

SCALING UP THE RESPONSE TO INFECTIOUS DISEASES



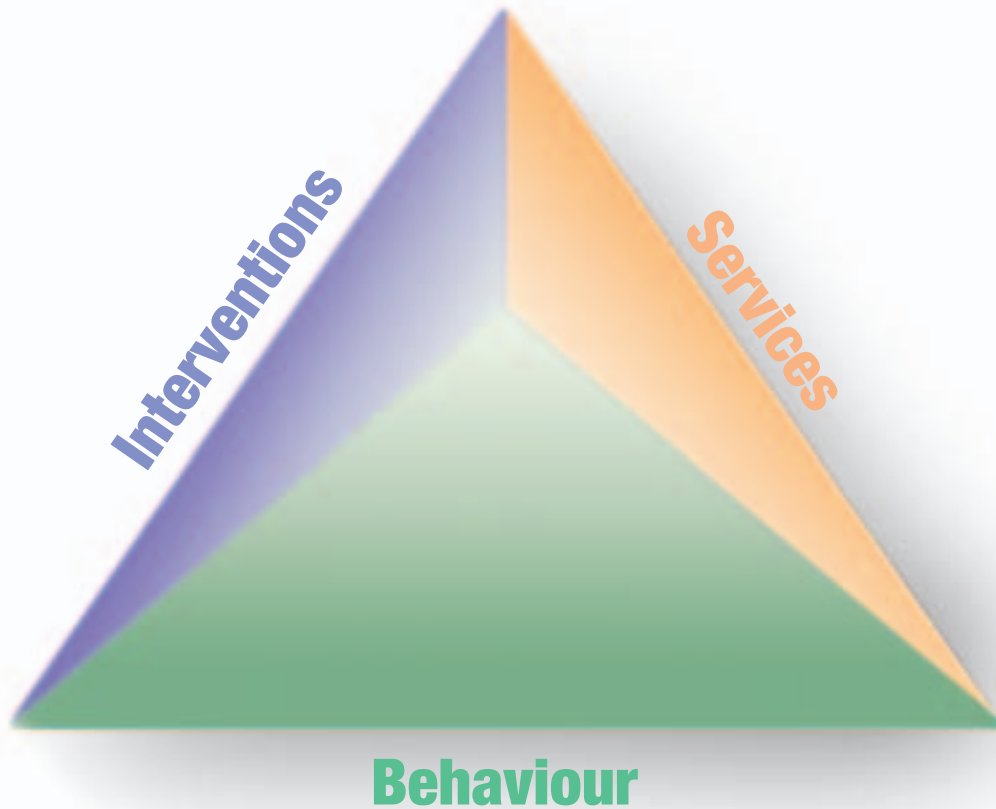
A WAY OUT OF POVERTY

REPORT ON INFECTIOUS DISEASES 2002



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Investing in Health for Economic Development

In December 2001, the Commission on Macroeconomics and Health presented the results of its two-year work to the World Health Organization in a publication titled *Macroeconomics and Health: Investing in Health for Economic Development*. The Commissioners present a new global blueprint for health that is both compassionate and cost-effective. Millions of deaths occur each year in the developing world due to conditions which can be prevented or treated. The Commission's outline a plan of action to save millions of these lives every year at a small cost relative to the vast improvements in health and increased prosperity.

The Report shows that just a few conditions are responsible for a high proportion of the avoidable deaths in poor countries — and that well-targeted measures, using existing technologies, could save around 8 million lives per year and generate economic benefits of more than \$360 billion per year, by 2015–2020. The aggregate cost of scaling up essential health interventions in low-income countries would be around \$66 billion per year, with the costs roughly divided between high-income donor countries and low-income countries. Thus, the economic benefits would vastly outstrip the cost.

Scaling Up the Response to Infectious Diseases: A way Out of Poverty takes up the Commission's challenge. It outlines how increased investment in health can be well spent, stressing how interventions, health system strengthening and behaviour change together can help achieve the goals we are setting ourselves.

This report takes forward the Commission's action agenda. It will help decision makers see how we can turn increased investment in health into concrete results.



JEFFREY D. SACHS
Chair

Commission on Macroeconomics and Health



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INTRODUCTION

This report is intended to provide a basic "map" of existing initiatives against HIV/AIDS, TB and malaria. It is also intended to provide the broad outlines of a single "road map" to scaling up efforts to control these diseases.

