



ELSEVIER

Contents lists available at ScienceDirect

Health Policy

journal homepage: www.elsevier.com/locate/healthpol



Primary care workforce development in Europe: An overview of health system responses and stakeholder views

Ellen Kuhlmann^{a,b,*}, Peter P. Groenewegen^c, Christine Bond^d, Viola Burau^e, David J. Hunter^f

^a Institute of Epidemiology, Social Medicine and Health Systems Research, Medical School Hannover, OE 5410, Carl-Neuberg-Str. 1, 30625 Hannover, Germany

^b Institut für Wirtschaft, Arbeit und Kultur, Goethe-Universität Frankfurt am Main, Senckenberganlage 31, 60325 Frankfurt am Main, Germany

^c NIVEL – Netherlands Institute for Health Services Research and Utrecht University, Department of Human Geography, Department of Sociology, NIVEL PO Box 1568 3500 BN Utrecht, The Netherlands

^d University of Aberdeen, Aberdeen, UK

^e Department of Public Health, Aarhus University, Bartholins Allé 2, DK-8000 Aarhus C, Denmark

^f Institute of Health & Society, Newcastle University, Sir James Spence Institute, Royal Victoria Hospital, Queen Victoria Road, Newcastle NE1 4LP, United Kingdom

ARTICLE INFO

Article history:

Received 8 June 2018

Received in revised form 25 July 2018

Accepted 27 July 2018

Keywords:

Primary care workforce

Health workforce policy

General practitioners

Patients and task shifting

Health system leadership

Comparative European research

ABSTRACT

Better primary care has become a key strategy for reforming health systems to respond effectively to increases in non-communicable diseases and changing population needs, yet the primary care workforce has received very little attention. This article aligns primary care policy and workforce development in European countries. The aim is to provide a comparative overview of the governance of workforce innovation and the views of the main stakeholders. Cross-country comparisons and an explorative case study design are applied. We combine material from different European projects to analyse health system responses to changing primary care workforce needs, transformations in the general practitioner workforce and patient views on workforce changes. The results reveal a lack of alignment between primary care reform policies and workforce policies and high variation in the governance of primary care workforce innovation. Transformations in the general practitioner workforce only partly follow changing population needs; countries vary considerably in supporting and achieving the goals of integration and community orientation. Yet patients who have experienced task shifting in their care express overall positive views on new models. In conclusion, synthesising available evidence from different projects contributes new knowledge on policy levers and reveals an urgent need for health system leadership in developing an integrated people-centred primary care workforce.

© 2018 Elsevier B.V. All rights reserved.

1. Background

Better primary care has become a key strategy for reforming health systems to respond effectively to increases in non-communicable diseases (NCDs) with growing multi-morbidity and changing healthcare needs of the population [1–11]. A recent 'High-level regional meeting' of European countries has identified

'integrated primary care embedded in communities' as one of 'the nine cornerstones of a comprehensive and aligned health system response to NCDs' [12, p.4–5]. Comparative studies have shown that strong primary care systems achieve better health outcomes and better results in relation to both cost-containment and reducing inequality in access to, and accessibility of, care; they also support more effective service utilisation elsewhere in the health system [3,4,13–16].

Across countries, better primary care has emerged as a shared policy goal and a 'switchboard of resource allocation' [17, p.853, 11,18]. Yet there is no systematic knowledge of how to create a primary health workforce that is competent and capable of delivering the desired care. We also do not understand sufficiently how health systems can support people-centred and integrated (the terms are used interchangeable) health workforce development,

* Corresponding author at: Institute of Epidemiology, Social Medicine and Health Systems Research, Medical School Hannover, OE 5410, Carl-Neuberg-Str. 1, 30625 Hannover, Germany.

E-mail addresses: Kuhlmann.ellen@mh-hannover.de,

e.kuhlmann@em.uni-frankfurt.de

(E. Kuhlmann), p.groenewegen@nivel.nl (P.P. Groenewegen), c.m.bond@abdn.ac.uk (C. Bond), viola@ph.au.dk (V. Burau), david.hunter2@newcastle.ac.uk (D.J. Hunter).

despite overall growing attention to both health human resources and person-centred care [19–28].

Little attention has been paid to the main stakeholders, including the primary care professionals and the patients, and how they may support the workforce changes. In this situation, the twin policy priorities of putting primary care in the driver's seat [5] and developing an integrated people-centred health workforce remain poorly connected. This hampers a realisation of the opportunities of a 'comprehensive and aligned health system response' [12, p.4] and creates fragmented reform strategies with poorly predicted outcomes. Three major approaches to primary care workforce reform can be identified from the literature: organisational reform, professional development, and competencies development.

Organisational reform is the main strategy of primary care innovation in most countries [10,11,29,30]. This approach focuses on how to organise the work of different health professionals most effectively, including innovation in the skills mix. Several countries have established primary care-based teams with different skills to 'overcome the limitations of single-handed practices and doctor-nurse tandem' [31, p.21; for details see 32]. A Dutch study specified the organisational dimensions of the primary care workforce. The authors showed that skill mix approaches must be planned and defined in relation to the needs and demands of patients and communities and must be placed in a wider context of the community and environment [33]. It is certainly important to bring contexts into view, yet this also highlights the more general limitation of a reform strategy that puts the focus on organisational reform and pays little attention at the health system level. While caution is needed in relation to simply transferring 'best-practice' models, the 'idea' of taking the needs of patients and the community into account may be translated in different health system contexts.

A second strand of the literature looks at health professional development as policy lever for innovating primary care. This approach focuses on professionalisation strategies and how a profession can develop new skills to deliver people-centred care. Groenewegen has argued that 'nurses are the grease in the primary care innovation machinery' [34] and there is now evidence that both higher numbers and new roles of nurses improve health and healthcare outcomes, including in primary care [35–38]. Furthermore, a review undertaken for the OECD concludes that 'findings suggest that team-based care models where all providers work to their level of competency and scope of practice may result in higher quality care' [38, p.45]. European comparative studies add further evidence that the development of new skills can strengthen primary and chronic care reforms [30], while a feasibility study undertaken by the OECD explored indicators for an integrated team-based workforce development across countries [39]. However, primary care is still often organised in professional 'silos' and medical dominance is widespread [26,40,41]. The effects of teamwork and task shifting as well as the patient experience may therefore vary when assessed in different contexts. The findings may not always be as beneficial as reform policies suggest [3,42–48].

A third strand of research has focused on competences development to respond to new demands. A growing number of competence frameworks are now available to guide professional development. The CanMEDS [49] framework is the most common one, which has served as a template for many other health professional groups. There is overall agreement that one, if not the most, important underdeveloped competence is inter-professional cooperation. A number of international policy frameworks are available which attempt to strengthen integration and the development of 'health professionals for a new century' [23, p.1923,10,28,29], but several problems remain. Many of these frameworks are based on 'silo' approaches, and little if any attention is paid to the health workforce needs of primary care, or to the demands of frontline

health professionals and patients or their organisations. There is also a need to move beyond competences development and put greater emphasis on capability to prepare the health workforce for working successfully in complex and unpredictable situations and to be innovative [23].

