

HEALTH **A KEY TO** PROSPERITY

Success Stories in Developing Countries



Public Disclosure Authorized

Public Disclosure Authorized

Public Disclosure Authorized

Public Disclosure Authorized

HEALTH A KEY TO PROSPERITY

Success Stories in Developing Countries





This document includes examples of programmes supported by some UN funds, programmes and agencies. The principles and policies of each fund, programme and agency are governed by the relevant decisions of its governing body and each fund, programme and agency implements in accordance with these principles and policies within the scope of its mandate.

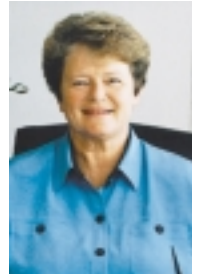
A Global Movement is Needed

Over the past decade, there has been a growing realization that poverty and health are very closely linked. We now know that a few diseases – such as HIV/AIDS, TB, malaria, childhood diseases, and reproductive health conditions– are directly biting into the economic growth of poor countries. And there is increasing recognition of the sheer difficulty faced by developing nations as they seek to counter these health threats.

As the success stories that follow show, it is possible to reverse the impact of infectious diseases and reproductive health conditions – even in the poorest countries. We know what works. A number of health interventions and tools can dramatically reduce deaths from the main killer diseases. They include insecticide-treated bednets to prevent malaria and malaria treatment for pregnant women and children, prevention and care programmes for HIV/AIDS, DOTS strategy to control TB, immunization to prevent measles, and antibiotics to prevent pneumonia deaths among children.

If we can take these interventions to scale, making them available worldwide, we will have in our hands a concrete, result-oriented, and measurable way of starting to reduce poverty. Meanwhile, intensified efforts are also needed to help accelerate the research and development of new tools and to push for reductions in the price of urgently needed medicines and vaccines.

To achieve this, we need a global movement that can make the control of infectious diseases one of the highest social and political priorities of this decade. We need a movement that stimulates people in all countries to find their own best way of carrying the initiative forward. And we need a movement that is inclusive, pluralistic, and positive, but at the same time doesn't lose its focus and determination. In short, we are asking for a massive effort.



Dr GRO HARLEM BRUNDTLAND
Director-General
WHO

An Historic Opportunity to Protect Children



For too long, poor communities have been engulfed in the cycle of poverty and disease. Poverty increases vulnerability to disease through limiting access to health care, information, education, safe water, sanitation, adequate diet, and through other violations of children's rights. And sickness perpetuates poverty. When illness strikes, people who are poor are driven deeper into poverty – unable to work and care for or educate their children. This situation is often aggravated by the lack of knowledge, skills, and resources necessary for the prevention and care of childhood diseases.

A recent World Bank Report revealed that malaria, pneumonia, diarrhoeal diseases, measles, HIV/AIDS, and tuberculosis in children are the largest contributors to the health gap between the poor and the rich. Nearly 70% of all deaths from communicable diseases occur in children under the age of fourteen. Rising infant mortality rates and the millions of children infected or orphaned by the AIDS epidemic, mainly in sub-Saharan Africa, are grim testimonies to the devastating impact of communicable diseases on families and society.

The success stories that follow are evidence that this vicious cycle of poverty and ill-health can be broken, even in some of the world's poorest countries, when children and families are at the centre of concerted action. This can be done by making affordable vaccines, drugs, and other interventions available to all children. But, most importantly, this must include empowering families and communities and ensuring their access to basic social services, including health care, basic education, nutrition, water, and sanitation. The success stories in this book, including those on preventing mother-to-child transmission of HIV/AIDS in Thailand and reducing child mortality in Benin through community child health programmes, are heartening illustrations of the potential of these strategies.

The world has the resources and the knowledge to significantly improve the lives of children and their families. What is now needed is the political commitment and action, at all levels of society, to build a global movement for children to ensure that every child's right to survival, dignity, security and self-fulfilment is achieved. Together we can build a better world for future generations.

CAROL BELLAMY
Executive Director
UNICEF

Delivering Global Commitments

The global fight against AIDS is almost 20 years old, but it has taken nearly all of those 20 years to learn one basic fact: an effective response against AIDS requires a sustained society-wide response in every quarter of the globe. It requires the energy of grass-roots mobilization to be matched with effective leadership from every level.

Twenty years' experience of the epidemic have demonstrated some key components of an effective response: strong leadership, partnerships, overcoming stigma, addressing social vulnerability, linking prevention to care, focusing on young people, and encouraging community involvement in the response. These components underpin the effective responses to the HIV epidemic that are highlighted in this report, from Senegal, Thailand, and Uganda.

HIV infection has a complex relation to poverty. HIV hits both rich and poor. Yet there is also a profound link between HIV/AIDS and poverty, a “negative synergy”, whereby HIV/AIDS creates and deepens poverty, making it harder to escape from. Poverty reduction is therefore an integral part of reducing vulnerability to HIV and of reducing the impact of AIDS. Poverty is now one of the main drivers of the global epidemic. The majority of people with HIV are in the developing world. Not only are economic inequalities reflected in the epidemic, they are made worse as energy is sapped from sectors that would otherwise be able to help economic progress.

The global movement in response to the epidemic is gathering momentum – creating new forces of solidarity and a heightened level of advocacy. However, one of the things we have learnt in the AIDS movement is that advocacy must be backed up with substance: real shifts in resource allocation, effective interventions for behaviour change, improved access to care, and greater distribution of the necessary goods and technologies – from pharmaceuticals to condoms.

UNAIDS stands as a committed partner in scaling up efforts against the communicable diseases that deepen poverty. The opportunity for action has never been greater, nor its need more urgent.



Dr PETER PIOT
Executive Director
UNAIDS

Partnerships for Health and Development



The links between health, nutrition, and poverty are well known. Poor and malnourished people are more likely to contract and develop communicable diseases, and are at higher risk of dying from resulting illness than are wealthier, healthier individuals. Communicable diseases also contribute to poverty. People who become ill are more likely to fall into poverty and to remain there than are healthier individuals.

Today the epidemics of HIV/AIDS, malaria, and tuberculosis are worsening, particularly in many developing countries that are witnessing a rapid erosion of the social and economic gains of the past three decades. Childhood infectious diseases remain the top killers worldwide and there has been little progress in reducing maternal mortality in poor communities. To stem these epidemics, we need to act collectively, and with greater urgency than ever before, to reach and involve the poor in building effective responses within and outside the health sector.

The success stories described in these pages demonstrate how far many nations have come in defining viable strategies to attack these public health threats and in scaling up to achieve a national impact. The stories illustrate many lessons. They demonstrate that success is possible even in resource-poor settings. They show that inputs such as drugs or vaccines, as important as they are to improving health, are not enough. Political commitment, capacity-building, human resources, education and communication, local adaptation, and community involvement are critical.

They also signal that strengthening and increased financing of health systems and social services in general can make possible a large-scale and more sustainable response.

The World Bank, working with governments, donors, NGOs, and the private sector is supporting countries to expand and scale up such successes. We engage in policy dialogue, and we employ traditional and new financial instruments and implementation models to assist governments to rapidly implement their disease control programmes and to further develop their health systems. We value a strong partnership to pursue public health and development objectives together and look forward to the progress that lies ahead.

JAMES D. WOLFENSOHN
President
WORLD BANK

Mobilizing International Action

Extracts from an address to the Development Assistance Committee, OECD, Paris, 2 October 2000

UNESCO has a key role to play in poverty alleviation and in translating into reality the goal of halving extreme poverty by 2015. UNESCO's fields of competence – education, science, culture, and communication – are critical for empowerment, for creating an enabling environment for people to participate actively in individual and social development through education, respect for human rights, cultural and historical sensitivity in policy design, environmental sustainability, and access to information for all.

It is vital to foster the development of an integrated concept of education, one that enables individuals to adapt to a rapidly changing social, economic, and cultural environment and to continue to learn throughout life. It is no longer enough to learn how to read, write, and count. Education must also result in improved social conditions for the poor.

The financial contribution by the world community to poverty reduction, education for all and health is a "make or break" factor. The responsibility for resource provision rests mainly with national governments in the South. A mutually reinforcing relationship must be developed between macro-economic stability and structural reform on the one hand, and growth and reduction of poverty and inequality on the other.

The international community must now mobilize itself, rethink the provision and modalities of aid, identify new financial resources and mechanisms and show that it is capable of practising what it preaches. A development process oriented towards poverty alleviation, education, and health should involve increasing both domestic resource mobilization in the South and private international capital flows. The international community should assist in the design of strategies that will help to increase savings, attract private investments, improve the efficiency of local financial systems, manage and reduce debt, improve public financial management and make the best use of official development assistance.



KOICHIRO MATSUURA
Director-General
UNESCO

Together, we can make a Difference



Guided by the principles of the 1994 International Conference on Population and Development (ICPD) Programme of Action and the ICPD review process (ICPD+5), UNFPA supports prevention of HIV infection as an integral component of reproductive health. The reproductive health approach to HIV prevention provides an appropriate entry-point for the implementation of HIV interventions. HIV/AIDS has never been higher on the international agenda, not only as a public health and development issue, but also as a security issue. In the worst-affected countries, the demographic impact of AIDS threatens to wipe out the hard-won gains of the last 30 years in terms of health status and life expectancy.

Girls and women are most vulnerable to HIV infection given the social and economic disadvantages they face in their day-to-day lives. Recent data show that there are an estimated 12 women living with HIV for every 10 men in many countries around the world. Experience shows that the burden of caring for entire families falls increasingly on the shoulders of women as AIDS continues to devastate families and communities. Adolescents are at high risk of HIV infection, as they tend to engage in risk-taking behaviour and their access to preventive information is generally limited. Further efforts must be made to empower women and girls and create a space for female decision-making in private as well as public life.

National goals and global imperatives are best met by satisfying the rights, needs and aspirations of individual children, adolescents, women, and men. The success stories included in this report serve as an important reminder of the power of committed and focused multilateral partnerships. There is still much work ahead of us. It is only through large-scale cooperation that we can meet the substantial health and development challenges, including that posted by the HIV pandemic.

DR NAFIS SADIK
Executive Director
UNFPA

C O N T E N T S

10 It is Possible to Control Infectious Diseases in Poor Countries

H I V / A I D S

- 16 Thailand achieves sustained reduction in HIV infection rates
- 20 Uganda reverses the tide of HIV/AIDS
- 24 Senegal contains the spread of HIV

T U B E R C U L O S I S

- 30 Peru set to halve new TB cases every 10 years
- 34 China halves TB deaths through DOTS
- 38 DOTS coverage and treatment success rate soars in India
- 42 Preventing TB deaths in one of the world's poorest countries

M A L A R I A

- 48 Viet Nam reduces malaria death toll by 97% within five years
- 52 Public-private partnership in Azerbaijan helps reverse malaria epidemic
- 56 Home as the first hospital
- 60 Employer-based bednets scheme prevents malaria among workers in Kenya

C H I L D H O O D D I S E A S E S

- 66 Mexico reduces childhood deaths from diarrhoeal disease
- 70 Pakistan acts to reduce child deaths from pneumonia
- 74 Malawi on course to eliminate measles
- 78 Tanzania prevents iron-deficiency anaemia in mothers and children in Zanzibar
- 82 Brazil widens access to health care
- 86 Bamako Initiative revitalizes primary health care in Benin

M A T E R N A L & P E R I N A T A L C O N D I T I O N S

- 92 Sri Lanka reduces maternal deaths
- 96 Mekong countries join hands in preventing HIV transmission to children
- 100 Bangladesh reduces neonatal tetanus death rates by 90%

104 A massive effort for better health among the poor

It is Possible to Control Infectious Diseases in Poor Countries



Seven Effective Tools

The following affordable medicines and tools are highly effective, when used correctly.

- **TB medicines** are 95% effective in curing TB. Cost: as little as US\$ 10 for a 6-month course of treatment.
- **ORT** is highly effective in treating dehydration caused by diarrhoeal diseases. Cost: US\$ 0.33
- **Antibiotics for pneumonia** are 90% effective. Cost: US\$ 0.27
- **Antimalarials** are 95% effective. Cost: as low as US\$ 0.12
- **Bednets** can reduce child deaths by 25%. Cost: as low as US\$ 4 for an insecticide-treated bednet.
- **Vaccines** are 85% effective in preventing measles. Cost: US\$ 0.26 per dose (including the cost of injection equipment).
- **Latex condoms** are highly effective in preventing HIV. Cost: US\$ 14 for a year's supply.

The evidence is clear. Infectious diseases can be controlled in the world's poorest countries. Throughout the world, communities have mobilized to use their knowledge, skills, and resources to reverse the devastating impact of killer diseases such as AIDS, TB, malaria, and diseases that kill children, infants, and mothers.

Uganda, Thailand, and Senegal are all national success stories in the fight against HIV/AIDS. Over a million lives have been spared from TB in the past decade due to the success of TB control efforts in countries such as China, India, Nepal, and Peru. Malaria has been turned back in Azerbaijan and Viet Nam and reduced in some parts of Kenya and Ethiopia. Childhood deaths and disability have been reduced in Bangladesh, Benin, Brazil, Malawi, Mexico, Pakistan, Tanzania, and Thailand. And maternal deaths have been reduced in a number of countries, including Sri Lanka.

Yet many of these achievements remain invisible and unrecognized by the world at large. As a result, many people remain sceptical about the possibility of controlling disease in poor countries. As this report shows, such fatalism is no longer scientifically defensible. Over the coming decade, it is possible to make huge gains against the major infectious diseases which have a disproportionate impact on the health and well-being of the poor.

Effective Tools are Available

It is estimated that as many as one in two malaria deaths can be prevented if people have ready access to rapid diagnosis and prompt treatment with antimalarial drugs – often costing no more than US\$ 0.12 for a course of treatment. Meanwhile, 25% of child deaths can be prevented if children sleep under insecticide-treated bednets at night to avoid mosquito bites. Yet in Africa, where an insecticide-treated bednet could be provided for as little as US\$ 4, only an estimated 1% of children sleep under bednets.

Millions of lives can be saved, and the threat of antimicrobial resistance reduced, if people with TB have access to DOTS, a 5-pronged strategy for TB

control. And millions of new cases of HIV can be prevented through well-targeted, low-cost HIV prevention and care strategies.

More widespread use of low-cost vaccines, vitamin A supplements, oral rehydration salts, and inexpensive antibiotics to treat pneumonia could prevent millions of child deaths. And a package for the Integrated Management of Pregnancy and Childbirth, ensuring good health care throughout pregnancy and childbirth, together with family planning, could prevent maternal and perinatal deaths as well as the lifelong disabilities due to complications of pregnancy – for as little as US\$ 3 a year per capita.

Keys to Success

Many low-income countries have shown that by using the available tools both widely and wisely the disease burden of infectious diseases can be reduced dramatically. But it is not easy, as the success stories that follow will show, especially in the over 20 countries worldwide that have less than US\$ 20 a year per capita to spend on health. Many countries have succeeded in spite of poverty. Malawi is set to eliminate measles in a country where only 3% of the population have access to adequate sanitation and Bangladesh has reduced neonatal tetanus death rates by over 90% at a time when most mothers in this country do not have access to a clean delivery.

In many cases, efforts to reduce the burden of disease have been driven by firm **political commitment** at the highest level. Examples include Uganda and Thailand where political leadership has been critical in the fight against HIV/AIDS and where every government sector has been involved. Another example is Peru, where the government has established TB control as a social, political, and economic priority.

Success has often involved new ways of working : entering into **partnerships** with the private sector, nongovernmental organizations (NGOs), and UN agencies – for the social marketing of condoms in Uganda and for malaria control in Azerbaijan. In some countries, governments are providing health services and commodities outside the formal health sector in an effort to broaden access to health care.

Six Keys to Success

- **Political will**
- **Partnerships**
- **Innovation**
- **Home as the first hospital**
- **Well-stocked supplies**
- **Measurable results**

In Senegal, mosques throughout the country are a focal point for HIV prevention efforts, counselling and support. In the United Republic of Tanzania (Tanzania) a school-based programme has improved the health of children infected with intestinal worms, and in Kenya, employers are supplying bednets to their workforce through payroll purchasing schemes.

Innovation, born out of a pragmatic approach to achieving results, has made all the difference in some countries. In Nepal, hostel accommodation is provided for TB patients from remote mountain areas to encourage compliance with treatment. In China, cash incentives are provided to local health workers for every case of TB they detect and cure. And in Thailand, the government worked with brothel owners to ensure 100% condom use – despite the fact that prostitution remains illegal. Meanwhile, in Senegal, religious leaders opposed to condom use have had the courage to refer people to other service providers.

Elsewhere, efforts to promote the **home as the first hospital** – in a bid to ensure rapid diagnosis and prompt treatment for malaria and diarrhoeal diseases, for example – have helped reduce child deaths in Ethiopia and Mexico. Training of health care workers and education of mothers have been key elements for success, as witnessed in Sri Lanka where high female literacy rates and midwifery training for health care workers have both been instrumental in preventing maternal deaths. In India, a massive training programme involving 100 000 health workers has helped ensure that treatment of TB can be provided within the community. Meanwhile, sex education for children and adolescents has been an integral part of successful HIV prevention programmes in Thailand, Senegal, and Uganda.

Well-stocked supplies, medicines, and other low-cost tools at the community level are essential. Without the availability of these lifesaving commodities, health workers are unable to do the job for which they are trained. In some cases, local production of drugs, vaccines, and other commodities has helped keep prices down. Examples include community production of bednets in Kenya, manufacture of tetanus toxoid vaccine in Bangladesh, and local production of antimalarial drugs in Viet Nam. In Mexico, supplies of oral rehydration salts were increased almost tenfold in the fight against childhood diarrhoeal deaths. Elsewhere, social marketing of condoms in Senegal and Uganda has been a key factor in preventing HIV.

Six Effective Interventions

- **DOTS** strategy for curing tuberculosis.
- **IMCI** (Integrated Management of Childhood Illness) for controlling pneumonia, diarrhoeal diseases, malaria, and measles.
- **Social Marketing of Condoms** for preventing HIV.
- **Roll Back Malaria** strategy for controlling malaria.
- **EPI** (Expanded Programme on Immunization) for the elimination of measles and neonatal tetanus.
- **IMPAC (Integrated Management of Pregnancy and Childbirth)** for reducing maternal and perinatal deaths.

Finally, an approach focused on achieving **measurable results** is central to most of the success stories that follow. In Senegal, Thailand, and Uganda, disease surveillance and monitoring systems have been essential in tracking the course of the HIV/AIDS epidemic and monitoring the effectiveness of interventions. Meanwhile, Malawi's success in controlling measles has involved efforts to improve surveillance and monitoring systems. And Viet Nam's dramatic success in reducing malaria deaths has been backed up by strengthened disease reporting and epidemic forecasting systems.

