Workers for Priorities in Health

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Abbreviations

AFP	Acute Flaccid Paralysis
AP	Atlantic Philanthropies
APOC	African Program on Onchocerciasis Control
ARI	Acute Respiratory Infection
ARV	Anti-Retro Viral
AIDS	Acquired Immune Deficiency Syndrome
BRAC	formerly the Bangladesh Rural Advancement Committee
CDT	Community Directed Treatment
CMH	Commission of Macro-economics and Health
DfID	Department for International Cooperation, UK
DGIS	Dutch Development Cooperation
DOTS	Direct Observed Treatment Short-course
EPI	Extended Programme on Immunization
GAVI	Global Alliance for Vaccines and Immunization
GFTAM	Global Fund to Fight TB, AIDS and Malaria
HIPC	Highly Indebted Poor Countries
HIV	Human Immuno-deficiency virus
HRD	Human Resources Development
HRH	Human Resources for Health
ICHD	International Course in Health Development
IMCI	Integrated Management of Childhood Illness
IMF	International Monetary Fund
JLI	Joint Learning Initiative
LF	Lymphatic Filariasis
LIC	Low-Income Country
MDG	Millennium Development Goals
MMR	Maternal Mortality Ratio
NGO	Non-Governmental Organisation
ORT	Oral Rehydration Therapy
PAHO	Pan-American Health Organisation

PEI	Polio Eradication Initiative
PEPFAR	President's Emergency Plan for AIDS Relief
PRSP	Poverty Reduction Strategy Paper
RTI	Road Traffic Injury
SIDA	Swedish International Development Cooperation Agency
SSA	Sub-Saharan Africa
STI	Sexually Transmitted Infection
SWAP	Sector-Wide Approach
TB	Tuberculosis
VCT	Voluntary Counselling and Testing
WB	World Bank
WHO	World Health Organisation
WG5	Working Group 5

Introduction

Disease- or health-determinant specific programmes are important components of any health agenda. Such programmes respond to specific health threats, whether perceived or real. They are set up because the control of these threats requires a focused approach and interventions. In Low-Income Countries (LICs), however, most of these programmes fall short of their ambition because, for full implementation, human resources for health (HRH) are not, or cannot, be made available (in quantity or in quality) where they are needed most.

The Working Group (WG) on 'Priority Diseases' under the Joint Learning Initiative (JLI), a multiple stakeholder process initiated by the Rockefeller Foundation, has discussed and analysed the HRH constraints and opportunities in supplying priority programmes. 'Priority Diseases' is one of seven working groups under the Joint Learning Initiative[1] that is currently exploring strategies to address the human resource constraints in the provision of health services.

Two major issues dominated the agenda of this WG. Firstly: the basis of evidence concerning the prevailing constraints on the health workforce and the implications thereof for the burden of disease. Secondly: the identification and analysis of successful strategies to address HRH constraints that may be implemented by some of these priority programmes.

This report describes the main outcomes of the discussions within the WG and the results of the papers that it commissioned. These inputs are complemented by a literature review. The preparation and writing of this report has been co-financed by Dutch Development Cooperation (DGIS).

[1] An initiative of the Rockefeller Foundation supported by an large number of stakeholders such as WHO, World Bank, SIDA, DfID, AP, etc.

Chapter 1 describes the environment that affects the health workforce. Chapter 2 presents an overview of what lessons can be learned from priority programmes that have already struggled with the consequences of HRH limitations. Chapter 3 discusses possible strategies that can help to overcome HRH constraints. The last chapter proposes an agenda for action.

The following working definition for HRH has been used in this report: 'the stock of all individuals engaged in promoting, protecting or improving the health of populations. This includes the formal health sector (private-for-profit, not-for-profit and the public sector) and various domains of health systems, such as personal curative and preventive care, non-personal public health interventions, health promotion and disease prevention. It also includes the informal health-care sector, including traditional healers, volunteers and community carers'. (WHO, 2003:1).

Priority programmes are defined as 'programmes that are integrated in varying degrees into the health sector, with their own (entire or partial) lines of authority, frequently with separate targets and resources (staff, training, inputs, transport, finances), although they often use the existing healthcare facilities as a starting point'. (Adapted from the Glossary ICHD, 2003.) They have their own policies, strategies and/or regulations and can be aimed at specific target groups (e.g. the elderly, mothers and children), are symptom-related such as diarrhoea, ARI (acute respiratory infections) or focus on diseases, such as malaria or HIV/AIDS.

A list of definitions of the most important terms used in this report is included in Annex 1 and is based on the glossary developed for the JLI.

1 A changing environment in health

In theory, disease control strategies are based on the epidemiological features of the disease, the available interventions, and the requirements for resources and logistics (Melgaard, 1999). Other factors are also at play:

- the benefits of specific control to the beneficiaries in terms of reducing mortality and morbidity have been demonstrated and are politically acceptable;
- there is political pressure for quick results at national level;
- there is pressure by international agencies (WHO, WB, UNICEF) concerned with cross-border problems;
- it is easier to obtain donor funding for specific interventions;
- health services provision is functioning poorly, which impedes the implementation of an integrated disease control programme;
- there is a potential to eradicate the disease (e.g. smallpox and polio).

Priority programmes are mostly conceived and promoted by global actors, but at country level they are provided within a health sector that is (to some extent) prepared to support them. This section describes the context in which priority programmes are implemented, and the major changes that this has undergone over the past few years. In turn, these changes may have a profound effect on the performance of priority programmes, and on their capacity to produce expected results. The focus will be on how these changes affect HRH, as a critical determinant of the success of priority programmes. Paradoxically, the intuitive notion that a positive relationship exists between HRH and health outcomes has hardly ever been documented. In a cross-national analysis of human resource density and health status in 118 countries, Anand and Baernighausen (2004) show that human resource density (physicians, nurses, and midwives per 10,000 population) matters significantly in determining lower maternal, infant, and under-five mortality, controlling for income, and female adult literacy. A 10% increase in the size of the health workforce correlates to a decrease in maternal mortality of approximately 5%. This same increase correlates to a 2% decline in infant and under-five mortality. This is consistent with results reported by Cook (2002) for maternal mortality, and by Frankenberg (1995) for infant mortality.

Among important changes that have affected health systems, we will highlight the higher value given to health by countries and international agencies, the emergence of new funding mechanisms, and attempts to reform the health sector through various strategies.

1.1 Health has moved up the international agenda

In 1993, the World Bank devoted its annual World Development Report to Investing in Health (World Bank 1993). For the first time, health was getting the attention of international financing agencies, as a factor of development. The focus was on the relationship of reciprocity between health status and economic development, and on the role of better performing healthcare systems. In 2000, the WHO devoted its annual report to 'health systems', and tried to define strategies to improve the performance of the health sector (WHO 2000). This same year, the international community adopted the Millennium Development Goals (MDGs) which focus on reducing hunger and poverty, increasing primary school enrolment, reducing child and maternal mortality, HIV/AIDS, malaria and other diseases, environmental sustainability and reforming global aid partnerships. The inclusion of health goals among the MDGs, has put health high on the international political agenda (WB, 2003), but has done so by increasing the visibility of specific diseases. This was reinforced by the publication of the report by the Commission for Macro-economics and Health (2001), which identified

priority diseases that strongly contribute to the global burden of disease: maternal and perinatal, childhood diseases, HIV/AIDS, malaria and TB (tuberculosis). This commission advised focusing on outcome-oriented health services by increasing access for the poor to essential health services in low and middle-income countries by using 'Close-to-client' systems, consisting of community-based preventive services, primary healthcare services and first level referral hospitals.

The message from these various reports and declarations is ambiguous in relation to the services needed to address these problems: calls are made for strengthening existing provision systems so that they can respond to all health problems, and at the same time, the focus on specific diseases encourages the development of targeted programmes. The latter strategy has been chosen by many actors who have decided to channel funds towards specific diseases. Examples are the Global Fund to Fight TB, HIV/AIDS and Malaria (GFTAM, 2001), Global Alliance for Vaccines and Immunization (GAVI, 2000), STOP TB (1999), Roll Back Malaria Partnership (1998). These initiatives are disease specific, and all have to struggle with the question of how best to use their resources: should they support independent provision mechanisms, integrate existing systems, or find some hybrid arrangement. This issue is also made more complex when we look at changes to the level of funding for health services.

1.2 New funding mechanisms and practices

Health systems in Low-Income Countries have traditionally been funded by governments, by users (out-of-pocket payments) and by external partners, such as NGOs, foundations, and bilateral and multilateral donors. In Africa, the latter contribute up to 52% (in Mozambique) of all funds devoted to health, with an average of 22%; only South Africa does not rely on external funding (Nandakunar et al., 2004). In most LICs, the main source of funding has been households, as governments have seen their spending capacity decline since the 1980s. Three changes have taken place recently: new international players have emerged with considerable funds to spend, and countries themselves have access to increased funds through the debt alleviation process. But spending methods have also changed. The new initiatives mentioned above come with significant funds: the GFTAM has disbursed more than 3 billion $[2], GAVI has spent 472 million $ up to September 2004[3], and STOP TB was set to spend almost 1 billion $

[2] http://www.theglobalfund.org/en/funds_raised/commitments/

[3] http://www.vaccinealliance.org/site_repository/resources/GAVI_one_page_0904.pdf

in 2003[4] (some of which was contributed by GFTAM). A United States initiative on AIDS (PEPFAR: President's Emergency Plan for AIDS Relief) is planning to spend 15 billion $ in 15 target countries[5]. Foundations such as the Bill and Melinda Gates Foundation (which has spent almost 4 billion $ since its inception in 1994), or the Clinton Foundation have become major players in the health sector.

