



Strategies for Combating The Health Crisis in Sub-Saharan Africa

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ABSTRACT

The health status of people living in sub-Saharan Africa has dramatically declined during the 1990's. Infectious diseases, maternal mortality and ineffective use of resources have been shown to negatively impact efforts to bolster economic development thereby reducing the resources available to improve health. This strategy briefing focuses on the most critical public health issues confronting African ministers and proposes a series of recommendations to address the problems. The recommendations are organized in accordance with the systemic nature of the crisis, and address the need to do the following: mobilize additional resources, use resources more efficiently and promote new approaches to public health financing and service delivery. The inter-sectoral nature of the public health crisis and its macroeconomic costs and micro-economic burdens on households, will require active and coordinated participation from all levels of government and international agencies. African governments are ideally positioned to begin the processes of reform and negotiations with international donors outlined in this briefing.

The Public Health Crisis in Sub-Saharan Africa

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I. Public Health in Africa in the 1990s

1. Introduction

Public health in sub-Saharan Africa in the last years of the twentieth century is a disaster. If the 1970s and 1980s were known as the decades lost to cross-border conflict, economic stagnation, and social decline, historians will label the 1990s as the decade lost to epidemic, faltering health service delivery, and serious deterioration in all measures by which societies gauge their health. Life expectancy, child mortality, maternal mortality, and other key public health indicators have remained flat or deteriorated, some markedly, in the past ten years. Life expectancy at birth is the lowest in the world and has fallen by as much as two decades in some parts of the continent. An African child born today will, on average, live eleven fewer years than will a child born in a low-income country in Latin America or Asia. One out of seven African children dies before his or her fifth birthday and maternal mortality rates are among the highest in the world. Malaria, a disease once thought to be in retreat, now kills more than a million Africans each year. Access to quality health care has disintegrated in the face of crumbling infrastructure, a dearth of trained personnel, and a lack of essential drugs.

Looming over all these problems is the HIV/AIDS pandemic, now considered the worst infectious disease catastrophe since bubonic plague halved the population in the five years after it reached Europe in 1347. Although marching at a slower rate than plague, the AIDS epidemic is accelerating and will kill over 20 million Africans during the next decade. The effect HIV will have on African economic development and national security is staggering. AIDS is a public health crisis the magnitude of which has not been imagined in modern times. Although some countries and regions have fared better than others, the overall picture of public health in sub-Saharan Africa as we enter the next century is dismal.

Over the last 15 years most of sub-Saharan Africa has experienced less economic progress than any other part of the world. The issue extends well beyond disappointing economic growth: between 1985 and 1996, twenty-one sub-Saharan countries *contracted* economically. The overall per capita economic growth rate, weighted by population, was estimated to be *negative* 0.6 percent per year (and a dismal negative 2 percent per year in the first half of the 1990s). Although a group of ten or so countries began to rebound in the mid-1990s and are now growing rapidly, driving up the region-wide per capita average GDP growth to 1.4 percent/year, a dozen others are still experiencing falling GDP/capita (Fischer et al. 1998). As a result of this decade and a half of economic faltering, nearly one half of the continent's population lives in abject poverty and can neither defend itself effectively against disease nor pay for treatment once infected. Poverty alleviation, driven by rapid, and equitable, economic growth that benefits the poor as well as the rich, is thus the goal for improved health.

The purpose of this briefing on the public health crisis in sub-Saharan Africa is to focus attention on the most critical public health issues confronting senior African economic policy makers and to identify near-term priorities for government action. We believe that improving public health is essential to enabling economic growth and development.

Health in Africa is in crisis and poses a threat to the political and economic initiatives that are at long last possible with the end of the Cold War. Failure to address the public health crisis commits too many people to an early death, abandons too many women and children to unnecessary illness, extracts too many able workers from the workforce, and risks too much social instability. Failure to act undermines the potential benefits of economies that are more open and embrace more participatory democratic systems, and it further widens the gap between African nations and the rest of the world in the new millennium. The crisis in public health in Africa is not a health-sector emergency—it is a national emergency. Although some of the recommendations made here are directed at the public health system and health professionals, *many can only be implemented through the concentrated efforts of national initiatives led by the senior economic managers and political leaders of African nations.*

2. A brief review of the decade

Although the list of the region's serious health concerns is long, four key issues—child mortality, maternal mortality, malaria, and HIV/AIDS—illustrate the disturbing story of public health in sub-Saharan Africa in the 1990s.