The Challenge is in Scaling Up

Much is at stake. Almost half of all deaths in developing countries are due to infectious diseases. And most of these deaths are among newborn babies, children under five, and young adults – among them parents and breadwinners.

Meanwhile, repeated bouts of illness and chronic disability keep children away from school and prevent adults from working or caring for their families – trapping families in a downward spiral of poverty, lost opportunity, and ill-health. While life expectancy edges ever higher in the industrialized world, children in some developing countries are not expected to live beyond 50. And for 3 million of the children born each year, life begins and ends before they are even a week old.

But this vicious cycle of poverty and ill-health can be broken. The success stories that follow are evidence that widespread and wise use of low-cost tools, coupled with new flexible ways of working, often through partnerships and across sectors other than health, can have a major impact, even in the poorest countries. What is needed now is a massive effort to replicate these successes on a global scale. Many other countries could achieve similar results if they could afford to massively increase their supplies of urgently needed medicines, vaccines, and other lifesaving commodities. However, in countries where health systems are both under-resourced and under-performing, critical efforts will also be needed to strengthen the capacity of the health system to identify and respond to the most urgent health needs, to ensure universal access to health care, to work with operational partners, and to develop effective systems for disease reporting and for the delivery of health supplies and services.



HIV/AIDS

H I V / A I D S

Prevention and care strategies for HIV

There is no cure for **AIDS**. However, a comprehensive package of prevention and care strategies – based on firm political commitment, can have a major impact on the burden and spread of **HIV/AIDS**.

Effective measures include:

- Accessible, inexpensive condoms
- Immediate treatment of other sexually transmitted infections (STIs)
- Voluntary counselling and testing (VCT)
- Prevention of mother-to-child transmission
- Promotion of harm reduction to reduce HIV infection in drug users
- Sexual health education in school and beyond
- Accelerating access to care, support, and treatment, including psychosocial support, home and community-based care, and innovative new partnerships to provide sustainable and affordable supplies of medicines and diagnostics.

During 1999, over 5 million people became newly infected with HIV – bringing to over 34 million the number of people living with HIV, the virus that causes AIDS. The HIV/AIDS epidemic has claimed almost 19 million lives over the past two decades – including almost 4 million children. And it has left over 13 million children orphaned in its wake.

Life expectancy and child survival rates have plummeted in some of the worst affected coun-

tries and the disease is today having a major impact on social and economic development.

Hardest hit is sub-Saharan Africa where 24.5 million people are now living with HIV. In Botswana, almost 36% of the adult population are infected.

Meanwhile in South Africa, where one in five of the population are HIV positive, over 4 million people are living with AIDS – more than in any other country in the world.

Thailand achieves sustained reduction in HIV infection rates

In Thailand, government determination to enforce 100% condom use in brothels and to ensure wide access to HIV prevention campaigns through schools, the mass media, and the workplace have been key factors in lowering HIV infection rates. The broad-based campaign has led to an increase in condom use, a reduction in visits to sex workers, and a dramatic reduction in HIV infection rates.



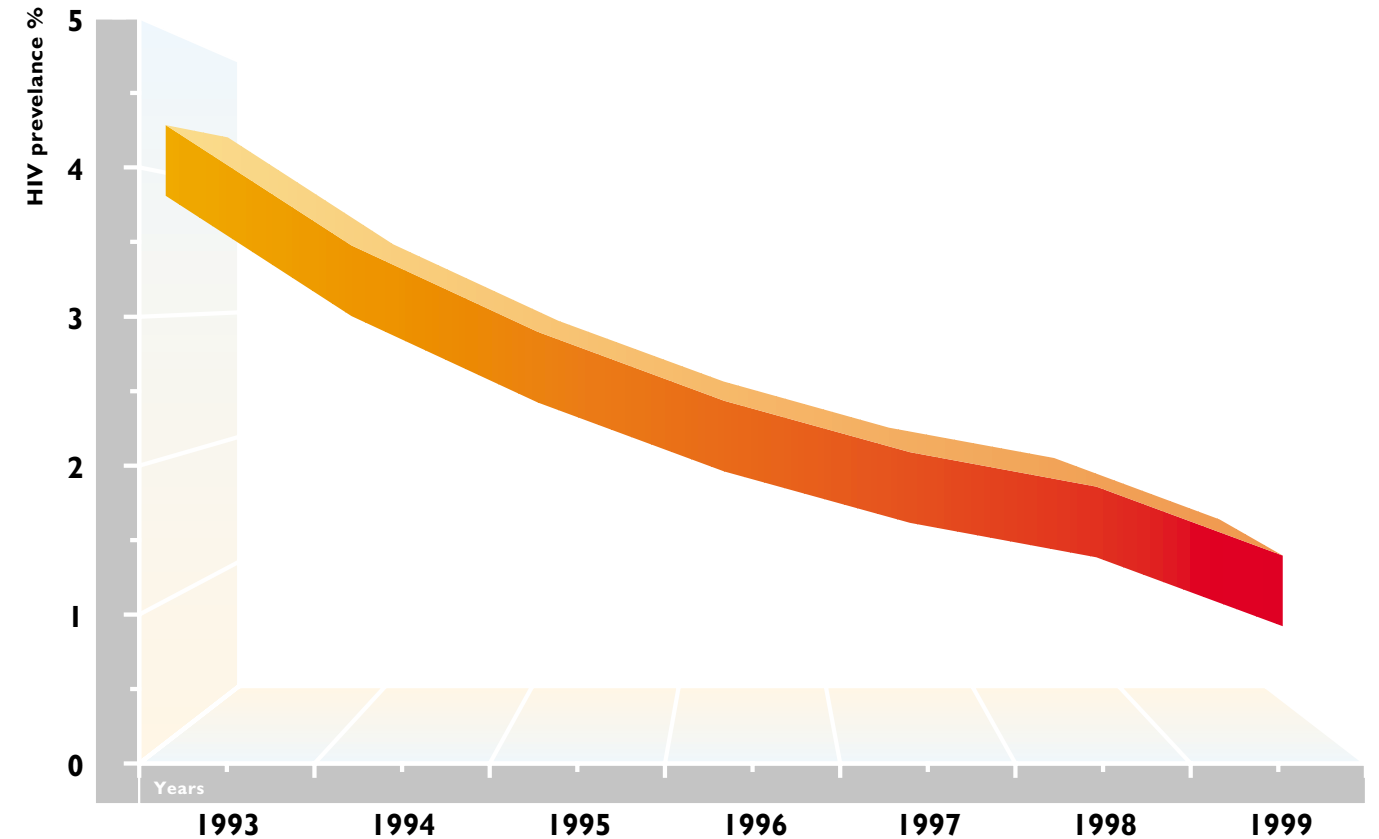
A SUSTAINED AND DRAMATIC REDUCTION in infection rates for HIV and other sexually transmitted infections has been achieved in Thailand over the past decade through government efforts to promote safe sex. From the early 1990s, the government worked in collaboration with brothel owners to ensure that the commercial sex industry did not become the main engine for a nationwide epidemic of HIV/AIDS.

As a result, Thai men are today far less likely to visit sex workers. And those who do are more likely to use condoms. Meanwhile, condom use has also increased both among young people and in the general population.

During the late 1980s, explosive epidemics of HIV among sex workers and injecting drug users threatened to spiral out of control – sparking off a major AIDS epidemic. In 1988, infection rates among injecting drug users rose alarmingly from zero to 30% over six months. A year later, the national HIV surveillance system revealed that in the northern city of Chiang Mai, 44% of sex workers were infected with HIV. There were fears that the HIV epidemic would seed itself in the general population – fuelled by the high proportion of men who visited sex workers.

In response, a new national HIV prevention programme was launched in 1991 with high level political commitment at both national and regional levels. Each key government ministry developed its own AIDS plan and

HIV prevalence among 21-year-old military conscripts in Thailand



Source: Armed Forces Research Institute of Medical Sciences, Thailand

budget and government funding for HIV/AIDS was stepped up. The government forged partnerships with NGOs, the business community, people living with AIDS, religious leaders, and community leaders – engaging them in dialogue and resource mobilization for HIV prevention and care programmes.

Although prostitution remains illegal in Thailand, the government took the pragmatic step of working with brothel owners to enforce 100% condom use in all commercial sex establishments. Under the scheme, condoms are distributed free to brothels, and sex workers are told to insist on condom use by all clients. Government efforts to police the scheme have included STI contact tracing and the use of government inspectors posing as would-be clients in brothels. Commercial sex establishments that fail to comply can be shut down.

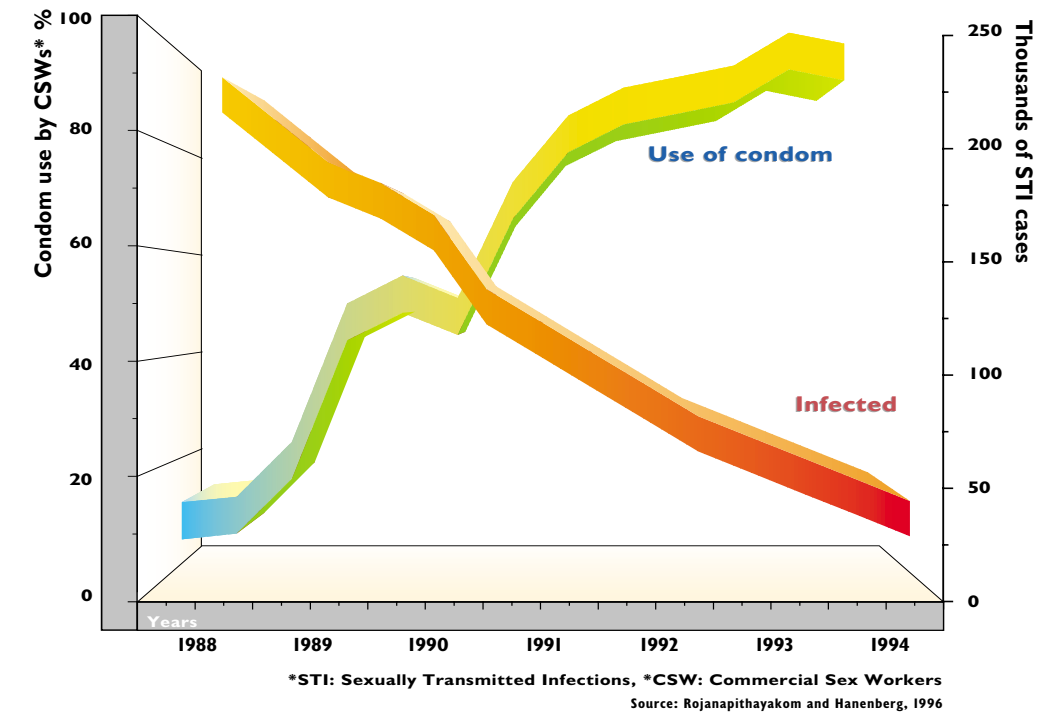
The scheme has been highly successful. Reported condom use in brothels increased from only 14% of sex acts in 1989 to over 90% by 1994. Over the same period, the number of new STI cases among men treated at government clinics plummeted by over 90%. Regular surveys among young male recruits in the Thai army reveal similar changes in sexual behaviour and infection rates. HIV infection rates among 21-year-old military conscripts peaked at 4% in 1993 before falling steadily to below 1.5% in 1997. By 1995, fewer recruits were visiting sex workers (down from almost 60% of recruits in 1991 to about 25% by 1995) and condom use had increased. These changes in sexual behaviour were paralleled by a decline in HIV infections and other STIs.

The HIV prevention programme also included a mass media campaign, workplace AIDS programmes, life-skills training for teenagers, peer education, and anti-discrimination campaigns. The media campaign urged respect for women and discouraged men from visiting brothels. And improved educational and vocational opportunities were made available for young women, especially in rural areas, to keep them out of the sex industry.

However, problems remain. Infection rates among injecting drug users remain high at 20%-45% nationwide. And in rural areas, HIV infection rates among sex workers have increased. In 1997, 20% of sex workers in rural areas were HIV-positive compared with only 7% in Bangkok. To make matters



Increasing condom use by sex workers and decline in STIs* in Thailand



worse, studies carried out in rural areas reveal that only 50% of men who visit sex workers consistently use condoms. And as risk behaviour increasingly shifts from commercial sex to unprotected casual sex, efforts will be needed to sustain reduced infection rates.

Over the past decade, Thailand's HIV prevention programme has been supported by an effective disease surveillance system which has succeeded in mapping the course of the epidemic. And it has also relied heavily on regular input from the behavioural information systems that were developed to monitor social and sexual behaviour patterns. Through its successful efforts to prevent high-risk sexual behaviour and promote safe sex, the government has demonstrated that it is possible to reverse the course of the epidemic nationwide within a relatively short period.

Uganda reverses the tide of HIV/AIDS

Uganda's success in reducing high HIV infection rates is the result of high-level political commitment to HIV prevention and care, involving a wide range of partners and all sectors of society. Same-day results for HIV tests and social marketing of condoms and self-treatment kits for sexually transmitted infections, backed up by sex education programmes, have helped reduce very high HIV infection rates.

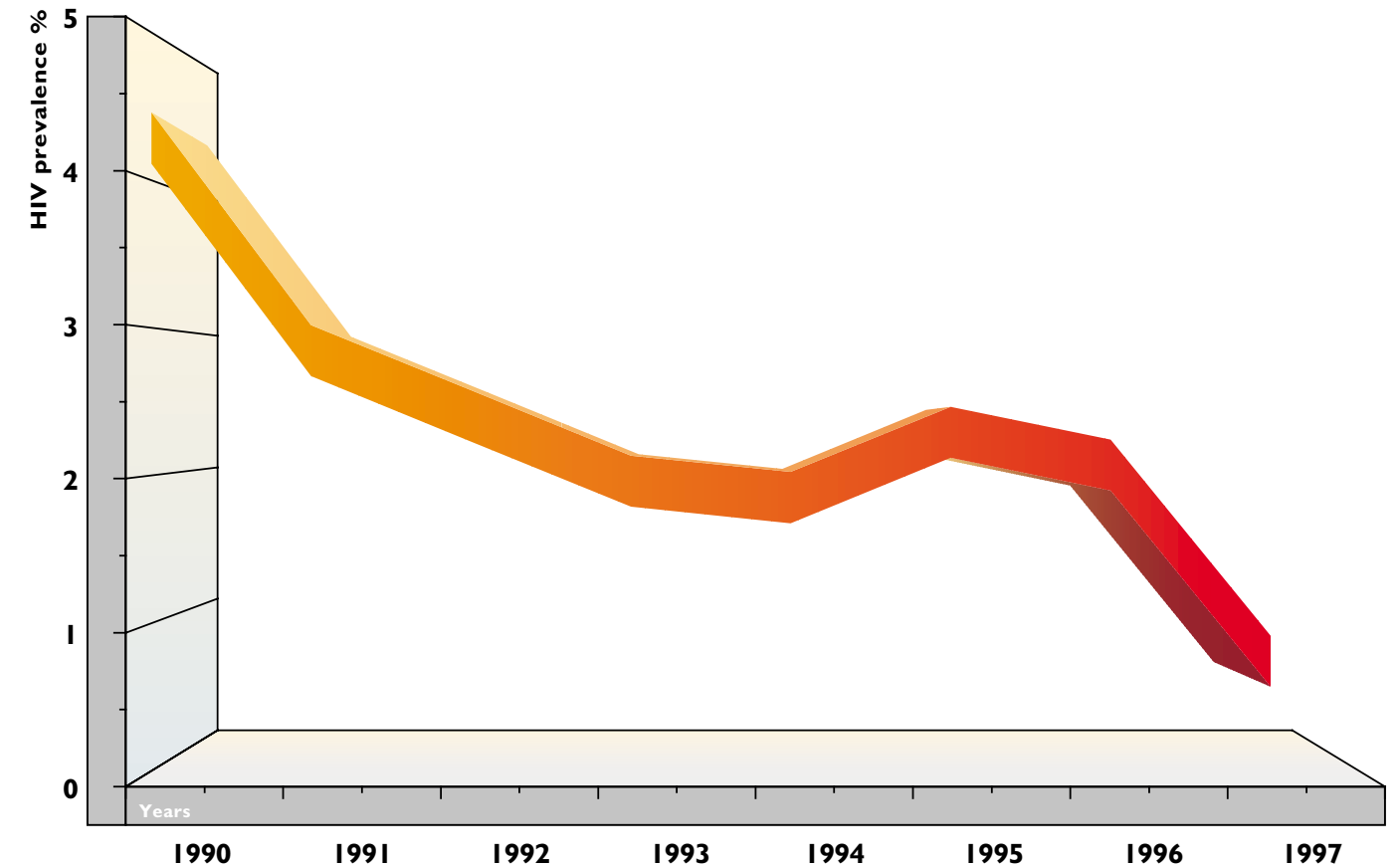


UGANDA, one of the first countries in sub-Saharan Africa to experience the devastating impact of HIV/AIDS and to take action to control the epidemic, is one of the rare success stories in a region that has been ravaged by the HIV/AIDS epidemic. While the rate of new infections continues to increase in most countries in sub-Saharan Africa, Uganda has succeeded in lowering its very high infection rates. Since 1993, HIV infection rates among pregnant women, a key indicator of the progress of the epidemic, have been more than halved in some areas and infection rates among men seeking treatment for sexually transmitted infections have dropped by over a third.

In the capital city Kampala, the level of HIV infection among pregnant women attending antenatal clinics fell from 31% in 1993 to 14% by 1998. Meanwhile, outside Kampala, infection rates among pregnant women under 20 dropped from 21% in 1990 to 8% in 1998. Elsewhere, among men attending STI clinics, HIV infection rates fell from 46% in 1992 to 30% in 1998.

Success in reducing the prevalence of HIV in Uganda is the result of a broad-based national effort backed up by firm political commitment, including the personal involvement of the head of state, President Yoweri Museveni. From the outset, the government involved religious and traditional leaders, community groups, NGOs, and all sectors

HIV prevalence rate among 13-19 year olds in Masaka, Uganda



Source: Kamall et al. AIDS 2000, 14: 427-434

of society, forging a consensus around the need to contain the escalating spread of HIV and provide care and support for those affected.

