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Cross-national comparisons of human resources for health – what can we learn?

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Abstract: After a long period of neglect, the issue of human resources for health (HRH) has recently emerged as a core component on the international health agenda, with policy makers increasingly eager to learn from experience elsewhere. This article investigates systematically the opportunities and challenges associated with the use of cross-national comparisons of HRH policies and practices. It reviews the evidence in favour of using international comparative studies on HRH, discusses emerging opportunities for developing a cross-national research agenda to guide HRH policies in Europe, and highlights obstacles which may hinder the implementation of comparative studies on HRH. While demonstrating many opportunities offered by the comparative approach to improve understanding of human resources processes in the health sector, this article also emphasizes the dangers of simplistic pleas for the transfer of human resource policies without taking into account the context-specific factors and the generative capacity of the social actors in the design and implementation of policy changes.

Introduction

In an increasingly global environment, cross-national comparisons of health systems offer valuable opportunities to draw on a broad array of reform experiences (Reinhardt *et al.*, 2002). Health policy makers, challenged to reconcile the seemingly insatiable demands with finite resources, have increasingly realized the benefits of learning from experience elsewhere (Globerman *et al.*, 2001; Ranade, 1998; Reinhardt *et al.*, 2002).

After a long period of neglect, the issue of human resources has gained much greater prominence on the international health agenda as both a barrier to and opportunity for effective reform of health care delivery. Human resources for health (HRH), defined as the stock of all individuals engaged in the improvement of the health of populations, encompass a vast array of different groups from those (professionals and non-professionals, regulated and non-regulated) providing care for individuals to family and volunteer caregivers providing

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non-personal health services. In a sector that is, by its nature, labour intensive and employs up to 10% of the formal workforce in the industrialized countries, while profiting from a tremendous amount of voluntary and informal labour, policy makers are able to reshape health care delivery by altering attributes of the workforce. Their options for intervention include production of health workers, specialist training and continuing professional development, regulation of professional practice, changes in scopes of practice, methods of paying providers, and provision of non-monetary incentives for health workers. Each of these areas offers a wide range of options, each differing in their impact on health sector performance. Yet many analysts have highlighted how human resource policies in the health sector are characterized by many specificities (Diallo *et al.*, 2003; Gupta *et al.*, 2002). Several questions emerge: How do different countries plan, produce, distribute, organize, pay, motivate, and combine their health personnel? What problems have they encountered and how have they coped with them? How successful have they been? Can we learn from them, adopting or avoiding certain policies and practices? If yes, cross-national research will offer the promise of expanding our understanding of human resource for health processes by comparing policies, practices, and institutional structures that have been developed in different countries to meet health care workforce requirements. This article systematically examines opportunities and challenges associated with the use of cross-national comparisons of HRH policies and practices. The article examines from a comparative perspective, major challenges to policy in relation to health care professions in Europe and potential responses to these challenges.

The article proceeds as follows. The next section outlines influential theoretical approaches to cross-national research. It examines the extent to which these alternative perspectives may underpin effective production and transfer of knowledge on HRH. A second section examines the case for a cross-national perspective on issues related to HRH. It reviews evidence in favour of using international comparative studies on HRH and highlights the most critical areas for such analyses. A third section looks at how these potential benefits can be achieved in practice, using the example of Europe. It discusses emerging opportunities for developing a cross-national research agenda to guide human resource policies in European health care systems but also looks critically at obstacles which may hamper the implementation of comparative studies of HRH. In particular, it addresses the limitations of existing sources of data on HRH and the analytic tools available. A fourth section develops this theme, emphasizing the dangers of superficial comparisons or simplistic pleas for the transfer of human resource policies and practices. The article concludes that, while a comparative approach to human resource issues offers an opportunity for a better understanding of many processes and may increase understanding of cross-national phenomena which impact on the workforce, it is also important to consider the country-specific institutional, cultural, and political factors

which affect the policy changes. It is also argued that knowledge about best practices is not just passively incorporated into policy making, but has to be purposively appropriated through negotiated exchanges between key stakeholders and change agents.