- Improvements in under-five mortality achieved through hard-fought battles in child and maternal health over the past several decades have slowed in most countries, leaving African children with the poorest survival to age five of children anywhere in the world. In seven countries, child mortality actually increased during the first five years of the decade. The most important killers of children in Africa are infectious diseases, alone or in combination with poor nutrition. Lower respiratory infections; malaria; measles; and diarrheal diseases, associated with poor water supply and sanitation, together account for 65 percent of under-five mortality, and nearly 40 percent of the total disease burden in sub-Saharan Africa (Murray and Lopez 1996). In high-income countries, these four diseases have been almost eliminated or are routinely treated, resulting in virtually no deaths. As a result, an African child is three times more likely to die before the age of five than an East Asian child, and twenty times more likely to die before five than a child in a high income country (Ibid).
- Maternal mortality rates in sub-Saharan are the highest in the world—fully three times the rates of developing countries as a whole. In 1990, one out of every sixteen African women died of maternal causes in Africa, compared with the 1990 rate in North America of one in 3,700 (WHO 1999). The disproportionately high maternal mortality seen in sub-Saharan Africa is not simply a consequence of the low income afflicting this region. Maternal mortality in Ivory Coast is 30 times higher than amongst Sri Lankan women with the same income level of approximately \$700/year (World Bank, 1997a).

- Malaria, never brought under control even in the best of times, has re-emerged as a major killer in the region. Ninety percent of the world's burden of malaria is borne by sub-Saharan Africa. Current estimates put malaria-related deaths at 1.5-2.5 million per year, and the number of clinical cases at half a billion—nearly the equivalent of one clinical case per year for every African citizen. The economic costs of malaria to the region are staggering—\$1.7 billion in 1995, according to one widely cited estimate—or 1 percent of the region's forecasted GDP for that year (Shepard et al. 1991). A tenth of all hospital admissions and 20-30 percent of clinic visits are due to malaria. For poor African households, the cost of malaria was estimated at 32 percent of annual household income in one country in 1992 (Ettling et al. 1994).
- The toll of the HIV/AIDS epidemic on sub-Saharan Africa is horrifying. More than two thirds of the world's HIV infections and AIDS cases are found in Africa, and the rate of increase there is higher than in any other region. More than 85 percent of the deaths due to AIDS worldwide have occurred in this region and a quarter of these are in children. In 1998 alone AIDS killed two million people and was responsible for 5,500 funerals each day (UNAIDS 1998). Life expectancy is dropping throughout the continent. In one heavily affected country it has fallen by 22 years to just 42 (World Bank 1997b). Especially alarming for Africa's economic future is the disproportionate impact on educated young adults who hold technical and managerial positions. In one study 34 percent of people with post-secondary education were HIV-positive, compared to just 18 percent of those with a primary education, and civil servants were more than three times more likely to be infected than farmers (World Bank 1997b). As current HIV infections gradually become full-blown AIDS cases, the impact on African productivity and economies further impair development and growth.

Taken together, the diseases (which do not include tuberculosis, a major killer in its own right) described above account for 45 percent of all mortality and 43 percent of the overall burden of disease in sub-Saharan Africa. What makes these figures particularly dramatic is the realization that in other part of the developing world, such as Latin America, these conditions account for just 15 percent of all mortality (Murray and Lopez 1996)—and people live an average of eighteen years longer (World Bank 1998). Africans, even in the poorest countries, do not need to die at such rates from such causes.

