatory national CPD programme was established in 2002. Health professionals are required to collect 150 CPD credits every three years.	
Regulation of private sector	Specific regulations license private providers to practise. For pharmacies, quotas are set for joining the national health system depending on the population size.	
Working conditions	Collective negotiation guarantees decent working conditions, both in the public and private sectors.	
Others	Collective negotiation establishes career paths and job plans for public employees.	

PHYSICIANS   DENTISTS   PHARMACISTS   NURSES AND MIDWIVES   ALLIED HEALTH PROFESSIONS

HEALTH WORKFORCE STOCK AND MOBILITY

Table 1: Health workforce stock and replacement

	Physicians[1]	Nurses[1]
Total stock 2018	240.301	346.947
Stock 55-64 years 2018	90.636	Not reported
Graduates 2017	9.120	11.455

1 Practising

Figure 1: Mobility level in absolute numbers (2018)

Outflow: ■ non-EU ■ EU | Inflow: ■ EU ■ non-EU ▬ Total

2 % of the practising physicians and nurses

HEALTH WORKFORCE DENSITY AT SUB-NATIONAL LEVEL

Figure 2a: Number of practising physicians per 1.000 inhabitants (regional distribution latest data available, 2018)

3,23 — 4,77

Average

🇮🇹 3,98 (2018)

🇪🇺 3,80 (EU average 2018 for physicians)

Figure 2b: Number of practising nurses and midwives per 1.000 inhabitants (regional distribution latest data available, 2016)

4,36 — 7,49

Average

🇮🇹 6,02 (2018)

🇪🇺 8,20 (EU average 2018 for nurses)

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HEALTH WORKFORCE PLANNING

PLANNING SUMMARY

Latvia establishes training quota for medical professionals, including specialist physicians, with a view to supporting the health system so as to increase medical coverage in remote regions. The country identified critical issues in 2019 in terms of workforce availability within the health services and is currently investing to reduce the shortage of nurses.

PLANNING SYSTEM

Latvia applies an annual planning and monitoring of medical education in two steps: 1) Review of Y-1 coverage of basic (university) education, and planning of the training quota and positions at universities and medical colleges for the current year. Planning takes training capacity into account but also demographic trends of the health workforce and population, geographical distribution, and consumption of hospital care. 2) By the 1st of April of the planning year, the Ministry of Health prescribes the state-covered residency places for physicians by specialities.

PLANNING GOALS

The predominant goal of health workforce planning in Latvia is to ensure a high quality medical speciality training that reflects the needs of the health system.

HEALTH WORKFORCE DATA

SUPPLY DATA

Individual data: register of the health workforce, personal data, place of residence; qualification, (educational institution, educational documents, specialty, period of validity, professional qualification levels); employment (contracting period), position, place of stay (for temporary workers).

DATA SUPPLIERS

- Ministry of Health / Health Inspectorate of Latvia manages the register

Providers to the register:
- The professionals
- the Latvian Physicians' Association
- the Latvian Nurses' Association
- Healthcare institutions
- Academic Information Centre

DEMAND DATA

- Demographic information,
- Currently mainly qualitative information collected on healthcare needs.

MOBILITY DATA

Inflow: recognition information upon registration of physicians.

Outflow: no reliable data collected.

CURRENT AND FUTURE CHALLENGES

→ While Latvia experiences shortages in different health professions, the situation is particularly serious for nurses: only half of the domestically-graduated nurses start practising in Latvia, and the specialisation of nursing is quite fragmented. A current challenge is to significantly increase the density of nurses all over the country with replenishment strategies, as even more acute shortages are announced in line with the ageing trends of health workforce.

→ The salaries of the Latvian health workforce are well under the EU average, threatening the stability and sustainability of the health system. The Latvian government recognises a steady financing of the healthcare system and professionals, considering access to care as an important objective.

→ Further challenges include primary care development by expanding the roles, improving the quality, promoting teamwork and team engagement including patient empowerment, patient education in health promotion, and enhancing prevention programmes. Recently, more focus is dedicated to the deployment of eHealth solutions into care provision.

HEALTH WORKFORCE POLICIES

Policy category	Details	Impacted professions
Manage shortages and maldistribution of skills	Latvia's ongoing institutional healthcare reform includes a new classification and planning of facilities, and a minimum threshold of staffing. This reform promotes an important redistribution of medical and nursing positions across the country.	
	Physicians and nurses may benefit from financial incentives for practising in rural areas, but also for attending residencies in rural areas (up to 30% higher salary) as well as special funding for continuous development.	
	The number of residents per specialty is revised annually to address the demographic trends of the medical workforce.	
	A new profession (medical assistant) has been created with some GP-related tasks and those of emergency care, aiming to compensate for the shortages of general practitioners.	
Improving performance	Individual improvement of performance relies on the continuous professional development of health workforce.	
Address mobility	No policy reported	
Education, enrolment and recruitment	Latvia promotes a pre-contracting strategy between students and hospitals to ensure appropriate staffing levels in the sponsoring institutions in return for study grants.	
Education staff & infrastructure	The 'Growth on Jobs' operational programme aims to improve the qualifications of medical and paramedical workforce, in the priority areas of cardiovascular, oncology, perinatal and neonatal, and mental health. Developing 79 non-formal education programmes, 2 professional development programmes for nurses and a higher education programme to qualify as an emergency medical assistant.	
Continuous professional development (CPD)	Latvia has a mandatory CPD framework for physicians, dentists, pharmacists, nurses and midwives complemented by voluntary CPD for physicians, nurses and midwives.	
Regulation of private sector	Not available.	
Working conditions	Latvia is steadily increasing the wages of physicians and nurses and also the infrastructure of medical facilities.	

PHYSICIANS   DENTISTS   PHARMACISTS   NURSES AND MIDWIVES   ALLIED HEALTH PROFESSIONS

HEALTH WORKFORCE STOCK AND MOBILITY

Table 1: Health workforce stock and replacement

	Physicians[1]	Nurses[1]
Total stock 2018	6.367	8.392
Stock 55-64 years 2018	1.901	Not reported
Graduates 2019	450	514

1 Practising

Figure 1: Mobility level in absolute numbers (2018)

Outflow: non-EU ■ EU | Inflow: ■ EU ■ non-EU

2 % of the practising physicians and nurses

Note: Inflow data not available for nurses 2018

HEALTH WORKFORCE DENSITY AT SUB-NATIONAL LEVEL

Figure 2a: Number of practising physicians per 1.000 inhabitants (regional distribution latest data available, 2018)

Latvia
3,30

Average

3,30 (2018)

3,80
(EU average 2018 for physicians)

Figure 2b: Number of practising nurses and midwives per 1.000 inhabitants (regional distribution latest data available, 2018)

Latvia
4,56

Average

4,56 (2018)

8,20
(EU average 2018 for nurses)

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SUPPORT FOR THE HEALTH WORKFORCE PLANNING AND FORECASTING EXPERT NETWORK

HEALTH WORKFORCE PLANNING

PLANNING SUMMARY

In 2018, Lithuania established the 'Model for Forecasting the Demand of Health Workforce' on a 10-year timeline, for medical specialties, dental specialties, nursing and midwifery. The Model started to be systematically used to support policy-making and the identification of health workforce issues at national level with a focus on the demand of medical specialties. Lithuania is currently enhancing the Model with qualitative data and extending it to additional professions.

PLANNING SYSTEM

The Model, run by the Government Strategic Analysis Center (STRATA) in collaboration with the Ministry of Health, organises a dialogue with a State Order Committee consisting of universities, governmental and healthcare institutions. The Model currently processes quantitative data on medical specialties, odonatological specialties, nursing and midwifery and includes different scenarios. Projections result in a consensus advice to the Ministry of Health on the targeted distribution of the state-funded residency positions for medical specialty training (e.g. surgery).

PLANNING GOALS

The Ministry of Health intends to thoroughly monitor the national health workforce. Appropriate funding is the current goal. Addressing regional imbalances in the health care coverage and assessing the evolution of healthcare on the health workforce in the long term are the subject of future enhancements.

HEALTH WORKFORCE DATA

SUPPLY DATA

The Model of the STRATA uses:
- **Individual data:** registration information, qualification, licensing, and residency.
- **Aggregated numbers** of obtained qualification (from universities) and number of currently inactive healthcare specialists returning to practice.

DATA SUPPLIERS

Almost all data are provided by public authorities:
- Ministry of Health
- STRATA
- Ministry of Education, Science and Sport
- State Health Care Accreditation Agency
- National Agency of Education
- National Health Insurance Fund
- Institute of Hygiene
- State Social Insurance Fund Board
- Lithuanian Dental Chamber

DEMAND DATA

The Model of the STRATA uses aggregated data: demographic evolution of the population, capacity of hospital facilities, health consumption information, employment data e.g. number of filled and vacant positions.

MOBILITY DATA

Lithuania started reporting mobility data in 2014 to the OECD database of health professions.
Inflow: foreign-born and foreign-trained data are registered for physicians and nurses.
Outflow: Lithuania monitors the outflow of physicians and nurses in the OECD database.

CURRENT AND FUTURE CHALLENGES

→ Geographical imbalances across the country due to the maldistribution of workforce between urban and rural areas. Health workforce tends to concentrate in Vilnius and Kaunas, while remote areas suffer from a low appeal for young specialists.

→ Ageing health workforce, particularly physicians and nurses, a sharp decrease in the population in the last 10 years and uncertainty about the future demographic trends call for an urgent and thorough review of the network of facilities. Similarly, a new composition of the future health workforce is required, as is a review of the medical specialties.

→ The Model needs enhancement to include long-term trends (e.g. best practices, scientific, technological changes etc.) and deliver impact assessment of policy changes (e.g. promoting SMART goals). A broader stakeholder involvement is necessary. Lithuania is dedicated to adopting timely evidence-informed policies to address the challenges of future health workforce.

HEALTH WORKFORCE POLICIES

Policy category	Details	Impacted professions
Manage shortages and maldistribution of skills	Since 2008, healthcare institutions have been funding training and residencies for professions where shortages occur, and in return, trainees work in the institutions for an agreed period of time.	
Improving performance	Public institutions receive annual targets to review.	
Address mobility	Salary increase was implemented as a financial retention incentive for resident physicians, dentists and nurses.	
Education, enrolment and recruitment	Lithuania regulates state grants for healthcare studies by increasing these when shortages are foreseen (e.g. family medicine) and reducing these when a surplus is foreseen (e.g. dentists). The Model will be enhanced with qualitative data and extended to additional professions.	
Education staff & infrastructure	Universities are autonomous and may train more students than recommended but without state funding.	
Continuous professional development (CPD)	Physicians, dentists, nurses, midwives and pharmacists are subject to a mandatory CPD system within a 5-year term revalidation. CPD is funded by healthcare specialists, healthcare institutions or the Ministry of Health.	
Regulation of private sector	All regulations apply to private and public sectors. Private hospital employment represents only a low percentage of the health workforce.	
Working conditions	Working conditions are regulated in the Labour Code, Hygiene Standard Nr. 47 and Medicine norms.	
Others	Lithuania has no unified career framework for healthcare specialists. Every healthcare institution has its own career framework based on their practices.	

PHYSICIANS   DENTISTS   PHARMACISTS   NURSES AND MIDWIVES   ALLIED HEALTH PROFESSIONS
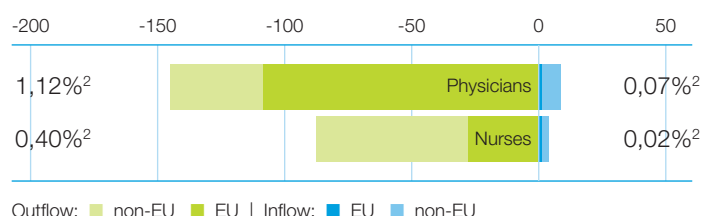
HEALTH WORKFORCE STOCK AND MOBILITY

Table 1: Health workforce stock and replacement

	Physicians[1]	Nurses[1]
Total stock 2018	12.881	21.793
Stock 55-64 years 2018	3.330	8.131
Graduates 2018	577	605

1 Practising

Figure 1: Mobility level in absolute numbers (2018)

| -200 | -150 | -100 | -50 | 0 | 50 |

1,12%[2] Physicians 0,07%[2]
0,40%[2] Nurses 0,02%[2]

Outflow: ■ non-EU ■ EU | Inflow: ■ EU ■ non-EU

2 % of the practising physicians and nurses

HEALTH WORKFORCE DENSITY AT SUB-NATIONAL LEVEL

Figure 2a: Number of practising physicians per 1.000 inhabitants (regional distribution latest data available, 2018)
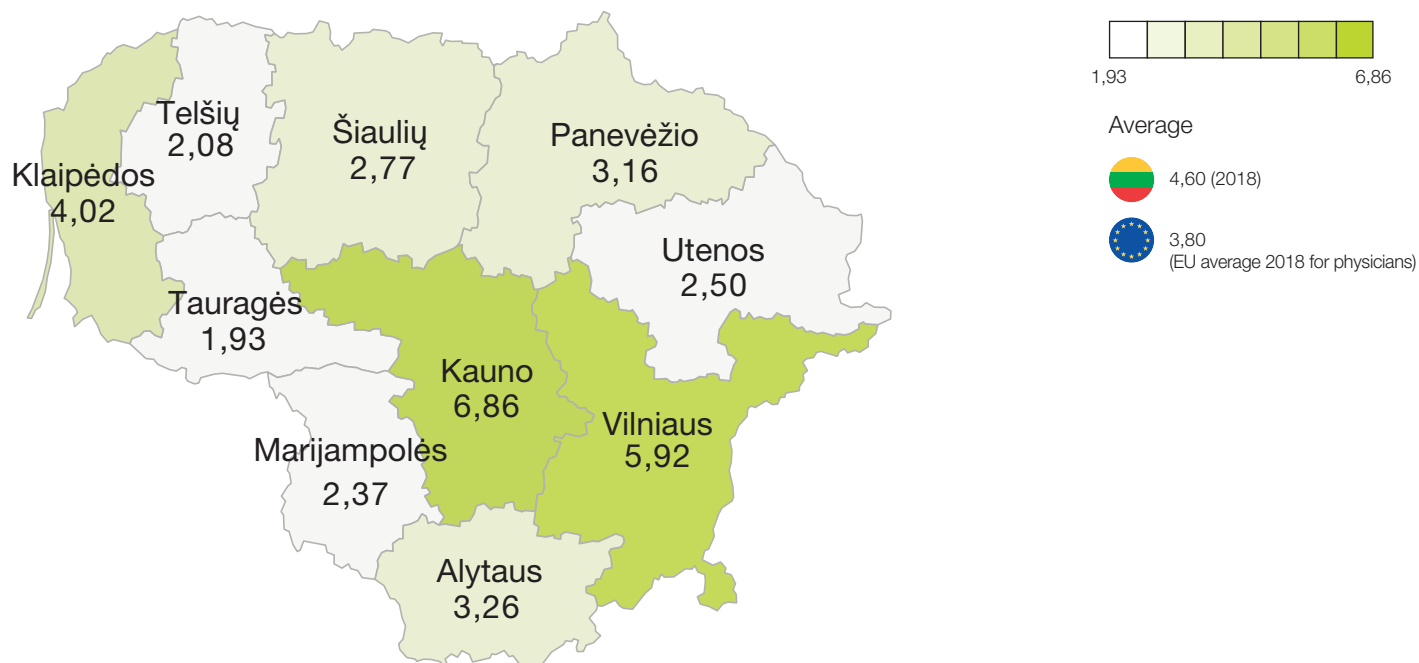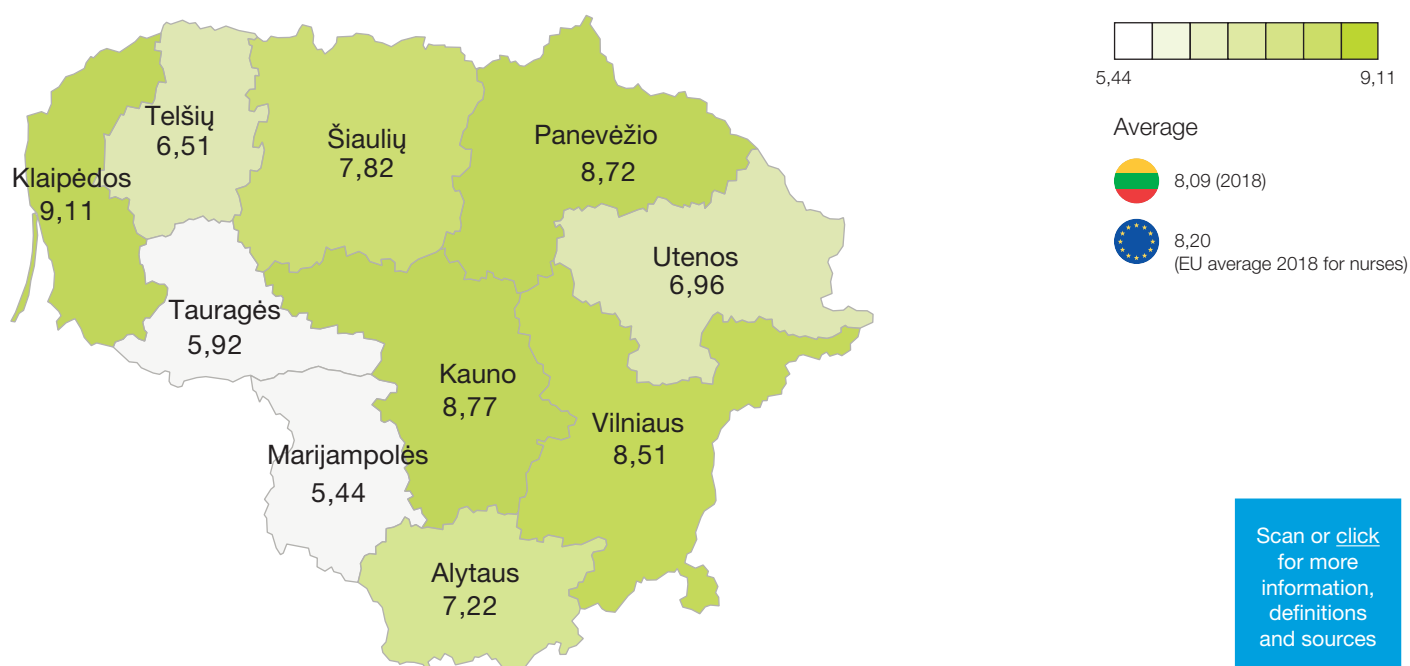