Theoretical approaches to cross-national comparisons in social policy

The comparative approach has long been central to the study of social policy but has become more systematic as social science methods have been used in early attempts by nation states to cope with the social consequences of industrialization (Holmes, 1985). Comparative research was adopted by writers such as Marx, Durkheim, Weber, Levi-Strauss, and Parsons to study the development of social phenomena in different societies (Lüschen *et al.*, 1995; O'Reilly, 1996; Parsons, 1951; Parsons, 1961). Over recent decades, a comparative perspective has been applied to assessments of the social and economic performance of countries, with the health sector, as a prominent component of the welfare state, a primary focus for such comparative studies. International organizations, such as OECD, WHO, and the World Bank, put substantial efforts into gathering and disseminating comparative cross-national information on various aspects of health care. At the same time, the labour market has been the subject of growing attention with studies examining, from a comparative perspective, issues such as industrial relations, employment and working practices of multinational companies (Ferner, 1997; Gladstone *et al.*, 1989; Hofstede, 1993; ILO, 1998; Jefferys, 1995).

Approaches to cross-national comparisons in social policy have often been polarized between two dichotomous positions: the universalistic and the particularistic (Field, 1989; O'Reilly, 1996):

The universalistic approach stresses convergence, looking for universal trends in social policy. Universalistic theories such as *industrialism*, *evolutionary theory of economics*, and *contingency theory* assume a common dynamic towards a convergence of societies through a series of historical stages of development. Industrialism contends that technological innovation, use of similar technologies, and other homogenizing forces will lead to the adoption of similar working practices and will blur distinctive features related to different traditions, cultures, and values (Kerr, 1983). In the case of health services, the universalistic aspects of medical knowledge and technology will lead towards increased uniformity of health care structures and working practices. In the context of the health care workforce, potential universal pressures include a greater emphasis on market mechanisms, growing scope of international and regional agreements, and greater international mobility of workers, each of which will encourage adoption of analogous practices. Thus, convergent practices, such as increasingly flexible working practices and enlargement of the scope of an individual's work, observed in many countries, have been attributed to the

demands of global markets (ILO, 1998). Evolutionary economics assumes similar developments, with its emphasis on the underlying economic phenomena which drive convergence of social systems (Dosi and Nelson, 1994; Globerman *et al.*, 2001). Because welfare states face the same set of basic economic problems, confront similar ideological and policy concerns, share certain core principles, and pursue some common objectives, it is argued that their major policy innovations are likely to show a substantial degree of convergence. Contingency theory, whose scope is limited to organizations rather than entire societies, is intellectually rooted in the same paradigm (Donaldson, 2001; Lawrence and Lorsch, 1967). The key assumption is that, under a given set of contingencies, such as organizational size and technology, it is possible to identify optimal organizational behaviour and structural solutions that are universally applicable. Thus, application of universalistic theories to cross-national research on HRH emphasizes universal imperatives or pressures, seeking common factors which may both explain similar patterns of development of the health care workforce and serve as strategic levers for change. However, such theories have limited explanatory power when applied to labour policies in different welfare states.

The particularistic approach looks for unique national developments, emphasizing differences in the organization and performance of systems. Culturalist and institutionalist theorists argue that, even when faced with comparable pressures, it cannot be assumed that identical strategies will emerge because of the mediation of national institutions, culture, and values. In his seminal work based on a survey of employees from 54 countries, Hofstede unambiguously adopted a culturalist approach, relating different attitudes to work to cultural contexts and values (Hofstede, 1980). He concluded that certain types of leadership or management practice would thus be acceptable in some countries and not in others. Institutionalist theorists emphasize social, political, and economic structures in which attitudes and values are rooted (Berger and Luckmann, 1971; Sorge and Warner, 1986), exemplified by the educational system, the structure of national industrial relations, the nature of the workplace hierarchy, and the political and administrative systems (O'Reilly, 1996). Health systems stemming from specific political, historical, cultural, and socio-economic traditions are likely to form different clusters, reflecting variations in prevailing organization and practices. Thus, the particularistic approach to a cross-national research agenda on HRH provides a framework to explain diversification in HRH practices, and in particular to study affinities between particular forms of health care systems and human resource practices.

