Workforce Variations: Contributing to European health inequalities?

"A shortage of healthcare professionals is an issue of concern in many countries. Even in countries with no overall shortage of workers, it may be the case that certain rural areas are not well served"

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Executive Summary

Medical progress and the ageing demographic profile of the European population is increasing the role of the nurse workforce. Improvements in treatment mean that patients are now able to live for years with cancer and other life-threatening illnesses, and more generally an ageing population means that managing chronic conditions, including asthma, diabetes, and mental illness, has become the dominant feature of modern healthcare.

Whereas localised shortages of medical staff may be addressed by changes in skill-mix, and by professional mobility within the European Union, there does appear to be a more generalised shortage in the nursing and midwifery workforce.

Our research has demonstrated, however, that lack of reliable and timely workforce data across the 25 European Union Member States makes it difficult not only to assess the scale of the problem, but also to pinpoint potential solutions. The available data do, however, suggest a potential inequity between the new and old Member States, with the former bearing training costs from which they would fail to reap any benefit, as their best healthcare professionals opt to work, at much higher rates of pay, in Europe's wealthiest countries. This process produces increasing inequality across European health systems, as workforce shortages eventually become concentrated in the poorest countries and impact upon standards of patient care.

Improved data should enable the design of policies to better address recruitment and retention issues at the local level, and to address the problems caused by migration patterns across Europe. Accurate information would, for example, make it possible to create a system by which the beneficiaries of migration would support or compensate those who are bearing its costs and consequences.

The impact of the legal interpretation and implementation of the EU Working Time Directive has been covered by other research. The Directive is increasing the demand for healthcare professionals at a time when many Member States are already struggling to recruit and retain them in sufficient numbers. This serves to increase the urgency of addressing workforce problems at the European level, to co-ordinate Member State responses. Steps need to be taken not only to make nursing more attractive as a career option, but also to ensure that reliable data is available to policy makers in order to devise practical solutions to EU Member States' shortages.

Introduction

The healthcare workforce accounts for the vast bulk of health system costs. As health policy has shifted its focus from pushing the boundaries of the possible to controlling cost escalation it is inevitable that the workforce should have come under pressure. At the same time changes in health technologies, demographics, and other socio-economic factors are affecting the supply of health professionals, and the demands that are placed upon them. Each country's health system has its own context, with long-standing differences in the composition and use of the health workforce. The enlargement of the European Union, and the scope for the free movement of qualified workers have added to the complexity of the problems of balancing supply and demand. On top of these developments, European social regulations, particularly the Working Time Directive, are having a significant impact on the supply and cost of the workforce.

The problems of workforce variations between and within European countries are most evident and pertinent when the focus turns to nursing and midwifery. Countries use hospital doctors, general practitioners and other medical and technical staff in many very different ways to deliver care. This makes it difficult to make reliable international comparisons. Nurses, however, comprise the largest single group in any health system, fulfilling much the same role in each context. The number of nurses for a given population does, therefore, provide some indication of the quantity of nursing care available[1]. Given the increasing emphasis on care outside of hospitals, the number of nurses may provide a better measure of care levels than many traditional yardsticks, including the number of hospital beds or doctors per bed. The data show worrying variations and trends across Europe. This is all the more of a concern in the context of an ageing population, that will continue to increasing the relative importance of *care* vis-à-vis *cure* in European health systems in the decades ahead.

In a situation of general shortage it will always be the wealthiest countries that are able to import the workforce that they need, making the problems worse elsewhere. Workforce planning systems will need to be more flexible in the future than they have been in the past, and the impact of health system reforms and regulatory measures need to be better assessed for their impact on nursing needs and the role of nurses.

Overview of the Health Workforce

Between the 1980s and 2001 the rate of growth in the health and social care workforce declined in many countries, other than Germany and the Netherlands, and in the UK it almost came to a complete halt.[2]

Despite some apparent similarities in these headline figures, however, the numbers of health care professionals in EU health care systems varies widely. In 2002 the numbers of physicians per 100,000 population varied from 618 in Italy, to 447 in Belgium, and 212 in the UK. The EU 15 average was 356 per 100,000. For general practitioners, the highest was recorded in Finland at 167, followed by France at 163 down to 43 per 100,000 in Latvia.[3]