Heightening the impact of these diseases is the erosion of health systems and health infrastructure over the decade. The overall lack of resources, as well as the low priority given to health in national resource allocations, and in some cases, the fiscal discipline required by structural adjustment programs have drained the health sector of both physical and human resources. African governments spent about 2 percent of GDP on health services in 1996, slightly below the average for the developing world, but far below the 6 percent average of high-income countries (World Bank 1998). Per capita spending on public health in sub-Saharan Africa has increased by about 1 percent per year in the past decade, the lowest annual increase of any developing region (Gupta et al. 1998). Facilities and technology have deteriorated badly and often function without even the most basic supplies. The loss of the human capital stock has followed this decline as trained health personnel leave national health systems. The failure to use available resources efficiently, for a variety of reasons, has only worsened the problem. The

problems listed above do not affect every country in the same way or to the same extent. Though some may be doing better, overall the whole region is immersed in a public health crisis unlike any other region of the world.

3. Public health and economic development

The five issues described above are just selected pieces of the public health crisis. Hunger and malnutrition, national and domestic violence, alcohol and tobacco abuse, road accidents, air and water pollution, tuberculosis, among other conditions take a higher toll on sub-Saharan Africa than they do on most other parts of the world. The toll is not just physical and social—it is also economic. The public health crisis extracts macro-economic costs, imposes micro-economic burdens on households, and levies inter-sectoral costs and responsibilities.

Illness reduces the expected benefits of investments in human capital and reduces labor and entrepreneurial productivity. Country-specific studies estimate the economic burden of illness at 13-16% of per capita GDP (King and Wang, 1993). A recent study making cross-country comparisons of the effect of malaria (alone or as a marker of other tropical diseases) on macro-economic growth suggests that malaria reduces GDP growth by 1.3% per year after taking into account initial poverty, economic policy, tropical location, and life expectancy among other factors (Gallup and Sachs, 1998).

The fragile but significant economic improvements being seen in some sub-Saharan African countries due to recovery from armed conflicts, exploitation of recently discovered oil reserves and improved policies will in part be sustained by private capital inflows (Fischer, 1998). This is particularly true in the setting of declining official development assistance. Productivity of private capital in some sub-Saharan countries is adversely affected by inadequate physical infrastructure and an inadequate stock of human capital (Findlay, 1996). Widespread disease and poor health affecting the workforce will further impair Africa's diminished ability to attract private foreign capital compared with other developing countries (Bhattacharya, 1997).

Several studies on the total cost of disease to African households concluded that households spend an average of 6.4 percent of household income on illness (World Bank 1994). The share of per capita GDP lost to illness is even higher—an average of 15 percent. Adults typically lose as many as twenty-five days of productive time per year, either to their own illness or to caring for sick family members (Rosen and Vincent 1999).

One of the distinguishing features of public health management in sub-Saharan Africa is the extent to which health outcomes are determined by activities in other sectors. Nowhere else is the effect on public health of investments in infrastructure, environment, and agriculture as pronounced as it is in Africa. Perhaps the most compelling example of this is in the area of water supply and sanitation infrastructure. Two thirds of the rural population of sub-Saharan Africa lacks access to a safe and convenient water supply, and 81 percent lack even basic sanitation facilities. Because of the connection of these infrastructure services to infectious disease transmission, some 11 percent of all morbidity and mortality in the region are attributed to poor water supply and sanitation services (Rosen and Vincent 1999). Significant progress cannot be

made in the fight against diarrheal diseases by the health sector alone—investment by government agencies responsible for infrastructure is an absolute requirement.

Household (family) behaviors are the key to preventing disease and managing illness. Families manage their micro-environments, initially recognize ill health, and make the decisions on when and where to seek health care services. Families need to have access to the financial resources and information needed to avoid preventable diseases. They need to have sufficient resources to access adequate quality, cost-effective care when illness strikes. Information and medical technology are important, but poverty alleviation is the essential prerequisite for improving health status for many African families.

II. Recommendations

The preceding section draws attention to several of the most urgent public health problems affecting sub-Saharan Africa in the 1990s. It is also clear that there is great variability across the continent, in both the relative importance of different diseases and the resources that can be brought to bear to control them. Because of this variability, recommendations that apply generally to the entire region must be made with caution, and with the understanding that each recommendation must ultimately be tailored to the country or community to which it is applied. Regardless, the facts summarized in the preceding section and our assessment of the public health issues in sub-Saharan Africa lead us to make eight key recommendations for addressing the public health crisis of the new millennium. These recommendations can be organized into three areas: mobilize more resources; use the resources more efficiently; and promote new approaches to public health financing and service delivery.

