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Healthcare policy is one of contemporary society's most dynamic policy arenas. Heightened pressures such as the global economic crisis, demographic changes, and inequity have increased interest in international, transnational, and global health policy. Yet, new concepts of healthcare may create diverse and contradictory results around the world that call for careful empirical investigation and for a systematic approach that brings the complexity of governing healthcare into perspective.

This international handbook addresses key themes in the debates over changing healthcare policy. This includes health human resources planning; major concepts of management and leadership in healthcare; traditional and emergent areas of governance; and the challenges of equity and equality in the development, provision of, and access to healthcare services for diverse groups of citizens. With a focus on connections, including global and local perspectives, and macro- and micro-level policy using a multi-level governance approach, this Handbook provides nuanced research that illuminates the intricate issues in global healthcare policy and governance.

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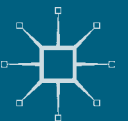
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# 18

## Health Human Resources Policy in Europe

*Ellen Kuhlmann, Peter P. Groenewegen, Ronald Batenburg, and Christa Larsen*

### Introduction

Health human resources (HHR) policy across the world is challenged by workforce shortages and mal-distribution of skills. Yet Europe holds top positions in both quantity and quality of the health professional workforce. Staffing levels of skilled professionals are on average higher than in other Organization for Economic Co-operation and Development (OECD) countries, while education and training are excellent (Matrix Insight, 2012; OECD, 2013). Why, then, is HHR policy a burning issue in Europe, and what makes it interesting from a global perspective?

The demographic challenge of Europe's 'ageing societies' is often cited and is causing decreasing human resources and increasing demand for services (Colombo et al., 2011). But mal-distribution/imbalance may turn out to be even more challenging – fuelled by Europe's austerity policies hitting Southern Europe the most (Dussault and Buchan, 2014). Economic push–pull factors and migration flows may reinforce existing inequality in the health workforce and the quality of care provided in Europe and also have a global impact (Leone et al., 2013; Runnels et al., 2011; Wismar et al., 2011; see Chapter 21 by Buchan).

Efforts towards better coordination are on the increase. For instance, European data sources and licencing models as well as cross-border healthcare have been harmonized (ECH&C, 2013). Here, the 'EU Joint Action on Health Workforce Planning and Forecasting' (<http://euhwforce.weebly.com/>) marks an important attempt to compare health workforce planning systems across Europe, to define best practices, and to harmonize (and learn from) different models, methodologies, and data sources (Giepmans et al., 2013). At the same time, national planning systems continue to be poorly connected, and recruitment policy of foreign trained professionals is highly diverse. National–regional interests, together with the lobbying of powerful professions, especially doctors,

are still strong barriers towards more harmonized European models (Matrix Insight, 2012; Roberfroid et al., 2009).

Europe is not only a problem case but also a ‘natural laboratory’ of integration and coordination of decentralized policy and planning systems in a health labour market aimed towards a single system. Member states of the European Union (EU) share common rules, values, and guidelines that are relevant for HHR policies, such as the recognition of diplomas, free flow of people, cross-border services, and patient safety (European Commission, 2008, 2011, 2012). Thus, Europe may offer useful knowledge to an international audience in a situation where HHR policy is no longer a prime issue in only resource-poor countries. Moreover, health workforce sustainability is challenging all countries (see Chapter 17 by Dussault), and volatile flows of people call for transnational policy approaches and integration (Buchan et al., 2014).

The chapter begins with an overview of the European HHR situation and then introduces an integrated approach comprising system, sector, occupational, organizational, and socio-cultural dimensions. The national model of medical workforce planning in the Netherlands and a regional model of multi-professional health labour market monitoring in Germany serve to illustrate pioneering efforts, but also demonstrate variation even between neighbouring countries in Europe. The chapter concludes by highlighting the need for multi-level governance to improve European health workforce policy and reduce existing imbalances.

### **Health human resources policy in Europe: Where are we now?**

Health workforce governance and HHR planning are primarily national responsibilities, but recently have been moving higher on the agenda of European policy-makers (ECH&C, 2013; European Commission, 2008, 2011, 2012). A rapidly growing body of research supports development and implementation of HHR policies (Buchan et al., 2014; Dieleman et al., 2011; Dussault et al., 2010; Matrix Insight, 2012; Ono et al., 2013; Rechel et al., 2006; Wismar et al., 2011).

Health human resources policy – or ‘health workforce’ policy – includes the different strands of governing, managing, planning, and monitoring the professional workforce at regional, national, and supranational levels. HHR management describes the meso level of organizations, including traditional human resources (HR) and personnel administration, and more complex workforce governance and management procedures, while HHR planning and monitoring comprise activities to bring the quantity and/or quality of HHR at a desired level (Kuhlmann et al., 2013).

