EUROPE

Regional Committee for Europe
Fifty-seventh session

Belgrade, Serbia, 17–20 September 2007

Provisional agenda item 6(a)

EUR/RC57/9
+EUR/RC57/Conf.Doc./3
30 June 2007
73359
ORIGINAL: ENGLISH

Health workforce policies in the European Region

The WHO Regional Office for Europe will be holding a ministerial conference on strengthening health systems in June 2008 in Tallinn to highlight the impact of health systems on health status and economic growth, and to assess recent evidence on effective strategies to improve health system performance.

One of the most important inputs in strengthening health systems is health workforce policy. The effectiveness of health systems and the quality of health services depend on the performance of health workers, and that results from their knowledge, skills and motivation. Problems related to the health workforce have consistently been identified as a major constraint to scaling up priority interventions and to attaining the Millennium Development Goals. Policy-makers face the key challenge of ensuring that health systems have sufficient workforce capacity to deliver services that improve or maintain health. In addition, they are facing new trends and challenges linked to demographic, technological, political, socio-economical and epidemiological changes. In particular, issues related to ageing and migrations are of major concern.

The Regional Committee discussion on the health workforce is expected to focus on: facilitating exchange of knowledge and experience; strengthening national capacity for health workforce policy development, planning and management; and advocating more effective investment in health workforce development and better resource coordination.

A draft resolution setting out key policy directions on the issue is attached for consideration by the Regional Committee.

WORLD HEALTH ORGANIZATION • REGIONAL OFFICE FOR EUROPE
Scherfigsvej 8, DK-2100 Copenhagen Ø, Denmark Telephone: +45 39 17 17 17 Fax: +45 39 17 18 18
Electronic mail: postmaster@euro.who.int World Wide Web address: http://www.euro.who.int

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Background

1. The World Health Organization (WHO) Regional Office for Europe will be holding a ministerial conference on health systems in 2008, in accordance with the request to the Regional Director made by the WHO Regional Committee for Europe at its fifty-fifth session in 2005 in resolution EUR/RC55/R8. The aim of the conference is two-fold: first, it will provide better insight into the impact of health systems on health status and, thus, on economic growth; and, second, it will take stock of recent evidence on effective strategies to improve health systems performance in light of the ever-increasing pressures on sustainability and solidarity.

2. During the preparatory stage of the conference, the Regional Office is holding a series of broad consultations with Member States, multilateral organizations such as the European Commission, the World Bank and the Organisation for Economic Co-operation and Development (OECD), and key stakeholders in Member States, including policy-makers, academics and professional organizations.

3. Two consultative meetings with Member States were held in Vienna and Barcelona in 2006. These together with meetings of the External Advisory Board, resulted in agreement on the specific topics to be addressed during the conference within the general theme of improving health system performance. Human resources for health (HRH) was recognized as one of six key topics, the others being governance, performance assessment, coordinated care, vertical versus horizontal approach in health care, and public health. It was also agreed that these technical topics should be discussed at pre-conference events arranged by the Regional Office in 2007 and 2008. A technical meeting on HRH was proposed for inclusion on the agenda of the fifty-seventh session of the WHO Regional Committee for Europe, to be held in Belgrade, in September 2007.

4. In recent years, the World Health Assembly has endorsed a series of resolutions addressing different aspects of the health workforce crisis.

- Resolutions WHA57.19 (2004) and WHA58.17 (2005) on the international migration of health personnel: a challenge for health systems in developing countries urged Member States and requested WHO to develop strategies to mitigate the adverse effects of the migration of health personnel in order to minimize its negative impacts on health systems.
- Resolution WHA59.23 (2006) on the rapid scaling up of health workforce production urged Member States and requested WHO to facilitate the scaling up of activities to increase the production of a competent health workforce in countries.
- Resolution WHA59.27 (2006) on strengthening nursing and midwifery urged and requested Member States and WHO to establish comprehensive programmes for the development of a highly skilled and motivated nursing and midwifery workforce.

5. *The world health report 2006* advocates greater investment in people, enhanced performance, and the promotion of equity in the distribution and use of human resources as a means of overcoming the current workforce crisis. It also emphasizes that new strategies are needed to enhance the effectiveness of health workers, and urges governments, together with their partners, to provide leadership in planning, formulating and implementing the required policies.

> The unmistakable imperative is to strengthen the workforce so that health systems can tackle crippling diseases and achieve national and global health goals. A strong human infrastructure is fundamental to closing today's gap between health promise and health reality and anticipating the health challenges of the 21st century *(1)*.

6. In recognition of the need for a coherent response to the crisis at a global level and to ensure that agencies continue to work together effectively, the Global Health Workforce Alliance (GHWA) was set up and launched during the Fifty-ninth World Health Assembly in May 2006. The GHWA is a partnership dedicated to identifying and implementing solutions to the health workforce crisis. It brings together a variety of actors, including national governments, civil society, finance institutions, workers,

international agencies, academic institutions and professional associations. It is hosted and administered by WHO.

7. The Regional Office has recently published a number of documents on the health workforce situation, and issues and new challenges faced by WHO Member States in Europe. They include *Human resources for health in the WHO European Region*, *Health worker migration in the European Region: country case studies and policy implications*, and two publications from the European Observatory on health systems and policies: *The health care workforce in Europe. Learning from experience* and *Human resources for health in Europe*. They demonstrate the importance of HRH in the performance of health systems, and the current paper is based on their conclusions and recommendations, as well as on recent publications by major partners of the WHO Regional Office for Europe, as noted below.

- In its recent report on attaining high performance in health services, the OECD highlighted the fact that shortages of health care practitioners could pose a problem unless countermeasures were taken. In the present context of a globalizing labour market, shortages in rich countries may induce health workers from poorer countries to move to greener pastures, a challenge already faced by many countries in the WHO European Region.
- The European Union (EU) Consensus Statement on the Crisis in Human Resources for Health states that "Europe is committed to supporting international action to address the global shortage of health workers and the crisis in human resources for health in developing countries"*(2)*. The EU provides support to strengthen HRH capacity through bilateral programmes in a number of countries. In December 2006, the European Commission adopted a communication entitled *A European Programme for Action to tackle the critical shortage of health workers in developing countries (2007–2013)(3)*. The communication demonstrates European support for the decade of action in the area of human resources for health that was called for by the Fifty-seventh World Health Assembly in 2004. In terms of financial support, the Commission intends to use funding from the Development Cooperation Instrument to facilitate global and regional catalytic activities that support resource mobilization at country level, strengthen collaboration with United Nations agencies, and other bilateral and multilateral agencies, and effectively engage civil society.