1. Mobilize more resources for public health

As noted above, there is a severe shortfall in the human and financial resources available to improve health in sub-Saharan Africa. African nations are simply not spending enough on health at the current levels to improve the health status of their populations. While it must be recognized that mobilizing additional resources is critical and plans need to be made for how these funds will be raised, it is also important to realize that funds alone will not provide a complete solution to the public health crisis. Resource identification is a necessary, but not sufficient prerequisite, for achieving widespread, sustainable health improvements.

In an era of massive public debt and relentless pressure from international lenders and investors to control budget deficits, mobilizing significant new resources for public health will require new and ambitious initiatives and perhaps even a re-framing of conventional economic policy. We recommend two unconventional ideas and one old approach.

Recommendation #1: Swap debt for health

African countries currently bear an external debt burden of \$227 billion. Service on this debt, some \$14.5 billion per year, is equal to 5 percent of the region's GDP and consumes nearly 15 percent of export earnings (World Bank 1998). Many people believe that debt relief is essential

for economic growth and development in sub-Saharan Africa. But, it offers one of the most promising approaches for targeting significant new resources at the health crisis, we believe that debt relief is also essential for improving health.

For debt relief to be politically acceptable to creditor countries, it must promise measurable benefits to African people—especially the poor. Health offers such an opportunity. We propose a “Debt for Health” swap program. In exchange for some level of debt relief, African countries will commit to using a portion of the resources spent on debt servicing for a major expansion of public health services, with an emphasis on HIV/AIDS, children’s health, and infectious disease prevention and treatment. African governments are currently spending approximately 2 percent of GDP on health services (Gupta 1998), relieving Africa of 40 percent of its external debt would thus allow a *doubling* of spending on health care. Benefits from such a program would accrue to both sides—African countries would enjoy improved public health and economic productivity, and donor countries would see tangible improvements in both indicators as well as improved public support that such a program is likely to generate.

Recommendation #2: Declare war on infectious disease

In 1990, Africa’s casualty rate from three infectious diseases—AIDS, malaria, and tuberculosis—exceeded its casualty rate from all forms of violence—war, crime, and others—by a factor of three (Murray and Lopez, 1996). Infectious disease is the most serious security threat facing African nations in the world today. Any one of the two resurgent epidemics, malaria and tuberculosis, or the new scourge, HIV, would be sufficient to stifle human development. Acting together, these diseases are threatening to drain the vitality from every effort to improve welfare and promote development. They are the most serious external threat facing any sub-Saharan country today, and a portion of the resources that typically are invested in more traditional national security activities should be directed to fighting this enemy.

We recommend that African governments declare war on infectious disease and re-direct a share of their national defense budgets to fighting this war. *Governments must recognize that they are facing an enemy that has already declared war on them and is imposing intolerable casualty rates on their populations.* Only by recognizing infectious diseases as a grave threat to national security can governments mobilize the resources and the commitment needed to interdict the public health crisis on an effectively large scale.

Massive cuts in defense spending may not be required (even if appropriate). If developing nations were simply to freeze defense expenditures at current levels and redirect the 7.5% annual increase that would otherwise occur, 10-15 billion dollars per year would be available for health expenditures (UNDP, 1991). Though individual and community risk reduction measures are essential to combat infectious diseases, the commitment of government leaders at all levels to prioritizing the efforts to fight infectious diseases and their willingness to convey this commitment to their constituents at every level of the political process will be crucial. Cutting or freezing defense spending and re-allocating the savings to fighting infectious diseases would send a clear message to the populace and foreign governments of the priority and seriousness with which the national government considers the threat from infectious diseases.

Recommendation #3: Capture and mobilize domestic expenditures on health

African families, in every income group, spend money on health and health care. Too often, the middle and upper income families preferentially access the heavily subsidized urban, curative care hospitals for their health care needs. These hospitals, financially supported by central government revenues, are providing subsidized care to the portion of the population most able to pay for services. Initiation of user fees and cost sharing/cost recovery mechanisms have been shown to be effective if quality services, including an ensured supply of essential drugs, are provided in a timely fashion. Experience has shown that willingness to pay for quality services is not limited to the wealthy alone; even low and moderate-income households will pay for services if they are getting value for their money. Ending the subsidies for the people able to pay and re-directing the revenues to the provision of an essential package of services for the more needy components of the population has both efficiency and equity benefits.

