Cross-country analysis of health worker mobility across the European Union and neighbouring countries (2010 – 2022): Highlights

March 2023

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List of abbreviations

EU	European Union
EEA	European Economic Area
EPSU	European Federation of Public Service Unions
HOSPEEM	European Hospital and Healthcare Employers' Association
ILO	International Labour Organization
OECD	Organization for Economic Co-operation and Development
RPD	Regulated Professions Database
UHC	Universal Health Coverage
UN	United Nations
UK	United Kingdom
WHO	World Health Organization

About Pillars of Health

Pillars of Health is an alliance of EU-based organisations that wants to contribute to an equitable geographic distribution of health workers across the European Union (EU), to ensure that all European citizens have equal access to health workers. In 2021, as part of the Pillars of Health project, lead partner organisation Wemos (the Netherlands) joined forces with the Center for Health Policies and Services (Romania), Media Education Centre (Serbia), and VU Athena (the Netherlands) to identify ways to address the negative effects of excessive health worker migration and recruitment. In 2022, we also started collaborating with the Association of Democratic Physicians (Verein demokratischer Ärzt*innen (vdää*)) (Germany). Moving forward, we aim to do joint advocacy within a wider coalition. Together, we aim to influence policy-makers so they actively implement policies that mitigate the negative effects of health worker migration and mobility, and instead contribute to a strong and sustainable health workforce across the EU. Read more about Pillars of Health, and join us.

This report is part of a series on health workforce migration and mobility in the focus areas of Pillars of Health: Germany, France, Romania, Serbia and EU level.

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Highlights

Introduction

The **international migration and mobility of skilled workers, including health professionals**, is increasing and growing in complexity[i,ii,iii]. This is also the case within the European Union (EU) and neighbouring countries[iv]. When large numbers of medical doctors and nurses emigrate following labour market demands, apparent trade-offs may emerge between tackling staff shortages and improving health service provision in receiving countries, while weakening the capacity for service delivery in sending countries[v]. Specifically, while mobility of health workers presents solutions for staff shortages in some countries and may offer career opportunities and better working conditions to health workers, the freedom of movement within EU and neighbouring countries has also resulted in an unidirectional flow of health workers between European sending and receiving countries and European subregions[vi,vii]. This hampers sending states' ability to provide essential health services and achieve Universal Health Coverage (UHC).

In 2010, the World Health Assembly adopted the World Health Organization's (WHO) Global Code of Practice for the International Recruitment of Health Personnel to respond to these challenges. For the EU specifically, the European Federation of Public Service Unions (EPSU) and the European Hospital and Healthcare Employers' Association (HOSPEEM) signed a code of conduct on ethical cross-border recruitment and retention in 2008. This report provides a cross-country analysis of health worker mobility data within the EU and neighbouring countries[1] from 2010 – 2022 in order to capture mobility trends after adopting and signing these international codes.

This report is based upon desk research and secondary and publicly available data retrieved from the Organization for Economic Co-operation and Development (OECD) database and the European Commission Regulated Professions Database (RPD). This report focuses on medical doctors and nurses in specific, by 1) illustrating the current reliance on foreign(-trained) doctors and nurses and highlighting the trends over time, and 2) depicting the overall geography of mobility of doctors and nurses between 2010 and 2022, by highlighting key geographical patterns and the magnitude of mobility flows of doctors and nurses between subregions and countries.

[1] For this analysis, 'EU and neighbouring countries' refers to the EU, the European Economic Area (EEA), Switzerland and the United Kingdom (UK).

The report also reflects on key gaps in and limitations of the data and indicators available for analysing health worker mobility across the EU and neighbouring countries. The visuals throughout this report are created using *Excel* and *Microsoft PowerBI* software packages. The maps of Europe are created with *mapchart.net.*

Key findings

The findings of this secondary data analysis underscore the **increasingly blurred dichotomy between sending and receiving countries** within the EU and neighbouring countries. The findings highlight the persistent popularity of high resource EU countries (e.g., Germany) and high resource neighbouring countries (e.g., the UK, Switzerland, Norway) as receiving countries. OECD data illustrate an **increasing dependency on foreign-trained doctors and nurses** across these countries, and RPD data reveals these countries were also the most popular receiving countries in which medical doctors and nurses sought to get their qualification recognised over the past decade. Importantly, the report pinpoints **two compounding geographical patterns of mobility** across the EU and neighbouring countries. These include 1) one-way cross-regional mobility typically *from* Eastern and Southern European regions towards Western and Northern European countries, and 2) subregional mobility *within* Western and Northern European regions via subregional mobility 'hubs'.

