

# Human resources for health: developing policy options for change

## Discussion paper

*Draft*



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## Summary

This paper is intended to be the basis for the development of policy options *with* countries *for* countries. As such, it has multiple objectives:

- to provide a guide for the analysis of human resources for health (HRH) as part of health systems performance assessment;
- to highlight HRH policy questions—derived from analyses and other input from countries—with which policy-makers are often struggling;
- to integrate HRH policy issues with indicators to assess and monitor HRH performance.

Human resources policies that improve health systems performance are especially important in order to achieve the Millennium Development Goals and to minimize constraints that countries may have in delivering health interventions to their populations to address key health problems such as HIV, TB and malaria. In addition, health organizations depend heavily on their workforce: human resources for health account for a high proportion of budgets assigned to the health sector, and the economic and human costs of poor HRH management are particularly high. Human resources for health are involved with both the *resource generation* and *service provision* functions. Some aspects of the *stewardship* function also are closely related to human resources for health.

WHO will contribute to providing tools for assessing HRH needs and for planning; WHO is also building a database of HRH policies that have been shown to produce positive results. Monitoring and evaluation tools form part of the database.

There is a need not only for description and explanation of the current problems, but also for advocacy. The commitment of stakeholders grappling with the problems gives political weight to an HRH policy agenda.

Understanding the relationship between HRH issues and the functions of the health system will contribute to the development of feasible interventions and methods to assess and monitor them.

Policy issues and questions are proposed for further elaboration at international and regional level, but most policies will have greatest impact at national and local level. At national level, where decision-makers are faced with critical choices in setting objectives and defining priorities and plans of action for human resources development, WHO's products should contribute to facilitating appropriate decisions.

## Introduction

While each country has unique contextual characteristics, some issues appear to be priorities for all.<sup>1</sup> Even when priorities are determined, health policy-makers are under the pressure of urgent, current requirements that are not always subject to a long-term approach. Investments and interventions regarding human resources for health, on the other hand, generally show results only in the medium term and long term.

During the Fifty-fifth World Health Assembly, in May 2002, Dr Gro Harlem Brundtland, WHO Director-General, explained that she had established an initiative to improve human resources in national health systems. This decision addresses many issues, including the damage to health systems serving poor communities that results from relentless recruitment of skilled nurses—and other health personnel—by countries where remuneration levels and learning opportunities are better. The WHO HRH initiative will also examine options for developing stewardship and technical skills within the health professions.<sup>2</sup>

Furthermore, at the Fifty-fifth World Health Assembly countries asked WHO: “to accelerate development of an action plan to address the ethical recruitment and distribution of skilled health care personnel, and the need for sound national policies and strategies for the training and management of human resources for health.”<sup>3</sup>

Human resources for health issues are a constraint to achieving the Millennium Development Goals (MDGs)\* and to scaling up interventions on major health problems (child mortality, maternal health, childhood nutritional status, malaria prevention measures, access to clean water, HIV/AIDS). WHO's work is designed to be consistent with assisting countries to achieve the goals and targets of the MDGs.

In accordance with the Health Assembly's recommendations, an integrated framework for human resources for health is proposed. The framework is based on the role of human resources for health in each of the main functions of the health system (stewardship, financing, resource generation and service provision)<sup>4</sup> and its goals of health, fairness and responsiveness.

This document, by means of the proposed framework and other primary and secondary sources, identifies important questions facing countries. HRH cannot be regarded as autonomous; it is linked with health services provision and with the performance of health service providers in a relationship of mutual dependence. A better understanding of the outcomes of this relationship will be the basis for the development of policy options *with* countries *for* countries.

Although in recent decades efforts have been made to improve knowledge regarding human resources for health performance,<sup>5 6 7</sup> only recently has a wider and more comprehensive perspective been applied to identify and establish priorities to improve HRH performance. Understanding the education and training sector and the subsectors of the labour market for health workers is crucial in designing appropriate policy responses.<sup>8</sup> Training and management of human resources for health are inherently subject to politics because of the many actors involved and their often-competing political interests.