Taken together, there is growing awareness of the need for primary care workforce development and complex changes on different levels [11, p.45,4,23,24,50]. Current approaches are based on organisational reform (with a focus on skill mixes and task shifting), professional development and competence development, and there is evidence that action is being taken on all three levels. However, a general trend of higher and faster growing numbers of specialists in relation to generalists [40,51,52] is a sign that a 'comprehensive and aligned health system response' [12, p.4] is missing. There is a need to move beyond health workforce competence development and raise more general questions on capability, including on governance, health systems reform and leadership [53–56]. For instance, Bodenheimer and Sinsky suggest expanding the widely accepted 'triple aim' of health systems reform (enhancing patient experience, improving population health, reducing costs) and adding a fourth aim, namely, 'improving the work life of health care providers' and taking care of their needs [19, p. 573]. Gauld goes even further and illuminates the failure of the 'underlying institutions behind health systems', arguing for 'disruptions' in order to reorganise the health workforce, reorient training and 'place primary care at the apex of professional development' [56, p. 6].

This article aims to move these debates on by contributing comprehensive empirical data to our knowledge of primary care workforce development. One important innovation is the combination of data gathered in different European comparative projects, which allows us to identify workforce changes in different underlying institutions and contexts and how they intersect and may enhance changes. We align primary care policy and workforce policy to provide a comparative overview of the strategies and stakeholders for building an integrated people-centred primary care workforce. Our comparative analysis is informed by governance theory [57] and an integrated, multi-level health workforce approach [58–60]. We understand governance in a broad sense as a framework for negotiating policy interventions [40,57,61] and 'navigating complex relationships' [12, p.4]. A particular strength of a governance approach when applied to health workforce development is its focus on coordination and integration [58,60,62].

Our comparative analysis is guided by four main objectives:

- to explore from a comparative perspective, the governance of primary care workforce innovation;
- to map the General Practitioner (GP) workforce including their community orientation, skill mix approaches and motivation for workforce change;
- to explore the views of patients on the primary care workforce and changing roles;
- to explore health system leadership and policy levers for developing a people-centred primary care workforce.

2. Methods

The analysis applies a cross-country comparative and explorative case study design. The cases combine material from various recent or ongoing large (primarily) European comparative projects. A comprehensive international monitoring system for the primary care workforce development has not been established, although some helpful information is available from the Primary Health Care Activity Monitor Europe (PHAMEU) [2–4,47].

Case study 1 adopts a health system perspective. A cross-country comparative approach is applied that aligns primary care policy and primary care workforce development through governance. Three basic categories were developed for comparison, namely primary care policy, primary care workforce policy, and health workforce governance and innovation. The latter category needs to be broader than primary care because sector specific health workforce governance is poorly developed in all countries. Specific information on primary care is therefore often lacking. Four European high-income countries were selected for comparison: England, Germany, the Netherlands and Sweden. This selection reflects both the different types of health systems and governance models and the different primary care models. The analysis draws on policy documents, public statistics, mainly OECD [26,51,52] data, and other relevant secondary sources [40,63].

Case study 2 provides information on the GPs' perspective. It uses material from the QUALICOPC study. Data were collected in 31 European countries (26 EU countries plus Iceland, Norway, Turkey, Switzerland and Macedonia). Furthermore, research units from Australia, Canada and New Zealand have joined the study. Data collection focused on three levels: the structure of primary healthcare, the GP practice, and the patients. The QUALICOPC study was not designed to answer questions about primary care workforce developments. However, the results of the study are relevant to primary care workforce developments in relation to demographic and epidemiological changes in the European population. Data on the healthcare system are derived from the Primary Health Care Activity Monitor Europe study [4]. New information was collected through linked surveys among GPs (seen as the main providers of primary care), their patients and fieldworkers visiting GP practices between October 2011 and December 2013 [64–66]. Answers to the questionnaires provide insight into the professional behaviour of GPs and the experiences of patients. In each country, the response target was 220 GPs (except for very small countries) and ten patients per GP. One GP per practice was invited to participate in the study. The questionnaires were translated into the national languages of the countries through an official forward- and back-translation procedure and in some cases into the languages of large ethnic minority groups. A total of 7183 GPs participated in the survey and 69,201 patients.

Case study 3 focuses on the patients and their views on health workforce changes. It uses material from a cross-country programme of work, the MUNROS study (www.abdn.ac.uk/munros), which was undertaken to explore the impact on practice, outcomes and costs of new roles for health professionals. The work was conducted in Czech Republic, England, Germany, Italy, Netherlands, Norway, Poland, Scotland, Turkey between 2015 and 2016. The work was focused on patient pathways for breast cancer, heart disease and type 2 diabetes selected as conditions of high prevalence and healthcare burden and representing, respectively, a condition involving elective surgery with predominantly secondary care based follow-up, a condition presenting acutely in secondary care followed by long-term follow-up in primary care, and a condition largely managed in primary care [67].

Following systematic reviews of the literature [68] and ethnographic work [69], surveys were developed to explore which professionals were involved in the delivery of care, the different tasks within the care pathway to which they contributed, the external and internal drivers for workforce change, the patients' experiences of and satisfaction with care, and healthcare utilisation. Within each country up to twelve hospitals, together with primary care centres in their area, providing care for the three target conditions, were recruited to the study. Surveys, in country language, were administered to healthcare professionals, healthcare managers, and patients, in both primary and secondary care in late 2015/ early 2016. Responses were received from 2702 health-

care professionals (948 breast cancer, 1006 heart disease and 748 type 2 diabetes), 811 healthcare managers (251 breast cancer, 301 heart disease, 259 type 2 diabetes), and 2959 patients (1047 breast cancer, 1137 heart disease, 775 type 2 diabetes).

3. Results

3.1. Case study 1: The health system perspective and the governance of primary care workforce innovation

Primary care and the governance arrangements underpinning workforce changes vary significantly between countries, although efforts to improve integration in the primary care workforce can be identified in all countries [4,40] (Table 1). In our sample, England and Germany represent two extremes of primary care provision and policy as well as of health systems and governance. England is a National Health Service (NHS) system funded (mainly) from central taxation and based on more centralised governance with a tradition of universal healthcare coverage and equal access [40,70]. Germany is a social health insurance (SHI) system funded (mainly) by contributions from employers and employees. It is based on federalism, decentralisation and corporatism with joint self-administration of SHI funds and SHI physicians [40,71]. The Netherlands and Sweden are positioned between these two classic types. Healthcare in the Netherlands is organised along the lines of a social health insurance system with more plural governance and stronger state intervention than in Germany but weaker than in England [72]. Sweden has a Nordic-type health system with a strong tradition of universal healthcare coverage, and decentralised and participatory governance based on a more 'public' model of corporatism [73].