To better understand these two compounding patterns, we must consider that mobility between different European subregions might include different types of mobility and migration as compared to mobility within European subregions. Moreover, insights into the type of health workers that choose to migrate as well as into the realities of health worker mobility are important factors for our further understanding of mobility patterns. However, the quantification and understanding of health worker mobility within the EU and neighbouring countries is hampered by **key gaps and limitations in available data:**

- This report has used publicly available OECD and RPD data and thereby the countries included in this report are limited to OECD countries and countries included in the RPD.
- Health worker mobility data is collected irregularly (i.e. missing data for certain years or for certain indicators) for some countries, may be limited to certain professions (i.e. only doctors and nurses included in OECD) and differences in methods of data collection and indicator definitions exist between countries.
- The data available to quantify health worker mobility flows is limited to 'intention to leave' data. Intended mobility flow from and towards countries is quantified by using 'recognition of qualification' in receiving countries as indicator. This means that the actual number of health

workers migrating in reality remains unidentified. The RPD does not indicate whether, after a recognised qualification, the health professional actually migrates to the respective receiving country.

- In relation to the point above, there is a lack of insight in the reality of and after migration, including whether health workers are in employment or unemployment, whether they experience deskilling or move to work in a different sector.
- Data on available indicators in both databases are not disaggregated for, for example, sex, gender, ethnicity, specialities within health professions or other social and economic dimensions.

The above gaps and limitations undermine the ability to conclusively draw comparisons between countries, and identify trends over time. In addition, these gaps and limitations frustrate efforts to gain insight into the diversity among migrant health workers and who migrant health workers are (e.g., in terms of their socio-economic profiles, their reasons for leaving and entering a country, their motivations or career plans).

Key messages on foreign(-trained) doctor and nurse dependency

This section addresses two research questions:

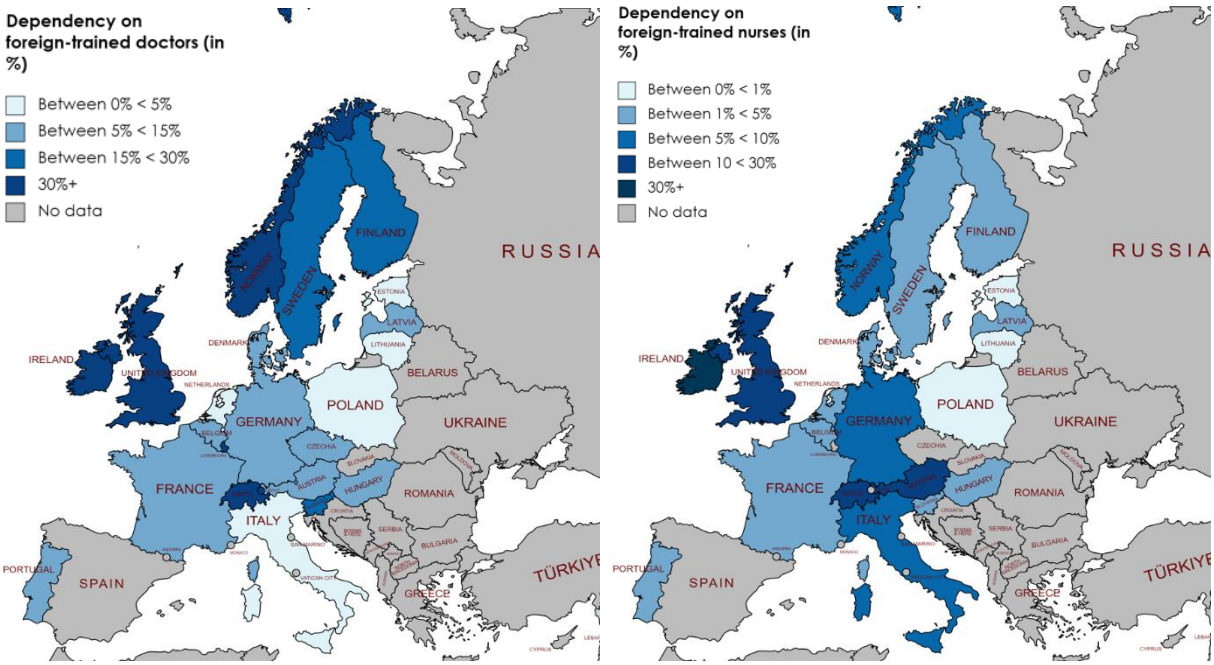
1) What is the current reliance on foreign trained medical doctors and nurses across the EU and neighbouring countries?

