The Health Sector Human Resource Crisis in Africa:

An Issues Paper

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For further information, please contact:

Support for Analysis and Research in Africa (SARA) Project
Academy for Educational Development (AED)
1825 Connecticut Ave., NW
Washington, DC 20009 USA
Tel: 202-884-8000
Fax: 202-884-8447
E-mail: sara@aed.org

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List of Acronyms

AGETIP	Agence pour l'Exécution de Travaux d'Intérêt Public contre le Sous-emploi (Executing agency for works fo public interest for combatting underemployment)
BLM	Banja La Mtsogolo
CYP	couple-year protection
DALY	disability-adjusted life year
DfID	U.K. Department for International Development
DOTS	directly observed therapy
GTZ	Gesellschaft für Technische Zusammenarbeit (German governmental organization for international development
HR	human resource(s)
IMCI	Integrated Management of Childhood Illness
JHPIEGO	Johns Hopkins Program for International Education in Reproductive Health
MHCW	Ministry of Health and Child Welfare
MOH	Ministry of Health
MOHP	Ministry of Health and Population
NGO	nongovernmental organization
PIR	performance improvement review
PIU	project implementation unit
RN	registered nurse
SIP	sector investment program
SCN	state-certified nurse
SSA	sub-Saharan Africa
STI	sexually transmitted infection
SWAp	sector-wide approach
USAID	United States Agency for International Development
WHO	World Health Organization

Overview

The human resource (HR) problem in the health sector in sub-Saharan Africa (SSA) has reached crisis proportions in many countries. Although the gravity of the problem varies across the region, the situation in some countries is so grave that urgent action is needed. A complex set of factors has contributed to this problem, some exogenous, such as the austere fiscal measures introduced by structural adjustment, which often result in cutbacks in the number of health workers. But endogenous factors are also to blame, including misdirected human resource and training policies, weak institutions, and inappropriate structures.

Section I of this paper lays out the key features of the HR crisis as gathered from available data and reports. These data and reports were complemented by face-to-face and e-mail interviews with health program managers in Zimbabwe and Zambia as well as health officers, program managers, and donors' project managers in East and southern Africa. The current statistical evidence is weak due to generally non-existent personnel information systems, but the qualitative and anecdotal evidence is quite revealing. In summary, the grave HR situation in sub-Saharan Africa can be characterized by the following:

- The number of trained health workers has historically been inadequate, but in recent years, many countries have suffered from scarcities of almost all cadres of workers.
- Production of health workers has not kept pace with need, especially with the ever-increasing burden of disease brought about by HIV/AIDS and resurgent epidemics.
- Some countries have focused on producing more expensive (i.e., less cost-effective) cadres of health workers relative to their disease burden and relative to what they can afford to sustain. In addition, the scope of professional practice by each cadre has been too rigid and inflexible, considering the African health settings in which they work.
- Attrition of civil servants has reached critical rates due to the combined effects of the accelerated retrenchment and voluntary retirement and departure, the search for greener pastures locally and abroad, and the sickness and eventual death primarily due to AIDS.
- Many government health workers are ill-motivated because they are poorly paid, poorly equipped, infrequently supervised and informed, and have limited career opportunities within the civil service.
- Many medical, technical, and managerial positions are now vacant, and scarce medical personnel are often misused for management tasks.
- Donor resources devoted to training and HR development, though large in some countries, have been poorly coordinated and have not addressed the underlying cause of poor staff motivation.
- Urban/rural imbalance in the distribution of health workers, a problem in the past, is worsening.
- Personnel management systems are highly centralized and weak, and human resource planning and management has not been given the importance it deserves.
- New structures, practices, and technologies are imposing a heavy strain on an already weak human resource base in the health sector.
- Finally, poor morale may be engendering adoptive and counter-productive behavior among health workers.

Section II of the paper gathers together a few good practices and mechanisms that have been tried to ease the HR problems in the region. It highlights some opportunities for reform and cites the continuing challenges and risks. Concerted action is needed now in selected areas, but key starting points are for governments and donors to:

- Adopt a "systems approach" to diagnose HR problems;
- Improve the HR information base and conduct human-resource country case assessments, which can point to the critical gaps that need to be urgently addressed;
- Reduce the rigid professional practice barriers to enable health workers to take on additional functions, increase and improve service delivery, and reduce costs;
- Review the relevance of training programs, professionalize the selection of trainees, and experiment with alternative training methods;
- Adopt, where feasible, more flexible employment and provider arrangements, including contracting services and management to private partners;
- Shift gradually towards results-oriented performance management;
- Provide greater authority and better information to local managers for personnel management and employee relations; and
- Clarify the definition of staff responsibilities and performance and keep workers informed and inspired.

Although the data and information in this paper are taken mostly from Anglophone countries, Francophone countries in the region are also facing similar issues. The report, though largely based on qualitative information, provides a vehicle for discussing these issues in the hope of strengthening the evidence on the magnitude and consequences of the crisis while making a plea for concerted action among stakeholders to address the crisis.

This paper was used as a background document for the meeting organized by the World Bank and WHO/AFRO on "Building Strategic Partnerships in Education in Health in Africa" held in Addis Ababa, Ethiopia from January 29 to February 1, 2002. Sections of the paper were also presented to a donors' meeting on "Human Capacity Development and HIV/AIDS" at the Department for International Development headquarters, London, on October 2-3, 2002.

I. Dimensions of the HR Crisis

A. The number of trained health workers in Africa has historically been inadequate, but in recent years, many countries have suffered from serious scarcities of almost all cadres due to economic and fiscal difficulties and incomplete civil service reform.

In general, the health personnel to population ratios in Africa have been high and have always lagged behind the rest of the world. In the 1980s, one doctor catered to 10,800 persons in sub-Saharan Africa (SSA), compared to 1,400 in all developing countries and 300 in industrial countries. In the same period, one nurse catered to 2,100 persons in Africa, compared to 1,700 persons in all developing countries and 170 in industrial countries (World Bank 1994). The provider-to-population ratios persistently remained high in the 1990s (see Table 1), with most countries having 1 doctor per 10,000 population or more. In fact, ten countries have 1 doctor per 30,000 population. Comparable countries like Bolivia, Honduras, and India have 1:2,000 or 1:3,000 ratios. Thirty-one countries do not meet WHO's "Health for All" standard of 1 doctor per 5,000 population. Even those that do have enough doctors, geographic maldistribution is so severe that there may be a 1:500 ratio in the city (Nairobi) while remote Turkana District suffers from a 1:160,000 ratio. Even in South Africa, a better endowed country, poor districts may only have 1 doctor for a population of 30,000.

The HR crisis has been best documented in three southern African countries—Malawi, Zambia, and Zimbabwe—though the problem is by no means limited there. Poor economic growth and successive fiscal difficulties appear to be the immediate causes of the crisis. On the one hand, budgetary stringency reduces African governments' ability to attract, retain, and maintain the morale of professional health workers as treasuries are unable to upgrade salaries and working conditions, especially of skilled staff. On the other hand, because medical and nursing training in Africa is mostly government-provided or financed, fiscal crises have also severely limited governments' capacity to train health workers. This double pressure on the production and retention of health workers has created shortages in such key cadres as doctors, clinical officers, medical assistants, nurses, midwives, and laboratory technicians.

Though the proximate determinant of the HR crisis is budgetary difficulty, the underlying causes can be traced to policies toward public-sector employment that African countries have adopted since independence. In general, African governments expanded the size of the civil service faster than their economies grew. They favored employment growth over income growth in the public sector, driving down the real wages of civil servants (World Bank 1994). As a result, the total number of health workers in most African countries is actually quite large, but most of the workers are unskilled or lowly trained. For instance, Tanzania's health workforce totals 67,000, but half of the workers are considered unskilled or have a low level of training and contribute little to sector productivity (Pavignani 1998). Similarly, in Malawi, there are too many industrial classification (orderlies, gardners, housekeepers, etc.) workers in hospitals and lowly trained staff in peripheral facilities under the Ministry of Health and Population budget, relative to the real need for such services (World Bank 2000).

African governments also tended to favor pay increases in the lower ranks, reducing pay differences between skilled and unskilled employees, a phenomenon of salary compression. The large size of unskilled or lowly trained workers relative to skilled (trained) health workers

Table 1: African Countries by Population Per Health Worker Ratios, late 1990s

Population per doctor	Countries
1 per 30,000 or more	Burkina Faso, Central African Republic, Chad, Eritrea, Ethiopia, Gambia, Malawi, Mozambique, Niger, and Tanzania (10)
1 per 20,000	Angola, Benin, Comoros, D.R. Congo, Lesotho, Mali, Rwanda, Sierra Leone, Somalia, Togo, Uganda, and Zambia (12)
1 per 10,000	Burundi, Cameroon, Côte d'Ivoire, Djibouti, Ghana, Madagascar, Senegal, Sudan, and Swaziland (9)
1 per 5,000	Botswana, Cape Verde, D.R. Congo, Gabon, Equitorial Guinea, Guinea, Guinea-Bissau, Kenya, Mauritania, Mauritius, Namibia, Nigeria, Sao Tome and Principe, Seychelles, Swaziland, South Africa, and Zimbabwe (17)
Population per nurse	**Countries**
1 per 10,000 or more	Central African Republic, Gambia, and Mali (3)
1 per 5,000	Benin, Burkina Faso, Chad, Eritrea, Madagascar, Niger, Senegal, Togo, and Uganda (9)
1 per 2,000	Cape Verde, Comoros, Côte d'Ivoire, D.R. Congo, Equitorial Guinea, Ghana, Guinea, Lesotho, Sierra Leone, and Sudan (10)
1 per 1,000	Angola, Botswana, Djibouti, D.R. Congo, Guinea-Bissau, Kenya, Mauritania, Mauritius, Namibia, Nigeria, Sao Tome and Principe, Seychelles, South Africa, Tanzania, Zambia, and Zimbabwe (16)
Population per midwife	**Countries**
1 per 20,000	Angola, Burkina Faso, Central African Republic, Chad, Equitorial Guinea, Eritrea, Guinea, Mali, Niger, and Sierra Leone (10)
1 per 10,000	Benin, Gambia, Madagascar, Mauritania, Senegal, and Togo (6)
1 per 5,000	Comoros, Congo, Côte d'Ivoire, Guinea-Bissau, and Uganda (5)
1 per 2,000	Ghana, Lesotho, Namibia, Nigeria, Sao Tome and Principe, Seychelles, Tanzania, and Zimbabwe (8)

Source: Estimates of Health Personnel: Physicians, Nurses, Midwives, Dentists and Pharmacists Around 1998, WHO (2002).

has made it difficult for African governments to increase the salaries of trained health workers in particular. This overstaffing and workforce imbalance has put into question the financial sustainability of a number of African health systems. Salaries and wages already cost most governments between 50 and 70 percent of their overall public health expenditure, and little leeway exists to increase this until a more rational workforce size is achieved. Salary compression between unskilled and skilled health workers has had a serious disincentive effect on the latter, encouraging them to move elsewhere.