Where one country's shortage is balanced by another's over-supply then EU enlargement should, in theory, improve the situation across Europe, subject of course to practical restrictions imposed by language skills. The situation is considerably more worrying when shortages are widespread. The countries of Central and Eastern Europe are affected by the historic Soviet emphasis on medical specialisation, to the detriment of general practice. In Lithuania, for example, only around 10% of physicians were GPs in 1993, compared to an EU average of 35%. By 1998, this had increased to 16%; half the European average.[4] But even with the emphasis on specialisation shortages in some specialties were not prevented.[5]

	US	EU15	France	Germany	Holland	UK
Growth in total number employed, average % per annum						
1979-90	3.9	2.7	2.3	3.6	2.8	2.8
1990-95	3.1	1.7	1.4	3.8	2.4	1.5
1995-01	1.9	1.7	1.0	2.8	3.2	0.5
Growth in total hours worked average % per annum						
1979-90	4.1	2.0	0.6	2.9	1.0	2.4
1990-95	3.0	1.4	1.3	2.8	1.6	1.8
1995-01	2.3	1.4	0.3	2.3	2.7	-0.2

Source: O'Mahony and van Ark 2003.

Workforce variations may, of course, be explained by variations in the way health professionals are deployed, particularly in the relative use of nurses and physicians.[6] Whilst Ireland has just 241 physicians per 100,000 population, it does also have 1856 nurses serving these people. In contrast, Lithuania has almost 400 physicians per 100,000, but less than half as many nurses as Ireland. France has one of the highest levels of GPs, but limited provision of nurses.

Shortages of particular specialities have been reported, including a severe shortage of radiographers in Europe. In the UK NHS, the shortage of radiographers has meant that despite large investments in modern equipment NHS patients can still wait months for treatment.[7] Although there has been a significant increase in the number of radiographers over the last decade, the expansion of services has meant that many NHS trusts continue to encounter recruitment difficulties.[8]

There is also understaffing amongst Allied Health Professionals (AHPs), including physiotherapists. The Scottish Executive committed itself last year to securing an additional 1,500 AHPs in the Scottish NHS.[9] A report in Germany in 2004 noted shortages of physiotherapists (as well as pharmacists) in Germany, despite high unemployment and health expenditure there.[10]

While shortages for some groups, such as radiographers, appear to be widespread[11], movement within Europe may present some solutions. But the most severe shortages appear to be in nursing, where a widespread shortage leaves little room for solving national problems through migration without new problems arising elsewhere.

Nursing Shortages

Shortages of health care professionals are a concern in many European countries, and there are particular problems with the supply of nurses and midwives to European health care systems. This is within the context of a general global shortage of nurses, in which recruitment to Europe and the USA from developing countries has often caused controversy.

Nursing Shortages	
Country	**Shortage**
Netherlands	7000
UK	22,000. Numbers of midwives has fallen by a quarter in the last decade;[12] in 1997-98 16,392 midwives joined the official register in the UK while 27,173 left.[13]
Switzerland	3000
Hungary	5181[14]
Poland	Nursing graduates have fallen from 10,000 per year in the early 1990s to 3000 in the early years of the present decade.[15]
Ireland	765 public nursing vacancies reported April 2005.[16]
Norway	3,300 (c.5.4% of practising nurses)[17]

Shortages of nurses and midwives have been a consistent focus of media attention in recent years, and are a problem for many western European countries, with the notable exception of Spain.[18] This was confirmed by a 2001 survey conducted by the European Oncology Nursing Society (EONS), which found that nurse shortages were an "urgent topic" in all of the 20 countries surveyed other than Spain and Estonia[19].

Nurses & Midwives per 10,000 Population (WHO Europe) 1990s

	Nurses	Midwives
Top 5	Norway	Iceland
	Ireland	Finland
	Finland	Sweden
	Netherlands	Belgium
	Belgium	Turkey
Bottom 5	Malta	Spain
	France	Austria
	Portugal	Malta
	Greece	Italy
	Turkey	Netherlands

Source: Salvage & Heijnen (1997)

Research has supported the assertion that the shortage of nurses is a pan-European problem that has been developing over the past 25 years.[20] Interestingly, the levels of provision of nurses and midwives do not correlate. Whereas the Netherlands has one of the highest levels of nurse provision in the WHO European Region, it also has the lowest provision of midwives.