1,93   6,86

Average

4,60 (2018)

3,80
(EU average 2018 for physicians)

Telšių 2,08
Šiaulių 2,77
Panevėžio 3,16
Klaipėdos 4,02
Utenos 2,50
Tauragės 1,93
Kauno 6,86
Vilniaus 5,92
Marijampolės 2,37
Alytaus 3,26

Figure 2b: Number of practising nurses and midwives per 1.000 inhabitants (regional distribution latest data available, 2018)

5,44   9,11

Average

8,09 (2018)

8,20
(EU average 2018 for nurses)

Telšių 6,51
Šiaulių 7,82
Panevėžio 8,72
Klaipėdos 9,11
Utenos 6,96
Tauragės 5,92
Kauno 8,77
Vilniaus 8,51
Marijampolės 5,44
Alytaus 7,22

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SUPPORT FOR THE HEALTH WORKFORCE PLANNING AND FORECASTING EXPERT NETWORK

HEALTH WORKFORCE PLANNING

PLANNING SUMMARY

Although Luxembourg applies a free-settlement policy and experiences no acute shortages, it is nevertheless aware of future challenges. Luxembourg is highly relying on foreign countries when it comes to training and recruiting its health workforce. Up to 62% of the regulated health professions are foreign-trained, and 51% of the physicians are foreign-born.

PLANNING SYSTEM

No health workforce planning system is currently in place in Luxembourg, besides a planning of pharmacies. The government intends to set up a national observatory of health to collect and monitor health workforce demographic information (supply data), morbidity and mortality data (demand data), but also to provide structured governance of health workforce. A mapping study on the "Overview of health workforce in Luxembourg" has been delivered in October 2019, and reform legislation is currently under development.

PLANNING GOALS

Ambitions in setting up health workforce planning aim at ensuring a sufficient coverage of the growing population needs and reducing the reliance on foreign-trained health workforce. This latter is a high priority on the national health agenda and could be managed by the systematic development of viable training programmes.

HEALTH WORKFORCE DATA

SUPPLY DATA

Individual data:
Demographic data (age, gender, residence), Education data (qualification, country of qualification), Activity (time of licensing, place of work). Stock data are collected at the national level on all licensed health professionals.
Specific data:
Quantitative and qualitative information have been gathered through an extensive study on "Overview of health workforce in Luxembourg" in 2019.

DATA SUPPLIERS

- Ministry of Health – Health professionals Unit
- Medical Chamber (Collège médical)
- The Health Professions High School (Lycée technique des professions de santé, LTPS)

DEMAND DATA

Although no data are currently being collected for calculating the demand, the recent "Overview of health workforce in Luxembourg" lists indicators to collect in the future.

MOBILITY DATA

- There is no proper mobility data collection
- **Inflow data:** foreign-trained and foreign-born data are registered as part of the licensing procedure in Luxembourg.

CURRENT AND FUTURE CHALLENGES

→ Luxembourg recognises a limited availability of primary care, leading to an overconsumption of hospital and emergency care. Multidisciplinary approach and proper referrals of physicians for chronic diseases are key to evaluate and promote more effective care coordination.

→ Based on the recent "Overview of health workforce in Luxembourg" study, Luxembourg is urged to anticipate shortages due to changing demography. Several policy changes and evidence-based implementation are needed to address the high reliance on foreign-born and foreign-trained health workforce.

→ Moreover, preventive care must be reinforced in Luxembourg and be embedded in the current healthcare system. This entails a large-scale upskilling of the current health workforce.

HEALTH WORKFORCE POLICIES

Policy category	Details	Impacted professions
Manage shortages and maldistribution of skills	No specific policy as no current shortage is reported, though recruitment issues are highlighted. Special funding is available for promoting the settlement of new professionals. Indirect planning exists for pharmacists as the total number of pharmacies is regulated across the territory.	💊
	With a view to tackling mental-care issues, Luxembourg issued a law regulating the qualification of psychotherapists in 2015.	➕
Improving performance	Luxembourg considers e-Health as one of the most effective ways to improve performance in the coming years. Since January 2020, the e-Patient health file has been in operation. Developing telemedicine is the next step.	🧑‍⚕️ 🦷 💊 👩‍⚕️ ➕
Address mobility	A large majority of the health professionals in Luxembourg are foreign-born and/or foreign-trained as there is no full training capacity for most disciplines. Luxembourg is subject to important and complex cross-border flows, where both health professionals and patients often live in neighbouring countries, e.g. in 2019, 53% of health professionals commuted from France, Germany and Belgium.	🧑‍⚕️ 🦷 💊 👩‍⚕️ ➕
Education, enrolment and recruitment	There is no full medical school at the University of Luxembourg nor specific training for all listed health professions. National students are granted an incentive of 7,000 euros to attend medical school. Training for nurses is limited.	🧑‍⚕️ 👩‍⚕️
Education staff & infrastructure	Nursing, some nursing specialities, midwives, physiotherapists, and psycho-therapist, some of the assistant nurses and assistant technicians education are fully trained in the country.	🧑‍⚕️ 👩‍⚕️ ➕
	Luxembourg will open bachelor-level training for physicians by the academic year 2020-2021.	🧑‍⚕️
Continuous professional development (CPD)	Health professionals by law keep their skills updated through a CPD system. CPD activities are approved by the Minister. An interruption of practice for at least 5 years results in specific mandatory retraining.	🧑‍⚕️ 🦷 💊 👩‍⚕️
Regulation of private sector	The regulation of Luxembourg is applicable to both the public and private sectors.	
Working conditions	A financial grant is available, supporting the creation of medical group practices.	🧑‍⚕️

🧑‍⚕️ PHYSICIANS   🦷 DENTISTS   💊 PHARMACISTS   👩‍⚕️ NURSES AND MIDWIVES   ➕ ALLIED HEALTH PROFESSIONS

HEALTH WORKFORCE STOCK AND MOBILITY

Table 1: Health workforce stock and replacement

	Physicians[1]	Nurses[1]
Total stock 2017	12.887	6.992
Stock 55-64 years 2017	559	Not reported
Graduates 2018	-	72

1 Practising

Figure 1: Mobility level in absolute numbers (2018)

Outflow: ▢ non-EU ▢ EU

2 % of the practising physicians and nurses

Note: Inflow data not available for 2017

HEALTH WORKFORCE DENSITY AT NATIONAL LEVEL

Figure 2a: Number of practising physicians per 1.000 inhabitants (regional distribution latest data available, 2017)
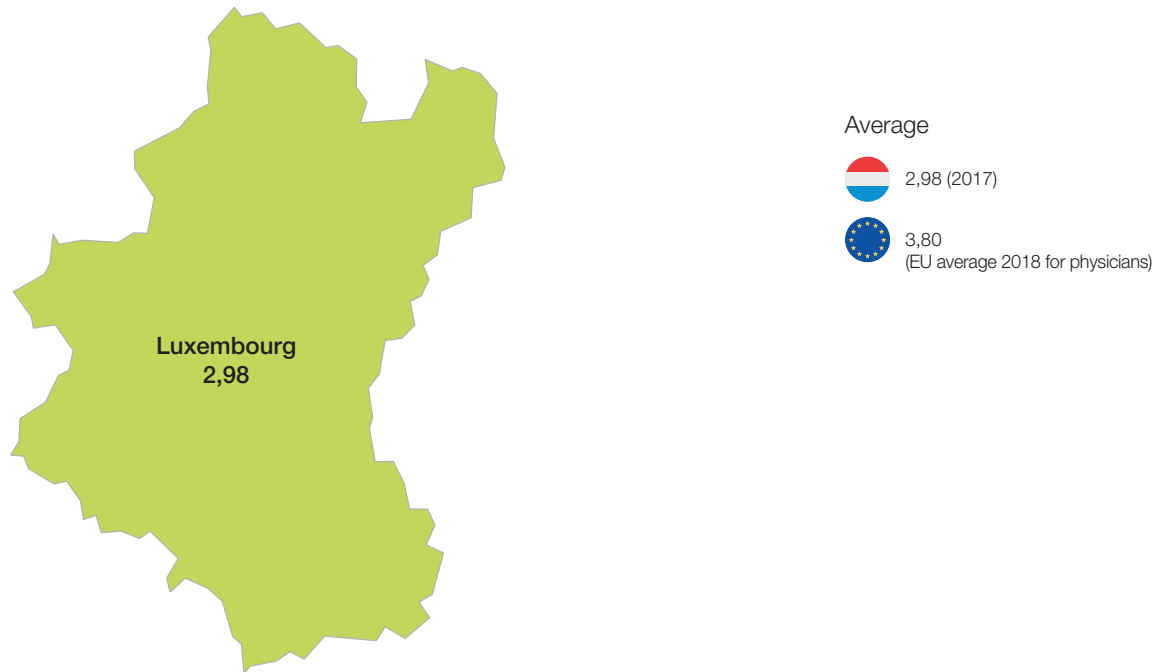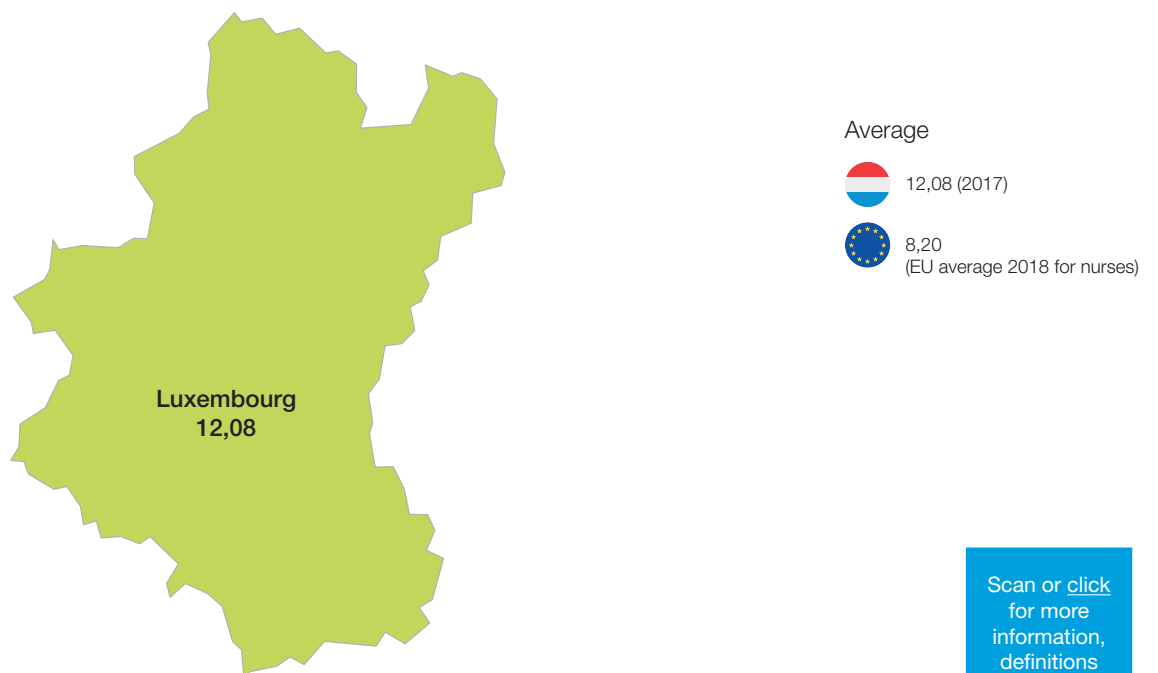

Average

2,98 (2017)

3,80
(EU average 2018 for physicians)

Luxembourg
2,98

Figure 2b: Number of practising nurses and midwives per 1.000 inhabitants (regional distribution latest data available, 2017)

Average

12,08 (2017)

8,20
(EU average 2018 for nurses)

Luxembourg
12,08

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MALTA

HEALTH WORKFORCE PLANNING

PLANNING SUMMARY

Malta aims to be self-sustainable in terms of the supply of health workforce in the public sector. In a collaborative stakeholder dialogue, a health workforce plan is approved every three years and monitored annually. Application of a numerus clausus policy and subsidisation of training abroad are the most common levers of action.

PLANNING SYSTEM

Malta promotes a 'Health Workforce Plan' for public health care service, including public functions, every three years and revises it annually. Intermittent dialogue is carried out between educational institutions and health care authorities for the purpose of HWF planning. This dialogue covers all health care professions and is based on both quantitative and qualitative data, although it does not make use of a complex projection model.

PLANNING GOALS

Malta aims to foster a balanced and self-sustainable supply of health workforce in response to the demand of the public health care service at national level. The planning process is taken as an opportunity to foster better communication and cooperation between the educational institutions and health care service providers.

HEALTH WORKFORCE DATA

SUPPLY DATA

- No systematic data collection is carried out. At the time of the dialogue, Health Professional Councils and health educational institutions provide mainly quantitative data upon specific request.
- Aggregated demographic and qualification data on registered physicians, dentists and allied health professions by specialty are provided online, but not for nurses, midwives and pharmacists.

DATA SUPPLIERS

People & Standards Division within the Office of the Prime Minister; Health Entities; Ministry for Health, Ministry for Education, Superintendence of Public Health, Ministry for the Family, Children's Rights and Solidarity, Council for Nurses and Midwives, Medical Council - manages the registries, Pharmacy Council, Council for the Professions Complementary to Medicine, University of Malta.

DEMAND DATA

Quantitative data:
- Generic demographic data (e.g. population age, migration),
- Vacancies in the public health care service.

Specific data:
- Specific surveys within the national health service.

MOBILITY DATA

Inflow: foreign born and foreign trained (place of first qualification) data are available at Health Professional Councils.

Outflow: proxy indicators are available on outflow, based on statistics on drop-out, however professionals are not obliged to notify the authorities when leaving the country.

CURRENT AND FUTURE CHALLENGES

→ Setting up of a 'Health Workforce Planning and Forecasting Unit' with the involvement of the key stakeholders (education, health, and finance) is needed to ensure accurate calculations of the right balance between supply and demand.

→ Malta faces demographic issues that strongly impact demand: an ageing population and increase in morbidity on the one hand, and a high rate of immigration from outside of the county on the other.

→ Managing the shortages of nurses, dentists, social workers, occupational therapists, speech and language, audiologists and pharmacists is considered as a challenge, particularly with the lack of availability of appropriate outflow data.