As an ideal-typical construction, the international level of HHR policy is linked to coordination and integration, the national–regional level to

planning/monitoring, and the organizational level to the management of the health workforce. However, the boundaries of EU countries, healthcare systems and sectors, and professional groups are blurring, thus creating overlapping responsibilities and 'hybrid' policy arenas. Consequently, coordination and integration are relevant across, between, and within all levels of governance, and this calls for innovative governance approaches (Brown and Harrison, 2013; WHO, 2011).

Characteristically, the challenges of HHR policy are complex and the barriers towards integration strong. In Europe, we find many different 'healthcare states' and welfare systems, increasing economic inequalities that reinforce health workforce migration push–pull factor, and also high variety of legal and educational governance systems in line with social and cultural diversity that all shape the values and ethics of healthcare policy (see Chapter 16 by Greer and Mätzke). Given the common institutions within the EU, we concentrate initially on the EU member states. However, as joint regulation and policies are generally more advanced in the European Economic Area and Switzerland, these countries could also be taken into consideration. From a migration point of view, a broader perspective is also relevant (Buchan et al., 2014; WHO, 2010; Wismar et al., 2011).

### **What do numbers tell us about Europe's health workforce?**

Occupational statistics may give a first impression of the diverse European situation and the complexity of factors impacting on the health workforce. To begin with the most basic indicator, 'health workers' density to population' (Table 18.1), the figures for doctors range from 6.1 per 1,000 population in Greece followed by Austria (4.8) to 2.8 in the United Kingdom and 2.2 in Poland. For nurses, the picture looks different, with Belgium and Denmark peaking (15.4), the United Kingdom and France in a lower middle rank, and Poland (5.2) and Greece at the bottom (3.3). Within this context, the two neighbouring countries Germany and Netherlands, which we selected for an in-depth illustrative case of HHR planning models, are clearly positioned in the upper range of HHR resources in Europe with 3.0 doctors and 11.8 nurses in the Netherlands, and 3.8 doctors and 11.4 nurses per 1,000 population in Germany.

From an international perspective, the average ratio of doctors and nurses to the population in the countries of the European area is clearly above the OECD average, showing a ratio of 3.6 to 3.2 per 1,000 population for doctors, and 9.8 to 8.7 for nurses (OECD, 2013). Interestingly, the ratio is nearly 50 per cent higher for doctors in Europe (3.6) than in North America (2.4 in Canada and 2.5 in the United States), while the ratios for nurses show only moderate differences and no uniform direction – 9.8 in Europe, 9.3 in Canada and 11.1 in the US (OECD, 2013).

Table 18.1 Workforce indicators for doctors and nurses in selected European countries

Country	Doctors				Nurses			Ratio	
	Per 1,000 population <sup>1</sup>	Women % <sup>1</sup>	Graduates per year per 100,000 population <sup>2</sup>	Inflow % foreign <sup>3</sup>	Out-EU migration % <sup>4</sup>	Per 1,000 population <sup>1</sup>	Graduates per year per 100,000 population <sup>2</sup>		Inflow % foreign <sup>3</sup>
Austria	4.8	45.0	23.6	13.5	5.1	7.8	58.7	—	1:1.6
Belgium	2.9	36.5	8.0	—	10.0	15.4	—	13.5	1:5.3
Czech Rep.	3.6	54.2	12.8	—	2.5	8.0	13.9	—	1:2.2
Denmark	3.5	44.8	14.7	—	0.9	15.4	78.3	—	1:4.4
Estonia	3.3	74.1	8.6	—	16.3	6.2	35.2	—	1:1.9
Finland	3.3	56.1	9.4	24.0	2.5	10.3	57.6	2.9	1:3.1
France	3.3	42.1	—	6.3	1.3	8.7	—	—	1:2.6
Germany	3.8	43.1	12.5	5.2	2.2	11.4	27.5	3.4	1:3.0
Greece	6.1	40.0	—	—	—	3.3	—	—	1:0.5
Hungary	3.0	54.3	9.2	4.7	10.0	6.2	31.5	2.4	1:2.1
Ireland	2.7	40.1	—	—	—	12.2	—	—	1:4.5
Italy	4.1	39.2	11.1	—	1.6	6.3	18.0	—	1:1.5
Netherlands	3.0	46.1	9.8	—	5.2	11.8	39.3	—	1:3.9
Norway	3.7	43.6	10.7	—	1.0	12.2	72.2	—	1:3.3
Poland	2.2	56.4	16.2	—	5.4	5.2	33.1	—	1:2.4
Portugal	4.0	51.3	7.3	—	0.6	6.1	22.1	—	1:1.5
Slovakia	3.3	56.3	8.5	—	10.9	5.9	—	—	1:1.8
Slovenia	2.5	59.5	8.5	—	—	8.3	20.6	—	1:3.3
Spain	4.1	49.1	7.9	9.7	2.4	5.5	—	3.8	1:1.3
Sweden	3.9	45.6	10.7	—	3.1	11.1	—	—	1:2.8
Switzerland	3.8	36.9	—	—	—	11.6	—	—	1:3.1
The United Kingdom	2.8	45.7	9.2	42.6	—	8.6	29.6	12.9	1:3.1