Although these approaches to cross-national comparisons have taken divergent directions, they complement each other. The universalistic approach helps to understand globalizing processes and identify transnational influences on the

workforce. Such approaches may also underpin the design of supra-national policy instruments required for governance of internationally mobile health professionals. On the other hand, the nation-state remains a useful unit of analysis as social policy is within it and the outcomes of global processes take specific national forms reflecting cultural, political, institutional, and organizational features of individual countries (Kenneth, 2001). In the health sector, despite near universal support for principles of solidarity and universal access, OECD countries have chosen quite divergent pathways in pursuit of the same objectives, with organizational arrangements that differ greatly, as does the allocation of capital and human resources. Even when different countries are implementing similar restructuring initiatives, these reforms often lead to different outcomes. While similar market-style reforms have been introduced in Sweden and the United Kingdom, there has been a much stronger ideological emphasis and more radical and rapid changes in the British case (Bach, 1997).

It is, however, important to highlight that, in reality, the universalistic and the particularistic approaches are intellectually rooted in the same paradigm. They share a common bias towards an evolutionary view of institutional change considered to be devoid of actors and the result of impersonal exogenous forces. Both implicitly contend that social structures are monolithic forces that necessarily pre-date social actions and establish the boundaries within which social interactions occur. In this respect, neither possesses much explanatory power to account for the role of human agency and skills and the play of interests in the formation and implementation of social policies. Yet the health policy arena is crowded, with many stakeholders shaping the outcome of government policies. This makes it unlikely that external solutions to HRH problems will be adopted indiscriminately without some adaptation. These competing stakeholders, embedded within a complex network of social relations, may be particularly eager to participate in the formation of workforce policies that have far-reaching and direct implications for them. This means that policies in regard to HRH reflect not only universal forces or specific features of the institutional environment, but also diverse strategic choices resulting from the complex and contextualized play of political and social interests at different levels within each country. Thus, contemporary contributions that concentrate on observable conflicts between social actors, power relations/processes, localized and contextualized social interactions, and micro-levels of practices (Foucault, 1980; Law, 1992; Crozier and Friedberg, 1980; Friedberg, 1997) offer complementary frameworks to enrich understanding of labour policies relating to HRH. They shed light on critical issues such as gender-based power relations and structures of inequality and control that are often overlooked in labour policy analyses. They offer an opportunity to extend analyses beyond the nation-state to smaller territorial units that provide further opportunities for cross-national learning. Finally, they remind us that cross-national comparisons of HRH are only tools that

provide new knowledge to strategic actors. But appropriation and use of this knowledge will only result from tactical interactions between the social actors.

The case for cross national comparisons of human resources for health

Although cross-national comparison is among the most fundamental tools in social sciences and has been central to the study of politics and public policy, international initiatives to establish labour accounting systems in the health sector are relatively recent, in comparison to the long-standing use of information on health system finance and utilization. There is even now little information on many key areas. Yet recognition of the constraints facing the health sector reforms during the 1990s from shortcomings in the workforce has provided an impetus for detailed comparative analyses. Although only a few countries have so far adopted a comprehensive approach to labour accounting in the health sector, there is now general agreement about the contribution that international comparative information can bring to support the management of human resources in health care:

1. Cross-national comparisons can assist policy makers and researchers in monitoring and evaluating the development of the health care workforce

People who deliver care, both professionals and non-professionals, are the health system's most important asset and the single most expensive factor in the production of health services. Cross-national comparisons are often used by policy makers to contrast their experiences and examine their international standing on a range of workforce-related issues, such as numbers and different types of health personnel and their wage rates. International studies based on exploitation of large international data sets have focused on understanding relations between human resource variables and health care outcomes. Such studies make a significant contribution to generating hypotheses about causal relations and suggesting criteria to judge the appropriateness of the workforce profile. Thus, it has repeatedly been shown that well-developed primary care is associated with better health outcomes and more cost-effective provision of health care (Boufford, 1994; Jarman *et al.*, 1999; Starfield, 2001; Starfield, 1991). Countries such as the United Kingdom, France, and the Scandinavian states are often taken as reference points in the search for an appropriate mix of generalists and specialists. The results of a recent international study have highlighted how patient outcomes are mediated by key attributes of professional nursing practices, including nurse staffing, nurse–physician relations, and nurse autonomy (Aiken *et al.*, 2002; Sochalski and Aiken, 1999).