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\* Millennium Development Goals: (1) Eradicate extreme poverty and hunger. (2) Achieve universal primary education. (3) Promote gender equality and empower women. (4) Reduce child mortality. (5) Improve maternal health. (6) Combat HIV/AIDS, malaria, and other diseases. (7) Ensure environmental sustainability. (8) Develop a global partnership for development. (*United Nations Millennium Declaration*. New York, United Nations, 2000. )

But with greater emphasis on national health systems, the focus must shift from education alone to understanding the dynamics of human resources for health as a workforce and their impact on the delivery of services and on health system performance. Individual health professionals are affected by problems such as insecurity of employment and inadequate pay or other working conditions. Collectively, the HRH sector is subject to issues such as migration and poor distribution. Because human resources for health—as the head, heart and hands of the health system—can significantly affect population health status, they should be approached from that perspective rather than solely, or even primarily, as a more elastic resource than others, that can easily be cut in response to a budget shortfall.<sup>9</sup> Finally, another health workforce dimension assumes its role as a political actor, with enough power to formulate, implement and change the way health policies are applied.

## **The relevance of human resources for health**

In the *World health report 2000*,<sup>10</sup> human resources for health are defined as "the stock of all individuals engaged in the promotion, protection or improvement of population health". This includes both private and public sectors and different domains of health systems, such as personal curative and preventive care, non-personal public health interventions, disease prevention, health promotion services, research, management and support services. The classification of human resources is based on the primary intent of professional education and training. Human resources actually engaged in the health system can be referred to as the health system workforce or health workforce.

Four main arguments can be made for giving special attention to the health workforce and associated policy options.

- **Constraints to scaling up**

Human resources for health are central to managing and delivering health services.<sup>11</sup> Health services are labour-intensive and personal in nature.<sup>12 13</sup> As additional funds become available from the Global Fund to Fight AIDS, Tuberculosis and Malaria or through the debt alleviation process (Highly Indebted Poor Countries initiative) and other processes, a country's ability to absorb them will be constrained without appropriate human resources. But even in difficult situations, there are examples of health interventions that work adequately at a pilot level. These can be used as demonstration sites and expanded country-wide.

- **Central role of the workforce in the health sector**

The performance of any organization depends on the availability, effort and skill mix of the workforce. Human resources for health are therefore a strategic capital. It is human resources for health (i.e. the various clinical personnel, managers, auxiliary staff and others) who enable each health intervention to be performed. It is also they who diagnose problems and determine which services will be provided and when, where and how. Each health intervention is knowledge-based: health workers are the stewards and users of this knowledge.<sup>14</sup> If appropriate skills and knowledge are not present in a country, the delivery of critical health interventions will be negatively affected. It is therefore necessary to understand the extent and nature of the constraints on the health workforce and more specifically, the impact of poor distribution on access to services.

- **Human resources for health account for a high proportion of budgets assigned to the health sector**

The health sector is a major employer in all countries.<sup>15</sup> The International Labour Organisation estimates that 35 million persons are currently employed in the health sector

worldwide.<sup>16</sup> Health expenditure claims an increasingly important share of gross domestic product, and wage costs (salaries, bonuses and other payments) account for between 65% and 80% of the renewable health system expenditure.<sup>17 18</sup> These costs are strongly linked to how, and how efficiently, human resources for health are deployed and used.<sup>19</sup> Today, when health organizations are faced with greatly limited resources, it would seem reasonable that particular attention be given to the resource that weighs most heavily on health system costs.

Quite apart from direct costs, health professionals also generate other costs because of the relative discretion they enjoy in deciding on the allocation of resources. Some incentives inherent in the system (e.g. payment-for-service remuneration) may encourage doctors to boost the demand for nonessential services. High numbers of certain clinical procedures, some of them very expensive, are better explained by the ways in which health professionals practise than in terms of population needs.<sup>20 21</sup>

- **Economic and human costs of poor HRH management are particularly high in the health sector**

The quality of health services, their effectiveness, efficiency, accessibility and viability depend in the final analysis on the performance of those who deliver the services.<sup>22 23 24</sup> The performance of these providers is, in turn, determined by the policies and practices directed towards guaranteeing that an adequate number of appropriately qualified and motivated staff are in the right place at the right time, at an affordable cost.<sup>25</sup> Critical choices must therefore be made as to the number of personnel to be trained; their mix<sup>26</sup> and their allocation, deployment and management to ensure the productivity of personnel; technical and sociocultural quality of services; and organizational stability. Inappropriate choices at these levels can result in inefficiencies in the functioning of health services and consequently in the ability of these services to contribute to achieving health policy objectives.

## **Approaches to understanding human resources for health**

The health workforce can be viewed from a political standpoint or an economic standpoint. Both can contribute to a better understanding of the dynamics of the HRH area.