In addition, countries (there are 33, most of them in Africa) eligible to participate in the HIPC (Highly Indebted Poor Countries) debt-alleviation programme[6] launched in 1996 by the World Bank and the IMF (International Monetary Fund) and adopted by a number of high-income countries, can expect a reduction of up to 50% of their public debt. They are expected to redirect 60% of the savings to social sectors, including health. The growing external support for health in LICs, combined with the availability of new national resources, creates a favourable environment for scaling-up health interventions. However, new initiatives and programmes depend on the availability of a functional healthcare system as well as a qualified and accessible health workforce in order to be effective.

Another significant change, which is now incipient, is the way in which donors' resources are channelled. Traditionally, donors have always supported independent projects, which were not always easy to coordinate. A new trend is to channel funds through Sector-Wide Approaches (SWAPs) and to provide budget support, leaving the government more at liberty to pursue its own policy. However, there are tensions between these various changes: specific initiatives tend to favour specific programmes, whereas increased budgetary capacity and SWAPs encourage more integrated approaches, such as system strengthening. In terms of the impact that these changes have on the health workforce, specific initiatives compete with existing services for scarce qualified staff, at least in Africa where important shortages are observed (Liese, Dussault, 2004). They also compete among themselves for the same staff. As they have means that easily enable them to offer conditions that the public health sector cannot match, the result may be a weakening of healthcare systems. All agree that the strengthening of the general system would benefit everyone, but it requires a complex process of change, spanning many years, which is not attractive to donors who want to show rapid results. SWAPs also aim for more integrated

[4] http://www.stoptb.org/documents/fact_sheets/TBP_Fact_Sheet_for_WTBD_2004.doc

[5] http://www.whitehouse.gov/news/releases/2003/07/20030702-4.html

[6] http://www.worldbank.org/hipc/about/hipcbr/hipcbr.htm

planning in order to improve the efficiency and effectiveness of the sector. This implies various changes in approaches, e.g. harmonizing donor practices such as paying incentive bonuses and topping salaries. SWAPs intend to strengthen health sector management by linking (where possible) to existing government procedures. Human resource development has been stressed as an important component of this initiative, but has received only scant attention in the poverty reduction strategies designed by HIPC countries (Johnson 2004).

From this brief and limited 'bird's-eye overview' it transpires that putting the emphasis either on disease-specific/priority programmes, or on strengthening the general healthcare system varies substantially from initiative to initiative. This partly reflects the existence of different approaches to disease control in the development sector. At the same time it demonstrates a lack of knowledge on how to develop a health system and workforce capable of effectively and efficiently improving population health in poor societies.

1.3 Sector reforms

Since the early 1990s, almost all poor countries have experienced some form of health sector reform. This was justified by the observation of numerous deficiencies in accessibility (Dussault, Franceschini, 2004), productivity (Kurowski et al., 2003; Chaudury, Hammer, 2003), technical performance and quality of services as perceived by users (Jaffre, 2002). These have usually been piecemeal, rather than comprehensive. The most frequent changes were attempts to:

- decentralize financing and management;
- make hospitals and other health organisations legally and financially autonomous;
- increase the role of the private sector (contracting, franchising); and
- introduce social health insurance.

In addition, many countries tried to reform their civil service, which had an important impact on the health workforce, for example where the health personnel were detached from the main civil service (Ghana, Zambia). The degree of success achieved by these reforms has been limited (World Bank 1999), which is probably due to their technical and political complexity, and to the failure to

involve health workers themselves in the change process. However, their impact on the health workforce has often been negative, through measures such as capping recruitment and changing employment status. Workers, who are not a resource that can be easily manipulated by planners, have reacted both individually and collectively (Rigoli, Dussault, 2003) in opposing or redirecting change. In spite of reform attempts, most systems in LICs remain fragile and underperforming: access remains a major problem, as services tend to be concentrated in urban and richer areas; effectiveness is low due to non-adapted training, lack of functioning equipment, and a lack of consumables, including medicines. Service quality also remains low as staff are demotivated (Franco, Bennett, 2002) due to heavy workloads, poor pay and working conditions, and the absence of supervision.

The environment in which priority programmes try to implement themselves tends to be a health sector that has access to more financial resources, but lacks the other input – qualified and motivated personnel – who can put these resources to good use. In many LICs, the better-qualified health workers are migrating to greener pastures, taking advantage of the growing demand in High-Income Countries. These countries are strongly affected by the AIDS pandemic which also hits the health workforce heavily. It is an environment struggling with organisational change, which is difficult in any context, let alone in contexts where information bases are underdeveloped and where technical capacity for policy analysis and development is scarce.

The challenge for priority programmes is to be effective in an environment that is not strong enough to implement them (if it were then they would not be needed!). Their dilemma is whether they should develop outside, or within the margins of a weak healthcare system, or should first try to make the system stronger. There is probably no single answer to this dilemma: each programme has its specific circumstances in terms of complexity of interventions, personnel requirements (number and qualifications), target population etc. In addition, the relevant cultural, economic or political constraints may limit the options. In countries where health unions are strong, the introduction of a priority programme is negotiated, not imposed.

In all cases, planners of priority programmes have a strong interest in better understanding the gap between the requirements for successful implementation of their interventions and the capacity of the environment to meet them. The next chapter explores experiences of priority programs operating in a constraining environment.

2 Observations and findings of HRH in priority programmes

Although HRH are key to the successful implementation of priority programmes, in practice HRH needs are rarely subject to critical analysis. Exceptions tend to be when political pressure is high, and when there is an effective, simple and well-defined intervention – as in the case of smallpox eradication, and the ongoing Polio Eradication Initiative (PEI). When priority programme services are implemented through existing facilities, as is usually the case, tasks are often simply added to the existing ones, without adjusting job descriptions and without appropriate planning and preparation. The expectation seems to be that these tasks can be implemented automatically, without additional training and resources. HRH estimates have recently been made by Kurowski et al., for TB, malaria, and HIV/AIDS in Tanzania and Chad (2003), and in Zambia, for certain core services (Huddart, 2003). TB control programmes have started to better analyse their HRH needs, for instance in Malawi (Harries, 2003). In India, an estimate has been made of the required technical and management capacity to develop, implement and evaluate effective maternal health interventions at national and state level (Mavalankar, 2003a).

In LICs where the health workforce is insufficient, priority programmes often use health workers who already have specific tasks in the health sector, and the implementation of these programmes has an impact on service provision. As previously mentioned, there is very little documented evidence of these effects. The following section provides an overview of what we know of the links, in terms of HRH, between priority programmes and the government health sector, other priority programmes, the community, sectors other than health, and the private sector.

2.1 Impact on government health sector workforce

Priority programmes can strengthen or weaken existing public healthcare systems. Strengthening can occur when the resources or skills needed to implement priority programmes are used to a substantial degree to provide

other services. Systems are weakened when resources originally meant for the public sector are used to implement priority programmes and are no longer available to perform other tasks.

Contribution to policy and management

According to Melgaard et al. (1999), eradication programmes can contribute to policy development in countries where this is weak, as these programmes tend to have clearly outlined policies and strategies that can facilitate the development of other health goals and strategies. As staff gain experience in developing specific goals and plans for priority programmes, their expertise can also be used for planning other health activities. When priority programmes have strong management capacity and processes, the programme can strengthen the general organisation of services. Examples include immunization services that improved cold chain management and techniques for safe injections (Freeman in Oliveira-Cruz, 2003), as well as mapping and numbering households (Cochi in Oliveira-Cruz, 2003). However, in countries with a very weak health management structure, potential positive effects may be undermined when programmes set up a parallel management system.

Harries et al. (2003) point out that the provision of HIV/AIDS and TB care through the general health service, provides opportunities to improve these services overall. Examples include the integration of HIV/AIDS and TB services that provide improved laboratory services, and the availability of improved equipment and skills such as staff who are trained in counselling. The knowledge and skills obtained for HIV/AIDS or TB services can also be used for improving communication by these same providers to communicate regarding other health topics. Staff trained for specific programmes can use the generic knowledge and skills that they have acquired for other health activities. However, it is not clear from the literature to what extent these positive impacts are sustained.

Mogedal and Stenson (2000) concluded, on the basis of field studies in four countries on the Polio Eradication Initiative, that 'neither any outstanding "automatic" positive impact of the programme, nor grave disruption or diversion' could be reported. When the PEI (or any other priority programme in a country) has a clearly defined objective to strengthen health systems, which is not formulated into strategies to bring this into practice, there is a risk that any positive impact is incidental and that no steps are taken to consolidate it. Not defining strategies for systems strengthening, when the means are available, must therefore be considered a missed opportunity.

Improving access and demand for services

The introduction of priority programmes can enhance the trust of consumers in the health sector and in the health workers involved, and thus induce demand for other services. An example is the Polio Eradication Initiative; according to Cochi in Gounder (1998), PEI created a demand for immunization services, and PEI was associated with improvements in the health services infrastructure. Priority programmes have therefore allowed services to become more accessible in some remote areas, as has been the case with PEI for ethnic minorities in Vietnam, or the establishment of a two-month cease-fire in southern Sudan to increase efforts to eradicate Guinea worm and polio and to implement other health initiatives (Gounder, 1998).