Sex education programmes in schools and on the radio focused on the need to negotiate safe sex and encouraged teenagers to delay the age at which they first have sex. Since 1990, a USAID-funded scheme to increase condom use through social marketing of condoms has boosted condom use from 7% nationwide to over 50% in rural areas and over 85% in urban areas. The social marketing scheme involved sales of condoms at subsidized prices or free distribution by both the government and the private sector. The scheme was also backed up by health education and other public information. Meanwhile more teenage girls reported condom use than any other age group – a trend reflected in falling infection rates among 13-19 year old girls in Masaka, in rural Uganda. And among 15-year-old boys and girls, the proportion who had never had sex rose from about 20% to 50% between 1989 and 1995.

Condom use is also being encouraged among men who seek treatment for sexually transmitted infections. A new innovative social marketing scheme to promote the use of an STI self-treatment kit (“Clear Seven”) has proved to be successful in treating STIs and preventing HIV infection. The kit, which contains a 14-day course of tablets, condoms, partner referral cards, and an information leaflet, is designed to improve STI treatment



rates, prevent over-the-counter sales of inappropriate treatments, encourage partner referral, and reinforce condom use. The distribution system relies on the use of small retail outlets which are normally licensed to sell over-the-counter drugs but not antibiotics. The Ugandan Government has waived these restrictions to promote sales of Clear Seven, marketed at the subsidized price of US\$ 1.35, and trained shopkeepers in the management of STIs. As a result, cure rates for urethritis have increased from 46% to 87% and condom use during treatment has more than doubled (from 32% to 65%).

Another innovation in Uganda was the launch in 1997 of same-day voluntary counselling and testing services. Up till then, clients had to wait two weeks for their HIV test results and up to 30% failed to return. Thousands of people who have taken advantage of same-day testing have since been recruited and trained as peer educators. So far, 180 000 people have been reached by the scheme and over a million condoms distributed.

In Uganda, as elsewhere in sub-Saharan Africa, AIDS has caused immense human suffering over the past two decades – setting back development and reducing life expectancy. Over 1.5 million children have been orphaned since the epidemic began – losing their mother or both parents to AIDS. Today there is hope that the tide can be turned at last.



Senegal contains the spread of HIV

In Senegal, social marketing of condoms, sex education campaigns, and improved treatment for sexually transmitted infections have helped keep HIV infection rates at a very low level.

The government mounted a rapid response to the threat of HIV/AIDS, working with religious leaders and about 200 NGOs in wide-ranging efforts to contain the spread of the disease.

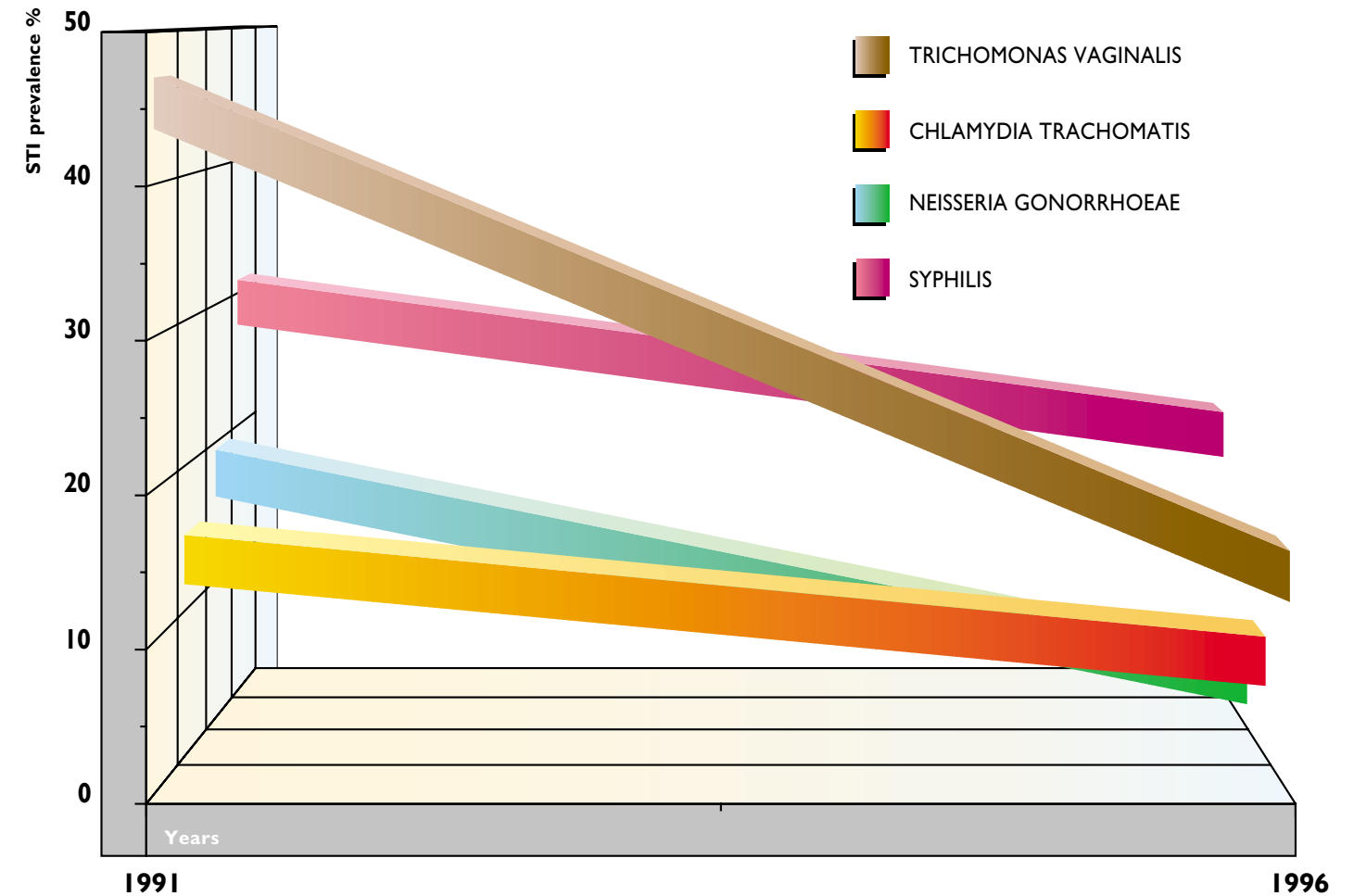


THE WEST AFRICAN COUNTRY OF SENEGAL is one of the few countries in sub-Saharan Africa to have succeeded in containing the spread of HIV from the outset. Since the first cases appeared in the country in the mid-1980s, infection rates have remained consistently low at under 2% – largely due to the success of a nationwide campaign to modify sexual behaviour. This has led to a massive increase in the use of condoms and a delay in the age at which teenage girls first have sex.

Senegal was one of the first countries to mount a rapid broad-based response to the looming threat of a full-scale epidemic of HIV. Political leaders were quick to recognize that efforts to change sexual behaviour were the key to preventing the spread of HIV. And that to achieve this, they would need the support of leaders of the country’s mainly Moslem and minority Christian religious communities.

Educational materials were designed and training sessions organized for religious leaders. The issue of HIV/AIDS became a regular feature of Friday service (Salat-al-Jumah) in mosques throughout Senegal, and religious leaders discussed the issue on TV and radio. Brochures were produced to ensure that AIDS education was incorporated into religious teaching programmes. And Christian religious leaders, including those of the Catholic faith, also developed a supportive approach to prevention – providing

Condom use prevents STIs among sex workers in Dakar, Senegal



Source: National AIDS Programme, Senegal

counselling and psychosocial support and advocating tolerance and care. Although the issue of condom promotion – especially outside marriage – remains an ethical minefield for the country’s religious leaders, they have had the courage to refer people to alternative service providers.

By 1995, about 200 NGOs were involved in HIV prevention and care services in Senegal, together with women’s groups with a membership of about half a million. HIV prevention was included in sex education programmes at school and outreach services were provided for those outside the school system.

Within this supportive climate, prevention efforts have been targeted to both high-risk groups and to the wider population. Sex workers – who, in Senegal, must be registered and undergo regular health checks – were urged to promote condom use among their clients. Many of the sex workers established support groups to safeguard their health in the face of AIDS. Prevention efforts were also targeted to men who regularly visit sex workers and to regular suppliers of casual sex. Weekly markets were visited as well as venues frequented by transport workers or migrant labourers – both high-risk groups for HIV infection. Meanwhile, voluntary counselling and testing services were made available throughout Senegal.

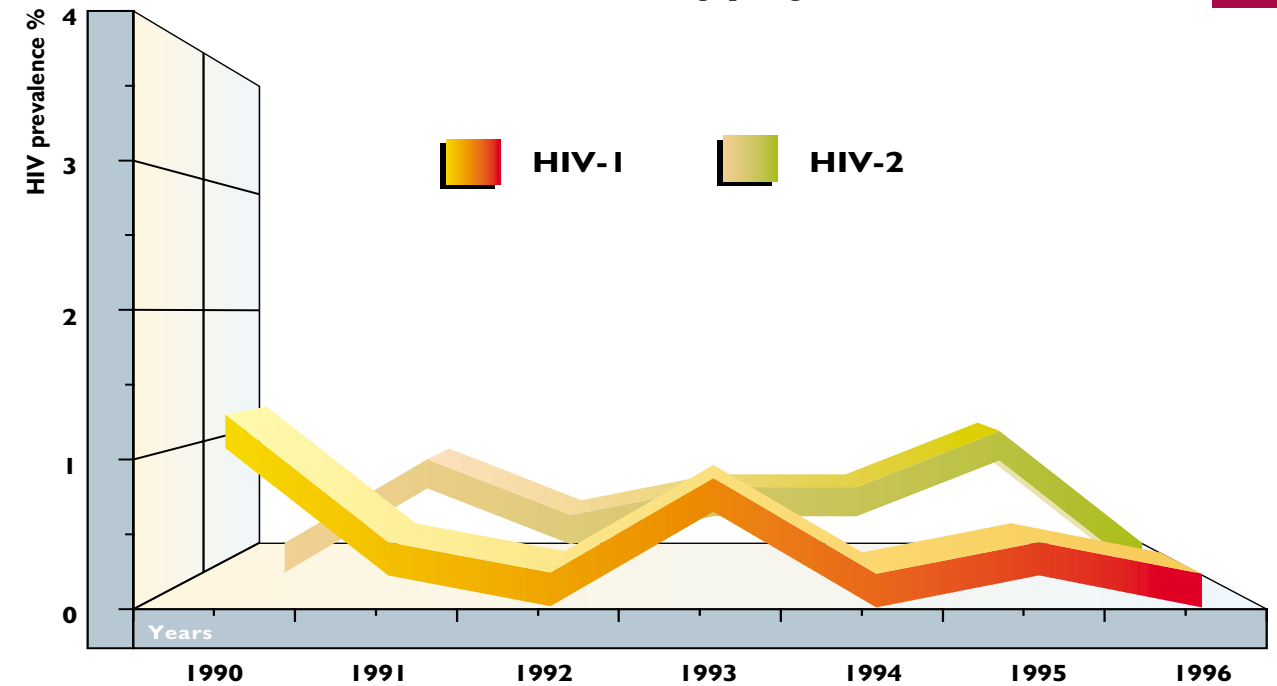
Education campaigns were backed up by social marketing of condoms and concerted efforts to improve STI treatment services. The number of condoms distributed skyrocketed from 800 000 in 1988 to over 7 million by 1997. Condom use by men during casual sexual encounters rose from under 1% before the AIDS epidemic began to 68% by 1997. Meanwhile, in a 1998 study of condom use by sex workers, 99% reported using a condom with their most recent new client and 97% with their most recent regular client. In addition, 60% reported using condoms with men who were not clients.

HIV prevention efforts have also had an impact on the age at which teenage girls first have sex. In 1997, most Senegalese women in their early 20s did not have sex before they were 19 or older – three years later than their mothers’ generation.

The widespread change in sexual behaviour has contributed to a marked decline in the prevalence of sexually transmitted infections – a key risk factor



A broad-based response keeps HIV prevalence low among pregnant women in Dakar, Senegal



Source: National AIDS Programme, Senegal

for subsequent infection with HIV. However, sex workers remain one of the most vulnerable groups. While less than 7% of sex workers in Dakar are infected with HIV, in some areas in the south of the country, as many as one in five sex workers have been found to be HIV-positive.

From the outset, the Senegal Government has made AIDS a health and development priority, with a particular emphasis on HIV prevention activities targeting youth and women. Since 1988, the government funding for AIDS has grown from US\$ 100 000 a year to US\$ 750 000 today. And Senegal is among the first countries in Africa to have established a national programme for STI control that is integrated into regular primary health care services. However, continued vigilance will be needed if Senegal is to maintain its low level of HIV infection rates.

TB

TUBERCULOSIS

TB kills 1.7 million people every year. Of these, almost half a million people are co-infected with HIV. One in three of the global population – about 2 billion people – have latent TB infection, but only about 10% of them will go on to develop the disease.

TB is spread by infectious droplets – through coughing, sneezing, or spitting. It thrives in conditions of poverty and overcrowding. A person with active TB can infect an average of 15 people a year.

Every year there are about 8 million new TB cases and the poorest and most vulnerable are at highest risk. The disease strikes people during their most productive years. Three out of four deaths occur between the ages of 15 and 54.

DOTS

Millions of TB deaths could be prevented through the widespread use of DOTS, an inexpensive strategy for the detection and treatment of TB. The strategy can detect and cure TB even in the poorest countries. In 1997, the average treatment success rate worldwide was almost 80%. However, less than 25% of people who are sick with TB are treated through the DOTS strategy.

DOTS is a 5-pronged strategy for TB control involving:

- government commitment to sustained TB control
- detection of TB cases through sputum smear microscopy among symptomatic people
- regular and uninterrupted supply of high-quality TB drugs
- 6-8 months of regularly supervised treatment (including direct observation of drug-taking for at least the first two months)
- reporting systems to monitor treatment progress and programme performance.

While DOTS has been shown to be successful in many different settings worldwide, the effectiveness of this strategy is facing two new challenges: the spread of multidrug-resistant TB (MDR-TB) and the co-epidemic of TB/HIV. To address these challenges, WHO and its partners have established two initiatives: DOTS-Plus for MDR-TB and proTest for TB/HIV.

DOTS-Plus is a pilot strategy to address multidrug-resistant tuberculosis (MDR-TB), defined as resistant to at least isoniazid and rifampicin, the two most powerful TB drugs. DOTS-Plus includes the five elements of the DOTS strategy and in addition takes into account specific issues that need to be addressed in areas where there is a relatively high prevalence of MDR-TB. The aim is to assess the feasibility and cost-effectiveness of treating MDR-TB with these second-line drugs in resource-limited settings.

proTest, a new initiative in sub-Saharan Africa, is promoting voluntary counselling and testing for HIV as an entry point for a range of HIV and TB prevention and care interventions. Two-thirds of the people living with HIV worldwide are in sub-Saharan Africa and over 90% do not know they are infected. The region accounts for 70% of all co-infections with TB/HIV .

Peru set to halve new TB cases every 10 years

High-level political commitment to TB control in Peru has produced one of the most successful DOTS programmes in the world. On current trends, the number of new TB cases in Peru could be halved every 10 years. Diagnosis and treatment are provided free of charge and low-income families receive food packages to encourage compliance with treatment.



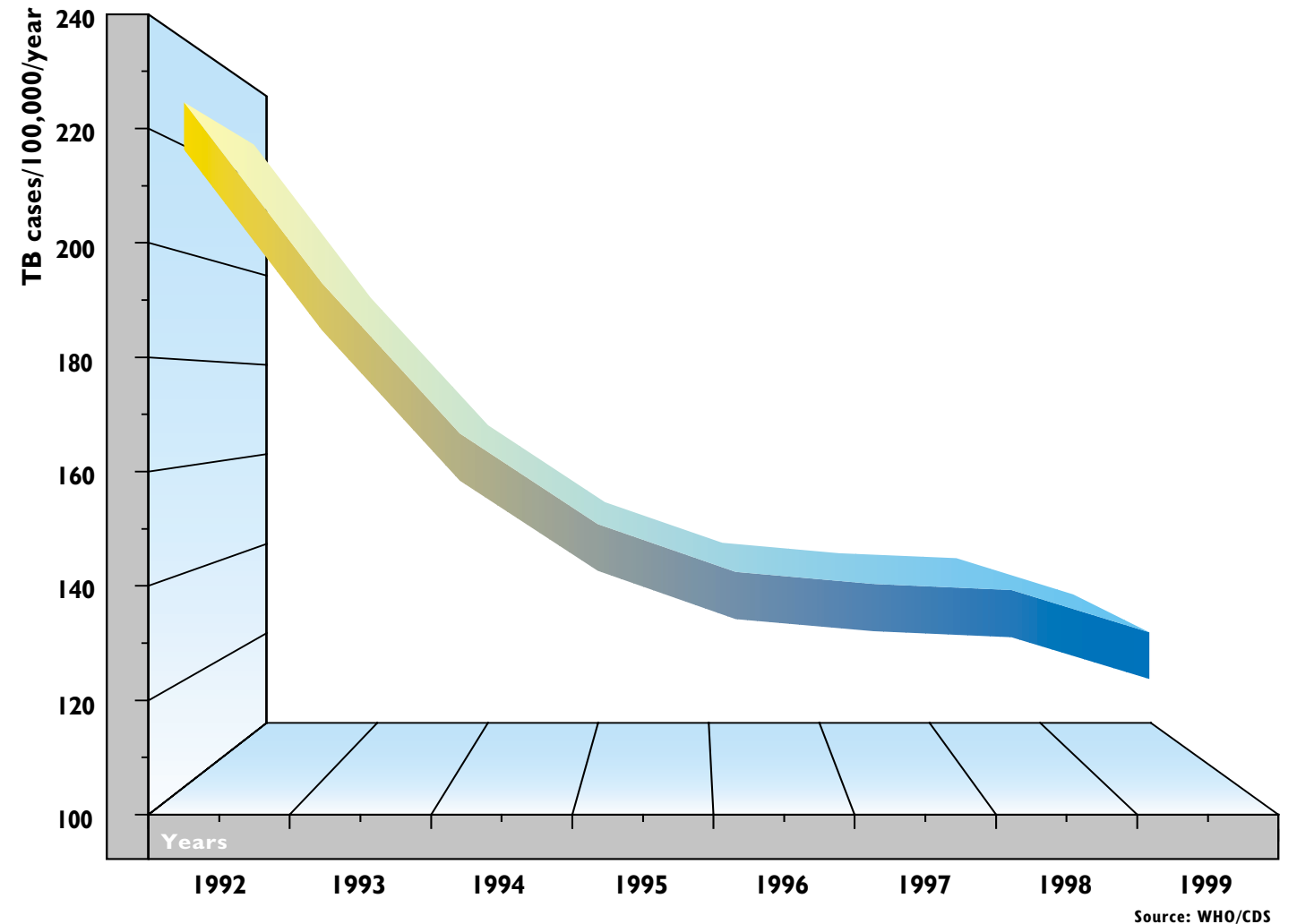
ONE OF THE WORLD'S MOST SUCCESSFUL TB programmes, the nationwide programme in Peru, has provided the first evidence that widespread use of DOTS prevents new cases of TB. New research shows that the decline

in the incidence of TB in Peru almost doubled between 1991 and 1999 through the implementation of DOTS – preventing at least 70 000 cases and deaths. If this trend continues, the incidence of TB in Peru could be halved every 10 years.