### **Political impact of human resources for health policies**

The absence of adequate HRH policies has been shown as being responsible, in many countries, for a chronic staffing imbalance with different effects on the health workforce and the health system in general: quantitative mismatch, qualitative disparity, unequal distribution and a lack of coordination between population needs and the management of the human resources available. Putting human resources issues on the political agenda would enable these disparities to be addressed. But any such action must allow for the distinctive features of human resources for health: that HRH issues are intersectoral; the relatively long interval between decision-making and outcome; that the health sector is dominated by the professions; the mutual dependencies and hierarchical relations between certain professional categories; in many countries the role played by the State as principal employer; the high proportion of women employed in the sector; and the deficiencies of the market in the sector.<sup>27</sup>

Any analysis of how questions and options are settled must consider that the HRH labour market is also an arena of political action, in which different interests confront each other. In addition, traditions, values and pressure strategies are frequently employed by the existing stakeholders in defence of their positions and privileges.<sup>28</sup> Then, too, political timelines often are much shorter than those that characterize human resources for health, which influences why some options are preferred and implemented. Thus, for example, it may often be

politically more desirable to show short-term effects, such as acquiring new facilities or equipment, than to try to demonstrate that changes in recruitment, training and paying for health personnel will improve access to health services in the long term.

Besides the impact of global political paradigms, HRH policies promoted by financial institutions and donors can be an additional influence. In addition, changes in regulations governing schools and educational programmes have led to major changes in institutional policy and management that affect health professional and technical education.

### **The health labour market**

Although the economic approach provides valuable insights for understanding the health labour market, it is not commonly used. This approach revolves around two fundamental elements: the demand and the supply of human resources for health. On the demand side, economic, sociodemographic, political and technical elements influence the demand for human resources for health.<sup>29 30</sup> On the supply side, decisions to participate in the health labour market are influenced by factors such as wages, other monetary and non-monetary benefits and job satisfaction.<sup>31 32 33</sup> In addition, the role of professional regulation, the impact of hospitals and donor agencies and the time taken to educate "new" health professionals all contribute to the complexity of the health labour market.

Changes in each of these factors will have an impact on the health labour market. It is therefore important to account for them in order to better understand the interaction of the demand and supply of human resources for health and to improve health policy planning.

The health labour market should also be placed in a broad framework that takes into account other sectors and the impact of global trends. Globalization, and in particular the emergence of a global labour market resulting from mobility in labour, capital and technology, is having an impact on the health workforce. Within the global health labour market, health professionals seem to have great mobility and appear highly sensitive to push and pull factors.<sup>34</sup> The complexity and particularity of the health labour market should be taken into consideration when assessing health system performance.

As a consequence of global economic adjustments, the health sector in many countries has undertaken reforms. Among the elements of the recent health reforms are a more substantial separation between the purchaser and provider functions, decentralization of the health system, increased consumer choice, an emphasis on clinical effectiveness and on health outcomes, the development of the private sector and the introduction of new delivery schemes such as managed care.<sup>35 36 37</sup>

After some years of experience, there are indications that these reforms have not kept all their promises. In many cases, privatization has led to lower salaries and job losses in the public sector and to a deterioration of working conditions for health workers in the private sector, with a demoralized, insecure, stressed and overworked workforce.<sup>38</sup> Standards of care have declined at a time when patient expectations have risen.<sup>39</sup> Meanwhile, the traditional relationship between the State-as-employer and health personnel has changed in some countries. Centralized negotiations between national unions and governments have been supplanted by management of employment relations at the local level in some countries. In the health sector reforms of the 1990's in the United Kingdom,<sup>40</sup> for example, attempts were made to introduce local pay bargaining and shorter contracts of employment for some staff, leading to a less predictable and stable working environment; some of these reforms have since been reversed as government attempts to improve job security and motivation of staff.<sup>41</sup> In other countries, health reforms failed because of collective resistance of workers, who in many instances had been left out of the policy design and implementation process.<sup>42</sup>

In addition to a good understanding of the factors affecting the demand and supply of human resources for health, monitoring health sector labour adjustment is also crucial to achieving health reforms. Changes to the health system must be accurately specified and reliable data on the health system workforce must be available in order to analyse and compare different scenarios and assess potential surpluses or shortages by locations and skill type in the health system.<sup>43</sup> Furthermore, potential institutional barriers to adjustments should be taken into account and the costs of the required adjustment programme, such as recruiting, retraining or reallocating the health workforce, should be assessed.