8. The current global shortage and maldistribution of trained health workers represents a major barrier to preparedness, as well as to national and global health security. The shortage of human resources is influenced by the global economy, incentives for migration, and global negotiation on services. Such influences go beyond the health sector and can only be modified through political action at the national, regional and global levels. At the same time, human resources for health are situated within the broader health development and systems agenda, with financing and stewardship issues as key related matters. The most effective response to global health challenges depends on alliances, cooperation, and partnerships that demonstrate a respect for national sovereignty and a sense of shared responsibility, as noted in the *Oslo Ministerial Declaration – global health: a pressing foreign policy issue of our time (4)*.

9. After years during which the many issues connected with human resources for health have been rather neglected, the WHO Regional Committee for Europe is now putting them on the agenda of its fifty-seventh session for discussion with Member States; they are also an important item on the agenda of the Ministerial Conference on health systems, to be held in 2008.

Introduction

Who are the health workers?

10. In *The world health report 2006 (1)*, health workers are defined as "all people engaged in actions whose primary intent is to enhance health". The health workforce is complex, consisting of several health-specific professional groups, with distinct roles and their own educational and regulatory structures. It includes both private and public sectors and different domains of health systems. The present document distinguishes between two main groups of workers: health service providers and health system

workers. Health service providers deliver personal and nonpersonal services; they may be physicians, dentists, nurses, pharmacists, public health specialists, laboratory technicians or others, and they constitute about two thirds of the health workforce. The remaining one third is composed of health system workers, that is, the managerial staff and support staff, such as health economists, managers and planners, who are not engaged in the direct provision of health services but ensure that the health systems function to attain their goals.

Why are the health workers important?

11. Health workers are central to managing and delivering health services in all countries. The performance of any organization depends on the availability, efforts and skill mix of the workforce. The effectiveness of health care systems and the quality of health services depend on the performance of health workers, and that results from their knowledge, skills and motivation. Human resources form the largest single cost element in any health system – as much as 60–80% of total recurrent expenditure. There are also significant additional costs associated with education and training. These costs are strongly linked to the ways in which and efficiency with which human resources are deployed and used. Since health organizations are faced with severely limited resources today, it is important to pay particular attention to the resource that weighs most heavily on health system costs. Health workers have consistently been identified as a major critical factor in scaling up priority interventions and attaining the health-related Millennium Development Goals. It is therefore essential that policy-makers and managers should put in place policies that ensure a health workforce capable of providing services of good quality, that is sufficient in numbers, well educated and trained, and adequately deployed, managed and motivated.

12. Health services are also extremely labour-intensive, and have a considerable impact on the economy, providing employment for about 10% of the workforce in the European Region.

Need for a strategic vision for the health workforce in the European Region

13. Ensuring an appropriate, trained and sustainable workforce is clearly a major issue for European health policy now and in the future. While demand for health workers is expected to escalate in all countries, health workforce issues remain among the most complex and difficult areas to modify. All Member States in the Region are faced with deep-rooted problems of health workforce imbalances, aggravated by demographic, technological, political, socioeconomic and epidemiological changes, in particular, factors related to population ageing and migration. In addition, meaningful comparison and solid decision-making are seriously constrained by the lack of reliable data. Moreover, different definitions are used for a profusion of HRH profiles, preventing effective comparison and analysis.

14. To address these problems, a dynamic and skilled health workforce is needed, one which is able to adapt to a changing environment and is willing to face and respond to the new expectations of society. The WHO Regional Office for Europe will support all Member States in their efforts to improve their own health systems, including the ways that they train, deploy and manage their health workforce, with a set of consistent approaches and tools. To bridge the gap from day-to-day experience to controlled, evidence-based action, decision-makers in Member States and at local level first need sound information on the HRH picture. Robust and reliable HRH databases need to be built up in each country, allowing proper analysis and planning of the workforce. Efforts are also needed at country level to improve HRH management through appropriate job descriptions that clearly set out objectives, responsibilities and performance measurement criteria, systems of monitoring for accountability and reward, and effective motivation schemes. The education of health workers needs to become one of the key building blocks of health system reforms, strongly connected to the other functions of the health system. A huge effort is needed to improve the quality of professional training and practice, to align health workforce production with the health needs of the population and health system demand, and to prepare future health workers to be able to adapt to the conditions of practice in a rapidly changing health environment. There is also an urgent need to promote research on the impact of HRH on health outcomes and to generate evidence for decision-making and policy-making.

Purpose of this paper

15. This paper presents the key challenges facing health systems in Europe, with a special focus on those induced by demographic and epidemiological changes, new technology, organizational reform and the changing political and economic environment. It then describes the impact of those challenges on the health workforce and how it will have to adapt to ensure an adequate response. Finally, it focuses on ways in which well-designed and politically supported workforce policies can foster performance improvement, and how WHO can help countries in the Region to meet their policy goals in health. As such, it builds on and reinforces the key messages of the White Paper published by the Regional Office for World Health Day in 2006, *Human resources for health in the WHO European Region (5)*. This paper is one of the building blocks of the conference on health systems, human resources for health having been recognized by the 53 Member States in the European Region as one of the key topics to be addressed by the Conference, along with five others (governance, performance assessment, coordinated care, vertical versus horizontal approach in health care, and public health).

Human resources for health (HRH) in Europe: a review of current issues

16. The beginning of the twenty-first century has seen countries throughout the WHO European Region wrestling with how best to adapt their health systems to secure real and sustainable improvements in the health status of their populations. Countries are facing new and challenging health system problems. These are linked to (1) evolving demographic and epidemiological profiles, resulting from the ageing of populations; (2) the impact of new diagnosis and treatment technologies, as well as the demands of better educated and better informed citizens for more and better quality health care; and (3) the consequences of increased mobility and migration that have become a prominent public policy concern.

17. The capacity to respond rapidly and appropriately is strongly influenced by the availability of health workers with relevant skills, adequately deployed by type, level and location of services, and working in environments which motivate them to perform well. Many countries in the Region do not meet these conditions and will have to scale up the capacity of their delivery systems. Traditional approaches to health workforce production, deployment and management no longer meet the health system needs, and more innovation is required. The dynamics of the labour market in the health sector are changing radically in Europe: the familiar pattern according to which the government directly recruits, trains and deploys all health workers no longer reflects the reality in many countries. New forms of public-private mix are emerging everywhere, while the international mobility of health workers (and patients) has expanded the market and affected the dynamics of supply and demand.