The primary care model in England is an archetype of primary care [9] provided in centres staffed by multiprofessional teams led by GPs with strong gatekeeping functions. Task shifting and new roles for nurses and for a number of other healthcare providers, for instance pharmacists, have been introduced [69]. In contrast, Germany operates an ambulatory care model based on office-based specialists and generalists with poorly developed team approaches and gatekeeping function, although some pilot projects have established integrated, community-centred models [74]. Importantly, physicians are supported by healthcare assistants as the largest group in primary care, while nurses remain marginal. Consequently, new roles for nurses are poorly developed (and limited to few small local pilot projects). Some efforts have been taken to delegate tasks to healthcare assistants, but no standardisation or coherent pattern of task delegation and new roles exist [40,74,75].

Similar to the health system characteristics, we find the Netherlands and Sweden in a middle position in relation to the primary care model. The Netherlands have established a primary care system informed by integration and people-centredness [10] with more plural provider models, new roles for nurses and direct access to physiotherapists; nurse-specialists also have prescribing rights (although these are not widely implemented in primary care). Introduction of bundled payments for a number of chronic conditions (disease management) has led to the establishment of Care Groups, cooperatives of GPs that contract with insurance organisations for disease management and purchase care from other professionals in primary and secondary care [4,76]. Sweden is also committed to an integrated and people-centred model of primary care with some gatekeeping. Care is usually provided by multi-professional teams in larger centres, but there is variation between the different Counties and between the urban and remote (especially Arctic) areas [16,40].

When looking at the governance of health workforce innovation (with a focus on primary care workforce where possible),

Table 1
Primary care policy, primary care workforce policy and the governance of innovation in four selected EU countries.

	<i>primary care policy</i>	<i>primary care workforce policy</i>	<i>workforce governance and innovation</i>
<i>England</i>	Integration across PC organisations by merging GP practices into PC trusts; some sectoral integration with PC trusts having commissioning responsibility for public health and collaboration with social care	Integration within a medical model with focus on GP-led PC; some integration across professional groups with a focus on nurses; self-governance, academic education, new roles and high-qualified groups of nurses (Nurse Practitioners)	Physicians and nurses as external policy players; innovation through professional development with some connection to organisational change; some integrated planning, skill mix governance and competence development.
<i>Germany</i>	Integrated care framework; integration within medical model with focus on medical leadership and organisational restructuring; primary care reform through pilots and integrated care, with lack of sectoral integration	Integration within a medical model; focus on increasing the number of family physicians; some regional pilots to shift tasks from physicians to healthcare assistants; some small pilots to establish self-governance of nurses; prescribing rights limited to physicians	Physicians as insiders in health policy and lack of integration and self-governance of nurses; innovation primarily through organisational reform with little skill-mix reforms; strong professional silos; fragmented governance of organisation reform and workforce innovation
<i>Netherlands</i>	Primary care model with some community and needs-based orientation; some sectoral integration; office-based physicians, supported by practice nurses and few multi-professional health centres that also include other primary healthcare providers and social workers	Integration within a medical model with GP-led teams with practice nurses; integration across professions with new roles of nurses and direct access to therapists; some prescribing rights for nurse-specialists	Physicians as insiders in health policy; strengthening of nurses' self-governance; some integrated competence development; workforce planning and governing bodies with a focus on physicians; elements of organisational reform and professional and competence development are relevant, yet little systematic coordination
<i>Sweden</i>	Primary care model with community orientation and needs-based approaches; services provided in (mainly) large centres, high variation within the country	Integration within a medical model with a multidisciplinary orientation and team approaches; some integrated competence development; new roles of nurses and therapists	physicians and nurses as insiders in health policy with public control; self-governance of nurses and therapists; innovation through organisational change with professional development coordinated through local authorities

Sources: own table and data analyses, based on information from Blank et al., 2018, OECD, 2017, Kringos et al., 2015; Maier et al., 2017; Kroezen et al., 2011 [38,40,51,52,75].

a health system related pattern as identified previously, is less clear. In England physicians and nurses are external policy players. Workforce innovation is primarily based on professional development with specialisation of nurses and new roles and tasks (also for pharmacists and some allied health professions). Some integrated governing bodies have been established, although silo approaches remain dominant in relation to physicians, alongside improved health workforce planning, skill mix governance and competence development [38,69,77]. Yet professional development is only weakly coordinated with organisational reform.

In Germany, physicians are 'insiders' in the health policy process (based on corporatism with joint self-administration and self-governance), while other health professions largely lack integration and self-governance. Workforce innovation happens primarily through organisational reform, while professional silo approaches remain strong and integrated planning and governing bodies are lacking. Overall, the governance of organisational reform and workforce innovation are not systematically connected and competence development is weak [74].

In the Netherlands, physicians are also insiders in the policy process, yet nurses have stronger self-governing capacities. We find a model that combines elements of organisational, professional and competence development to innovate the primary care workforce, while at the same time the planning and governing bodies are focused on doctors. Sweden is characterised by both doctors and nurses (with other healthcare professions) as insiders in the policy process. Health workforce development shows an organisation-based approach with increasing elements of integrated competence development, community orientation and new roles of nurses and therapists. There are also efforts to improve integrated workforce planning and coordination across sectors through local authorities, yet variation is high within the country [78–80].

3.2. Case study 2: The General Practitioner perspective in primary care workforce development

General Practitioners play an important role in primary care in two ways: in relation to the structure of the healthcare team as

the leading professional group in primary care provision and as the dominant stakeholder group when it comes to workforce innovation and developing a community orientation, which is increasingly relevant. To begin with the QUALICOPC study provides information on classical workforce characteristics: age and gender of the general practitioner (GP) workforce [81] and their working hours [82]. In the QUALICOPC sample, which is representative by age and gender of the national GP populations [64], the average age of GPs varies between 57 years in Italy and around 45 years in countries such as Greece and Turkey. In some of the Eastern European countries and Finland around 70% of the sampled GPs are female, as opposed to around 30% in countries such as the Netherlands, Switzerland and Turkey. In many countries, the share of female GPs is on the increase. The average number of working hours (including part-time GPs) is as high as approximately 50 per week in Belgium and Germany and as low as approximately 35 in Finland, Sweden and Spain.

In several countries the average age of GPs suggests the need for replacement in the very near future. Replacement of older male GPs by younger female GPs – a reality in several countries – requires an even larger replacement supply because of on average shorter working hours of female GPs. Furthermore, there is a large variation in average weekly working hours, perhaps affecting the attractiveness of primary care for young GPs in some countries.