HEALTH WORKFORCE POLICIES

Policy category	Details	Impacted professions
Manage shortages and maldistribution of skills	Efforts are made to introduce skill mix and competency management.	
	Malta recruits its professionals and students internationally, and sponsors studies abroad, particularly for nurses.	
Improving performance	A competency framework was introduced to promote career advancement for nurses and AHPs. Job plans are provided to support physicians, including Consultants and Resident Specialists.	
	Introduction of Standard Operating Procedures and Performance Management Programme are applied to improve performance.	
Address mobility	Malta offers various opportunities to foster retention, including unpaid leave of up to five years to take on another job in the private sector locally or abroad, the re-employment and bridging process applicable to public health care service employees, and rotation of employment throughout the first two years.	
Education, enrolment and recruitment	Malta addresses potential oversupply through a numerus clausus policy, while undersupply is addressed by promoting the profession.	
Education staff & infrastructure	Health professional education is improved by opening new educational facilities and tailoring training to the needs of physicians, nurses and AHPs.	
	Development of an inland specialisation framework is available for all professions.	
	A specialised role is provided for physician training coordinators, and mentoring in dentistry and nursing.	
Continuous professional development (CPD)	Malta provides an annual CPD allowance per profession, and additional costs may be reimbursed. The ministry of Health offers training opportunities locally and abroad.	
Regulation of private sector	Registered professionals are controlled in the private sector, and the registries are publicly available.	
	Equivalence of minimum salaries and working conditions are applied between public and private sector.	
Working conditions	Working conditions are regulated through Sectoral Agreements with the respective Unions, resulting in considerable increases in salary and better working conditions.	
	Collective agreements are in place between Government and Unions to cover all public officers.	

PHYSICIANS   DENTISTS   PHARMACISTS   NURSES AND MIDWIVES   ALLIED HEALTH PROFESSIONS

HEALTH WORKFORCE STOCK AND MOBILITY

Table 1: Health workforce stock and replacement

	Physicians[1]	Nurses[1]
Total stock 2018	1.925	3.772
Stock 55-64 years 2018	325	Not reported
Graduates 2018	164	132

1 Practising

Figure 1: Mobility level in absolute numbers (2018)

Physicians 4,62%[2], Nurses 0,32%[2]

Outflow: non-EU, EU

2 % of the practising physicians and nurses
Note: Inflow data not available for 2018

HEALTH WORKFORCE DENSITY AT SUB-NATIONAL LEVEL

Figure 2a: Number of practising physicians per 1.000 inhabitants (regional distribution latest data available, 2018)

Average

3,97 (2018)

3,80
(EU average 2018 for physicians)

Malta
3,97

Figure 2b: Number of practising nurses and midwives per 1.000 inhabitants (regional distribution latest data available, 2018)

Average

8,28 (2018)

8,20
(EU average 2018 for nurses)

Malta
8,28

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THE NETHERLANDS

HEALTH WORKFORCE PLANNING

PLANNING SUMMARY

The Netherlands has a national health workforce planning system based on a supply-and-demand forecasting model. The model is fuelled by data warehousing and sustained through an institutional stakeholder dialo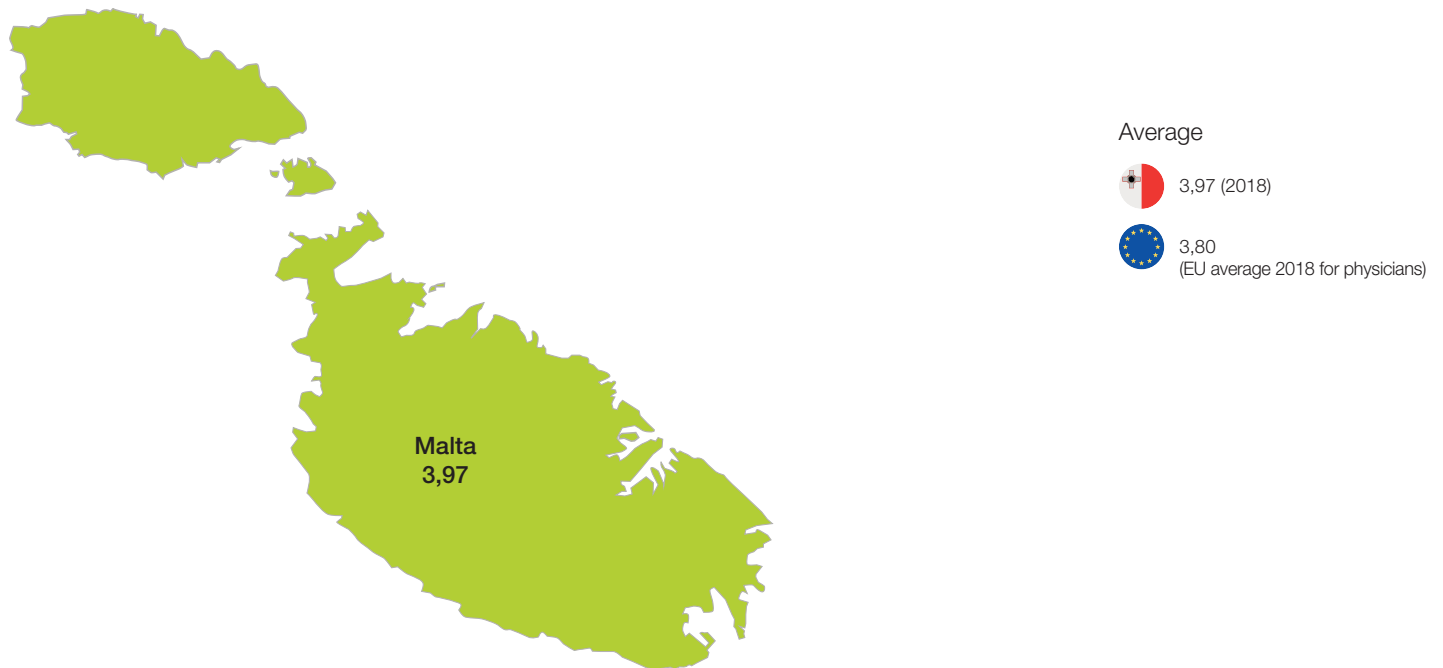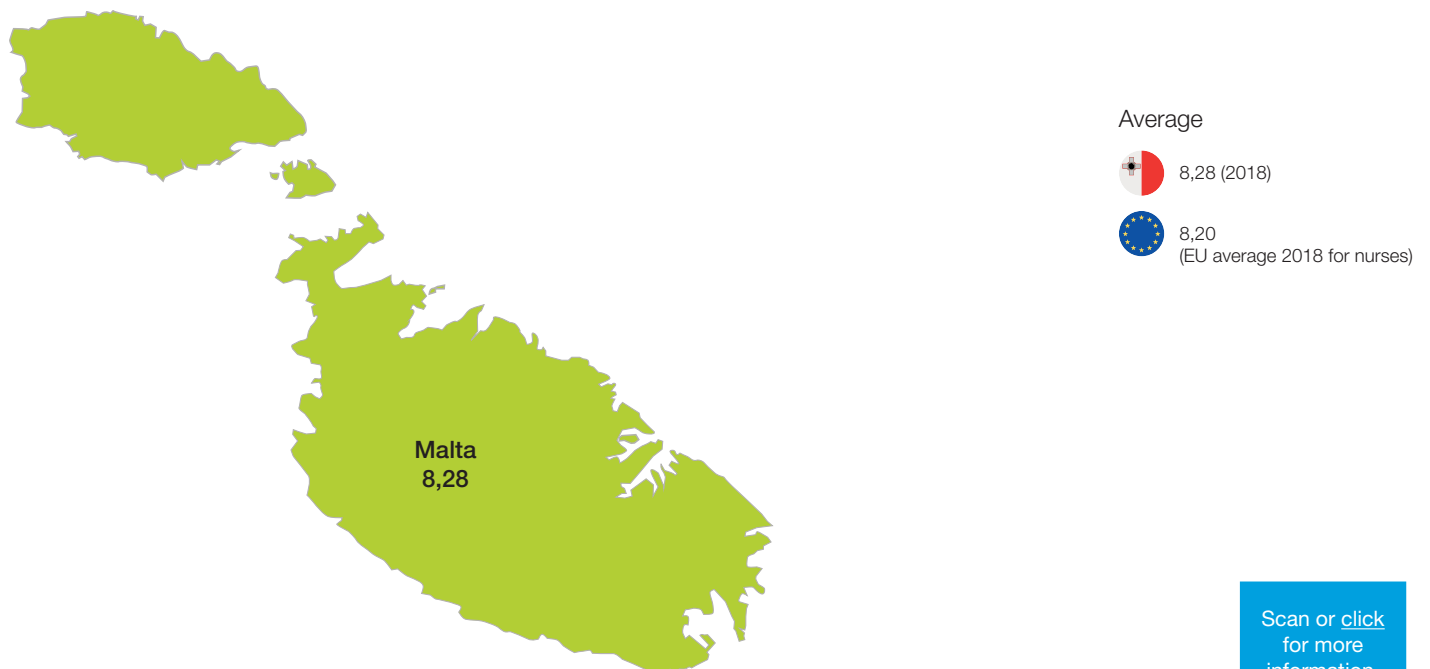gue. The supply-and-demand planning for non-academic health professionals is monitored at regional level, and by qualification categories at regional and national levels.

PLANNING SYSTEM

The planning is executed by the Advisory Committee for Medical Manpower Planning (ACMMP) that actively involves representatives from health-insurance, training institutes and occupational organisations. Every three years, the ACMMP advises the government on the optimal training inflow with a projection horizon of 12 to 15 years.

PLANNING GOALS

The goal of the Dutch planning system is to anticipate shortages and oversupply by adapting the training inflow accordingly, and by enabling regional-policy solutions for health workforce mismatches. The reference goal is to ensure sustainable coverage of healthcare needs on national and regional levels, by profession and with an upcoming 5-15 years' horizon.

HEALTH WORKFORCE DATA

SUPPLY DATA

- **Individual data:** gender, age, registrations, year of in- and outflows, specialisation.
- **Aggregated data:** success rates/attrition of training programmes, training duration, male/female ratio, head count and full-time equivalent, retirement rates, job/sector mobility, inflow from abroad.
- **Specific data:** registration data, labour force surveys, pension fund data, vacancy/unemployment data.

DATA SUPPLIERS

- Register based on the Individual Healthcare Professions Act (wet BIG), Medical Specialist Register (RGS)
- Health and Welfare Research Programme (AZW)
- Education Office (DUO)
- Health insurance data (VEKTIS)
- Public health data (GGD and RIVM)
- Electronic patient record data primary care (Nivel)
- National consumer surveys (Nivel)
- Population data (Statistics Netherlands, CBS)

DEMAND DATA

- Demographic data and projections, by gender, age, region and projection horizon.
- Utilisation of health services, health expenditure and unmet needs by age, gender and region.
- Public-health data and health condition indicators by gender, age and region.

MOBILITY DATA

- **Internal mobility:** in employment and/or health care through registration data and labour force surveys.
- **External mobility:** foreign-trained data through mandatory registration and professional recognition procedures (based on the Individual Healthcare Professions Act (wet BIG) and Medical Specialist Register (RGS).

CURRENT AND FUTURE CHALLENGES

→ To face current and future demographic challenges, there is a growing need to increase the health workforce by recruitment and retention, particularly in elderly care, chronic care, mental care in underserved areas.

→ Multiple policies have been adopted to achieve a productivity shift by focusing on patient-centered and integrated care, increasing patient participation and empowerment and by reinforcing prevention, healthy aging and primary care.

→ Next to health workforce expansion, other ways of organising work and health services require a new vision on skill mix optimisation, interprofessional collaboration, task shifting, job carving and continuous professional development (CPD).

HEALTH WORKFORCE POLICIES

Policy category	Details	Impacted professions
Manage shortages and maldistribution of skills	The Netherlands have a free settlement policy of health provision. This is monitored at the regional and - when necessary - at the national level. Regional networks and collaboration are built to tackle region-specific labour market shortages and mismatches.	
	Substitution and task-shifting are stimulated and promoted.	
	Programmes are funded to invite inactive health workers to reintegrate, to promote working in healthcare, and avoid exit.	
Improving performance	Policy and practice are supporting the reduction of administrative burden and registration requirements.	
	National and cross-sectoral agreements are concluded to control the growth in healthcare expenditure by setting 'ceilings'.	
Address mobility	The inflow of foreign trained professionals is monitored, particularly for physicians and dentists.	
Education, enrolment and recruitment	The inflow is controlled by a planning system and the ACMMP's advice to the government; while mismatches are monitored at regional level.	
	Education coaches help graduated physicians to select a suitable residency position, avoiding maldistribution across medical specialisations.	
Education staff & infrastructure	Medical specialist and nurse training has been modernised, some master programmes are offered in English (e.g. Physiotherapist).	
Continuous professional development (CPD)	Mandatory CPD is legally enforced and subject to both disciplinary controls and a 5-year revalidation system for 'BIG-professions'. The Ministry of Health and scientific organisations co-finance the development of guidelines and training to implement them.	
Regulation of private sector	No policy reported.	
Working conditions	Innovation by self-steering team policies in the home care, reducing administrative burden and improving working conditions.	
	Reduce workload and work pressure of healthcare workers by introducing more assistant and supportive functions.	
	Incomes of salaried health workforce are settled by collective labour agreements.	
Others	Actions to reduce the boost in flexible and self-employed health workforce.	

PHYSICIANS　　　DENTISTS　　　PHARMACISTS　　　NURSES AND MIDWIVES　　　ALLIED HEALTH PROFESSIONS

HEALTH WORKFORCE STOCK AND MOBILITY

Table 1: Health workforce stock and replacement

	Physicians[1]	Nurses[1]
Total stock 2018	63.233	191.740
Stock 55-64 years 2018	12.188	Not reported
Graduates 2018	2.717	9.940

1 Practising

Figure 1: Mobility level in absolute numbers (2018)

Outflow: ■ non-EU ■ EU

2 % of the practising physicians and nurses

Note: Inflow data not available for 2018

HEALTH WORKFORCE DENSITY AT SUB-NATIONAL LEVEL

Figure 2a: Number of practising physicians per 1.000 inhabitants (regional distribution latest data available, 2018)

1,22   5,72

Average

3,67 (2018)

3,80
(EU average 2018 for physicians)

Groningen 5,35
Friesland 2,33
Drenthe 2,89
Noord-Holland 4,83
Flevoland 1,22
Overijssel 2,62
Utrecht 5,72
Gelderland 3,63
Zuid-Holland 3,63
Noord-Brabant 2,59
Limburg 3,48
Zeeland 1,63

Figure 2b: Number of practising nurses and midwives per 1.000 inhabitants (regional distribution latest data available, 2013)

10,22   16,21

Average

11,37 (2018)

8,20
(EU average 2018 for nurses)

Groningen 14,47
Friesland 14,10
Drenthe 16,21
Noord-Holland 10,25
Flevoland 10,89
Overijssel 13,53
Utrecht 12,39
Gelderland 13,42
Zuid-Holland 10,22
Noord-Brabant 12,83
Limburg 13,49
Zeeland 13,91

Scan or click for more information, definitions and sources

POLAND

HEALTH WORKFORCE PLANNING

PLANNING SUMMARY

Poland runs a system planning and has started to develop strategies for health professions with significant shortages, including physicians, dentists, nurses and midwives in 2017. The focus is on developing the training capacity and on fostering the retention of the health workforce by raising the wages.

PLANNING SYSTEM

Poland plans health workforce indirectly through the planning of the healthcare system. 'Health service delivery plans' are elaborated by the National Health Fund, based on the national 'Healthcare needs' maps' developed by the Ministry of Health since 2014. These plans define the scope and volume of the health services requested to accomplish health needs outlined in regional health plans.

PLANNING GOALS

The main goals are to ensure that the health care system supports and meets the needs of the population, addresses the shortages and provides an improvement of the working conditions of health workers.

HEALTH WORKFORCE DATA

SUPPLY DATA

Individual data: age, gender, geographical distribution, licensing information; qualification, specialisation (physicians and dentists, pharmacists, nurses and midwives, laboratory diagnosticians and physiotherapists) and CPD.

DATA SUPPLIERS

- Central Statistical Office
- Ministry of Health and its National Centre for Health Information System
- National Health Fund
- National Chamber of Physicians, National Chamber of Nurses and Midwives, and other chambers of health professions
- Social Insurance Institutions
- SMK- System (Monitoring of Health Workforce Training

DEMAND DATA

Demand calculated by the National Chamber of Physicians and National Chamber of Nurses and Midwives:
- Aggregated demographic data,
- Aggregated workforce data.