18. The total health workforce in the European Region is estimated to be over 16.6 million workers, an average of 18.9 per 1000 population. Health service providers account for 69% of these (11.5 million), and health management and support workers represent 31% (5.1 million) of the total health workforce. There is considerable heterogeneity in the geographical distribution and composition (skill mix) of health workers between and within countries in the Region. The ratio of nurses to doctors ranges from nearly 7.2:1 in Ireland to 0.7:1 in Italy and Greece. There is wide variation in density of health professionals per 1000 population: ratios between the countries with the lowest and highest numbers are 1:6 for physicians; 1:10 for dentists; 1:50 for pharmacists; 1:8 for nurses; and 1:12 for midwives.

Table 1. Health workers per 100 000 population in the WHO European Region, 2002

Country/region	Physicians	Nurses	Midwives	Pharmacists
WHO European Region	351.22	669.02	45.07	50.93
European Union	343.56	708.26	35.95	77.54
Central Asian Republics and Kazakhstan	293.14	767.68	66.9	16.38
Commonwealth of Independent States	373.55	794.18	54.15	18.44
Lowest	118.54 (Albania)	245.15 (Turkey)	11.30 (Germany)	3.03 (Uzbekistan)
Highest	618.52 (Italy)	1856.91 (Ireland)	122.77 (Azerbaijan)	204.31 (Malta)

Source: WHO European Health for All database *(6)*.

19. The illustration in Table 1 above gives only a snapshot of the situation but countries must be aware of the dynamics of supply and demand for health workers, and the likelihood of changes over time. It is important to assess future needs for health workers, and to identify any major gaps that may occur if policy action is not taken. Recent examples of country level assessments include those conducted in England and Finland.

- Projections for England for the year 2010–2011 estimate that the available supply of qualified nurses (full-time equivalent) will be 308 700, while demand will be 322 700, giving a possible shortage of 14 000. For medical staff, the data show that the available supply of general practitioners will be 30 800, and the demand will be 32 000, giving a shortfall of 1200. For medical consultants, availability will be 35 900, and demand 32 700, an oversupply of 3200. For junior/staff grade doctors, availability will be 60 800, and demand will be 61 900, a shortfall of 1100. Such projections can never be precise but they do give early warning of significant gaps or oversupply, as assessed against estimates of demand *(7)*.
- In Finland, the Labour Force 2025 project conducted by the Ministry of Labour involved extensive cooperation between administrative domains, including the Ministry of Social Affairs and Health. According to the basic scenario that takes account of probable development based on current knowledge, there will be 184 000 job openings in social welfare and health care between 2005 and 2020; a target scenario, which includes the possibility of achieving targets for employment, reducing unemployment, and growth, results in 210 000 job openings. The corresponding annual figures are 11 600 and 13 100. The numbers are the second highest after those for the service work sector. About 60–70% of the job openings will result from retirement. At present, 13% of the total labour force work in social welfare and health care. The increase in new job openings in the sector will account for about 20% of the total increase in job openings. Provision in the education system will be made on the basis of the Labour Force 2025 project, with measures introduced by the Government by the end of 2007.

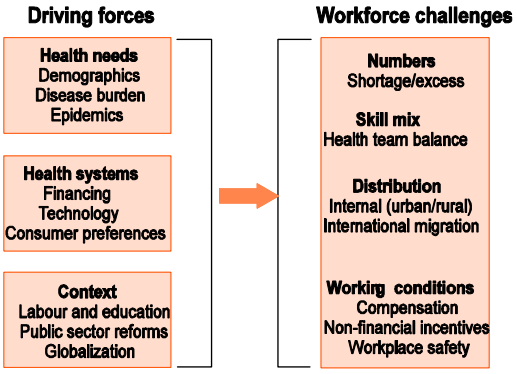
20. Some countries have published estimates of how many nurses (full-time equivalent) would be needed each year over the next decade to match demand for and supply of nurses. The Netherlands has reported a shortage of 7000 nurses (1% of the practising registered workforce). The shortage of nurses in Norway has been estimated at 3300 or about 5.4% of practising nurses. There are 3000 (4.6%) fewer generalist nurses in Switzerland than required *(8,9,10)*.

21. While European health systems are undergoing complex transformations, all countries are facing common human resources challenges, as shown in Figure 1 below:

- **shortages** related to geographical or skill aspects: shortages of nurses are most commonly reported in Member States;
- **skill imbalances** are a problem for almost all countries: in some, the skills of limited yet expensive professionals are not well matched to the local profile of health needs; in most, critical skills in public health and health policy and management are often in deficit;

- **uneven distribution:** almost all countries suffer from maldistribution of human resources characterized by urban concentration and rural deficits;
- **poor working environment:** unsupportive management, insufficient social recognition, weak career development, low wages and lack of incentives are common complaints; and
- **health worker migration:** many countries are also concerned with the possible impact of migration of health workers, or are looking to inward migration as a "solution" to their skills shortages (see section on changing environment in Europe: common trends and challenges).

Fig. 1. Driving forces and challenges for the health workforce



Source: The world health report 2006 *(1)*.

22. Effective actions to address country human resources issues require solid information, reliable research and a firm knowledge base. Currently, the operational research on HRH is very limited. Policy-makers at national and international levels need sound information on the health workforce picture to design sound interventions to improve the performance of health services. In Europe, there is a lack of completeness and comparability in HRH databases. Countries use different classifications to categorize their health workers, and definitions of the scope of practice of the various professions make inter-country comparisons almost impossible. The collection of data also lacks agreed standards and the validity and reliability of data is very uneven. With this qualification in mind, it is still necessary to look at the regional picture of the health workforce.

23. The lack of consistent and complete empirical data on HRH in Europe precludes any meaningful detailed analysis of HRH needs. Valid, comparable and timely information is needed on age structures, participation in the labour market, working hours, productivity, remuneration, institutional and geographical deployment, and distribution by type and level of services, in both the public and the private sector. Gaps also exist in the available qualitative information on education and training capacity and processes, on working conditions, on management practices and on expectations of workers. Sound policy development requires this type of data to ensure that policies are in line with the current and projected needs of health services.