Sources: Adapted from:

<sup>1</sup>OECD, 2013, stat link; 2012 or nearest data;<sup>2</sup>Matrix Insight, 2012: 75–6, 2009 or nearest data;<sup>3</sup>Matrix Insight, 2012: 93, 2008 or nearest data, inflow percentage of foreign citizens among newly registered professionals; ‘–’, missing data;<sup>4</sup>Matrix Insight, 2012: 102–3; percentage migrating to another EU country, based on Prometheus, 2011; ‘–’, missing data;<sup>5</sup>OECD, 2013, own calculation based on doctors and nurses per 1,000 population.

From a cross-country comparative perspective, some similarities between Anglo-Saxon countries may be identified, showing overall lower staffing levels for doctors but moderate to high levels for nurses. Another pattern occurs in Southern Europe, with overall high numbers for doctors but figures for nurses below the European average (Table 18.1). Aside from this, no uniform pattern can be identified in Europe; for instance, medium levels of physician density may match with high density of nurses – as in most Nordic countries and (to some degree) in Germany – but also with low nurse density, like in Central-Eastern Europe, or with medium levels of nurse density, as observed in France.

The picture is even more diverse and complicated if we take a look at indicators measuring dynamics in the healthcare workforce, such as the influx of graduates, and in- and out-migration. Here, the cross-country differences range from 23.6 medical graduates per 100,000 population in Austria followed by 16.2 in Poland and 7.3 in Portugal, while the ratio of nurse graduates to 100,000 population is highest in Denmark (78.3) and Norway (72.2) and lowest in the Czech Republic (13.9) followed by Italy (18.0).

In relation to migration, the countries included in Table 18.1 show the highest percentage of foreign doctors (42.6 per cent) among the newly registered health workers in the United Kingdom, while the figures for nurses a highest in Belgium (13.5 per cent; 12.9 per cent in the United Kingdom), while Hungary has the lowest levels (4.7 per cent doctors, 2.4 per cent nurses). Imbalances are also caused by out-migration. Here, the flexibility of the EU labour market increases out-migration, especially in some Central-Eastern European countries; for instance, Estonia shows 16.3 per cent doctors migrating to other European countries, Slovakia 10.9 per cent, and Hungary 10 per cent. In contrast, the larger EU countries like Germany (2.2 per cent) and France (1.3 per cent) face overall low percentages of doctors migrating within the EU.

Another important indicator of dynamics in the health workforce are the differences within a country, for instance caused by regional economic imbalances or decentralization policies (Pavolini and Vicarelli, 2012), or other incentives that affect the competition for qualified staff (Steinmetz et al., 2014). Regional variation may exist in small countries – like Belgium facing shortage of nurses in urban areas – and in larger EU countries like Spain, where recruitment of health staff is more problematic in urban than in rural areas, although imbalances overall are low (Matrix Insight, 2012: Table 24). Other forms of within-country geographical disparities include east-to-west push-pull factors, as in Germany, and south-to-north imbalances, as observed in Italy (Matrix Insight, 2012: Table 24).

Imbalances are driven by many factors and impact in various ways. Examples of these are the ‘within-occupations’ imbalances, like the ratios between generalists and specialized doctors that (at least to some degree) also mirror

sectorial imbalances between primary care and hospital care. Imbalances are most obvious in Greece that shows the highest number of physicians relative to the population, but has only one general practitioner for every 16 specialists (Groenewegen and Jurgutis, 2013). While this is an extreme example, the problem exists also in other healthcare systems; for instance, Belgium shows 7.8 per cent foreign nationals among newly registered general practitioners (GPs) but 12.2 per cent among specialists (Matrix Insight, 2012: 93).

Also relevant are the imbalances 'between' professional groups that bring the distribution of skills into the debate (Palese and Watson, 2014; see also Chapter 19 by Bourgeault). Here, we find higher ratios of nurses compared to doctors in all European countries, except Greece, although the figures vary from 1.3 nurses per doctor in Spain (followed by other Southern and Central European countries and also Austria) to 4.4 in Denmark, 4.5 in Ireland, and even 5.3 nurses to one doctor in Belgium (Table 18.1).