Demand calculated for the healthcare maps:
- Demographic and epidemiological evolutions (central and regional maps),
- Forecasting of health consumption for the future.

MOBILITY DATA

Inflow: foreign-trained, foreign-born and foreign-nationality data are available from registers of professional chambers.

Outflow: data on outward migration are not recorded. Proxy indicators are available based on the number of applicants for certificates issued by professional chambers for the recognition of the healthcare qualifications in a foreign country.

CURRENT AND FUTURE CHALLENGES

→ Considering the significant shortages, recruitment, training and retention of medical workforce are crucial challenges for policy-makers and healthcare managers.

→ The demographic challenge of both the aging of the practising health professionals and the aging of the population call for special attention and further development of health policies. The unfavorable age structure shows an average age of practicing specialists 54.2 years, resulting in more than 60% of practicing specialists over 50 years.

→ Poland is willing to reduce the administrative and organisational burden on the medical workforce by introducing supporting professions to the system (e.g. medical assistants, health care coordinators).

HEALTH WORKFORCE POLICIES

Policy category	Details	Impacted professions
Manage shortages and maldistribution of skills	A quota for physicians and dentists has been raised regularly as well as the number of state-funded residencies. A "Long-term public policy for nursing and midwifery in Poland" was implemented in 2019, comprising financial incentives to encourage nursing and midwifery studies and fill shortages.	👨‍⚕️ 🦷 👩‍⚕️
Improving performance	No country-level policy reported.	
Address mobility	In 2018, Poland introduced 'bonu patriotycznego" so-called patriotic vouchers' for physicians who commit to work in the Polish health care system for a minimum of two years upon completing specialisation training. The commitment guarantees an increase in wages during specialisation training.	👨‍⚕️
Education, enrolment and recruitment	The Ministry of Health exercises full control over the admission quotas for physicians and dentists for every university in each academic year. Admission quotas for other medical professions were abolished in 2012 and the number of students are solely defined by universities.	👨‍⚕️ 🦷
Education staff & infrastructure	New programmes at non-medical universities and accredited private universities were established to fill the gap in Polish regions where medical universities did not exist. From 2016 to 2019, the number of medical universities training physicians has increased from 16 to 21. The number of nursing training institutions are growing and student numbers in nursing faculties are also increasing. In the academic year of 2019/2020, the number of capacities for foreign language trainings (mainly English) were 1,892 for physicians and 314 for dentists.	👨‍⚕️ 👩‍⚕️ 👨‍⚕️ 🦷
Continuous professional development (CPD)	Physicians, dentists, pharmacists, nurses, midwives, laboratory diagnosticians and emergency care workers participate in mandatory CPD, supervised and monitored by professional chambers (or by voivodes). CPD is managed through a credit system.	👨‍⚕️ 🦷 💊 👩‍⚕️ ➕
Regulation of private sector	No country-level policy reported.	
Working conditions	Compared to other EU countries, wages in Poland are low. In 2017, the act on the method for determining minimum threshold of salary for employees performing medical professions was implemented in healthcare units. The threshold determines the minimum basic salaries of medical workforce employed in healthcare units. This resulted in salary increases particularly for physicians.	👨‍⚕️ 🦷 💊 👩‍⚕️ ➕
Others	Recent initiatives were developed by the Ministry of Health to facilitate the process of digitalisation (e-prescription, electronic medical records), building a data warehouse and developing interactive tools for data access.	👨‍⚕️ 🦷 💊 👩‍⚕️

👨‍⚕️ PHYSICIANS   🦷 DENTISTS   💊 PHARMACISTS   👩‍⚕️ NURSES AND MIDWIVES   ➕ ALLIED HEALTH PROFESSIONS

HEALTH WORKFORCE STOCK AND MOBILITY

Table 1: Health workforce stock and replacement

	Physicians[1]	Nurses[1]
Total stock 2017	90.284	193.700
Stock 55-64 years	Not reported	Not reported
Graduates 2018	4.006	9.070

1 Practising

Figure 1: Mobility level in absolute numbers (2018)

Physicians: 0,79%[2] (outflow) / 0,27%[2] (inflow)
Nurses: 0,18%[2] (outflow) / 0,02%[2] (inflow)

Outflow: ▨ non-EU ▨ EU | Inflow: ▨ EU ▨ non-EU

2 % of the practising physicians and nurses

HEALTH WORKFORCE DENSITY AT SUB-NATIONAL LEVEL

Figure 2a: Number of practising physicians per 1.000 inhabitants (regional distribution latest data available, 2017)
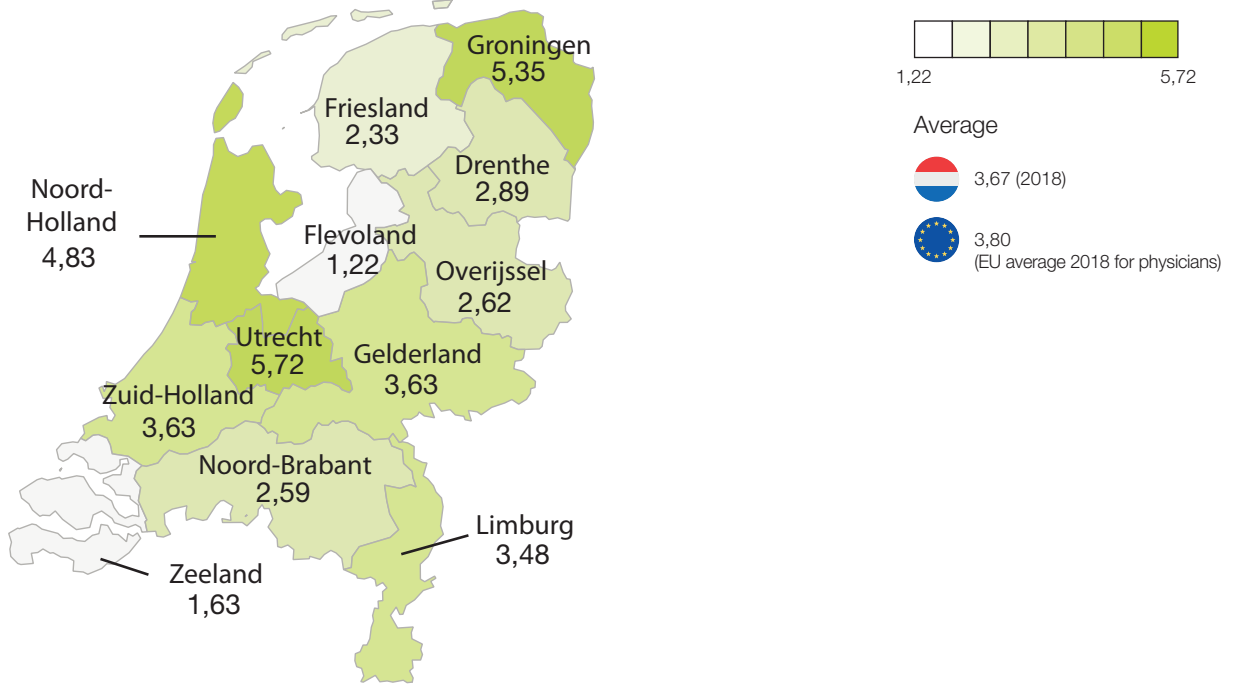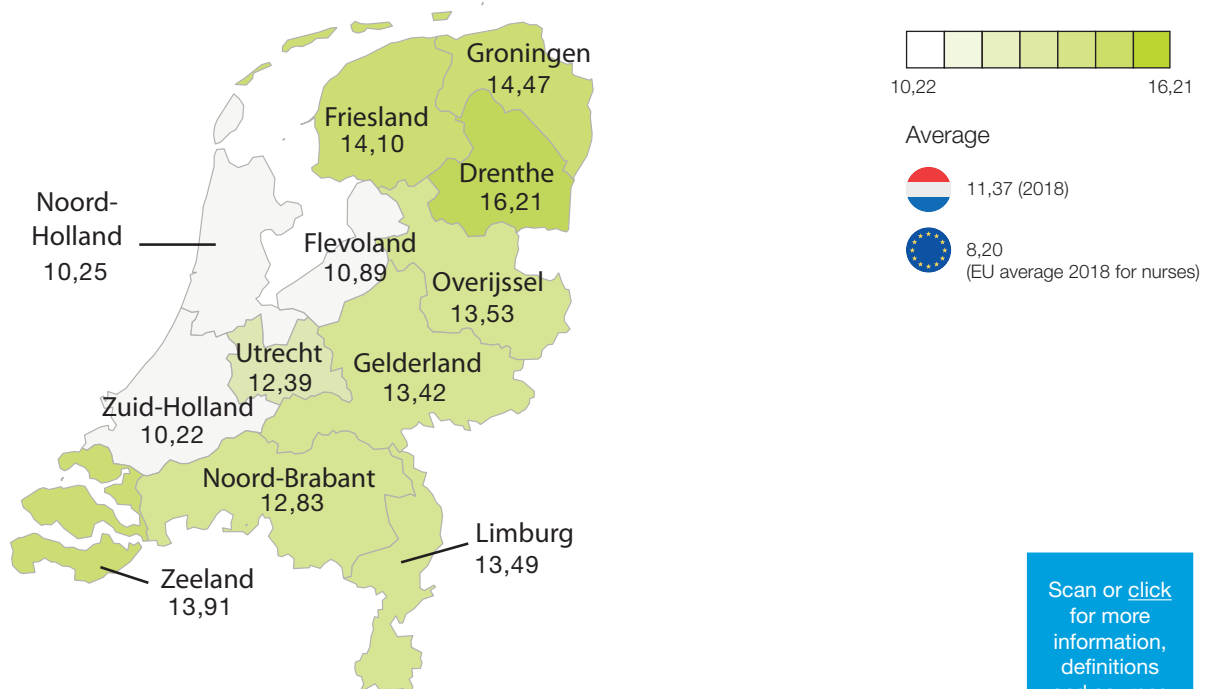

1,58   2,82

Average

2,38 (2017)

3,80
(EU average 2018 for physicians)

Kujawsko-Pomorskie
2,50
Pomorskie
2,38
Warminsko-Mazurskie
2,14
Zachodniopomorskie
2,52
Podlaskie
2,56
Lubuskie
2,04
Wielkopolskie
1,61
Mazowieckie
2,81
Lódzkie
2,70
Lubelskie
2,51
Dolnoslaskie
2,22
Opolskie
2,13
Swietokrzyskie
2,41
Slaskie
2,52
Malopolskie
2,46
Podkarpackie
2,23

Figure 2b: Number of practising nurses and midwives per 1.000 inhabitants (regional distribution latest data available, 2015)

4,50   6,72

Average

5,70 (2017)

8,20
(EU average 2018 for nurses)

Kujawsko-Pomorskie
5,78
Pomorskie
4,97
Warminsko-Mazurskie
5,33
Zachodniopomorskie
5,10
Podlaskie
6,34
Lubuskie
5,36
Wielkopolskie
4,50
Mazowieckie
5,96
Lódzkie
5,57
Lubelskie
6,72
Dolnoslaskie
5,68
Opolskie
5,67
Swietokrzyskie
6,61
Slaskie
6,25
Malopolskie
6,06
Podkarpackie
6,71

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for more
information,
definitions
and sources

PORTUGAL

HEALTH WORKFORCE PLANNING

PLANNING SUMMARY

Portugal has a national health service that organises and plans healthcare provision. Regions play an important role in the recruitment of the health workforce in public services. Health workforce planning focuses on the training and residency quota, particularly via internships for physicians and dentists, which is prescribed by the Ministry of Health, upon proposal of the Medical Council and approval by the National Commission for Medical Internship.

PLANNING SYSTEM

Portugal utilises various methods and models of health workforce planning to meet the needs of the national health service e.g. considering different service levels, provider organisations, and hospital networks. The planning is based on the identification of needs and capacity throughout the NHS networks. Progress towards the development of a comprehensive strategy on health workforce information and management is ongoing.

PLANNING GOALS

The National Health Plan 2010-2016, extended to 2020, comprises goals to train, develop and retain the health workforce in the national health service, valuing competency and professional quality.

HEALTH WORKFORCE DATA

SUPPLY DATA

Individual data:
- National Health Service Employees data: personal data, qualification, activity, place of practice, wages.
- Data for physicians, nurses, pharmacists, dentists, mental health therapists and nutritional therapists.

DATA SUPPLIERS

- Administraçao central do sistema de saude (ACSS) - 'Department of Human Resources for Health Management and Planning' is responsible for the coordination and consolidation of information and statistics on health workforce in the health sector
- Ordem dos Médicos - Medical Chamber
- Ordem dos Enfermeiros - Nursing Association

DEMAND DATA

National Health Service Central Administration and five regional boards (Administrações regionais) manage data on trends in utilisation of services.

MOBILITY DATA

Inflow: information on foreign-born and foreign-trained health workforce, but no information on internal mobility.

Outflow: as a proxy indicator of outflow, professional councils periodically provide information on requests for certificates for the recognition of healthcare qualifications.

CURRENT AND FUTURE CHALLENGES

→ Design and implementation of a comprehensive health workforce policy is a challenging task to cope with, as it has to cover the public and private sector, all professional categories, and all dimensions of the working life cycle, e.g. education and training, employment, working conditions, distribution, etc.

→ Ongoing work is dedicated to build an integrated health workforce information system – for instance by developing National Health Workforce Accounts – to monitor and analyse the dynamics of the health labour market.

→ The organisation of the health system and the health workforce needs to be reviewed so as to address future efficiency and cost. Portugal highlights the need for an improvement of the multisectoral approach of health and the empowerment of citizens, such approach needing to become both autonomous and accountable.

HEALTH WORKFORCE POLICIES

Policy category	Details	Impacted professions
Manage shortages and maldistribution of skills	Information on health workforce composition and density in the national health service is used to asses shortages (e.g. inner and southern parts of the country). Portugal ensures primary care coverage through a statutory number of public health services to guarantee the provision of healthcare within certain geographical areas. The authorisation to recruit health workforce is decided centrally and the Ministry of Finance provides the budget for this.	
Improving performance	The 2010-2016 National Health Plan, extended to 2020, provides indicators of system performance, including numbers of physicians and nurses in primary care. Performance-based incentives are provided for workforce of Family Health Units.	
Address mobility	Portugal monitors foreign-born and foreign-trained physicians and nurses, with a special focus on the migration from Spain and Brazil. In the last 15 years, Portugal has signed bilateral agreements with countries e.g. Uruguay, Costa Rica, Colombia and Cuba to replenish primary care in underserved areas.	
Education, enrolment and recruitment	Six faculties of medicine, dentistry and pharmacy are public, and a numerus clausus policy is applied at entrance level. Admission is based on academic records and an entry exam. Since shortages are indicated at certain fields of medical specialisation, residency quotas are increased in internal medicine (+57 physicians) and general practice (+49 physicians). Regarding programmes for nurses, Portugal runs 22 public and 20 private programmes. Admission is based on academic records and an entry exam.	
Education staff & infrastructure	No policy reported.	
Continuous professional development (CPD)	CPD is voluntary for physicians and midwives, however, there is a recommendation to spend 15 days per annum on continuous training. CPD is mandatory for nurses, dentists and pharmacists.	
Regulation of private sector	Professional Councils are responsible for the quality of the work of their members in public and private services. Private services represented 30% of the outpatient activity, 20% of hospitalisations in 2016. Only fragmented information is available on the medical and nursing workforce in the private sector. Most dentists practise in a private setting, as only a limited number of positions are open to dentists in the national health service.	
Working conditions	Working conditions tend to be standardised and not flexible, except in Family Health Units, which have been granted more autonomy.	