Impact on staff performance

A downside of priority programmes, mentioned by Melgaard (1999) is that programmes take staff away from other duties. However Melgaard also states that there is no hard evidence to prove that personnel (with an already low performance) actually performed worse due to the PEI or whether it increased productivity. Taylor (1995) argues that a negative impact of global immunization goals was that they conflicted with local demands and priorities. Due to excessive

targeting, other health activities were neglected and in some cases even cut back substantially, adding that 'this feeling increased over time and the cumulative resistance introduced concerns for long-term sustainability' (Taylor, 1995:5). In his evaluation report on the impact of EPI (Extended Programme on Immunization) and PEI on health systems in the Americas, Taylor shows that staff involved in such programmes were encouraged to work by providing incentives and intensive supervision. At the same time, they were frustrated as they were not able to spend time on other activities. Staff not involved in these programmes were discouraged as they missed out on benefits. Among PAHO (Pan-American Health Organisation) staff there was a concern about the sustainability of EPI staff motivation due to reduced intensity of training and supervision (Taylor, 1995).

Priority programmes can be very demanding with regard to the time investment of health workers, and opportunity costs, in terms of effort and time for health staff and health managers, can be high. An example is the National Immunization Days, for which preparation and implementation (especially for district and higher level managers) are time consuming, leaving no time for other tasks. Another negative aspect stems from the pressure that priority programmes tend to put on the health sector, which may result in fake impact and staff productivity data being reported (e.g. Vietnam, personal communication).

Training

Training organised by priority programmes often disrupts services and diverts the workforce from regular tasks. The various training courses organised by priority programmes are rarely coordinated or planned in collaboration with other programmes and the Ministry of Health (Melgaard, 1999). These training courses are mostly internal training courses and basic curricula are not adapted, with the result that new service providers do not receive updated training on disease control. This creates a continuous need for internal training courses and staff are often absent due to attending training activities.

Skills improvement on the one hand and workforce reduction on the other have been reported as two contrasting impacts of priority programmes on the government health sector workforce. Apparently, depending on circumstances, priority programmes can strengthen or weaken general health services. However, it is also clear that there are usually no explicit strategies to create conditions to promote strengthening of the overall health workforce while implementing priority programmes.

2.2 Integration of priority programmes

Integration of priority programmes in the government health sector

A number of priority programmes are totally or partially integrated into the government health sector in order to optimize the use of resources or to increase accessibility. Integration mainly takes place at the service provision level, often for strategic and operational management of priority programmes, special programme managers at the central and provincial/district level are in place. For example, TB services are typically integrated within the general healthcare system, while a special management unit is maintained at the central level (Hellberg in Mayhew, 1996). Similarly, STIs (Sexually Transmitted Infections) are integrated at service provision level, but rely on specialized laboratory services (Mayhew, 1996).

For service provision, particularly initial contact with patients or clients, integration of several programmes seems feasible. During the first contact, health workers can easily be trained to look at a number of aspects when people come in for an initial consultation or when they go to outreach visits. It is also relatively easy to provide these frontline health workers with relatively simple diagnosis and treatment guidelines. Taylor (1995) mentions the importance of integrating preventive components of priority programmes into primary healthcare, to improve sustainability and cost-effectiveness. Examples include the provision of health education or disease surveillance. In his report, various health workers describe how they address other health problems during outreach visits of EPI, such as growth monitoring, health education or identifying pregnant women for antenatal care. General health workers at local level, who make the first contact with the population, play an important role in identifying signs and symptoms relevant to the various priority programmes.

One of the risks associated with integration concerns the degradation of service quality, because staff may become overworked and may not be adequately trained (several authors in Mayhew, 1996). Van der Werf (2002) describes the integration of schistosomiasis control in northern Nigeria, a high endemic area, into the primary healthcare services. This was implemented by symptom-based treatment, assuring the availability of low-cost drugs. The evaluation of this programme showed that the knowledge of primary healthcare workers increased and that therefore more people received timely treatment. However, at the same time, questions were posed regarding sustainability when the schistosomiasis control was integrated. This had to do with the need for supervision and substantial capital input. When supervision and support for health workers decrease, there is a risk that the quality of the services provided will be reduced.

A strategy to address the risk of reduced quality of specialised services is the development and use of alternative techniques that are simpler to use and do not require specially trained staff, such as the introduction of the syndromic approach to STIs. This means that health staff 'diagnose and treat on the basis of a group of symptoms or syndromes, and treat all the diseases that could cause that syndrome' (Mayhew, 1996: 345). A negative side is that a syndromic approach may cause over-treatment.

Examples of integration

A well-known example of an integrated approach taken by both the government and private sector concerns the Integrated Management of Childhood Illnesses (IMCI); strengthening prevention and treatment of malaria, pneumonia, measles, HIV, malnutrition, and diarrhoea in the care of children under five years of age. IMCI focuses on assessing sick children, classifying their symptoms, plus treatment, counselling and follow up. Training is organised for health workers at local level, teaching them to look for various symptoms when dealing with children (both in-service and pre-service training) and treatment guidelines have been produced. An emerging strategy is the integrated management of adolescent and adult illnesses, which aims to provide outpatient treatment guidelines addressing a number of symptoms related to pneumonia, malaria, STIs, key women's health issues, mental health disorders and paying attention to the detection and care of chronic illnesses (WHO/CDS, 2003). Health workers who make initial contact with adults and adolescents will be trained to implement these guidelines.

Another priority programme that is usually well integrated into general health services concerns maternal and perinatal health services. This programme has developed strategies to address workforce constraints, as providing skilled attendants is a crucial element in reducing the maternal mortality ratio[7]. The number of skilled attendants in most countries is either insufficient or these health professionals are not well distributed among national regions. Consequently rural women in particular lack access to maternal services when required. To address these workforce constraints within the health sector, WHO has formulated key-interventions for safe motherhood, and proposed that some tasks be delegated to lower cadres or key skills be moved to other cadres. Delegating skills requires that professional cadres have to be retrained: this is currently happening in

[7] The WHO defines skilled attendants as health professionals with midwifery skills, such as trained medical doctors, midwives and nurses (Family and Community Health, 2002).

among others Zambia and Bangladesh, where health cadres working in health centres are being trained to become polyvalent. However, in order to ensure that task delegation is successful, training alone is not sufficient. What also need to be formulated are a careful delegation approval process, trust-building among the cadres, development of appropriate compensation for additional responsibilities and a framework for monitoring and evaluation (Mavalankar, 2003b).

Leprosy control programmes have also been integrated into general health services in a number of countries. Problems in integrating leprosy programmes were partly related to a lack of commitment by health workers, due to inadequate explanation of the benefits, the rationale behind integration, and programme objectives (Feenstra and Visschedijk, 2002).

Integration is an important strategy to address the existing workforce constraints, but there are few case studies that describe the integration of priority programmes in general health services. Existing literature shows that integration can be very positive, but needs to be approached carefully to avoid problems in planning, implementation and evaluation. Education, counselling and basic services are easier to integrate at the first contact point, whereas integration of more specialised services at a higher level is more difficult as the expertise required demands specific training. Integration at this level requires careful identification of the various skills that can be combined.

Combining priority programmes or 'piggy-backing'

Priority programmes can also be used for other public health issues as a first step in integrating interventions. This means that health workers providing services for one type of programme use the opportunity to include other services and have the additional skills and knowledge required to implement these activities. Examples of combined priority programmes include providing vitamin A during immunization, distributing bednets during polio immunization days, disseminating family planning information during child healthcare provision and providing malaria prophylaxis during antenatal care.

The African Programme on Onchocerciasis Control (Benton, 2003) describes the potential results of such combinations. This programme developed a number of Community-Directed Treatment (CDT) projects, where interventions were 'added on' in areas where healthcare systems were very weak. For example, by using the distribution network of the CDT project for vitamin A distribution in two states

in Nigeria, a huge increase in coverage (from 12% to 80%) was achieved within three years. Other primary care interventions were added as well, such as the distribution of bednets, the prevention and treatment of lymphatic filariasis (LF), immunization against polio and measles, and schistosomiasis control. Another example is the close collaboration between TB and HIV/AIDS programmes to provide prevention or early diagnosis and treatment of HIV-positive people who contract TB, or to provide early detection of HIV among TB patients by offering Voluntary Counselling and Testing (VCT) services to TB patients (Harries et al., 2003).

Such experiences have also been gained in combining TB and leprosy control. As the number of leprosy cases is declining, separate leprosy control programmes are becoming too expensive and integrating them into general health services or combining with TB programmes are alternatives to avoid the demise of leprosy control. For example, in northern Bangladesh, TB and leprosy control were combined into a single programme. Integrated case finding took place, both through combined health education sessions and through health workers

actively conducting contact surveys. The integration contributed to increased case finding and a reduction in stigma for leprosy patients (no 'special' leprosy hospitals). Staff response was positive, as adding TB activities gave them more perceived job security, and increased job satisfaction as staff felt that they were contributing to reduced death and suffering due to TB. Increased workload was not perceived as a problem (Croft and Croft, 1997).

The global programme to eliminate LF has developed a standing policy aimed at 'piggy-backing' onto other public health interventions. Providing a low-cost two-drug regimen on an annual basis can eliminate LF. For surveillance and drug distribution, this intervention can be linked to the Guinea worm programme. For combined vector control, it can be linked to dengue and malaria (via bednets), schistosomiasis and intestinal helminths treatment (schools), and to onchocerciasis control (in areas where LF and onchocerciasis are co-endemic). It can also be linked up with vitamin A distribution or the two-drug regimen can be distributed during National Immunization Days (Molyneux, 2003).