The renewed interest in the health labour market also has ethical dimensions. The *Ljubljana charter on reforming health care* outlines the elements needed to attain high-quality health services and successful health care reforms. The Charter outlines several principles driven by the values of dignity, equity and professional ethics.<sup>44 45</sup> Health reforms should focus on quality and pursue a clear strategy for continuous improvement. There should also be sound financing: governments play a key role in ensuring and regulating the equitable financing of health care systems.

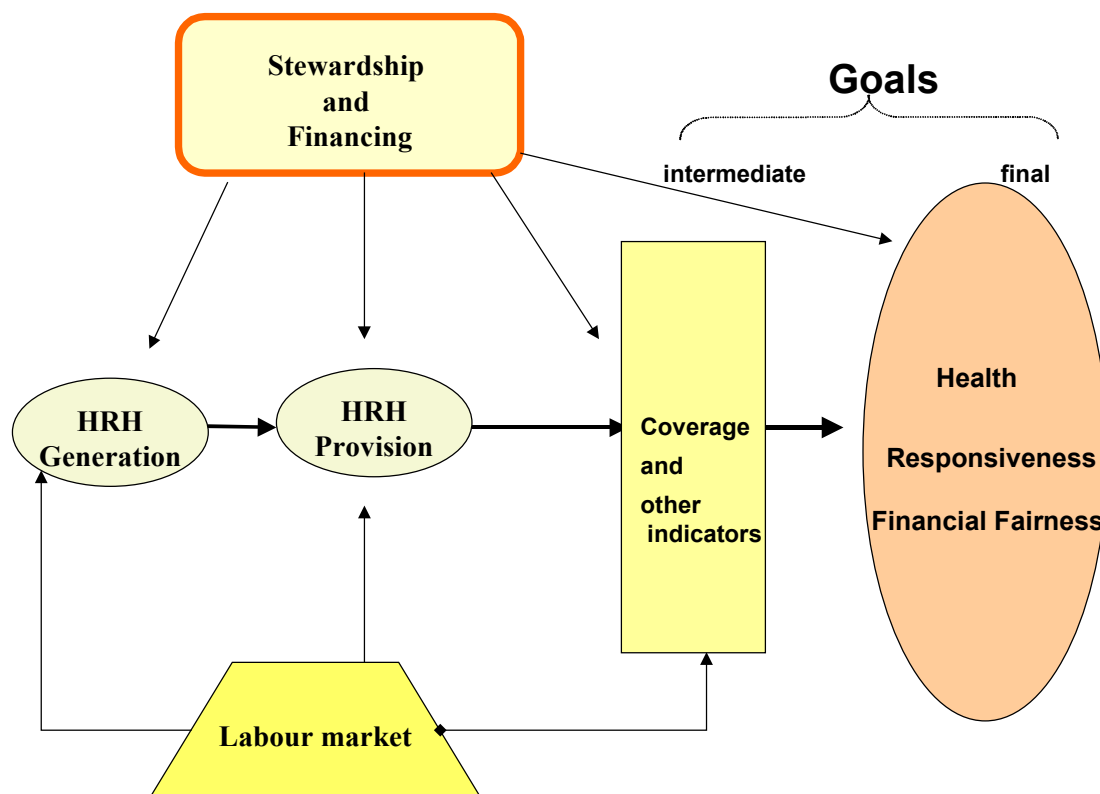
## Human resources and the functions of the health system

The development of a comprehensive analytical framework of health systems is a further step towards a strengthened WHO leadership role in global health policy formation.<sup>46</sup> The framework defines the boundaries of the health system, based on the concept of *health action*, which is defined as any set of activities whose primary intent is to improve or maintain health. The performance of the system centres on three main goals: improving health; enhancing responsiveness to the expectations of the population; and assuring fairness in the level and distribution of financial contributions. The framework describes how each health system performs its task, in relation to how the system organizes its four key functions, which are:

- **Financing:** Health system financing is the process by which revenues are collected from primary and secondary sources, accumulated in fund pools and allocated to provider activities.
- **Provision of health services:** This function refers to the combination of inputs into a production process that takes place in a particular organizational setting and that leads to the delivery of interventions.
- **Resource generation:** Health systems include a diverse group of entities that produce inputs—particularly human resources, physical resources such as facilities and equipment, and knowledge—to the provision of services.
- **Stewardship:** This involves three key aspects: setting, implementing and monitoring the rules for the health system; assuring a level playing field for all participants in the system (particularly purchasers, providers and patients); and defining strategic directions for health systems as a whole.