Data for Central and Eastern Europe show huge variations in the availability of nurses within the region, ranging from around 750 nurses per 100,000 population in the Czech Republic, to around 500 in Poland, and less than 250 in Hungary[21]. Of the new Member States, Poland has a particular problem. Not only has the number of nursing graduates fallen by more than two-thirds within 10 years, but they are now losing their best nurses to other Member States, amid reports that they can *"earn more than 10 times more"*. Some 2,000 nurses are estimated to have left Poland in the first year following EU accession.[22] High levels of language skills amongst the 2004 accession countries make the latest wave of EU enlargement more relevant to intra-EU professional migration than any previous accession.

The need to recruit from overseas in some Member States is high. In the UK the demographic profile of the nursing workforce means that a quarter of current nursing

and midwifery staff are due to retire in the next ten years[23], and the NHS is having to spend more than £800m a year to obtain staff from private agencies[24]. A similar situation has been developing in Ireland.[25]

WHO research has noted that:

> *"National Nurses Associations from all parts of Europe report significant recruitment and retention difficulties. Almost without exception, the number of entrants to nursing courses is falling and qualified nurses are leaving the profession citing poor pay, workload and inflexible working practices as reasons."*[26]

> *"Nurses and midwives are voting with their feet and leaving the professions in droves. … Almost every country in Western Europe has a nursing and midwifery shortage."*[27]

Thorough analysis of the situation is hampered by a lack of intelligence about nursing workforces. *"National data on the nursing workforce is patchy at best and at EU level it is practically non-existent."*[28]

A general shortage of physicians has also been noted and the use of nurses in some previously physician-only roles has been suggested as a solution to this problem.[29] This is an extremely attractive option for cost-conscious health systems. UK data suggest that the average cost of training a nurse or physiotherapist is below £30,000, compared to a doctor costing between £200,000 and £250,000[30]. However, with shortages of nurses too, such a cost-containment strategy would simply shift the pinch-point in the lack of supply of health care workers.

Causes of shortages

The failure of some European countries to train, recruit and retain sufficient nurses may often stem from a decline in the attractiveness of nursing, in comparison to other careers available locally.

> *"There is growing evidence from many countries that health professionals have become demotivated, with growing rates of burn-out reflecting a failure of working conditions to keep pace with the increasing complexity of their work. Significant innovations may be needed to improve the methods of recruiting and retaining personnel, to adapt methods and levels of remuneration to the new requirements, to improve the mechanisms of career management and more generally to foster the motivation of staff."*[31]

This is not a new phenomenon. There was evidence as early as 1990 of a real decline in recruitment to nursing across Europe, attributed in part to a decline in its "social image."[32] Demographic changes have also been important and will remain a significant challenge. Meanwhile, patients' nursing needs are rising as the population ages.[33]

A survey of 43,000 nurses from 700 hospitals in England, Scotland, Germany, Canada and the United States recently found there was a large degree of job dissatisfaction across very different health care systems. The proportion of nurses dissatisfied with their jobs ranged from 33% to 41% in all countries studied with the exception of Germany, where it was only 17%. Similarly, between 29% and 43% of registered

nurses experienced considerable job related strain, except in Germany. The proportion of registered nurses planning to leave their job during the next year was 17% in Germany, 30% in Scotland and 39% in England.[34]

Women have been the traditional backbone of the nursing workforce and there are increasingly broad opportunities for women's careers. Indeed, within health care, increasing numbers of women are becoming doctors. Women among GP workforces across European countries have been found to be younger on average than their male colleagues, suggesting a demographic shift towards larger numbers of women entering general practice.[35] At the same time there is little evidence that the nursing profession has become more attractive as a career choice for men.

The same concerns that affect local recruitment and retention, may also have an eventual effect on recruitment and retention from other countries. In the UK, for example, there has been evidence to suggest that recruits from abroad often leave after a short time, citing the same factors as those whose places they are intended to fill.[36] Indeed many health professionals imported from outside the EU often give reasons for leaving their home country that are similar to those leaving their profession in the EU, including inflexible hours, workload, limited training facilities, poor career development and poor wages.[37] Poor wages have been a consistent theme in the mismatch between supply and demand in the nursing labour market in the UK.[38]

Other possible factors have also been identified. Interviews of 130 nurses and midwives in London, for example, found that the two main sources of job dissatisfaction were staff shortages and poor management.[39] Worryingly, this would suggest that shortages, in themselves, can exacerbate the problem, thus creating a downward spiral[40] A UK study concluded that the patient-to-nurse ratio was strongly associated with emotional exhaustion and job dissatisfaction, underlining the cumulative effect of staff shortages on morale.[41] [42]

There is evidence that much of the real problem is retention rather than recruitment, suggesting that the structure of the career in practice, rather than its attractiveness in general terms, may be the root cause of workforce problems.[43]

In midwifery too there is evidence of the potential to improve job satisfaction by focusing on skill-mix. Many midwives spend a significant portion of their time undertaking clerical, domestic, portering and stock duties; tasks that would be more appropriately done by midwifery assistants incorporated into ward teams.[44]

Meeting the Challenge?