PHYSICIANS   DENTISTS   PHARMACISTS   NURSES AND MIDWIVES   ALLIED HEALTH PROFESSIONS

HEALTH WORKFORCE STOCK AND MOBILITY

Table 1: Health workforce stock and replacement

	Physicians[1]	Nurses[2]
Total stock 2018	52.966	70.754
Stock 55-64 years	Not reported	Not reported
Graduates 2018	1.760	2.580

1 Licensed to practise
2 Professionally active

Figure 1: Mobility level in absolute numbers (2018)

Outflow: non-EU EU | Inflow: EU non-EU

3 % of the licensed to practise physicians
4 % of the professionally active nurses
Note: Inflow data not available for nurses

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HEALTH WORKFORCE DENSITY AT SUB-NATIONAL LEVEL

Figure 2a: Number of licensed to practise physicians per 1.000 inhabitants (regional distribution latest data available, 2018)

Região Autónomica dos Açores
3,39

Região Autónomica da Madeira
4,23

Norte
5,11

Centro
4,78

Área Metropolitana de Lisboa
6,43

Alentejo
2,97

Algarve
4,06

2,97 — 6,43

Average

5,15
(licensed to practise physicians, 2018)

3,80
(EU average 2018 for practising physicians)

Figure 2b: Number of professionally active nurses and midwives per 1.000 inhabitants (regional distribution latest data available, 2016)

Região Autónomica dos Açores
8,27

Região Autónomica da Madeira
8,40

Norte
6,68

Centro
6,75

Área Metropolitana de Lisboa
6,79

Alentejo
6,05

Algarve
5,95

5,95 — 8,40

Average

7,16
(professionally active nurses and midwives, 2018)

8,20
(EU average 2018 for practising nurses)

Scan or click for more information, definitions and sources

ROMANIA

HEALTH WORKFORCE PLANNING

PLANNING SUMMARY

Romania experiences severe shortages of health workforce and has no systematic planning process in place for preparing projections or supporting policy making. The Government issues annual training quotas (postgraduate positions), taking demand information into account, on top of which residencies in private facilities are enabled. Romanian health policy has already addressed and managed some of the migration drivers by raising the wages of physicians in public healthcare service.

PLANNING SYSTEM

When planning residency quota for physicians, dentists and pharmacists, the Ministry of Health collects demand data from county-based public health directorates and hospitals, and surveys the training capacity (from Universities of Medicine and Pharmacy). The numbers are delivered to the Ministry of Education in charge of setting the educational targets.

PLANNING GOALS

While the county-based public health directorates have the legal responsibility to link health workforce with the health needs at a community level, no health workforce planning goals are explicitly announced.

HEALTH WORKFORCE DATA

SUPPLY DATA

Individual data: age, gender, sub-national and public or private primary employment, qualification and specialisation (physicians, dentists, pharmacists, nurses with higher education diploma, physio-kynetic-therapists and auxiliary personnel).

Aggregated data: OECD/Eurostat/WHO Joint questionnaire information.

DATA SUPPLIERS

- National Institute of Statistics
- National Institute of Public Health (National Center for Informatics and Statistics in Public Health)
- Professional chambers
- Ministry of Health and Ministry of Education and Research

DEMAND DATA

The National Institute of Public Health, as well as the County Public Health Directorates collect and maintain data on morbidity and mortality causes. These data are not used in a systematic manner for health workforce planning.

MOBILITY DATA

Inflow: lack of accurate quantitative data on inflow is experienced. Main inflow is generated by some categories of foreign born professionals studying in Romania (e.g. from Moldova).

Outflow: solely proxy indicators available: the conformity certificates issued by the Ministry of Health and the certificates of good standing provided by the Romanian College of Physicians.

International studies provide information on global trends.

CURRENT AND FUTURE CHALLENGES

→ The Romanian health system is at risk and the priority is to secure the budget for health policies, including salaries and for setting investment priorities, e.g. improving facilities in remote areas. Health workforce governance is not reported among the current priorities.

→ Workforce planning is insufficiently developed and lacks an evidence-informed basis. Current knowledge mainly focuses on public hospitals, and the depletion in primary care, particularly in general practice has been recently addressed.

→ Years of massive health workforce outflows and inland concentration in urban centers have contributed to significant health workforce maldistribution, leading to serious undercoverage of health care services.

HEALTH WORKFORCE POLICIES

Policy category	Details	Impacted professions
Manage shortages and maldistribution of skills	By emergency ordinance (December 2019), the Government allows state funded residencies to take place in accredited private or military facilities to cover the demand of residencies, to address the shortages of the health system and to support the availability of workforce for other public purposes (e.g. the medical-military units).	👨‍⚕️ 🦷 💊
Improving performance	Since 2011, an evaluation of all public employees in public institutions is carried out annually.	👨‍⚕️ 🦷 💊 👩‍⚕️ ➕
Address mobility	Among other mobility drivers, low wages were reported as an important motivation for outflow mobility from Romania. Gradual salary increases started in 2015 for all health professionals practising in the public hospitals and services (except for self-employed GPs).	👨‍⚕️ 🦷 💊 👩‍⚕️ ➕
Education, enrolment and recruitment	The Minister of Health provides the Ministry of Education with a number of positions in specialties, e.g. postgraduate education for resident physicians, resident dentists and pharmacists. Nurses and AHPs can only apply for specialisation with higher education qualification.	👨‍⚕️ 🦷 💊 👩‍⚕️ ➕
Education staff & infrastructure	The Romanian Agency for Higher Education Quality (ARACIS) assesses the quality. Romanian universities run academic programmes in French and English (medicine and pharmacy), and have developed capacity to train international students.	👨‍⚕️ 🦷 💊 👩‍⚕️ ➕
Continuous professional development (CPD)	A mandatory CPD for physicians, pharmacists, midwives, dentists and nurses is in place. CPD activities are supervised by the Ministry of Health, professional associations, scientific societies and Medical Universities.	👨‍⚕️ 🦷 💊 👩‍⚕️
Regulation of private sector	The regulations are applicable to both the public and private sectors.	
Working conditions	The salaries of physicians in public hospitals are differentiated using among other criteria the specialty as a proxy for different working conditions and risks. Funding is available to public facilities to pay extra time and on duty work. A public portal creates transparency on the due amounts.	👨‍⚕️ 👩‍⚕️ ➕
	European Structural Funds have helped renew the medical infrastructure. With the support of the Regional Operational Program 2014-2020, investments in health infrastructure support improving the accessibility and quality of care.	👨‍⚕️

👨‍⚕️ PHYSICIANS   🦷 DENTISTS   💊 PHARMACISTS   👩‍⚕️ NURSES AND MIDWIVES   ➕ ALLIED HEALTH PROFESSIONS

HEALTH WORKFORCE STOCK AND MOBILITY

Table 1: Health workforce stock and replacement

	Physicians[1]	Nurses[1]
Total stock 2018	60.585	145.912
Stock 55-64 years 2018	11.169	13.175
Graduates 2018	5.076	18.664

1 Practising

Figure 1: Mobility level in absolute numbers (2018)

Outflow: non-EU | EU | Inflow: EU | non-EU

2 % of the practising physicians and nurses

Note: Inflow data not available for physicians 2018

HEALTH WORKFORCE DENSITY AT SUB-NATIONAL LEVEL

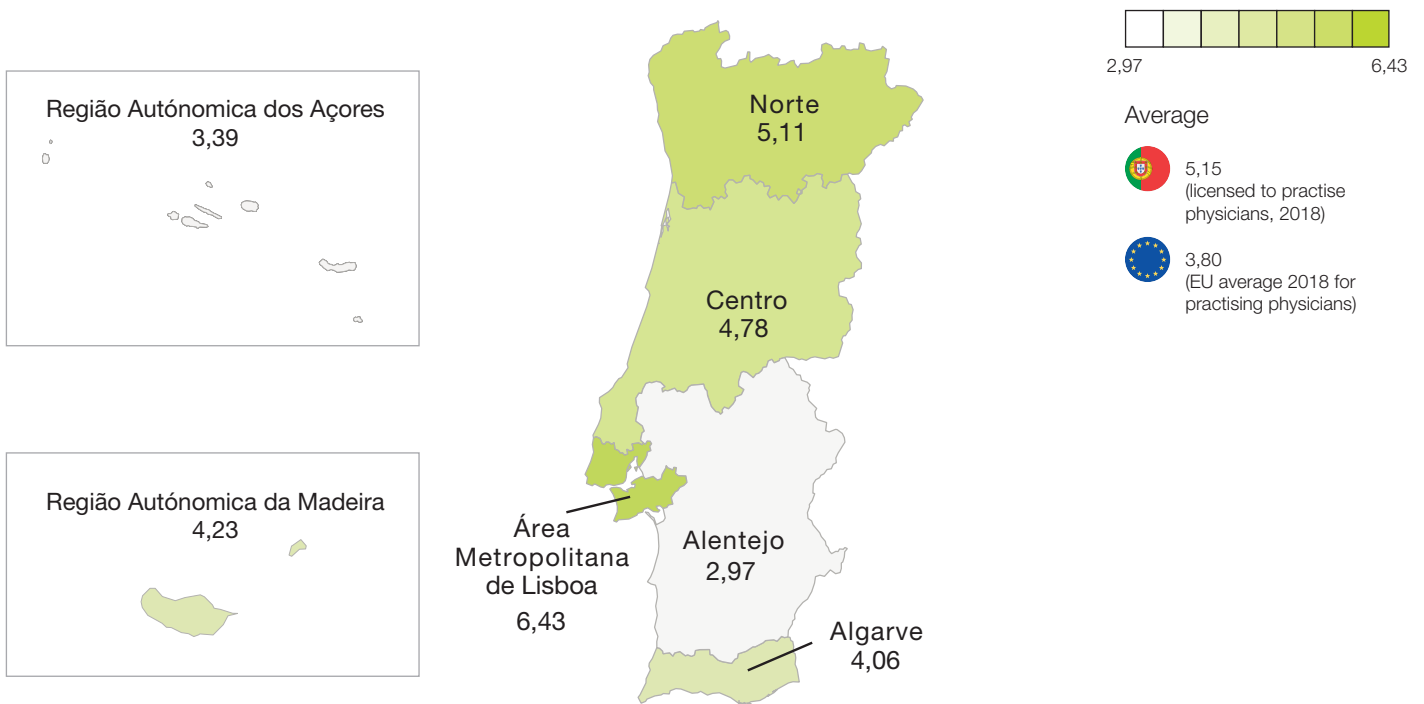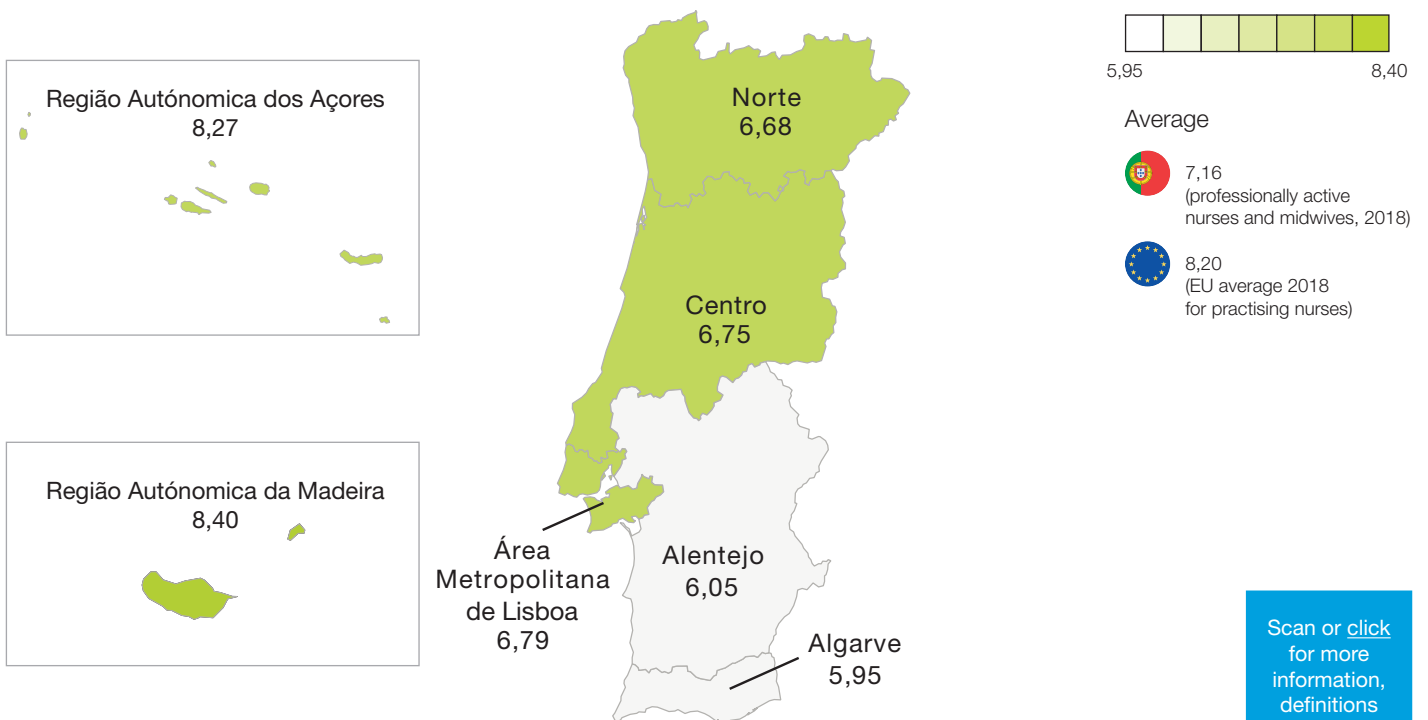**Figure 2a: Number of practising physicians per 1.000 inhabitants (regional distribution latest data available, 2018)**

1,47   5,47

Average

3,05 (2018)

3,80
(EU average 2018 for physicians)

Nord-Vest 2,94
Nord-Est 2,01
Centru 2,79
Vest 3,60
Sud-Est 1,80
Sud - Muntenia 1,47
Sud-Vest Oltenia 2,70
Bucuresti - Ilfov 5,47

Figure 2b: Number of practising nurses and midwives per 1.000 inhabitants (regional distribution latest data available, 2018)

5,39   9,35

Average

7,39 (2018)

8,20
(EU average 2018 for nurses)

Nord-Vest 6,74
Nord-Est 5,57
Centru 6,61
Vest 6,90
Sud-Est 5,90
Sud - Muntenia 5,39
Sud-Vest Oltenia 7,23
Bucuresti - Ilfov 9,35

Scan or click
for more
information,
definitions
and sources

SLOVAKIA

HEALTH WORKFORCE PLANNING

PLANNING SUMMARY

Despite a significant shortage of health workforce in Slovakia, there is no definite workforce planning in place to date. In 2018, the Health Policy Institute - under the Ministry of Health - prepared a projection model of health workforce needs for physicians, nurses and midwives up to 2030. The projections were used to determine the training quotas, resulting in an increase in the number of new physicians and in financial support to nursing students. Data for this model are provided by two main sources: NCHI Statistical Survey on Shortage Professions in Inpatient sector (2016) and data from representatives of higher territorial units for the outpatient sector (2018).

PLANNING SYSTEM

While no systematic workforce planning and policy are in place at national level, micro-level workforce and wage policies of individual employers have been determined. The Ministry of Health addresses the shortage of physicians and nurses by adopting different policies (minimum wages, residency programme, stabilisation scholarship etc.), but these recent policies have not made a significant impact to date.

PLANNING GOALS

The main objective is to maintain a balance between the supply of health professionals and demand of care. In 2013 the Slovak Government approved the Strategic framework for health for 2014-2030, in which a focused "Programme of planning human resources in healthcare for primary and outpatient care" in prospect.

HEALTH WORKFORCE DATA

SUPPLY DATA

Individual data:
- Physicians: qualification, gender, profession, place of practice,
- Students: gender, specialty, citizenship.

DATA SUPPLIERS

- National Health Information Centre
- Professional Chambers
- Medical universities
- Self-governing regions
- Health Insurance companies
- Ministry of Education, Science, Research and Sport

DEMAND DATA

Standard population demographic data and data on health care consumption (number of hospitalised patients, number of out-patient procedures) are the most important data sources on demand.

MOBILITY DATA

Inflow: data of foreign health professionals actively working in the Slovak health care system are highly fragmented. The chambers obtain data on foreign nationality. Medical universities hold precise data on foreign citizenship of students who are prominently present in the training programmes.

Outflow: insufficient data to track the realized outflow.

CURRENT AND FUTURE CHALLENGES

→ Slovakia is expected to face increased healthcare demand due to the ageing population, for which the Slovakian system is not yet prepared. Long-term growth projection shows that Slovakia will become one of the oldest EU Member States populations by 2040.

→ Slovakia experiences a significant outflow of domestic graduated physicians and nurses. The intention to leave is triggered by unsatisfying working conditions and overwork, particularly in areas with maldistribution of workforce. Slovakia recognises a high attrition rate of physicians working, among others, in the pharmaceutical industry or national authorities.