These examples show the opportunities to use existing structures that have been set up by priority programmes to improve access to (and use of) other interventions to reduce important public health problems. When adding tasks to those currently implemented by providers, care must be taken to ensure that staff accept these additional tasks, and that complementary measures are taken to avoid overloading and demotivation.

> Collaboration between priority programmes can be used to effectively implement a number of interventions, using an already existing HRH network for a priority programme. These collaborative efforts enhance access to services in areas where healthcare systems are weak, and also address HRH constraints. This is in fact a first step towards integration.

2.3 Priority programmes implemented with the community

Collaborating with volunteers or community health workers

As the regular workforce in the health sector is usually unable to provide all services, involving communities in health service delivery is a strategy used by many priority programmes. In many cases the aim is not only to reduce the workload for health personnel but also to create ownership at community level and to empower communities to take informed decisions and actions to improve their health. In addition, community health workers can help to adapt services

to the needs of the community (Taylor and Jinabhai, 2002). To assure good performance and motivation of volunteers, a system of supervision and support from the health services has to be established. In addition, an incentive scheme should be developed to avoid high attrition rates (Lehmann, 2004).

Some problems may arise in delegating tasks to community level: when health workers do not acknowledge local expertise and knowledge, the working relationship between volunteers and health service providers is often not equal and creates an 'employer/employee' relationship, causing expectations that cannot be met (e.g. employment and salaries), dependence and a lack of recognition that the community is an equal stakeholder. This undermines the opportunities for partnerships and sharing responsibilities and creates problems with sustainability.

Many priority programmes train volunteers at community level. There is often inefficient use made of these volunteers, as different volunteers are recruited for each priority programme and are trained to perform just one type of activity. However in spite of this, communities can make substantial contributions to health programmes. Cochi (in Oliveira-Cruz, 2003) explains that the Guinea worm eradication programme enabled a focus on disadvantaged groups and on community empowerment. Other examples of delegating tasks to communities or community workers concern the development of a rapid diagnosis test for malaria (Bell et al., 2001, and Cho-Min-Naing and Gatton, 2002). Bell (2001) showed that these tests were accepted and easy to use by community health workers in the Philippines. The study found that, depending on the outcome, the test determined treatment, and thus formed the basis for better time allocation of the providers. When a negative result was shown, it allowed health workers to search for an alternative treatment, which contributed to work satisfaction. Cho-Min-Naing and Gatton (2002) showed that these rapid diagnostic tests can be used by inexperienced village health workers in Myanmar. The test allowed on-site confirmation of diagnosis through symptoms as well, therefore allowing timely detection and avoiding over-treatment based only on symptoms.

The TB control programmes in high-endemic countries are experimenting with community-based DOTS schemes; mostly with positive results, as patients do not have to travel to health facilities thus avoiding (high) opportunity costs. Examples of successful community involvement in DOTS provision can be found in several countries including Zambia, South Africa, Malawi, Bangladesh, India, Colombia and Bolivia (Stop TB Department, 2003). The distribution of DOTS at community level also often entails providing incentives for the patient and for

the DOTS observer, enhancing adherence to treatment, e.g. in India and Cambodia (oral communication). Other tasks that are often delegated to communities concern providing information, case finding, defaulter tracing and ongoing care and support (Stop TB Department, 2003).

Community volunteers can also take up tasks in HIV/AIDS programmes, such as home-based care and providing basic drugs for opportunistic infections, income-generating activities, orphan care and other support activities, plus referral to health services (Harries et al., 2003). Within AIDS programmes, experiences with home-based care by volunteers and VCT services by lay-counsellors are common. A study in Zambia showed that performance by lay-counsellors was higher than that of professional health workers, except for nurses (Huddart, 2003). Services can also be integrated at community level and community health volunteers can become multi-purpose. For example, BRAC in Bangladesh has a long history with Community Health Volunteers providing DOTS and other public health services, such as health education and selling health products (contraceptives, ORS, soap, iodised salt, etc.). Dropout rates of the Community Health Volunteers were greatly reduced by creating incentives, which also enhanced the sustainability of volunteer activities (Chowdurhy, 2003).

Collaborating with traditional service providers

Another strategy to provide primary health services closer to the community is to delegate certain tasks to traditional healers and birth attendants. However, there are many stories of problems in the relationship between traditional care providers and the health workers from the official health system, due to in-comprehension of each other's working methods and perception of illness and health, mostly due to a lack of communication. An evaluation of the provision of services by traditional providers in four projects implemented in Ghana, Mexico and Bangladesh demonstrated that traditional health providers can play an important role in improving the health of women and children, particularly with regard to nutrition, sanitation, hygiene, and maternal and child health. However, a lack of statistical data meant that outcomes, in terms of changed health conditions or behaviour, were only reported in Ghana, and these outcomes could only be considered indicative, due to a lack of baseline data. However, this indicative data showed a decrease in malnutrition and an increase in the use of maternal health services, such as pre- and postnatal care, and an improved use of trained traditional birth attendants rather than untrained assistants (Hoff, 1997).

Positive experiences have been reported with community volunteers and traditional service providers in priority programmes: reduced workload of regular health workers, better adaptation to local needs, and enhanced programme ownership. Although the workload of regular health workers drops, it is important to ensure good volunteer performance through incentives and supervision, to enhance sustainability and quality of performance. It is important to avoid 'single-purpose' workers if possible.

2.4 Multisectoral collaboration

The interventions of some priority programmes require collaboration between different government sectors and therefore the involvement of human resources from a variety of backgrounds. The Guinea worm eradication programme, for example, improved collaboration between the Ministry of Health and the Ministry of Water and Sanitation. It also created a community-based surveillance and intervention system (Cochi in Oliveira-Cruz, 2003). Programmes to control diarrhoea (requiring clean water supply and sanitation by the Ministry of Water), and sexual health programmes with an educational component addressing sexual health in primary and secondary schools (requiring collaboration between the Ministry of Health and the Ministry of Education) are additional examples.

Multisectoral AIDS programmes have also been implemented in countries such as Uganda and Zambia. In one district in Uganda, HIV/AIDS care and prevention activities, supported by a local NGO, are integrated into the local government planning system through a Memorandum of Understanding with the Local Government Administration. The Local Government HIV/AIDS team at subdistrict level pays the incentives to volunteers, as well as co-funding and monitoring activities. In Livingstone, Zambia, a centre has been established (under the responsibility of the District Health Team) that coordinates all HIV/AIDS prevention and care activities in the district. This means that patients get more and better care, which also involves households. The multisectoral approach and coordination from the centre makes prevention and care efforts more effective because many different channels are used (KIT, 2003).

Road Traffic Injury (RTI) control requires a number of different interventions, such as transport and land-use policies, good planning and design of safe road networks, surveillance, vehicle safety efforts, legislation, as well as information and education to influence human behaviour and trauma care (WHO, 2004). All these aspects need to be implemented by a range of professions such as medical

workers, engineers, police, lawyers, the media etc. In order to be effective, RTI control requires intersectoral collaboration involving several ministries – Health, Transport, Justice and Interior etc. (Mock, 2003).

Although there are many examples of multisectoral collaboration, little information exists about the need for (or use of) human resources from different sectors to implement a priority programme. In addition, no publications were identified that describe the process of these multisectoral collaborations and their sustainability. It would be interesting to document and capitalize on these experiences. Multisectoral experiences in teamwork, coordination, incentives and training programmes, particularly in the field of HR, can provide input in addressing current HR constraints in the government health sector. Priority programmes need to better document aspects such as the use of incentives for human resources in different sectors, and the process of management and support.

> Multisectoral collaboration is often necessary to address various determinants of a public health problem when these cannot be handled by the health sector alone. In order to develop a comprehensive control strategy for multisectoral problems, a detailed problem analysis needs to be carried out, while different sectors need to collaborate on programme implementation. Planning, mobilizing and managing the health workforce for such programmes is vitally important to attain impact. There is a substantial lack of documentation on how this is achieved in low-income countries and the possible 'best practices' involved.

2.5 Partnerships with the private sector

If the workforce in the government health sector is insufficient or not equally distributed, one option is to contract out certain services to private for-profit or not-for-profit healthcare providers. In many resource-poor settings, the private for-profit sector is growing rapidly and is used by many people. In addition, government health sector workers in many countries often have a private clinic that they use after (or sometimes during) office hours. In a number of Sub-Saharan African countries faith-based organisations take up a large part of the health service. For example in Zambia, 40% of the health services are provided by faith-based health clinics and centres, while in a number of Asian countries, NGOs also provide such services. These offer opportunities for priority programme implementation.

Collaboration with the private for-profit sector

Private for-profit clinics are often located in urban areas. Not including them in disease control programmes may constitute a public health risk, as the private sector is then either not aware of (or not willing to follow) guidelines for treatment, which can create problems e.g. in drug resistance. For example, in India, patients with a cough who attend a private clinic are diagnosed for TB on the basis of a chest X-ray and are prescribed non-standard drug regimens. But these providers do not have the means to monitor adherence to drugs, nor do they keep patient records. These private practitioners could be better involved in TB control (TB Strategy and Operations, Stop TB Department, 2001). In addition, including an existing network offers another opportunity to relieve the current government health workforce.

Involving private practitioners in disease control can be operationalized on a partnership basis, through a goodwill arrangement, through contracts or through franchising health services. A health services franchise for TB and HIV/AIDS is currently being established in Kenya and Tanzania.