The range of services provided by GPs is (except for preventive care) related to the workforce development at national level as measured in the Primary Health Care Activity Monitor Europe study [4] and varies greatly between European countries. The range of services has been characterised along four dimensions: first contact care, treatment of chronic diseases, technical procedures, and preventive care. Focusing on treatment of chronic diseases and prevention – most important with a view to epidemiological changes – we observe high involvement of GPs in treatment of chronic disease. Treatment of chronic diseases is highest in the three non-European countries (Canada, Australia and New Zealand) and, for instance, in Denmark, England and Ireland, and low in Slovakia, Czech Republic and Turkey. Provision of preventive care is overall

low, but relatively higher in countries such as England, Slovenia and Germany, and lower in Denmark, Finland and Turkey [83].

The range of services GPs provide has changed over the last few decades [7]. The involvement of GPs in the treatment of chronic diseases has increased in all but three out of 28 countries for which we had longitudinal data, but the involvement in preventive care has decreased in 21 countries. The decreased involvement in preventive care is worrying because of the importance of prevention in life-style related diseases [12].

GPs who provide more preventive services, also have a stronger community orientation and cooperate more with other primary care professionals and medical specialists. Both community orientation and inter-disciplinary cooperation become more important with demographic and epidemiological changes. This links the range of services GPs provide, and community orientation, to the available skill mix in primary care which is important in health workforce development. Community orientation of GPs varies between countries with a stronger orientation evident in the Netherlands, Norway and Turkey, and weaker orientation in countries such as Luxemburg, Cyprus and Estonia [84,85].

Primary care practices in twelve of the participating countries have a median number of one extra primary care profession apart from one or more GPs and in Belgium half of the practices only consist of a GP without support. On the other side of the distribution are Spain, Finland and Lithuania with six or more extra primary care professions apart from GPs [32]. This is related to the extent of primary care workforce development at national level. Larger primary care practices in terms of the numbers of professionals working there may have advantage in terms of coping with the challenges of an ageing society and multimorbidity. However, patients are less satisfied with larger practices, in particular in countries where primary care is less well-developed [42]. In general, however, patients experience better quality, e.g. in terms of continuity of care, when their GP provides a broader range of services [48]. Better access to primary care practices is associated with fewer visits to an emergency department [86].

In addition to these data, the MUNROS study [67] provides further details on a wider range of health professionals (see the next section for details) in relation to changing roles and the motivation for change. According to these results, a majority of health professionals reported that there had been change in the nature of staff roles. This was mostly for non-medical staff to carry out extended roles under supervision. New independent roles were also frequently cited with new technical roles and new administrative roles also featuring. Cost effectiveness and regulations were regarded only by managers as the most important influences on their decisions over allocation of roles. For a healthcare professional personal satisfaction was the dominant motivation to take on a new role.

3.3. Case study 3: The patient perspective in primary care workforce development

From the patient responses, which provided reflections on their care across the whole care pathway, care has shifted more to primary care in some countries than others, and involvement of non-medical staff in primary care varied by country and condition. When considering who they saw at their last primary care visit, a cross-country analysis showed that the physician still dominated, but at individual country level this was not necessarily the case. For example, more patients with type 2 diabetes in Scotland reported seeing a nurse than a physician; for heart disease over 50% reported seeing a nurse, although more reported seeing a physician. In contrast, in Germany few people reported seeing a nurse at their last visit, and all reported seeing a physician. The role of the pharmacist at the primary care clinic also appeared to be growing and becoming

more established. Other than Norway and England, small but consistent numbers reported seeing a pharmacist for at least two of the three conditions.

Following exploration of the perceptions of patients about the skill mix of the professionals they saw during their care, patients were then asked to respond to a series of statements about the frequency with which they experienced various components of 'good' care. They could respond, 'almost never' (1), 'rarely' (2), 'sometimes' (3), 'often' (4), 'almost always' (5). Few components scored at the level of 4 or more. The item most likely to score highly across all conditions and all countries was 'satisfaction with organisation [of their care]'. This item scored highly in all countries, except Italy for breast cancer, Turkey and Poland for heart disease, and England, Germany, The Netherlands, Poland and Turkey for type 2 diabetes. This answer was in line with earlier responses about whether care was team led or co-ordinated across the team. Few of the other components reached a mean score of 4 or more. For example, in type 2 diabetes patients were 'only asked sometimes about their goals' (mean scores ranged between 2.8 and 3.7), 'given a copy of their treatment plan' (2.4–3.8) 'encouraged to go to/join a programme' (2.1–3.0), 'asked about their health habits' (2.2–3.9), 'explained other doctors' contribution' (2.1–3.8) or 'asked how other visits were going' (2.1–3.8). There were similar scores in heart disease and breast cancer.

Beside these findings, satisfaction with six important aspects of their last visit to the hospital clinic or general practice was generally high. The aspects were 'waiting time', 'care provider', 'continuity of care', 'length and frequency of visit', and 'information provided' and they were asked to rank these on a scale from 1 'extremely dissatisfied' to 7 'extremely satisfied'. There were some differences by country and condition, with patients from the Czech Republic least satisfied of all partner countries for all three conditions, but especially for heart disease. Satisfaction differs between the different aspects of care. Waiting time (defined as 'the time spent waiting at the hospital clinic or general practice/surgery) consistently received the lowest ratings, whilst care provider (defined as the type of care professional seen) was most frequently rated the highest. The overall satisfaction of patients who had experienced the substitution of the health professional caring for them compared to patients who had experienced no such substitution reveal higher levels of satisfaction remain high by those who experienced substitution (defined for the purpose of this study as including nurses but also other professional groups, for instance, pharmacists and allied health professionals [87]). Although the overall differences are relatively small, it is clear that patients viewed this experience favourably and there is increased satisfaction in some countries and conditions.

4. Discussion

Through the three case studies, our analysis of primary care workforce development in Europe illuminates the topic from different perspectives and in different national contexts. From a health system perspective, the comparison of the governance of primary care workforce innovation in the four high-income EU countries revealed two important results. Firstly, no healthcare system has managed to respond effectively to the need for an integrated primary care workforce. Secondly, there is high variation in the way health systems respond to similar needs for workforce change, which cannot be explained convincingly by health system characteristics and/or primary care policy. No coherent pattern of the governance of the (primary care) workforce is emerging, and this in turn raises important questions in regard to the drivers and policy levers for workforce changes, and the leadership role in these processes [55]. Here, our comparative multi-level analysis provides

novel empirical results on the policy levers and conditions that might support the building of a stronger primary care workforce for the future with an emphasis on capability and not merely competence.