Gender ratios may also serve to explore dynamics and social imbalances. OECD (2013) data illustrate that, when looking at the medical profession, the traditional sex segregation of the healthcare workforce is decreasing. In most European countries, gender ratios are now on average more balanced, while several Central-Eastern European countries still show higher ratios of women compared to men – ranging from 54 per cent in Hungary and the Czech Republic to 74 per cent in Estonia. By contrast, Belgium and Switzerland show the lowest ratio of female doctors (37 per cent) in Europe. Changing gender ratios have important consequences for workforce planning and management; among other things, part-time work is higher among female doctors (De Jong et al., 2006). In contrast, the nursing profession remains more strongly sex segregated, with an estimated average of 80–90 per cent women (Kuhlmann et al., 2012).

In summary, HHR data reveal high variation within Europe, but the country figures do not match classic welfare and/or healthcare system typologies (see Chapter 7 by Burau et al., and Chapter 8 by Papanicolas and Cylus). To make things even more complicated, process-related and within-country imbalances are overall poorly documented and monitored, and there is lack of in-depth research including qualitative data. In other words, 'numbers' are a precondition of evidence-based HHR policy-making, but do not tell the whole story of the health workforce.

### **Challenges to European HHR policy**

A recent action plan of the European Commission (2012) has highlighted the importance of the healthcare sector as a labour market segment covering about 8 per cent of all jobs in the EU with an estimated eight million job openings between 2010 and 2020 – under conditions of severe cuts in public sector spending and austerity programmes. However, this 'job machine'



is fundamentally constrained by a forecasted shortage of doctors and nurses by 2020, and an estimated 13.5 per cent of medical care and 14.0 per cent of nursing care that will not be covered. Shortages vary significantly between countries and sectors, and within countries and professional groups (European Commission, 2012: 6).

Data (Table 18.1) bring into view that health workforce shortages in Europe may be caused by imbalances in the workforce and that considerable variation exists in the ways European countries invest in training health professions and distribute their skilled health workforce. In other words, shortages are, to some degree, 'socially constructed' and a result of poor governance. The growing cross-border movements of doctors and the subsequent 'care drain' of Eastern Europe is an example of this (Buchan et al., 2014; Wismar et al., 2011). Less well documented, but perhaps even more important, are the severe and continuing cuts in the nursing workforce in many countries that are to some degree a result of austerity programmes (Dussault and Buchan, 2014). Consequently, the 'unmaking' of imbalances in the health workforce is key to sustainable HHR policy, and this calls for improved data sources and the establishment of complex governance and monitoring models.

A rapidly growing body of statistical data and research has emerged on both national and European levels, which provides a kind of 'first aid toolkit' for developing European responses (EAHC, 2012; European Commission, 2012; Matrix Insight, 2012; for national examples, see Barber and González López-Valcárcel, 2010; Maier and Afentakis, 2013). However, there are several critical limitations that hinder a more systematic and efficient use of these sources (Kuhlmann et al., 2013). Data are often

- collected for other, usually administrative purposes and therefore of limited use;
- fragmented and not based on homogeneous indicators and categories, therefore difficult to compare; and
- biased by interest and lobbying policies, giving most attention to physicians while nurses and other health professions receive little attention.

Another major problem is that research is mainly concerned with numbers, while process and actor-centred approaches and qualitative dimensions of HHR are poorly developed. Similar limitations occur in HHR policy that is focused on controlling training inflow, especially of doctors (Dussault et al., 2010). Consequently, there is little information to support new definitions of skills mix and emergent models of task-shifting and to develop management approaches that use a diverse workforce more efficiently, including gender, ethnicity, and age (Bourgeault et al., 2008; Kroezen et al., 2014; see Chapter 19 by Bourgeault).

## **The future of health human resources policy**

Complex imbalances in the health workforce and highly diverse European HHR contexts call for two things: substantive changes in the educational and occupational structure, and innovative policy approaches that take multi-level governance into account.

### **The future educational and occupational structure for healthcare**

In order to be able to address the expected challenges, future-oriented HHR policies require a vision of how the educational and occupational structure for healthcare should look. The challenge to European healthcare systems is to provide good-quality care within the constraints of available financial and human resources. Care needs of the population are determined by changing epidemiological patterns: from early mortality to long-term morbidity due to life style-related diseases, such as cardiovascular disease. This calls for an innovative HHR response: from intervention-oriented, specialist care focused on separate diseases towards support of self-management and integration of care for people with multiple chronic diseases (Plochg et al., 2009).