Peru is one of only a handful of high-burden countries to have met the WHO targets for TB control of 70% case detection rates and 85% cure rates. The country has one of the highest TB incidence rates in the Americas and is among the 22 countries accounting for 80% of the new TB cases occurring worldwide each year. Peru accounts for only 3% of the population of the Americas but has 15% of its TB cases.

Before the DOTS programme was launched in Peru in 1990, only 50% of people diagnosed with TB were able to get treatment. And of those, only half were cured. Drugs were in short supply, record systems non-existent, and health workers overworked and demoralized. Inflation was soaring and a newly elected government was negotiating to end a guerilla war that had killed thousands and destroyed much of the country's infrastructure, including many of its health centres. This was highlighted in 1991,

DOTS reduces pulmonary TB cases in Peru





when a three-year-old boy achieved unwanted celebrity as the last case of polio in the Americas. He caught polio after his local health centre was destroyed by guerillas – preventing childhood immunization.

Peru's incoming government recognized that TB control was a social, political, and economic priority – increasing the TB budget from US\$ 600 000 to US\$ 5 million a year. With high-level political commitment, adequate funding for drugs, and dynamic leadership, the new DOTS programme in Peru had a head start. Today, TB diagnosis and treatment are provided free of charge, drug financing is sustainable, and the programme has become a model for training managerial staff from other Latin American countries. Drugs, equipment, and other supplies are purchased and distributed at the central level. Food packages are provided for low-income families as an incentive to comply with treatment and funding has been provided to establish patient and family support groups. In sparsely populated remote areas such as the Amazonas jungle and high plateaux, treatment delivery is adapted to the needs of the patient to ensure access and completion of treatment. The treatment comprises initial daily administration of drugs followed by twice-weekly drug therapy. All drug doses are directly observed to ensure compliance.

By 1997, the entire population was covered by the DOTS programme and almost 90% of patients were being cured. And by 1998, an estimated 94% of TB cases were being detected. The number of health centres participating in the programme soared from under 1000 in 1991 to over 6000 by 1999. And as efforts to detect new cases intensified, the number of laboratories capable



of carrying out sputum smear tests rose from about 300 in 1989 to over 1000 by 1999. As efforts to improve diagnosis were stepped up, there was a sharp increase in the number of cases notified between 1990 and 1993. Since then, the number of new cases has steadily declined.

Peru is the first of the 22 countries with a high TB burden to systematically address the problem of multidrug-resistant TB. Since 1997, about 800 patients with chronic TB have been treated with the WHO standardized treatment, with good results. Treatment costs for chronic TB cases are far higher at about US\$ 2500 a patient. However, funds have been made available as a result of overall savings in treatment costs due to the drop in TB cases nationwide. In addition, about 80 patients with multidrug-resistant TB have received specialist individualized treatment through a Harvard University project. WHO is monitoring this project so that the experience can be applied to other countries.



China halves TB deaths through DOTS

The DOTS programme in China, the largest DOTS programme in the world, prevents about 30 000 deaths a year. Over 90% of patients treated are cured. Treatment is provided free of charge and village health workers are paid a bonus for every TB case they identify and for every patient they cure.

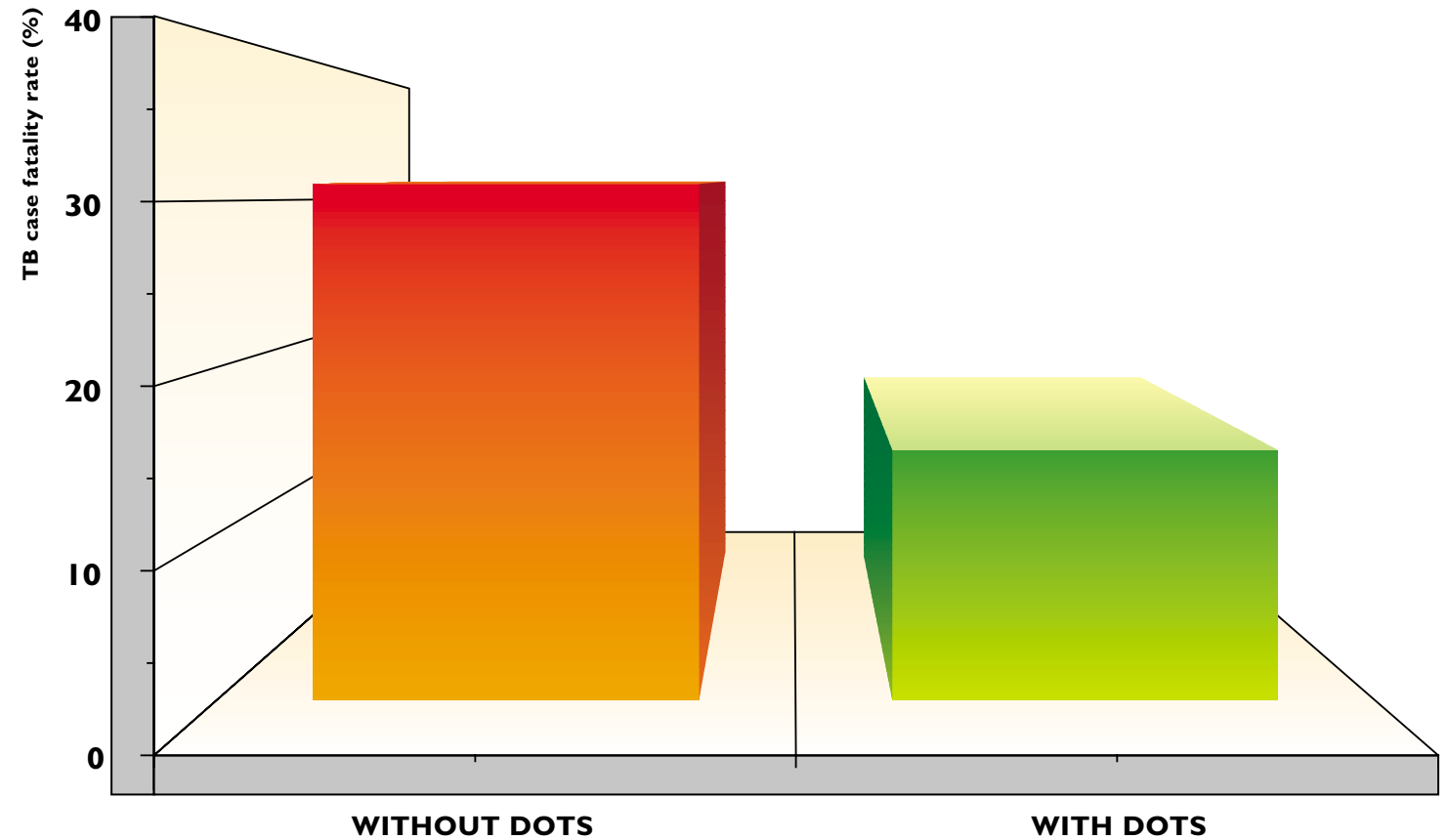


IN CHINA, the world's largest DOTS programme – serving over 700 million people – is today preventing an estimated 50% of all TB deaths in areas covered by the programme. New research, based on data from the first seven years of operation, has revealed that the programme saves about 30 000 lives a year.

The DOTS programme, funded through a US\$ 58 million World Bank loan and matching funds from the Chinese Government, is one of the most successful DOTS programmes in the world. Among the TB patients treated, over 90% are cured. Over the past eight years, more than half a million infectious TB cases have been successfully treated.

Progress has been rapid and dramatic. In 1990, tuberculosis accounted for one in two of all deaths from infectious diseases in China. A nationwide survey found that an alarming six out of every 1000 people had some form of TB. Of these, about 25% were infectious. Many could not afford the treatment costs or defaulted on treatment when they could no longer meet the cost of drugs. Of those who started treatment, less than half were cured. The remainder continued to spread infection – each with the potential to infect up to 15 people a year. Some developed multidrug-resistant forms of the disease which are extremely difficult to cure and can inflate treatment costs 100-fold.

DOTS prevents TB deaths in China



Source: WHO/CDS
International Journal of Epidemiology 2000, 29

In 1991, after a review of China's national TB programme by WHO and the World Bank, the government launched a series of pilot projects involving the use of DOTS. The trial involved people living in urban areas near Beijing as well as rural areas in Hebei province. Expensive and all too often ineffective hospital-based treatment was jettisoned. In its place came the new DOTS programme – providing village-level treatment through the supervised use of a cocktail of four inexpensive drugs. Diagnosis and treatment were made available free of charge and village health workers paid a bonus for every TB case identified and for every patient certified to be cured. The health worker was responsible for storing the drugs and monitoring each patient to ensure they took the correct dose of drugs at the right time. In addition, the health worker was responsible for organizing periodic sputum checks in a laboratory to monitor progress and verify eventual cure.

Spurred by the success of these pilot projects, which notched up a 94% cure rate, the DOTS strategy was extended to 13 of China's 31 provinces in 1992. Treatment involves a 6-month course of drugs to be taken under supervision every other day. Drugs are obtained on the international market at competitive prices – about US\$ 20 for a 6-month course of drugs – supplies are centralized, and treatment is free. However, in provinces not covered by the DOTS programme, drugs are bought locally, quality is often poor, prices inevitably higher. And patients are normally required to pay for the full cost of medical treatment and drugs. It is not yet clear how the Chinese Government will address these disparities as it considers the future of the DOTS



programme, and its possible extension nationwide, after the World Bank funding comes to an end in mid-2001.

Despite the outstanding success of the DOTS programme in treating TB and preventing deaths in the provinces it serves, the needs remain as great as ever in other provinces. In this vast country of 1.2 billion people, tuberculosis still claims more lives than any other infectious disease. Over 400 million people have been infected with the TB bacillus. Every year, 1.4 million people develop active TB and over a quarter of a million people die from it. Today as China's DOTS programme enters its final year of World Bank funding, there is a critical need to sustain the DOTS strategy and to expand it to cover the entire country. For the millions of people who remain infected with TB throughout China, universal access to DOTS is long overdue.



DOTS coverage and treatment success rate soars in India

In India, which accounts for 30% of the global burden of TB, the DOTS programme is undergoing massive expansion as treatment success rates double and death rates fall. Government commitment, community involvement, and partnerships have all been key factors in the success of the DOTS programme in India.



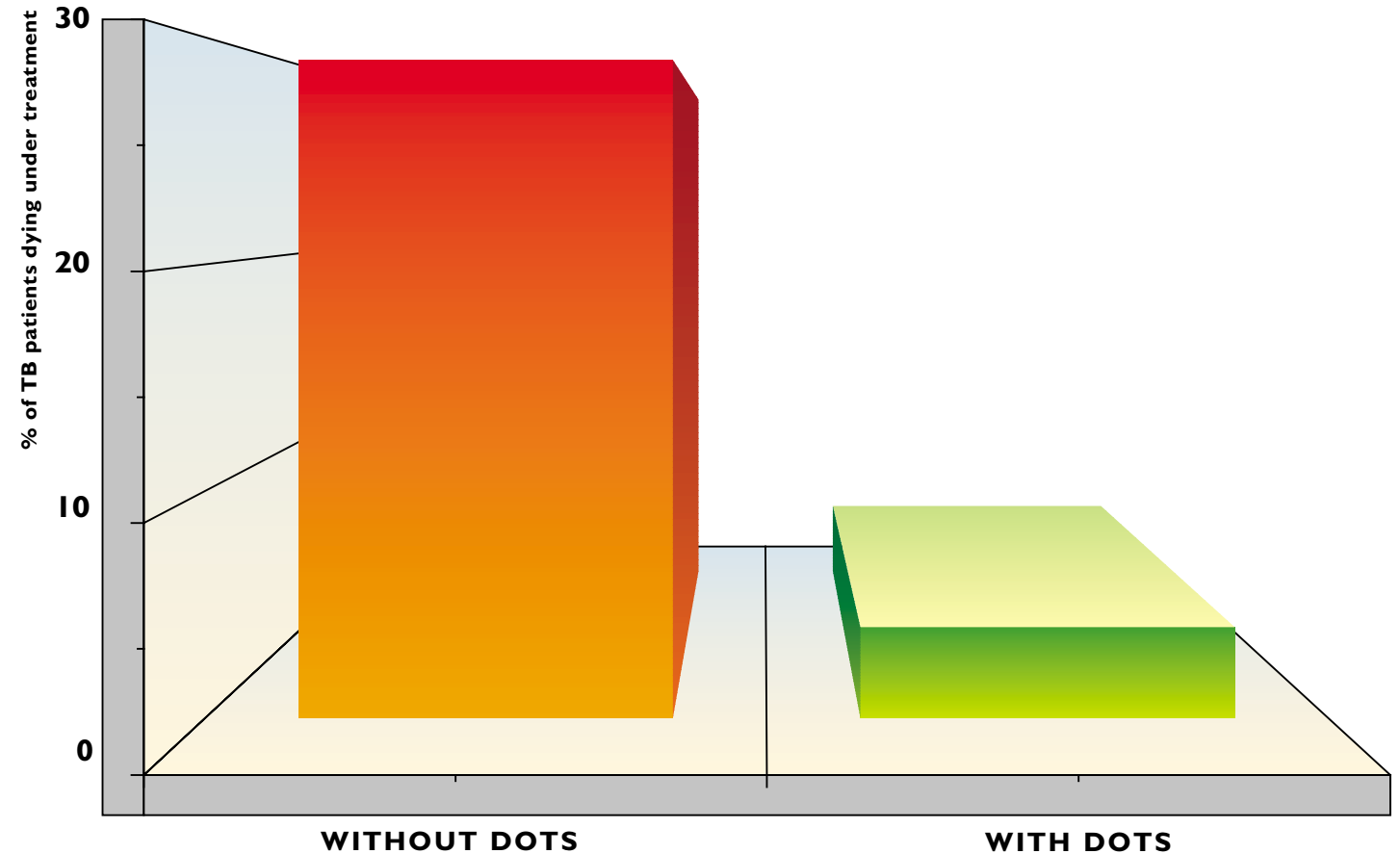
A MASSIVE EXPANSION of TB treatment using DOTS is today under way in India. By the end of 2000, one in four of the population – over 250 million people – will be covered by the strategy. By the end of 2002, it is planned that half the country will be covered. Eventually, it is hoped that the entire population of over one billion will have access to DOTS.

Up until late 1998, only 2% of the population were covered by DOTS. By early 1999, the number had soared to over 120 million and the numbers have been rising ever since.

The logistics involved in such rapid large-scale expansion were considerable. Over 10 000 doctors had to be trained, 2000 laboratory technicians, and 100 000 allied health workers. An additional 500 staff were employed. Almost 3000 microscopes had to be purchased and enough TB drugs to treat over 400 000 patients. Meanwhile, hundreds of thousands of technical documents had to be finalized and printed. Any future expansion will have to be phased to ensure that drug supplies, training, supervision, and monitoring can all be guaranteed.

The stakes are high. India accounts for about 30% of the global burden of TB. An estimated one in two of the adult population are infected with the TB bacterium. Every year, two million people develop active tuberculosis – more than in any other country in the world.

DOTS prevents TB deaths in India



Source: WHO/CDS



And about 450 000 die from it – more than the total deaths from AIDS, malaria, and tropical diseases combined.

Launched in 1993 with a series of successful small-scale pilot projects, the DOTS programme has shown continued impressive success rates. A recent analysis of the impact of the programme found that 80% of cases were successfully treated – twice as many as in the previous TB programme. Death rates among infectious patients treated within the programme were 4%, compared with a rate over seven times higher in the non-DOTS programme.

India's DOTS programme is mainly financed through a US\$ 142 million low-interest loan from the World Bank, with an increasing proportion of the costs already being met by the national and state governments. Treatment is supervised by health workers, community volunteers, traditional birth attendants, and community or religious leaders. Community workers supervise treatment for patients with limited access to a health centre. Additional staff are provided to serve difficult mountainous, tribal, and urban areas.

In order to maintain the uninterrupted supply of drugs throughout the treatment period, each patient is allocated an individual box at the outset containing the full course of treatment. This helps ensure that no patient has to stop treatment because drugs are not available, even in the event of a break in the drugs supply chain.



Ironically, India was one of the seedbeds for the global DOTS strategy, but it was many years before the idea took root there. In the 1950s, the Tuberculosis Research Centre in Chennai (formerly Madras) demonstrated that treatment observation is both necessary and feasible in the community, using intermittent treatment. In the early 1960s, India demonstrated that most TB patients did not need to be in hospital. In Madras, even destitute people living on the streets in slum areas were successfully treated with a regular supervised course of TB drugs. Meanwhile, the National Tuberculosis Institute in Bangalore demonstrated that, with minimal training and regular supervision,



technicians working at the periphery could carry out sputum smear microscopy – enabling this to become the primary tool for diagnosis of TB.

Today, as India establishes the second largest DOTS programme in the world (after China), the wheel has turned full circle. But there is still a long way to go before DOTS is available country-wide.

Preventing TB deaths in one of the world's poorest countries

In Nepal – one of the poorest and least accessible countries in the world – 75% of the population have access to DOTS. Treatment success rates more than doubled between 1994 and 1999 and the programme prevents thousands of TB deaths a year. This achievement is the result of government commitment, support from a wide range of partners, and the use of innovative ways of ensuring access to DOTS – especially in remote areas.



IN THE MOUNTAIN KINGDOM OF NEPAL – one of the poorest countries in the world – almost half of the over 20 million population are infected with TB. Of these, up to 90 000 people have active TB and there are 44 000 new cases of the disease every year.