It seems that more participatory governance models with multi-professional stakeholder groups and citizens and a combination of tools, like those in Sweden and the Netherlands, may better support the development of an integrated primary care workforce than an organisation-focused and physician-centred model, like that in Germany. The benefits of mixed strategies and participatory governance are less clear in relation to England. Moreover, the key issue seems to be whether and how health systems take action and responsibility for improving the governance and coordination of primary care workforce development. Currently, there remains a dominant trend to delegate the governance of innovation in the primary care workforce to sub-ordinated tiers and different bodies, including professional bodies. This leads to fragmented and piecemeal health workforce policy, while deeper transformations of the underlying institutions of the health systems [56] are often lacking. These conditions may explain the slow progress and persistent hurdles faced in establishing primary care and primary care professions as the 'core' of healthcare systems, despite clear evidence reaffirming their benefits [1,5,8,11,14].

Adopting a healthcare provider perspective, it is clear that the majority of care is still provided by the two largest health professions, doctors and nurses (or alternatively, healthcare assistants, as in Germany). But in respect of some conditions and for some countries there is a move away from the traditional doctor-nurse team ('tandem') towards a wider team. More specifically, when looking at the GP workforce as a major stakeholder in primary care provision, the primary care workforce seems to be 'in flux' in all countries. However, there was large variation in the range of services GPs provide, and changes within this range. The analysis revealed that the transformations only partly follow changing population needs, based on ageing and growing multi-morbidity and chronic illnesses.

Developments such as the ageing of the population and increased NCDs and multimorbidity require a community orientation by GPs, more preventive care and collaboration between different professional groups, and these requirements are mutually related and reinforcing [12]. The results illustrate that countries largely vary in supporting and achieving these goals. It is therefore important to develop continuous education and training programmes in order to improve the competences of primary care professionals and help create a people-centred and community-oriented workforce for primary care provision.

Turning to patients, the results reveal overall supportive attitudes to the changing roles and transformations towards more multi-professional teams, if patients have experience with new roles and professionals; positive attitudes on nurses were also confirmed in Canada [88]. This is an interesting finding because those who oppose new roles and primary care workforce innovation often argue over quality of care for patients and patients' demands and wishes. But the results from the case studies suggest that stronger involvement of patients as stakeholders may serve as important policy levers for transformations in primary care in countries with task-shifting policies and more strongly integrated governance. However, it is not clear whether and how stakeholder involvement can promote an integrated primary care workforce in countries with weak or missing skill mix policies, such as Germany.

Synthesising the findings from the three case studies makes it possible to link health workforce development at different levels of policy and governance, and this in turn, provides a more complex picture and novel insights into the policy levers for primary care workforce innovation. Health system reform alone will not be the magic pill to effect the desired changes. For successful change to

occur, there needs to be comprehensive institutional change as well as sufficient capacity and political commitment [25,54,70,89]. It is important to be clear what such leadership entails when applied to the development of a people-centred primary care work and the skill mix, financial resources and education systems required for it to work, just to mention some of the main conditions. There also needs to be a shift from a focus on structural change to one targeted at the stakeholders involved – including culture and behaviour – and using more complex levers to change culture and behaviour and strengthen relationships [90,91].

The results provide new knowledge on the capacity of stakeholder involvement, which suggests that the experiences of stakeholders can be an important policy lever for workforce transformation, for instance increasing the exposure of patients to new roles, or increasing the motivation of health professionals to take on new roles through improving their satisfaction. They also revealed that a community orientation can be part of a medical 'culture', and this brings wider changes and more inclusive forms of professionalism into view [21,91,92]. Stakeholders should therefore be involved more systematically in the governance of primary care workforce innovation, and importantly, this should happen at all levels of governance [93].

4.1. Limitations

The research is novel because it combines findings from various large scale EU projects, and takes into account different stakeholder perspectives and different levels of governance and how they are relevant in creating a people-centred primary care workforce. Thus, the methodological approach contributes to the advancement of comparative health workforce research. However, the research combines findings from projects which are not fully comparable in relation to the conceptual frameworks, the countries involved, the categories and time of data collection. More coherent primary research is needed to deepen the analysis and identify the policy gaps as well as the levers for change.

5. Conclusions

This comparative research has set out to explore the development of an integrated people-centred primary care and primary care workforce policies. The analysis of data from various European comparative projects reveals significant variation in the ways the European countries respond to a common goal of 'putting primary care in the driver's seat' [5] and how they govern the innovation in the primary care workforce. The results also highlight an overall lack of systematic alignment of primary care reform and primary care workforce policy. At the same time, we found supportive stakeholder views and motivation for change in both the groups of health professionals and the patients which offer the potential for further change in future. One important policy recommendation drawn from these results is that a more systematic coordination between top-down policy health workforce development and bottom-up emergent innovation is an important key to primary care and workforce development. The principles of 'good governance', namely strong stakeholder participation and transparent decision-making and capacity building [57], may provide helpful guidance for more effective governance.

Another policy recommendation emerging from our research is the need for health system leadership for creating a people-centred and community-oriented primary care workforce. Primary care workforce development is the switchboard for wider transformations [94] to respond to growing NCDs [12] and must therefore become a health system priority following the notion that good care for patients also needs care for the health professionals [19].

Funding

The writing of this article did not receive specific funding. Case study 2, the GP perspective, uses material from the QUALI-COPC study, which was co-funded by the European Commission under the 'Seventh Framework Programme' (grant agreement 244121), and led by a consortium of research institutes from Belgium, Germany, Italy, the Netherlands and Slovenia. Case study 3, the patient perspective, uses material from the research programme 'Health Care Reform: The iMPact on practice, oUtcomes and cost of New ROles for health profeSSionals (MUNROS), under the European Community's Seventh Framework Programme (FP7 HEALTH-2012-INNOVATION-1) grant agreement number HEALTH-F3-2012-305467EC.

Conflict of interest

None.

Acknowledgements

The idea for this article is supported by material gathered from different research projects and is linked to a workshop on the primary care workforce held at the European Public Health Conference in Stockholm 2017. We wish to thank all colleagues involved in these projects as well as the participants in the workshop for inspiring discussions and our two reviewers for very helpful comments.