2) How has this reliance changed over the past decade (2010 – 2021)?

- From 2010 – 2022, **high resource countries neighbouring the EU remain popular receiving countries f**or health workforce from all over the EU. The UK, Norway, and Switzerland indicate an increasing dependency on foreign(-trained) health workforce. Few of these doctors and nurses are native-born and foreign-trained *(see figure 1).*
- Ireland (40.5%), Norway (42.1%), Switzerland (37.4%) and the UK (31.9%) show highest dependency on foreign-trained doctors as compared to other included countires. Ireland (46.6%), Switzerland (26%), the UK (17.9%) and Austria (12.5%) show highest dependency on foreign-trained nurses, as compared to other included countries in the OECD database.
- The countries in which their foreign-trained health workers mostly consists of native-born doctors and nurses include Finland, Greece and the Netherlands. In Italy this was the case only for doctors, while in Ireland this was the case only for nurses.

- In the majority of EU and neighbouring countries included in the OECD database, there is an **increasing dependency on foreign-trained doctors as well as for foreign-trained nurses**, with respect to total doctor and nurse stock, over the past decade.

Figure 1. Colour coded map of the EU and neighbouring countries based on dependency of foreign-trained doctors (left) and nurses (right) in percentages using OECD.stat, 2021 or latest available data[2].



[2] The latter in case of Portugal (2017), Denmark and Sweden (2019) and Finland, France, Germany, Hungary, Latvia, the Netherlands and Switzerland (2020).

Key messages on geography of doctor and nurse mobility

This section addresses two research questions:

1) What are the current patterns of flow of medical doctors and nurses between specified European countries and regions?
2) What is the magnitude of medical doctor and nurse mobility flows between specified European countries and regions?

Sending and receiving countries

- From 2020 to 2022, the UK, Switzerland, Norway and Germany were most popular receiving countries for both medical doctors and nurses (*see figure 2 and 3*).
- Countries sending the most nurses, as compared to other included countries, include Romania, Spain and France. Countries sending the most doctors, as compared to other included countries, include Germany, Romania and Italy. Countries receiving most doctors and nurses are The UK, Switzerland and Norway (*see figure 2 and 3*).

Mobility routes

- The geographical source of health workers appears to differ between these receiving countries. The UK and Germany receive most international health workforce from the European free-movement area, while Switzerland and Norway receive most international health workforce from neighbouring countries or countries within their subregion.
- There are key differences in the chosen destinations of doctors and nurses in sending countries. Doctors and nurses from Romania, Spain, Greece and Poland typically seek destinations within the European free-movement area. Medical doctors from Germany and France who seek to practice abroad, mainly aim to get their qualification recognised in neighbouring countries.

Magnitude of intended mobility flows

- The magnitude of mobility flows (i.e. the intended outflow as percentage of national doctor and nurse stock) was highest in Estonia, Denmark, Romania, Hungary and Slovakia for medical doctors (>15% total from 2010 – 2022) and in Romania, Portugal and Denmark for nurses (>10% total from 2010 – 2022). The inflow of foreign-trained health workforce did not appear to make up for this intended outflow and these countries may therefore observe an ongoing drain of their health workforce. Overall,

average annual intended outflow towards other countries in Europe stayed around 3% or less of the total doctor and nursing stocks in included countries.