Before the onset of civil service reforms, ghost workers—individuals who do not actually exist, but are nevertheless included in payrolls—made it difficult for governments to increase salaries. In Guinea-Bissau, a staffing inventory that compared its results with the payroll from the Ministry of Finance revealed nearly 700 ghost workers accounting for over a quarter of the payroll expenditure (Egger, Lipson, and Adams 2000). Ghost workers in the health and non-health sectors have been recorded in Cameroon, Central African Republic, the Gambia, Ghana, Senegal, and Uganda; their numbers range from a few hundred into the thousands (World Bank 1994).

The poorly coordinated expansion of the health-facility network in many African countries has also contributed to the HR problem in a major way. In many countries, the construction and refurbishment of health facilities has outpaced the health system's ability to staff and maintain them on a sustainable basis. Many standing clinics and hospitals are unstaffed or understaffed, and patients' access to functional health services continues to be difficult and time-consuming, even if physical facilities are available, as in Malawi, Zambia and elsewhere. In Mali, the government aggressively expanded the number of community health posts to 533, but by January 2001, only 43 percent were found operational, the rest having been closed for lack of personnel (Lynch and Diallo 2001). Thus, gains made in improving physical access to a health facility have been eroded due to lack of staff (and drugs), a familiar story in many countries in the region.

The lag effects of the HR crisis are considerable, thus highlighting the need for immediate concerted action. It takes time to formally train workers (3-4 years for nurses; 5 years or longer for physicians) and deploy them. Legal, policy, and administrative changes to improve the environment for training, deployment, and retention of skilled health workers can take an even longer period. Thus, countries suffering most from the HR crisis must take action now.

B. Production of health workers has not kept pace with need, especially with the ever-increasing burden of disease brought about by HIV/AIDS and resurgent epidemics.

The HR crisis reflects the bigger crisis in tertiary education in developing countries, but nowhere is this crisis more serious than in sub-Saharan Africa. Governments' and donors' overly narrow focus on basic education over the past two decades "has led to a neglect of secondary and tertiary education, with higher education in a perilous state in many, if not most, developing countries… As a result, quality is low and often deteriorating, while access remains limited" (World Bank 2000).

African governments' near-monopoly of health professional training may have worsened the problem. Many African countries fund pre-service training through their ministries of health.

In Zimbabwe, the cost of training one registered nurse for three years in 1998 was estimated to be US$8,200, and the annual expenditure on nursing training was estimated at US$2.7 million (Zimbabwe MHCW 1999). High unit costs and the large number of people to be trained (for public and private facilities) make these investments large and often unaffordable. As a result, many African countries are underinvesting in formal, pre-service training, as evidenced by poorly funded training programs, lack of equipment and reference materials, and poor retention of teachers. When countries are able to receive capital investments from donors (usually school buildings, training hostels, and vehicles), they soon face budget inadequacies to maintain them. Malawi has had to close medical and nursing schools midterm due to budget difficulties. In Zambia, between 1996 and 1999, the country's two public universities received only 45 percent of the budget they expected from the treasury (Mwikisa 2002).

Underfunding in the training of medical, nursing, and allied professions results in either low numbers of graduates or poor quality of graduates, and often both. Pre-service training programs often lack the transport and the travel funds needed to fulfill curriculum intentions for field practice outside the hospital. The practice in many African medical and nursing schools is learning by rote, with little opportunity for students to question and explore. A survey of nursing education in Africa revealed that subjects are often not taught by subject specialists; in fact, the number of nursing tutors is rapidly declining due to poor working conditions (University of Natal 2000). Teachers and tutors in the schools generally have poor career structures, and tutorial staffs are not usually promoted or selected for further training or conference opportunities. In most cases, study leaves are not part of the conditions of service. Thus, over the last decade, the standards of training, especially for doctors, nurses, clinical officers, and medical assistants, have fallen, and current students are generally ill-equipped to work at the frontline of public health services.

Some training programs also experience problems getting training candidates. In many African countries, such as Malawi, secondary schools are unable to produce enough entrants for medical, nursing, and midwifery programs due, among other things, to weak science and math education at the primary and secondary levels. Even in South Africa, with better secondary-school preparation than other African countries, the drop-out rate in nursing programs has been reported to be as high as 30 percent, due in part to financial reasons in addition to poor preparation in high school. The persistently low enrollment of girls in secondary education may be an additional factor that explains the low intake of nursing programs, which usually attract more women than men. This is particularly true in Francophone Africa, where most nursing entrants are males due to the poor educational level of young women (University of Natal 2002). The percentage of males (29) of appropriate age enrolled in secondary school in sub-Saharan Africa continued to be higher than that of females (24) well into the late 1990s.

HIV/AIDS and resurgent epidemics have increased the burden of disease in Africa, relative to the rest of the world. Communicable diseases account for nearly three-fourths (73.7 %) of sub-Saharan Africa's disease burden (see Table 2). HIV/AIDS alone now contributes to nearly one-fifth (19.9 %) of the region's disease burden. This morbidity and mortality picture underscores the need to produce more trained health workers, without whom worker burn-out is expected to ensue. A study in Hlabisa, South Africa shows that from 1991 to 2001,

tuberculosis admissions increased by 500 percent, more than half of it due to AIDS. This dramatic increase in patient volume increased worker burn-out to the extent that the average number of days off work for nurses grew from 42 days in 1998 to 58 days in 2001 (Unger, Welz, and Haran 2002).

Table 2: Estimated Burden of Disease in Africa Relative to the Rest of the World, 1999

Items	Africa	Rest of the World	Total
Total Burden of Disease in DALYs	373,360	1,064,796	1,438,156
% Communicable	73.7%	32.1%	42.8%
% Non-communicable	17.1%	52.4%	43.3%
% Injuries	9.2%	15.5%	13.9%

Note: Burden of disease is measured in terms of disability-adjusted life years (DALYs).
Source: Annex Table 4, The World Health Report 2000 (WHO).

Given the current and forecast burden from AIDS and other epidemics, it is important that countries consider adopting HR policies to deliberately over-produce health workers so that the workforce slack can be filled reasonably quickly. The AIDS-shortened life expectancy of the typical African health worker means that s/he will have a shorter productive life, an issue that needs to be factored into national decisions about the number of health workers to train and deploy. Although the AIDS epidemic has been going on for more than a decade, many African countries have not changed their HR production parameters to account for these factors.

C. Some countries have focused on producing more expensive (i.e., less cost-effective) cadres of health workers relative to their disease burden and relative to what they can afford to sustain these cadres. In addition, the scope of professional practice by each cadre may be too rigid and inflexible, considering the health settings in which they work.

For both medical doctors and nurses, African countries have invariably focused on clinically-oriented training, rather than the more relevant public-health training. The expense implication of this choice has not been dealt with in affected countries, and very few medical and nursing schools have reoriented their training programs to address Africa's public health needs.

With respect to nurses, some experts have pointed out that most of Africa's disease burden (perhaps as much as two-thirds) can be addressed by community health nurses. Yet African countries continue to emphasize the training of professional, degree-level nurses (registered nurse or RN), which is long and expensive, rather than the community health nurse (enrolled

nurse), which is shorter and less expensive. Professional nurses are typically trained in 3-4 years, whereas enrolled or community nurses can be trained in 2 years. Because of the length and intensity of the professional nursing program, it typically costs 30 percent more than the enrolled nursing program, as is the case in Zimbabwe. Clearly, there are serious cost implications in training one type of nurse over another.

There are also adverse geographic distribution implications of focusing on training and deploying professional nurses over community health nurses. Observers have noted that RNs prefer to be hospital-based and tend not to locate in rural areas, reflecting their training orientation in urban hospitals. Because of their longer training and the need to recoup their personal investment in training, they also expect to be paid more, relative to community health nurses. On the other hand, community health nurses are trained to cater to rural health needs, and their lower personal investment in training means they do not expect as high a salary as the RNs. Given these dynamics of personal training investment, expected salary, and training focus—and the underlying African disease burden (mostly communicable diseases) and MOH budget scarcity—it is important that African governments and nursing councils preferring registered nurses over community health nurses reconsider their policy.

The nursing crisis in Africa is typified by the Zimbabwe crisis. In 1997, the MOH decided to abolish the State Certified Nurse (SCN), or enrolled nurse cadre, following a nursing strike. Intakes to SCN schools ceased immediately, and as soon as students completed their course, the schools were converted to RN schools or closed. At the same time, several RN schools were required to offer one-year upgrading courses to SCNs to enable them to achieve RN status. By 1998, the MOH was facing a serious shortage of nurses; projections showed that over 10 years they would have less than 40 percent of the necessary number of nurses in post. Due to the extended period of RN training and the higher personal costs incurred by students, RN graduates shrank by more than half. By early 1999, the government's prime concern was how to reestablish a more junior cadre of nurses that could enter training with lower qualifications than RN training, be trained in less advanced settings (district hospitals) more rapidly and at lower cost, and would be willing to work in rural areas.

The current Malawi HR crisis resembles that of its southern neighbor. The government, with strong urging from the Nursing and Midwifery Council, abolished the enrolled nursing program in the early 1990s to focus on professional nurses. The higher entry requirements in the professional nursing program meant that only a few qualified. In addition, the higher out-of-pocket expenses incurred during training (longer by one year than the enrolled nursing program) dissuaded many potential candidates, considering the low salaries they could hope to earn. By 1997/98, the nursing shortage was well on its way to becoming a national crisis.

Scopes of professional practice, often patterned after wealthier, Western standards, disease patterns, and medical settings, have tended to erect rigid professional barriers with respect to dispensing medicines and the tasks that a specific cadre of health worker can do. This, in turn, has reduced the volume of care that can be provided across the board. Ironically, upholding these standards may also result in poor care overall, as many unlicensed and unapproved practitioners are forced to give services that they otherwise would not provide in view of the severe shortage of licensed and approved practitioners. For instance, until recently, Zambian law forbade nurses and midwives from prescribing medicines and carrying out any invasive

procedure. These functions were restricted to doctors and clinical officers (although the latter have the same length of training as RNs). The critical shortage of clinical officers, let alone doctors, in Zambia made it impossible to follow this law at rural health centers, where there were long queues of patients. In early 2001, the Zambian law was amended to authorize nurses to prescribe and to insert drips.

Thus, government and professional pressures to raise the status of the health professions by raising entry requirements, extending the length of training, and raising the level of qualification directly impact the supply and distribution of health workers. The most immediate effect is an increase in the cost of training (out-of-pocket expenses as well as government costs) that reduces the number of graduates and therefore reduces the supply of new health workers. But even more insidious is the fact that those who do finish as professionals have inflated career expectations and a strong potential for leaving the country. The focus in countries hit by the HR crisis should be to revive and fast-track enrolled nurse programs and to reconsider community health nurses as a legitimate cadre of health workers.