Today, perhaps for the first time in history, it is possible to launch a truly global response to the major infectious diseases that keep people in poverty, focusing initially on HIV/AIDS, tuberculosis (TB) and malaria. While effective prevention and treatment strategies have long been available for controlling these diseases, political will and social support are materializing to help the world go to scale in fighting these deadly epidemics.

Together, HIV/AIDS, TB and malaria claimed 5.7 million lives last year, and caused debilitating illness in many millions more. These were the lives of infants, young children, and young mothers and fathers in their most productive years.

Yet the high death toll from these infectious diseases is only part of the story. Ongoing ill-health is one of the main reasons why the poor stay poor. Infections lead to poverty, and poverty leads to infections. For every person who died, many more still lived on, but were reduced to poverty, their health and their lives affected by frequent bouts of illness.

With existing health knowledge and technology, it is possible to prevent the great majority of these premature deaths and reduce the suffering of many millions of people. World leaders and international health officials agree that it is realistic to use currently available interventions and strategies to reduce TB and malaria deaths by 50% and cut HIV infections among young people by 25% within the next decade. With the disease burden lifted, the poor can also gain greater control over their own health and lives, and improve their capacity to raise themselves out of poverty.

The control of HIV/AIDS, TB and malaria will require multiplying manifold the availability of medicines and supplies. It will depend on mobilizing legions of trained and well-equipped health professionals and volunteers who can bring essential health services within easy reach of hundreds of millions of households. It will demand an unprecedented deployment of communications and marketing strategies

to encourage healthy preventive behaviour among more than a billion people at greatest risk.

Profiling the killers

At the beginning of 2001, more than 36 million people lived with HIV/AIDS worldwide – 50% more than were predicted a decade ago. About 14 million women of child-bearing age are currently infected with HIV, the virus that causes AIDS, increasing the risk of children being born with HIV. Over 21 million people – including 4.3 million children – have already died of AIDS since the start of the epidemic, leaving behind a legacy of more than 13 million orphans.

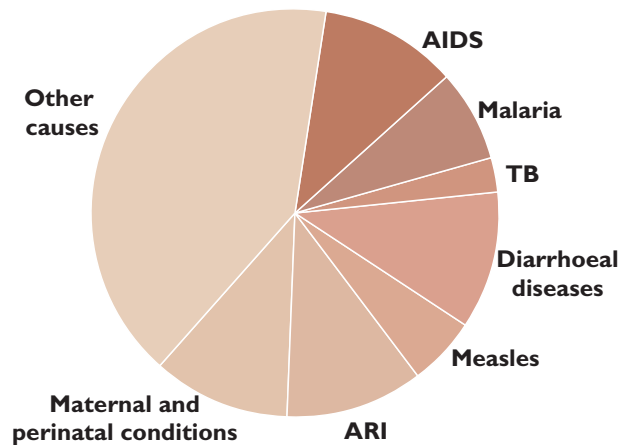
Ninety five percent of all HIV infections occur in developing countries, especially in sub-Saharan Africa, dramatically cutting life expectancy. In sub-Saharan Africa, HIV is deadlier even than war: in 1998, war killed 308 000 people in Africa, but AIDS killed more than 2 million. By the year 2020, unless there is a dramatic turn-around, AIDS will have caused more deaths than any other disease epidemic in history.

Two billion people worldwide are carriers of the tuberculosis bacillus, the germ that can lead to active TB. Every year, about 8.8 million people develop active TB and 1.7 million die of the disease; 99% of all TB sufferers live in developing countries. Most are poor people aged between 15 and 54 years. Between 2000 and 2020, nearly 1 billion additional people will be newly infected with TB, 200 million people will become sick, and 35 million will die of the disease, unless current efforts to control TB are greatly strengthened and expanded.

Because of their suppressed immune systems, people co-infected with HIV and TB are many times more likely to develop active TB. In several African countries, the number of TB cases has doubled or even trebled in the past decade, mainly as a result of the HIV epidemic. The number of peo-

The biggest killers of the poor

The majority of deaths among children and young adults (ages 0-44) in Africa and Southeast Asia are due to seven causes



Source: WHO/CDS

HIV/AIDS, tuberculosis and malaria – the basic facts, 2000

Disease	Deaths per year	New cases per year	Percentage in developing countries
HIV/AIDS	3 million	5.3 million	92%
Tuberculosis	1.9 million	8.8 million	84%
Malaria	More than 1 million	300 million	nearly 100%

ple co-infected with TB and HIV has already soared to over 10 million.