24. Despite this, no systematic information is available concerning the HRH institutional training map in Europe, including the types of subdivisions within the medical specializations. There are significant variations in the educational paths that European trainees must travel in order to achieve or maintain professional status, ranging from the type of training institution (i.e. university or non-university) to the number of years of study required and the academic hurdles to be passed to advance to the next level. In the western part of the Region, discrepancies are gradually being ironed out as part of the EU harmonization process. In the eastern part, however, the Bologna Process has only recently raised awareness of the importance of closely monitoring the development of curricula. In general, there is still a great deal of variety between countries in the ways in which people become health service providers or health system workers.

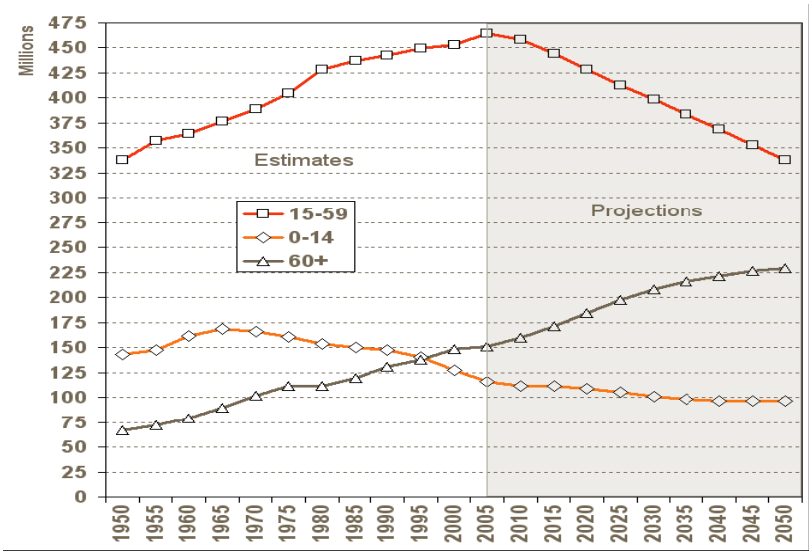
Changing environment in Europe: common trends and challenges

Demographic and epidemiological change

Ageing of the population

25. Ageing of the population is a major demographic trend in the European Region, influencing both the epidemiological profile of populations and health service needs. In the western part of the Region, the changes are clearly in the direction of longer life expectancy and a growth in chronic diseases and deficiencies (in particular at cognitive level); the eastern part suffers from the "double burden" of high levels of both noncommunicable and communicable diseases, including HIV/AIDS and tuberculosis.

Fig. 2. Evolution of the population of Europe by broad age groups



Source: United Nations Department of Economic and Social Affairs *(11)*

26. Overall, the population of Europe is aging faster that of any other continent. Today, it is the oldest, with a median age of 39 years, followed by the populations of North America (36 years) and Oceania (32 years). Europe today is facing unprecedented demographic change: the number of people aged 60 years or over surpassed the number of children (under the age of 15) in 1995. By 2050, Europe will have twice as many older people as children. In fact, in Europe, only the older section of the population is expected to increase in the future, whereas the population under age 60 is expected to decrease, as shown in Figure 2. This combination of a declining child population and a declining population of working age (15 to 59) leads to very rapid population ageing and poses major challenges for the social and economic adaptation of societies. By 2025, Europe will have eight of the 10 "oldest" populations – that is, those with the highest percentage of people age 60 or over – among countries worldwide with at least 10 million people *(11)*.

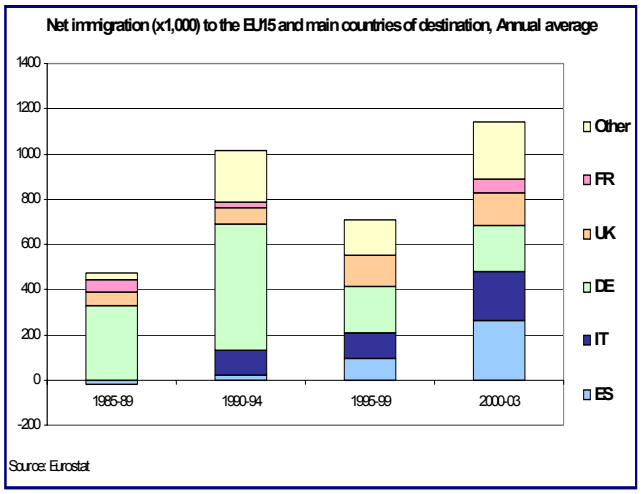
27. Demographic change in Europe will bring further economic, budgetary and social challenges in the coming decades because of people living longer and the potential drop in the workforce resulting from falling birth rates. In the western part of the Region, the number of people aged over 64 years has more than doubled since the 1950s, while the number of those aged over 80 years has quadrupled. While in many ways this can be seen as a triumph for public health, it also poses a particular challenge for the health and social sector. It is predicted that, in the European Union, the ratio of elderly, economically inactive people (aged over 65) to people of working age could more than double between 2005 and 2050. It is more important than ever that people should remain healthy and independent until as late in life as possible, so that premature deaths among the middle-aged working population are avoided and morbidity is "compressed" towards the end of life.

28. Life expectancy at birth has increased by 20 years since 1950. Although this in part reflects a decline in the infant mortality rate, the figure has more to do with increasing life expectancy at older ages. Today, European men at age 60 can expect to live for an additional 17 years and women can expect another 22 years of life *(12)*. The effect of ageing on the composition of the population now comes at a much earlier stage and is therefore of importance both for the labour market and for the health and long-term care sectors. Figures in the Green Paper on demographic change launched by the European Commission in 2005 *(13)* show that, by 2030, the population of working age in the EU will have fallen by 20.8 million (6.8 per cent). In 2030, there will be approximately two active aged people (15–65) to take care of every one inactive person (aged 65+). The highest proportion of older people will be in Spain (36%), Italy (35%), Germany, Greece and Portugal (all 32%), and the lowest in Luxembourg (22%).

Migration to compensate for the ageing population

29. Migration within and from outside the European Region could help mitigate the effects of the falling population between now and 2025, although it is not enough on its own to solve all the problems associated with ageing and is no substitute for economic reforms. As stated in the Commission Green Paper, ever larger migrant flows may be needed to meet the need for labour and safeguard Europe's prosperity *(13)*. Given the demographic situation in Europe and its geographical environment, this immigration will also be intended to reinforce the population in general, and not only to supply manpower. In 2004, the European Union registered 1.8 million immigrants. Significant net immigration into Europe will continue for the next 15 to 20 years. Eurostat's projection is that around 40 million people will emigrate to the EU between now and 2050. As many of them are of working age, migrants tend to bring down the average age of the population. However, despite the current flows, immigration can only partially compensate for the effects of low fertility and extended life expectancy on the age distribution of the European population.