As shown in Fig. 1, human resources for health are closely related to each health system function and also to the interactions between the functions. Human resources can be understood as a "field of interactions" in the sense that besides the relationship with the health system, it implies a labour market, educational institutions, corporate interests (unions, professional and public organizations and institutions), and a diversity of political and economic interests.

Figure 1. HRH in relation to health system functions<sup>47</sup>



Human resources for health are directly or indirectly related to each health system function and are influenced by them.

- **Resource generation**

The production of human resources includes education, maintenance of their quality and productivity through continuous education and training, planning the size and composition of the workforce at the national, regional and local level and investment in the creation of knowledge and skills. The broad definition of human resources for health as all individuals engaged in promoting, protecting or improving the health of the population is supported and accepted in management and health systems literature.<sup>48 49</sup>

Three types of costs are associated with human resources for health:

- investment costs for their production (capital expenditures on educational facilities and expenditures on training and education)
- maintenance costs (continuing education)
- salaries and other benefits paid or offered to human resources for health.

The first two can be considered part of the *resource generation* function, on the premise that both are means of maintaining productivity and quality of human resources.<sup>51</sup>

- **Service provision**

Deployment of human resources, selection of an appropriate skill mix for the production of health services, distribution of the workforce between different levels of the health service provision system, setting up incentive structures for health personnel and human resources management can be considered elements of the *service provision* function. In this case, human resources could be regarded as inputs into the *health production* function, as human resources for health are acknowledged to be "the most important input to health systems."<sup>52</sup> Improving the performance of the health system ultimately depends on improving the knowledge, skills, motivation and availability of the health workforce.

- **Stewardship**

Some aspects of the *stewardship* function require a strong government commitment to intervention, but in other fields the State's role can be shared with other social actors. In the area of human resources for health a lack of clear direction, regulation or legislation can result in undesired consequences in terms of quality and level of educational institutions, working conditions of the health workforce and imbalances in the health labour market.

The ongoing debate around restoring public trust in institutions, experts and authorities or reinforcement of arms-length supervision through audits, codes and monitoring<sup>53</sup> is related to the stewardship function but also to the other three functions, because it affects the goals of the health system (health, financial fairness and responsiveness). Greater involvement of the public in governance is being seen in a number of developed countries.

- **Financing**

The provider payment method and the source of financing affect the performance of the health system. For example, there is less control of quality and the budget is less predictable if the funding is primarily fee-for-service.

## **HRH policy issues**

Some crucial issues in human resources for health have been identified as a first stage in improving the interaction between human resources and the health system.

### **Constraints to scaling up**

To strengthen existing national health systems so that they can effectively absorb additional resources to fight the diseases of poverty requires evidence-based policy options, increased capacity of health system professionals, technical support of high quality and better cooperation between the many agencies supporting these processes. Human resources for health are one of the major constraints to scaling up health interventions. Providing better working conditions, enhancing and expanding skills and fostering equitable geographical distribution are some of the policy options to be addressed to solve constraints.

### **Imbalances**

Imbalances in the health workforce are a major concern and are reported in both developed and developing countries and for most of the health care professions.<sup>54</sup> Mutizawa-Mangiza mentions serious staff shortages in all health profession categories in Zimbabwe.<sup>55</sup> Shortages of doctors have been reported in Botswana, Ghana<sup>56</sup> and Guinea Bissau.<sup>57</sup>

Imbalances, and in particular shortages, are reported to have a number of adverse consequences. In the United States of America, about 38% of hospitals report overcrowding in emergency departments and 19% report an increased waiting time for surgery.<sup>58</sup> In terms of nursing quality of care, estimations of higher nurse-to-patient ratios were associated with a 3% to 12% reduction in the rates of outcomes potentially sensitive to nursing, such as urinary tract infection and hospital-acquired pneumonia.<sup>59</sup>

Imbalances represent a major challenge to health policy-makers. Establishing an analytical framework is a means to fostering better comprehension of the characteristics of the health workforce and to allowing for better policy decisions.

The types of imbalance include profession/speciality imbalances, geographical imbalances, institutional and services imbalances, public and private imbalances, and gender imbalances. Policy responses to imbalance will vary according to the type of imbalance.