2. Cross-national comparisons can help policy makers to identify the best practices of HRH management and select the most appropriate policy instruments to address the health care workforce challenges

In a situation where there are multiple pressures for health care reform and performance improvement, the management of human resources for health care

assumes a strategic importance, offering a powerful and innovative means to achieve significant changes in the delivery of care. International comparisons provide a unique opportunity to identify best practices adopted elsewhere in response to similar problems. Implicit in this view is the proposition that some forms of policy instruments, such as laws, regulations, organizational restructuring, or incentives, are more likely to be successful in tackling certain HRH issues. If this is so, it is necessary to identify these policy tools and specify the conditions of their applicability within different contexts. We can relate this objective to contemporary efforts to examine from a comparative viewpoint the role and the functions of general practitioners, the optimal conditions for them to function and their relationships to other levels of care (Boerma and Fleming, 1997; Mariott and Mable, 2000). Recent innovations in the United Kingdom, New Zealand and the USA that give primary care physicians a financial incentive to manage the total care of patients more economically have been examined by other OECD countries seeking to enhance efficiency. Thus, as common challenges facing health care are putting pressures on the health care workforce, cross-national comparisons offer an appropriate tool for obtaining evidence on successful initiatives developed and implemented elsewhere. Yet, so far, most countries have only begun to re-examine the profile of their health care workforce and have not made fundamental changes.

Countries do learn from how others have tackled problems similar to their own. Recent reforms in Central and Eastern Europe, targeting various aspects of the health care workforce – such as educational programs for health professionals, new models of general practice, and different modes of remunerating physicians – are influenced heavily by previous experiences in Western Europe, with considerable transfer of information from cross-national research. This transfer process is also an opportunity for countries undergoing reform to be more aware of practices to avoid. For instance, after being trumpeted as promising means to improve performance, privatization, competitive tendering, and incorporation of quality approaches taken from private industry into human resource management processes in the health sector have been found by many countries to have a negative effect on staff morale and provision of services, while failing to yield the expected benefits (Bach, 1997). This is not to say that competition or other practices drawn from the private sector must not be considered as options, but such approaches may require significant adjustments before they can be adapted to the health care context.

3. Cross-national comparisons can assist policy makers in improving the positioning of their countries in the international health labour market

Growing competitiveness in the global arena has forced social institutions to seek competitive advantage in any way possible. A consensus has emerged that sound management of health care systems makes a significant contribution to the international competitiveness of a country. According to

the resource-based view, the comparative benefits and distinctiveness provided by the unique mix of skills, knowledge, and behaviour of the pool of human resources have a high value because it is difficult for competitors to replicate them quickly (Bartlett and Ghoshal, 1991; Pfeffer, 1998; Porter, 1980; Sparrow *et al.*, 1994). Such a view also suggests a shift of human resource responsibilities in health away from transactional duties (payroll, management of grievances etc.) towards more strategic activities, which look to align the workforce with changes in the environment. From this perspective, cross-national comparisons are designed to provide policy makers with a more accurate understanding of where their health care systems rank as employers of choice. The starkest illustration of this point is the current competition within a pool of western countries to attract physicians and nurses. With chronic failures of human resource planning, leading to almost universal shortages of some categories of personnel, countries seeking to acquire professionals in the international market place must more than ever compete with each other to attract the best quality at the lowest cost. As a result, the development of optimal strategies that take into consideration quality of work life, workload, skill mix, professional development, and financial incentives have become increasingly important in recruiting and retaining motivated and high-profile professionals in health care. In this respect, cross-national comparisons give policy makers opportunities both to identify attributes that characterize the most successful competitors in the international health labour market and to optimize their position in the global market.

4. Cross-national comparisons can help policy makers further their understanding of particular aspects of HRH processes

Issue-centred analyses, which concentrate on a specific aspect of the health care workforce and are performed on an international scale, are useful not only because they may have an immediate policy relevance but also because they can contribute to a general increase in understanding of human resource processes in different contexts and bring to light new issues related to the management of the health care workforce. Some countries face unique or especially challenging concerns, but can enlighten others on the implications of these particular issues for health personnel and on potential strategies to cope with them. For instance, Italy, Spain, Mexico, and the Philippines offer scope to examine the implications of overproduction of doctors and nurses for employment, professional status and power, and geographic distribution. African countries, which are experiencing the heaviest toll from HIV, also offer a persuasive illustration of how exogenous factors, in this case the AIDS pandemic, can impact on the health care workforce in the form of reduced numbers, absenteeism, reduced productivity, and psychological distress (Tawfik and Kinoti, 2002). To take another example, an enormous literature on brain drain builds mainly on experiences of developing countries to study the consequences of