References

- [1] Gauld R. Primary healthcare as a global healthcare concept. In: Kuhlmann E, Blank RB, Bourgeault IL, Wendt C, editors. *The palgrave international handbook of healthcare policy and governance*. Basingstoke: Palgrave; 2015. p. 69–84.
- [2] Kringos D, Boerma W, Bourgueil Y, Cartier T, Dedeu T, Hasvold T, et al. The strength of primary care in Europe: an international comparative study. *British Journal of General Practice* 2013;63(616):E742–50.
- [3] Kringos DS, Boerma WGW, Van der Zee J, Groenewegen PP. Europe's strong primary care systems are linked to better population health but also to higher health spending. *Health Affairs* 2013;32:686–94.
- [4] Kringos DS, Boerma WGW, Hutchinson A, Saltman RB, editors. *Building primary care in a changing Europe*, Vol. 38. European Observatory on Health Systems and Policies. Observatory Studies Series; 2015.
- [5] Saltman RB, Rico A, Boerma W. Primary care in the driver's seat? Organizational reform in European primary care. Maidenhead: Open University Press; 2006.
- [6] Schäfer WLA, Boerma WGW, Murante AM, Sixma HJM, Schellevis FG, Groenewegen PP. Assessing the potential for improvement of primary care in 34 countries. *Bulletin of the World Health Organization* 2015;93:161–8.
- [7] Schäfer WLA, Boerma WGW, Spreeuwenberg P, Schellevis FG, Groenewegen PP. Two decades of change in European general practice service profiles: conditions associated with the developments in 28 countries between 1993 and 2012. *Scandinavian Journal of Primary Health Care* 2016;34:1–14.
- [8] Starfield B, Shi L, Macinko J. Contribution of primary care to health systems and health. *Milbank Quarterly* 2005;83(3):450–7.
- [9] World Health Organization Regional Office for Europe. *Primary care now more than ever*. Copenhagen: WHO; 2008.
- [10] World Health Organization Regional Office for Europe. *European framework for action on integrated health services delivery: an overview*. Copenhagen: WHO; 2016 (Accessed 20 July 2018) http://www.euro.who.int/_data/assets/pdf_file/0010/317377/JFA-IHS-service-delivery-overview.pdf?ua=1.
- [11] World Health Organization Regional Office for Europe. *Primary health care advisory group first meeting report, 20–21 June 2017. Almaty, Kazakhstan*. Copenhagen: WHO; 2017.
- [12] World Health Organization Regional Office for Europe. *High-level regional meeting: health systems respond to NCDs: experience of the European Region, Sitges, Spain, 16–18 April 2018. Briefing note for presenters and panellists*. Copenhagen: WHO; 2018 (Accessed 20 July 2018) http://www.euro.who.int/_data/assets/pdf_file/0007/366766/HSS-NCD_briefing_note_eng.pdf?ua=1.
- [13] Detollenaere J, Hanssens J, Vyncke V, De Maeseneer J, Willems S. Do we reap what we sow? Exploring the association between the strength of European primary healthcare systems and inequity in unmet need. *PLOS ONE* 2017;12(1):e0169274.
- [14] Gauld R, Blank RB, Burgers J, Cohen AB, Dobrow M, Ikegami N, et al. *The World Health Report 2008: Primary health care: how wide is the gap between its agenda and implementation in 12 high-income health systems?* *Healthcare Policy* 2012;7(3):38–58.
- [15] Hansen J, Groenewegen PP, Wienke GWB, Kringos DS. Living in a country with a strong primary care system is beneficial to people with chronic conditions. *Health Affairs* 2015;34(9):1531–7.
- [16] Ranstad K, Midlöv P, Halling A. Active listing and more consultations in primary care are associated with reduced hospitalisation in a Swedish population. *BMC Health Services Research* 2018;18:101.
- [17] Tenbessel T, Burau V. Contrasting approaches to primary care performance governance in Denmark and New Zealand. *Health Policy* 2017;121(8):853–61.
- [18] European Union. *A new drive for primary care in Europe: rethinking the assessment tools and methodologies*. Report of the Expert Group on Health Systems and Performance Assessment. Luxembourg: Publication Office of the European Union; 2018.
- [19] Bodenheimer T, Sinsky C. From triple to quadruple aim: care of the patient requires care of the provider. *Annals of Family Medicine* 2014;12(6):573–6.
- [20] Campbell J, Dussault G, Buchan J, Pozo-Martin F, Guerra Arias M, Leone C, et al. A universal truth: no health without a workforce. Forum report, third global forum on human resources for health, Recife, Brazil. Geneva: Global Health Workforce Alliance and World Health Organization; 2013 (Accessed 20 July 2018) <http://www.who.int/workforcealliance/knowledge/resources/hrhreport2013/en/>.
- [21] De Maeseneer J. Family medicine and primary health care at the crossroads of societal change. In: De Maeseneer J, editor. *Family medicine and primary care: at the crossroads of societal change*. Leuven: Lannoo Publishers; 2017. p. 201–14.
- [22] Dussault G, Buchan J, Sermeus W, Padaiga Z. *Assessing future health workforce needs*. Policy Summary 2. Copenhagen: WHO, on behalf of European Observatory on Health Systems and Policies; 2010.
- [23] Frenk J, Chen L, Bhutta ZA, Cohen J, Crisp N, Evan TG, et al. Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. *The Lancet* 2010;376:1923–58.
- [24] Kluge HH. Priorities for strengthening people-centred health systems. *Euro Health* 2016;22(2):4–6.
- [25] Nolte E. Implementing person centred approaches. *British Medical Journal* 2017;358:j4126.
- [26] OECD, editor. *Health workforce policies in OECD countries: right jobs, right kills, right places*. OECD Health Policy Studies. Paris: OECD; 2016. <http://dx.doi.org/10.1787/9789264239517-en> (Accessed 20 July 2018).
- [27] UN High-Level Commission on Health Employment and Economic Growth. *Working for health and growth: investing in the health workforce*. New York, United Nations 2016.
- [28] World Health Organization Regional Office for Europe. *WHO global strategy on human resources for health: workforce 2030*. Copenhagen: WHO; 2016 (Accessed 20 July 2018) <http://who.int/hrh/resources/globstrathrh-2030/en/>.
- [29] Nolte E, Knai C, Saltman RB, editors. *Assessing chronic disease management in European health systems. Concepts and approaches*. Copenhagen: World Health Organization; 2014.
- [30] Wismar M, Glinos IA, Sagan A, editors. *Patients, peers, professionals: skill-mix innovations and developments in primary and chronic care settings*. Brussels: European Observatory on Health Systems and Policy; 2018.
- [31] Borgermans L, De Maeseneer J, Beran D, Tello J. How leapfrogging in primary care can contribute to upscaling NCD core services. *EuroHealth* 2018;24(1):20–3.
- [32] Groenewegen PP, Heinemann S, Greß S, Schäfer W. Primary health care in 34 countries. *Health Policy* 2015;119(12):1576–83.
- [33] Von Eitzen-Strassel J, Vrijhoef HJM, EWCC Derckx, de Bakker DH. Personnel planning in general practices: development and testing of a skill mix analysis method. *Human Resources for Health* 2014;12:53.
- [34] Groenewegen PP. Nursing as a grease in the primary care innovation machinery. *Quality in Primary Care* 2008;16(5):313–4.
- [35] Ammi M, Ambrose S, Hogg B, Wong S. The influence of registered nurses and nurse practitioners on patient experience with primary care: results from the Canadian QUALICO-PC study. *Health Policy* 2017;121:1215–24.
- [36] Gielen SC, Dekker J, Francke AL, Mistiaen P, Kroezen M. The effects of nurse prescribing: a systematic review. *International Journal of Nursing Studies* 2014;51:1048–61.
- [37] Maier CB, Aiken LH. Task shifting from physicians to nurses in primary care in 39 countries: a cross-country comparative study. *European Journal of Public Health* 2016;26(6):927–34.
- [38] Maier CB, Aiken LH, Busse R. Nurses in advanced roles in primary care: policy levers for implementation? *OECD Health Working Papers* No. 98; 2017. Paris: OECD; 2016. <http://dx.doi.org/10.1787/a8756593-en> (Accessed 20 July 2018).
- [39] Maeda A, Socha-Dietrich K. Feasibility study on health workforce skills assessment: supporting health workers achieve person-centred care. Paris: OECD, Health Division; 2018 (Accessed 20 July 2018) www.oecd.org/health.
- [40] Blank RH, Burau V, Kuhlmann E. *Comparative health policy, fifth edition* Basingstoke: Palgrave; 2018.
- [41] Tenbessel T, Miller F, Breton M, Couturier Y, Morton-Chang F, Ashton T, et al. How do policy and institutional settings shape opportunities for community-based primary health care? A comparison of Ontario, Québec and New Zealand. *International Journal of Integrated Care* 2017;17(2):13.
- [42] Bonciani M, Schäfer W, Barsanti S, Heinemann S, Groenewegen PP. The benefits of co-location in primary care practices: the perspectives of general practitioners and patients in 34 countries. *BMC Health Services Research* 2018;18:132.

