# Reaching the Health MDGs with Human Resource Reforms: Financial, Educational and Management Capacities

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## 1 Introduction

There is growing recognition of the severe human resource constraints on the achievement of national and international priorities established by the Millennium Development Goals (MDGs) (Hongoro and McPake 2004). While there seem to be major new initiatives to provide vastly increased funds, especially for addressing the HIV/AIDS epidemic, there is relatively little serious attention given to investing in human resources and the systems needed to make them effective in achieving the development objectives. In the past, much of the attention on human resources focused on the match between the skills needed to address development problems and the different types or classes of human resources and their distribution and densities. International agencies assisted in developing rigid planning tools to determine an optimal population-to-human resource category that seldom took into account whether there were sufficient funds, educational facilities and organisational capacities to provide and support these types of workers. These approaches in most cases failed to provide realistic guides to develop effective human resource strategies, especially in low- and middle-income countries.

This article discusses new initiatives for developing appropriate strategies for human resource capacity development in one critical sector – health, which is currently receiving major new funding to address HIV/AIDS; funding that has first targeted the provision of expensive drugs for chronic care and only belatedly begun to address the broader system capacity issues.

Like other sectors, human resource policy in the past was dominated by the 'population-to-human resource' planning models which were used in poor countries to plan for the recruitment, education, geographic distribution and promotion of human resources in centralised public health systems. This model generally showed that less developed countries had far fewer human resources than the technically optimal models which tended to be based, at least in the early years, on national standards in more developed countries. The planning models also failed to account for the private sector growth in most countries that has been occurring over at least the last 30 years. Some attempts to develop demand and supply planning models (Huddart 1989; Hall 2001) nevertheless remained relatively static and formulaic in their approach, unable to capture the dynamism of the human resources markets, the capacities of financing, and the education and management systems needed to support human resources.

There has been a renewed interest in human resources for health led by the Joint Learning Initiative (JLI), sponsored by the Rockefeller Foundation, World Health Organization (WHO), the World Bank and the JSI Research and Training Institute Inc. with Harvard University and other participants (Joint Learning Initiative 2005). The JLI raises fresh concerns about human resource issues – the migration of health personnel to more developed countries, the threat to health workers posed by the HIV/AIDS epidemic, and the growing disparity between public and private sector remuneration.

**Figure 1: Human Resources for Health Capacity Assessment Tool Conceptual Framework**

| Module-specific factors → | Cross-cutting problems→ | State of HRH → | System goals → | Health goals |
|---|---|---|---|---|
| Financing | Profession attractiveness | **HRH level** (how many?) | Quality | Health status |
| Education | Migration | | Efficiency | Financial protection |
| Management | Job change | • HRH category | Equity | Citizen satisfaction |
| Politics | Premature death | **HRH distribution** (where? who?) | Sustainability | |
| | Multiple job holding | • Within HRH category skill mix | | |
| | Absenteeism and ghost workers | • Geographical location | | |
| | Under-employment | • Sector<br>• Gender | | |
| | Motivation | **HRH performance** (what do they do? how do they do it?) | | |
| | Staff rotation | | | |
| | Data management | • Quality (clinical; service) | | |
| | | • Efficiency | | |

*Example:* Education module

| | Leads to… | Leads to… | Leads to… | Leads to… |
|---|---|---|---|---|
| Low number of middle/high school graduates | Limited health professions applicant pool | Insufficient HRH level | Compromised quality/equity | Unsatisfactory population health status |

This initiative has rekindled innovative thinking in the human resources field, with new research efforts and with policy prescriptions calling for greater attention to and investment in human resource development and support.

## 2 Capacity Assessment Tool framework

As a follow-on and complementary activity to the JLI, WHO with the International Health Systems Programme at the Harvard School of Public Health has focused on the systems capacities issues, strategic planning and the political feasibility of addressing human resources reforms. This complementary activity recognises the lack of good information on assessing capacities in three key areas needed to support human resources and for achieving broader health system objectives – especially the MDGs. There is little guidance as to what levels of financing for human resources are appropriate and feasible in different country contexts; little clarity about how the education system (not just training programmes for professionals) can provide sufficient candidates and train them for service delivery; and little systematic review of the managerial capacities needed to manage, motivate, and supply the human resources when they assume their jobs.