Malaria kills more than 1 million people a year – 3 000 deaths a day. Hundreds of millions of people – most of them children and pregnant women in sub-Saharan Africa – suffer acute attacks of malaria-induced fever, often several times a year.

Children are the main victims of malaria. During the year 2000, 906 000 children under the age of five succumbed to the disease. Malaria often acts together with malnutrition, respiratory infections and other diseases that prey upon the most vulnerable. Although insecticide-treated nets offer children a very high level of protection against malaria, less than 5% of those at risk sleep safely under them.

Women are also at particular risk. In malaria-endemic countries, pregnant women are at a much higher risk of contracting malaria. Malaria infection during pregnancy may cause maternal anaemia and lead to an increased risk of maternal death. Malaria in pregnancy also increases the risk of miscarriage and stillbirth. Babies born to mothers with malaria often have low birth weight, which adversely affects the health and development of the young child.

A beachhead against poverty and disease

The time is now come to mount a campaign against these three diseases and the unacceptable burden of death and suffering which they cause. We have the tools, but they are inadequately distributed. The benefits of ensuring success in this massive effort to scale up against diseases of poverty far outweigh the costs of their control.

Firstly, by targeting these diseases, we can **give direct help to the most vulnerable**, particularly the poor, the young and the weak. For many millions of people, especially the 1.2 billion people worldwide living in absolute poverty, poor health is a constant threat to survival. Those most vulnera-

ble to infectious diseases are infants and children below the age of 5; pregnant women and young mothers; and people in what should be their most productive – and reproductive years, – whose health is endangered by infections, malnutrition, weakened immune systems and environmental factors beyond their control.

Secondly, by controlling AIDS, TB and malaria, we can **remove significant obstacles that keep people in poverty**. Through recurrent bouts of illness, these diseases prevent adults from working and hence reduce the income and food available to families. Moreover, since deaths due to AIDS and TB occur mainly among young adults with dependent children, these diseases are creating a generation of orphans growing up in deprivation, lacking parental support and guidance, unable to complete even primary school and virtually condemned to a life of poverty.

These diseases also increase the cost of health care to poor families. Because of its chronic nature, HIV/AIDS is a particularly heavy drain on family finances: whenever a family member falls sick with an HIV-related illness, spending on medical treatment, drugs and traditional remedies rises dramatically. When cash runs out, precious assets such as cattle, land, bicycles and furniture are sold to pay medical bills. AIDS drives average households into poverty and condemns the poor to inescapable destitution.

Because TB also targets people in their most productive years (15-54), its economic impact on families is equally devastating. Approximately 20% - 30% of annual income may be lost if the household's breadwinner is struck down with active TB; and the income of 15 years will be lost if this person dies. Globally, the economic costs of TB to the poor are estimated to be US\$ 12 billion per year.

Thirdly, by controlling HIV/AIDS, TB and malaria, we can **prevent families from falling into poverty and decrease business costs** incurred through increased absenteeism, higher recruitment and training costs, and greater expenditure on medical care for employees. These





diseases significantly cut into the productivity of private firms and state enterprises, slowing national economic development. Likewise, infectious diseases contribute to unhealthy market conditions where people have less income as breadwinners no longer are able to support their families as a result of illness and death.

The economic fall-out from the AIDS epidemic is enormous, especially in sub-Saharan Africa. Agricultural production is being hit particularly hard. A sugar estate in Kenya, for example, reported a 50% drop in productivity between 1995 and 1997, combined with higher overtime payments for workers filling in for sick colleagues. Subsistence agriculture is also affected: a study in north-western United Republic of Tanzania found that a woman with a sick husband spent 60% less time on agricultural activities than normal. In Zimbabwe, maize production on communal farms fell by 54% between 1992 and 1997 because of illness and death as a result of AIDS.

Malaria has slowed economic growth in African countries possibly by up to 1.3% per year. Owing to the compounded effects of malaria over the past 35 years, Africa's overall gross domestic product (GDP) is estimated to be 32% lower, equivalent to a loss of US\$ 100 billion annually.

Fourthly, we can **stop losing further ground against drug-resistance**, which threatens to undermine our limited armory of low-cost drugs for the effective treatment of TB and malaria. In many parts of the world, current malaria treatments are losing – or have already lost – their potency owing to the increasing prevalence of drug-resistant parasites, and new treatments for malaria may be priced out of reach of the most needy. We still have a window of opportunity to make much progress against these diseases with existing drugs. But if we fail to make wide and efficient use of these medicines now, they are likely to slip through our grasp due to growing resistance.