Fig. 3:Trends in net migration



30. The growing importance of migration as a source of population growth is demonstrated in Fig. 3. Furthermore, without migration, the total population of Europe would have already started to decline. To the extent that migrants have higher fertility rates than the indigenous population, migration may boost the natural increase. Germany was always a favourite destination of migrants, who often came from eastern Europe. However, its position has recently been taken over by Italy, Spain and the United Kingdom. A large share of the recent migrants to Spain have come from South America, while Ireland and the United Kingdom are also popular destinations for migrants from Asia. A large share of migration is a result of family reunification.

Shift towards chronic conditions and disabilities

31. As the population of the European Region grows old, the increasing complexity of health problems attached to ageing, and the association between ageing and cognitive decline, have profound implications for the future demand for health and social care. Furthermore, this is happening at a time when traditional family support structures are weakening – and, in some countries of the eastern part of the Region, at a time when no alternative structures have been built to replace the collapsed health system. Increased demand for health care services will lead to an increased demand for health workers, especially among those working at the interface between health and social care.

32. Demographic trends in the Region have brought a major shift toward chronic illness, particularly stroke, heart disease, cancer, cataracts, risk of falls and incontinence. In those over 65, cancer and cardiovascular diseases account for around three fourths of all deaths in Europe. Many chronic conditions will occur at the same time in the older person, leading to significant disability and posing complex challenges to disease management. Integrated care models, which bridge health and social care, are needed to help manage chronic conditions effectively in the community setting. Chronic conditions are defined as health problems that require ongoing management over a period of years or decades, and include: diabetes, heart disease, asthma, chronic obstructive pulmonary disease, cancer, HIV/AIDS, depression, and physical disabilities *(1)*. There are many other chronic conditions, but the one feature that unites them all is that they typically affect the social, psychological and economic dimensions of a person's life.

Patient-centred services and new roles for health workers

33. Although depression remains underrecognized and highly stigmatized across the European Region, it affects between 10% and 15% of people over 65. Older people with depression are two to three times more likely to have two or more chronic illnesses and two to six times more likely to have at least one limitation in their daily living activities. Depression is the major cause of suicide in older people in Europe. Rates of suicide and self-harm are approximately 26% higher in Europeans over 65 than among the 25–64 age group. In 90% of EU countries, the suicide rate is highest in those over 75. More appropriate medical training, increased social awareness and better access to treatment options are needed to prevent, diagnose and treat late-life depression.

34. A growing proportion of patients with debilitating and chronic conditions require the provision of a mix of services across settings, using different staff, with much of the care being home-based or in primary care settings – something for which many European countries lack the necessary infrastructure. These new paradigms of care are driving a shift from acute tertiary hospital care to patient-centred, home-based and team-driven care requiring new skills, disciplinary collaboration and continuity of care – as demonstrated by innovative approaches in many European countries. The rise of chronic illness also demands that policy-makers recognize the needs of informal carers when developing long-term care policies. With increasing decentralization of services across Europe, the burden on informal carers is likely to increase. The vital role of this group cannot be taken for granted. Without support, many will fail to cope and the older people they are caring for will 'fall through the net'.

Technological innovations and organizational reform

35. Technological innovations and scientific knowledge continuously expand the range of choices for structuring health care. Information technology is becoming an integral component in the delivery of care, as a tool to support the storage and retrieval of patient information, and as an aid to clinical and managerial decision-making through "knowledge management". New knowledge becomes available almost in real time and can be retrieved from anywhere. Telemedicine is developing rapidly and allows professionals to consult colleagues and perform interventions at a distance. Diagnostic procedures are becoming more sophisticated each day, with increased capacity for early and more precise diagnosis creating new needs that health services have to meet. Treatment techniques and strategies such as noninvasive procedures have had a major impact on hospital services. In some countries, up to 85% of surgical interventions can now be performed on an outpatient basis, necessitating profound organizational

changes and new methods of work. Finally, recent technological developments such as gene therapy and cloning raise major moral and ethical dilemmas to which health professionals in general, and doctors in particular, will have to respond.

36. Organizational reform is a key characteristic of many health systems. Pressures to reduce the costs and improve the efficiency of services have also induced in-depth reviews of how services are organized and delivered. Many policies have emphasized efficiencies to be gained and cost containment measures such as the introduction of models promoting home care and the development of primary care services. Evaluation is becoming a more common practice and managers of services are expected to make decisions that are informed by the evidence produced by evaluation and research. In addition, the consumer society and the increase in available information are creating a more empowered group of service users who are no longer willing uncritically to accept any model of care provided and who expect services to be responsive to their expectations in terms of respect of their values, etc. Most countries in the Region are engaged in a continuing process of organizational reform with a view to improving the performance of services. Such reforms usually aim at improving equity of access and at ensuring the good quality of services, in terms of technical effectiveness and responsiveness to users' expectations, while at the same time ensuring that available resources are used in an efficient manner.

Changes in the political and economic environment, with particular focus on migration

Globalization and international trade

37. Globalization is a reality and a characteristic of the present age. As the current and future source of economic growth for individuals, enterprises and nations, it is now the service sector that is generating the greatest interest in the global marketplace. The World Trade Organization estimates that services currently account for over 60% of global production and employment. International trade agreements are preparing the ground for increased health professional mobility in the future. The processes of globalization and economic integration inevitably result in increased labour migration flows. The number of international migrants doubled over the past three decades, to reach nearly 200 million in 2005 *(14)*. Half of those migrants are female. The total number of migrants in Europe, including the European part of the former Soviet Union, is about 56.1 million, accounting for 7.7% of Europe's population. Health professionals are part of the expanding global labour market.

Internal migration

38. The migration of health professionals has always existed. Flows tend to be from lower- to higher-income urban neighbourhoods, from lower- to higher-income nations, and from developing to industrialized countries. Intranational migration is often the first step in the process that leads to international migration. The flows are said to follow a hierarchy of wealth. Health professionals migrate from the public to the private sector, from a hospital to a pharmaceutical company. Internal migrants often represent a significant pool of health professionals and yet they are difficult to capture with currently available statistics. The exodus from the public to the private sector is usually reported as being significant, but that assessment is rarely supported with hard evidence in most countries. There are no reliable monitoring systems in place to compare the loss of health professionals from the public health service through internal, as opposed to international, migration. Yet knowledge of the distribution between internal and international migration is important if universal coverage of the population is to be planned and achieved.