It is clear from the experiences of Malawi, Zambia, and Zimbabwe that African countries should define the health workers they need based on a pragmatic consideration of their burden of disease, minimum standards of care, and availability of resources to train, employ, and retain these workers. As these countries' experiences show, would-be nurses are extremely sensitive to the out-of-pocket costs of their training as well as their expected incomes. Local adoption of Western models of expensive, professional, urban-oriented, and curative-focused cadres tend to be counter-productive.

D. Attrition of civil servants has reached critical rates due to the combined effects of accelerated retrenchment, voluntary retirement and departure, the search for greener pastures locally and abroad, and sickness and eventual death primarily from AIDS.

Enforced early retirement, voluntary departure, and retrenchments are key features of civil service reforms in Africa. Though rightly premised on the need to reduce the large civil service to make it more effective, they had a deleterious effect on the supply of critical and experienced workers in the health sector. These reforms were effected in such countries as Cameroon, Central African Republic, Congo, the Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Mali, Senegal, Tanzania, and Uganda. The conditionality-driven approach to civil service reform in Africa has focused more on the absolute number of workers to be retrenched (because of gross overstaffing), rather than the needed skill mix. Poor sequencing of civil service reform also resulted in downsizing even before ministerial rationalization, as in Kenya in the mid-1990s (Wescott n.d.). Although no detailed data are available, most observers noted that, in most cases, the skilled and most experienced health workers had left (since they had more employment options), rather than the unskilled and least experienced ones. Thus, it is unclear whether the intended aim of reducing the number of unskilled workers actually was achieved under these reforms. Even if it was, in some cases, it is still a matter of throwing the baby (skilled workers) out with the bath water (unskilled workers).

The large-scale departures from the civil service may have been worsened by stringent budgetary measures under structural adjustment programs. In some countries, the budgets for health and education payroll were shielded from cuts imposed as structural adjustment

conditions, but this was not always the case. For instance, in Zambia, the public sector reform program reduced the public service salary expenditures. In the wake of agreements with the International Monetary Fund, the government announced a voluntary separation package for civil servants and all sectors were eligible to apply. More than 1,400 professional health workers (11 percent of the total number on the payroll) were granted separation rights and received generous separation packages funded under the reform program. In hindsight, Zambian observers have noted that the Ministry of Finance worked against what the MOH was trying to achieve, which was to stabilize the supply of health staff.

Moonlighting and eventual voluntary departure from the civil service for more lucrative local employment has also marked the African health-sector labor market in recent years. A major factor has been the rather quick liberalization of medical practice in such countries as Malawi, Mozambique, and Tanzania resulting in the movement of trained MOH civil servants to private practice, either individually or with nonprofit or for-profit health providers. Health service providers (especially doctors) may opt to initially straddle two jobs, keeping their civil-service posts while moonlighting on the side. Countries may also formally allow double-practice, even in government health facilities, as in Mozambique. While this looks like a reasonable arrangement, it has tended to result in disappearing civil servants who report to duty on shorter work-hours. It has also resulted in the displacement of poor patients by private-paying patients in government facilities. As medical practice becomes privatized, doctors may eventually opt only to practice privately. Pharmacists and, to a lesser extent, laboratory technicians are more likely to move completely into the private sector, as has been shown in Ghana (Ghana MOH 2000).

The proliferation of NGOs in the 1990s certainly caused a discernible exodus of health workers from the government service, either as direct health providers, program managers, or consultants. NGO health projects attract a wide range of government health professionals since the pay is much better and the work is similar to that of the civil servants, hence very little retraining costs are needed. In hindsight, the lack of a pre-service training program for this NGO demand for health professionals meant that NGOs had little recourse but to poach from the existing civil service pool. Curiously, despite the liberalization, public-private partnerships remained woefully underdeveloped, such that training programs in child health, reproductive health, tuberculosis, and malaria were, for the most part, limited only to government health workers.

Resigned or retired health civil servants still practicing their profession locally and privately are not viewed as "wasted" relative to those who have gone on to other endeavors. In fact, those who moved to the NGO and for-profit sectors probably became more productive. But those who have opted out of health services completely represent large wasted investments in pre-service and in-service training, which no longer yield outputs in terms of service delivery, and for which the government and donors have to incur more costs to replace them. Replacement costs alone would be significant given the magnitude of losses. Data from Ghana, Zambia, and Zimbabwe show that losses from the public health sector continue at a rate of 15 to 40 percent per year.

Out-migration has also adversely affected the labor supply in many African health sectors. Health workers from poorer African countries, such as Ghana, Kenya, Malawi, and Zimbabwe, have moved to more affluent countries on the continent, notably South Africa and

Botswana. A recent study found that only one quarter of rural doctors in South Africa are natives of that country, the remainder mainly coming from other African states. Others have emigrated to the United Kingdom, Canada, and the United States. A global carousel phenomenon has been observed among skilled health professionals where workers from poorer African countries migrate to richer southern African neighbors, southern African doctors migrate to Canada or the U.K., and U.K. and Canadian doctors themselves migrate to the U.S.

The African medical and nursing brain drain, as reported in local papers, is staggering. In Zambia, out of more than 600 doctors trained in the country since independence, only 50 remain (Couper 2002). In Zimbabwe, out of 1,200 doctors trained in the 1990s, only 360 are reported to be practicing domestically. In Sudan, an estimated 17 percent of physicians and dentists trained locally left in the 1980s and 1990s. The Government of Kenya advertised 100 doctor vacancies in 2001, but only eight applied. Ghana, which has built a reputation for producing international-quality professional health workers, recorded a loss of 328 nurses from its Council of Nurses and Midwives' register in 1999, which is equivalent to the country's annual output of registered nurses. Losses of nurses for 2000 have been estimated to be 600 and the outflow of other professional groups is likely to be similar or greater (Ghana MOH 2000). South Africa is reported to lose more home-grown physician graduates than it recruits from abroad, mainly from Cuba. Active foreign recruitment for health professionals, including x-ray technicians and radiographers, is ongoing in Ghana, Kenya, South Africa, Uganda, and Zambia through the local papers, professional journals, and job fairs.

To be sure, not all brain drain is bad. Beneficial South-South and North-South movements in Africa are illustrated by Cuban doctors practicing in South Africa, Zimbabwe, and other countries; Mozambique's reliance on South African and Portuguese physicians; Mauritania's reliance on French, Moroccan, and Tunisian physicians; and the remaining Christian missionary health workers on the continent. However, African health workers' migration to industrial countries presents a serious problem of reverse subsidy, since many of these workers' training were heavily financed by African governments. Despite the magnitude of this problem, no in-depth analysis has been done on this area.

The African brain drain is intimately linked with the shortage of health workers in industrial countries, which is fuelling the demand. In the U.S., it is estimated that 126,000 nursing posts are currently unfilled and that the shortage will hit 500,000 full-time equivalent staff in 2015 (U.S. DHHS 2002). Canada has an immediate need of 16,000 nurses and an estimated shortfall of 59,000 to 113,000 nurses by 2011 (CNAC: 2002). In 2001, it was estimated that 15,000 nurses were recruited in the U.K. and that 35,000 more are needed by 2008. In Australia, 31,000 nursing vacancies are expected by 2006 (Schubert 2002). Clearly, the African HR crisis in health has a global dimension, and an international inquiry and response is needed.

Sickness and death primarily from HIV/AIDS also represents a significant loss of health workers in Africa. An entire generation of health workers is being lost in the epidemic countries of East and southern Africa, as illustrated in Table 3 on the following page. It has been estimated that HIV/AIDS accounts for anywhere from 19 percent to 53 percent of all deaths among government staff in a typical African country (Tawfik and Kinoti 2001).

Disease also reduces the number of hours or days that staff are available to render service. For instance, a person with HIV/AIDS can be absent up to 50 percent of working days in his/her final years. The number of deaths is even more disturbing compared with the capacity to train replacement staff. In Malawi, the number of deaths among nurses represents 40 percent of the average annual output of nurses from training. In Zambia, the situation is only slightly better, with the loss of 185 nurses in 1999 representing 38 percent of the annual outputs from government training schools.

Table 3: Deaths of Government Health Staff

Countries	Doctors		Nurses		All	
	No.	%	No.	%	No.	%
Malawi (1997/98)	n.a.	n.a.	44	43	296	53
Zambia (1999)	2	8	185	45	313	19
Zimbabwe (1998)	4	6	45	12	330	38

Note: % is the percentage that death represents of all losses.
Source: Data organized by J. Huddart.

Although actual risk of HIV/AIDS transmission from patient to health providers is small, perceived risk of acquiring HIV looms large among existing and would-be medical and nursing personnel. There are indications that doctors and nurses, especially in epidemic countries, are becoming reluctant to care for HIV patients. The stigma and taboo associated with the disease are also important personal considerations, especially for nurses providing direct patient care. Lack of gloves and other infection-control supplies compounds the perception of risk. It is unknown how much of this factor accounts for attrition or for students' reluctance to enter the medical and nursing professions. But the absence of extra incentives (hazard pay) for those providing direct care to HIV/AIDS patients has not improved the situation.

E. Many health workers are ill-motivated because they are poorly paid, poorly equipped, infrequently supervised and informed, and have limited career opportunities within the civil service.

Except in relatively wealthier countries, such as South Africa and Botswana, most African governments have salary levels that are generally low and salary structures that are perceived by civil servants to be inequitable. Many countries offer only subsistence-level salaries (or even lower) and are not in a position, given the need for fairness across the civil service and constraints on public sector expenditures, to increase it. As a result, staff are poorly motivated.

Within comparable tasks and positions, civil service salaries are generally lower than their private-sector counterparts. For example, in Zimbabwe in 1998, a nurse could expect a 40

percent increase in salary if s/he left government service to join the private health sector. For experienced health service managers, joining international organizations (bilateral donors, NGOs, private voluntary organizations, and UN agencies) can bring salaries and benefit packages that are double their government income. The continuing budgetary constraints on government expenditures over the past decade means that the salary differentials between the public and private sectors in Africa may have widened.

In addition to problems caused by absolute levels of pay, problems of salary relativity among skilled health workers also exist both within the public sector and between the public and private sectors. In southern African countries, salary levels for the different professions still reflect relativity established during colonial times, and little has been done to adjust these to respond to changing circumstances in the labor market. For example, most governments experience difficulties in retaining pharmacists and pharmacy technicians as they are in demand in the private health and industrial sectors as sales representatives for drug companies. Yet no salary adjustments have been made to account for this labor-demand situation. Salary relativity can also be unfair between health professions trained and employed by the government. In countries such as Zimbabwe, entry and maximum salaries for the different professions may show marked differences, even though entry qualifications for training and the length of training are identical (see Table 4).

Table 4: Minimum and Maximum Annual Salary Levels by Profession and Length of Training in Zimbabwe, 1999

Skilled Health Worker	Length of Training	Entry Requirements	Entry Salary (US$)	Top Salary (US$)
General Doctor	5	3 > A levels	5,160	6,280
Radiographer	3	2 > A levels	2,465	4,995
Pharmacy Technician	3	2 > A levels	1,550	2,400
Dental Therapist	3	5 > O levels	3,450	5,160
Registered Nurse	3	5 > O levels	1,340	3,800

Source: Data organized by J. Huddart.