the emigration of health workers and to envision strategies to reduce the impact on countries of origin. Countries of Central and Eastern Europe that have recently acceded to the European Union (EU) and have faced the challenges of harmonizing their laws on professionals and reforming their educational programs were able to draw upon the experience of the successful reunification of Germany (Nolte, 2002).

5. Cross-national comparisons offer an appropriate option to evaluate effects of alternative models of management of human resources in the health sector

There is no simple formula to assess the impact of human resource interventions in the health sector and, given the practical impossibility to allocate randomly health systems to different system-wide human resource interventions, experimental designs are rarely suitable options. However, the comparative approach has proved itself useful for evaluating naturally occurring experiments. Some countries pay their physicians primarily on a fee-for-service basis, while others pay salaries. Some countries have granted health professionals substantial management roles, while others still restrict most health professions to clinical duties. The comparative approach enables researchers to analyse these contrasting experiences and assess their impact. Even within national boundaries, the comparative approach may also be applied to observe differences between different modes of human resource management, but this is less often possible. First, suitable comparison groups with observable characteristics are not always available within a single country. For instance, the health care workforce in a national capital may not have a suitable national comparator. Second, it may not be possible to restrict many of the interventions that one might wish to change, such as laws, regulations, methods of compensation, to a particular region or subgroup. Even when a policy targets a subpopulation or region, there may be spillover effects on the rest of the country. From an institutionalist point of view, health care organizations which compete with each other to attract resources or increase their institutional legitimacy tend to mimic the practices of their competitors, particularly those that are perceived to be successful (DiMaggio and Powell, 1983; Meyer and Rowan, 1977). A seminal study by the National Research Council of the United States (2001) suggests many ways in which cross-national comparisons may help. Because human resource policies and practices in health care vary, countries at similar levels of development may serve as comparators for each other, allowing evaluations of policies implemented in some countries and not in others. Also, because spill-over effects are largely contained within national boundaries, comparisons of countries remain a valid option to estimate the impact of specific human resource interventions. Even where there are suitable comparison groups within countries, cross-national comparisons still offer a comparative advantage by enhancing the scale of variation and thus the information provided.

In summary, cross-national comparisons can contribute in different ways to improve the knowledge base relating to the health care workforce, offering important opportunities to facilitate more effective management of HRH. Key areas where cross-national research is making a significant contribution or is needed include supply of personnel, labour relations, working conditions, quality assurance, regulation, education and training. Yet the nature and relative importance of these issues will vary over time and among the different local and occupational markets in which the health systems operate. Solutions are often context specific. This precludes sweeping generalizations and calls for more thorough description of the contexts in which the solutions have been adopted and, more importantly, for the understanding of the interplay between those actors involved in their implementation. Although ample evidence from case studies is available to demonstrate the benefits of many human resource practices, such as substitution of roles and changes in skill mix, the spread of these practices to new contexts has often proved to be very difficult and will become reality only as a result of tacit or overt bargaining between the societal actors.

The European context: opportunities and challenges for cross-national comparisons of human resources for health

Western Europe should offer many opportunities to benefit from comparative analyses in the area of HRH. This region is subject to important convergent factors, including the implementation of often related health sector reforms in many countries and the increasing recognition of both the dependence and impact of these reforms on the available workforce. These factors have contributed to raising HRH on the agenda for both research and action. For example, Target 18 of the Health for All policy framework for the WHO European Region stressed the need for member states to ensure adequate supply, education, training, and conditions for optimal development of their health professionals (WHO, 1999).