We are in the process of developing a framework and a Capacity Assessment Tool to be used to assess the current capacities of the financing, education and management systems to support human resources development in order to achieve health system goals. The tool also addresses the political feasibility of reforms and lays out an approach to prioritising and sequencing reforms, so that investments in health system capacity building can be optimally targeted. The tool was first developed by reviewing the existing literature on human resources and financing, education and management to establish state of the art indicators and benchmarks, where available. While there was quite a large literature on many of the issues raised by our framework, some of the indicators and benchmarks were defined only for advanced economies and data rich contexts. In order to develop an appropriate and useful tool for low-income countries, we field tested it in Ethiopia and revised the tool based on the findings. Both the Ethiopia country report and the assessment tool are currently under review by WHO. We expect to have a published tool for others to use later in the year. The rest of this article discusses the framework, basic elements of the assessment tool and some findings from the Ethiopia field test.

In summary, the Framework is described in Figure 1.

The framework for the Capacity Assessment Tool is based on an approach developed at Harvard School of Public Health for the World Bank/Harvard Flagship Course for Health Sector Reform and Sustainable Development and published recently in Roberts *et al., Getting Health Reform Right* (2003). This approach starts with defining the ultimate and intermediate objectives to be achieved by a health reform. The ultimate goals are achieving health status improvements, citizen satisfaction with the system, and assuring financial protection, especially for vulnerable populations. Intermediate goals are to assure quality, efficiency, equity and sustainability in the health system. These objectives are consistent with other international declarations and are partly embodied in the indicators of the MDGs.

## 3 Types, distribution and performance

The logic of the framework suggests that the achievement of these goals depends on three aspects of the human resources in the field: the densities of each type or profession (e.g. the ratio of physicians to population); their distribution in geographic terms and by skills, gender and sector; and their current levels of performance in terms of quality and efficiency in the achievement of goals (WHO 2003; Gupta *et al.* 2003). In Ethiopia, for instance, we found an extremely low density of health professionals (0.3 physicians and 2.05 nurses per 10,000 population) in the lowest quintile of sub-Saharan African nations – below minimum international standards (Huddart and Picazo 2003). Just on this score, the achievement of MDG goals will be difficult in the short run. However, this average density was also combined with significant variations in geographic and gender distributions. It is difficult to assess quality and efficiency in data poor countries. However, indirect indicators in Ethiopia of immunisation rates and malaria cases in relation to human resources densities suggest inconsistent quality and efficiency, although patient satisfaction surveys suggest that the quality is not as low as might be expected.

In order to identify the types, densities and distribution of workers needed to make greater headway towards the MDGs, a more sophisticated assessment of the skills required to address each MDG and the skills that are developed in each type of health worker needs to be made. In Ethiopia, for instance, an assessment of types, densities and distribution led to the prioritisation of a significant expansion of two types of health workers: health officers, who are less than fully qualified physicians (a kind of junior doctor) and who also receive more public health training than the internationally qualified general practitioners; and frontline community health workers. It was felt that increased numbers of these staff would be appropriate to the needs and might also reduce migration and allow for improved geographic distribution.

This kind of analysis reflects a relatively traditional human resources capacity approach, although the recent data from the JLI gives more weight to the importance of the relationship of densities to health outcomes (Anand and Baernighausen 2004). The approach that we developed takes this as the basis for analysis and then looks to how the health system's financial, educational and management capacities contribute to human resources effectiveness. We developed modules for analysing these three capacity systems. However, there are also several human resources

problems that cut across all three modules and have important impacts on the ability of existing human resources to achieve MDG objectives.

## 4 Cross-cutting problems

Densities, distribution and performance are also likely to be influenced by a series of elements that cross financial, educational and management fields. Some of these problems have long been matters of concern – such as worker motivation, absenteeism, job rotation, multiple job holding, the attractiveness or lack of attractiveness of some of the professions. Others have become more of a priority recently, such as large-scale migration to wealthier countries and premature deaths of health workers from HIV/AIDS (Berman and Cuizon 2004; Cohen 2002).

For the WHO tool we developed indicators for many of these types of cross-cutting problems. For instance, we found evidence in Ethiopia that the levels of absenteeism were low compared with many other countries, while at the same time migration of physicians and nurses was estimated to be a major problem. No systematic data was available for problems such as staff rotation, motivation, premature deaths and multiple job holdings. However, anecdotal information suggested that these issues were significant constraints on the effectiveness of the current human resources in the field.