Not only are salaries generally low, they may also be given late. In Uganda, frontline workers were not paid salaries for many months in the late 1990s, and the salary arrears accumulated to such a magnitude that the government had to ask some donors for support in settling the problem. Cost-sharing revenues and other forms of community support appear to have kept these workers from leaving the service.

Staff perceptions about their superiors' decisions on promotion and location can also negatively affect morale. In the Gambia, examination of the data revealed that promotion decisions did not depend on work location, staff performance, or assessment of staff potential (Martineau and King 1997).

Lack of promotional incentives to locate to ill-served areas or to perform well severely reduces staff motivation to work well. In Ghana, 29.1 percent of staff surveyed pointed to delayed promotions as the single most important factor in their poor working conditions (Mensah 2002). Indeed, the government may deliberately delay promotions selectively or across the board to save resources, especially during a budget crisis.

Poor working conditions and lack of corresponding inputs (drugs, medical supplies, stationery, etc.) also contribute to the disillusionment of African health workers. In 1998, a staff survey conducted in Zimbabwe found that the inability to offer effective care for patients due to the lack of equipment, appropriate drugs, and supplies was the reason cited most frequently by respondents for resigning from the government (Zimbabwe MHCW 1999). A similar finding was noted in Zambia three years earlier—primary-care patients often cannot be referred to higher-level facilities for lack of stationery for prescription and referral letters, fee revenues are unrecorded for lack of receipt books, drug supplies cannot be managed for lack of registers, etc. (UNZA 1995).

Infrequent or irregular supervision of rural health facilities has also reduced staff morale and probably the quality of services provided as well. Cuts in supervision budgets (personnel travel allowances, expenditures for gasoline, and vehicle repairs) have severely hampered program monitoring in many African countries. Visiting donor missions report many districts not being visited by central MOH supervision teams. Generally, poor communication services (lack of radios, telephones, or fax machines or allowances to maintain these) and weak electronic connectivity have not helped to ease this supervision gap.

Lack of regular information from the central headquarters to peripheral facilities also contributes to low morale. As many African countries have embarked on health sector reforms and other programs, information to key stakeholders—the health providers themselves—has usually been ignored, making workers confused and stressed about the uncertainties that reforms bring.

Unpaid community health volunteers are a special cadre that must be addressed in the overall HR crisis. Community health workers, traditional birth attendants, family planning community-based distribution agents, and youth peer advisors are deployed in a variety of ways in Africa. Governments or donors often provide the initial training, but in most cases, these volunteers are not within the civil service; they are at the front-end of the health system, providing health information and motivation, dispensing contraceptive commodities and basic drugs, undertaking health surveillance, and referring patients to the health facility. Thus, their role is critical, though sometimes underappreciated. They survive on small and irregular allowances (if any), the provision of incentives (such as bicycles, rain gear, and the ability to participate in training workshops and visits), and the remote possibility of being included in the civil service through promotion. Most health volunteers lead a hand-to-mouth existence and do not have the luxury of giving significant amounts of their time to unpaid work. Their supervision is irregular and occurs only as long as donor funds are forthcoming. When a project terminates, so does their service. African governments have not seriously examined the morale, effectiveness, and sustainability of these cadres.

F. Many medical, technical, and managerial positions in health programs and facilities are now vacant, and scarce medical personnel are often misused for management tasks.

The supply of professional staff is now severely constrained at the leadership and managerial levels, and the situation is likely to deteriorate over the next 5-10 years as AIDS takes its toll, senior staff retire, and mid-level managers decide to leave for a variety of reasons. Many of the most experienced and highly-trained technicians and managers are being lost. In Zambia in 2001, at a meeting of the National Information, Education, and Communication (IEC) and Behavior Change Steering Group (consisting of representatives from government and NGOs), seven of the 12 original members of three years earlier had died.

The loss of institutional memory from large-scale retirement, resignation, or death is hard to replace, and these costs are understood only when the manager has departed. As a result of high turnover among senior and mid-level MOH officials, many African MOHs continually reinvent the wheel in such areas as program strategies, resource planning, donor relations, etc. Malawi, for instance, has had two HR plans prepared in a period of five years. The consultants who assisted in this planning exercise pointed out that because of the shortage of senior staff at the national level, the only two individuals who had been involved in the plans, and thus fully understood them, had left the MOH within a few months. Such loss greatly hampered the finalization and implementation of the plans (Martineau 2001).

Similar loss of institutional memory in disease-specific programs such as AIDS, reproductive health, safe motherhood, malaria, tuberculosis, and child health is also being noted everywhere. Cases exist where disease strategies are redone again and again or costly program reorientation of new managers occurs. These are additional transactions costs which damage program continuity and maturation.

Lack of managers is a major reason for the low absorption of donor resources. In Malawi, a pipeline analysis of donor flows in health in the mid-1990s revealed that donors are able to spend only 60.5 percent of their annual health sector commitments of around US$350 million (Picazo 2002). Mali has experienced difficulty programming resources available from a debt relief program and has decided to use much of these resources to procure malaria bednets, simply because this is the least management-intensive process. Conditionality-driven, budget-support programs of European bilateral donors face serious constraints of disbursement due to host governments' unfamiliarity with policy dialogue, which is reliant on highly experienced senior staff (IOB 2002). The inability to absorb more resources may also be due to administrative bottlenecks at central MOH, especially the absence of signatories, weak capacity to follow up on necessary actions for donor funds to flow, loose interagency staff coordination especially between the MOH and the Treasury, and lack of staff knowledgeable in aid administration, procurement, and financial management.

Within the health service delivery system, African countries are prone to use medical practitioners as district health officers (DHOs) dispensing management functions. Even if a medical specialist or surgeon is posted in a district, but is primarily involved in administrative functions, actual access to his/her specialty skills during office hours may be severely restricted. This problem is magnified by the fact that DHOs are often called to central MOH meetings to report on the status of their district programs.

Career potential is very limited for allied health professions. Even where two or three career steps are available, the number of authorized posts at the senior level may be very restricted. For example, in Zimbabwe, 153 posts exist for pharmacy technicians, but no promotional opportunities exist within that profession. Similarly, there are 829 posts for environmental health technicians, but no career advancement is possible. In Zambia, 68 posts exist for pharmacy technicians, but of the 61 individuals in the basic grade, only one in 10 will be able to advance to the senior grade, and only one will be able to achieve the principal grade, which only happens if the incumbent leaves the service.

To redress the managerial and technical scarcities, donors often provide technical assistance in areas such as health sector reform strategies, drug management and logistics, district financing, management of critical disease-control programs, or program implementation coordination, such as the World Bank project implementation units. Donors pay these expatriate or local personnel as consultants or advisors for a fixed period of time. Donors may also use existing government officials and staff by topping-up their prevailing government salaries. Or the government may use the proceeds of a loan to support the project implementation unit. Though these arrangements ease the short-term constraints, they need to be approached cautiously. Experience has shown that local hires paid much higher than ordinary employees engender jealousy, leading to lack of cooperation from regular civil servants. The availability of these advisors and project implementation unit staff can become regularized so that MOHs become too dependent on their services. Strong government vision, leadership, and management of these advisors is required, otherwise, they may lead the MOH to develop systems and approaches that may be inappropriate for long-term sustainability. These advisors may also reach staggering numbers, as was the case in Zambia in the mid-1990s when almost as many donor-funded positions existed as senior positions on the government payroll. Finally, careful scrutiny is required since not all of these advisors have been shown to provide added value; some, indeed, turn out to be an added burden.

G. Donor resources devoted to training and HR development, though large, have been poorly coordinated and have not addressed the underlying cause of poor staff motivation.

Skewed donor support in favor of training (mostly in-service) rather than staff retention and HR systems improvement has contributed to the human resource crisis or, at least, has not abated it. Traditionally, donors provide investment costs (training), while the government shoulders recurrent costs (salaries). As the budget crunch tightened in most African countries, recurrent expenditures were hard to come by, while in-service training continued, putting the onus for staff retention almost solely on the government. Traditional prohibitions against donors' topping-off government salaries have not helped, though some donors resorted to this on a case-by-case basis simply to keep experienced staff in place.

Donor resources for training and HR development are actually quite large, but are poorly coordinated, patchy, and do not address the underlying problem of low salaries in the civil service. In Malawi, close to one-tenth of all donor expenditures in FY97 went to training, which includes long- and short-term training out-of-the-country (US$1.5 million), in-country and out-of-the-country workshops (US$2.2 million), and other unclassified training activities (US$0.8 million). The US$4.5 million annual cost of these training activities is staggering for a country the size of Malawi, a bureaucracy the size of the MOHP, and an NGO community

that is at best fledgling. (There is also a separate line item for training in the MOHP budget. Additionally, around 15 percent of donor allocations are for a separate HR training item, apart from these health-related training programs.) The total donor training expenditure would translate to a US$473 salary increase for one year for each of Malawi's 9,500 health-sector civil servants, which is around US$40 per month, or 50 percent of the US$80 monthly salary of a typical civil servant at that time (Picazo 2002). Some civil servants openly wondered whether it would have been better to use these training resources to top off their meager salaries and thereby improve morale. As it was, the training programs occurred, but morale did not improve.

To ease the shortage of trained workers, donor projects have been heavily involved in in-service training programs (through conferences, workshops, and site visits), often based on competency diagnoses and skill-deficit assessments prior to project inception. This is usually the practice of donors supporting programs in child health, safe motherhood, family planning, HIV/AIDS, and malaria prevention and control. Though this is a short-term solution, in-service training engenders its own problems. It directs attention away from the appropriateness and quality of pre-service training. It covers only a proportion of all service providers. It is usually not a sustainable option for the government to maintain service quality over the long term (i.e., as soon as the project sponsoring the training ends, the government cannot continue offering it). Compared to the inclusion of these skills in pre-service training, in-service conferences and workshops are less cost-effective because these are invariably held in hotels and similar settings, and because there are no exams, there is no solid assurance of participants having learned as much as they could. Workshops are also disruptive as they take many health workers away from their posts, thus denying patients access to their care. Finally, in-service training will only have the desired results if the health staff trained can apply the new knowledge in their subsequent work.

Despite the pervasiveness of in-service training programs in Africa, their influence on the content of formal pre-service training programs has been very modest. In Zambia, throughout the many years of in-service training on child health, no effort was made until very recently to incorporate the technical substance and approaches used into the pre-service training curricula of doctors, clinical officers, and nurses. Thus, these cadres still graduated from their basic training with no understanding of the principles upon which the integrated management of childhood illness (IMCI) is based.

In most cases, donor support has failed to consider HR and capacity building in its entirety. Donor assistance has tended to focus on those disease interventions that they were interested in supporting. As a result of this project-driven training, a disproportionate volume of training has been in skills related to family planning and reproductive health, AIDS and sexually transmitted infections, tuberculosis, malaria, and childhood illnesses. But little attention has been devoted to support systems and skills needed to underpin these health programs, such as pharmacy and pharmaceutical management, health facility management, health planning and administration, HR planning and systems, accounting and finance, procurement and logistics, and aid administration. These support skills are in short supply in many African countries. Half of the slots in the planning unit of Malawi's MOHP, for instance, have been unfilled for a long time. The verticalized training approach, responding almost solely to donor disease interests, has compartmentalized human resource investments in health in Africa.