A number of national TB control programmes have started to collaborate with private practitioners. One example is in Morocco, where private practitioners detect 30% of all TB cases. Of these diagnosed patients, only 36% are referred to the TB control programme. Most chest physicians treat patients themselves, following the National TB Programme guidelines. TB control is a part of the curriculum of the pre-service medical training in Morocco, during which 40 hours are spent on TB control. Another example concerns the Philippines, where a drug company has started a DOTS project for upper-class patients, assisted by an infectious-disease specialist with a DOTS clinic and a public health worker with a motorbike (for tracing defaulters). In Kenya, an anti-TB association provides subsidized drugs to private clinics, which in turn follow the guidelines of the national TB control programme (TB Strategy and Operations, Stop TB Department, 2001).

An interesting partnership between the health sector, private for-profit and NGOs in TB control was found in Nepal. Private practitioners diagnosed patients; DOTS provision was ensured by NGOs, and the national TB control programme provided training and drugs. The results were promising as treatment success rates were over 90%, defaulting under 1% and case notification almost doubled. In addition, the number of private practitioners treating TB patients decreased, as well as the sale of anti-TB drugs by private pharmacies (Newell et al., 2004).

Collaboration with the private not-for-profit sector

An example of collaboration between the government health sector and an NGO concerns a programme on Oral Rehydration Therapy (ORT) that was fully implemented by an NGO (BRAC) in Bangladesh (Chowdhury, 1996). In the 1980s, BRAC carried out a nationwide programme to teach mothers how to make oral rehydration solution with household salt and sugar. This is a good example of how the public sector created space for an NGO to address a vital health problem and take it to a nationwide scale. Because of these decade-long efforts, ORT is now a household term in Bangladesh and its usage rate is among the highest in the world. The success of the BRAC ORT programme also exemplifies the critical importance of appropriate training (and retraining) of health workers and the use of innovative management tools that included an incentive-based remuneration system and continuous research.

Collaboration with the private for-profit sector is relatively new, but some experiences of priority programmes, such as TB, have been documented. These reports provide interesting information on collaboration with the private for-profit sector to address constraints in the workforce and to best use the human resources available. Collaboration with the private not-for-profit sector is more common.

2.6 Summary

The aforementioned examples show the various strategies adopted by priority programmes to engage human resources in order to reach their targets, without recruiting their own health staff to implement these programmes. The strategy used depends on the type of public health problem, the intervention design and the availability of HRH. In general there are four main approaches:

- integration into general government health services;
- combining programmes that have similar approaches, to optimize the use of resources and to increase accessibility;
- delegating tasks to communities or other professional cadres, often after simplifying components of the intervention, in order to relieve the workload of the government health workforce and to expand human resources beyond the regular government health workers;
- partnerships with the private sector, with individual communities or with other government sectors, again to relieve workload and expand human resources.

With respect to these four approaches, priority programmes have accumulated some interesting experiences indicating that there are good opportunities to address HR constraints by mobilizing HR beyond the government health sector or by pooling and integration. However, these experiences need to be better documented, including quantitative data and a full description of implementation processes, in order to provide evidence and lessons learned for health sector and programme managers. Such reports should also be better disseminated, as they are useful for scaling-up interventions and addressing national HRH constraints.

A major limitation in assessing and recruiting the required HRH is that most priority programmes lack an HRH plan. This lack of planning and strategies in HRH, means that programme managers have difficulty in specifying the number and type of human resources required to reach targets and to enhance quality performance.

From the documentation that is available, it transpires that priority programmes may have a fairly narrow focus, concentrating strongly on achieving their own targets, without considering the context in which they operate. Even if priority programmes are intended to support the general healthcare system, an explicit strategy is lacking. In doing so they contribute too little to building a skilled and motivated health workforce, as training is limited to a small number of participants (only those related to priority programmes) and HRH policies and incentives are not in line with those of other programmes or the government health sector, thus causing frustration. In addition, particularly at strategic management and operational management levels, staff often work fulltime for these specific programmes and very little (or zero) exchange takes place between priority programmes and the government health sector.

If priority programmes change such practices by developing explicit strategies to strengthen healthcare systems, they could positively contribute to establishing an appropriate and well-performing HRH network (World Bank and WHO, 2004). There is a clear need to develop a philosophy on planning and managing HRH (beyond their targets) when implementing priority programmes. According to the notion that 'a problem cannot always be solved at the level where it emerged', the HRH planning and priority setting of a priority programme should not be left to these programmes alone. Responsibility for comprehensive HRH planning should be the taken at a higher level. The following chapter explores ideas on how to address such comprehensive HRH planning and integrate priority programmes.

3 Strategic approach

When proven interventions for specific disease burdens and emerging health threats are available, priority programmes remain a logical response in countering these problems. However, a population needs a health system that covers a substantially broader range of conditions than only those covered by priority programmes. This chapter discusses the strategies to incorporate priority programmes into the general health services in such a way that they can reach their specific targets, and at the same time strengthen the general health workforce.

As indicated in Chapter 1, there are logical reasons why the international level plays a pivotal role in the implementation of priority programmes in low-income countries. Therefore a specific global responsibility exists to support countries implementing these programmes to overcome the HRH constraint. By generating the necessary knowledge base, developing coherent strategies, and providing technical assistance and financial support, it may be easier for countries to effectively address health workforce limitations.

Since morbidity and mortality, economic and social development, political conditions, administrative structures, and health systems vary from country to country, the way in which these HRH synergies can be obtained between the vertical priority programmes and the horizontal healthcare systems, will also vary. However, any serious attempt to develop and sustain a health workforce to contribute to population health, comes with two interrelated generic prerequisites upon which country-specific HRH strategies for priority programmes can be built: political commitment and comprehensive planning.

3.1 Prerequisites

Political commitment

Real political commitment to improve the health of the population requires that specific health targets are set and that appropriate strategies are developed. A generic statement, without quantifying the targets, will not suffice in contributing

to the health of those in need. For priority programmes, setting targets is a very natural thing to do. Depending on the nature of the indicators used, two kinds of targets are usually found: outcome targets and output targets (GTZ, 1989). Outcome targets set health goals in terms of morbidity and mortality, e.g. polio eradication (zero morbidity), and many of the health targets under the Millennium Development Goals fall into this category. Output targets quantify the health interventions that need to be reached at a given moment in time. Examples are the '3 by 5' for ARV (Anti-Retro Virals) delivery or the 2005 targets for Stop TB (70% of the TB cases detected and 85% of those cured). Outcome targets, as well as output targets, come with specific strengths and weaknesses.
The strength of outcome targets is the direct relationship between the commitment made and the health of the population. Outcome targets quantify a change that really counts for something. In that sense they speak to the hearts and minds of those who care. However, outcome targets have two interrelated weaknesses. The first is that they assume that the factors that determine health are fully understood. This, as we well know, is not the case at all. Insight into

what determines health (at both the individual and population level) is fairly limited. Outcome targets are therefore promises that, although this may not be readily realised, cannot be provided by nature. This 'risk' varies with the effectiveness of the intervention. For example, it would be very 'risky' to set an outcome target for treating HIV/AIDS because we do not really know the effect of ARV treatment on population health in resource-poor settings.

The second (related), weakness is that, on the basis of outcome targets, the effort required to reach these targets usually cannot be estimated because it is not precisely clear what interventions are required. More specifically, within the present context, it is difficult to derive (from the outcome targets of the Millennium Development Goals) the exact HRH needed to attain these. From the programme (or system) implementation point of view, this is a serious weakness because, with no clue as to the specific efforts required, improvement of the health workforce in terms of quantity, quality and distribution will simply not occur.

The strength of output targets is that the HRH and financial consequences of the political commitment can be estimated on the basis of such targets. Output targets allow strategies to be developed, plus calculations of the resources required to implement these strategies. Their weakness of course is the fact that such targets do not make clear what the outcome or impact will be on the health of the population.

At country level it may therefore be better to express the political commitment for population health in terms of twin targets. These twin targets specify the improvement in health (outcome) that a country intends to realise as well as the effort (output) that is required to achieve this, on the basis of the best available knowledge. This achieves maximum transparency and thus credibility.

Comprehensive HRH planning at health sector level

Output targets form the basis for formulating strategies that allow the planning of activities and resources, including an estimation of the required health workforce. To ensure that this health workforce is adequate (in terms of number, skills and location at the targeted time), comprehensive planning at health sector level is a necessity. Such planning is based on an 'HRH need', which determines the required type and number of health service providers, the required supply of service providers (in terms of education and training), and forms the basis for strategies concerning recruitment, retention, motivation, deployment, and management of the health workforce (see Figure 1). These are all crucial components of a comprehensive plan.