Contrary to the new emergent demand, the tendency for the medical profession is increasing specialization, following the typical (institutional) reaction of professions which respond to a problem by calling for 'more specialized knowledge'. At the same time, the managerial reaction in increasingly large healthcare organizations is to split up care processes into smaller parts. With the change in healthcare needs, both these trends reinforce the need for coordination of care. The balance in the occupational structure of healthcare should, therefore, shift towards more generalists and primary healthcare (see Chapter 5 by Gauld). This requires massive changes that go against specialization trends.

However, the occupational structure of healthcare is inherently self-conserving. Changes in the occupational structure challenge established positions. This is one of the reasons why Frenk and colleagues (2010) plea for system integration of educational and occupational structures and for the educational structure as the lever for change. There are already signs of change in the educational structure, such as common parts of training programmes across disciplines, broader interdisciplinary programmes, and training focused on competencies rather than specialized knowledge (Horsley et al., 2010).

The occupational structure of healthcare is still strongly dominated by medical specialists, but there are signs of change towards occupational integration. For instance, professional tasks are increasingly negotiated (Kroezen et al., 2014). Furthermore, new professions in between the medical and nursing professions, such as physician assistants and nurse practitioners, connect the educational and occupational structures of nursing and medicine. Although their current work context differs, they tend to work in more generalist and

coordinating roles (Groenewegen et al., 2012). HHR policies and management should speed up these changes in the educational and occupational structures (see also Chapter 20 by Kirkpatrick et al.).

### **Fostering integration: Towards multi-level governance approaches**

Governance includes qualitatively new dimensions of policy-making that attempt to connect ‘regulation’ (institutional governance) and ‘management’ (operational governance) and to pay greater attention to actors and processes. WHO (2011), for instance, has introduced the goal-driven ‘governance-for-health’ approach. Although there is no uniform governance model, a common aim is to reduce inequality and to further ‘system-based governance’:

Such approaches are capable of addressing the interdependencies of factors (determinants, stakeholders, settings) that are part of the causal chain and necessary for achieving sustainable solutions. (Brown and Harrison, 2013: 11)

One key condition of governance to achieve transformative potential is an integrated approach to improve coordination and reduce the negative effects of a fragmented healthcare system with competing interests and strong lobbying groups. However, innovation in governance is rarely concerned with health human resources (see Chapter 2 by Saltman) and, therefore, needs further development. We suggest five major dimensions of HHR governance that may help to address the European situation, and contribute to the development and implementation of multi-level governance. This approach comprises system, sector, occupational, gender, and socio-cultural integration (adapted from Kuhlmann et al., 2013: 9).

- *System integration* refers to the connectedness between the educational system and the health labour market, and between the latter and broader labour market development (Frenk et al., 2010).
- *Sector integration* focuses on the balanced development of primary healthcare and prevention, hospital and specialized care, and mental healthcare (Groenewegen et al., 2012; see also Chapter 5 by Gauld).
- *Occupational integration* comprises the inclusion of nurses and a wider range of health professional groups and the dynamics enhanced by new skills mix and task-shifting policies in HHR governance (Horsley et al., 2010; Kroezen et al., 2014, see Chapter 19 by Bourgeault).
- *Gender* cuts across these areas of integration and aims at improving equity and equality within and between professional groups, organizations, and healthcare sectors as well as efficiency and sustainability of the healthcare system (De Jong et al., 2006; Kuhlmann et al., 2012).

- *Socio-cultural integration* calls for better understanding of the dynamics of migration and inter-European mobility in the health workforce (Leone et al., 2013; Wismar et al., 2011).

To move one step further, the (primarily) operational dimensions of governance highlighted in our integrative approach need to be more systematically connected with more institution-centred governance approaches, comprising three different levels and their intersections: (1) ‘supranational’ (transnational, pan-European) governance, (2) national, and (3) regional/local governance. A multi-level governance approach, therefore, not only expands in a quantitative manner on the dimensions and factors of governance but also looks at the *connections* between levels and modes of governance. This also calls for qualitative research and in-depth knowledge.

A further vital condition of efficient governance is evidence-informed policy-making, and this raises the importance of reliable data and comprehensive monitoring systems of the healthcare workforce.

### **Health workforce planning and monitoring models**

Health workforce planning is informed by four conceptual approaches, comprising (1) the simplest and most commonly used health worker-to-population ratio; (2) the utilization-and-demand approach; (3) the service-target approach that provides insight in tasks and skills required to deliver specific interventions; and (4) the health-and-service-needs approach (Dussault et al., 2010). Research also reveals that only few countries have implemented a complex needs-based approach, while ‘governing numbers’ – the regulation of influx into medical schools, and to a lesser degree into nursing schools – is still widespread (Matrix Insight, 2012).