Within the European Union, policies on HRH are influenced by the growing scope of European law in the health sector (McKee *et al.*, 2002). European law may affect directly what can be done within countries, as illustrated by the European Working Time Directive that limits the hours worked by junior doctors. This will have profound effects on the pattern of service delivery (Molloy, 2003). It also influences developments across borders, as European policy makers must adapt to a growing professional mobility facilitated by the principle of mutual recognition of qualifications and a free market for health labour. These developments pose challenges, as national authorities must respond to concerns about the quality and technical competencies of health workers in different countries. Mobility is, of course, not confined to professionals, and increasing cross-border mobility of European citizens, growing numbers of whom are dividing their time between more than one country,

make it necessary to co-ordinate arrangements to ensure access to care for those travelling.

Throughout the 1990s, the European Commission has promoted the development of comparable health sector information, including on the workforce (Randall, 2002). Several large-scale programs have been established to develop the evidence base of various aspects of health policy. The European Industrial Relations Observatory, although not specifically dedicated to health care, nevertheless reports on key dimensions of the health care workforce relating to labour relations and working conditions. The European Observatory on Health Systems and Policies has been developing a unique collection of reports (Health Care Systems in Transition profiles) which provide up-to-date comparative descriptions of health care systems in Europe, including specific information on human resources. Concomitantly, the rapid development of information technology has made it possible to improve accessibility to data. Increased efforts have been made to place primary and secondary data on accessible archives and databases. Eurostat, the statistical service of the European Union, gives worldwide access to a wide range of information including the Labour Force Survey, Labour Market Policy, Labour Cost, Statistics on industrial disputes, and Employment. The WHO European Health for All database provides easy access to a wide range of basic statistics, including information on HRH for the 52 Member States of the WHO European Region (drawing on data submitted by individual countries as well as from international agencies, such as the OECD and International Labour Organization).

However, although the benefits of comparative international research are increasingly clear and emerging developments in the European landscape provide a strong momentum for developing comparable information, the current infrastructure available to conduct such analyses still has many limitations. Above all, the development of an international evidence base for supporting HRH policy making requires *timely production* and *diffusion* of *relevant*, *comprehensible*, and *comparable information* tracking *all key dimensions* of the health care workforce and generated from *methodologically sound procedures*. Recent reviews highlight several areas where these requirements have not been met (Escobedo *et al*., 2002; Schneider, 2001) and allow the identification of some challenges that need to be overcome:

1. Lack of harmonization in the definitions of key concepts used

Although a number of national and international data sets contain information about human resources in health care, the use of these data for comparative studies is often hindered by substantial differences in the definitions of key concepts. In the World Health Report 2000, HRH is defined by the World Health Organization as the stock of all individuals engaged in the promotion, protection, or improvement of population health, encompassing both professional and non-professional health workers (WHO, 2000). In contrast, the

OECD makes a distinction between human resources in health care, which refers to health professionals, and total employment in health care industries, a broader concept that includes all persons employed by health care provider industries (OECD, 2000). These differences may have an important impact on interpretations of aggregate data. As national definitions of part-time and full-time work differ between countries, so do full-time equivalent (FTE) conversions. In Iceland, FTE units are obtained by transforming the number of jobs according to hours worked, whereas Norway uses a more complex formula: number of full-time equivalent persons = number of employed persons multiplied by a conversion factor for part-time employees (Schneider, 2001). Boundaries of both health professions and the health care system are also defined differently from country to country. As a result, definitions of a nurse or a doctor may differ. Unlike in other European countries, nurses in Italy do not constitute a separate professional category, but occupy the higher level of a wider hierarchical structure of non-medical health service employees that include technicians, clerks, caretakers, and administrative staff (Donatini *et al.*, 2001). Certain allied health fields have been granted a professional status in some countries and not in others. For instance, chiropractors have been able to obtain formal professional recognition in Denmark but not in Portugal. Thus, many concepts related to key aspects of HRH are socially constructed and often reflect different national situations. Ideally, a single international framework of HRH, as a shared reference point, would allow for a consistent conceptual approach, with common definitions enabling comparable and consistent reporting, while leaving sufficient room to take account of national specificities. Since this is not yet possible, analyses using comparative data must be subject to great caution, with attention paid to conceptual issues that shape how data are defined in national contexts.