Improving staff motivation and development appear to be important to solving the recruitment and retention problem in nursing and midwifery.[45] Nurses are taking on some of the roles traditionally undertaken by doctors, particularly in primary care. The UK, the Netherlands and Scandinavian countries have improved opportunities for nurse education and training, specifically to try and retain experienced nurses in the profession.

Changing the perception of nursing as a profession and vocation has been one target for improving recruitment and retention. For example, in Ireland nurses have been encouraged to take up part-time degrees and greater financial support has been given

to nursing students. Flexibility has been targeted in Belgium, where older nurses are encouraged to stay on by allowing reduced working hours at the same rate of pay in the last years of their careers.[46] Postponing retirement might make a significant difference to the longer term challenges in recruitment of nurses. A study in Canada suggested that strategies should be aimed at the older workforce in order to help retain people longer.[47]

A range of initiatives has been undertaken to address the lack of leadership development of nurses. Ireland established a 'high-level steering group on the empowerment of nurses and midwives' in 2000 to promote the meaningful involvement of nurses and midwives in the management of services. Amongst its range of initiatives, pilot management development programmes were set up to prepare nurse managers for their role as human resource managers. The United Kingdom has introduced service modernisation sessions where staff can apply the lessons that have been learned in other parts of the NHS to re-design local services. Additionally, a new Leadership Centre for Health was created in 2001 to provide support for staff with leadership potential, as well as for those already in leadership roles.[48]

WHO Europe has been seeking to address develop the nursing profession, particularly since the "Munich Declaration" of 2000. The 9th Annual Meeting of the European Forum of National Nursing and Midwifery Associations in March 2005 highlighted progress against the Declaration. It said that while there had been many legislative improvements, particularly in regulating the scope of practice and nurse education, difficulties remained in defining the role of nurses and midwives and national research strategies are still very rare. There continue to be very few countries with a targeted workforce planning strategy.[49]

"The Munich Declaration": *Recommendations of the 2nd WHO Ministerial Conference on Nursing and Midwifery in Europe (2000)*[1]

- ensuring a nursing and midwifery contribution to decision-making at all levels of policy development and implementation;
- addressing the obstacles, in particular recruitment policies, gender and status issues, and medical dominance;
- providing financial incentives and opportunities for career advancement;
- improving initial and continuing education and access to higher nursing and midwifery education;
- creating opportunities for nurses, midwives and physicians to learn together at undergraduate and postgraduate levels, to ensure more cooperative and interdisciplinary working in the interests of better patient care

Mobility

Several accession countries had expressed concern that their best-trained workers might be attracted elsewhere following accession, in a general "brain drain". Poland has put considerable resources in recent years into training health professionals and now risks losing some of them.[50]

The UK has long relied on the overseas supply of health professionals, much more so than most other European countries, and mainly from low and middle-income countries outside the EU[51] [52]; mainly India, the Philippines, Australia, and South Africa. These four countries provided almost 8,000 of the 11,500 recruits to the UK coming from outside of the European Economic Area (EEA) in 2004/5. The EEA countries accounted for 1,193 new recruits, and amongst the 2004 accession countries

the highest number (133) came from Poland[53]. The numbers of nurses recruited from overseas by the UK NHS represents around half of all recruitment.[54] Although the overall proportion of foreign nurses in the NHS is still below 10 percent, there are large regional variations, so that in London around one-third of nurses are recruited from overseas.[55] In 2004/5 the numbers from accession countries was very small, but there has not yet been been a full reporting year since accession and the long-term trend will not become clear for some time.