This typology may be useful but leaves us with many questions related to the institutional contexts, the levels of the monitoring and planning systems (‘regional/bottom-up’ versus ‘national/top-down’), and the health professional groups included. Consequently, a more context-sensitive approach and additional indicators are needed.

The two case studies presented below are both informed by a needs-based approach (Matrix Insight, 2012; see also Birch et al., 2009), but vary significantly in the levels of monitoring and planning (the use of ‘local’ knowledge) and the professions included in the model. The institutional contexts show similarities (EAHC, 2012) – the healthcare systems have emerged from a Bismarckian type of welfare state, and there are still strong elements of corporatism – but also important differences. The Netherlands is a smaller EU country, where we find more centralized and interventionist policy approaches, shifts towards primary care, and definition of tasks that support

professionalization of nurses, therapists, and others. Germany, in contrast, is a large EU country, characterized by strong federalism and decentralized, often fragmented governance models with a persisting focus on doctors and specialization, weak primary care, and constrained professional recognition of nurses and therapists.

### **The Dutch model of medical workforce planning**

The Dutch health workforce planning model is a pioneering example of a planning system operating on national level and focusing on physicians. This model – until now termed ‘manpower planning’ – has been institutionalized by the establishment of the Advisory Committee for Medical Manpower Planning (ACMMP, *Capaciteitsorgaan*) in 1999. The board of the ACMMP consists of representatives from the professions, health insurance companies, medical schools, and training hospitals. This board advises the Dutch Ministry of Health on the yearly inflow of medical and dental graduates in 26 different types of medical and dental specialty training, and the Ministry of Education on the related national numerus clausus for entry to medical and dental school (Smits et al., 2010).

The governance approach is participatory and inclusive in relation to the stakeholders. Thus, the policy context essentially shapes the success, as HHR planning is governed by stakeholder support and practical execution. The scenarios applied deliberately provide a range of outcomes for all the relevant actors involved to set their scopes on the decision range. Within this range, the ‘right’, ‘most appropriate’, or ‘most feasible’ goal for planning the future medical specialist workforce through training is explored and discussed. The conceptual model (Figure 18.1) supporting the planning process is divided into nine areas, the result of combining the time dimension (three vertical lanes labelled as base year ‘T’, target year ‘T + X’, and the period ‘T to T + X’ in between) and the labour market dimension of HHR planning (three horizontal layers labelled in Figure 18.1 as available supply, required supply, and supply–demand gap).

More specifically, four factors can be modelled to determine the yearly proportional change in the demand for medical specialists, including demographic, epidemiological, and socio-cultural developments and changing organization of work. The latter factor is defined to include future trends in reorganization and rationalization of healthcare organizations, and tasks and responsibilities of specialists change in the model. Through substitution, tasks are shifted to lower educated care professionals such as nurse practitioners or physician assistants. At the same time, multidisciplinary teamwork demands doctors in more and diverse care processes. Medical specialist associations are consulted in expert focus group meetings to estimate the capacity effect of this development.