2. Existence of different data collection systems and classifications for health occupations in Europe

Distinctive institutional features and policy priorities in each country shape their data collection systems. The purpose for which data are gathered, the method of collection and the criteria adopted for coding and categorizing data vary considerably between countries, and even within some countries. This variability may be attributed to the diverse organizational structures of the health care sector and the many different education systems training health professionals throughout Europe. The nature of the agencies that collect health workforce data (local governments, health insurance funds, statutory bodies, trade unions, national office of statistics, etc.) also vary. They use different definitions and collect different data items. Although ISCO-88 (International Standard of Classification of Occupations), NACE (Statistical Classification of Economic Activities), and ISCED (International Standard Classification of Education) provide harmonized classification systems which could facilitate

collection and comparison of HRH data, the way in which these tools are applied is not harmonized across countries (Schneider, 2001), in particular in relation to the level of detail collected.

3. Fragmentation of sources of data

In addition to the variety of conceptual definitions and classifications which affect the cross-comparability of health workforce data, there are also issues related to the heterogeneity and fragmentation of data sources. National labour accounting systems, national accounts, health accounts, and international databases such as those of International Labor Organization (ILO), OECD, and WHO must often be combined to build a full picture of the HRH situation in a specific country. But these different data sets rely upon a host of sources to compile different aggregate figures, including censuses, surveys, records of graduates, registers of licensing organizations, and professional associations. However, great caution is needed when aggregating data drawn from these different sources, and detailed information on methods of collection of data is required. The European Labour Force Survey, which is extensively used by the international organizations (ILO, OECD, EU) to capture employment-related characteristics, offers the greatest comparability. Yet there remain some differences in the survey from country to country, such as modifications of the sampling methods or the reference period, or variations related to the implementation of the survey (some countries have experienced difficulties in collecting information on particular items). Another frequently used source is professional and administrative registers. However, registration and accreditation procedures vary substantially across countries. For some occupations, professional registration may be mandatory in some countries and not in others. The same person in the same job may need different registration procedures in order to establish contracts with funders (public and private insurance funds). There is also a risk of double counting when health workers are employed and consequently registered by more than one institution. Again, this stresses the need to have a detailed knowledge of the conditions in which the data have been collected and suggests that a single source is often not sufficient to gain valid information. Integrating different sources is likely to provide a data set with depth and explanatory power that exceeds what is possible for a single source.

4. Paucity of data in some countries or in regard to specific aspects of HRH

Although there is an increasing number of initiatives in Europe to establish labour accounting systems for the health sector, the availability of workforce data still varies considerably from country to country and for various aspects of HRH. Europe, especially when taken as WHO's European Region, brings together a set of countries at very different stages of economic and social development. As a result, the financial resources available for collecting health sector information and the ease with which data on HRH can be obtained differ

considerably from one country to another. Accurate and timely data on the health care workforce are more easily available for the western European countries than the transition economies of Central and Eastern Europe. Even in Western Europe, some analysts suggest that national information is most precise and comprehensive in those countries with the highest levels of service and where health care is mostly provided or funded by the government (Escobedo *et al.*, 2002). Fragmentation of the funding and provision of services may make more difficult the collection of data and weaken the value of public administrative registers. The paucity of data on some key areas is another issue. For certain topics, the information collected is particularly limited, because they have rarely attracted attention from policy makers. In general, the provision of information related to the hospital sector is the most comprehensive. In contrast, it is particularly hard to track human resources within the primary care sector. For many occupations, there is no reliable information available. While the medical profession and to a lesser extent the nursing profession have been extensively studied, data on the professions allied to medicine remain very limited. While considerable emphasis has been placed on information about the supply of personnel, the size of the workforce, and the corresponding wage bill (Bach, 2000), less attention has been paid to issues relating to work organization, personnel motivation, and performance management.

5. Differences in professional roles

Whatever classification system is used, and however rigorously it is applied, it will be subject to differences in professional roles. An important contemporary example is the changing relationship between the task profiles of doctors and nurses. In some countries, tasks that would once have been the preserve of doctors are increasingly being undertaken by nurses or, in some cases, new categories of health professionals, trained specifically to undertake particular technical roles, such as phlebotomists. There have always been differences in the roles of health professionals, often related to systems of financial incentives and professional power structures. A well-known example is the way in which routine childbirth is managed by midwives in the United Kingdom, but commonly by medically trained obstetricians in the USA; while routine anaesthesia is often given by nurses in the USA, but by medically trained anaesthetists in the UK. However, the situation is becoming much more dynamic, for several reasons (McKee and Lessof, 1992). First, in some countries, pressures to reduce hours worked by junior doctors, while maintaining cover in smaller facilities, is creating pressure for new ways of working (McKee and Black, 1991). Second, the nursing profession is becoming less willing to be seen as acting as physician's assistants. Third, technological change is creating new diagnostic and treatment options, such as ultrasound, that are either replacing or simplifying earlier, more technically complex procedures. However, the pace of change varies greatly between countries, to a large extent reflecting persisting financial