There are problems with central manpower planning in health systems because of changes in the perceived best mechanisms for achieving an adequate workforce and skill mix. Mobility within Europe adds a further dimension to this, both as a potential problem and solution. A WHO Europe workshop in May 2004 noted the need for more effective and comprehensive planning, with improved capacity to monitor flows across borders[56].
Mobility may be perceived as a problem but it is also a potential solution, and the movement of professionals that has taken place has added pressure to achieve full mutual recognition of medical qualifications within the EU. Formal recognition is contained in the Medical Directive 93/16/EEC, as amended by subsequent legislation.[57] However, an *"implementation deficit"* has been noted, with qualifications not being recognised in real life situations.[58] A project by the European Healthcare Training and Accreditation Network (EHTAN) now aims to address the problems of differences in culture, working practices and skill levels in nurses moving between countries by establishing an assessment and evaluation methodology through the compilation of a skills competency matrix, to facilitate the promotion of EU-wide recognition of nursing qualifications.[59]

EU Working Time Directive
The EU working Tine Directive has posed particular problems for the health care sector. From August 2004, junior doctors have been restricted to working 58 hours a week. This will reduce to 56 hours from August 2007 and then decrease to 48 hours by 2009. Perhaps the most significant aspect of the legislation is the clarification by the European Court that hours of 'work' includes all time spent 'on duty' in hospital, making no distinction between 'on duty' and 'actual work'. The Directive also requires 11 hours of continuous rest in each 24 hour period and a maximum of 8 hours of work in 24 for night workers. There will be significant implications for organising work schedules as the Directive is implemented.[60]

With on-call cover being a mainstay of hospital organisation, there has been a great deal of worry about the continued implementation of the Directive to 2009. In 2003, the German Hospital Society predicted that Germany would need an additional 27,000 doctors and 14,000 nurses to implement the Directive fully.[61]

Discussion
Continuing widespread supply problems in the health care workforce, for nurses and midwives in particular, alongside the greater demands of an ageing population and a shift towards primary care, a decisive European lead seems appropriate. Many of the potential solutions that might be open to health care systems through national manpower planning are complicated by the single market and the free movement of professionals. Migration presents potential solutions as well as challenges, but much

improved data and research are needed on the scale and nature of the problems and the way forward.

> *"With projected increases in the demand for healthcare, and concern about staff shortages, policy attention across Europe and in other countries must focus on improving the methods of recruiting, retaining and utilising nursing resources."*[62]

Whilst many international workforce measures are highly questionable when used to assess the quality of care provided to patients, it is arguable that the quantity of nurses and midwives provides a better quality indicator than many of the alternatives, particular in consideration of the relative importance of care rather than cure as a core part of any modern health system. Unlike the data for doctors, it is evident that there is a general shortage of qualified nurses across Europe, and that the wealthier nations are best placed to benefit from the market that this shortage creates. Nevertheless, even within the wealthier countries of Europe there are areas within which nurse retention and recruitment is very difficult.

Whilst nursing has become more "professional" and nurses now regularly find themselves in managerial positions in their health systems, it is notable that it remains a female vocation. Whilst around a quarter of nurses in Spain, Switzerland and Italy are male, as are around 15 percent in France, the levels elsewhere tend to be around just one in twenty nurses or fewer. It is arguable that this failure to break down the gender gap, is central to the problems of modern nursing, that culminate in recruitment and retention difficulties in Europe's wealthiest Member States.

A co-ordinated approach to nurse training may be required. In economic terms it is sensible for healthcare professionals to be trained in countries where this is relatively inexpensive, provided that quality is maintained, and that they migrate to Europe's higher cost healthcare markets. Indeed, some countries outside of the EU have purposely developed an export market for healthcare workers. This situation is unsustainable, however, if the costs of training are borne by one country, whilst the benefits are accrued elsewhere. It is also inequitable if the costs are borne by the poorest countries and the benefits accrue to the wealthiest. Such a process will exacerbate inequalities between European health systems and levels of patient care.

With improved data on cross-border flows of essential workers, it would be relatively simple to ensure that these flows amount, at a minimum, to a zero sum game rather than a game of winners and losers, or even to a win-win game, which supports health systems in both sending and receiving Member States. It is improbable that any attempt to prevent the migration of health professionals could be successful, even if a legal means was found to do so. Increasing salaries and conditions in the poorer Member States is also unlikely to succeed, even if the financial means was found to achieve this, as a spouse's potential earning are also a major factor in migration decisions[63].

Improved data on workforce needs and workforce migration would make possible the creation of a system in which those Member States whose health systems benefit from workforce migration could compensate those who currently lose out. This could take the form of direct financial compensation, or the sponsorship of training places. The European Commission could facilitate such a system as a practical example of its

strategy of open co-ordination of policy for Member States. But the first step would be to generate reliable data on Europe's healthcare workforce.

The health care consequences of the undersupply of nurses and midwives are increasingly important in the context of EU enlargement and an ageing population, and the quest for solutions is becoming urgent.

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