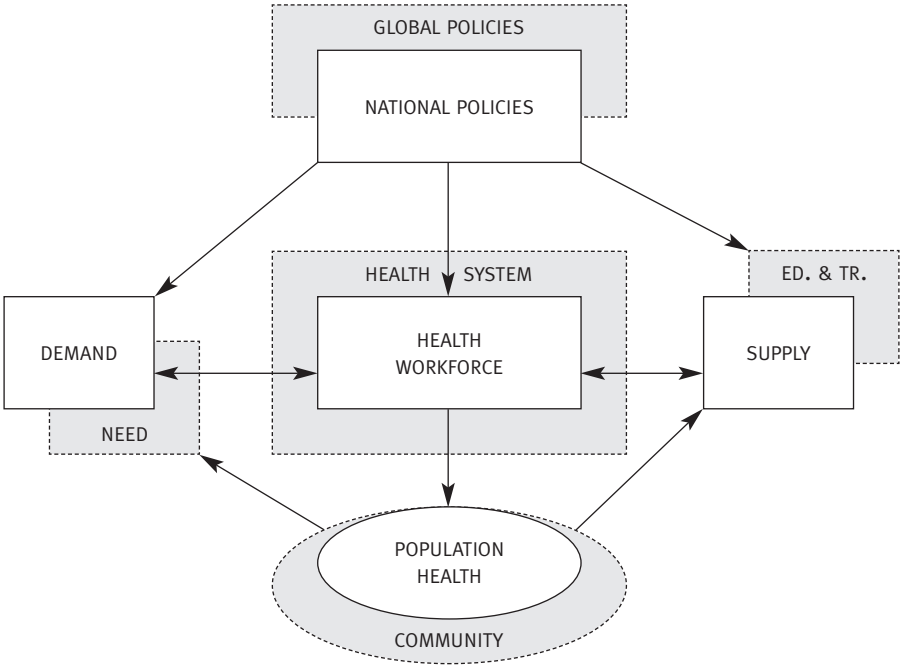

Figure 1: Creating sufficient demand for health workers, i.e. matching the need as well as appropriate education and training (ED. & TR.) for adequate supply, are consequences of serious political commitment. This also implies strong stewardship and professional management of the health workforce (and healthcare system), to promote maximum synergy in the use of human resources between vertical and horizontal health system components.

It is important to note that the HRH potential is far larger than just the workforce of the government health sector. In order to optimally use the HRH potential, partnerships with the private sector, with communities and collaboration with other sectors also need to be considered. To facilitate collaboration between sectors, a regulatory framework may be helpful to ensure that the quality of these services is maintained.

3.2 Priority programme strategies to address HRH constraints

The limitation of the health workforce is one of the main reasons why priority programmes are unable to meet their targets in resource-poor settings. This requires action by both the government and managers of priority programmes.

Although the previous sections argue that political commitment for certain health priorities imply the responsibility to develop a comprehensive HRH plan and to make the related financial resources available, priority programmes should also contribute to strengthening the health sector. These programmes serve their targets best if they pursue the most efficient healthcare system that best fits the interventions they aim to deliver. Priority programmes therefore need to take into account the context in which they work and follow a number of approaches aimed at optimum use of the available health workforce.

Improve rational HRH planning by priority programmes

To allow optimal synergy between priority programmes and the available health services, the rational planning of HRH by programme managers for implementing priority programmes is a logical starting point. Based on the intervention design, priority programmes need to quantify and qualify their HRH needs in terms of tasks to be conducted at the various levels (strategic management, operational management, and implementation), skills required and time allocation. This information enables programme managers at country level to formulate the minimum HRH requirements for programme implementation, which clarifies the HRH implications of programme implementation for health sector managers, i.e. which types of staff are required, how many will be needed, with which skills, and for which timeframe. The programme managers then need to lobby the health sector to find out how to integrate priority programmes into national health plans.

Rational planning of HRH for priority programmes is important, as it not only has consequences for providing the interventions but also for the education and training of new health workers in terms of quality (basic curriculum, updated teaching methods, in-service training) and quantity (the right number of people).

Implement strategies to strengthen the health sector and improve integration

Since health workers in the government health sector often implement priority programmes, these programmes need to take on more responsibility and contribute to reinforcing the government health sector workforce. For example, priority programmes need to consider how they can contribute to improving staff retention and motivation, by developing specific HRH strategies in line with existing ministerial HRH policies. They also need to explore possibilities for improved integration of their interventions into general health services. Atun et al. (2003) have developed a framework for assessing priority programmes within government healthcare systems. They developed a rapid assessment method that looks at the components of the healthcare systems and the broader

context, as well as the aspects of a vertical programme. Visschedijk and Feenstra (2003) have developed a stepped plan to integrate leprosy into general health services that can be adapted to other priority programmes[8].

Exploring methods to improve the use of HRH potential
However, improving the existing government health sector (in number and skills) is only one part of the solution. Innovative approaches need to be considered in order to reduce the intervention complexity and the skills level of those implementing the programme. A combination of the following methods is likely to improve the use of the existing HRH potential.

- Simplifying the intervention design
Priority programmes can simplify their interventions and adapt (parts of) the intervention strategy to meet the level of the providers available. This will enable tasks to be delegated to a lower cadre of professionals or volunteers: an example is the use of rapid diagnostic tests for malaria by voluntary village health workers in Myanmar. Gericke et al. (2003) have developed a tool to analyze intervention designs and simplify them so that can be used to take decisions on simplification. This is further explained in Annex 2.

- Delegation
Priority programmes can also lobby for, and assist in, the delegation of skills to other cadres of health workers, such as enabling clinical assistants to conduct minor surgery. They can collaborate with government sectors other than the health sector, as is required for Road Traffic Injuries or for Guinea worm eradication programmes.

- Partnerships
Another opportunity is to develop new types of partnerships with the private sector, as happens with the current experiments in social franchising in HIV/TB, and to develop partnerships with the community. This occurs in countries such as Bangladesh, where community health workers are responsible for DOTS implementation. Priority programmes need to be implemented as close to people as possible, including their involvement in planning, implementation, monitoring and evaluation. This will help to develop interventions that meet the needs of the population and invite their participation (both as beneficiaries and implementers).

[8] The model is accessible on the Internet (Visschedijk et al., 2002). Website: http://www.scielosp.org/scielo.php?script=sci_arttext&pid=S0102-311X2003000600002&lng=en&nrm=iso

Collaboration between programmes

Priority programmes should also explore how to pool resources, internationally as well as within countries, plus how to collaborate and cooperate with each other and with the Ministry of Health. Piggy-backing priority programmes, aligning policies and pooling resources and training can yield a more efficient health workforce. For example, management or communications training does not need to be conducted for every priority programme, but can be given jointly. This will not only allow health managers to better plan training participation, but also to use financial resources for priority programmes more efficiently. This also applies to surveillance systems, supervision etc. In order to be feasible, an enabling environment first needs to be created, requiring coherent international policies and assistance in developing comprehensive national HRH plans.

Lastly, priority programmes need to support the health sector in addressing existing HRH constraints by documenting their experiences, providing technical and financial support in HRD and by contributing to the development of coherent international policies.

The box below summarizes the key strategies to be adopted by priority programmes in order to address HRH constraints.

KEY STRATEGIES

Improve HRH planning and implementation
- define task-related skills;
- formulate implementation norm, and map HRH beyond government health sector;
- develop, implement, and evaluate HRH strategies together with the health sector.

Use HRH potential better
- simplify delivery modes and delegate skills to lower professional cadres;
- promote partnership with the private health sector, other sectors and communities;
- identify and implement synergies between programmes.

Assist countries to address HRH constraints
- develop the necessary knowledge base;
- provide technical assistance and financial support;
- develop coherent policies at international level.

4 Agenda for action

4.1 Operationalization of key strategies

'Translating' the key strategies into effective actions means first identifying the parties involved. These are found at local, national, and international levels. The centre of action is at the national level, where comprehensive HRH plans are formulated as part of the country's health plan. The degree of responsibility at local implementation level, and the stakeholders involved in this, depends on the degree of decentralization, which varies from country to country. The global level needs to support national efforts to strengthen the health workforce.

The following responsibilities need to be assumed in order to effectively address the HRH constraints at the three levels (according to WG5):

National level

At national level, appropriate *stewardship and management* need to be developed and sustained. Comprehensive HRH plans should be developed, based upon national health plans and according to priority needs. Priority programmes need to lobby and advocate as they are selected and integrated (at national level) into the national health plan. A translation of international strategies to national implementation should take place at national level, including matching the skills required for implementation with existing professionals and volunteers within a country. National health managers need to identify the sectors in which these professionals/volunteers work and develop implementation contracts or a Memorandum of Understanding, and they need to create a regulatory framework. Training institutions should be involved in developing HRH plans, in order to ensure more appropriate levels of staff. Implementation guidelines need to be developed (at national level, with available resources for recruiting, retaining and motivating staff) which are in line with other sectors, especially the private sector. At this level, rules and regulations need to be put in place for the reward and penalty of not following contracts, both on an institutional and individual basis, depending on the role of the government as employer or regulator. In

addition, quality assurance systems need to be established, as well as guidelines for accountability.

Local level

Depending on the level of decentralization, a health plan needs to be developed and implemented at local level, based on national guidelines. The focus at this level is the *provision* of high-quality *services* and ensuring *accountability to beneficiaries*. Activities should either be contracted out or implemented in collaboration with other sectors. Recruiting, retaining and motivating strategies for workers need to be implemented at this level. In order to ensure that these health workers remain (particularly in rural areas), managers at this level need to develop locally appropriate solutions for recruiting and motivating staff, and they need to conduct supervision, monitoring and evaluation exercises that involve beneficiaries. Accountability to beneficiaries needs to be ensured and operationalized; managers need to mobilize communities and involve them in planning, implementing and evaluating health plans. In addition, managers need to include a feedback system whereby communities comment on the quality of services, and develop strategies for accountability to communities regarding the results of implementation.

International level

The international level should assist countries to develop, implement and evaluate their health plans through *technical and financial support*. The focus should be on developing strategies for priority programmes, plus defining and disseminating technical standards. These strategies should include a format for monitoring and evaluating implementation, output and outcome. The strategies need to be translated into estimated skills requirements: i.e. the skills necessary to complete tasks and the required time to conduct these tasks. Proposed strategies must be flexible so that they can be adapted to the situation in individual countries, and they should be developed with the advice of consultants and national specialists, using information from field experiences. At international level the strategies of various priority programmes need to be aligned, and collaboration for certain interventions (e.g. 'Vector control', IMCI, Waterborne diseases, HIV/AIDS and TB) need to be initiated. At the international level, a roadmap should be produced of the skills mix among various priority programmes. In addition, the international level needs to strengthen the capacity of countries to develop the right policies and set up the right strategies in order to address their priority problems, and needs to assist national managers by developing methods to estimate HRH requirements.