→ Age distribution among general practitioners and paediatricians is a significant challenge. The proportion of general practitioners above the age of 60 increased from 19.8% (2005) to 48.2% (2016). The residency programme has attempted to address this challenge since 2014.

HEALTH WORKFORCE POLICIES

Policy category	Details	Impacted professions
Manage shortages and maldistribution of skills	In 2018, the Ministry of Health addressed the shortage of nurses in Slovak hospitals with so-called "stabilisation scholarships" of €2,000 per annum for nursing students. The clawback agreement is not activated if a nurse stays and practises in Slovakia upon studying for at least 2 years of each year funded.	🧑‍⚕️
Improving performance	No country-wide policy reported.	
Address mobility	Slovakia is addressing the workforce outflow of physicians and nurses through salary increases. The Ministry of Health introduced the concept of temporary internship in 2019, allowing non-EU physicians (e.g. from Serbia) to work in hospitals (1 year maximum) before passing the compulsory exams and recognition of their qualification.	👨‍⚕️
Education, enrolment and recruitment	A residency programme started in 2014 with the aim of filling the gap of vacant general practitioner positions by subsidising students who wish to pursue general medicine or paediatrics, but do not have the financial means and a practice to carry on with necessary studies. In 2018, the programme was extended to several other specialisations (e.g. radiology, geriatrics, gynecology), and expanded to include specialisations for nurses: anesthesiology and intensive care, surgical instrumentation and nursing care in psychiatry.	👨‍⚕️ 🧑‍⚕️
Education staff & infrastructure	No country-wide policy reported.	
Continuous professional development (CPD)	Health professionals are obliged to register in the relevant professional chamber and regularly update their qualifications. Professional chambers are responsible for monitoring fulfilment of mandatory CPD requirements.	👨‍⚕️ 🦷 💊 🧑‍⚕️ ➕
Regulation of private sector	No country-wide policy reported.	
Working conditions	In 2011, the government adopted a memorandum legally defining the minimum threshold of salaries for hospital physicians, and subsequently for nurses and midwives. By complying with the new legislation, wages have been gradually increasing.	👨‍⚕️ 🧑‍⚕️
	Social benefit packages and holiday vouchers apply nationwide.	👨‍⚕️ 🦷 💊 🧑‍⚕️ ➕

👨‍⚕️ PHYSICIANS   🦷 DENTISTS   💊 PHARMACISTS   🧑‍⚕️ NURSES AND MIDWIVES   ➕ ALLIED HEALTH PROFESSIONS

HEALTH WORKFORCE STOCK AND MOBILITY

Table 1: Health workforce stock and replacement

	Physicians[1]	Nurses[1]
Total stock 2018	19.178	31.061
Stock 55-64 years 2018	4.028	Not reported
Graduates 2018	962	1.440

1 Professionally active

Figure 1: Mobility level in absolute numbers (2018)

Outflow: ▉ non-EU ▉ EU

2 % of professionaly active physicians and nurses

Note: Inflow data not available

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HEALTH WORKFORCE DENSITY AT SUB-NATIONAL LEVEL

Figure 2a: Number of professionally active physicians per 1.000 inhabitants (regional distribution latest data available, 2018)
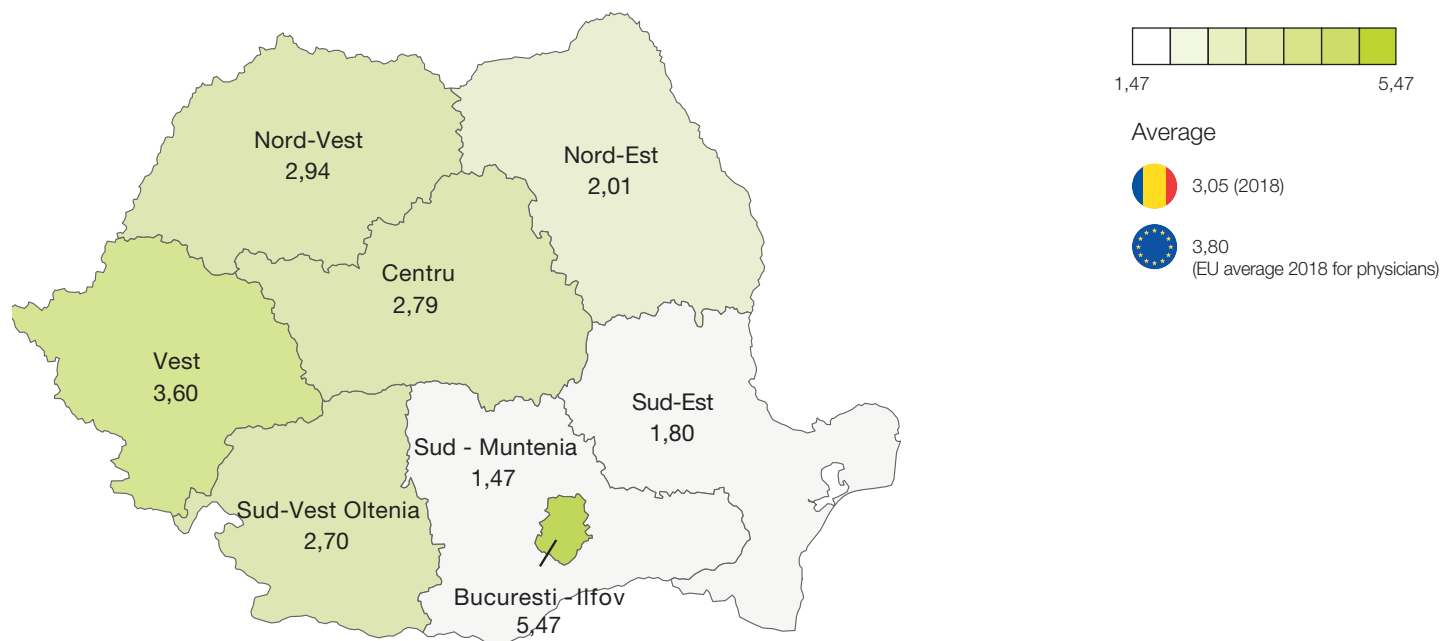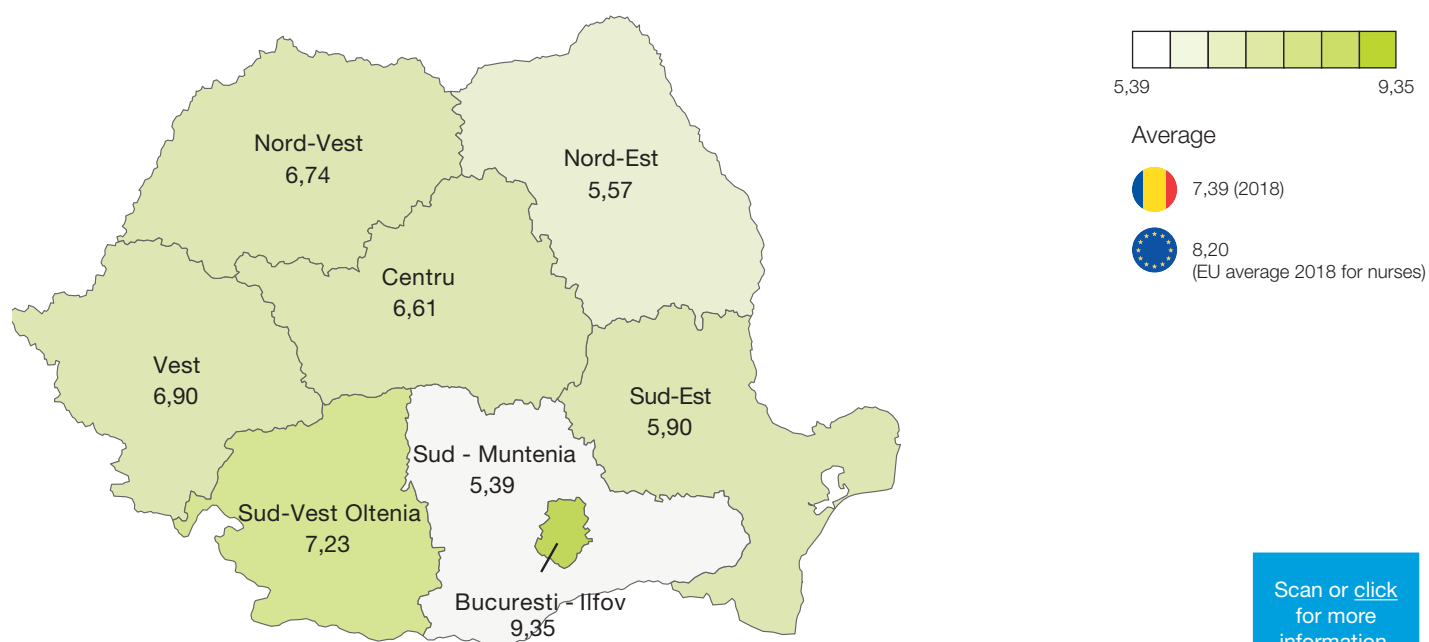

2,68   6,44

Average

3,52
(professionally active
physicians, 2018)

3,80
(EU average 2018 for
practising physicians)

Stredné Slovensko
3,33

Východné Slovensko
3,45

Západné Slovensko
2,68

Bratislavský kraj
6,44

Figure 2b: Number of professionally active nurses and midwives per 1.000 inhabitants (regional distribution latest data available, 2014)

5,00   10,33

Average

6,02
(professionally active
nurses and midwives, 2018)

8,20
(EU average 2018
for practising nurses)

Stredné Slovensko
5,71

Východné Slovensko
5,98

Západné Slovensko
5,00

Bratislavský kraj
10,33

Scan or click
for more
information,
definitions
and sources

SLOVENIA

HEALTH WORKFORCE PLANNING

PLANNING SUMMARY

Slovenia regulates the supply of health workforce through training quotas with a view to guaranteeing a stable and sufficient workforce. Since 2018, Slovenia has been developing tools and processes to prepare projections on the future healthcare and workforce demand.

PLANNING SYSTEM

A supply chain model is applied by the Ministry of Health to estimate the number of professionals needed for replacing the attrition, to match graduates with the estimated retirement outflow and average mortality during active working age. Migration is an influencing factor for all health professionals. The health workforce planning system covers physicians' specialisations at national and regional levels, and for other health professionals at national level. The Ministry of Health's recommendations on enrolment are adjusted and regulated in consultation with the Ministry of Education, Science and Technology and applied by medical faculties, schools for health sciences, etc.

PLANNING GOALS

The current system aims to bring the current number of health professionals in alignment with the EU averages and - except for the specialist physicians - to reduce the regional imbalances.

HEALTH WORKFORCE DATA

SUPPLY DATA

Individual data: age, gender, are of practice, activity status, specialisation, licensing, and CPD.

Aggregated data: professional flows, geographical flows, and registrations for training.

DATA SUPPLIERS

- National Health Care Providers Database, run by the National Institute of Public Health (NIPH), covering 100% of the health workforce in the country.
- Ministry of Education, Science and Sport
- Medical Chamber of Slovenia runs the Register of physicians
- Nurses and Midwives Association of Slovenia

DEMAND DATA

Aggregated data:
- Demography (Population size, age and gender),
- Utilisation of healthcare services in primary care, outpatient and inpatient hospital care.

MOBILITY DATA

Inflow:
- Individual data on foreign-training from the Register of physicians,
- Reliable individual data from 1990 onwards for all other professions, registered in the National Healthcare Providers Database.

Outflow:
- Aggregated data from the OECD health workforce migration data.

CURRENT AND FUTURE CHALLENGES

→ Slovenia needs to introduce a new demand-based health workforce planning model, taking into account the evolution of the population needs, the projected demographic changes, the changes in epidemiological profile and the social structure. This model should apply to all health professionals.

→ With the introduction of eHealth, Slovenia must ensure sufficient quality and up-to-date data on healthcare providers, including more detailed data on individual productivity.

→ Slovenia intends to develop policies on financial incentives to ensure equal geographical coverage of the population and the right number of physicians for a sustainable primary healthcare.

HEALTH WORKFORCE POLICIES

Policy category	Details	Impacted professions
Manage shortages and maldistribution of skills	Equal access to quality public health services is guaranteed by the Health Care and Health Insurance Act.	
	In Slovenia, private healthcare providers may carry out healthcare services under a regime of funds granted by public authorities. Funds are offered when the public service fails to support the equal and sufficient coverage of population needs.	
	Incentives for postponing retirement are set up by the Pension and Disability Insurance Act.	
Improving performance	Resolution of the National Healthcare Plan 2016-2025 proposes the structural reform of the healthcare system by strengthening primary level care. Quality is assessed by quality indicators and Health System Performance Assessment.	
Address mobility	No country policy reported.	
Education, enrolment and recruitment	Quotas determine the admissions to training of domestic students for: physicians (300 on a yearly basis), pharmacists, dentists, nurses and allied health professions.	
	Medical studies and specialisation are publicly-funded (Art. 25 Health Services Act).	
Education staff & infrastructure	Slovenia maintains a regulatory framework for training physicians that is also applied to other professions and training institutions.	
Continuous professional development (CPD)	The revalidation of the medical license to practise is subject to a mandatory CPD according to the Medical Practitioners Act in 7-year cycles.	
Regulation of private sector	The system of funds is supervised by public authorities and established by law (Art. 65 Health Services Act).	
Working conditions	Working hours for health professionals are restricted by law (Art. 52a, 52b, 52c Health Services Act) and ratified by the Regulation on continuous healthcare.	
	Collective Agreements with Trade Unions and specific Collective Agreements for Physicians and Dentists define decent working conditions.	
Others	By establishing prevention schemes on primary level through the development of health-promotion centres, the burden of employees in curative health care is alleviated.	

PHYSICIANS   DENTISTS   PHARMACISTS   NURSES AND MIDWIVES   ALLIED HEALTH PROFESSIONS

HEALTH WORKFORCE STOCK AND MOBILITY

Table 1: Health workforce stock and replacement

	Physicians[1]	Nurses[1]
Total stock 2018	6.591	21.031
Stock 55-64 years 2018	1.501	Not reported
Graduates 2018	281	1.620

1 Practising

Figure 1: Mobility level in absolute numbers (2018)

Outflow: non-EU EU | Inflow: EU non-EU

0,79%[2]	Physicians	0,65%[2]
0,15%[2]	Nurses	0,00%[2]

2 % of practising physicians and nurses

Note: Inflow data not available for nurses

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HEALTH WORKFORCE DENSITY AT SUB-NATIONAL LEVEL

Figure 2a: Number of practising physicians per 1.000 inhabitants (regional distribution latest data available, 2018)

2,65   3,77

Average

3,18 (2018)

3,80
(EU average 2018 for physicians)

Zahodna Slovenija 3,77

Vzhodna Slovenija 2,65

Figure 2b: Number of practising nurses and midwives per 1.000 inhabitants (regional distribution latest data available, 2015)

8,42   9,35

Average

10,25 (2018)

8,20
(EU average 2018 for nurses)

Zahodna Slovenija 9,35

Vzhodna Slovenija 8,42

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HEALTH WORKFORCE PLANNING

PLANNING SUMMARY

Spain has implemented a systematic health workforce planning for physicians by defining the training quota in basic education and specialist training since 1978. The Inter-territorial Council of the National Health System (CISNS) sets the targets supported by a projection model. The Minister of Health and the regional health authorities jointly operate the CISNS. The Council of University Policy, composed of educational authorities, sets the annual training quotas upon recommendations provided by he Ministry of Health. Enforcement is ensured through numerus clausus.

PLANNING SYSTEM

The projection model in use takes both supply and demand into account through a multiple-variables system-dynamics approach, simulations and sub-models. Since 2012, the State Registry of Health Professionals (REPS) has continuously improved data collection and allowed expansion of health workforce planning in other health professions.

PLANNING GOALS

Planning medical specialist workforce aims to define annual training quotas in basic (university) education and specialist training for physicians, based on the estimated future needs of specialists and budget.

HEALTH WORKFORCE DATA

SUPPLY DATA

- **Individual data:** Art. 5 of the Royal Decree 640/2014 regulates the State Registry of Healthcare Professionals: date of birth, gender, nationality, qualification, specialty, diploma in specific training areas, diploma of accreditation and diploma of advanced accreditation, professional status, professional practice, place of practice, professional category, function/position, professional development, professional association, civil liability coverage in each of the areas of professional practice, suspension or disqualification for professional practice, resolutions of partial access to a professional activity,
- Payroll data,
- Numerus clausus data: Students registration and specialisation.