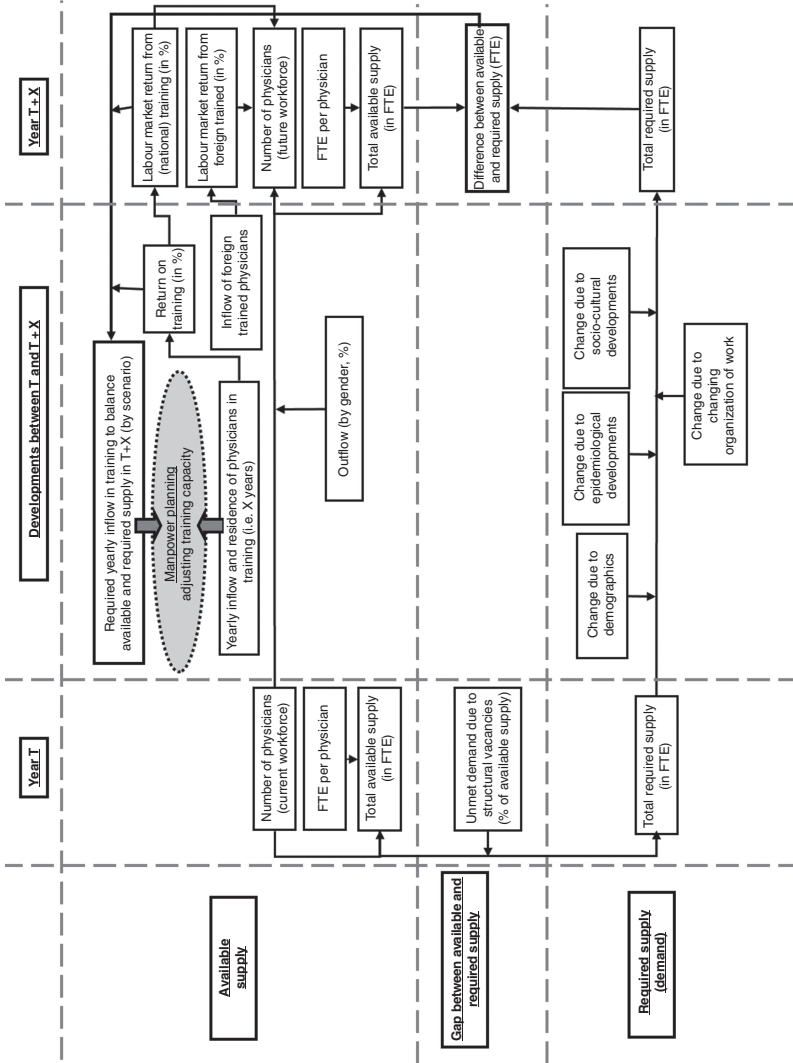


Figure 18.1 The Dutch workforce planning model for physicians  
Source: Adapted from Van Greuningen et al., 2012.

It is important to note here the complex governance and implementation processes of the results gained from planning. Once the capacity planning simulation model results are in place, the outcomes are interpreted and discussed with the relevant actors. Most important are the academic hospitals that train medical specialists and the need to cope with adjustments of training inflow. In practice, increasing inflow in specialty training mitigates the current and future pressure, especially as the budgeted number of training positions per year has not yet been fulfilled. To stimulate and govern quality, a return on training requires financial investments which are equivalent to times budget control and cost savings.

The workforce planning model can also be used to investigate other approaches to match demand and supply. One approach is to control the outflow and retirement from the workforce. This implies the initiation of a senior-oriented human resource management that stimulates part-time-based activities as supervision, coaching, and management in order to extend the employment of elder medical specialists. Also, one can reconsider the seemingly 'natural' trend towards more need for healthcare. As in other scenarios, on the one hand the optimal goals would be to provide any type of healthcare, at any time and any place, for everyone; on the other hand, at the same time budget constraints have to be taken into account.

In summary, the Dutch model has both formalized and deepened health workforce planning and also established close linkages between planning and implementation procedures. This model is inclusive in relation to stakeholders and systems, to the changing organization of work, and to socio-cultural factors, while in its current version the model is limited to medical specialists.

### **A German model of regional multi-professional health workforce planning**

In Germany, health workforce planning is primarily focused on the medical professions, but the federalist governance system promotes 'local' innovations (<http://www.regionallabourmarketmonitoring.net/>) – hardly recognized in the HHR debate (EAHC, 2012). Here, the 'Branch Monitor' of the Federal State of Rhineland-Palatine (a smaller territory located in the south-west of Germany) represents a pioneering attempt towards integrative, multi-professional planning. The positioning of a planning model in a procedural monitoring approach is key to further development based on an integrative approach (Table 18.2). The model includes 18 health professions ranging from upper- to middle-qualified occupations working in health- and elder care in the inpatient and outpatient sectors; physicians are currently not included (Bieräugel et al., 2012).

Table 18.2 Integrative regional branch monitoring in Germany

Level	Categories and indicators
Systems	<ul style="list-style-type: none"> <li>• Labour market: employment, unemployment</li> <li>• Education: vocational education and training, continuous professional education, academic training</li> </ul>
Sectors	<ul style="list-style-type: none"> <li>• Inpatient care: hospital, rehabilitation clinic, nursing home</li> <li>• Ambulatory/outpatient care: mobile service for health and elder care, office-based services</li> </ul>
Occupations	<ul style="list-style-type: none"> <li>• Nurses: nurse, nursing assistant, paediatric nurse, elderly care nurse, assistant elderly care nurse</li> <li>• Therapists: occupational therapist, speech therapist, massage therapist, physiotherapist, chiropodist, midwife, dietitian</li> <li>• Assistant/allied health professions: medical-technical assistant, assistant for functional diagnostics, medical-technical laboratory assistant, medical-technical radiology assistant, pharmaceutical-technical assistant, paramedic, orthoptist</li> </ul>
Gender	<ul style="list-style-type: none"> <li>• Reconciliation: working time, work models</li> <li>• Career development: leadership</li> <li>• Employment status: salaried, self-employed</li> </ul>
Socio-cultural	<ul style="list-style-type: none"> <li>• Cross-border mobility: motives, reasons for return, success of retention</li> </ul>