Detailed actions need to be formulated in order to achieve the situation outlined above. Table 1 provides a summarized overview of the expected results from recommended actions, which have been derived directly from the key strategies and their operationalization. A more detailed account of recommended actions at each level- local, national and international- is given underneath the table, grouped according to the time required to achieve the expected results. Since all priority programmes, even the most vertical ones are, by definition, part of the healthcare system, the recommended actions cannot and should not be isolated from HRH actions in the general healthcare system.

Table 1: Expected results of actions required to resolve the HR constraints of priority programmes. The results are clustered according to the level of the actor involved (local, national, international) and the period of time required for impact.

	Expected results within 2 years	**Expected results between 2-5 years**	**Expected results over 5 years**
Local			
Accountability to beneficiaries	Community is involved in health intervention planning and implementation	Beneficiaries are involved in quality assurance of service provision	Shared ownership
Service provision	Pooling of HRH resources is implemented	Quality of performance significantly improved	Health workers retained and motivated
National			
Stewardship & Management	Tools for improved HRH planning and management are developed and disseminated Effective collaboration between programmes Priority programmes have defined their HRH needs	Coordination of HRH between sectors in place HRH strategies of priority programmes aligned with national strategies Regulatory framework for collaboration in place	Capacity for HRH management available Comprehensive HRH plans in health planning cycle Priority programmes integrated into general healthcare system
International			
Funding	Improved funding of HRH development	Data shows better quality, quantity and distribution of HRH	Retained and motivated human resources
Technical support	Skills for priority programmes defined Innovative approaches to HRH defined Pool of HRH experts established	Resource allocation to promote HRH synergies between priority programmes Evidence base showing improved results of adapting interventions to expand HRH beyond regular health workers available	Funding for support in HRH sustained Standardized and integrated interventions Coherent HRH policies Taskforce for supporting HR in place

4.2 Required actions

4.2.1 Actions: expected results within 2 years

LOCAL LEVEL

- Health managers need to map potentially available human resources for implementing national plans and identify pooling opportunities. The extent to which HRH pooling can be organised at the local level depends on the level of decentralization.
- Ways of involving community workers in programme implementation also need to be mapped by local health managers, describing the extent to which ownership at the local level is attained, which tasks have been delegated and what strategies have been developed to sustain voluntary work and prevent people dropping out. Mapping this local voluntary workforce will also allow managers to determine whether pooling of these resources is feasible.
- Managers need to develop a system of accountability to their clients.
- Health workers and managers need to be trained and mobilized to set up participatory planning, implementation and evaluation of health interventions.

NATIONAL LEVEL

- Priority programmes need to critically analyze their minimum HRH needs, in terms of skills required and time needed to implement tasks, by conducting workforce studies and task analyses. They need to develop HRH plans and strategies, in line with documented government policies and strategies. This will enable a clear overview of the current needs of priority programmes, based upon which national programme managers can better negotiate with national health managers, and allowing pre-service and in-service training to be improved and pooled between programmes.
- Opportunities need to be explored for improved integration of priority programmes within the general healthcare system and between priority programmes. A structural exchange is required between priority programmes and the government health sector about opportunities to improve the use of HRH. The government health sector needs to lead this. The Ministry of Finance should be closely involved in HRH budget discussions and the Ministry of Education should be involved when pre-service training programmes are discussed.
- Priority programme objectives should also include the strengthening of HRH planning and management of the government health sector through funding and technical assistance, and they need to develop explicit strategies for HRH strengthening.

- Tools and methods for improved planning, use, retention and motivation (for better health worker performance) need to be developed, used, evaluated, and documented by priority programmes, and then shared with managers in the government health sector and other priority programmes.
- Priority programmes should analyze their programmes and document their experiences in using HRH from various sectors, the implementation of specific HRH strategies to enhance performance, and the advantages and disadvantages of HRH plans for the programme itself and for the general healthcare system as a whole. This will contribute to the HRH evidence base.

INTERNATIONAL LEVEL

- Priority programmes need to define the skills and time required to implement interventions. Programmes at national level can then use this information to identify the HRH required for implementation and to improve pre-service and in-service training.
- Priority programmes need to identify opportunities for innovative approaches, through discussions with experts and other priority programmes and by conducting research. They should discuss and agree on delegating tasks to lower cadres or volunteers, to other professional cadres or to develop partnerships with other sectors, thus enabling the use of HRH potential beyond the government health sector.
- An international forum needs to be established for the input, exchange and dissemination of information, in which priority programmes actively participate. The objective of this forum would be to create and disseminate evidence for innovative HRH strategies by priority programmes, which can be used by other programmes or used to assist in the development of HRH strategies.
- Resources need to be allocated by international programmes and funding agencies in order to investigate the relationship between HRH and output and outcome. The forum should establish an agenda for operational research, in order to focus research efforts more efficiently. Research questions might be:
  - Why do priority programmes perform 'better' – how can the health system (systems, policies, strategies, approaches) be improved?
  - Why does the private or public sector perform 'better' (similar)?
  - What are the effects of health sector reforms on HRH (what worked, what did not and why?
  - Which HRH strategies succeeded in retaining and motivating staff (operational and intervention studies based on available evidence)?
  - What can be learned from experiences in the north (developed countries)?
- A discussion needs to take place on how to ensure that the information gathered is disseminated and used to improve HRH policies and strategies.

- This forum should establish a pool of HRH experts who can assist governments and priority programmes in HR policy development, implementation and evaluation, and can also assist in strengthening local HRH capacity.

4.2.2 Actions: expected results in 2-5 years

LOCAL LEVEL

- Local HRH capacity needs to be developed by formulating and implementing actions to strengthen HRH management and planning capacity, supported at national level.
- HRH gaps need to be identified in implementing health plans and mobilizing available HRH beyond the health sector, by developing partnerships with other sectors and the community.
- Managers should develop and implement local strategies for retaining and motivating staff.
- Nationally developed quality assurance systems should be adapted to local level and involve beneficiaries, human resources from different sectors and health managers in discussions to improve performance.

NATIONAL LEVEL

- The government health sector needs to contribute to an HRH capacity building programme for the government health sector by allocating funds and technical assistance.
- Experiences in HRH strategies of priority programmes for retaining and motivating staff should be shared with the government HRH managers through presentations of case studies and research during exchange meetings between the government health sector and programme managers.
- Priority programmes should formulate strategies for retaining and motivating health workers in the government health sector, such as contributing to the career development of health workers or sharing expertise.
- The HRH strategies of various programmes should be aligned with those of the national healthcare sector through transparent policy formulation and open discussions with managers from the government health sector.
- An integrated quality assurance system and tools should be developed and used at local level to improve performance.
- Assistance is required to establish a regulatory framework that facilitates collaboration between sectors and that allows adaptation of national tools and strategies to local use by supplying (paying for) technical expertise to develop such a framework.

- Priority programmes should be integrated into national health plans to improve pooling of HRH; priority programmes need to be able to advocate and lobby for inclusion in the national government health plan.

INTERNATIONAL LEVEL

- Procedures should be developed for better collaboration on HRH between priority programmes, e.g. by pooling of resources.
- The HRH component in the national healthcare system should be reinforced through the HRH lessons learned within priority programmes, but also by structurally allocating more resources for reinforcing HRH in the national health system. One possibility is to demand the formulation of HRH objectives in each proposal for funding, in order to better ensure that the existing Global Funds invest in improving HRH at country level.
- Ongoing operational research to simplify interventions should be conducted, in order to expand (wherever possible) the possibilities for HRH beyond health workers.

4.2.3 Actions: expected results after 5 years

LOCAL LEVEL

- The HRH gap is significantly reduced as a result of short- and medium-term actions: capacity to locally manage HRH is available and HRH management is sufficiently decentralized, systems for accountability are evaluated and strengthened, and health plans and HRH plans have shared ownership with the community.
- In order to sustain this, there is a need for:
  - Ongoing participatory monitoring and evaluation;
  - Developing a system for continuous exchange of experiences between the various local levels, and between local and national levels;
  - Assuring continuous funds for HRH through advocacy.

NATIONAL LEVEL

- The necessary funds are allocated to the various programmes by skilled and motivated HRH policymakers and planners.
- A system is developed allowing the continuous exchange of experiences between national and local levels and with neighbouring countries.
- Ongoing operational research is conducted on HRH.

INTERNATIONAL LEVEL

- Coherent policies are developed that support country priorities.
- Evidence of the various action and research programmes on HRH and outputs/ outcomes are used in order to standardize interventions and tools**.**
- Priority programmes are merged whenever feasible, thus developing integrated interventions.
- Global approaches are implemented, such as a taskforce for providing technical assistance or developing Global Funds for HRD.

4.3 Conclusion

Inspired by the millennium change, in September 2000 a total of 189 nations ratified in September 2000 the *United Nations Millennium Declaration*, an ambitious document affirming the right of every human being to development and laying out a path towards freedom from povertywant for every woman, man, and child. To ensure that progress towards this end would be measurable, UN agencies and other international organisations defined eight Millennium Development Goals. The health of people and populations is central to this agenda (see section 1.1). Forty- eight indicators have been defined to monitor the progress towards these, and 17seventeen thereof are directly health related.