Policies can be developed to influence factors affecting imbalance, such as education choice, profession and speciality choice and geographical location. In that context, laws and monetary and non-monetary incentives are important.

## **Migration**

Migration refers to the flow of people from one place to another. Internal migration includes the movement of skilled health workers from rural to urban areas. External migration means that skilled workers cross national borders, generally from developing countries to more developed ones.

Highly skilled professionals represent an increasingly large component of global migration flows. This is thought to be costly for developing countries, not only in terms of deepening skill shortages but also in terms of fiscal costs for educational subsidies when these are available.<sup>60 61</sup> Migration threatens the functioning of the health system if there is a net loss of human capital, which has become a cause of concern in some developing countries. There may be a general loss if a large proportion of the health workforce leaves the country, or distributional imbalance if there is migration from rural to urban areas. Losing part of the professional mix may result in either absence of some services or in professionals' having to adapt their roles to deliver services normally outside their scope of practice. This can result in poor service provision or inefficient use of resources. On the other hand, remittances from emigrants are seen as desirable, which may lead some countries to be reluctant to discourage emigration of health personnel.

In a 1998 survey<sup>62</sup> of seven African countries, vacancy levels in the public health sector ranged between 7.6% (for doctors in Lesotho) and 72.9% (for specialists in Ghana). Malawi reported a 52.9% vacancy rate for nurses. In some developing countries the shortage of nurses and physicians is thought to have resulted in rural clinics' being staffed by aides trained to deal only with uncomplicated conditions. This affects not only coverage and access of communities but also health outcomes, if conditions are present that are not adequately treated.<sup>63</sup>

Although medical practitioners and nurses make up a small proportion of all migrating professionals, for developing countries the loss of health human resources represents a loss in the capacity of health systems to deliver health care equitably.

## Public health

The effective functioning of any health system requires an effective public health service for two main reasons: the public health perspective—the population-wide view of health systems—is central to the stewardship function, and the public health workforce has prime responsibility for overseeing and delivering non-personal health services.

The organization and delivery of public health services are inadequate for many of the new health challenges. In particular, the development and ongoing training of the public health workforce has been neglected and the public health infrastructure is underdeveloped in both developed and developing countries.

Many policy-relevant questions can be raised about the public health workforce in developing countries, but the key question is: Should governments invest more in the public health workforce to ensure the more effective functioning of a health system? An effective public health workforce is usually assumed to be linked to improved performance of health systems, given the broad mandate of a modern public health workforce, its unique population-wide perspective and its long-standing and continuing contributions to health improvement. But it is necessary to review the evidence base for this assumption. Other questions fall into several domains: the nature and role of the public health workforce; the size, composition and performance of the workforce; and many issues related to the training of the public health workforce and accreditation/quality assurance of these training programmes. The evidence available to shed light on these policy issues is limited.

## Working conditions and health workers: The case of HIV/AIDS impact

The impact of HIV/AIDS on the delivery of health services is thought to be reaching alarming levels in many high-prevalence countries, particularly in sub-Saharan Africa. A vicious cycle has been emerging since the early 1990s: morbidity and mortality among service staff affected by HIV/AIDS are said to reduce service provider numbers to below critical levels in some countries most affected, although empirical data on the size of the problem are missing. The problems of insufficient replacement staff and inroads into whole age groups and professionals such as nurses, doctors, pharmacists and teachers, combined with increasing demand for higher care needs, are likely to have a serious impact on societal development in countries most affected by HIV/AIDS. The lack of teaching personnel will reduce the capacity to train replacement staff. From another perspective, statistics of the Food and Agriculture Organization of the United Nations indicate that some countries already face a loss of more than 20% of agricultural workers,<sup>66</sup> and similar losses have been quoted for nurses.<sup>67</sup>

At the same time, some studies cite hospital-bed occupancy rates that have reached 190% since the epidemic started to unfold.<sup>68</sup> Increased need for testing and follow-up of suspected HIV-infected patients has also been noted as an additional burden on already over-stretched staff, thus increasing overall workload requirements.<sup>69</sup>

Concern in the area of occupational health has also been expressed: increased risks associated with HIV/AIDS patient care must be explored as a recruitment and retention factor. The Global Burden of Disease analysis shows that 40% of hepatitis B and of hepatitis C in health care workers is due to needlesticks. Some studies have attempted to measure the HIV infection risks for several occupational groups, but no systematic review has been undertaken to assess the impact on workforce losses and the need to adjust planning targets.<sup>70</sup>

These are the objectives for a systematic approach to assessing the impact of HIV/AIDS:

- To provide information on the extent to which HIV/AIDS affects staffing levels necessary for the health system to respond appropriately to the unfolding epidemic.
- To provide data on additional staffing needs caused by increased HIV/AIDS workload requirements.
- To provide planning data for staffing needs resulting from new strategies to reduce mother-to-child transmission of HIV/AIDS and accompanying antiretroviral therapy goals.
- To identify staff training and re-training needs to implement new strategies.