DATA SUPPLIERS

- Ministry of Health
- Ministry of Science, Innovation and Universities
- Regional Ministries of Health
- State Public Employment Service (SEPE, in Spanish)
- National Institute of Statistic (INE, in Spanish)
- Councils of the Autonomous Communities and dependent entities
- Instituto Nacional de Gestion Sanitaria (INGESA)
- Specialized Care Information System
- Primary Care Information System
- Scientific Associations of Specialists

DEMAND DATA

- **Quantitative information:** demographic data.
- **Qualitative information:** primary & specialized care information systems, expert panel conclusions, scientific studies.

MOBILITY DATA
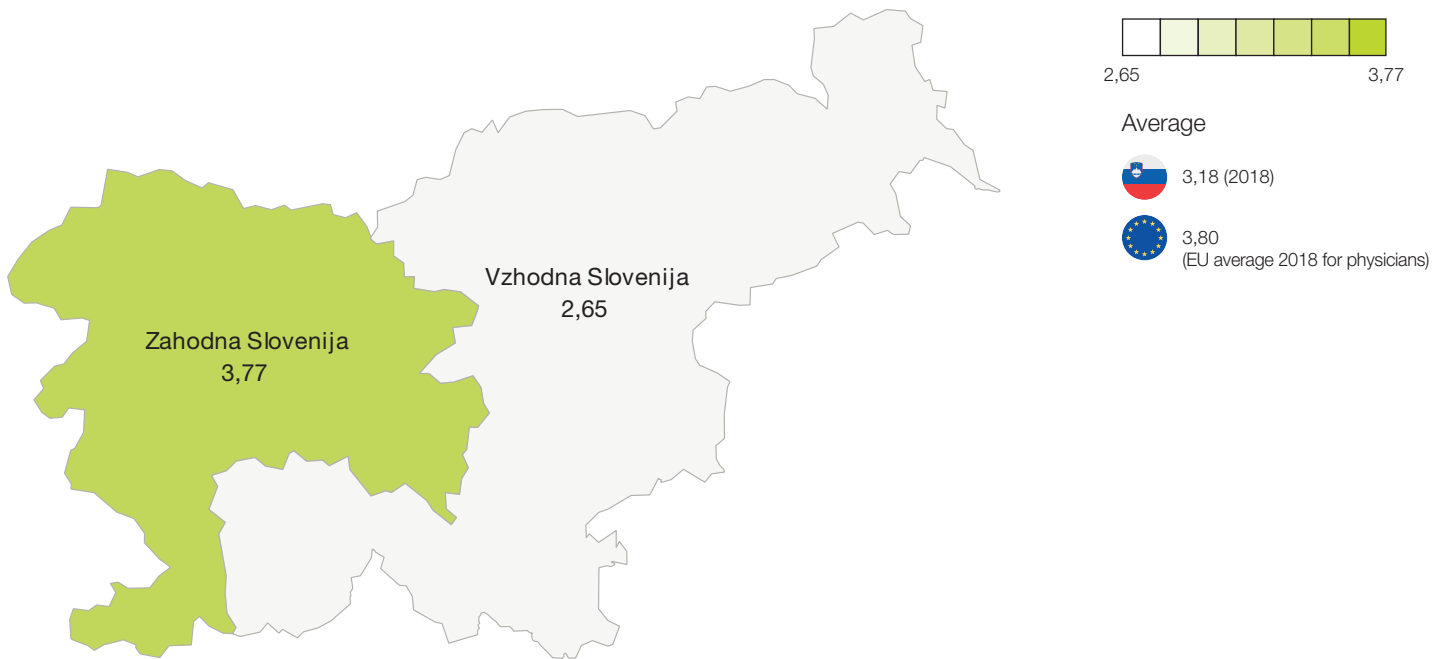
Inflow data:
- Individual data: number of professionals with recognised qualifications who are licensed to practise in Spain (activity data from the State Register of Health Professionals).
- Percentage of non-EU medical specialists, residents in training.

Outflow data: Spain relies on the OECD database to partly monitor the outflow of physicians and nurses.

CURRENT AND FUTURE CHALLENGES

→ The 2019 Study on Health Workforce Projection indicated a moderate shortage of medical specialists. The deficit of 2.9% recorded in 2018 is expected to rise to over 5% by 2020. Given the foreseeable drop-out rate due to retirement of numerous medical specialists, the imbalance between supply and demand might worsen until 2025 and stabilise at about 12%.

→ Specialist coverage of remote areas is of great concern. This issue cannot be resolved merely by increasing the numbers, but requires addressing the attractiveness of the jobs offered and mitigating the uncertainty of temporary contracts.

→ The lack of attractiveness of primary care, performed by both General Practitioners and Pediatricians is a high concern. A new Strategic Framework in Primary Health Care is being continuously developed for the period of 2019-2021, including a budget reallocation and health workforce measures in primary care.

HEALTH WORKFORCE POLICIES

Policy category	Details	Impacted professions
Manage shortages and maldistribution of skills	Mandatory registration allows monitoring and planning health professions. Training quotas are based on a needs analysis and are restrained by budget. The health information system aims to support health professionals by providing them easy access to information.	
Improving performance	The reason to set up a health information system within the National Health System is to improve clinical knowledge and skills of the workforce.	
Address mobility	While Spain was relying on Latin American nurse inflow up to 2008, the economic recession and a strict application of qualification recognition rules resulted in declining inflows.	
Education, enrolment and recruitment	Since 1978, annual training quota for basic and specialisation/residency training have been in place. The selection is done through a competitive MIR entrance exam.	
Education staff & infrastructure	No specific policy reported.	
Continuous professional development (CPD)	Spain has a regulated mandatory CPD system. Continuous education is accredited by a Commission through a credit system. (Royal Decree 1142/2007, August 31), and is a right and an obligation for all health professionals.	
Regulation of private sector	All regulations for health professionals apply to both public and private sectors.	
Working conditions	PAIME programme to protect and promote the health of physicians, carried out by Council of Doctors.	
	Standardised career paths and job plans are applied in the public sector with associated compensation.	

PHYSICIANS   DENTISTS   PHARMACISTS   NURSES AND MIDWIVES   ALLIED HEALTH PROFESSIONS

HEALTH WORKFORCE STOCK AND MOBILITY

Table 1: Health workforce stock and replacement

	Physicians[1]	Nurses[1]
Total stock 2018	188.166	274.633
Stock 55-64 years 2018	53.100	Not reported
Graduates 2018	6.664	9.936

1 Practising

Figure 1: Mobility level in absolute numbers (2018)

Outflow: non-EU EU

2 % of the practising physicians and nurses

Note: Inflow data not available

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HEALTH WORKFORCE DENSITY AT SUB-NATIONAL LEVEL

Figure 2a: Number of practising physicians per 1.000 inhabitants (regional distribution latest data available, 2018)

Cantabria 5,29
País Vasco 5,08
Comunidad Foral de Navarra 5,06
La Rioja 4,17
Galicia 4,67
Castilla y León 4,53
Cataluña 4,08
Aragón 4,71
Principado de Asturias 4,01
Madrid 4,57
Extremadura 2,60
Castilla-la Mancha 2,86
Comunidad Valenciana 3,76
Illes Balears 3,04
Andalucía 3,45
Región de Murcia 4,48
Canarias 3,46

2,60 — 5,29

Average

🇪🇸 4,02 (2018)

🇪🇺 3,80 (EU average 2018 for physicians)

Figure 2b: Number of licensed to practise nurses and midwives per 1.000 inhabitants (regional distribution latest data available, 2016)

Cantabria 5,31
País Vasco 6,59
Comunidad Foral de Navarra 7,48
La Rioja 5,11
Galicia 5,24
Castilla y León 5,93
Cataluña 5,96
Aragón 6,81
Principado de Asturias 5,10
Madrid 5,48
Extremadura 6,28
Castilla-la Mancha 5,69
Comunidad Valenciana 4,72
Illes Balears 4,93
Andalucía 4,18
Región de Murcia 4,46
Canarias 4,54

4,18 — 7,48

Average

🇪🇸 6,58 (licensed to practise nurses and midwives, 2018)

🇪🇺 8,20 (EU average 2018 for practising nurses)

Scan or click for more information, definitions and sources

HEALTH WORKFORCE PLANNING

PLANNING SUMMARY

Swedish healthcare system is organised by regional authorities. Health workforce planning is one of the management methods to guarantee the provision of care, mainly through monitoring and forecasts. The main planning concern is to cover remote countryside regions. Sweden explores an innovative way of organisation of care supported by new technologies lately, and does not focus on recruitment or retention in underserved areas.

PLANNING SYSTEM

The responsibility of the healthcare planning and delivery is a regional remit. The funding is negotiated at national level in consultation with the union of employers (SALAR). The National Board of Health and Welfare monitors and supports at regional management level and carries out national reporting duties. Additionally, the governmental agency of the Swedish Agency for Health and Care Services Analysis has a mandate to assess current and future supply of different staff categories and issue recommendations to the Ministry of Health regarding training admissions and to the municipalities about the specialist distribution of physicians and dentists. While this applies mainly for the five regulated professions (physicians, nurses, dentists, pharmacists and midwives), 16 additional health professions are also considered in the planning.

PLANNING GOALS

The main goals related to the planning process is to ensure a sufficient coverage of the healthcare needs by a sufficient number of professionals, with the right skills and the advanced technology. Planning supports the concept of bringing care closer to home. Sufficient coverage and improving accessibility have been set by the "National HealthCare Guarantee" policy in 2005.

HEALTH WORKFORCE DATA

SUPPLY DATA

Individual data: registration information (qualification, age, nationality), employers information (activity, contract, place of work).

Aggregated data: education information.

DATA SUPPLIERS

- The Association of local authorities
- The National Board of Health and Welfare
- National Statistical Agency
- University and College registers
- Emigration Sweden

DEMAND DATA

Aggregated data:
- local authorities health information (health status, consumption, …).
- national demographic information (population, socio-economic, geographical, …).

MOBILITY DATA

Inflow: foreign trained data, recognition information upon registration of health workforce.

Outflow: Sweden relies on the OECD database to partly monitor the outflow of physicians and nurses.

CURRENT AND FUTURE CHALLENGES

→ Sweden has a health workforce density that is among the highest in the EU. The focus is not the numbers, but the way care is delivered. In order to address future challenges, Sweden is seeking for new organisation models of healthcare, including elements of patient health literacy, social care, communication, telemedicine, etc. The main 'Swedish Strategy for Health 2022' indicators are outcome-driven, and seek to improve patient experience, equality and sustainable health conditions.

→ The implementation of an e-Health infrastructure and initiatives e.g. e-services and virtual appointments by using digital tools and sharing information digitally to foster a higher healthcare coverage of the Swedish population, particularly in remote areas, is rather challenging.

→ The use of the current resources and expanding them with innovations is to remain cost effective and efficient, particularly in the case of a growing and ageing population.

HEALTH WORKFORCE POLICIES

Policy category	Details	Impacted professions
Manage shortages and maldistribution of skills	Targets are set through the health care guarantee definition.	
	Sweden has a medical density above the EU average. To reach remote areas, a programme called "close care" aims to reform the way care is delivered rather than increasing the density.	
Improving performance	The performance is mainly addressed from the quantitative perspective of the coverage, monitored by the SALAR & National Board for Health and Welfare.	
	Sweden primarily invests in ehealth to improve the system performance and reach the population in the shorter timeframe.	
Address mobility	Sweden is a destination country for foreign-trained physicians (25% of the stock), and approximately 20% of domestic physicians are trained abroad. Local governments use recruitment campaigns abroad to hire the necessary health workforce, e.g. nurses.	
Education, enrolment and recruitment	A grant mechanism is in place to support students, including non-EU refugees.	
Education staff & infrastructure	Sweden provides opportunities for non-EU foreigners (especially refugees) to follow a special training programme to acquire the qualification and the licence to practise a health profession.	
Continuous professional development (CPD)	CPD Framework is mainly voluntary in Sweden. The Government recently invested a large budget to rebuild the system (200 m. Swedish krönen).	
Regulation of private sector	Healthcare is publicly funded and backed by various self-employed professions and privately run companies (around 50%). Public authorities are in charge of the regulation.	
	State monopolistic pharmacies have been privatised through a concession framework scheme.	
Working conditions	No policy reported.	
Others	Appointment of a life sciences coordinator by the Ministry of Industry to foster coordination between policies and innovation. The coordinator also aims to provide value to the health workforce performance and improve quality of jobs.	

PHYSICIANS   DENTISTS   PHARMACISTS   NURSES AND MIDWIVES   ALLIED HEALTH PROFESSIONS

HEALTH WORKFORCE STOCK AND MOBILITY

Table 1: Health workforce stock and replacement

	Physicians[1]	Nurses[1]
Total stock 2017	42.898	109.463
Stock 55-64 years 2017	8.440	Not reported
Graduates 2018	1.334	Not reported

1 Practising

Figure 1: Mobility level in absolute numbers (2018)

-400	-200	0	200	400	600	800

0,36%[2]   Physicians   1,43%[2]

0,20%[2]   Nurses   0,16%[2]