2. Allocate public health resources more efficiently

No matter what level of resources is available for public health, better allocation of those resources is critical to achieving real improvements in public health. Several of the steps needed to prevent the most important public health problems are relatively inexpensive on a per capita basis, and much can be achieved if resources are used efficiently. We have five specific recommendations for doing this.

Recommendation #4: Create and fund an "Essential Package of Services"

Each country should identify a set of high priority health services that it will strive to provide to every citizen and should allocate its national health budget accordingly. The widely held belief, based on the past half-century of experience, is that immunization services, sexually transmitted diseases (STD) and AIDS education, family planning, integrated management of childhood illness, safe motherhood interventions, and childhood nutrition support are likely to be the most cost-effective measures countries can take to reduce morbidity and mortality. The recommendation to focus on a package of essential services—that is, provide a limited number of services very well, rather than a large number poorly—is consistent with current approaches of the WHO and the World Bank and is thus likely to garner external donor support.

By focusing on a small number of critical interventions that provide large benefits, health systems are likely to deliver higher quality services at much lower cost and to a larger share of the population than they currently reach. The World Bank 1994 estimate for a low-income African country of one possible package of essential services, including basic clinical services, water supply and sanitation investments, and institutional support, was \$13 per person per year. In a higher income country, the estimate only increased to \$16 per person per year. While these estimates are just rough indicators of anticipated costs and are likely to vary widely among individual countries and communities, they suggest that paying for a package of essential services is not beyond the means of many African countries. These costs are reasonable, particularly if the costs are shared among governments, households, and donors. In 1990, total health expenditures equaled or exceeded \$16/capita in about a third of the countries in Africa; in

the remainder, they averaged about half this amount. For the latter group, paying for a package like this will require new resources to be invested in public health, but the costs remain within a feasible range (World Bank 1994).

It is important to note that in selecting the services for the package, countries will have to make explicit their priorities and acknowledge that there is a limit to the services that governments can provide. The package chosen by a country should reflect its own health conditions and resources, so that delivery of these services to the majority of citizens is a realistic goal. Delivery should be monitored carefully to ensure that targets are met and to justify the resources that are devoted to the package.

Recommendation #5: Reallocate resources from expenditures for urban curative care to disease prevention.

For a number of historical and political reasons, a disproportionate share of health resources has traditionally been allocated to curative care for urban populations, particularly for the most affluent households. Sub-Saharan Africa allocates a larger share of its health resources to curative care than any other region of the world: 62 percent in 1994 (Gupta et al. 1998). If the public health crisis is to end, more resources will need to be dedicated to broad-based, cost-effective health interventions, with a focus on the infectious diseases discussed in the previous section: childhood diseases, malaria, HIV/AIDS, and tuberculosis.

Arguably the best investment of public health dollars available is on effective childhood vaccination programs. The savings in health care dollars not spent on the clinical management of the numerous vaccine preventable childhood diseases far exceeds the costs of effective vaccination programs, including the added costs of mobilizing national immunization days. Other efficient and cost-effective preventive measures which, if effectively implemented will decrease public expenditures on health care, are maternal and child nutrition programs that promote well-balanced nutrition comprised of locally available foodstuffs.

By far the most successful intervention in slowing the spread of sexually transmitted diseases, including HIV/AIDS, is the promotion of condom use and safe sexual practices. Prior to the development of an effective HIV/AIDS vaccine, which is not a realistic probability in the near future, education and social mobilization are the most cost-effective and only realistic choices facing most sub-Saharan countries. In the case of tuberculosis, interrupting the foci of spread by the identification and treatment of active cases is the cornerstone of control. Moreover, huge efficiencies in control can be achieved by interventions that are both early and focused on the populations with the highest risk of contracting and spreading the disease. For these two closely linked epidemics, interventions that target commercial sex workers, attendees to STD clinics, truck drivers, prisoners, or refugee populations, etc. are preferred. From a public health standpoint, "an ounce of prevention among high-risk groups is worth 10 pounds of cure".