## **Education**

Education of the health workforce is the systematic instruction, schooling or training given in preparation for the work. Each society, even some of the poorest, invests important efforts in training the required human resources.

Throughout the world there are more than 1800 medical schools; the number of nursing schools is estimated<sup>71</sup> to be 6000. But the universe of educational institutions for the health workforce is much greater: it includes, but is not limited to, schools of dentistry, midwifery, pharmacy, physiotherapy and public health, as well as programmes for the basic and social sciences, and they must also take part in global change.

Investments in human and physical capital are of a long-term nature. Investment decisions have an impact on the type of services provided, the geographical distribution of services and the political power of providers. On the other hand, the investment decisions themselves are often swayed by local politics and driven by influential groups of stakeholders.

This situation poses new challenges in the education of HRH such as:

- How can ministries of health and education be assisted to integrate their planning processes and targets?
- How can education of human resources for health improve the performance of functions?
- What are the demands of the health system directed at the educational field now and for the near future?
- How can the outcomes of the educational system be measured from a health system perspective?
- How can the use of external financial resources be maximized to meet national HRH needs?

## **Policy questions in human resources for health**

Some technical and methodological issues appear also to be crucial problems for health system performance improvement, as evidenced by data, more accurate information and comparative analysis.

There are two main approaches to HRH policy-making: one stresses the cyclical character of decision-making by complex social organizations, and one looks at the interpersonal and contextual relations of the policy-making process.<sup>72</sup> The first approach is more prevalent, since it follows the vertical structure of most health institutions. The rationality of the process described by this approach implies a logical sequence, an objective evaluation of alternatives and a full use of scientific knowledge. But the reality of decision-making and public policy regarding human resources for health does not always follow this logic. Some of the limitations of the cyclical-process explanation are due to an insufficient attention to:

- conflicts of power and interests in decision-making
- uncertainty inherent in decision-making and the limited rationality of the participants

- divergences and ideological biases
- the dynamic nature of interest-driven policy processes.

A complementary use of both approaches can be beneficial in the HRH field, since there is a need not only for description and explanation of the current problems, but also for advocacy for interventions. The commitment of stakeholders with the existing problems gives political weight to each of the issues of a human resources for health policy agenda. As the cycle of policy formulation is not a straight line, the perception and mobilization capacity of the different social actors involved are crucial. If policy is the deliberate action (or absence of action) taken around a specific issue in a power setting, it will then be prudent to acknowledge that not all issues have the same weight. As part of choosing between policy options, countries should analyse the political support of the different policy options.

**Table 2. Policy questions related to HRH issues**

	<b>Issue</b>	<b>Policy aim</b>	<b>Policy questions</b>
Scaling up health interventions	Constraints to absorbing new resources and expanding good practices	To increase timely HRH production	What are the cost-effective strategies for scaling up HRH?
Imbalances in the workforce	Imbalance between health professions	To deliver better health services with existing HRH	Is it more cost-effective to train and employ less-expensive substitutes to deliver health services?
	Poor health system performance	To deliver better health services with existing HRH	What is the most efficient mix of skills to achieve the desired coverage of health interventions in a country?
	Health workforce understaffing (not enough people in the workforce)	To attract more people into the health workforce and keep them in it	Will higher subsidies (loans, decreased fees, allowances, etc.) or other incentives result in more individuals entering the health workforce and remaining in it?
	Health workforce understaffing and poor performance	To retain providers in the health workforce and improve performance	Which mix of monetary and non-monetary incentives is required for different provider groups? What are the appropriate management interventions to improve performance?
	Delivering services to the poor and other disadvantaged populations	To attract and retain health workforce in underserved areas/getting services to the poor	What is the most efficient combination of incentives to improve equity in the geographical distribution of the health workforce?
Labour adjustment	The impact of labour adjustment on health system performance	To minimize or control the consequences of labour adjustment to deliver better health services with existing HRH	What are the most effective strategies to minimize or control the impact of labour adjustment? What type of policy should be developed after a labour adjustment? What type of policy can be proposed to those concerned by a downsize adjustment?