Outflow: ■ non-EU ■ EU | Inflow: ■ EU ■ non-EU ▬ unknown

2 % of the practising physicians and nurses

HEALTH WORKFORCE DENSITY AT SUB-NATIONAL LEVEL

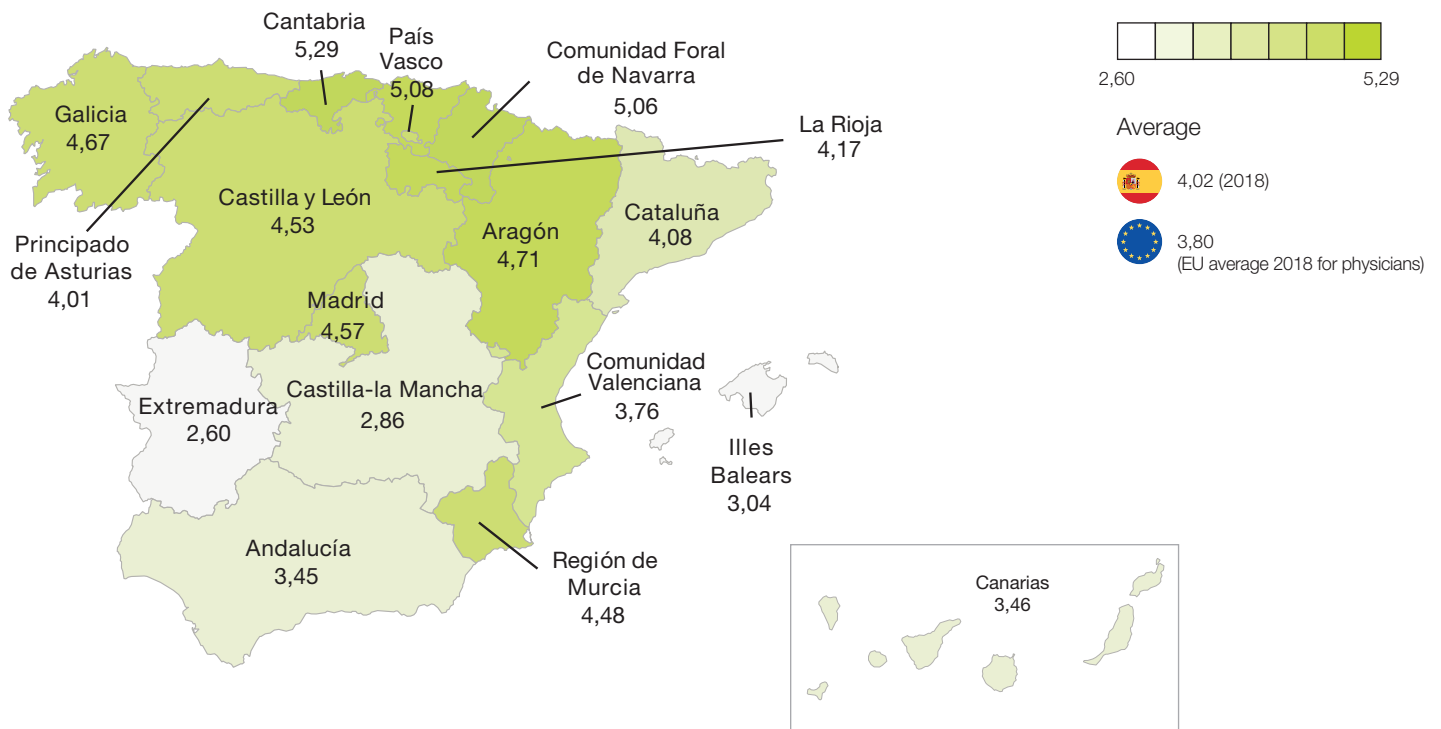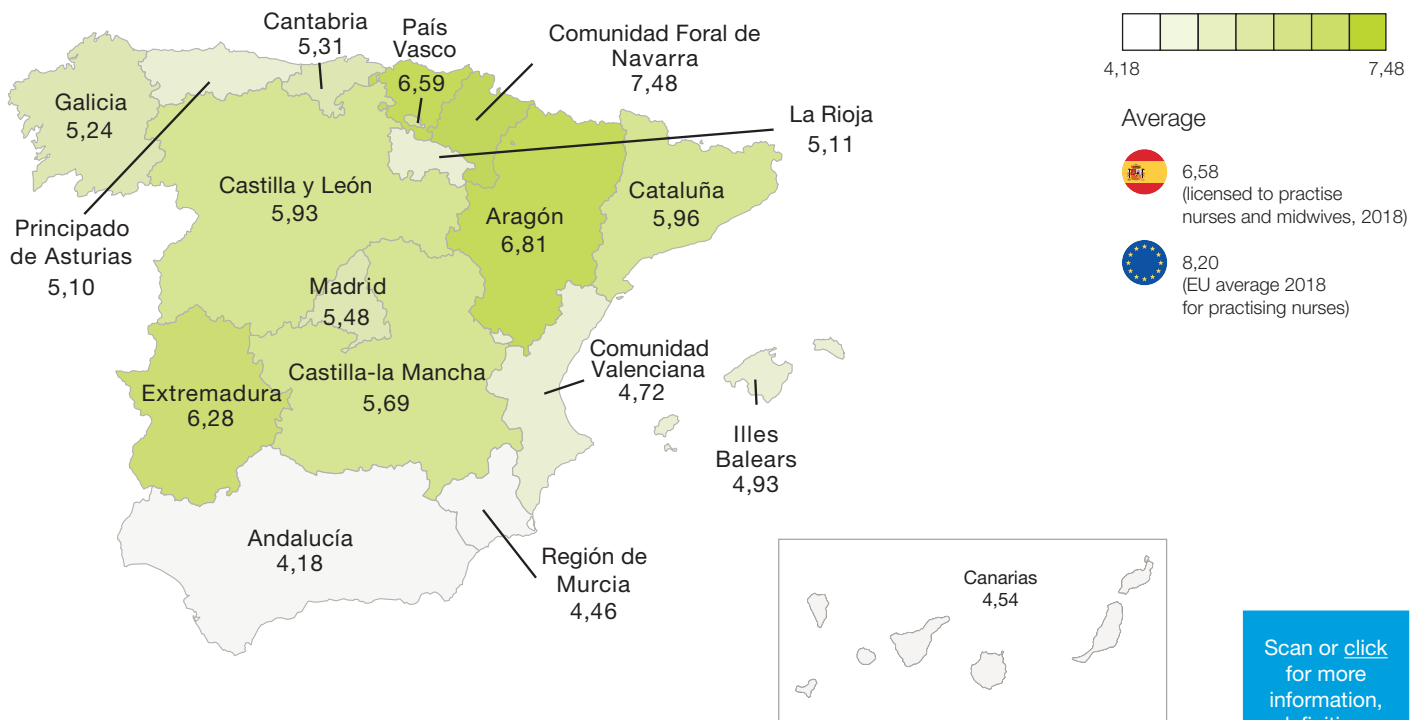**Figure 2a: Number of practising physicians per 1.000 inhabitants (regional distribution latest data available, 2017)**

3,36   4,79

Average

4,27 (2017)

3,80
(EU average 2018 for physicians)

Övre Norrland
4,34

Mellersta Norrland
3,70

Norra
Mellansverige
3,49

Östra
Mellansverige
4,42

Västsverige
4,15

Stockholm
4,79

Sydsverige
4,32

Småland med öarna
3,71

Figure 2b: Number of practising nurses and midwives per 1.000 inhabitants (regional distribution latest data available, 2014)

10,71   13,45

Average

11,64 (2017)

8,20
(EU average 2018 for nurses)

Övre Norrland
13,45

Mellersta Norrland
13,16

Norra
Mellansverige
12,10

Östra
Mellansverige
12,01

Västsverige
12,34

Stockholm
10,71

Sydsverige
11,72

Småland med öarna
12,22

Scan or click
for more
information,
definitions
and sources

UNITED KINGDOM

HEALTH WORKFORCE PLANNING

PLANNING SUMMARY

The UK undertakes primarily national level systematic workforce planning within England, Northern Ireland, Scotland and Wales. The national governments appoint national organisations to develop workforce plans, identify requirements, collect and analyse data, engage and reflect national and regional priorities. Workforce planning is carried out at national, sub-national levels using a variety of qualitative and quantitative methods and a broad stakeholder involvement. The planning is closely related to the management of training and recruitment for the National Health Services.

PLANNING SYSTEM

Health workforce planning is organised in **England** within an overall framework of statutory relations between the Department of Health and Health Education England. England developed a workforce planning approach that recognises the factors influencing supply and demand, and has established various methods to use including horizon scanning, scenario generation, systems dynamics modelling, simulation and policy analysis. Specific action plans are delivered regularly.

National Health Service **Scotland** defines a workforce plan and prepares projection for the future workforce and the future health service delivery. Action plans are based on the gap analysis of the current and future workforce needs.

National Health Service **Wales** runs a planning cycle, focussing on the population and health system needs. Stakeholder dialogues create a common vision and actions for managing and planning the future services and workforce.

Northern Ireland defines the common vision by linking the mapping of the currently available workforce, the evolution of services and the projection of the required workforce. An action plan aims to manage and fill the gaps.

PLANNING GOALS

The various Departments of Health set out a range of high-level health and care objectives via their plans of 2019 that include ensuring people and population safety, supporting healthy ageing and independent living of elderly in their communities. Specific goals strongly relating to workforce planning are to support the National Health Service to deliver high-quality, safe and sustainable hospital care and to ensure the right workforce to achieve the health and care objectives of the respective plans.

HEALTH WORKFORCE DATA

SUPPLY DATA

- Within England, a wide range of individual and aggregated data on public workforce are available.
- From 2015, a national core workforce data set is maintained as well as a minimum data requirement version to ensure key details are available for planning and official statistical purposes.
- Official healthcare workforce statistics are reported monthly via National Health Service Digital.
- Education and training data for health and care are also monitored and published by national departments and agencies, e.g. the Department of Education.

DATA SUPPLIERS

- National Integrated Human Resource and Payroll System called the National Health Service Electronic Staff Record System (NHS ESR).
- National Health Service Digital
- ISD Scotland
- Department of Health, Northern Ireland
- National and devolved administration National Health Service bodies
- Education registers (UCAS & HESA) and databases (UKMED)
- Professional chambers and organisations - GMC, NMC, HCPC
- General Practice and Primary Care Network organisations

DEMAND DATA

For England, demand is considered in a number of ways conceptually, e.g. overall population demand for health, the derived demand for health and care services and for workforce from these services. Practically, affordability is also considered so as to ascertain the cost and funding implications for the National Health Service.

MOBILITY DATA

Inflow:
- Individual data from professional registers and the NHS ESR: foreign nationality and foreign trained data available.
- Aggregated data on workforce censuses, immigration statistics, labour force surveys and population census.

Outflow data:
- Individual data: intention to leave the United Kingdom, monitoring actions to realise mobility.
- Aggregated data: through the OECD report on mobility of health professionals.

CURRENT AND FUTURE CHALLENGES

→ In a highly competitive global labour market, the UK National Health Services face important challenges to recruit and retain the right workforce matching domestic population needs. England aims to address the issue by creating attractive work conditions through a healthy, inclusive and compassionate culture, enabling great development and fulfilling careers and empowering workforce. A leadership culture also needs to be developed for talent management and reaching high quality.

→ Among the various workforce shortages the UK urgently needs to address a specific focus is given to nursing. Nurses tend to form a crucialpart of the multiprofessional teams, which deliver primary and community care, and also provide mental health services. Nursing is granted one of the highest priority in a long term plan, e.g. by managing nurse vacancies, and reinforcing particularly nursing role in teams.

→ There is a strong need to enhance the medical workforce across the UK and focus entirely on primary care physicians and associated physicians. The wider change in the way of working is expected and future workforce must show adaptability and continuous reskilling in a new operating model. The National Health Service of England vision addresses the future challenges by including non-professional carers on top of the traditional workforce.

HEALTH WORKFORCE POLICIES

Policy category	Details	Impacted professions
Manage shortages and maldistribution of skills	The National Health Service of **England** as the main employer of the country, plans both activities and related workforce both long-term and short-term. Multiple workforce policies are set out, covering all of the professions employed.	👨‍⚕️ 🦷 💊 🧑‍⚕️ ➕
	Where the National Health Service faces challenging recruitment issues, and particularly for general practitioners and specialised nurses in remote areas, 'Golden Hello's' programmes grant financial incentives for new employees.	👨‍⚕️ 🧑‍⚕️
	England is traditionally a target country for health workforce migration. Aiming at reducing on the long term the reliance on foreign-trained physicians, England raised the number of training quota to 1,500 students in 2018.	👨‍⚕️
	England offers a National Retention Programme to reduce nursing turnover rates in all trusts, and for clinical staff in mental health trusts.	🧑‍⚕️
	The shortage in England is not only numeric but also relates to the accuracy of the system towards the cultural changes and the needs of a 21st century healthcare system. The National Health Service Long-Term Plan calls for different people in different professions working in different ways. Therefore, an Interim People Plan was initiated to set a new vision and operating model for the health workforce, and the immediate actions to take in 2019/20 to address some of the most pressing challenges.	👨‍⚕️ 🦷 💊 🧑‍⚕️ ➕
	National Health Service **Scotland** operates 'NHS 24' urgent health advice, when general and dental practices are closed. Care provision by nurses, dental nurses, mental care nurses and advisors increase the healthcare coverage in the remote areas. National Health Service **Northern Ireland** provides a similar service only for general practices out-of-hours called Lifeline.	👨‍⚕️ 🦷 💊 👨‍⚕️
	National Health Service **Scotland** also faces the challenge of nurse and physician shortages. An extensive communication and policy challenge is in place for hiring general practitioners. **Wales** NHS focusses its strategy to avoid shortages on retention, new roles in the organisation of health care and digital transformation.	👨‍⚕️ 🧑‍⚕️

HEALTH WORKFORCE POLICIES

Policy category	Details	Impacted professions
Improving performance	No workforce performance policy is reported for **England**, though a recent study concluded that more workforce is needed for the National Health Services in the UK to raise its health outcome performance compared to nine high income countries.	
	National Health Service of **Scotland** created General Practice Clusters in 2015 as the mechanism to drive quality improvement across primary care. Quality leads have direct involvement and influence in improving the quality of all health and social care services within their area of practice. With dedicated time and funding, they play a key role in shaping services and quality planning, based on population needs.	🧑‍⚕️
Address mobility	**England** is highly reliant on foreign health workforce. To train and recruit domestic professionals, a student finance reform aims to increase domestic student numbers and reduce this reliance on foreign health workforce.	🧑‍⚕️ 🦷 💊 👩‍⚕️ ➕
	The **UK** offers favourable common visa conditions for foreign health workforce for working in the National Health Services of England, Northern Ireland, Scotland and Wales. Non-EU physicians and nurses are continuously recruited in the UK.	🧑‍⚕️ 👩‍⚕️
Education, enrolment and recruitment	Health Education **England** as the main regulation body for educating future resources plans strategically the education capacity. As funding and strategic body, Health Education England sets the training quota and qualifications. The training positions for physicians were raised in 2018.	🧑‍⚕️ 🦷 💊 👩‍⚕️ ➕
	Financial support is granted to students in several health professions to foster the attractiveness of studies.	🧑‍⚕️ 🦷 💊 👩‍⚕️ ➕
Education staff & infrastructure	As a retention strategy, Health Education **England** encourages experienced nurses to return to practice and offer transition trainings.	👩‍⚕️
	Health Education **England** was requested in 2017-2018 to prioritise the list of allied health professions that could support the priorities in primary care (prevention, development of autonomy), urgent care, cancer, mental care and maternity.	➕
	National Health Service **England** offers various online programmes through its platform www.e-lfh.org.uk/	🧑‍⚕️ 🦷 💊 👩‍⚕️ ➕
	Scotland, **Wales** and **Northern Ireland** also promote return to practice for the nursing professions, as a retention strategy.	👩‍⚕️
	Scotland extends mental care to a profession 'spiritual care worker'.	➕
Continuous professional development (CPD)	CPD is mandatory for pharmacists, midwives, dentists, nurses and physicians.	🧑‍⚕️ 🦷 💊 👩‍⚕️
	In 2019 the a funding has been provided for a £1,000 personal development budget for every nurse, midwife and allied health professional to support their personal learning and development needs over three years.	👩‍⚕️ ➕
	Scotland announced a Flying Start programme mandatory for qualified nurses, midwives and allied health professionals entering the health labour market.	👩‍⚕️ ➕
Regulation of private sector	Not Applicable as the National Health Services are public and almost monopolistic when considering the population health care needs coverage.	
Working conditions	The National Health Service of **England** issued the Interim People Plan with a major target to "Make the NHS the best place to work". Some employers offer well-being programmes for their professionals.	🧑‍⚕️ 🦷 💊 👩‍⚕️ ➕ 🧑‍⚕️ 🦷 💊 👩‍⚕️ ➕

🧑‍⚕️ PHYSICIANS   🦷 DENTISTS   💊 PHARMACISTS   👩‍⚕️ NURSES AND MIDWIVES   ➕ ALLIED HEALTH PROFESSIONS

HEALTH WORKFORCE STOCK AND MOBILITY

Table 1: Health workforce stock and replacement

	Physicians[1]	Nurses[1]
Total stock	196.784[3]	517.000[2]
Stock 55-64 years 2019	22.736	Not reported
Graduates	8.730[3]	20.524[2]

1 Practising
2 Latest available data, 2018
3 Latest available data, 2019

Figure 1: Mobility level in absolute numbers (2018)

0,50%[4] Physicians 4,33%[4]
0,12%[4] Nurses 1,16%[4]

Outflow: ■ non-EU ■ EU | Inflow: ■ EU ■ non-EU — unknown

4 % of the practising physicians and nurses

HEALTH WORKFORCE DENSITY AT SUB-NATIONAL LEVEL

Figure 2a: Number of practising physicians per 1.000 inhabitants (regional distribution latest data available, 2019)

Average

🇬🇧 2,95 (2019)

🇪🇺 3,80
(EU average 2018 for physicians)

Figure 2b: Number of practising nurses and midwives per 1.000 inhabitants (regional distribution latest data available, 2018)

Average

🇬🇧 8,25 (2018)

🇪🇺 8,20
(EU average 2018 for nurses)

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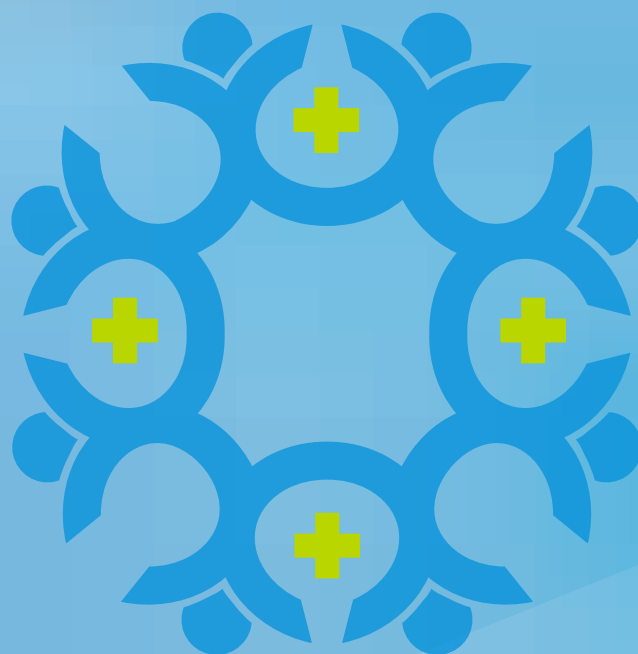
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