Mobility hubs

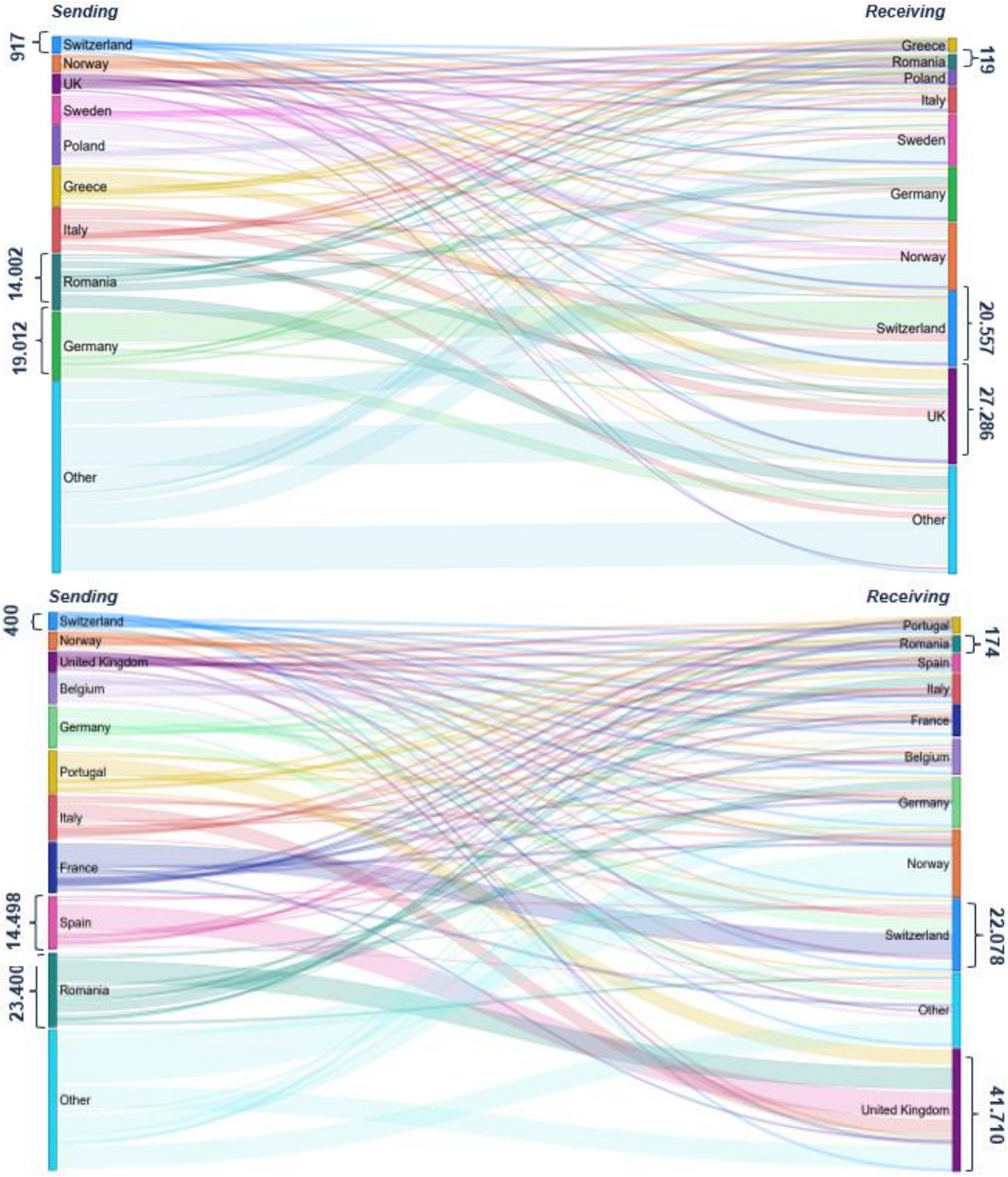
- Unidirectional and bidirectional regional mobility 'hubs' can be identified within subregions and between neighbouring countries[vii]. These 'hubs' might arise and persist due to regional mobility facilitated by similarity in languages and cultures between sending and receiving countries as well as due to densely populated border areas. Key examples are hubs such as Austria-Germany; the Netherlands – Belgium; Belgium – France; Switzerland – France – Germany – Italy; and Norway – Sweden – Finland – Denmark – Poland – Estonia.