H. Urban/rural imbalance in the distribution of health workers, a problem in the past, may be worsening.

Some African countries have shown a degree of success in equalizing the regional distribution of trained health workers. Political imperatives provided the impetus to deploy health workers more equitably across regions in Malawi and Tanzania. Malawi, for instance, now has a better balance of health workers across its three regions than a decade ago (Picazo 2002).

Urban and rural disparities, however, continue to persist and may be getting worse in many African countries. Poor spatial distribution of health workers has always been a problem in the developing world, but this is markedly so in Africa, probably because of its lower level of urbanization. Typical of trained professionals, African doctors and nurses prefer to work in urban hospital settings where professional camaraderie is readily available and promotion is more probable. The availability of urban amenities (good housing, schooling for their children, and leisure) is also an important consideration. Finally, the urban location of most hospitals, where the majority of health workers are concentrated, somehow makes it inevitable that health workers are mostly in cities (see Table 5). Given these factors, it is extremely challenging to attract health workers outside cities.

Table 5: Distribution of Professional Health Staff, Late 1990s

Countries	Central & Provincial Hospitals	Rural Health Centers	Others (Central HQ, etc.)
Malawi	54%	16%	30%
Zambia	41%	19%	40%
Zimbabwe	51%	5%	44%

Source: Data organized by J. Huddart.

Ghana typifies the urban/rural disparity in health workers. In 2000, Greater Accra had 1,216 nurses and 150 medical officers (excluding the teaching and referral hospital), compared to 96 nurses and 14 doctors in the Upper Western Region. This implies 10.7 doctors in Greater Accra to one doctor in the Upper Western Region. Similarly, there were 12.6 nurses in Greater Accra to one nurse in the Upper Western Region. The population ratio between the two areas was 1 for Greater Accra to 5.4 for Upper Western Region (Ghana MOH 2000).

Where the only available slot is in a rural area, a health worker may agree to be posted there but actually work in an urban facility. This rural post/urban work phenomenon is quite common in sub-Saharan Africa, implying that the problem of geographic maldistribution, as reflected in the official government roster of health workers, may be understated.

The gender dimension of geographic maldistribution of health workers has not been adequately analyzed, although there are indications that gender is an important factor in the HR problem. In the Gambia, it has been shown that women are more likely to resign within the first five years of service than men. Insensitive posting policies may force women who are

just starting a family to resign rather than take up a post that would be too far away (Martineau and King 1997). The preponderance of women in the health workforce may be an important factor in geographic maldistribution because women often have to follow their husbands where they work, which is invariably in cities.

Rectifying geographic imbalances is not easy. Providing staff accommodation and paying for relocation expenses are very expensive. And even if these were possible, health workers look for access to supplementary work (including out-of-hour's clinical work for medical personnel) as part of their coping strategy for low salaries (Van Lerbeghe and Ferrinho 2000). It has been reported that doctors in Portuguese-speaking Africa could earn the equivalent of one month's salary by seven hours of private practice, while some doctors in Angola could earn the same amount in one hour (Ferrinho et al. 2000). Since medical practice can only be lucrative where there is a reasonable population density and adequate disposable income, health personnel would continue to want to be posted in urban rather than rural areas.

The inflexibility of civil service rules in many African countries makes it extremely difficult to provide financial or non-financial incentives for doctors or nurses wishing to locate in rural areas for a premium. Staff housing has been provided in a few countries (most notably in Malawi), but even this has not been enough incentive. Converting the housing benefit into cash may be more attractive, but this is not widely practiced.

The AIDS epidemic will worsen, rather than improve, the rural/urban imbalance in the distribution of health workers. As the epidemic rages, health workers afflicted with the disease will likely prefer to be in urban areas where care is available at hospitals.

Finally, it is clear in hindsight that the heavy subsidizing of educational/traning costs provided by African governments has not resulted in more deployment of health workers to underserved areas. African governments have largely been oblivious of the effect of such subsidy to achieve their national health goals. Rural service programs, required in some developing countries for medical and nursing graduates before they take their oath, have not been tried in significant scale in Africa. Nor is there widespread use of bonding arrangements for those who studied under government tuition.

I. Personnel management systems are highly centralized and weak, and HR planning and management has not been given the importance it deserves.

Personnel management is generally weak. Enforcement of reward and sanction rules is often ineffective. The public service commission's long delay and weak enforcement of disciplinary action against erring workers often inadvertently send wrong signals to other workers. Those committing misdemeanors are often simply reassigned. A typical example of civil service response to poor performance is illustrated by the following case in Zimbabwe. In March 1998, a new district medical officer was informed by one of his staff that there had been complaints from a community about the behavior of the person in charge of the local health center. The officer told his staff to investigate these complaints immediately by visiting the health center and talking to the local headman. The officer was told that the health center in-charge had indeed been found drunk on duty on several occasions, a fact that was confirmed by other staff in the health center. The officer recommended to MOH/Harare that the

individual be transferred to a job where he would be under close and regular supervision, but he received no response in four months. Then a letter arrived from the Public Service Commission stating that the staff member's behavior did not justify such drastic action. The officer has not tried to take action again.

The above example clearly shows that centralization of personnel management constrains effective monitoring and sanctioning of workers. The local manager or supervisor, who is closest to the worker and can make an informed judgement about his/her performance, often does not have the authority to take appropriate action. In most cases, all that can be done at the local level is to send a recommendation to the central MOH and onward to the Public Service Commission (PSC). Even if some punitive action is sanctioned—and, many times, the PSC does not even provide a reply—the process takes so long that when the penalty arrives (if at all), it may no longer be seen as being linked to the original wrongdoing. Thus, reporting a misdemeanor often does not serve as an effective deterrent.

Centralizing personnel management at MOH also frequently causes difficulties in communications and consequent delays. For instance, newly appointed staff commonly wait for months after they start work before their first salary arrives. In Ghana, only 24.7 percent of staff surveyed knew the details of their salary structure, and only 6.5 percent of surveyed workers said such details are contained in their appointment letter (Mensah 2002). Poor communications (non-existent or non-functioning telephone, fax machine, or radio) only compound the communication problem.

Politicization of personnel recruitment, deployment, and management also dilutes the professional civil service. A politician can heavily influence the appointment of staff down to mid-level positions. A staff may have a protector within the senior ranks of the bureaucracy who can influence a decision in his/her favor, thus eroding the impartiality of the civil service. This can make the dismissal or transfer of staff almost impossible and undermines the authority of the manager. This patronage system can influence decisions on attendance at workshops abroad, selection for further training, job placement, etc. Favoritism is demoralizing for other staff and reinforces the separation between job performance and reward.

There is a pervasive lack of clear expectations about staff roles, functions, and performance especially for health workers outside hospitals, where, traditionally, work procedures and standards exist, and staff behavior and work is monitored by on-site supervisors. Staff posted to a health center rarely have a job description and are rarely briefed before taking up post. This situation is made worse by extremely weak supervision. The declining priority given to supervision in government budgets is clearly to blame. But even if these resources were available, some supervisors may not fully understand the purpose of supervision, and the supervisory visit can turn into a litany of criticism with little effort to assess the health workers' state of knowledge, the problems they face, and ways to improve their performance. In many African countries, a supervisory culture of control, instruction-giving, and fault-finding has been ingrained, rather than one of facilitation and understanding what is happening so that the problems can be addressed. Unsurprisingly, the performance appraisal systems in use in most government health services are viewed with suspicion and often are not carried out, except where a written appraisal report is a pre-requisite for promotion.

Performance appraisal is also very weak. Appraisal systems in use in Africa tend to be based on an assessment of personal characteristics (over which the individual often has little control) rather than on achievements against agreed-upon work objectives or targets. In countries where health workers have become assertive and the rewards are perceived to be significant, supervisors are faced with threats if they mark a person's performance down. Findings of studies conducted in Zimbabwe (Zimbabwe MHCW 2000) and the Gambia (Martineau and King 1997) indicate that health staff are well aware that high performance is rarely recognized and seldom leads to tangible recognition in the form of promotion, selection for special assignments, or selection for training.

A reflection of the inadequate attention given to HR issues is the poor state of personnel information systems, including availability and easy retrieval of such data as the total number of employed staff by category, grade, and location. In most sub-Saharan African countries, these pieces of information are extremely difficult to obtain. The government payroll is a possible source, but it often does not distinguish the categories of staff (they are often employed on grades that are inclusive of several different professions), and it may not be cleaned of ghost workers. Lower levels of the MOH management structure, such as districts or hospitals, have more complete information, but these are usually not aggregated at the central level. As a result, making proper calculations of the impact of any HR policy on, say, financing, is done on guesswork at best.

J. New structures, practices, and technologies are imposing a heavy strain on an already weak human resource base in the health sector.

Health service decentralization is being pursued by most African countries at varying paces and depths. Decentralization of authority, responsibility, and resources for personnel functions is important to achieve effective human resource management and to improve staff performance. However, decentralization itself entails large-scale development of capacity at the local level for health planning, financing, allocation and accounting for resources, and HR management functions including staff recruitment, payroll and allowance documentation, and maintenance of personnel records. Doctors and nurses who have passed to local level supervision would need to upgrade their skills in epidemiology, planning, and management. Decentralization also entails retraining central-level health staff on their new functions in stewardship, setting and maintaining standards, regulation, and monitoring of health services provided at the local level, thus the need for skills in fields such as health planning, quality assurance, health economics and financing, and health systems management.

But even more serious than training itself is the need to set up new systems and procedures to make local health services work. These new structures, new budgeting and reporting mechanisms, and new relationships between the central ministries (health, local government, finance, etc.) on the one hand, and the local government units and peripheral health facilities on the other, are straining the HR capacities of all parties. With respect to the health professional, decentralization often brings organizational structures and career paths that may become even more limited unless deliberate efforts are made to break down traditional restrictions on the professional backgrounds required for district management positions. The ongoing decentralization in many Africa countries certainly could be expedited with far greater attention to HR skill deficits.

With decentralization, the attenuation of the roles of provincial or regional health offices or their complete removal in certain countries, also has a direct impact on the ability of central MOHs to manage and monitor the number of districts under their responsibility. Tanzania has more than 100 districts and has chosen to strengthen the role of regional offices. On the other hand, Malawi has around 30 districts and has chosen to dissolve what used to be three regional health offices (one each in the northern, central, and southern regions). Either decision has serious HR implications in terms of monitoring capacity and reporting requirements.

Increasing donor presence and multiplicity also tends to stretch the limited management capacity of central MOHs, especially the planning units and heads of directorates. While they provide additional resources not otherwise available, there are also transactions costs, and the more donors in a country, the higher the transactions costs incurred by central MOHs in evaluating their project proposals, in negotiations, and in monitoring and evaluation. A small country can be host to as many as 30 multilateral and bilateral donors, each having its own requirements for the different phases of the project cycle.