International migration

39. International migration often imitates patterns of internal migration. The exodus from lower-to higher-income urban neighbourhoods and from lower-income to higher-income sectors raises issues regarding the universal coverage of the population. International migration is often blamed for the dramatic shortages of health professionals seen in developing countries. The motives for migrating are often characterized as "push and pull" factors. Table 2 below summarizes some of the possible main push and pull factors related to health workers. To a certain extent, they present a mirror image – on the issues of relative pay, career prospects, working conditions and environment in the source and destination

countries. Where the gap (or perceived gap) is significant, the pull of the destination country will be felt. However, there are other factors that may also act as significant push factors in specific countries at specific times, such as concerns about personal security in areas of conflict, and economic instability. Other pull factors, such as the opportunity to travel or to assist in aid work, may also be important.

Table 2. Main "push" and "pull" factors in international migration

Push factors	Pull factors
Low pay (absolute and/or relative) Poor working conditions Lack of resources Limited career opportunities Limited educational opportunities	Higher pay Opportunities for remittances Better working conditions Career opportunities Better resourced health systems Provision of post-basic education
Impact of HIV/AIDS Unstable/dangerous work environment Economic instability	Political stability Travel opportunities Aid work

Source: Buchan, Parkin and Sochalski *(15)*.

40. There are two main indicators of the relative importance for a country of migration and international recruitment: the inflow of workers into the country from other source countries (and/or the outflow to other countries), and the actual pool of international health workers in the country at a given time. Some of the recent policy documents and reports on the international migration of health professionals have highlighted the need to improve monitoring of cross-border flows. Currently, even the best available data are incomplete for any one country and are not compatible between countries, constraining any attempt to develop an international picture. However, it is possible to take a national focus and use the available data to fix any one country within the international dynamic, and thereby assess the connections with other countries in terms of the flows of health workers.

41. Over the last 30 years, the number of foreign-trained health professionals in western European countries has increased considerably. Country-level examples are shown in Table 3 below, which illustrates the level of foreign-trained doctors in selected European countries. It highlights variations from very low to quite significant levels.

Table 3. Foreign-trained doctors working in selected European countries

Country of residence	1970	2005
	%	%
France	1	6
Germany	5	5
Sweden	5	5
Denmark	3	11
Netherlands	1	6
Portugal	1	4
United Kingdom	26	33

Source: Mejia *(16)* for the 1970s and Mullan *(17)* and various sources from professional registers for 2000s (preliminary data).

42. Migration has been given additional prominence in Europe in recent years since the accession of 12 additional countries to the EU (the promotion of labour mobility is a key feature of EU policies, based on the principle of the free movement of people, as required by the single European market). With an income gap between central and eastern European acceding countries and existing Member States that is much higher than was the case with the previous enlargement of the EU, active recruitment of nurses, doctors and other workers is occurring in addition to the "natural" migration flows of individuals who move across borders for a range of personal reasons.

43. In this context, migration is a specific problem, with some eastern European countries (and, in some cases, non-European developing countries) facing a serious "brain drain", raising major ethical concerns. A synthesis of case studies prepared by the WHO Regional Office for Europe highlights a varying pattern of level of flows of workers, and increased policy attention to the impact of health worker migration. The available data do not make it possible to build up a precise Europe-wide picture of the trends in flows of doctors, nurses or other health workers, nor is it possible to assess the balance between temporary and permanent migrants, or to compare levels of migration between countries. This general lack of specific data related to health professionals, especially in the eastern part of the Region, calls for primary research coordinated across all relevant source and destination countries.

44. International agreements designed to reduce trade barriers have provided new legal frameworks regulating the production (education, licensing, continuous education) and the global, regional and national distribution, practices and organization of health professions in accordance with common multinational standards. The development of such common educational standards, together with harmonization and mutual recognition of qualifications between countries, permits greater freedom of movement for professionals within, for example, the EU.

Impact on the health workforce

45. Demographic changes also affect the supply and composition of the health workforce itself: it is ageing and, in richer countries, it includes more workers trained outside the country. In poorer countries, there are losses due to emigration, and everywhere the national pool of potential recruits is reduced because of the contraction of the size of the population reaching working-age and competition from other sectors of the labour market.

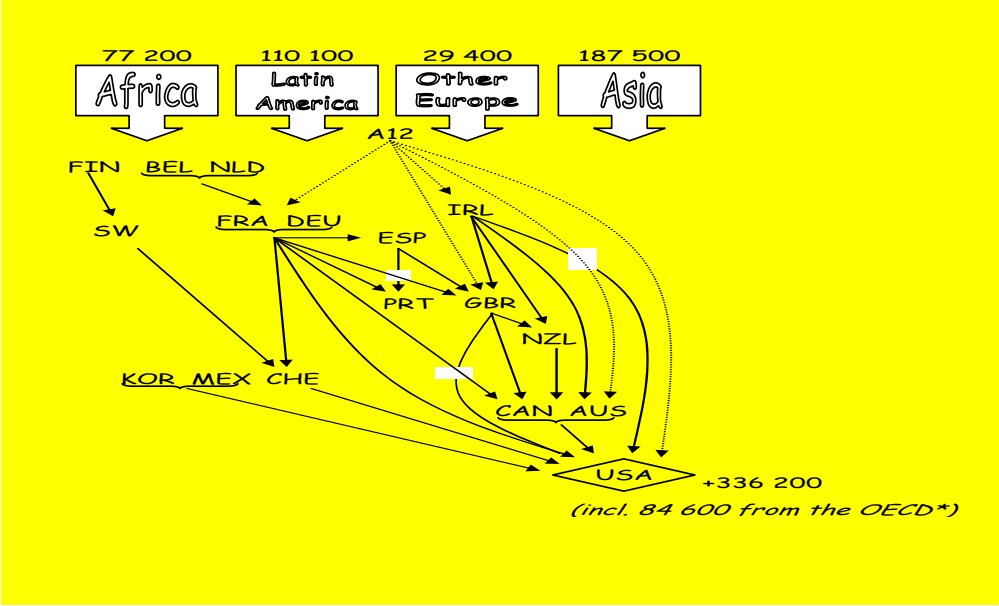
46. Heath workforce ageing can be seen today in many countries in the Region. Countries such as Denmark, France, Iceland, Norway, and Sweden are witnessing a greying of the nursing workforce, with the average age of employed nurses currently standing at 41–45 years. In the United Kingdom, one in five nurses is aged 50 or older and nearly half is over 40. The decline in numbers of younger nurses is a major concern. In the United Kingdom, between 1988 and 1998, the proportion of nurses under the age of 30 fell from 30% to 15%. Similar trends were observed in the medical profession. Thus, in 1985, 55% of French doctors were aged under 40 but, by 2000, this percentage had fallen to only 23%. A United Kingdom census indicated that, in 2001, only 19% of the consultant (medical specialist) workforce was under the age of 40, while about 40% of those over 50 were likely to retire in the following 10–15 years. These figures suggest that past policies, such as restrictions on intake for medical and nurse training, alongside ageing populations and declining prospects for recruitment in the European labour market, will generate serious imbalances between the demand and supply of health care labour *(18)*.