Implemented in 2002, the Branch Monitor includes 26 municipalities in Rhineland-Palatinate. It is the centrepiece of a decentralized monitoring process that utilizes local knowledge, initially based on a supply–demand model to support evidence-based health labour market planning. Since 2008, the model has been supplemented by a forecasting instrument at the municipal level, drawing on three clusters of professions (elderly care, therapists, assistant/allied health professions). In 2012, working groups of relevant stakeholders involved in bottom-up informed HHR planning were established. Since 2013, a complementary module for the greater region exists to capture cross-border mobility.

One major advantage of regional branch monitoring is the opportunity to deliver in-depth information on health workforce dynamics and the incentives for mobility, thereby supporting evidence-based HHR policy-making. For instance, mobility flows between sectors and among countries are explored by linking different dimensions of monitoring (sectorial, occupational, socio-cultural, and cross-country) as well as statistical data and qualitative material (Box 18.1).



### **Box 18.1 Health workforce monitoring: Intersecting dimensions of mobility**

Cross-sectorial mobility of physiotherapists moving from hospital to self-employment in the ambulatory sector is driven by incentives towards improved career options; since 2010, expert interviews with representatives of professional associations provide in-depth qualitative information on this trend.

Cross-sectorial mobility of nurses and elderly care professionals from the hospital to the ambulatory sector with more flexible work-time models is increasing after the birth of a child; working hours and organizational conditions and overall better work-life balance are important incentives for cross-sectorial mobility in predominantly female health professional groups.

Cross-border mobility is fostered by EU policy; statistical data reveal that since 2005 many nurses and elderly care graduates in Rhineland-Palatinate migrate to Luxembourg, creating shortage in the German border regions. Since 2013, qualitative information has been gathered on the motives for migration and the incentives for a return to Germany; this is supported by efforts towards harmonization of cross-border occupational taxonomies.

*Source:* Based on Bieräugel et al., 2012

In summary, the Branch Monitor includes a wide range of upper- to middle-qualified professions and is integrative in relation to sector, system, and socio-cultural dimensions. The planning model is rooted in a regional monitoring system with strong stakeholder involvement. This model is limited to local/regional governance including transnational dimensions of cross-border mobility.

## **Conclusion**

This chapter has set out to bring a European perspective to health human resources policy. We have highlighted some major characteristics of the HHR situation in Europe in relation to both quantitative indicators of the health workforce and qualitative dimensions of governance that are not well reflected in scholarly debate. In addition to suffering from demographic changes, Europe faces major challenges arising from various forms of imbalances/mal-distribution in the health workforce that represent a health policy problem.

One key condition for a health workforce policy meeting future demand is substantive change in the educational and occupational systems, with the educational sector the engine driving change (Frenk et al., 2010). Another condition is context sensitivity and close connection to national–regional governance arrangements and stakeholder involvement, as highlighted by our two models of HHR planning.

The European situation brings a major challenge of HHR policy into view to improve standardization and harmonization across countries, while at the same time remaining sensitive to local contexts that essentially determine the conditions of developing and implementing efficient health workforce policies. These conditions call for multi-level governance, and here an integrated approach comprising system, sectorial, organizational, occupational, and socio-cultural dimensions of the health workforce may serve as a stepping stone towards future HHR policy.

## Summary

- European health workforce policy is characterized by tensions between existing national diversity and the goal of integration, including an open health labour market.
- European HHR is challenged not only by its ageing societies but fundamentally by various forms of imbalances/mal-distribution of health professions and growing geographic inequality due to migration flows in an open labour market.
- Future health human resources policy needs an integrative approach, including system, sector, organizational, occupational, and socio-cultural dimensions embedded in multi-level governance.
- Health workforce planning must be context sensitive and connected to national–regional governance arrangements and stakeholder involvement.

## Key reading

Kuhlmann, E., R. Batenburg, P. P. Groenewegen and C. Larsen (2013) 'Bringing a European Approach to the Health Human Resources Debate: A Scoping Study', *Health Policy*, 110, 6–13.

Matrix Insight (2012) *EU Level Collaboration on Forecasting Health Workforce Needs, Workforce Planning and Health Workforce Trends: A Feasibility Study*, Report, at: [http://ec.europa.eu/health/workforce/docs/health\\_workforce\\_study\\_2012\\_report\\_en.pdf](http://ec.europa.eu/health/workforce/docs/health_workforce_study_2012_report_en.pdf), accessed 10 May 2014.

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