Sector-wide approaches (SWAps) usually involve new relationships between governments and donors and entail a move away from the traditional vertical project approach towards broader sector support (World Bank 2001). These reforms have associated requirements for formulating new sector approaches, budgetary frameworks, disease strategies, and policies to guide the new investments. These approaches are process-intensive (planning, deliberation, and negotiation), widely consultative and collaborative (all stakeholders, at all levels), highly technical (essential packages of care under given resource envelopes), and policy-oriented (requiring the presence of very senior personnel). They therefore require an inordinate amount of government staff time because government officials are expected to drive the process. Initial hopes that sector investment programs and SWAps may lessen the amount of time and transactions between donors and the government appear to be too optimistic; in fact, they may require more government staff time and far more skillful and experienced government managers.

Health service restructuring, often made under the rubric of health sector reform, entails new HR skills that are often overlooked. For example, as part of the Zambian health reforms, the central government agencies (MOH responsible for policy and planning and the newly-created Central Board of Health responsible for program execution) were reduced to a total of 10 program managers, each responsible for one program area. Thus, the reproductive health program manager, virtually alone, was responsible for developing a new policy on integrated reproductive health; formulating a national reproductive health plan and including it in the overall strategic health plan; negotiating with donors on new initiatives; and managing and reporting on all 10 existing projects on reproductive health. These tasks are impossible for one lone person to perform effectively, and the result is that donors, with their project deadlines, tended to move ahead regardless.

More specific forms of health service restructuring, such as provision of autonomy to hospitals and turning central medical stores into independent corporate structures, similarly entail new technical and managerial skills that are not readily apparent to reform enthusiasts. For example, the number of Malawian pharmacists (four) trained under the World Bank-

supported, decade-long PHN sector credit does not do justice to the envisioned multi-donor program to turn the severely inefficient Central Medical Stores (CMS) into a parastatal. Two of the four trained pharmacists soon left the civil service, leaving just two, one the "regulator" at MOHP and the other the "regulated" at CMS. Although other reasons exist as to why the Malawi pharmaceutical reforms did not proceed as planned, including the government's lack of political will, lack of HR capacity is certainly a critical factor for its failure (World Bank 2001).

New health technologies, such as the integrated management of childhood illness (IMCI) and the directly observed treatment, short-course (DOTS) for tuberculosis, though necessary, often require retraining of a large number of health workers. At present, most of these new technologies are heavily focused on government service delivery. Increasing concern is being raised about the "heavy and complex" introduction of these new technologies (e.g., IMCI) on weak service-delivery and support systems and the dangers that this poses, especially in nationwide scale-up. The recent evaluation of IMCI pilots in Malawi, Mali, and Uganda shows just how vulnerable new technologies are to human resource shortcomings (Robinson 2001).

New initiatives and concepts, though useful, impose a heavy burden on local institutional learning, especially since there are no precedents and established practices, and there is certainly very little, if any, local African expertise. Among the recent initiatives are: debt relief and poverty-reduction strategy papers under the Highly Indebted Poor Countries (HIPC) initiative, health services under the broader spectrum of social risk-mitigation, promotion of child rights as a basis for health services, the reemergence of the life-cycle framework for health planning, the still-to-be implemented essential package of care, Global Health Funds and how they are to be accessed, faith-based initiatives, and the increasing privatization of health services. It is unclear how many of these fashionable concepts and initiatives will actually change the manner in which health services will be provided to Africa, unless the HR capacity problems are addressed. Not a few program officers in Africa have informally asked visiting missions for a moratorium on what is dubbed the "epidemic of global initiatives."

K. Poor morale may be engendering adaptive and counter-productive behavior among health workers.

Where the HR crisis has been most severe, adaptive and counter-productive behavior of health workers has also been more noticeable. Like all employees anywhere caught in the same difficult situation, African health staff resort to all forms of coping mechanisms, including absenteeism, salary-augmenting activities, pilferage of public property, industrial strikes, and poor treatment of patients. These should be seen as symptoms of underlying problems that need to be addressed, rather than as insoluble cultural givens that cannot be changed.

Absenteeism – Reasons for absence from work include genuine sickness (on the increase due to the AIDS epidemic), funeral attendance (on the increase also due to AIDS), strikes, and moonlighting. Data on absences are rarely collected. However, a study of nurses in one large hospital in Ghana showed a loss of 11,564 days (excluding days lost from industrial action) in 1999—approximately 11 days per nurse (Ghana MOH 1999). A study of coping strategies of health workers in Uganda (McPake et al. 2000) showed that substantial amounts of health workers' time was spent away from the workplace carrying out other economic activities.

Salary-augmenting activities – This takes many forms, including taking two jobs, taking in-post consultancy assignments, straddling two positions (e.g., government-funded health planning department and donor-funded project implementation coordinator positions), and over-training and attendance in as many workshops as possible.

Pilferage – Pilferage of drugs, other medical supplies, gasoline, hospital food, etc. is an open secret in many African countries and has been reported in the press in Kenya and Malawi. Unaccounted-for fee revenues from cost-sharing programs as well as under-the-table or "corridor transactions" have also been documented in Kenya, Tanzania, and elsewhere (Musau, Munga, and Ilomo 1998).

Industrial strikes – In general, both unions and professional associations are still rather weak in Africa. However, they have shown ability to disrupt services and even derail changes they view to be against their interests. Health workers' strikes have been held in Kenya, Malawi, Zimbabwe, and elsewhere, mainly to demand higher salaries and better working conditions.

Strikes may also reflect the underdeveloped state of industrial relations in Africa, especially with respect to the health professions. In most cases, industrial relations are not yet a major area of concern for most African MOHs, until a strike occurs. Workers' associations and professional societies are invariably ill-funded, and have few material or human resources to fulfil their mandates. The government may provide grants, subventions, or subscriptions to medical, nursing, and midwifery councils, but these are usually very modest. Regular consultation and sharing of information between MOH management (which is typically the biggest employer) and health staff representatives is not the norm, since information is often seen as a source of power for the managers. Governments usually do not solicit solutions from health staff or their representatives (unions and professional bodies), thus missing opportunities to gain staff understanding and support.

Poor treatment of patients – In the extreme, a frustrated health worker may maltreat patients. Although there is very little quantitative documentation of this phenomenon, site visit reports indicate their occurrence. It is perhaps this phenomenon that drove the South African government to launch an information campaign on "Putting Patients First."

II. Opportunities and Risks to Ease the Human Resource Crisis

In the past, African governments have not devoted much attention to the broader area of HR problem analysis, planning, management, and evaluation. As a result, not many examples can be found of home-grown good human resource practices to promote. In addition, potentially good practices are often diluted by negative systemic factors that inhibit their larger-scale application. Finally, some of the underlying and more knotty problems giving rise to the HR crisis are usually outside the health sector, for which MOHs have limited control and influence. Hence, while this section aims to identify some promising approaches and areas in HR management, many of the examples have some important caveats.

A. Adopt a systems approach in diagnosing HR problems.

The analysis of the HR crisis clearly shows that most governments and donors have taken the health workforce problems in isolation and dealt with them accordingly, often resulting in patchy and unsustainable solutions. The civil service reforms were broader in scope and delved into the underlying causes of the problems, but backlash has been significant as senior, skilled, and experienced workers usually left first. Donors supporting reforms of the civil service should continue doing so, with the proviso that technical advisors dealing with the broader issues of the reform of the public sector coordinate their work more closely with those dealing with specific health sector issues. A longer timeframe for donor engagement in HR may also be suitable, rather than the usual project-specific time horizons.

Based on past African experiences, three key areas usually have been missed or ignored in deliberations about health workers: (1) the pragmatic and realistic assessment of the types of health workers most needed, based on a careful analysis of the country's burden of disease rather than an idealized notion of care that is desired; (2) the sustainable size of the health workforce, the balance between different types of workers (skill mix), and, underpinning this, the sustainable size of the country's health facility network itself; and (3) the role of private providers in the country's health system and the interactions and cooperative partnerships that should be established between public and private providers. It is important that these themes be made central to discussions about HR reform in the health systems in Africa.

B. Improve the HR information base and conduct a human resource inventory and planning exercise which, in themselves, can be instructive to MOHs.

A key starting point is to strengthen the information base for HR planning, deployment, and management. MOHs need this up-to-date information to be able to monitor the staffing situation and to use in their policy and administrative deliberations and dialogue with donors. The collection of information on the current number and deployment of staff, intakes, and outputs of pre-service training programs, departures from the civil service, and other key data can highlight and quantify HR problems that the central MOH and the treasury often do not realize (e.g., staff shortages, distribution, loss rates, and inadequate training). Sadly, it is often in response to a looming or an already-existing crisis that human resource problem analysis and planning are undertaken, as was the case in Malawi, Zambia, and Zimbabwe.

The Ten-Year Zimbabwe National Health Resource Plan provided the platform for analyzing the HR crisis in that country. In 1998, the MOH agreed with the World Bank to carry out an analysis of its staffing situation and to assess the staffing implications of its current facility development plans. To lead the work, the MOH created a new unit staffed by a senior health planner and two assistants. This unit reported directly to the Deputy Permanent Secretary, who also chaired a steering committee comprised of representatives of the professional associations and principals of the medical and nursing schools. The team then proceeded to collate information from all program heads in the MOH on their current plans for future developments, including facility expansions, new program components, and new management systems in line with the National Health Strategic Plan. This information, together with projections of future service utilization, was then used to project staffing needs for the next ten years and to project the changes in basic training that would be required to meet those needs. Recommendations on actions that the MOH should consider in order to improve staff motivation and staff retention were made, and the cost implications of these actions were estimated.

Following the approval of the final report by the steering committee in 1999, the MOH shared the report with donors and other stakeholders, including all provincial health directors and laid out its plans to tackle the issues raised. Planning team members were required to make monthly reports to the MOH senior management on the progress being achieved. Although it is too early to determine the results of the HR planning efforts, several benefits are already obvious. The MOH is now insisting that all new health facility developments considered feasible in staffing terms should also include staff housing as incentives for better personnel distribution. HR issues are now key items on the MOH management agenda. The HR planning and management unit has been amalgamated with the MOH personnel unit to form an integrated HR division to ensure cohesive and coordinated decision making and action.

The recently developed Malawi National Health Plan clearly exposed the impact of abolishing training for enrolled nurses and medical assistants on the staffing crisis. When the consequences of stopping the training of enrolled nurses were presented in numerical terms to an audience of government, NGOs, and donors, they were stunned as to why the decision to abandon the enrolled nurses' training was ever made. Within a year of this presentation, the training for enrolled nurses had been restarted.

Botswana and Zambia have also undertaken planning exercises similar to those of Zimbabwe and Malawi. The presentation of the 2001 Zambia Human Resource Plan awakened top management to the impact of the conversion of enrolled nurse schools to RN schools and their concerns have been expressed publicly. In Botswana, through the development of a credible staffing database, the MOH is now able to relate health workforce data to planning and budgeting and link it to the five-year National Development Plans (Egger, Lipson, and Adams 2000). Both these examples demonstrate the importance of having HR data to show the implications of alternative scenarios on the HR situation.