The tool then focuses on three modules of factors that can be assessed and for which capacity development can be programmed: the financial, educational and management systems. Each module is discussed briefly below.

## 5 Financing module

To assess financing capacity, we examined the financing of the current system in terms of its allocative efficiency. A central question is whether spending on salaries and wages for human resources is an appropriate portion of the spending on other aspects of the health budget and in relation to absolute levels needed to attract candidates into the system. (Huddart and Picazo 2003) The module attempts to evaluate the current levels of spending on salaries and wages (of human resources) in relation to overall recurrent government expenditures, as an initial measure of efficiency. In Ethiopia we found that the wage portion of the national budget was 60 per cent, which is below the benchmark ranges estimated by international experts (Saltman and von Otter 1995). However,

given the low Gross Domestic Product (GDP) *per capita*, low health expenditure as a portion of GDP (4 per cent) and low government spending *per capita*, the wage bill may be too low to attract and maintain well-trained doctors, nurses and other health workers, at least to the public sector (WHO 2003; Diallo *et al.* 2003).

Within this envelope of financial resources, a second set of questions were related to salary levels in relation to types, distribution and performance – which might be considered "operational efficiency". In comparison to the national *per capita* GDP, Ethiopia spends much more than other countries in the region per salaried worker. Medical specialists earn 39 times the *per capita* GDP, general practitioners earn 24 times and nurses 19 times the *per capita* GDP (World Bank and Ministry of Health Ethiopia 2004). However, given its low density of human resources, Ethiopia may not be spending too much on salaries. Most health workers were able to benchmark their public salaries against what they could earn in the private sector, which was estimated to be 3–4 times for physicians. Thus, if increasing human resources density is a goal, it is likely that Ethiopia's wage bill will be too low for two reasons: first, because not enough human resources are financed by it to deliver healthcare effectively (allocative inefficiency) and second, because the wage level is too low to retain sufficient numbers of human resources in the sector (operational "over-efficiency").

Ideally it would be useful to assess the efficiency of the expenditures based on the effectiveness of health workers in achieving changes in health indicators linked to the MDGs. This analysis is extremely difficult to do; however, a proxy may be the relationship between physician density (and estimated expenditure on salaries for that density) and an outcome measure such as immunisation levels. In Ethiopia, no relationship was found, suggesting that there may be high levels of inefficiency in areas where there are high densities.

This assessment leads to questions about the capacity of the economy or donors to provide increases in funding to pay a wage bill that might be optimal. We developed tools for estimating the investment and recurrent costs of increased training of different types of health workers. In Ethiopia, this assessment was done for the health officers and health extension workers, suggesting that the wage bill for these workers would peak at 8 per cent of

total public health expenditures and level off at 6 per cent.

We then developed an Option Hierarchy to assess the options for providing additional financing for the expected new costs of the expanded human resources. This hierarchy starts with the expected increase in the healthcare budget as a share of total public spending, and then assesses three sources which might cover those increases: economic growth, increased donor support, or shifts in the budget from other sectors. The latter two options require some political analysis, which is the final module of the assessment tool. This analysis will be discussed in section 8.

## 6 Education module

The Education module examined the capacities of the educational system to provide the appropriate types and quality of human resources and to encourage improvements in distribution, both in geographic and gender terms (Cooper 2003; Majoor 2004; Ndumbe 2003). We developed a framework that we called the 'Educational Funnel' to assess the sequence of indicators needed to track health workers through the educational system. The funnel starts with the pool of applicants to see if there are sufficient numbers of graduates from primary or secondary education to be recruited into the educational programmes for different types of health professionals and other health workers. In Ethiopia we found that, although the pool of secondary school graduates was growing, it was low compared with other sub-Sahara African nations. The second step on the Educational Funnel is the rate of applicants from the theoretical pool that actually apply for places in the health education system. In Ethiopia, there are 3–4 applicants for each educational place. However, the number of places offered is low (only 20 per million inhabitants) and stagnant (at around 2,000 per year for the past 20 years) – so the application rate is increasing, but insufficient educational places are being provided for eventual increases in staffing (Ethiopia Ministry of Education 2003). Acceptance rates are the next step in the Funnel and in Ethiopia they were high and the drop-out rates were low, with the result being a relatively high entry rate into professional jobs. This analysis suggested that in Ethiopia, the educational constraint was not based on the lack of applicant pool or on the retention through the rest of the Funnel, but rather on the number of places available in the system. This

assessment then allows for an increase in investment in training institutions in order to provide more places. Theoretically, the expansion could be double and still not exhaust the applicants per place.