Patterns of intended mobility flow across the United Nations (UN) European subregions

- Doctor and nurse intended mobility appears to generally follow two patterns across the EU and neighbouring countries; 1) one-way cross-regional mobility from Eastern and Southern European regions *towards* Western and Northern European countries and 2), subregional mobility *within* Western and Northern European regions[3]. Therefore, many of these countries have become both sending and receiving countries. These two concurring patterns compound the inequitable distribution of health workforce across the EU and neighbouring countries, requiring different responses at regional, international, national and health sector level *(see figure 4 and 5)*.
- To illustrate the point above, the total number of doctors and nurses seeking to migrate *within* the Western European subregion between 2010 and 2022 (i.e. the total amount of applications for recognition of Western European qualifications in a Western European receiving country) was similar to the total amount of applications from both Eastern and Southern European countries to work in a Western European country (*see figure 4 and 5).*
- Mobility between different European subregions might include different types of mobility and migration as compared to mobility within European subregions. Databases are limited in providing further information on the type of mobility or migration (e.g., mobility of border workers, permanent settlement after international migration or return migration).

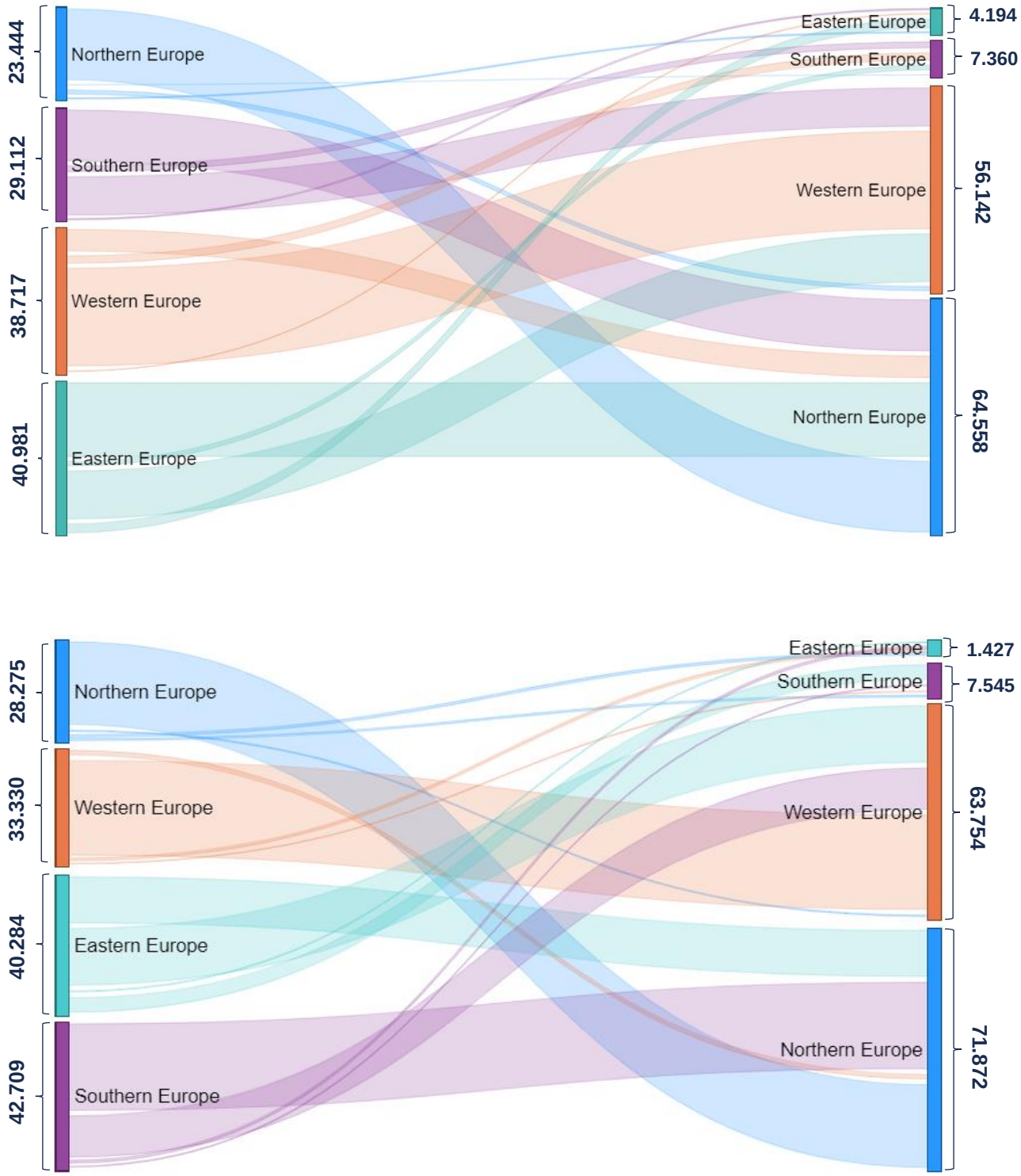
[3] See Appendix table 1 for the European subregions as defined by the UN.