	<b>Issue</b>	<b>Policy aim</b>	<b>Policy questions</b>
Migration	Outflow of health workers creates an imbalance	To manage the outflow of health professionals	What is the most cost-effective mix of retention strategies?
		To reduce the outflow of health professionals due to aggressive recruitment from richer countries	Can a policy of ethical recruitment be effective and be enforced?
Public health	The weakness of public health capacity in developing countries	To build public health capacity in developing countries	Should governments invest more in building public health capacity to ensure the more effective functioning of the health system?
Working conditions and health workers	Impact of specific diseases on the level, distribution and performance of the health workforce	To assess and reduce the impact of specific diseases on the health workforce	How can coverage of health interventions be maximized, given the constraint of HIV/AIDS and its impact on health workers?
Education	Weak congruency between education for health occupations and the achievement of coverage	To better align investments in educational institutions and programmes with improved coverage of health interventions	What is the balance of short-term and long-term investment required to improve coverage of health interventions?
External support to HRH development	Lack of coordination of external donors' policies towards HRH development	To maximize the use of external financial resources to meet national HRH needs	How can the country best use external aid to achieve its HRH goals?

## Monitoring

Indicators to assess performance of human resource generation and production will follow the general framework of Health System Performance Assessment.<sup>73</sup> They will focus on the performance of functions in terms of level of achievement, distribution of achievement (equity) and efficiency.

There is thus a need for a minimum set of indicators related to imbalance (demand in relation to supply), equity (distribution) and efficiency of human resource generation. One approach is summarized in the two tables below.<sup>74</sup>

**Table 3. Matrix for the assessment of HRH generation**

Selected categories	Level			Equity	Efficiency of production
	Adequacy	Skill mix	Quality	Distribution of new entrants	
Doctors Nurses Midwives Pharmacists Physiotherapists Auxiliary nurses Auxiliary midwives Other health professionals Managerial and administrative staff Volunteers and interns, etc.	Ratio of new entrants to total stock	Ratio of specialists to generalists; Ratio of physicians to nurses, etc.	(*)	Distribution of new entrants by category/gender/other criteria (cultural, ethnical group) (in %)	Costs of training per student (medical, public health, etc.) and training programmes

(\*) indicator to be developed

**Table 4. Matrix for the assessment of HRH maintenance and use**

Selected categories	Level		Equity	Productivity
	Remuneration	Incentives	Distribution	
Doctors Nurses Midwives Pharmacists Physiotherapists Auxiliary nurses Auxiliary midwives Other health professionals Managerial and administrative staff Volunteers and interns, etc.	Income per capita Distribution of income sources (in %) Relative income	Distribution of modes of payment	Number of professionals per inhabitant (differentiated by epidemiological regions or poverty levels)	Distribution of health professionals by hours worked per week (full-time/part-time)

To understand the trends of the health workforce, evidence-based information is needed. Capacity must be built to collect, analyse and use data to frame policies to improve the performance of human resources for health, and therefore of health systems. Strong commitment by WHO and its Member countries and the participation of a diversified and representative group of research, service and academic institutions will foster an improved capacity to regulate, predict and evaluate HRH issues in the health field.

In an effort to capture data, a comprehensive review of sources of information on the health workforce has been conducted, including labour force surveys; national censuses; household surveys; ministry of health records; professional councils and associations; and salary surveys. This strategy of gathering and analysing data includes partnership with ministries,

research centres, libraries, public health schools and national bureaux of statistics, as part of a process of capacity building in countries.

## Conclusions

Human resources for health policies that improve health systems performance are especially important in order to achieve the Millennium Development Goals and to overcome the constraints that countries may have in delivering key health interventions to their populations. Health organizations depend heavily on their workforce; human resources for health account for a high proportion of budgets assigned to the health sector, and the economic and human costs of poor HRH management are particularly high. Human resources for health are involved with both the *resource generation* and *service provision* functions. Some aspects of the *stewardship* function also bear on human resources for health.

WHO will contribute to providing tools for assessing human resources for health needs and replacement planning, and is building a database of HRH policies that have been shown to produce predictable, positive results. Monitoring and evaluation tools form part of the database.

WHO is already working on human resources for health issues, including: migration, imbalances, education of health professionals, working conditions of health workers and the public health workforce.

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