- [43] Dimitrovová K, Perelman J. Changes in access to primary care in Europe and its patterning, 2007–12: a repeated cross-sectional study. *European Journal of Public Health* 2018;28:398–404.
- [44] Freund T, Everett C, Griffiths P, Hudon C, Naccarella L, Laurant M. Skill mix, roles and remuneration in the primary care workforce: who are the healthcare professionals in the primary care team across the world? *International Journal of Nursing Studies* 2015;52:727–43.
- [45] Isaksson D, Blomqvist P, Winblad U. Free establishment of primary health care providers: effects on geographical equity. *BMC Health Services Research* 2016;16:28.
- [46] Van der Biezen M, Wensing M, Poghosyan L, Van der Burgt R, Laurant M. Collaboration in teams with nurse practitioners and general practitioners during out-of-hours and implications for patient care; a qualitative study. *BMC Health Services Research* 2017;17:589.
- [47] Kringos DS, Boerma WGW, Hutchinson A, van der Zee J, Groenewegen PP. The breadth of primary care: a systematic literature review of its core dimensions. *BMC Health Services Research* 2010;10:65.
- [48] Schäfer WLA, Boerma WGW, Schellevis FG, Groenewegen PP. GP Practices as a onestop shop: how do patients perceive the quality of care? A cross-sectional study in thirty-four countries. *Health Services Research*; 2017, <http://dx.doi.org/10.1111/1475-6773.12754> (online ahead of print), (Accessed 20 July 2018).
- [49] CanMEDS. Physician competency framework; 2015 (Accessed 3 August 2017) <http://canmeds.royalcollege.ca/en/framework>.
- [50] The Lancet. Editorial: The NHS at 70 and Alma-Ata at 40. *The Lancet* 2018;391:1.
- [51] OECD, editor. Health at a glance in Europe. Paris: OECD; 2017 (Accessed 20 July 2018) <http://www.oecd.org/health/health-at-a-glance-europe-23056088.htm>.
- [52] OECD. Health policy and data. Paris: OECD; 2017 (Assessed 20 July 2018) http://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT.
- [53] Kuhlmann E, Batenburg R, Wismar M, Dussault G, Maier CB, Glinos IA, for the EUPHA section Health Workforce Research, et al. A call for action to establish a research agenda for building a future health workforce in Europe. *Health Research Policy and Systems* 2018;16(52) (Accessed 20 July 2018) <https://rdocu.be/1hZv>.
- [54] Hunter DJ. Evidence-informed policy: in praise of politics and political science. *Public Health Panorama* 2016;2(3):268–72.
- [55] Edmonstone J. What is wrong with NHS leadership development? *British Journal of Healthcare Management* 2013;19(11):531–8.
- [56] Gauld R. Disrupting the present to build a stronger health workforce for the future: a three-point agenda. *Journal of Primary Health Care* 2018;10(1):6–10.
- [57] Greer SL, Wismar M, Figueras J, editors. Strengthening health system governance: better policies, stronger performance. Maidenhead: Open University Press; 2016.
- [58] Kuhlmann E, Batenburg R, Groenewegen PP, Larsen C. Bringing a European perspective to the health human resources debate: a scoping study. *Health Policy* 2013;110:6–13.
- [59] Kuhlmann E, Larsen C. Why we need multi-level health workforce governance: case studies from nursing and medicine in Germany. *Health Policy* 2015;119(12):1636–44.
- [60] Kuhlmann E, Groenewegen PP, Batenburg R, on behalf of the EUPHA HWR section. Why Europe needs stronger health workforce research. Consultation for the next EU Research and Innovation Programme, Statement on behalf of the European Public Health Association (EUPHA) section 'Health Workforce Research'. Utrecht: EUPHA; 2018 (Assessed 22 May 2018, Accessed 20 July 2018) <https://eupha.org/repository/advocacy/EU.Consultation.2018-HWR-statement.for.circulation.pdf>.
- [61] Greer SL, Wismar M, Kosinska M. Towards intersectoral governance: lessons learned from health system governance. *Public Health Panorama* 2015;1(2):111–204.
- [62] Dieleman M, Shaw DMP, Zwanikken P. Improving the implementation of health workforce policies through governance: a review of case studies. *Human Resources for Health* 2011;9:10.
- [63] Burau V, Blank RB, Pavolini E. Typologies of healthcare systems and policies. In: Kuhlmann E, Blank RB, Bourgeault IL, Wendt C, editors. *The Palgrave international handbook of healthcare policy and governance*. Basingstoke: Palgrave; 2015. p. 101–15.
- [64] Groenewegen PP, Greß S, Schäfer W. General practitioners' participation in a large, multicountry combined general practitioner–patient survey: recruitment procedures and participation rate. *International Journal of Family Medicine* 2016, <http://dx.doi.org/10.1155/2016/4929432>. Article ID 4929432, (Accessed 20 July 2018).
- [65] Schäfer WL, Boerma WG, Kringos DS, De Maeseneer J, Gress S, Heinemann S, et al. Groenewegen PP. QUALICOPC, a multi-country study evaluating quality, costs and equity in primary care. *BMC Family Practice* 2011;12:115.
- [66] Schäfer WL, Boerma WG, Kringos DS, De Ryck E, Greß S, Heinemann S, et al. Measures of quality, costs and equity in primary health care: instruments developed to analyse and compare primary care in 35 countries. *Quality in Primary Care* 2013;21(2):67–79.
- [67] Bond C, Bruhn H, de Bont A, van Exel J, Busse R, Sutton M, Elliott R on behalf of the MUNROS team. The impact on practice, outcomes and costs of new roles for health professionals: a study protocol. *BMJ Open* 2016;6:e010511.
- [68] Tsiachristas A, Wallenburg I, Bond CM, Elliott RF, Busse R, van Exel J, et al. Costs and effects of new professional roles: evidence from a literature review. *Health Policy* 2015;119(9):1176–87.