Figure 2 & 3. Total applications for recognition of qualifications of medical doctors (top) and nurses (bottom) from 2010 – 2022, incl. the top 5 sending and top 5 receiving countries for doctors[4] and nurses[5].



[4] Top 5 sending: Germany, Romania, Italy, Greece and Poland. Top 5 receiving: UK, Switzerland, Norway, Germany and Sweden
[5] Top 5 sending: Romania, Spain, France, Italy and Portugal. Top 5 receiving: UK, Switzerland, Norway, Germany and Belgium

Figure 4 & 5. Mobility flow of doctors (top) and nurses (bottom) between UN European subregions.



Unfinished business

Based on the key findings, some key points of 'unfinished business' have been identified. These points - further elaborated on throughout the report - can be used to inform advocacy and efforts for improving health worker mobility data in the EU and neighbouring countries:

- There is a need for reliable and comprehensive data. For this, improving the quality and availability of data (i.e. disaggregation, registration and integration of different types of health worker mobility data) is key.

- There is a need to closely monitor gradual changes in mobility over time, as well as to monitor and capture the type of mobility and geographical mobility routes between subregions, neighbouring countries and between European countries in the free-movement area.

- Health worker mobility can impact health care services and delivery, health systems and labour markets in various ways. In order to understand and ensure a coordinated response to health worker mobility on the level of health facilities as well as on national and international level, multi-sectoral responses are critical.

To improve the quality and availability of health worker mobility data, we need **institutional strengthening for coordinated data collection, registration and integration** at health facility, national and international levels. Moreover, coordinated approaches to improve health worker mobility data could facilitate the development of new indicators needed to capture and monitor different mobility types and routes.

Appendix

Table 1. European subregions as defined by the UN[6]

Regions	Countries
Northern Europe	*Iceland, Ireland,* UK, Denmark, Norway, Sweden, Finland, Estonia, Latvia, Lithuania
Eastern Europe	Poland, *Belarus, Ukraine, Moldova*, Romania, Bulgaria, Hungary, Slovakia, Czech Republic, *Russian Federation*
Western Europe	The Netherlands, Germany, Belgium, Luxembourg, France, Austria, Switzerland, *Liechtenstein, Monaco*
Southern Europe	Portugal, Spain, Italy, *Bosnia and Herzegovina, Montenegro, Serbia, North Macedonia, Albania,* Greece, Slovenia, *Malta,* Croatia, *San Marino*

[6] Not all of the countries part of the European subregions, and included in *Appendix table 1*, are included in the RPD. This analysis is limited to the countries included in the RPD. The countries in *italics* are not included in the analysis.

References

[i] WHO. (n.d.). Addressing the international migration of health workers. Retrieved from: https://www.who.int/activities/addressing-the-international-migration-of-health-workers

[ii] WHO. (2016). Working for Health and Growth, Report of the High-Level Commission on Health Employment and Economic Growth. Retrieved from: http://apps.who.int/iris/bitstream/handle/10665/250047/9789241511308-%20eng.pdf?sequence=1

[iii] ILO, OECD & WHO. (n.d.). The International Platform on Health Worker Mobility. Elevating dialogue, knowledge and international cooperation. Retrieved from: https://www.who.int/teams/health-workforce/migration/int-platform-hw-mobility

[iv] Buchan, J., & Perfilieva, G. (2006). Health worker migration in the European Region: country case studies and policy implications. World Health Organization. Regional Office for Europe.

[v] Buchan, J. (2006). Migration of health workers in Europe: policy problem or policy solution. Human resources for health in Europe, 41-62.

[vi] World Bank Group. (2022). Skilled Migration: A sign of Europe's Divide or Integration? Retrieved from: https://openknowledge.worldbank.org/handle/10986/37101

[vii] Maier et al. (2011). Cross-country analysis of health professional mobility in Europe: the results. In: Wismar, M. et al. & World Health Organization. (2011). Health professional mobility and health systems: evidence from 17 European countries. World Health Organization. Regional Office for Europe.