Although indicators of the quality of education are harder to quantify, in Ethiopia the quality of physician and nursing education apparently is at international standards, and contributes to the migration problem.

## 7 Management module

The Management module similarly established indicators and benchmarks. However, it departs from the traditional limited human resources management model by focusing on a broader assessment of the management capacity in the whole health system – something that impinges on the effectiveness and motivation of health workers (Martineau and Martinez 1997; Buchan 2004; van Lerberghe *et al.* 2002; Kolehmainen-Aitken 2004).

The module assesses three levels of management. At the macro level, we assess the public civil service system, decentralisation and leadership capacities at the national level. At the intermediate or meso level, we focus on the more traditional administration of human resources management at different levels of the system (e.g. job description development and the administration of personnel files) and the environmental conditions which govern relations between levels of the system/other institutions involved in health service delivery (Hornby and Forte 2000). Finally, the management issues of the facility level are assessed. In Ethiopia, a major initiative in public civil service reform introduced modern management techniques and ethical guidelines and was being implemented throughout the public services – with significant and observable implementation at all levels. This reform was being implemented along with a significant decentralisation which granted local government levels increased control over budgetary allocations, salary levels, and service organisation. As might be expected, these reforms were only partly understood at all levels and in different regions, and not systematically implemented. In more advantaged regions they were more effectively applied, while in the peripheral and more conflict-ridden areas, the reforms were less evident.

Leadership of the health sector is an important component of management and the capacity of the Ministry of Health to exercise leadership is an

important element in assessing management capacities. In Ethiopia, the Ministry of Health had been subject to staff reductions as part of structural adjustment to the point where there were insufficient staff to respond to leadership needs. Senior officials were in constant meetings, unable to respond appropriately to donor initiatives, and unable to systematically implement initiatives of civil service reform and decentralisation.

The traditional human resources management capacities are also assessed – including the appropriate guidelines, documentation and administration procedures for all levels of staff. We also assessed the introduction of modern human resources management techniques such as performance-based evaluations. In Ethiopia we found that appropriate personnel administration procedures were generally documented at the federal level, but resultant implementation lagged behind. A results-oriented performance-based evaluation process was beginning and may be a useful tool for improving performance and motivation. Guidance on personnel administration procedures from higher to lower levels of the system was deficient. Tracking of personnel statistics for HRH planning was almost completely lacking and career path documentation was not consistent for all cadres of health workers.

We also evaluated the working environment including working conditions, logistics and supplies, inter-level communications (information on norms and standards flowing from higher to lower levels, and feedback from lower to higher levels) and interactions with the private sector. In Ethiopia we found that working conditions and workloads vary by region, with some regions with high workloads and poor working conditions and others showing improvement. Management capacity of drugs and equipment logistics systems also varied from region to region. We found inter-level communication poor in most regions. Interaction with the private sector was limited in general, and left to the regions' discretion.

At the facility level, we attempt to assess organisational culture, facility management practices and techniques such as performance-based evaluations. In Ethiopia there was insufficient information to assess these indicators in a systematic way. However, we were able to observe better practices in one more advantaged region than in a region on the periphery.

## 8 Assessment tool: analysis, priorities, sequencing and political feasibility of reforms

The final section of the Capacity Assessment Tool lays out a five-step process for:
1. Assessing current status of human resource indicators against benchmarks
2. Developing criteria for prioritising human resources problems
3. Choosing reform policies
4. Sequencing reform policies
5. Assessing the political feasibility of human resource reform policies.

The assessment analysis begins with a checklist of cross-cutting problems and the three modules of health systems' indicators as detailed above.

This exercise is followed by developing criteria for prioritising the problems based on:

- expressed national priorities for human resources appropriate to health status problems,
- expressed national priorities for human resources responsive to popular and patient satisfaction and financial security,
- current human resources initiatives, and
- technical needs for increasing the quantity and quality of human resources.