Recommendation #6: Promote private sector provision of health services

In many countries, the private sector—both NGOs and for-profit firms—has proven to be a lower-cost provider of some health services than the government sector. Government regulation of the health sector continues, but the government is no longer the sole, or in some cases, even the major, health service provider. The government role may be more appropriate as the financing agency, rather than the service delivery unit, for health services. For the private sector to operate effectively, direct and indirect constraints on its activities must be removed. These include inappropriate regulations that constrain private sector provision of health services, for example, long delays and prohibitive fees for licensing private sector providers, or customs and excise systems that delay or charge duties on health products such as medicines or bednets. In addition, economic incentives should be created to encourage private sector provision of public health measures that promote healthful behavior in workplaces and schools (e.g. smoking or alcohol abuse programs and distribution of condoms and sex education materials).

In addition to private sector firms being encouraged to expand their share of the health services market, larger scale industrial or manufacturing firms and trade union associations should be encouraged to assume even greater responsibility for the health of the workforce. Currently, much of the cost of sustaining a healthy workforce is shifted onto the government. As governments struggle to meet this burden, there is an economic (as well as social) argument for firms and labor unions to meet worker health needs directly.

One of the largest components of the cost of production in the private sector is often labor and worker training. The costs of replacing workers and productive time lost by diseases such as HIV/AIDS, tuberculosis, malaria, and alcohol abuse affecting the working population are substantial. This is particularly true of HIV/AIDS that disproportionately affects the technical and managerial echelons of the private and public sectors. The production inefficiencies and real costs associated with the need to hire and train additional managers or technicians for positions regularly vacated due to disease are substantial. This is in addition to the direct financial losses due to illness, absenteeism, health care, and funeral costs. Research is ongoing on the costs to competitiveness and profitability paid by those companies located in areas of high disease prevalence, in the hope that the results will provide an economic rationale for them to assume a greater role in providing basic health services to their employees.

Recommendation #7: Improve drug supply systems

Many of the infectious diseases that are taking such a heavy toll on African lives can be treated using well-known, widely available drugs. World Bank and WHO research indicates that African clinics typically spend 20-30 percent of their budgets on drug purchases, making pharmaceuticals the second largest health expenditure, after personnel costs. In the late 1980s, drug purchases accounted for 0.76 percent of GDP. Despite this significant allocation of budget resources, however, studies in the late 1980s estimated that 60 percent of Africans do not have access to the drugs they need.

The average cost of providing medications for 85 percent of the infectious diseases in Africa (with the important exception of AIDS) is estimated at \$1.60 per person per year. In the late 1980s, the most recent period for which information is available, African countries spent an

average of \$2.10/capita/year on pharmaceuticals. Given these figures, it is difficult to argue that the shortfalls in drug availability can simply be attributed to “too little money”.

Although in some cases more resources will be needed, especially for the poor, the main impediment in preventing Africans from having access to a reliable supply of essential drugs is inefficiency and waste in drug procurement. *On average, \$88 out of every \$100 spent on pharmaceutical purchases in Africa is lost.* The losses occur at each stage of the procurement and distribution process, roughly as follows:

Initial investment	\$100
Purchase of the most expensive drugs rather than low-priced equivalents	-\$10
Absence of bulk purchasing—buying small quantities rather than large	-\$13
Lack of competitive bidding by prospective suppliers	-\$27
Poor storage, inventory control, and distribution processes	-\$19
Excessive prescriptions, so that some patients acquire unnecessary drugs	-\$15
Incorrect use of drugs by patients	-\$3
	<hr/>
Real benefits to African patients	\$12

For every \$100 spent, African patients receive only \$12 of benefits (World Bank 1994).

A number of steps can be taken to improve drug procurement in Africa and recover some of the value that is now wasted. These include:

- 1) developing and using a list of essential drugs for each level of the health system and allocating budget resources accordingly;
- 2) improving understanding of drug needs and of international pharmaceutical markets so that bulk purchases of cost-effective drugs can be made;
- 3) encouraging the development of private sector—both commercial and NGO—pharmaceutical suppliers; and
- 4) strengthening monitoring of drug distribution to reduce theft and losses due to poor management.