C. Reduce the rigid barriers to professional practice to enable health workers to take on additional functions, increase and improve service delivery, and reduce costs.

To break the cycle of high standards–limited entrants–few workers, it is important that labor-force supply restrictions (often invoked by professional societies and councils in the guise of "quality of care") be appropriately adjusted through professional substitution, redefinition of functions, reforms in the staffing standards, and refocusing of pre-service training. The intention should be a more pluralistic approach to the delivery of care, rather than the inflexible adherence to standards that are often irrelevant, unrealistic, unenforceable, and costly. This reform agenda, however, is rife with risks because it usually involves dismantling calcified legal structures and protective professional turfs.

Allow professional substitution. The amendment of the old Zambian medical practice act eventually allowed clinical officers and nurses to perform procedures and functions that had been restricted to doctors under the old law. This opening up was made possible by the enactment of the Zambian Nurses and Midwives Act of 1997 and has significantly altered the need for clinical officers at the health center level and for nurses at other levels. In Angola, due to severe shortages of health professionals, health promoters came to be the major health providers (Egger, Lipson, and Adams 2000), and in Malawi, the health surveillance assistants, with only six weeks of training, have become by far the biggest and most widely spread group of health workers (Malawi MOHP 1999).

Reform entry qualifications and career paths. Greater value for money and more cost-effective care could also be achieved by relaxing rigid and often outdated career paths and entry qualifications for certain posts. For example, until recently, a nurse could not head a district health unit in Ghana because only medical doctors were eligible. Similarly, under the health reforms in Zambia, the district director of health post became open not only to doctors but also to nurses, clinical officers, and environmental health technicians. This reform in eligibility qualifications acts as a strong motivation for experienced professionals to remain in government service.

Reform staffing norms. To reduce the constraints to staff supply, staffing standards should be reviewed with the intention of developing new service mixes catering to an essential health service package. The revised staff combinations and skills should cater to the actual quantified burden of disease in Africa, which, as previously shown, is still largely accounted for by communicable diseases. Some countries are addressing these issues by developing new cadres of health workers to ensure staffing flexibility. A measure of success in these efforts has been achieved, but the process of reforming existing legislation is proving to be lengthy and difficult. For instance, Zambia's attempt to create a public health practitioner cadre has been complex, indicating the risks inherent in these efforts.

For many years, Tanzania has been training medical licentiates, who are skilled in the basic health sciences and, like clinical officers, can diagnose, treat, and prescribe. The medical licentiate is also trained in obstetrics and surgery and is widely used as a cost-effective substitute for doctors in district hospitals. In Malawi, post-basic training opportunities for clinical officers enable them to fulfil similar functions to that of the medical licentiate. In Zambia, after more than five years of discussion, the decision has been made to commence

their own version of the medical licentiate cadre. The program will be a two-year, post-basic training for already qualified clinical officers, who will be attached to medical officers to give them on-the-job guidance and direction in surgery and obstetrics. On qualification, the Zambian medical licentiates are to be posted to district hospitals, hopefully to reduce the need for expatriate doctors who currently fill more than 60 percent of the hospital medical posts in the country.

D. Review the relevance of training programs, professionalize the selection of trainees, and experiment with alternative training methods.

Quality and relevance in pre-service training is essential for effective service delivery and to avert the unsustainable and cost-ineffective investments in continuous in-service training programs that donors have, so far, preferred. The quality of formal, tertiary health-science education demands a well-trained and supported faculty, curricula that are regularly updated, learning materials that are relevant, and programs that have appropriate equipment and resources. Training schools responsible for preparing health staff for rural postings must be able to provide significant field practice for their students, not just periods in hospital wards. All these entail investments of far greater magnitudes than African governments and donors have been willing to commit.

The overly-narrow focus on technical training supported in the past needs to be reevaluated. There is a need to build a critical mass of public health professionals in Africa, including health leaders with a vision and managers who know their way around. These professionals must be supported by specialists in health planning, procurement, logistics, and finance. In Ghana, the government is investing in young health professionals by sending them for master's level training in public health and management. Although some subsequently leave to take posts overseas, those who choose to remain are becoming a critical mass of individuals with capacity in health policy and management. Through the World Bank-supported Health and Nutrition Project, Tanzania has also been successful in training a large contingent of staff abroad in a broad range of areas and has been able to retain almost all of them in the civil service (World Bank 2000).

Greater support for African schools of public health and related programs appears to be the only reasonable approach to build a critical mass of health personnel in-country. In addition to Ghana, an increasing number of countries (e.g., D.R. Congo, Nigeria, Senegal, South Africa, Tanzania, and Uganda) have opened schools of public health and are also experimenting with alternative settings for learning, such as community-based training featuring people and health personnel partnerships that allow experiential learning in the field.

One promising effort to improve the relevance of training in Zambia is the Integrated Competency-Based Training (ICT) Program that is planned to commence in 2001. The curriculum for the in-service training covers all the interventions that form part of the basic health care package to be delivered at the health center. The curriculum is divided into seven modules: (1) introduction to health sector reforms including content related to community participation and management of the user fee system; (2) core skills for the frontline health worker including counseling and working with community volunteers; (3) child health,

covering the well-child and IMCI interventions; (4) reproductive health; (5) HIV/AIDS and sexually transmitted infections; (6) environmental health; and (7) other diseases and illnesses. The curriculum takes four months of residential training. It can be taught continuously or in modular form.

In Malawi, USAID-supported JHPIEGO has been working to improve the curricula of nurses, clinical officers, medical officers, and medical assistants in the area of clinical practice relating to reproductive health. Clinical standards have been developed for this area. Training materials are being developed and preceptors (who are being used to make up for the shortage of trainers) will be trained to use them.

In Guinea-Bissau, the government decided to suspend new enrollees to its medical school in order to redirect resources to a new National School of Health, which integrates training for doctors with paramedical staff, especially midwives (Egger, Lipson, and Adams 2000).

In Zambia, selection of trainees is being professionalized and made competitive with the creation of a National Fellowship Committee with members from the central and provincial levels. The committee selects individuals for post-basic training in-country and for other training overseas. Those wishing to be considered apply to the committee, through their immediate supervisor and district or hospital director. Selection by the committee is based on the priority of the training to the country and the performance of the applicant. However, to operationalize the latter, performance reports need to be submitted with the application.

E. Where feasible, adopt more flexible employment and service-provision arrangements, including contracting of services and management to private partners.

Many of the human resource problems are caused by inflexible labor-supply restrictions imposed by national civil service commissions. Although these were originally meant to protect civil servants from unwarranted dismissals, most have calcified into rules and practices that act as strong disincentives to good performance. Relaxing some of these restrictions can generate efficiencies that have, so far, eluded the public sector. Key options in this area are noted in the following paragraphs.

Permit clinical staff to conduct private practice for specified periods of time on a selective basis. Zimbabwe has allowed its nurses and doctors to do this for some time, but has found it difficult to control the amount of time that health workers spend on their private practice. For Zimbabwe nurses, the ideal solution is day duty for the government and night duty for private hospitals, but the problem is obvious; nurses are not able to work effectively for equal number of hours in the government and private facilities. A health worker has to decide in which sector s/he works full-time, and in which sector s/he works part-time only. Weekend duties may also be considered. Mozambique has also allowed private practice for its government doctors. Although this is an imperfect solution (with doctors often using government premises for their private patients), it at least allows doctors to practice in a government hospital, which could otherwise be empty given the burgeoning private practice.

Permit agency work. Health professionals can be employed on a casual basis during unexpected staff shortages or annual peak activity periods. This labor arrangement, a common practice in industrial countries and emerging economies, is largely untried in Africa.

Explore contract arrangements with the private sector. The introduction of competitive tendering and contracts for the provision of health services has been advocated for many reasons, including reduction in costs, improvement in quality, reduction of the load on management, and reduction in the frequency of strikes among civil servants. In Ghana, an experiment allowed a private company to manage the laboratory services of one hospital using government employees who were paid more than the normal government salaries, partly to ensure that staff would not moonlight. If they failed to perform adequately, they were returned to government service and reverted to normal civil service levels. This arrangement appeared to work well, however, an objective evaluation of the scheme (including relative cost-effectiveness of pure government provision versus contracted services) still needs to be done. Similar examples of contractual arrangements, mostly donor-funded, have been documented in Africa and are shown in Table 6.

A growing literature in Africa shows that contracted services may be more cost-effective, such as the comparison of three contractor versus three government hospitals in South Africa and the comparison of two district hospitals versus two district-designated hospitals in Zimbabwe (Mills et al. 1997). Despite these positive endorsements, however, there continues to be a healthy debate about key issues including (1) who captures the efficiency gains from contracting; (2) the poor regulatory environment for health service contracting; (3) the continuing lack in Africa of a management culture that emphasizes setting objectives and monitoring performance; (4) the possible damage done in converting trust-based implicit contracts with mission hospitals into explicit contracts; and (5) the concern that African governments may not be sufficiently skilled to negotiate for the right price and terms of the contract (Gilson et al. 1997). Experiences have also been documented where contracts calcified into entitlements, such as South Africa's part-time district surgeons contracting scheme (McIntyre 1997). Governments should be aware of these risks and weigh the potential benefits against them. More importantly, they should be open to the possibility of redesigning contracts or renegotiating on the basis of new information.

Explore options for civil-service de-linkage and health service commissioning. In 1996, Zambia's MOH pursued de-linking health workers from the public service under an ambitious strategy to establish contractual arrangements with workers, offer better salaries and working conditions, attract and retain staff, and promote decentralization to the newly created Health Boards. As planned, the function of hiring and firing was to be transferred to the Health Boards from the public service commission. All staff would be on three-year renewable contracts, with renewal dependent upon staff performance. Recognizing the need to compensate staff for their loss of job security and assuming an excess of some categories of staff on the payroll, the MOH proposed new conditions of service with significantly improved salaries. These proposals were announced to cooperating donors, and implementation was scheduled within one year. In early 1997, however, estimates of the financial implications of the de-linkage program, including staff pensions, forced the MOH to abandon this plan indefinitely. It must also be noted that it was during this time that Zambia's health sector reforms were being stalled by other factors, including a changed leadership and strained relations with donors.

Table 6: Examples of Contracting Arrangements in Health in Africa, 1990s

Country & Year Started	Purchaser of Services	Contractor	Health Services Contracted	Functions
Kenya, 1997	MOH	NGO, GTZ	Family planning	International procurements of contraceptives and other medical supplies; management of the logistics and distribution of the purchased goods
Madagascar, 1994	Office of the PrimeMinister and central and regional units	NGOs and community organizations in 534 rural villages	Maternal and child nutrition	Outreach services, training, and supervision
Mali, 1998	Social fund	NGOs and community organizations	Primary health care	Clinical services and outreach
Senegal, 1996	National Commission Against Malnutrition within the Presidency of the Republic, AGETIP	NGOs and community organizations in 14 cities	Maternal and child nutrition	Outreach services, training, and supervision
Senegal, 1998	MOH	7 contracts awarded to NGOs	Primary health care, with an emphasis on reproductive health (in particular, AIDS prevention)	Clinical services and outreach
South Africa, 1999	MOH	NGO	HIV/AIDS	Evaluation of Life Skills Course and HIV/AIDS prevention training programs

Source: Rosen, 2000.