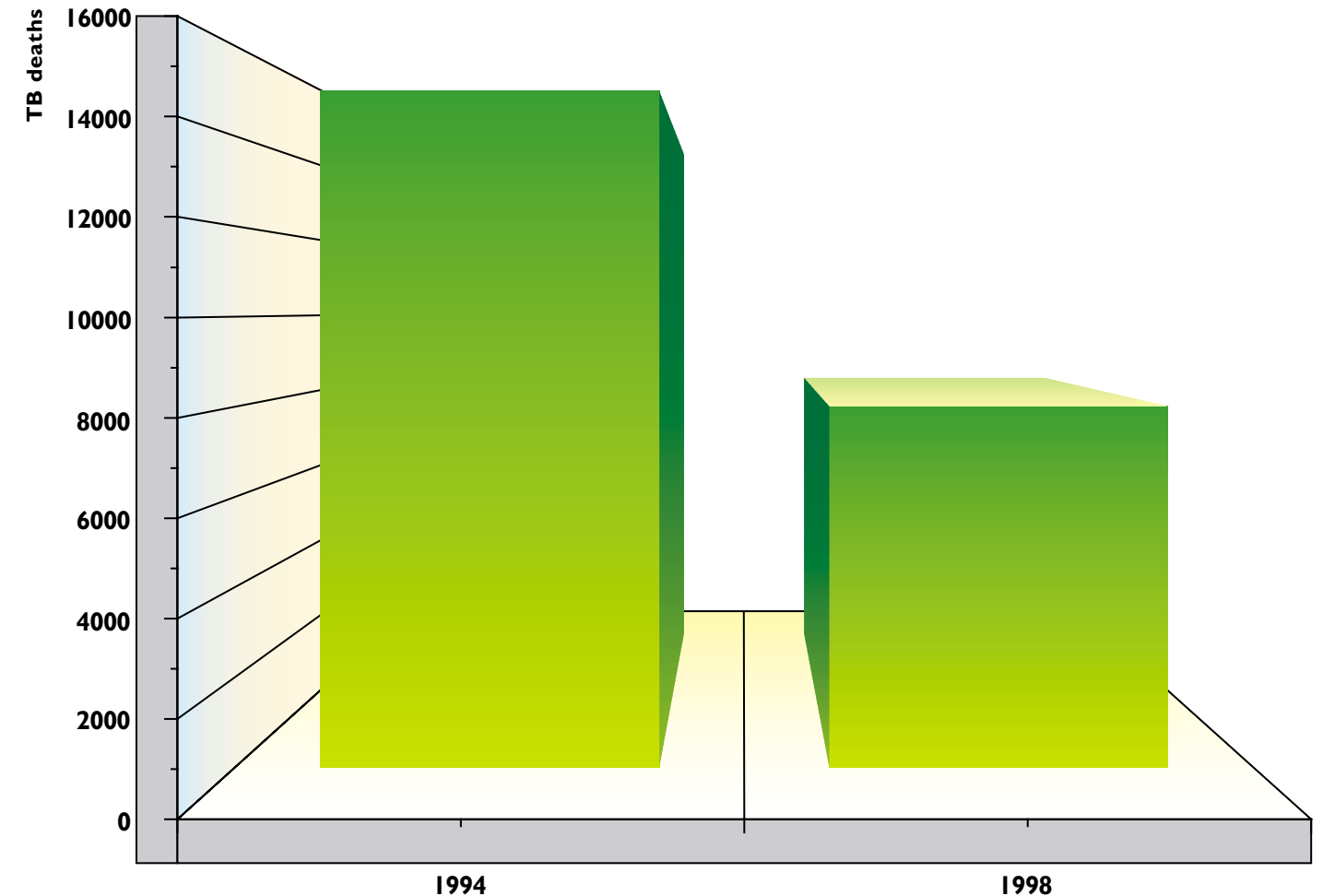
Yet today, following a rapid expansion in access to DOTS, the Government of Nepal is succeeding in preventing thousands of TB deaths a year. The number of people dying from TB has plummeted from an estimated 15 000-18 000 in 1994 to about 8000-11 000 today.

Launched in 1996 with four pilot projects, the DOTS programme has been extended to reach 75% of the population today. Treatment success rates have more than doubled from 40% in 1994 to over 88% in 1999 – a treatment success rate that was maintained throughout the four years of programme expansion. Meanwhile, case detection rates, another measure of success, have surged from 30% in 1994 to 67% in 1999, just short of the WHO target of 70% case detection.

The programme has benefited greatly from government commitment, community support, and assistance from a range of both international agencies and NGOs. In three out of the five regions covered by DOTS, NGOs provide advice and support services for government efforts, including training.

But success has not been easy and many hurdles remain

DOTS reduces TB deaths in Nepal



Source: NTP/Nepal



before DOTS can be extended nationwide. Much of Nepal is remote mountain and hilly terrain and many areas are sparsely populated – making drug distribution and treatment supervision extremely difficult. Drugs are distributed from the central level to regional stores and from there supplied to the district, usually by vehicle or plane. From there, the drugs have to be carried by bike or on foot to some treatment centres. In some areas, additional sub-health posts are used as DOTS-providing TB subcentres in an effort to extend coverage. Patients can be treated there and only have to go to a health centre for occasional sputum checks to monitor progress.

In eastern Nepal, hostels have been established in some districts for TB patients living in remote hill districts. People are encouraged to stay in the hostels for the first two months of treatment to ensure that the initial treatment period is supervised. Meanwhile the Government of Nepal is working with researchers to investigate the feasibility of community volunteers and family members supervising DOTS in remote hilly areas.

Efforts are also under way to encourage private sector doctors to refer TB patients for DOTS treatment or to establish DOTS centres in the private sector. The approach is flexible, the main aim being to ensure all TB patients



have access to DOTS. Regular meetings are held with private practitioners to discuss the DOTS programme and encourage an exchange of information. Meanwhile, a clinical manual on DOTS treatment has been produced for use by doctors.

Other concerns include an increase in the number of people co-infected with HIV and TB (currently almost 2% of TB cases) and an increase in the incidence of multidrug-resistant forms of TB (over 1% of TB cases).

Today, efforts are continuing to expand DOTS coverage to the entire



population. The aim is to ensure that for every 100 000 people in Nepal there is a DOTS treatment centre within the primary health care system, supported by a microscopy centre for diagnosis and treatment monitoring. It is estimated that almost 60 000 TB deaths will be prevented by the DOTS programme in Nepal over the next five years.

MALARIA

Malaria kills over a million people a year – mainly young children. Most deaths occur in sub-Saharan Africa, where the disease accounts for one in five of all childhood deaths. Women are especially vulnerable to malaria during pregnancy, when the disease can lead to life-threatening anaemia, miscarriages, and the birth of premature, low birthweight babies.

More rapid and effective treatment of malaria with antimalarial drugs could prevent malaria

deaths. Meanwhile, many child deaths from malaria can be prevented through the widespread use of low-cost insecticide-treated bednets. But only an estimated 1% of African children today sleep under a bednet at night.

One fifth of the world's population is at risk of malaria – mostly in developing countries. Malaria acts as a major brake on development in the poorest countries – accounting for millions of days of lost productivity and missed schooling.

Malaria control strategy

The Roll Back Malaria (RBM) partnership is committed to halving the global burden of malaria by 2010.

The strategy for improved malaria control includes:

- access to rapid diagnosis and treatment at village/community level
- preventive treatment for pregnant women
- multiple prevention measures (including insecticide-treated bednets and vector control)
- a focus on mothers and children – the highest risk groups
- better use of existing malaria control tools
- research to develop new medicines, vaccines, and other tools
- interventions such as the Integrated Management of Childhood Illness (IMCI) to reduce child deaths from malaria
- improved surveillance to improve epidemic forecasting and response.

Viet Nam reduces malaria death toll by 97% within five years

Government commitment to malaria control in Viet Nam, largely through the supply of free insecticide-treated bednets and the use of locally produced, high quality antimalarial drugs, has reduced the malaria death toll by 97% within five years.

The concerted drive against malaria has involved major investment in training and disease reporting systems, the use of mobile teams to supervise health workers in malaria-endemic areas, and the mobilization of volunteer health workers.

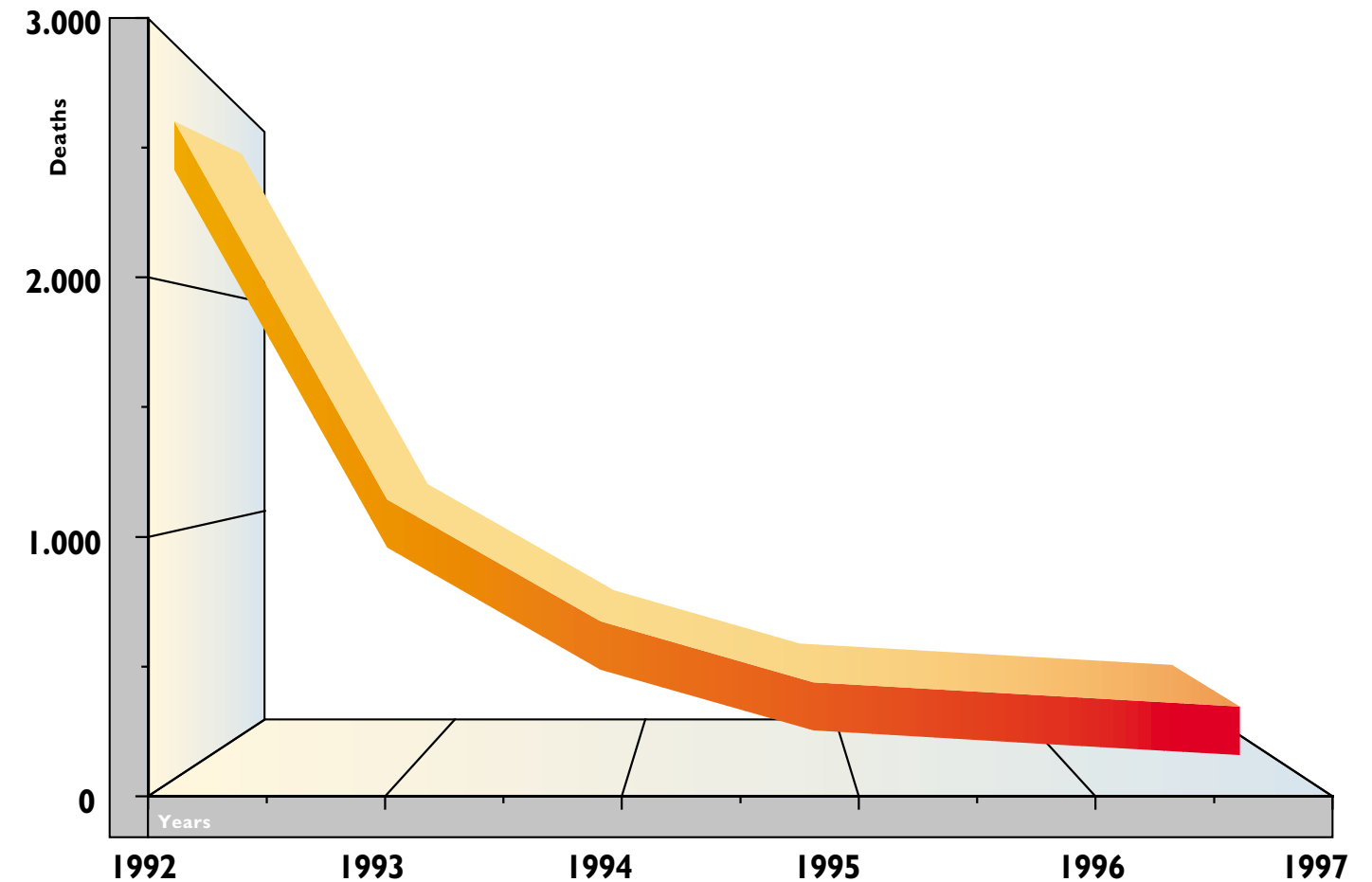


A CONCERTED DRIVE AGAINST MALARIA IN VIET NAM – largely through the country-wide provision of insecticide-treated bednets, indoor spraying with insecticides, and the use of locally produced high quality drugs – has had a dramatic impact on malaria deaths and cases. Over a five-year period from 1992-97, the death toll from malaria was reduced by 97% and the number of cases fell by almost 60%. Meanwhile, epidemics of malaria declined by over 90%, with only 11 small outbreaks recorded during 1997.

A decade earlier, the prospects for malaria control were far from promising. Primary health care and malaria control networks were weak and malaria control was ineffective in many areas. The country was in the grip of an economic recession, donated supplies of insecticide had dried up, and migrant workers were carrying malaria into areas where it had once been eliminated. In 1991 alone, there were 144 epidemics of malaria. Over one million people were affected. To make matters worse, the drugs used to treat malaria were rapidly losing their effectiveness. Resistance to first-line malaria drugs was reported in all southern provinces and in some northern provinces as well. Malaria threatened to spiral out of control.

Then in the early 1990s, the Vietnamese Government took advantage of an upturn in the economy – increasing its investment in malaria control and identifying the drive

Free treatment & insecticide-treated nets reduce malaria deaths in Viet Nam



Source: National Malaria Control Programme, Viet Nam

against malaria as a national priority. Coordination of malaria control efforts was stepped up and village health care networks improved. There was a major investment in training and supervision and mobile teams were set up to supervise health workers in malaria-endemic areas. Volunteer health workers were mobilized at community level. Disease reporting and epidemic forecasting systems were strengthened and supported by 400 mobile teams.

The first major breakthrough was the development and manufacture of a “new” drug – artemisinin – to treat severe and multidrug-resistant cases of malaria. The antimalarial drug, extracted from the indigenous Thanh Hao tree, had been used in traditional Chinese and Vietnamese medicine for centuries. It was rediscovered by Chinese scientists in the 1970s. In Viet Nam, collaboration between industry and researchers led to local production of high quality artemisinin and other derivatives at low cost. The new drugs had a major impact on severe and complicated cases of malaria and helped reduce the number of deaths.

At the same time, there was a major expansion in efforts to prevent malaria. The number of people protected from mosquito bites by indoor



house spraying with insecticides increased from 4.3 million in 1991 to 13 million by 1997. Meanwhile, the number of people sleeping under insecticide-treated bednets soared from 300 000 to over 10 million by 1997. Insecticide treatment of bednets is provided free of charge for people living in malaria-endemic areas.

Despite the recent successes, continued vigilance will be needed to prevent a resurgence of malaria in Viet Nam. More than one-third of the population – over 26 million people – live in malaria-endemic areas. The country is prone to natural disasters, including drought, typhoons, and most recently storms and floods – all of which can spark off epidemics of malaria. Today the malaria control programme is working in close collaboration with malaria researchers in efforts to improve control measures and develop new drugs and treatment regimens for malaria. And Viet Nam has also joined a regional initiative – under the umbrella of Roll Back Malaria – aimed at reducing malaria deaths throughout the Mekong region by at least 50% between 1998 and 2010.



Public-private partnership in Azerbaijan helps reverse malaria epidemic

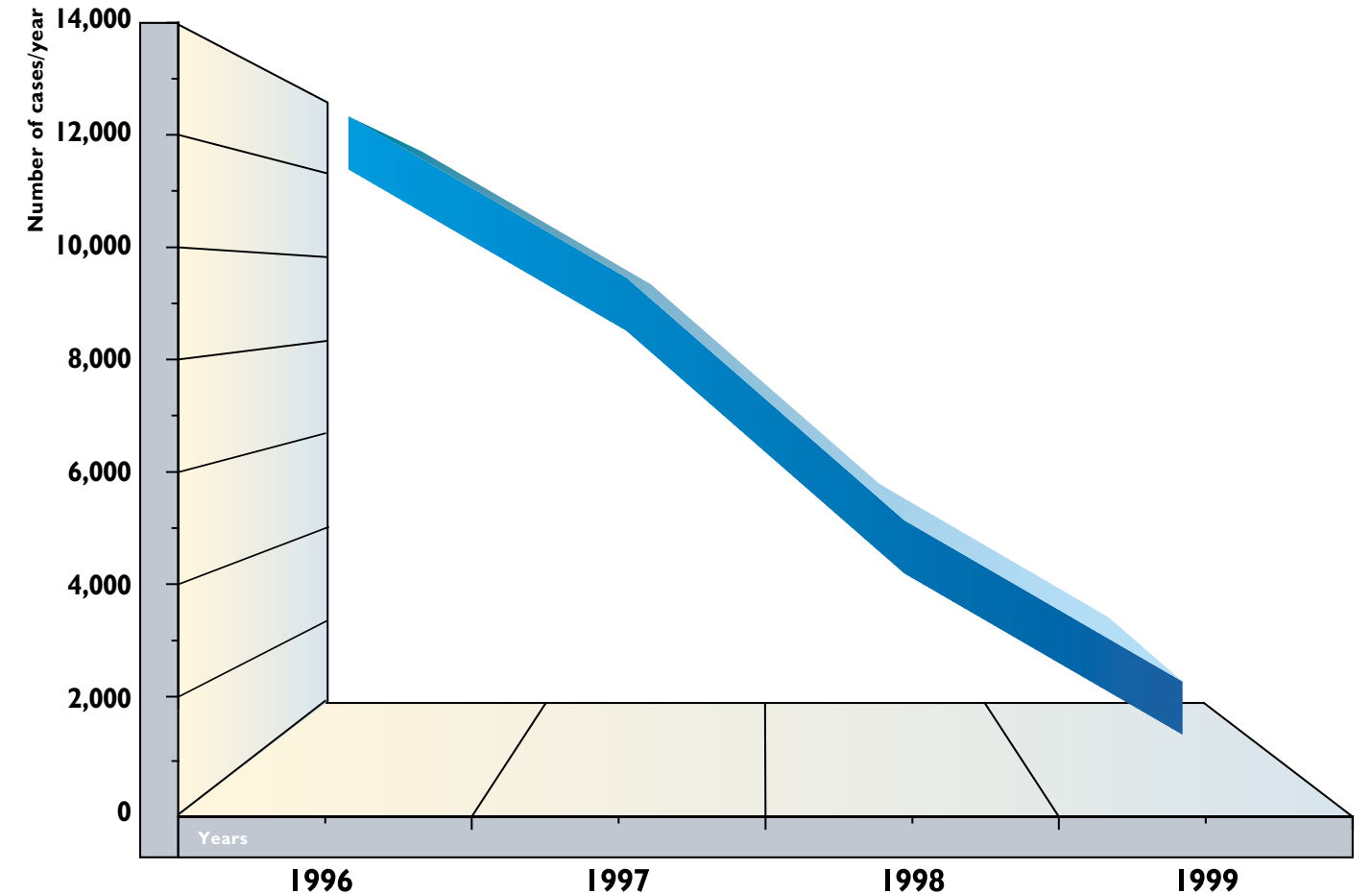
**Azerbaijan has reversed
an alarming upsurge in malaria cases.
During its first year of operation
the malaria programme,
funded by a private sector
multinational company and supported
by international and other UN agencies,
helped reduce malaria cases by over 50%.**

AN ALARMING UPSURGE IN MALARIA CASES IN AZERBAIJAN during the mid-1990s is being reversed through the efforts of a public-private partnership brokered in 1998 by the Roll Back Malaria global partnership.