- [69] De Bont A, van Exel J, Coretti S, Güldem Ökem Z, Janssen M, Lofthus Hope K, on behalf of the MUNROS Team, et al. Reconfiguring health workforce: a case-based comparative study explaining the increasingly diverse professional roles in Europe. *BMC Health Services Research* 2016;16:637.
- [70] Hunter DJ, Erskine J, Small A, McGovern T, Hicks C, Whitty P, et al. Doing transformational change in the English NHS in the context of 'big bang' reorganisation. *Journal of Health Organisation and Management* 2015;29(1):10–24.
- [71] Busse R, Blümel M, Knieps F, Bärnighausen T. Germany and health 1. Statutory health insurance in Germany: a health system shaped by 135 years of solidarity, self-governance, and competition. *The Lancet* 2017;390:882–97.
- [72] Kroezen M, Schäfer W, Sermeus W, Hansen J, Batenburg R. Healthcare assistants in EU member states: an overview. *Health Policy* 2018, online first, (Accessed 20 July 2018) [https://www.healthpolicyjrn.com/article/S0168-8510\(18\)30245-8/pdf](https://www.healthpolicyjrn.com/article/S0168-8510(18)30245-8/pdf).
- [73] Anell A, Glenngård AH, Merkur S. Sweden: health system review. *Health Systems in Transition* 2012;14(5):1–159.
- [74] Kuhlmann E, Maier CB, Larsen C, Burau V. Skill-mix innovations and developments in primary and chronic care settings: Germany. In: Wismar M, Glinos IA, Sagan A, editors. *Patients, peers, professionals: skill-mix innovations and developments in primary and chronic care settings*. Brussels: European Observatory for Health Systems and Policies; 2018.
- [75] Kroneman M, Boerma W, van den Berg M, Groenewegen P, de Jong J, van Ginneken E. Netherlands: health system review. *Health Systems in Transition* 2016;2:1–240.
- [76] Kroezen M, van Dijk L, Groenewegen PP, Francke AL. Nurse prescribing of medicines in Western European and Anglo-Saxon countries: a systematic review of the literature. *BMC Health Services Research* 2011;11:127.
- [77] World Health Organization Regional Office for Europe. Good practice brief. Horizon scanning future health and care demand for workforce skills in England, UK: Noncommunicable disease and future skills implications. Copenhagen: WHO; 2018.
- [78] Lindgren S. Reform of the medical curriculum in Sweden: towards a more active and multidisciplinary learning of people-centred care. Good practice brief. Copenhagen: WHO Regional Office for Europe; 2018 (Accessed 20 July 2018) http://www.euro.who.int/_data/assets/pdf_file/0006/367278/gpb-hss-ncds-swe-eng.pdf.
- [79] Nergård A, Andersson L. God och nära vård – en gemensam färdplan och målbild. SOU; 2017. p. 53.
- [80] Stierstedt G. Effektiv Vård. Stockholm: Socialstyrelsen; 2018 <http://www.sou.gov.se/wp-content/uploads/2016/01/SOU-2016.2.Hela4.pdf>, (Accessed 20 July 2018).
- [81] De Rosis S, Seghieri C. Basic ICT adoption and use by general practitioners: an analysis of primary care systems in 31 European countries. *BMC Medical Informatics and Decision Making* 2015;15:70.
- [82] Schäfer W, Van den Berg M, Groenewegen PP. De werkbelaasting van huisartsen in internationaal perspectief. *Huisarts & Wetenschap* 2016;59(3):94–101.
- [83] Schäfer W. Primary care in 34 countries: perspectives of general practitioners and their patients. PhD dissertation. Utrecht: Utrecht University; 2016.
- [84] Rotar Pavlič D, Sever M, Klemenc-Ketiš Z, Švab I. Process quality indicators in family medicine: results of an international comparison. *BMC Family Practice* 2015;16:172.
- [85] Vermeulen L, Schäfer W, Rotar Pavlic D, Groenewegen PP. Community orientation of general practitioners in 43 countries. *Health Policy* 2018, <http://dx.doi.org/10.1016/j.healthpol.2018.06.012>, online first, (Accessed 20 July 2018).
- [86] Van den Berg M, Van Loenen T, Wester GP. Accessible and continuous primary care may help reduce rates of emergency department use. An international survey in 34 countries. *Family Practice* 2016;33:42–50.
- [87] Ruggeri M, Drago C, Moramarco V, Coretti S, Köppen J, Islam K, on behalf of the MUNROS team, et al. New professional roles and patient satisfaction: evidence from a European survey along three clinical pathways. *Health Policy* 2018, online first.
- [88] Stahlke S, Rawson K, Pituskin E. Patient perspectives on nurse practitioner care in oncology in Canada. *Journal of Nursing Scholarship* 2017;49(5):487–94.
- [89] World Health Organization Regional Office for Europe. Health system transformation: making it happen. Expert meeting, Madrid, Spain, 17–18 December 2015 2016.
- [90] Bonello M, Morris J, Azzopardi-Muscat N. Interprofessional education for a collaborative practice-ready workforce: does national culture matter? *Health Policy* 2018, online first, (Accessed 20 July 2018) [https://www.healthpolicyjrn.com/article/S0168-8510\(18\)30212-4/pdf](https://www.healthpolicyjrn.com/article/S0168-8510(18)30212-4/pdf).
- [91] Burau V, Carstensen K, Fleron SL, Kuhlmann E. Professional groups driving innovation in healthcare: interprofessional working in stroke rehabilitation in Denmark. *BMC Health Services Research* 2017;17:662.
- [92] SARWGG – strategic advisory board well-being, health, family. Vision statement. A new professionalism in care and support as a task of the future. Brussels: SARWGG; 2015.
- [93] Kuhlmann E, Burau V. Strengthening stakeholder involvement in health workforce governance: why we need to talk about power. *Journal of Health Services Research & Policy* 2017;23:66–8.
- [94] Batenburg R. Comparing health workforce planning in the European Union. *Health Policy* 2015;119(12):1537–44.