In the case of the reform of human resources capacities, especially in low- and lower-middle-income countries, it is likely that some policy reforms can be chosen through a simplified process. The central reform is likely to focus on training of specific categories of health workers – those who will address the priority problems. In Ethiopia these were, as noted above, the health officers and the health extension workers. However, there was also a clear need to improve the skills of junior nurses and other paraprofessional staff.

The expansion of some classes of human resources is likely to require additional financing from the national and/or regional budgets and from donors. The options for education and training may include private sector education, but an expansion of national public training programmes will most likely be necessary. The management system problems will also require significant investment in the improvement of information systems, management training and leadership and the

identification of appropriate forms of decentralisation. In Ethiopia, the field test produced a series of recommendations such as strengthening the central Ministry to provide leadership in reform, coordinating donor support for the costs of educational expansion and earmarking government funds to provide for training and salary costs of the additional health officers and health extension workers, increasing salaries for existing staff, upgrading inadequately trained nurses and paraprofessional staff, addressing regional variations by implementing clearer national guidelines and improving career paths for retention purposes.

Once the reforms occur in the types of human resources to be trained, in financing, education and management, the next task is to develop an approach to sequencing the activities and investments in the reforms. There are no simple guidelines for sequencing, since sequences will depend on the priorities and reforms selected above. However, it is useful to consider some key tradeoffs in the process. One central tradeoff is the question of the magnitude of training new cadres. Training a small number may be appropriate in some cases to develop the capacities for training and with funding provided from easily recognised sources. However, it may also be effective to train a larger number in order to lock in an initial commitment by the government and donors, with the expectation that the increases will become permanent and accepted budgetary items. A second tradeoff is between "widening" and "deepening", or between focusing on increasing human resource numbers and the systems around them needed for them to be more effective. In Ethiopia we recommended that low-cost options be prioritised and higher cost options be postponed.

## 9 Political Feasibility Analysis module

After the reform options have been selected, it is important to assess the political feasibility of achieving these reforms. For this analysis, we developed a separate Political Feasibility Analysis module. The analysis begins with an overview of the regime type, general processes and procedures, levels of corruption and transparency and the enforcement capacity of the state. Then the module uses a stakeholder analysis to determine the position and power of key stakeholders *vis à vis* potential reform policies (Reich 2002). The tool discusses the general positions and power of these stakeholders in other countries and suggests a variety of possible political strategies which could increase support and reduce opposition to these policy reform options.

A review of the key stakeholders in Ethiopia – including the donors; the Ministry of Health, of Education and other government ministries; unions and associations of professionals, non-governmental organisations (NGOs) and other civil society organisations; local governments, the media and the dominant political party – found a significant level of support for a variety of possible capacity-building reforms. Indeed, many felt that this was the appropriate time for significant investment in improvements throughout the system, and expected support for increased donor funding and local government budget shifts to health sector reform.

## 10 Conclusions

This Capacity Assessment Tool is offered as one mechanism for beginning to address the need to develop capacities in health systems in order to take on the tasks of addressing key health priorities. The tool is designed for rapid assessments and therefore is limited to relatively superficial indicators that may be insufficient for a more complete analysis of local capacities. However, in data-poor countries, the resources needed for more sophisticated analysis might be great. Assessments of the quality of training, details of regional variations in many of the indicators and the details of current management practices are just a few of the issues that are likely to require significant additional study to develop an accurate picture of the current institutional capacities and human resource skills and practices.

It is likely that this tool, which was developed specifically for the health sector, could be used as a guide for the development of similar tools for other sectors. Each sector is likely to have some specific characteristics that will require different types of indicators and different sequencings. However, the framework is likely to be the same for all sectors.

It should be noted that the tool only guides us as to the range of needs and possible options for addressing those needs. It does not give an unequivocal answer to a key question addressed by the articles in this *IDS Bulletin* – does the capacity to absorb additional resources for MDGs exist? It recognises both that we do not yet have good tools

for addressing the complexity of issues around the assessment of "capacity", and that the solutions to the issues of "capacity building" are also complex. They depend on changing political opportunities, changing funding allocations, changing dynamic markets, and changing individual motivations. An assessment tool only gives us an initial, rapid way of beginning to address these issues.

## Notes

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