A 3-year malaria control programme to support the Ministry of Health within the partnership agreement with WHO is being funded by a US\$ 760 000 contribution from the Italian oil company Eni. The company, which operates out of Baku, has already supported other development projects, including vector control activities. The programme, which is intended to reach about 1.5 million people, aims to reduce the incidence of malaria to only sporadic cases by the year 2004 and to avoid the social and economic impact of the malaria burden. RBM partners committed to rolling back malaria in Azerbaijan include the International Federation of Red Cross and Red Crescent Societies (IFRC), Médecins Sans Frontières Belgium, UNICEF, and other UN agencies.

The new venture is in response to the resurgence of a disease that was all but eradicated in Azerbaijan more than a quarter of a century earlier. In 1967, only three indigenous cases of malaria were reported. Then, in 1991, the break-up of the former Soviet Union severed traditional

Insecticide spraying & effective case management reduce malaria cases in Azerbaijan



Source: WHO/EURO

links with the former USSR republics which had provided support and expertise for malaria control activities in Azerbaijan. To make matters worse, the Nagorno Karabakh conflict erupted in the south-west of the country – sparking off massive population movements. By 1996, about one million refugees and displaced persons were living in refugee camps and other makeshift dwellings in malaria-endemic areas in the south. As the economic situation deteriorated, the health sector was unable to buy adequate supplies of medicines and equipment from abroad. Environmental management was abandoned. Irrigation and drainage systems collapsed through lack of maintenance. The mosquito was back in business. And with a vengeance.

As the number of cases rose from 667 in 1994 to over 13 000 in 1996, the government struggled with limited funds and international assistance to bring the epidemic under control. Agricultural production was threatened and there was concern that the epidemic would spread to neighbouring countries. The government established a special malaria epidemic control board headed by the Minister of Health. In 1997, about one sixth of the population – including those at highest risk of infection – were given weekly chloroquine treatment



to prevent malaria. The government also provided widespread health education about malaria. Meanwhile, WHO worked with UNICEF and NGOs to ensure that malaria control measures were in place in camps for displaced persons and refugees. Within a year, the number of cases had dipped below 10 000. By the end of 1998, only 5175 cases had been reported. The tide had begun to turn.

In an effort to accelerate and sustain this downward trend, the public-private partnership programme was established in 1998. The aim is to improve the capacity for and ensure wider access to early diagnosis and rapid treatment for malaria, to improve surveillance and epidemic response, to promote cost-effective and sustainable vector control, and to strengthen operational research capacity within the Ministry of Health.

Today, a new generation of doctors are being trained to recognize and treat malaria. And laboratory technicians are being provided with the equipment they need to ensure accurate screening of large numbers of blood samples during the high transmission season. Meanwhile, weekly visits are made to refugee camps and resettlement areas during the malaria season to detect and treat malaria cases.

Elsewhere, efforts are under way to reduce the density of mosquitoes through the use of insecticides in the highest risk areas – especially refugee camps – and through the introduction of larva-eating fish in mosquito breeding grounds such as stagnant waters and slow running streams.

During 1998, 400 000 people at risk of malaria were given preventive malaria drugs and case detection was actively carried out throughout the country. As a result, the number of cases was slashed by over 50%.

In the longer term, efforts will be needed to find a permanent solution to existing water management problems that encourage the proliferation of mosquitoes. To achieve this, close collaboration will be needed between the government ministries responsible for health, agriculture, and water management as well as the private sector, and other sectors of the economy.



Home as the first hospital

In the Tigray region of northern Ethiopia, where less than half the population live within easy reach of a health centre, over half a million people are treated for malaria every year by a network of over 700 volunteer health workers. Meanwhile, a pioneering scheme involving the recruitment of mothers to teach other mothers how to diagnose and treat malaria in the home has led to a 40% reduction in overall death rates among children under five.

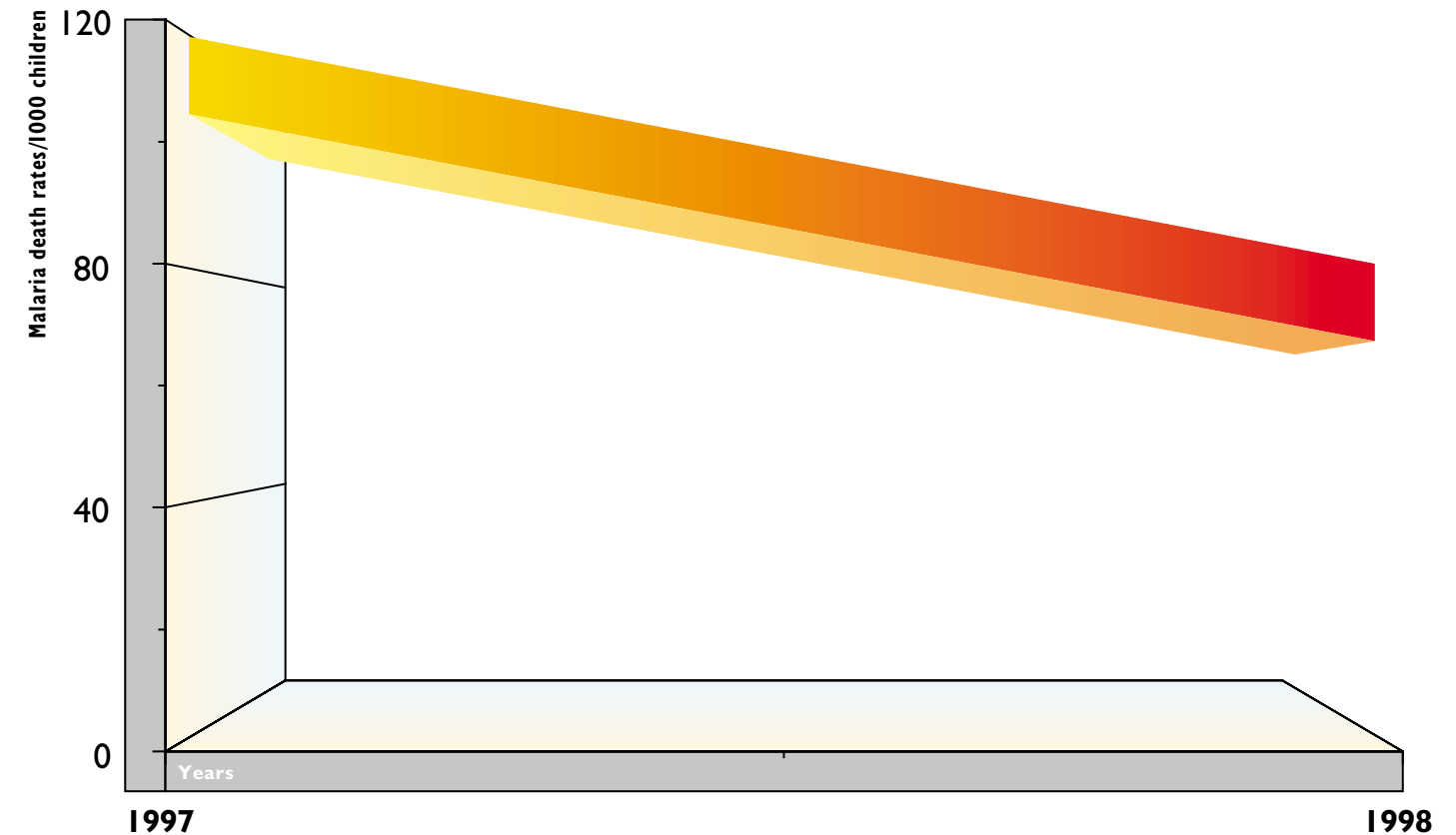


A PIONEERING COMMUNITY HEALTH SCHEME in northern Ethiopia – in which mothers are recruited to teach other mothers how to treat malaria in the home – has led to a 40% reduction in overall death rates among children under five. Meanwhile, among the children who died, death rates from malaria are estimated to be a third of those in villages outside the scheme.

Since 1992, village networks of community health volunteers – mainly subsistence farmers and, more recently, traditional birth attendants and mothers – have helped improve the diagnosis and home treatment of malaria in the Tigray region of northern Ethiopia. The aim is to ensure that malaria drugs are available to treat the disease before it becomes life-threatening, especially in very young children. In addition, the community health volunteers provide health education at the village level, supervise the regular supply of preventive malaria drugs for pregnant women, and help organize vector control activities, including insecticide spraying and environmental management to prevent the build-up of mosquito breeding sites. After an initial 7-day malaria training course, each volunteer is expected to spend about two hours a day on malaria work. In practice many work far longer hours.

The Community-Based Malaria Control Programme was launched by the Tigray Regional Government in collaboration with WHO and with financial assistance from

Training mothers reduces malaria death rates in northern Ethiopia



Source: RBM/WHO

the Italian Cooperation. The volunteer scheme grew out of the region's well-established social system and strong commitment to community involvement. Ethiopia's long-running civil war had a severe impact on the region's health system infrastructure. When it ended in 1991, Tigray experienced large population movements – of returning refugees, demobilized soldiers, and economic migrants – and an outbreak of malaria in the south in which over 500 people died. Almost 75% of Tigray is malarious and more than half the population is at risk.

Although established health services are still thin on the ground in this region (in 1998, less than half the population lived within 10 kilometres of a health centre) almost half a million people are treated for malaria every year by a network of over 700 volunteers. The volunteers – all elected by their own communities – are trained to recognize the symptoms of malaria and dispense antimalarial drugs (until 1999 chloroquine, and since then, because of chloroquine resistance, sulfadoxine-pyrimethamine). Severe cases of malaria are referred for treatment within the health services.

Almost all community health workers (98%) were men. Women were initially considered unsuitable due to the low level of literacy (in 1994, only 7% were literate), cultural expectations, and their heavy workload in the home. But in some districts women are now increasingly becoming involved as volunteers. The aim is to help boost the disappointingly low number of women and young children who use the services of volunteer health workers for malaria treatment. An assessment of the programme in 1994 found that two-thirds of those treated each month were over 15 and only 40% of patients were female. In response, some districts have recruited traditional birth attendants to do malaria work. In addition, mothers are being recruited as volunteer coordinators to train other mothers. This scheme is now being extended in response to the dramatic fall in death rates, including malaria deaths, among the under-fives in villages with mother coordinators.

Efforts are also under way to increase the acceptance of preventive therapy during pregnancy. In 1994, an investigation into low uptake rates among pregnant women – a high risk group for malaria – found that chloroquine is

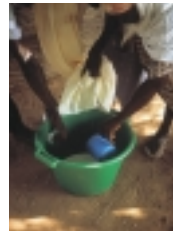
widely believed to induce abortion. Continuing education at the community level is being used to counter this belief and underline the danger of contracting malaria during pregnancy.

Elsewhere, in western Tigray, a community financing scheme has been established to supply bednets for use by returnees and demobilized soldiers in resettlement areas with high rates of malaria. Each of the communities involved agreed to accept responsibility for financing and managing the initiative. Bednet committees were elected to open community bank accounts and to collect and manage the money from the sale of imported bednets and insecticide for re-treatment. Through this system, 58% of the real costs of bednets have been recovered and deposited in community bank accounts. A study on the impact of bednet use over three years in the villages involved found a 45% reduction in the overall death rate among children under five, compared with a 33% reduction in villages without bednets.



Employer-based bednets scheme prevents malaria among workers in Kenya

In Kenya, an innovative scheme involving a community bednet-sewing industry, workplace promotion of bednets, and payroll purchasing schemes has helped reduce malaria cases and slashed overall health care costs. The public-private partnership venture has led to an increase in the use of bednets, higher profits for the community sewing industry, reduced absenteeism at work, and increased productivity among the employers involved.



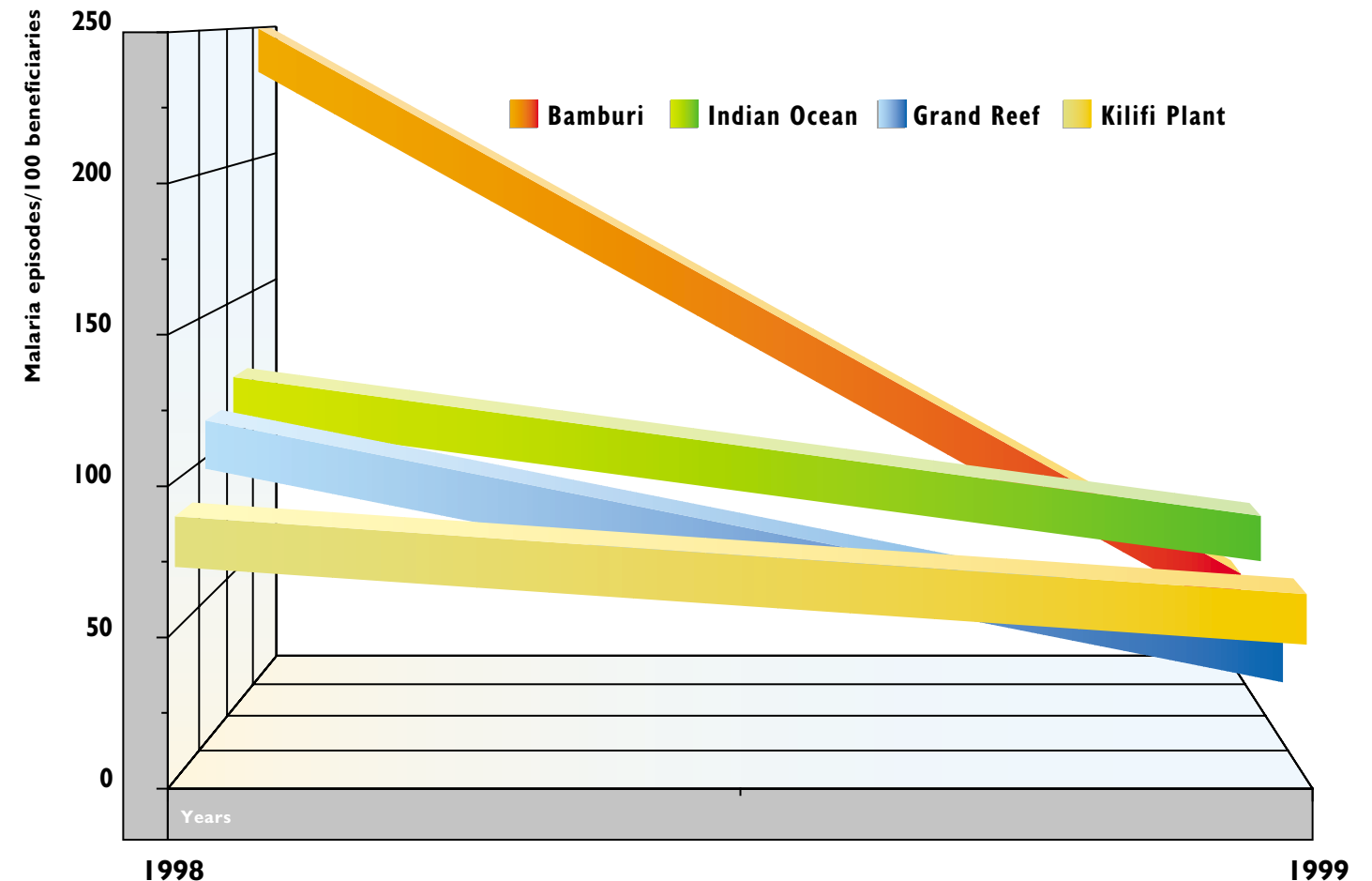
IN WESTERN AND COASTAL AREAS OF KENYA, a public-private partnership venture, involving workplace promotion of bednets and payroll purchasing schemes for employees, has helped reduce malaria cases as well as overall health care costs.

In one of the companies involved – a cement company in coastal Kenya – the number of malaria episodes among workers was reduced by over 80% between 1998 and 1999 and overall hospital admissions fell by almost 90%. Meanwhile, overall health care costs fell by over 20%. Elsewhere, the number of malaria episodes among workers was reduced by up to two-thirds, with related savings in health care costs.

The scheme, devised and managed by the Nairobi-based African Medical and Research Foundation (AMREF), has capitalized on the earlier success of a community bednet-sewing industry. The income-generating activity was launched by AMREF, with funding from Glaxo Wellcome, in an effort to encourage people to sleep under insecticide-impregnated bednets at night. At the time, supply and demand for bednets was very low in Kenya – especially in rural areas – mainly due to the high cost of imported bednets. Over 70% of the population are at risk of malaria, which accounts for 30%-50% of all childhood deaths.

In order to increase the supply of bednets and keep costs down, AMREF supplied community groups with sewing machines and netting material and launched a health

Insecticide-treated nets reduce malaria cases in coastal Kenya



Source: AMREF/Kenya



promotion campaign to encourage sales. Over a 4-year period, the bednet-sewing industry took root – producing over 5000 bednets for sale and fostering a growing practice of sleeping under bednets at night.

Then, in an effort to boost sales and increase bednet use still further, AMREF persuaded local private sector employers to purchase bednets from the community groups and offer them for sale to their employees through a company credit scheme or payroll deductions. The employers also agreed to involve their workers' health committees in efforts to promote the use of bednets and the need for regular re-treatment with insecticide. The initial 14 companies – employing on average 1000 people – included a brewery, a paper mill, a hotel chain, a mining company, and several sugar cane plantations. In the second phase, a further 14 companies have joined the scheme.

The arrangement suits everyone involved. As bednet sales increase – over 13 000 had been sold by October 1999 – a growing number of people are protected against malaria. With reduced absenteeism among the workforce, employers enjoy increased productivity and make savings on employee health care costs. And the community groups boost their income through increased sales of bednets.

This follow-up project, launched in collaboration with the Kenyan Government and funded by the UK Department for International Development (DFID),



got off to such a successful start that demand rapidly overtook supply. And AMREF had to buy in ready-made bednets until production caught up. AMREF works closely with the bednet-sewing industry to improve products and encourage their distribution through sales representatives, pharmacies, and other retail outlets.

Experience has shown that one of the key factors determining the rate of sales to the workforce is the involvement of senior management in implementing the scheme. In some cases, frequent change of management has had an adverse effect on uptake. Elsewhere, especially in the sugar belt, employee purchasing schemes have been slow to get off the ground. Another problem has been the low rate of re-treatment of bednets – due largely to the widespread misconception that the net alone provides adequate protection against mosquitoes.

AMREF hopes to ensure that the bednet-sewing industry is self-sustaining and can meet the increasing demand for bednets. Project funding and technical assistance ends in 2003. AMREF will continue to provide input up till then, whilst gradually transferring management of the project to the Kenyan Ministry of Health.