47. Female participation in some parts of the health workforce is another trend to take into account; it is projected to increase further, and women may provide the main source of labour supply growth in the Region. In most western European countries, the proportion of female physicians (both general practitioners and specialists) rose steadily throughout the 1990s. The feminization of the medical profession has important consequences for workforce planning, since women are more likely to take career breaks or to work part-time. These factors need to be taken into account in order to provide realistic estimates for the number of physicians available and needed.

48. International recruitment of health workers has been seen as a "solution" to the health professional skill shortages of some countries, but it may create additional problems of shortages in others, as debated at the Fifty-ninth World Health Assembly in 2006. It also raises major ethical concerns. While migration can have positive aspects (it can be a solution to the staff shortages in some countries, it can also assist source countries that have an oversupply of staff, and it can be a means by which individual health workers can improve their skills, career opportunities and standard of living), it can, however, also create additional problems of shortages in countries that are already understaffed.

49. Patterns of migration are complex and constantly changing, as shown in Fig. 4 below.

Figure 4. Cascade-type model of health professional migration.



Source: Dumont JC, Zurn P. *(19)*

50. Technological advances require that health workers adapt services to the new scientific evidence available. Technological change has an important impact on HRH by determining the types of services that health workers can perform, the settings in which they deliver them, and the organization of practice. Health workers need to be prepared to constantly revise and update their skills. Those who educate and train them also need to adapt their pedagogical strategies to prepare workers to engage in a permanent learning process.

51. At the same time, organizational reforms also challenge the traditional division of labour by promoting better integration and coordination of services and teamwork. Technological innovations and organizational reforms are also drivers for change in the mix, roles and characteristics of the workforce: changing the balance of requirements for some occupations, creating opportunities for others and changing the knowledge, skills and competences required to perform new activities. New approaches to work are obscuring traditional demarcations between occupations and challenging the traditional hierarchical structure of health care. The changing relationships between clinical service providers and patients also demand changes in communication skills.

52. The expected impact of demographic and technological changes on the future health workforce in Europe appears paradoxical. While these changes lead to an increasing demand for health services, the ageing of populations and demographic contraction reduce the size of the working age population, with negative effects on the supply of the health care workforce. Thus, innovative policies are ever more necessary to increase labour market participation rates by health workers, especially women, older workers and migrants, and so narrow the gap between the supply and demand for human resources for health.

Current and future policy

HRH policies to improve health system performance

53. Most countries in the Region are already engaged in addressing HRH challenges. This is not always done in the systematic way set out by WHO in *The world health report 2006 (1)*. As a general principle,

countries would benefit from the formulation of an explicit health workforce policy aligned with their health policy. Such a policy should be based on a rigorous assessment of the current HRH situation, including an estimate of the stock of health workers, its composition, age structure, distribution and deployment; its projected evolution according to various scenarios; an analysis of the dynamics of the health labour market in terms of entries (including from migration) and exits, and of internal mobility between the public and the private sector; an assessment of the implications of adopting emerging technologies; an assessment of the performance of education and training institutions and programmes; a review of the regulatory framework defining the division of tasks between the various professionals and ensuring the quality of practice; and a review of working conditions and systems of incentives. A process of needs identification can be launched on the basis of these assessments by identifying gaps between the current situation and a more desirable situation. The costs associated with the various policy options to meet the identified gaps need to be defined to establish the feasibility of policy changes. An HRH policy would ideally help define which types of workers, with what skills and in what numbers will be needed, how they can be recruited, educated and trained over their professional lifetime, what working conditions and incentives can be offered to retain them and to motivate them to perform well, and how quality of practice would be monitored and ensured. Those choices would have to be validated by the various stakeholders to ensure a reasonable degree of feasibility in their implementation.

54. The HRH policy should also define who is doing what; it is clearly the responsibility of the state to ensure that citizens have access to quality health services, but many functions contributing to this mission are or can be delegated to autonomous regulatory agencies, to educational institutions, to professional councils and other professional organizations. A multisectoral consultative approach, involving all stakeholders in the process of formulation, is a condition of success. This implies a strategy to engage government ministries and agencies beyond the health sector, and to mobilize affected parties within the health sector. The Ministry of Health can and should lead that process and take the time to consult those who will be affected by the policy. Plans designed behind closed doors have little chance of producing the expected results. In relation to migration of health workers, there is a range of possible policy solutions at national and international level, as shown in Table 4 below.

Table 4: Policy interventions in international recruitment reported by case study countries to the WHO Regional Office for Europe

Type	*Intervention*	*Countries*[a]
Organizational		
Twinning	Hospitals in source and destination countries develop links, staff exchanges, support and flow of resources to source country.	E, G, UK
Staff exchange	Temporary move of staff to the other organization, based on personal, career and organizational development opportunities.	G, UK
Educational support	Educators, educational resources from the destination to the source organization.	E, G, UK
Bilateral agreement	Employers in the destination country develop agreement with employers or educators in the source country to contribute to or underwrite costs of training additional staff, or to recruit staff for a fixed period, linked to training prior to returning to the source country.	G (regional), UK
National		
Government-to-government agreement	The destination country develops an agreement with the source country to underwrite costs of training additional staff, and/or to recruit staff for fixed period, linked to training and development prior to staff returning to source country, or to recruit surplus staff in the source country.	UK, S, P, N
Ethical recruitment code	The destination country introduces a code restricting employers' choice of target countries and employees' length of stay. Coverage, content and compliance issues all need to be clear and explicit.	UK
Compensation	The destination country pays cash or other compensation to the source country, perhaps related to the length of stay, cost of training or cost of employment, possibly brokered via international agencies. In any case, it rarely occurs.	
Managed migration (can also be regional)	A country (or region) with out-flow of staff initiates a programme to stem unplanned emigration, by attempting to reduce the impact of push factors and supporting other to planned migration.	
Train for export	The government or private sector makes an explicit decision to develop training infrastructure to train health professionals for the export market, to generate remittances, or up-front fees.	