Drug-resistant TB is on the rise, greatly increasing the cost of treatment. Multidrug-resistant (MDR) TB has already

been identified in over 100 countries and experts predict that more than 400 000 new cases of MDR-TB will develop each year. These MDR-TB cases can be up to a hundred times more expensive to treat than “regular” TB.

Fifthly, we can **reduce risks of disease spread as a consequence of population mobility**. With the increasing globalization of trade and travel infectious diseases pose a threat not only to the poor of developing countries, but to the populations of wealthy countries as well. Bacteria, viruses and parasites can easily cross borders, carried unknowingly by international travellers. In 2000, there were nearly 100 000 cases of TB in Europe and North America attributable to travel between countries.

Sixthly, we can **make progress against the most formidable childhood killers**. While childhood deaths from other major infectious diseases – such as measles and diarrhoeal disease – have fallen during the past two decades in tropical Africa, malaria mortality remains unchecked and has increased during the past decade. Likewise, the AIDS epidemic is cancelling out hard-won gains in child survival and development over the past few decades. In several African countries, AIDS has sent infant and under-5 mortality rates spiralling upwards from 2% of under-5 mortality in 1990 to 7.4% in 1999.

Seventhly, we can **prevent HIV from engulfing Asia and eastern Europe**. The AIDS epidemic is already the largest single cause of premature death among adults in sub-Saharan Africa and continues to spread rapidly in many other parts of the world. If we wait another decade before taking decisive action, the HIV/AIDS epidemic in China, India, large parts of central and eastern Europe and the Central Asian republics could surpass even the scale of the current epidemic in Africa, thwarting the prospects for economic development and poverty alleviation in these regions.

Finally, we can **strengthen health services** by investing now in a concerted global effort against these three major infectious diseases. For example, when more doc-

Geographical distribution of HIV/AIDS, tuberculosis and malaria

HIV/AIDS 70% of people living with HIV/AIDS are in sub-Saharan Africa, but the epidemic continues to spread throughout the world. In 2000 there were about 1.5 million people living with HIV in industrialized countries.

Tuberculosis 80% of all cases of tuberculosis occur in just 22 countries, most in Africa and Asia. There were 121 000 cases in industrialized countries in 2000.

Malaria 90% of the world's 300 million annual malaria cases and 97% of more than 1 million annual malaria deaths occur in sub-Saharan Africa. The majority of the remaining cases and deaths occur in Central and South America. Developed countries reported over 13 000 cases in 2000, imported by travellers.



tors, nurses and other health service providers are trained and posted to rural areas, they will not only confine their work to AIDS, TB and malaria, but will be there to meet many other health needs in the low-income communities they serve. Low-and middle-income countries endure a “double burden” of infectious diseases and noncommunicable causes of suffering and death. Infectious diseases such as measles, diarrhoea and pneumonia, often in combination with malnutrition, together claim the lives of more than 5 million infants and under-5 children every year. Complications of pregnancy and childbirth, together with malaria and poor nutrition, are responsible for over half a million maternal deaths each year. Social and behavioural challenges, such as the need to prevent maternal ill-health and malnutrition, and to improve sanitation, can be more easily addressed through a massive effort to develop national and local capacities to address HIV/AIDS, TB and malaria.

Building on existing successes

Many countries are already taking effective action to curb the infectious diseases which cause and perpetuate poverty. Through political commitment, effective partnerships and appropriate strategies, dramatic progress is already being made in some parts of the world against infectious diseases and other causes of death, disability and suffering among infants, children and mothers.

In Nepal, for example, the DOTS strategy – WHO’s recommended strategy for controlling TB – has been extended to 75% of the population, reducing the number of TB deaths from between 15 000 - 18 000 in 1994 and between 8 000 - 11 000 in 1999. In Peru, which previously had one of the highest TB infection rates in Latin America, expansion of the DOTS programme has almost halved TB incidence between 1991 and 1999.

In Viet Nam, as a result of using insecticide-treated nets, indoor spraying with insecticides and locally-produced

effective drugs, the death toll from malaria was reduced by 97% between 1992 and 1997.

In Uganda, where HIV infection rates were the highest in the world during the late 1980s, a broad-based campaign with strong political leadership has led to a reduction of HIV prevalence by 50% - 60% among pregnant women, and even larger reductions among groups of young people in the 1990s.