CHILDHOOD DISEASES

In developing countries, about half of all childhood deaths – 4.9 million – are caused by no more than four conditions: pneumonia, diarrhoeal diseases, malaria and measles. Every day, almost 13 500 children die from them. Malnutrition is associated with many of these deaths and is the underlying cause of half of all child deaths in developing countries.

Integrated Management of Childhood Illness (IMCI)

This low-cost strategy has been developed to improve child health through ensuring the prompt recognition and treatment of the five most common causes of childhood deaths: pneumonia, diarrhoeal diseases, malaria, measles, and malnutrition. IMCI treatment guidelines have been developed to help health workers recognize the signs of illness and take prompt action – even if the child is suffering from more than one condition at the same time. Working through health services and communities, IMCI builds on the experience of best practice and provides a holistic approach to the major childhood diseases.

The IMCI strategy involves:

- prompt recognition of all co-existing conditions
- rapid and effective treatment through standard case management
- prevention of illness through improved immunization and improved nutrition (including breastfeeding)
- promotion of family practices to protect child health, including improved feeding practices, use of insecticide-treated bednets, and appropriate care seeking for illness.

Prevention & Treatment

WHO and UNICEF have drawn up a list of essential drugs to treat the most common diseases of childhood. The average cost for a full course of treatment with one of these drugs is about US\$ 0.15. They include: oral antibiotics, an antimalarial drug, oral rehydration salts, vitamin A, treatment for intestinal worms, and treatments for eye and skin infections and mouth ulcers. In addition, immunization with measles vaccine – costing US\$ 0.26 for both the vaccine and injection equipment – could prevent most of the almost one million deaths from measles every year.

Many more lives could be saved through ensuring that mothers can recognize the onset of childhood diseases and that they have access to rapid treatment – ideally in the home. Meanwhile improved training of health workers would help ensure rapid diagnosis of life-threatening diseases – especially where children are suffering from more than one condition.

Mexico reduces childhood deaths from diarrhoeal disease

In Mexico, determined efforts by the government to promote the use of oral rehydration therapy, immunize children against measles, and improve access to safe water and sanitation have succeeded in reducing childhood deaths from diarrhoeal diseases by 60% in less than a decade. Other key factors include an increase in education levels among women, investment of adequate resources, and the widespread use of case management guidelines.

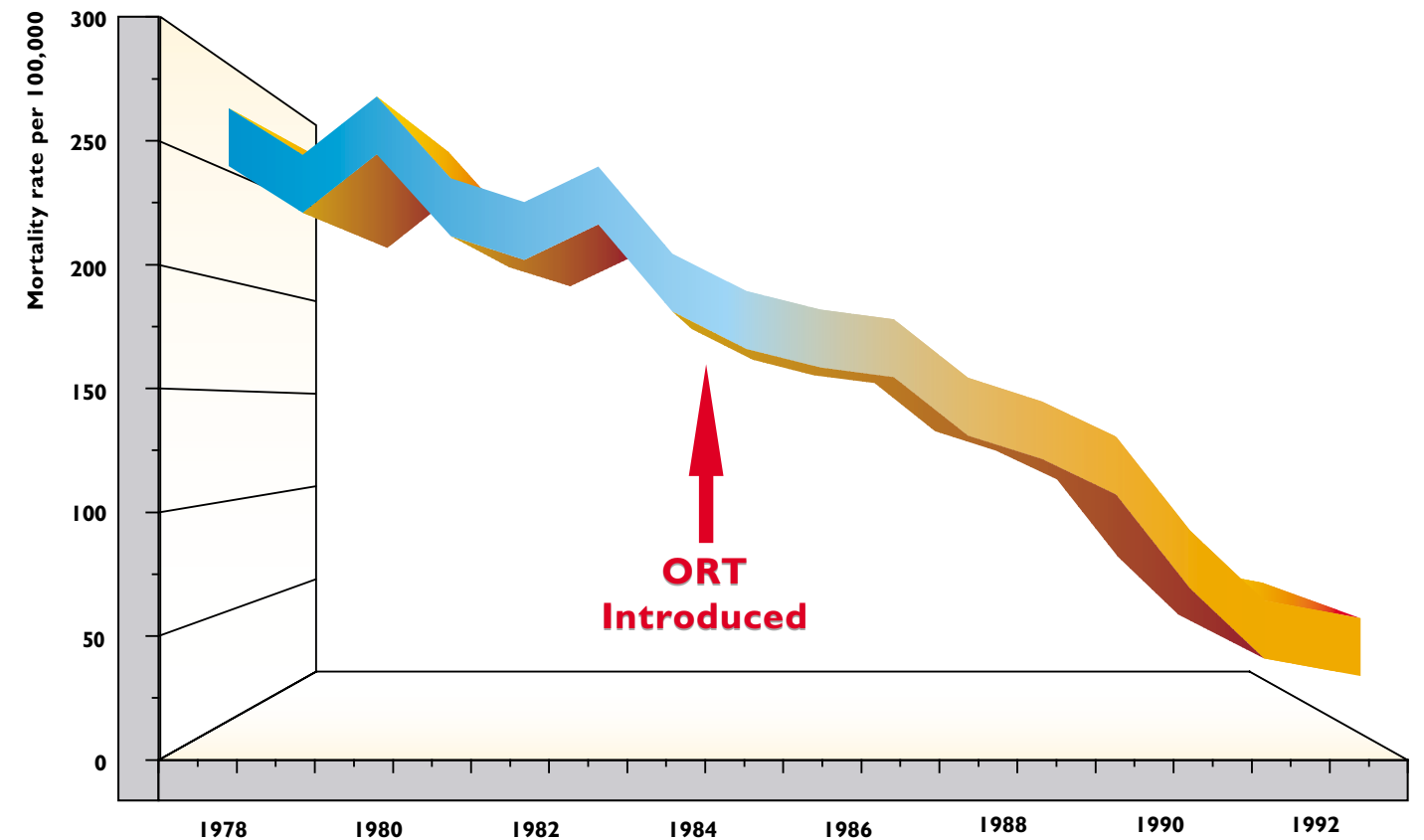


IN DEVELOPING COUNTRIES, diarrhoeal diseases are a major cause of death among children under five – accounting for about 1.5 million deaths every year. Children die because their bodies are weakened through rapid loss of fluids and undernourished through lack of food. And parents often fail to recognize the danger signals before it is too late. Yet most of these child deaths could be prevented. Up to 90% of diarrhoeal deaths can be prevented through the use of low-cost oral rehydration therapy (ORT) and continued feeding.

Before the introduction of ORT in 1979, and its gradual take-up by developing countries, diarrhoeal diseases were the number one childhood killer – accounting for 4.6 million deaths a year among children under five. Since then, diarrhoeal deaths have been reduced by over two-thirds. Other interventions which have also helped in preventing diarrhoeal deaths are improved access to safe water and sanitation, promotion of exclusive breastfeeding, immunization against measles (a risk factor for diarrhoeal disease), better nutrition (including administration of vitamin A), and improvements in the education of women.

In Mexico, the widespread promotion of ORT for home case management – coupled with efforts to improve access to safe water and sanitation – has had a major impact in reducing the number of diarrhoeal deaths among children under five. Since the introduction of ORT in Mexico in

ORT* reduces diarrhoeal deaths among children in Mexico



*ORT: Oral Rehydration Therapy
Source: Gutiérrez et al, 1996

1984, mortality rates have fallen by 60% in less than a decade – from over 212 deaths per 100 000 children in 1984 to under 63 by 1993.

What is remarkable about this achievement is that the most significant declines in death rates occurred during the early 1990s – at a time when a cholera epidemic was sweeping through the Americas – adding to the overall burden of disease and threatening to reverse hard won gains.

In response, mass media campaigns were launched throughout Mexico to promote the use of ORT. Supplies of oral rehydration salts skyrocketed from 7.6 million packets a year to almost 80 million packets a year. As a result, ORT use increased from zero in the early 1980s to over 80% of cases by 1993, surpassing the mid-decade target set by the 1990 World Summit for Children of 80% ORT use by 1995. In addition, the government intensified efforts to immunize children against measles and stepped up efforts to improve sanitation and provide safe water.



The proportion of mothers reporting correct home-based case management increased rapidly and ORT was also widely available in health facilities. As a result, the proportion of under-fives deaths due to diarrhoeal diseases fell from over 26% in 1983 to 11% in 1993.

Other factors widely believed to have contributed to Mexico’s success in reducing diarrhoeal deaths are the increase in education levels among women, strong political commitment, adequate resources, and the existence of a solid base of trained health professionals in the diarrhoeal control programme with extensive experience of the case management strategy. The Mexican Government is now building on the success of the ORT treatment to make use of the broader IMCI strategy to further reduce deaths among children under five.



Pakistan acts to reduce child deaths from pneumonia

In Pakistan, the government has introduced WHO's guidelines for acute respiratory infections (ARI) nationwide after training doctors and community health workers to use the technique. In Islamabad, use of these guidelines to improve the diagnosis and treatment of ARI among hospital outpatients under the age of five has halved pneumonia death rates among children admitted to hospital, reduced the inappropriate use of antibiotics, and led to major savings in health care costs.

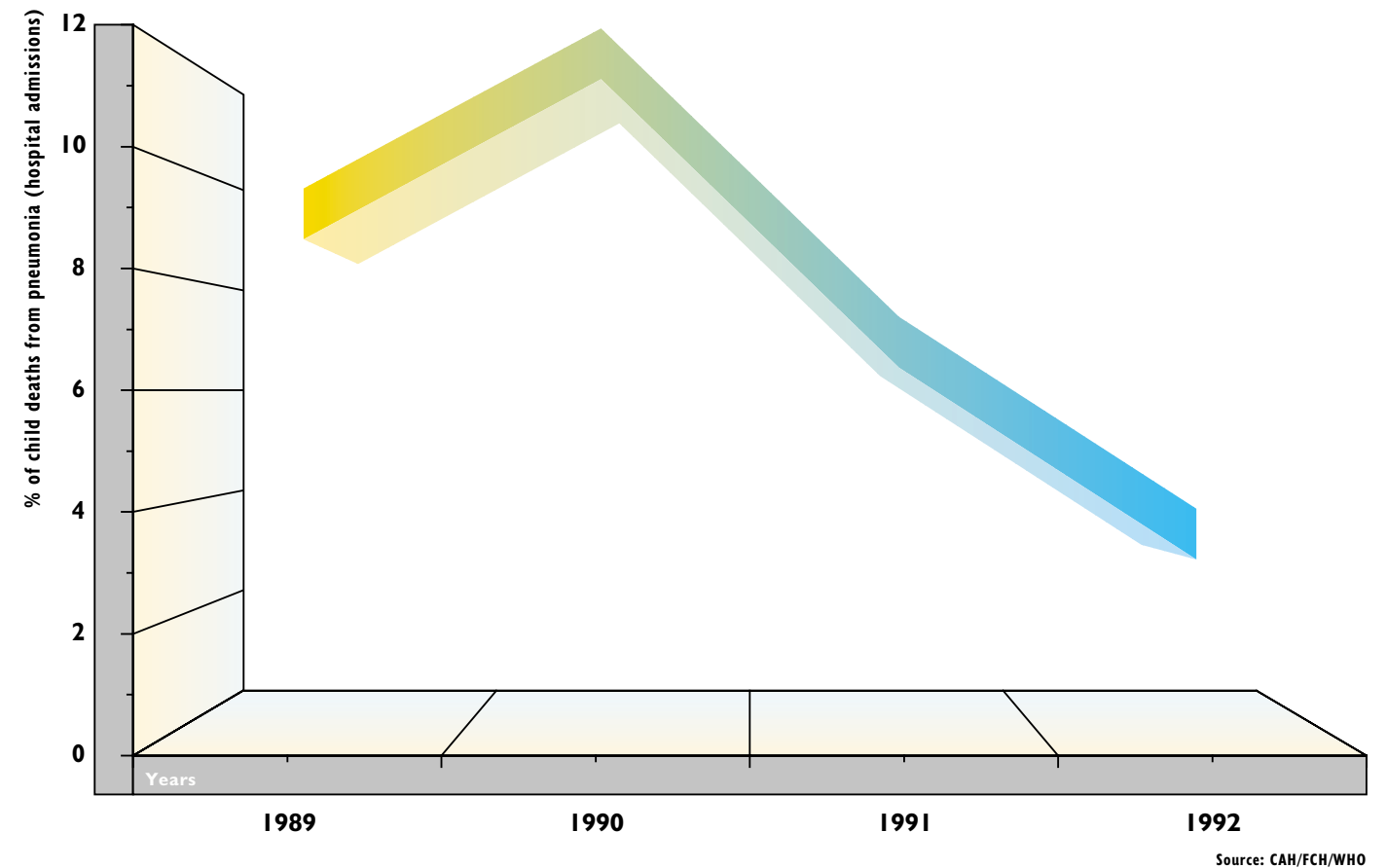
ACUTE RESPIRATORY INFECTIONS (ARI) kill more children under five than any other infectious disease – accounting for almost 2 million deaths a year among this age group. Most of these deaths (99%) occur in developing countries. ARI – mainly pneumonia – are also a major cause of childhood illness.

Among those most vulnerable to infection are children with low birthweight or those whose immune systems have been weakened by malnutrition or other diseases. Without early treatment for ARI, children can die very rapidly. Many deaths are the result of failure to take the child to a health centre in time or of misdiagnosis by a health care worker. The problems are compounded by the indiscriminate use of antibiotics and increasing microbial resistance.

In Pakistan, efforts to improve the diagnosis and treatment of ARI in children under five and prevent the misuse of antibiotics have led to a major reduction in child death rates at a children's hospital in the capital Islamabad. The breakthrough followed the launch in 1990 of new treatment guidelines for ARI at the hospital. Within three years, ARI death rates among children under five had been halved and efforts to increase rational drug use led to a reduction of almost 50% in the inappropriate use of antibiotics as well as major reductions in health care costs.

The treatment guidelines – WHO's standardized case management guidelines for ARI – were introduced in the outpatients and emergency departments at the children's hospital in early 1990 after doctors had been trained in

ARI guidelines in Pakistan reduce child pneumonia deaths in hospital by 50%





the new technique. Children found to be suffering from severe pneumonia were admitted to the hospital and given antibiotics and other treatment if required. Children with non-severe pneumonia were given oral antibiotics and sent home. Children with upper respiratory infections – mainly coughs and colds – were sent home with oral medication, and advice on home care (including the use of fluids, feeding, clearing the nose, and soothing the throat).

The ARI guidelines – a key component of WHO's Integrated Management of Childhood Illness (IMCI) – are designed to help the health worker identify the signs of pneumonia: fast breathing, chest indrawing, and other danger signs. The aim is to ensure that children with pneumonia (and other appropriate conditions) receive urgent treatment with antibiotics and that children with upper respiratory infections (mainly coughs and colds) are not prescribed unnecessary antibiotics. The use of commercial cough remedies containing ineffective or harmful ingredients is also discouraged.

A study on the impact of the new treatment guidelines at the Islamabad Children's Hospital from 1990-92 revealed that death rates among children admitted to hospital with severe pneumonia fell from about 10% in 1989 to about 5% in 1992. Meanwhile the rational use of drugs, a key strategy in preventing the overuse of antibiotics and curbing microbial resistance, led to a major reduction in the use of antibiotics (from 56% of cases in 1989 to only 30% in 1992).

The study found that eight out of ten ARI cases were acute upper respiratory infections – mainly coughs and colds. The majority of these were viral infections which did not need antibiotics. Only a small proportion, including inner ear infections, were bacterial infections that needed treatment with antibiotics.

If appropriate ARI case management guidelines were adopted throughout Pakistan, it is estimated that there would be a major reduction in pneumonia deaths among children under five as well as considerable financial savings through minimizing the use of antibiotics and other unnecessary drugs. The researchers involved in the study estimated that government savings on antibiotics would amount to US\$ 1.2 million a year, while a reduction in the indiscriminate use of cough medicines would save an additional US\$ 8.5 million a year.



The Pakistan Government has introduced the standard ARI management guidelines in first-level health facilities after training doctors in the technique. In addition, 34 000 community health workers in villages throughout Pakistan have been trained to use the guidelines at community level.

The Islamabad study shows how effective use of the ARI treatment guidelines can have a rapid impact in reducing pneumonia deaths among children. The challenge now for the Pakistan Government is to ensure that these guidelines are used in health facilities country-wide and to monitor the impact.



Malawi on course to eliminate measles

In Malawi, government commitment to eliminate measles has led to a dramatic reduction in measles cases and deaths. This achievement has involved support from community volunteers and concerted efforts to train health workers, improve immunization safety, strengthen disease reporting systems, and mobilize parents to immunize their children against measles.