incentives, so it cannot be assumed that the tasks undertaken by a specific type of health professional in one country will be the same as those elsewhere. Unfortunately, while the extent of variation is well known from anecdotal accounts, it has been subject to remarkably little empirical research.

6. Use of all analytical options available for cross-national comparisons
The most widely used sources of information for cross-national comparisons of HRH are statistical data sets, covering discrete aspects of the health care workforce (staffing, cost, productivity). Their advantage lies with the speed with which they can be exploited to provide precise information on a few simple variables. However, the range of challenges to the management of human resources in health care demands a wide range of information to inform policies. Information from quantitative data sets rarely explains the reasons for observed differences or contextual factors which mediate the relationships among variables. In contrast, case studies offer opportunities for deepening understanding of human processes, placing them in a wider context, and for considering a broader range of factors at lower levels of aggregation. Questions raised by large-scale studies based on quantitative data are often best explored by further smaller scale, targeted case studies. There is thus a need for research that mixes qualitative and quantitative data, to capture the complexity of the health care workforce within different countries.

7. Issue of co-ordination between key stakeholders
In the health sector, human resource processes and thus the collection of information on them involves a wide variety of stakeholders (Martinez and Martineau, 1998). Thus, such information is inevitably fragmented and its collation requires collaboration between different groups. As a result, discrepancies often emerge when measuring the same indicator from different sources (Diallo *et al.*, 2003). Thus, the achievement of a comprehensive and coherent agenda of cross-national research relating to HRH in Europe requires a strong participatory infrastructure at both national and international levels. This includes establishing appropriate links between key stakeholders, facilitating access to data sets while preserving confidentiality, fostering use of common tools, harmonizing nomenclature and data definitions, and developing the professional and technical capabilities to integrate data sets.

Conclusion: learning from cross-national comparisons

This article argues that cross-national comparison provides opportunities for gaining insights into many HRH issues that are of major concern to many countries, learning how other countries have dealt successfully or otherwise with these issues. Yet, as the detailed examination of the practical scope for doing so within Europe showed, to take full advantage of cross-national comparison of HRH requires, where possible, harmonizing concepts, methods, and

measures used in different countries, and where harmonization is not possible, a much better understanding of the differences.

Overall, this analysis is positive about the scope for shared learning, but for this to work it will require the active involvement of key stakeholders in a programme of research encompassing diverse methodologies and topics. However, it must also be accepted, drawing on evidence on institutional change, that there is a large gap between *learning about* and *learning from* (Okma, 2002). Lessons may be learnt without necessarily resulting in substantial changes. That is, it cannot be assumed that approaches that have been successfully experimented with elsewhere can automatically be transplanted to produce the same results. As has previously been noted, countries differ substantially in their historical development, institutions, and culture. Policy makers often choose policy instruments according to their perceptions of the problem and the institutional culture in which they are working, rather than whether there is information about effectiveness of the instruments (Howlett, 1991). The choice of policy instruments required to manage the health care workforce is embedded in, and is influenced by, the broader governance context. The HRH subsystem is part of the broader health care system. To learn from other countries, appropriating their policies and practices, we must have a clear understanding of the contexts in which their activities are implemented so as to judge to what extent their best practices will fit in with our own context.

Despite the influences of external factors, human agency remains the main motor of social process and maintains its capacity to induce changes and its ability to defy external demands. Putting human agency at the centre of the picture implies a recognition that cross-country learning is not a natural and mechanical process but a deliberate and purposive action from social actors looking for new ways of addressing the problems they face. From such a perspective, changes in the management of HRH will not be ensured through the prescription of a list of best practices or recipes, but requires the active involvement of a range of stakeholders at local, national, and international levels, creating and using knowledge about the most relevant options to address HRH issues in different contexts.

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