A similar effort is being considered in Malawi under a health service commission concept. The guiding principle is to achieve greater flexibility in the employment, remuneration, and sanctioning of government health workers through fixed-term contracts outside the purview and strictures of the public service commission. It is uncertain whether this thrust will continue to be pursued, given that the country has recently passed a law eventually devolving health services to local authorities.

Continue to promote volunteerism, but explore community efforts to sustain volunteers. In many ways, community volunteers are the backbone of Africa's primary health care network. Asking budget-constrained governments to sustain them is difficult, although Malawi did formally fold over its health surveillance assistants into the MOHP's budget. Aside from this, however, a concerned government can provide other incentives, including hosting an annual volunteers' awards program based on performance, encouraging their participation in social funds and other community programs, providing health commodities for as long as volunteers show interest in distributing them, and continuing to supervise their work.

Promote professional umbrella organizations and coalitions. In Ghana, a group of several hundred midwives work under the umbrella of the Private Midwives Association. Members provide an effective service and often work in areas where there are no government facilities available.

F. Gradually shift towards results-oriented performance management.

Historically, health service provision in Africa has focused on the management of inputs. Increasingly, this is being viewed as inadequate and possibly wrong-headed, since input provision does not automatically ensure the achievement of outcomes. Besides, input management is prone to evolve into bean-counting and is therefore time-consuming. It is also oblivious of incentives at play in the workplace. Results-oriented performance management provides an approach that places greater importance on individual performance and institutional achievements. A few promising African initiatives have been documented in this area.

One example, drawn from an NGO providing family planning and STI and HIV/AIDS prevention services in Malawi, provides a possible indication of what can be done, at little cost, to improve and maintain high staff performance. Banja La Mtsogolo (BLM), a national NGO based in Blantyre, operates clinics in 13 locations. Since BLM purchases all its drugs, contraceptives, and supplies, clients pay fees for services. By 1998, after just five years in existence, BLM was generating more couple-years of protection (CYP) than all the government clinics together, even though government services were free. Much of BLM's success was underpinned by output-targeting per staff and results-oriented management. BLM employs clinical officers and nurses trained by (and previously working for) the government. Each year, clinic staff set targets for the number of clients to be counseled and treated, the CYPs they hope to achieve, and the level of fees they plan to earn. BLM attracts clients through quality services, quality being defined in terms of client waiting time and provision of appropriate counseling and treatment. Quality is assessed through supervision from BLM headquarters and client satisfaction surveys. Each month, each clinic plots its achievements against its planned targets and sends a short report to BLM headquarters, which periodically

prepares a summary performance report of all clinics and then distributes this to each clinic (thus encouraging competition and peer pressure). Twice a year, BLM also publishes the clinics' performance results in national newspapers along with short articles relating to the services they offer and their fees. To date, no BLM clinic has failed to meet its financial targets, and all clinics show steady rise in utilization. Staff are highly motivated, the clinics are clean and orderly, patients are treated with courtesy and respect, and few have to wait more than 15 minutes. BLM's continuing-client rate for family planning is over 75 percent. Most impressive of all, BLM has achieved a growing number of men requesting a vasectomy, a rarity in Africa.

A similar, but smaller, initiative is focused on some Zambia government clinics. For four years, Zambia has required each health center to participate in quarterly performance assessments conducted by staff from the district health offices. Using pre-designed forms, district staff spend half-a-day at each health center reviewing its cleanliness, inspecting health records, assessing staff knowledge of the basic health package, and observing them provide services to clients. In late 2000, a small adjustment was made to the process by the adoption of the Performance Improvement Review (PIR) system, prototyped in the Eastern Province by USAID-funded NGOs. The PIR involves a semestral review of the quality and the quantity of services offered in various community health programs. Rather than merely being a top-down exercise, the PIR is conducted by a joint team of reviewers drawn from the district health office, the local health centers, and the NGO. The review involves interviews with service providers, supervisors, managers, and clients; discussions with the local community about the clinic's health programs; and observation of service provider-client interactions. The clinic scores and related findings are carefully reviewed with staff to identify problems and to agree on corrective action. Government clinics adopted the scoring system under the PIR using a simple yes/no questionnaire. The resulting scores are tabulated and discussed with the staff of all the participating health centers during the next supervisory visit. The district health office plots successive quarterly scores. Over the first nine months of this process, the health centers have shown a marked improvement. Staff are keen to see their scores and compare their performance with other health centers. According to them, this is the first time they have had real feedback on how they are doing.

Performance management can be enhanced with wider-scale application of operations research (OR) results that have, so far, been demonstrated only on small-scale settings. For instance, with no increase in manpower, an OR study in Kenya showed that teams working on the various support systems for IMCI were able to dramatically increase the amount of contact time that clinicians spent with the patient, thus improving the quality of health services (Heiby 2002). Performance can be defined technically through appropriate clinical guidelines and systematically designed job aids that permit lower-level personnel to provide a wide range of care with minimal supervision. For example, using a systematic approach in redesigning the instruction sheet for a new malaria diagnostic device increased the performance of Malawian lab technicians so much that they did not need a training course for the new device. Similarly, a study of clinical pathways in Uganda showed impressive improvements in the performance of lower-level providers in selected maternal health conditions. A more purposive strategy to share OR findings and scale up pilot interventions is needed across sub-Saharan Africa.

G. Provide greater authority and more and better information to local managers for personnel management and employee relations.

To make performance scores really meaningful, local managers must have authority to hire, deploy, promote, discipline, and fire health staff. Several developing countries have already decentralized responsibility for hiring and payment of ancillary staff to local management offices, often at the district hospital. This has increased efficiency (long delays for filling posts are minimized); ensured that local managers recruit appropriate individuals; and reduced costs in many cases because local managers may offer fixed-term (rather than open-ended) employment so that they can adjust staffing levels with changes in workload. Lack of HR management capacity at the district level is frequently cited as a major constraint for decentralizing the hiring and firing function in Africa, but the larger and more urbanized districts certainly show promise and should be used as starting points.

Giving managers access to information about staff, including the number employed by level of service/location, the number entering and graduating from training, the number of departures and unfilled posts, and the costs of employment and in-service training can have a positive impact on how they manage and reconfigure their health facilities to adapt to changes. The ability of managers to relate this information to data concerning disease incidence, mortality rates, and patient utilization of health services is quite empowering, as shown in the experience of Zimbabwe in the mid-1990s. In 1996, with the support of DfID, the MOH in Zimbabwe designed a simple, computerized personnel information system. This staff database contained information on authorized posts by cadre and grade for each health facility and employees' relevant biographical details including the dates of joining service, promotion, departure, and reason. The database was linked with the Health Management Information System, making it possible to relate staffing data with disease incidence and workload data. The system was installed in each provincial health office and at the central MOH, and regularly updated consolidated reports were produced. The central database also recorded intakes and outputs from all basic training programs. The system enabled provincial managers to track vacancy levels and loss rates, monitor workload and staffing levels at individual facilities, follow up identified imbalances with the districts, and negotiate changes in the authorized posts with the central MOH. Every six months, an analysis of workload versus health indicators (incidence rates, coverage rates, and death rates) was made against staffing levels. Thus, for the first time, managers could hold informed discussions with provinces and districts about staffing and staff performance. Although recruitment and deployment remained a central-level responsibility, the average time for filling a vacant post was reduced from six months to two.

H. Clarify the definition of staff responsibilities and performance, and keep workers informed and inspired.

As health systems change and become subject to reform and as new health technologies and service mixes are introduced, it is important that health staff are aware of their responsibilities and are informed of changes. It is equally important that health institutions know and are able to articulate their goals, objectives, and functions within the overall health delivery system.

A survey of staff management carried out in four hospitals in Ghana showed that the two independently-run hospitals have a clearer assignment of roles to supervisors and staff compared to the two government hospitals (Dovlo, Sagoe, Ntow, and Wellington 1998). In government hospitals, although staff did have job descriptions and treatment schedules, and quality guidelines were available (on paper), these were not well known to health staff. In contrast, in the independent hospitals, the written daily task schedule was the key tool and assigned specific roles to each staff person and guided supervisors in assessing staff performance. The supervisor's role in the independent hospitals was clearly the hub of performance improvement. Focus group discussions clearly showed that pressure from supervisors served to keep health workers on their toes. Supervisors were keen to ensure good performance within their area of responsibility, which they perceived to be directly linked to their retaining their supervisory position. Overall performance in the independent hospitals was ranked by both government officials and the public as significantly higher than that of the government institutions.

Information is also a powerful tool to direct staff and to keep morale high. For instance, during the early years of the health reforms in Zambia (1995-1997), although no salary increases were awarded during the period, staff morale was high, staff performance was generally good, and loss rates were low compared to what they are today. The MOH leadership and vision, as well as the general positive atmosphere, appear to have provided the impetus for high staff morale during those years. The retention of part of the fee revenues from cost-sharing programs that staff could use to purchase much-needed supplies was also an important factor for positive staff morale. The MOH's focus on the health center as the most important element in public health services also helped. In general, staff felt a sense of pride in what they did; they somehow felt they were contributing importantly to improving the health system (World Bank, UNICEF, and WHO 1996). During these years, the MOH published a quarterly newsletter about the reforms that was widely distributed among health staff and kept them informed of the changes that were going to occur, the reasons for these changes, and the anticipated benefits that would be derived. Never before (and not since 1997) has staff been so well informed about what was happening.

III. Concluding Notes

This paper has attempted to document the gravity and complexity of the HR crisis in the health sector in sub-Saharan Africa. This important issue is not given much attention by governments and donors until it boils over and turns into a crisis. A key factor in the neglect of health workers' issues is the view held by governments and donors that HR is too big, too complex, and too intractable to be solved by one donor alone or by the government alone depending only on its meager resources. A second factor is the tradition that donor projects can only provide resources for capital costs or for foreign exchange requirements (e.g., drug imports, international technical advisory services, or staff training abroad), but not for recurrent costs, and certainly not for salary support or enhancement. A third factor is the continuing fragmentation of African health systems largely balkanized by donor projects, each having its own overlapping set of HR sub-systems, incentive structures, training programs, and disease priorities. Clearly, the HR problem is the elephant in the room that both donors and African governments have ignored and that is now throwing its weight around. Concerted action is needed to address the crisis. A broad view is required to understand the underlying causes and manifestations of the problem. Despite the severity of the problem, there are promising solutions and good opportunities for reform that must be seized by governments. Solutions would vary from one country to another, but key principles that came out in this review are the need for better HR information, more relevant training, less rigid professional standards, and greater labor flexibility.

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