Recommendation #8: Promote infrastructure investments that enhance public health

Basic infrastructure improvements—particularly in the area of water supply and sanitation—have the potential to reduce the burden of disease in Africa significantly, and might be a prerequisite for the success of other public health interventions. Although most of the analytic work is from outside Africa, the health effects of water supply and sanitation improvements are profound. Studies have estimated these interventions reduce morbidity from diarrheal diseases—one of the main killers of children—by an average of 26 percent, and child mortality by an average of 55 percent (Esrey et al. 1991). Although water supply and sanitation improvements alone do not always ensure major health benefits, most researchers have concluded that long-term, sustainable improvements in health cannot be achieved without them. Water supply improvements also create substantial health and economic benefits to poor households in terms of time and energy saved from carrying water (Rosen and Vincent 1999). Roads and electricity are also like to have significant positive public health externalities.

While resources for infrastructure investments of all kinds are scarce in Africa, we recommend that existing resources be allocated to maximize benefits to public health. In some cases, this will mean shifting resources away from expensive, high technology projects and toward basic water, sewage, and electrical connections.

3. Summary and conclusion

The state of public health in sub-Saharan Africa reviewed above outlines the observation noted at the beginning of this paper: public health in the region is a disaster and impairs economic development in Africa. We make this point not to detract from what has been accomplished in past years, but to emphasize that the health situation is worsening and urge African policy makers to regard health as a national emergency and to respond accordingly. It has been said that “desperate times call for desperate measures,” and these are indeed desperate times in the state of African’s health.

We offer three comments in summary

Comment 1: The public health crisis is a pressing national issue.

The health crisis is not solely the concern of the Health Minister or limited to the health sector. The impact of the health crisis on national security and its deterrent effect on economic growth and development force the problem onto the desk of the senior Executive (President or Prime Minister) and the senior economic management team (Ministers of Finance, Treasury, Planning, and Trade). The longer sub-Saharan African nations wait to substantively address this crisis, the more extensive and the more constrained the policy and program options will be, and the higher the costs to confront the issue will become. The health problems are accelerating, compounding, and spreading to other sectors of the society. Delays will incur high human and economic costs that will impose themselves on this generation and the next. To promote social stability, human development, economic prosperity and to save untold millions of lives, immediate action is required.

Comment 2: Recognize the transboundary nature of many health problems and develop regional responses.

Many of the infectious diseases taking such a toll on sub-Saharan African households represent regional, rather than just national, problems. Just as rivers that flow from one country to another and water resources must be managed regionally, so must diseases like HIV/AIDS, resurgent tuberculosis, and resistant strains of malaria. Even in the absence of social dislocations such as war, famine and large migrations of refugees which accelerate the cross border flow of disease, all of these public health problems are regional and cannot be contained within any set of conventional borders. Sector and regional alliances must be made and cross-border cooperation in fighting these diseases must be fostered and maintained.

Comment 3: Encourage and support innovative approaches by communities, health providers, and other sectors to promote public health.

Although a few specific public health policies and programs in selected countries in sub-Saharan Africa have been successes, it is difficult to avoid the conclusion that overall public health is in retreat on the continent. In some cases, effective and affordable tools do not yet exist; in other cases, and perhaps more often, tools do exist but have not been applied effectively. In either case, new approaches to confronting the public health crisis are needed. Both government agencies and non-governmental organizations must be encouraged to develop and implement innovative approaches to promote public health programs which mobilize and empower the communities in which they will be applied. It is only through widespread community participation that effective public health measures will be delivered to the people who have the greatest need. We believe that innovation in program development is necessary to find new and effective means to confront this challenge.

Addressing the public health crisis in sub-Saharan Africa will require acts of commitment from national leaders and regional institutions. It will also require major collaborative from donor nations and development banks. We hope the discussions emerging from the Partnership for Economic Growth and Opportunity in Africa Initiative will provide a forum for these issues to be discussed with the USG.