The principles underlying these successes must be applied as widely as possible. The great challenge now facing the global health community is to “scale up” successful interventions such as these, so that they reach the great majority of the poor within the shortest possible time.

Effective scaling up will require an extraordinary global effort, involving international agencies, government donor organizations, national and local governments, health professionals and development workers, nongovernmental organizations (NGOs), community groups, faith-based organizations, foundations, business leaders and private philanthropists. At country level, it must be based on government stewardship of resources, and linked to community participation in all aspects of planning and management of activities.

For all those involved, measurable goals have been set to evaluate the success of heightened international efforts to cut the toll of death and suffering from AIDS, TB and malaria. At the meeting of G8¹ and G77² leaders in July 2000, world leaders endorsed the following specific targets as proposed by United Nations agencies and a cadre of international health experts:

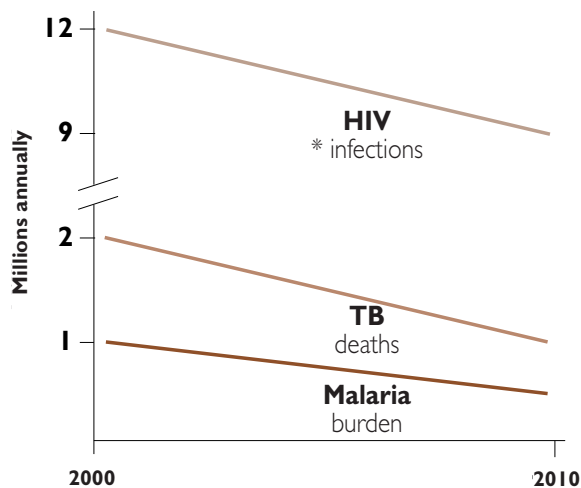
- **HIV/AIDS.** To reduce the number of newly-infected young people by 25% by 2010.
- **Tuberculosis.** To halve TB deaths and prevalence by 2010.

1. G8: group of seven industrialized countries and Russia

2. G77: group of seventy seven developing countries

The great challenge facing the global health community is to “scale up” successful interventions to reach the great majority of the poor within the shortest possible time.

Targets



Source: WHO/CDS

* number of young people infected with HIV

- **Malaria.** To reduce the malaria disease burden by 50% by 2010.

The UNGASS Declaration of Commitment of July 2001 also set additional major targets for HIV/AIDS. These are ambitious goals, and the time frame for meeting them is short given the increased urgency of curbing these three killers. As many more individuals and organizations become active in this global campaign – especially those not normally involved in health issues – a common strategy and vision of the way forward must be forged.

A road map for scaling up against diseases of poverty

For those who are just becoming involved in the fight against diseases of poverty, this report is intended to provide a basic “map” of existing initiatives against HIV/AIDS, TB and malaria. While there are many initiatives and success stories that could be cited in such a survey, this report highlights some of those which are most recent, innovative, extensive or successful.

It is also intended to provide the broad outlines of a single “road map” to scaling up efforts to control these diseases. While no single plan will suit every country, this report points toward models that can be emulated, and policies and initiatives that have yielded repeated success and that can be extended to provide direction for the emerging global movement against diseases of poverty.

Chapter 1 documents the interventions – existing medicines and tools, as well as prevention and treatment strategies – that have proved to be effective in responding to these three major diseases. Chapter 2 outlines how health services in developing countries can be strengthened and expanded in order to provide these interventions. Chapter 3 shows that even if well-equipped health services are available, the individual at risk of these diseases still faces a

choice of whether or not to adopt the required healthy behaviour and explores how healthy behaviour can be encouraged. Finally, in Chapter 4, the report examines how we can go to scale with our efforts to curb these three diseases, multiplying and extending successful models so that they can help protect the health, lives and incomes of millions more people around the world.

Each of the first three chapters is divided into three sections. Firstly, what resources are available – and what resources are required – for the challenges at hand? Secondly, what strategies have proved successful in making maximum, cost-effective use of these resources? Thirdly, what successful models exist that demonstrate how we can apply these strategies in the poorest conditions?

We already have the tools and knowledge to significantly ease the burden of HIV/AIDS, TB and malaria. What is lacking is the commitment to put them to work. If we can control these diseases, not only will we prevent millions of needless premature deaths, we will also be helping people to be in a better position to free themselves from poverty. By breaking the long-standing link between destitution and disease, we can make a historic contribution to promoting prosperity, social justice and human dignity.