The likelihood of attaining these health- related Millennium Development Goals strongly depends on the achievements of a number of priority programmes. If the programmes focusing on HIVAIDS, tuberculosis, Malaria, and Maternal and Child Health do not reach their own targets it is unlikely that the health-based MDGs will be met. Priority programmes depend on the general health services for provision of their interventions; the governmental health sector is usually the core thereof. The overriding question addressed in this report is therefore how the health workforce constraints that priority programmes face can be successfully resolved, in close collaboration with the general health services.

Although the strategies and actions recommended in chapters 3 and 4 of this report are of relevant for all priority programmes, within the above context they may be particularly relevant for those who carry responsibility for providing the programmes that are crucial for the MDGs. The main thrust of these recommendations is that two complementary routes should be followed simultaneously:
(1) improving the effectiveness of the existing health workforce, and
(2) expanding the existing workforce, both in quantity and quality.

Both routes require funding and technical support. Overseeing the recommendations at a more detailed level, the complexity of what needs to happen (in a

co-ordinated fashion) appears to be substantial. In particular, ensuring that all actors at the various levels (local, national and international) move forward coherently on this agenda will be a challenge. It is unlikely that this will occur by itself. However, it is also unlikely, that some central 'control structure' will develop, in whatever disguise.

A productive way forward here may be to identify a specific and measurable, operational objective for health workforce strengthening, that inspires the movement of everyone involved towards one and the same objective. The priority programmes that are so inherently related to the MDGs should play a pivotal role here by exploring options for a joint HRH priority. Setting a specific objective in collaboration will also benefit other priority programmes, because strengthening the health workforce such that the workforce constraints of the MDG-related priority programmes are resolved will, per definition, also strengthen at the same time the general health services which benefit the impact of many priority programmes.

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Annexes

Annex 1: List of definitions

Human Resources for Health (HRH)
The stock of all individuals engaged in promoting, protecting or improving the health of populations. This includes the formal health sector (private for-profit, not-for-profit and the public sector) and various domains of health systems, such as personal curative and preventive care, non-personal public health interventions, health promotion and disease prevention. It also includes the informal healthcare sector, including traditional healers, volunteers and community carers. (WHO, 2003:1)

Health sector workforce
Staff employed within the government health sector or the private health sector.

Health sector (ICHD Glossary)
The health sector refers to the totality of policies, programmes and stakeholders, both governmental and private, which play a major role in efforts ultimately aimed at improving people's health status, and which largely determine the relationship between providers and consumers of healthcare. These efforts include the information on, and regulation, financing, provision and consumption of healthcare.
Note: in some countries (and by some authors), the health sector is defined more selectively and only refers to state-related aspects, or to the healthcare system as defined below.

Health system
All activities where the primary purpose is to promote, restore or maintain health (WHR, 2000).

Healthcare (delivery) system
A health care system is the combination of resources, organisation, financing, and management that culminate in the delivery of health services to individuals and the population. (Roemer 1991)
Or:
A health care service delivery system includes all public and private structures for the provision of health care to a given population and for protective, preventive and rehabilitative interventions to improve the social and physical environment. It implies a complex, dynamic system of interlinked institutions and administrations which are functionally interdependent and whose main role is the provision of health care to individuals and communities. (ICHD Glossary)

Integrated healthcare
A pattern of healthcare in which a defined range of curative, preventive, rehabilitative and health promotion services are provided in a manner which allows for fluency in time, space and client-provider contact.

Integration
Merging the activities of a priority programme into the general health services.

Vertical programmes (ICHD glossary) - synonym to priority programmes
Programmes that are integrated into the health sector in varying degrees, with their own (full or partial) lines of authority, frequently with separate targets and resources (staff, training, inputs, transport, finances), although they often use the existing healthcare facilities as a starting point.

Annex 2: Tool for analyzing intervention designs

Identifying the potential for simplifying health interventions using a conceptual framework to assess intervention complexity

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Introduction

Within the context of the recommendations made by the Commission on Macroeconomics and Health (CMH) for a massive, global effort to scale up priority health interventions, the authors have developed a conceptual framework to systematically analyze the importance of intervention design in expanding access to and utilization of health services.[1]

We see three potential priority programme applications for this framework in policy decision-making and health programme management, i.e. to:

- identify the most significant priority programmes and demand-side constraints for the scaling up interventions;
- identify intervention designs which lend themselves to scaling up in the short-term, versus those that require significant implementation constraints to be overcome;
- indicate research and development priorities in order to simplify interventions.

The following section presents this conceptual framework, and is followed by a short explanation of how it can be used to identify the potential for simplifying health interventions. This section concludes with a summary of the results of a literature review on a number of selected simple, low technology interventions on the various categories of simplification.

Conceptual framework to assess intervention complexity

Analyzing the complexity of priority health interventions requires a consistent conceptual framework for classification. Such a framework must be compre-

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hensive enough to capture all major characteristics of health interventions that form possible constraints to scaling up. Secondly, it must be general enough to be applicable to a wide range of different types of interventions, ranging from socially marketed products (for use at home) to professional tertiary care services. Furthermore, the framework should be policy relevant, in the sense that it helps to identify problematic characteristics of an intervention that may hinder scaling up in a given setting, as well as helping to identify ways in which the intervention can be simplified in order to relax intervention and context-specific constraints.

To reflect these requirements, we identified four dimensions of intervention design:

- characteristics of the basic intervention;
- characteristics of provision;
- the requirements that the intervention imposes on government capacity; and
- usage characteristics (see Table 1).

Table 1: Categorization of interventions

CATEGORY	CRITERIA
1 Intervention characteristics	
1.1 Basic product design	Stability Standardization Safety profile Ease of storage Ease of transport
1.2 Supplies	Need for regular supplies
1.3 Equipment	High-tech equipment and infrastructure needed Number of different types of equipment needed Maintenance needed
2 Supply characteristics	
2.1 Facilities	Retail sector Outreach services First-level care Hospital care
2.2 Human resources	Level of medical knowledge needed Level of medical supervision needed Intensity of professional services in terms of frequency or duration Management and planning requirements
2.3 Communication and transport	Delivery depends on communication and transport infrastructure
3 Government capacity requirements	
3.1 Regulation/legislation	Need for regulation Need for monitoring of regulatory measures Need for regulation enforcement
3.2 Management systems	Need for sophisticated management systems
3.3 Collaborative action	Need for intersectoral action within the government Need for partnership between government and civil society Need for partnership between the government and external funding agencies
4 Usage characteristics	
4.1 Ease of usage	Need for information/education Need for supervision
4.2 Pre-existing demand	Need for promotion
4.3 Black market risk	Need to prevent resale/counterfeit

Identifying the potential for simplifying interventions
In addition to considering the degree of complexity of existing interventions, the framework can be used to identify potential areas for simplification, e.g. as a guide for further research and development or for implementation research. In order to achieve this, each intervention characteristic is rated as having a high, medium, or low potential for simplification. The rating we used to analyze selected interventions was based on a consensus between the four authors,[1] but depending on the further use, more sophisticated rating methods could be applied.

Discussion
Some insights regarding the potential to simplify interventions emerged from the application of the conceptual framework to selected health interventions.

With regard to the categorization of interventions it became clear that the fact that some interventions reflect a change in the mode of delivery (e.g. midwives instead of gynaecologists providing abortion services), while others reflect a change in technology (e.g. medical abortion regimens replacing surgical abortion), make a major difference to their potential for simplification and require different approaches during implementation. Some interventions involve both types of changes, e.g. midwives administering medical abortions. The question arises as to whether these different types of interventions should be analyzed in the same way, or whether a further sub-classification would prove more useful.

Another recurring issue concerned using NGOs to provide health interventions when government capacity is weak. NGOs might be more suited to certain roles in intervention provision rather than others. The condom social marketing projects that have been reviewed are good examples of the successful provision of health interventions by NGOs on a large scale. But even for those projects (which were managed and subsidized entirely through NGOs), national and local political support is crucial. An example is the need to relax restrictions on condom advertising and distribution outlets.

An important issue surrounding the question of how to reduce human resource constraints concerns the scope for reducing the education or skills level required to provide an intervention. A successful example is trachoma surgery, traditionally performed by ophthalmologists, which can be effectively and safely provided by ophthalmic assistants or ophthalmic nurses who (on top of one year's training in ophthalmic nursing) only require two weeks training to perform the procedure.[2] A less successful example is the training of traditional birth attendants (TBAs)

to perform tasks normally provided by midwives, where the evidence is mixed and, in some programmes, training seemed to cause more harm than good.[3] However, as with other community health workers, the potential to deploy TBAs successfully depends entirely on the tasks expected of them, and the need for a functioning support system providing TBAs with regular supplies, monitoring, supervision, and training.[4]

Perhaps one of the biggest issues currently emerging is that usage characteristics, and in particular 'pre-existing demand', is often the category with the greatest potential for improving interventions. Unfortunately, the area of behaviour change communication and information, education, and communication often receives little attention in health projects. As a consequence, the evidence base on the impact of these strategies is weak.

In summary, the framework proved useful in categorizing low-technology interventions on their degree of complexity, in identifying supply and demand-side constraints, and in pointing to potential areas for improving specific aspects of each intervention. The proposed framework could be used as a tool for health policymakers, planners, and programme managers when considering the expansion of existing projects or the introduction of new interventions. It might help to identify existing gaps in current provision of the interventions, as well as in identifying context-specific constraints. Intervention complexity thus complements the burden of disease, cost, cost-effectiveness, and political feasibility considerations in health policy decision-making on scaling up. The proposed systematic approach also allows for comparison with national benchmarks or with other regions, programmes or countries.

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