[a] E: Estonia; G: Germany; N: Netherlands; P: Poland; S: Spain; UK: United Kingdom
Source: Buchan, J., Perfilieva G *(20)*.

55. At international level, there is already one example of a multicountry code of practice, developed by the Commonwealth. *The Commonwealth code of practice for the international recruitment of health workers* sets out a series of guiding principles for international recruitment, covering transparency, fairness and mutuality of benefits. It also covers aspects of compensation/reparation restitutions; selection procedures; registration; and workforce planning. The Code "provides guidelines for the international recruitment of health workers in a manner that takes into account the potential impact of such recruitments on services in the source country … is intended to discourage the targeted recruitment of health workers from countries which are themselves experiencing shortages… (and) seeks to safeguard the rights of recruits" *(21)*.

Taking the agenda forward

Bridging the gap from information to action

56. To bridge the gap from day-to-day experience to controlled, evidence-based action, decision-makers in Member States at local, national and international levels need sound information on the HRH picture, including migration. The first obstacle to overcome is the lack of completeness and comparability in HRH databases and the extremely limited and insufficient evidence-based literature that make it difficult to extract lessons, make informed decisions and design new and more effective policies. As the efforts at country level bear fruit, a wider view of HRH can be constructed at a broader level. International organizations thus have an important role to play in supporting this process, both by contributing to the homogenization of data formats and by helping countries that have poor economic resources or less skilled workers. Failure in this regard could deepen the digital and health status divides between rich and poor countries in the Region. Recommended lines of action are given below.

- Strategies to enhance the effectiveness of the health workforce must initially focus on existing staff because of the time lag in training new health workers.
- Robust and reliable HRH databases need to be built up in each country to allow proper analysis and workforce planning. Where countries lack sufficient technical staff and/or financial capacity for such initiatives, a major effort by Member States, international organizations and donor countries is needed to help in their implementation.
- Specialists in information systems in the Member States must work together with the health ministries, statistical offices and international coordination committees to ensure harmonization of data. Great care must be taken to ensure the proper translation of the specifics of each country into common information systems.
- Databases should be designed to foster data comparison and integration of information at the international level, with the aim of building intelligence from the whole range of countries' experiences in HRH.
- One way to present HRH information is by developing HRH country profiles. These would serve as a tool for systematically presenting the HRH situation, policies and management. Country profiles would also facilitate information-sharing and cross-country comparison.
- International agencies should promote research on key aspects of the relationship between HRH and health outcomes. Member States should be encouraged to participate (and supported if their resources are scarce).

Improving training for better performance

57. The generation of HRH has a rather distant and thus relatively weak link to the outcomes produced by health systems. This may explain the fact that, despite technical and clinical advances, HRH training is permeated with outdated thinking. A number of recommendations are given below.

- The education of health workers needs to become one of the key building blocks in health system reforms, and an activity strongly connected to the other functions of the health system. More dynamic and direct feedback channels must be created from service delivery institutions to training institutions, providing undergraduate and postgraduate training as well as continuous professional development.
- A huge effort is needed to improve training, first by permitting only qualified institutions to produce the new health workforce, then by assessing the quality of training programmes, and finally by harmonizing the structure to ensure that similar degrees imply similarly acquired skills and knowledge. Again, this calls for international efforts on financial and coordination issues.
- Special attention must be made to the training of managers and other health system workers, such as health economists. There is a need to introduce managerial elements into the formal training of health workers as well as to promote health management training.
- A dynamic and skilled health workforce is needed: one which is able to adapt to a changing environment through continuous learning and is willing to confront and respond to the emerging expectations of society.

Managing the health workforce and making health workers a proactive part of the system

58. Health systems are service-centred and characterized by high levels of contact with their users; they therefore require human resources that are not just well-prepared, but also highly committed. Appropriate skill mix and the effective utilization of professional competences are critically important. Proactiveness and involvement require a strong partnership between health organizations and their staff. Some recommendations are made below.

- Efforts are needed at the country level to improve human resource management capacity. Steps should be taken to ensure that sufficient focus is put on HRH and their management, and that the authorities concerned collaborate in this regard.
- Solid management information systems can play an important role in supporting health worker tasks while serving as a platform for performance measurement, job audits and a redesigning of incentives. There is a need to foster research on health worker motivation and effective incentives beyond simple monetary rewards.

Regulating the HRH framework and helping strategies become realities

59. Changing health needs, new societal expectations and the complexity of a globalized world all call for clear rules to govern HRH. Such rules need to be generated nationally, as the joint product of the state and the professions involved. Likewise, the requirements of modern labour markets have to be considered: pure command-and-control regulations rarely achieve their objectives in such open environments as modern health systems. Particularly in eastern Europe and the central Asian republics, where such rules are currently being introduced, alignment with international best practice is strongly advised; although it should also be recognized that “perfect international models” are not always attuned to the needs and resources of individual countries. Recommended lines of action are given below.

- Modern regulatory frameworks for HRH are needed at country level to cover a wide range of issues related to the production, deployment, motivation and management of the workforce. The HRH Action Framework *(22)* developed by the Global Health Workforce Alliance is a useful point of reference.
- The production of appropriate regulatory arrangements for HRH in countries should involve all stakeholders. Strong collaboration is crucial between different levels of government, the professions, nongovernmental organizations and the private sector.
- An appropriate balance between decentralization and centralization is required. Decentralization brings the regulatory authority closer to the human resources themselves and the local population but it should not mean the loss of a broader viewpoint. Loss of coordination and extreme

atomization of information, as well as the creation of overrestrictive frameworks, should be avoided.

- Proper HRH regulation in a globalized world needs to address international coordination to face future health challenges. It requires fostering the collaboration between countries and international organizations; the organizations have to take a strong leadership role, working closely with the countries while supporting them in developing their own solutions.

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