References

- Bhattacharya, A., et al. 1997. "Private Capital Flows to Sub-Saharan Africa: An Overview of Trends and Determinants," in Z. Iqbal and R. Kanbur (eds.) *External Finance for Low-Income Countries* (Washington: International Monetary Fund).
- Esrey, S. A., et al. 1991. "Effects of improved water supply and sanitation on ascariasis, diarrhoea, dracunculiasis, hookworm infection, schistosomiasis, and trachoma." *Bulletin of the World Health Organization* 69 (5): 609-21.
- Ettling, M., et al. 1994. "Economic impact of malaria in Malawian households." *Tropical Medicine and Parasitology* 45: 74-79.
- Findlay, R., 1996, "Modeling Global Interdependence: Centers, Peripheries and Frontiers," *American Economic Review* (May).
- Fischer, S., et al. 1998. "Africa: is this the turning point?" IMF Paper on Policy Analysis and Assessment. International Monetary Fund. Online. <http://www.imf.org/external/pubind.htm>.
- Gallup, J. L., and J. D. Sachs. 1998. "The economic burden of malaria." Center for International Development, Harvard University.
- Gupta, S., et al. 1998. "Public spending on human development." *Finance & Development* 35 (3). Online. <http://www.imf.org/external/pubs/ft/fandd/1998/09/gupta.htm>.
- MFI. 1998. "Malaria background information, May 1998." Malaria Foundation International. Online. <http://www.malaria.org/BGINFO.HTM#ECONOMIC>.
- Murray, C. J. L., and A. D. Lopez. 1996. *The Global Burden of Disease*. Global Burden of Disease and Injury Series Volume 1. World Health Organization.
- Rosen, S., and J. R. Vincent. 1999. "Household water resources and rural productivity in sub-Saharan Africa: a review of the evidence." HIID Development Discussion Paper No. 673. Cambridge, MA: Harvard Institute for International Development.
- Shepard, D. S., et al. 1991. "The economic cost of malaria in Africa." *Tropical Medicine and Parasitology* 42: 199-203.
- UNDP. 1991. *Human Development Report*. United Nations Development Programme, New York, NY, Oxford University Press.
- World Bank. 1994. *Better Health in Africa: Experience and Lessons Learned*. Washington, DC: World Bank.
- World Bank. 1997a. *Health, nutrition & population. Sector Strategy*. Human Development Network. World Bank, Washington DC.

World Bank. 1997b. *Confronting AIDS: Public Priorities in a Global Epidemic*. Oxford University Press. Online. <http://www.worldbank.org/aids-econ/confront/index.htm>.

World Bank. 1998. "World Development Indicators 1998." CD-ROM.

WHO. 1996. *Investing in Health Research and Development*. Report of the Ad Hoc Committee on Health Research Relating to Future Intervention Options. Geneva: World Health Organization.

WHO. 1999. "Maternal mortality fact sheet." Safe Motherhood Initiative, World Health Organization. Online. http://safemotherhood.org/init_facts.htm.

APPENDIX

No.	Recommendation	Lead Agency	In Cooperation With
Mobilize more resources for public health			
1	Swap debt for health	Ministry of Finance	International lenders
2	Declare war on infectious diseases	Entire government	Donor agencies/regional countries
3	Capture and mobilize domestic expenditures on health	Ministries of Health and Finance	Provincial, state, and district health system
Allocate public health resources more efficiently			
4	Create and fund a "Package of Essential Services"	Ministry of Health	WHO, UNICEF, and other public health institutions
5	Reallocate resources from expenditures for urban curative care to disease prevention.	Ministries of Health, Planning, and Finance	Multilateral and bilateral donors
6	Promote private sector provision of health services	Ministry of Finance and Ministry of Health	Whoever sets the rules for the private sector
7	Improve drug procurement procedures	Ministry of Health and Ministry of Finance (Customs and Excise Dept.)	Whoever regulates imports
8	Promote infrastructure investments that enhance public health	Ministries of Finance, Public Works, Planning, and Health	Donor nations/development banks
Summary Comments			
1	Recognize the public health crisis as a national issue	Entire government	Donor nations/development banks
2	Recognize the transboundary nature of many health problems and develop regional responses	Ministry of Foreign Affairs	Ministry of Health
3	Encourage and support experimentation and innovation by health providers from all sectors	Entire government with Ministry of Health key to changes in the health sector	Private sector, NGOs, donor agencies