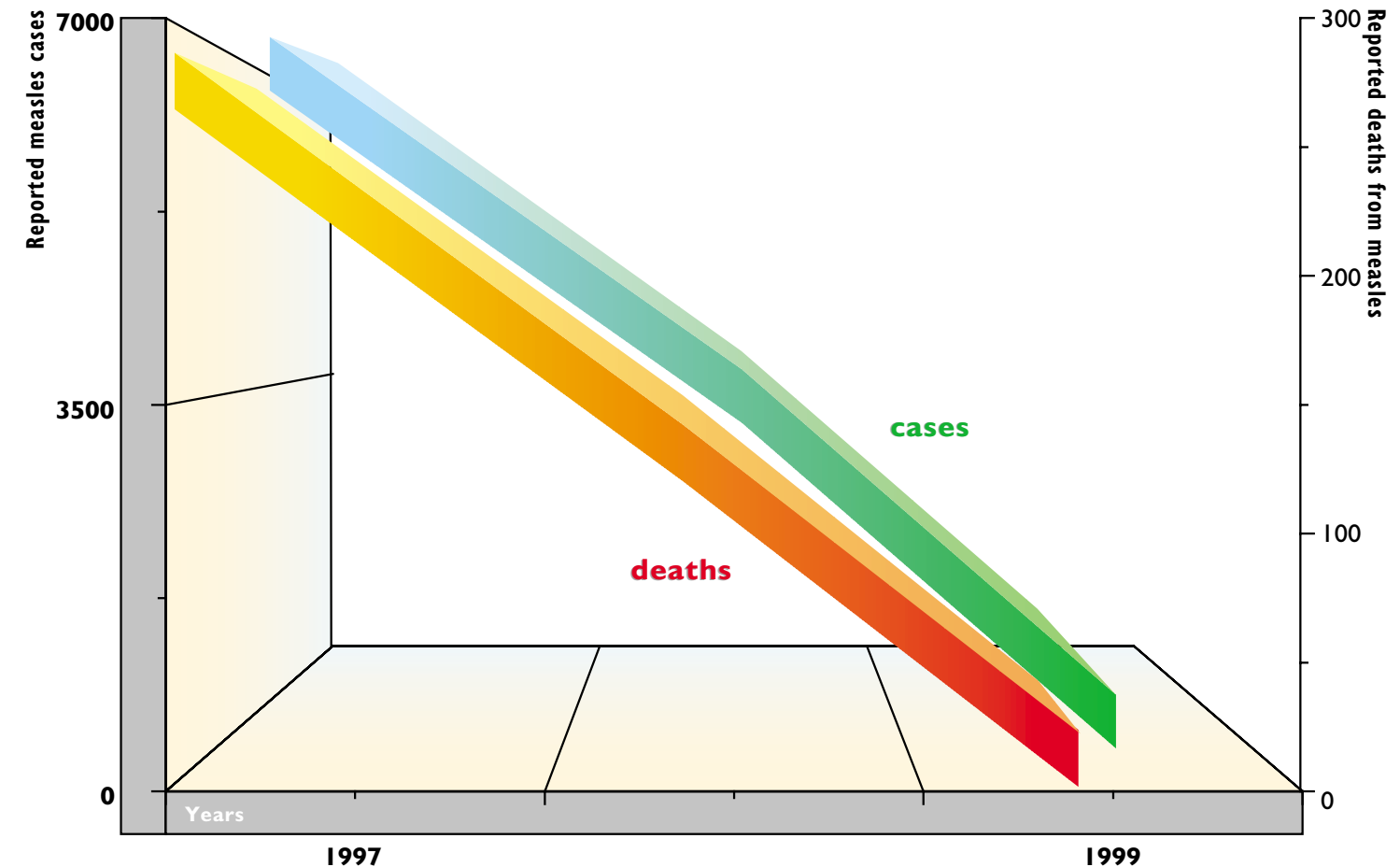


MEASLES KILLS MORE CHILDREN than any other vaccine-preventable disease – most of them in developing countries. The highly contagious disease accounts for almost one in ten of all deaths among children under five – half of them in children less than a year old. In 1998, there were an estimated 30 million cases of measles worldwide and about 900 000 deaths. Measles can also lead to lifelong disabilities, including brain damage, blindness, and deafness, especially in developing countries. The disease thrives in cities – especially in deprived urban areas where overcrowding ensures the continued circulation of the measles virus.

Yet measles deaths and disability can be prevented. A vaccine against measles has been available for over three decades. It is safe, effective, and costs only US\$ 0.26 for the single dose needed to immunize a child. But in 1998, one in five of the world's children were not immunized against measles during their first year of life. And in Africa, which accounts for more than half of the world's measles cases, less than 50% of children were immunized. Meanwhile, in six African countries, only one in three – or less – were protected against measles.

Against this backdrop of low immunization coverage in Africa, Malawi has succeeded in boosting immunization coverage against measles from only 50% in 1980 to almost 90% today. As a result, the number of reported cases and deaths has fallen dramatically. During 1999, only two

Measles immunization campaign reduces measles cases and deaths in Malawi



Source: EPI/WHO

laboratory-confirmed cases were reported. And, for the first time ever, no measles deaths. Yet only two years earlier, almost 7000 measles cases were reported and 267 deaths (although most cases go unreported and WHO estimates that nine times as many cases and almost five times as many deaths actually occurred).

This turnaround has been achieved in one of the world's poorest countries. One in five of the population do not have access to health services, less than 50% have access to safe water, and only 3% have access to adequate sanitation. In 1998, life expectancy hovered at just below 40.

The first key step in reducing measles deaths in Malawi was a sustained increase in routine immunization coverage. This led to an encouraging sharp drop in measles cases and deaths. However, while epidemics have become less frequent, they still occur every 3-5 years – triggered by a build-up in the number of children who have not been immunized and by the vaccine's inherent 15% failure rate. In an epidemic in 1992, for example, 11 000 cases were reported.

Then in 1998, Malawi launched a campaign to eliminate measles. The strategy, developed in the Americas, where measles has almost been eliminated, involves a 3-pronged attack to halt transmission of the virus: a nationwide immunization campaign usually targeting every child from nine months to 14 years (“catch-up”); sustained routine immunization coverage of at least 95% of children during the first year of life (“keep-up”); and nationwide campaigns every 2-5 years usually targeting children born after the initial catch-up campaign (“follow-up”). The aim is to ensure that few if any children slip through the immunization net.

In June 1998, a nationwide immunization campaign in Malawi targeting 4.7 million children from 9 months to 14 years succeeded in reaching over 90% of the target population. In addition, vitamin A supplements – which can prevent one in four child deaths from infec-



tious diseases – were given to all children aged six months to five years. The cost of the campaign – including delivery costs – was US\$ 0.78 for every child vaccinated.

Malawi's success in reducing the death toll from measles has involved concerted efforts to train health workers, improve immunization safety (including vaccine quality assurance and injection safety), and strengthen disease surveillance and monitoring skills. A key factor has been the success of social mobilization campaigns in encouraging parents to immunize their children against measles. In some cases, community volunteers have helped organize door-to-door immunization or set up vaccination posts nearby to ensure that previously unreached children could be immunized.

Today, in an effort to prevent epidemics of measles, Malawi is continuing efforts to ensure that at least 95% of children are immunized during the first year of life and to identify populations where children are unimmunized and at high risk of continued transmission of the measles virus. These children will be targeted in the follow-up phase of the campaign.



Tanzania prevents iron-deficiency anaemia in mothers and children in Zanzibar

In Zanzibar, Tanzania, a school-based de-worming programme has had a dramatic impact on children's health and development. Among the children involved, regular low-cost treatment has led to an increase in height and weight, a reduction in the prevalence of severe anaemia, and improved nutritional status.



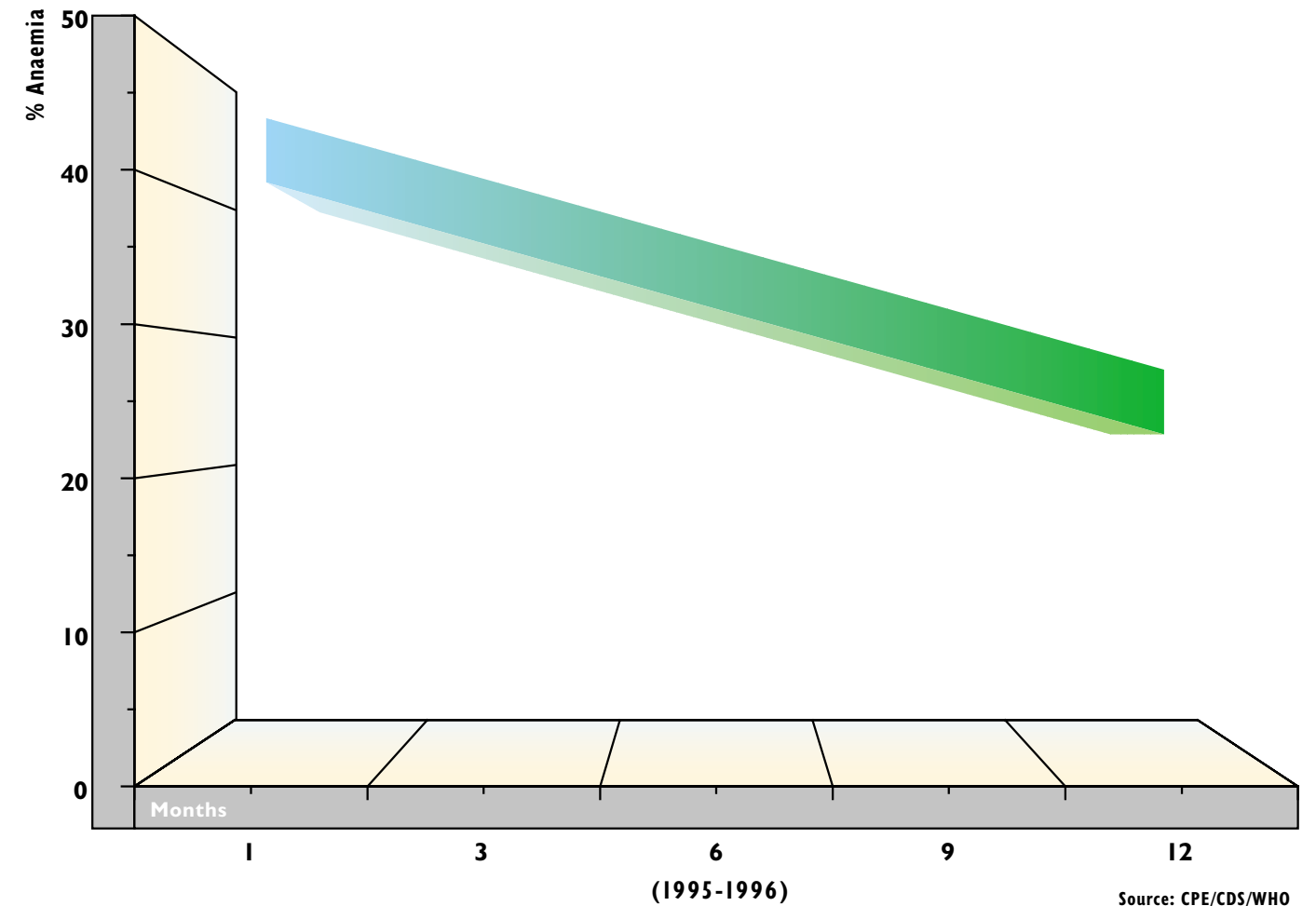
INTESTINAL WORMS (HELMINTHS) are one of the most common infections on earth. Over a billion people are infected and twice as many are at risk. But the devastating impact of intestinal worms on health – especially among pregnant women and school-age children – is often underestimated. At least 400 million children of school-age are chronically infected with intestinal worms – mainly roundworms, hookworms, and whipworms. Infection leads to malnutrition, iron-deficiency anaemia, stunted growth, and increased vulnerability to other infections. And it has a serious impact on children's cognitive development – affecting concentration and work capacity and increasing absenteeism from school.

Meanwhile, intestinal worm infections can be life-threatening for pregnant women and babies. Over 44 million women are infected with hookworms, which cause intestinal blood loss and iron-deficiency anaemia – increasing the risk of premature birth and low birthweight babies.

Chronic infection with intestinal worms holds back child development and limits educational achievement. It endangers reproductive health and affects adult productivity. And it undermines social and economic development.

Intestinal worm infections are most frequent among the poor. The soil-transmitted infections occur wherever

School-based de-worming in Tanzania reduces severe anaemia





living conditions and hygiene are poor and where access to clean water and sanitation is inadequate. Yet treatment is easy to administer and highly cost-effective, even in the poorest countries. Regular treatment two or three times a year with one of several recommended drugs from the WHO essential drugs list costs as little as US\$ 0.09 (9 cents) a year.

In Zanzibar, Tanzania, a school-based treatment programme for intestinal worms has shown that regular de-worming of schoolchildren can increase their height and weight, improve iron stores, and reduce iron-deficiency anaemia.

Before the National Helminth Control Programme was started in 1994, almost every child in Zanzibar (99.7%) was infected with intestinal worms and malnutrition was widespread. By early puberty, over 60% of children showed signs of stunted growth and over 50% had iron-deficiency anaemia.

In 1994, a new de-worming programme was launched by the National Helminth Control Programme for about 30 000 primary school children on the island of Pemba, the smaller of the two islands that make up Zanzibar. The children were treated at school three times a year with mebendazole



(an anthelmintic drug) in the form of chewable orange-flavoured tablets.

Throughout the first year, the children had regular check-ups to monitor changes in the intensity of infection and to study the impact of treatment on their health status.

The results were impressive. Although roundworm infections responded best to the treatment, the intensity of all worm infections was reduced. By the end of the first year, the programme had prevented over 1200 cases of moderate to severe anaemia, and over 270 cases of severe anaemia.

By 1996, the prevalence of severe anaemia had been reduced by almost 40%, iron deficiency fell by 20%, and there was a marked improvement in the nutritional status of the children.

The programme has since been extended throughout Zanzibar and now also targets pre-school children, and women of childbearing age, as well as school-aged children outside the formal education sector. Meanwhile, efforts are still under way to measure the impact the school-based programme has had on improving the cognitive development of the children involved.



Brazil widens access to health care

In Brazil, the launch of a community-based family health programme has led to a sharp drop in infant mortality rates in several of the states involved. In one city, infant death rates fell by almost 75% over a 6-year period. Elsewhere, the number of cases of diarrhoeal disease was halved within a year – a drop that was helped by an increase of almost 100% in the number of mothers who exclusively breastfed their babies. In some of the municipalities involved, attendance at antenatal clinics has almost doubled.

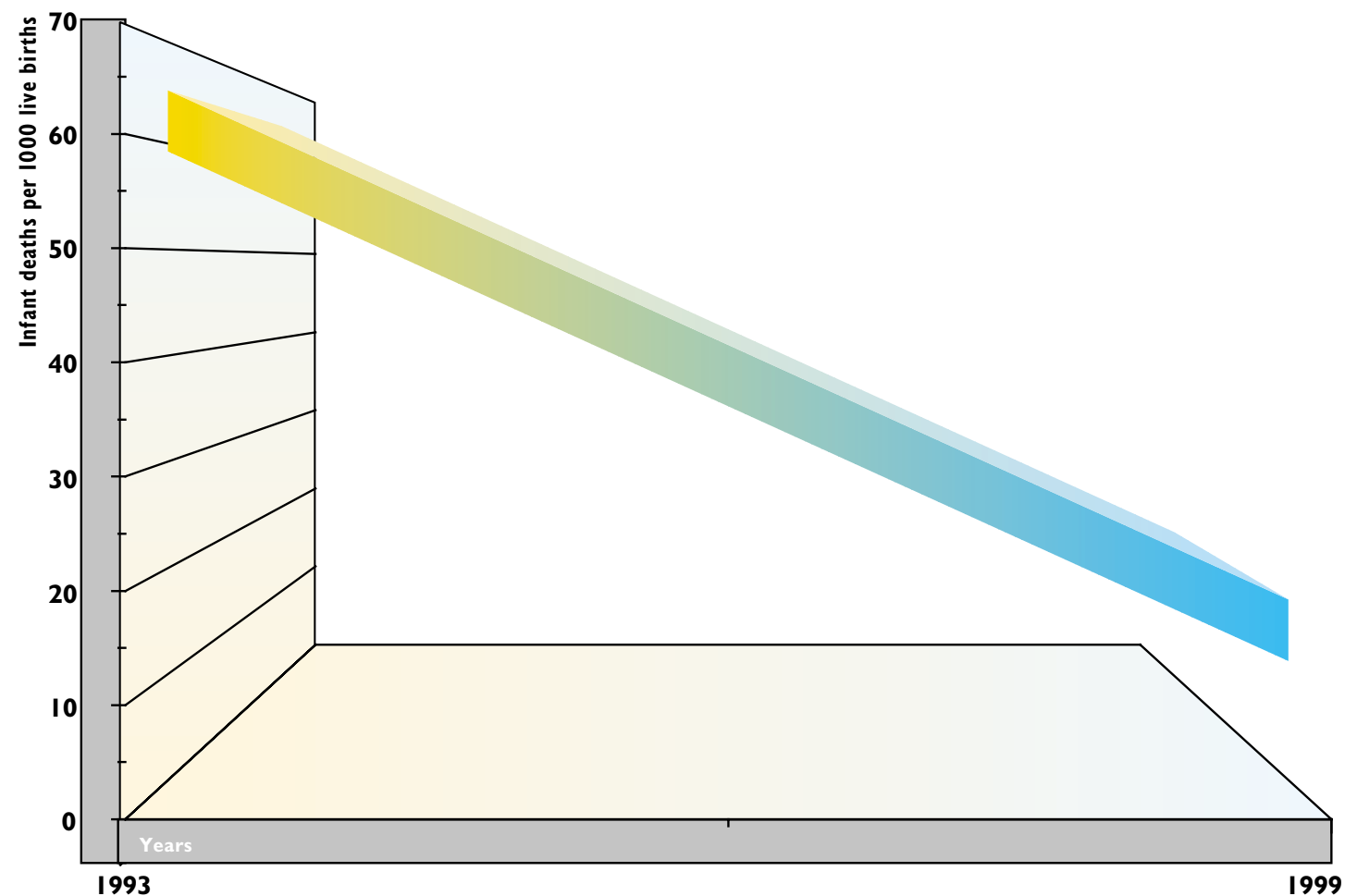


IN BRAZIL, the launch of a community-based family health programme has led to a sharp drop in infant mortality rates in several of the states involved. In one city, infant death rates fell by almost 75% over a 6-year period. Elsewhere, the number of cases of diarrhoeal disease was halved within a year, a drop that was helped by an increase of almost 100% in the number of mothers who exclusively breastfed their babies. In some of the municipalities involved, attendance at antenatal clinics has almost doubled.

Before the programme started in 1994, Brazil relied almost exclusively on a specialized, hospital-based system of medical care which failed to meet the needs of many families who either could not afford or could not access these services. Today, 20% of the population of 160 million have access to primary health care.

Launched as a partnership involving the Ministry of Health, UNICEF, and communities, the Family Health Programme is based on a network of teams who work with communities to ensure that families know when and where to seek help or advice on health issues such as antenatal care, immunization, and child nutrition, or treatment for diseases such as malaria and diarrhoeal diseases. Dental care is now being added to the list of services available. Where necessary, people are helped to gain access to specialized care and hospital treatment.

Family health programme lowers child death rates in Camarigabe, Brazil



Source: UNICEF

The teams comprise a doctor, a nurse, a nurse's aide, and five or six health agents who live in the community.

Each team covers about 800 families. They respond to the needs of the whole population, particularly those who could not easily access the hospital-based medical system. With federal government financing and political commitment at all levels, Brazil's Family Health Programme has grown from 328 teams in 1994 to over 10 000 today, serving more than 3000 municipalities. The aim is to create another 10 000 teams by the end of 2002. Since 1998, the family health team is being trained in the IMCI approach in some states in the north-east. The use of nutrition counselling has helped improve the nutritional status of children under five.

The results have been dramatic. In Camarigabe, in the poor north-eastern state of Pernambuco, infant mortality dropped from 65 per 1000 live births in 1993 to 17 per 1000 live births in 1999. Elsewhere, in Palmas, the capital of the state of Tocantins, the rate of exclusive breastfeeding increased from 38% in 1999 to 73% in 2000. This increase is believed to have contributed to a re-



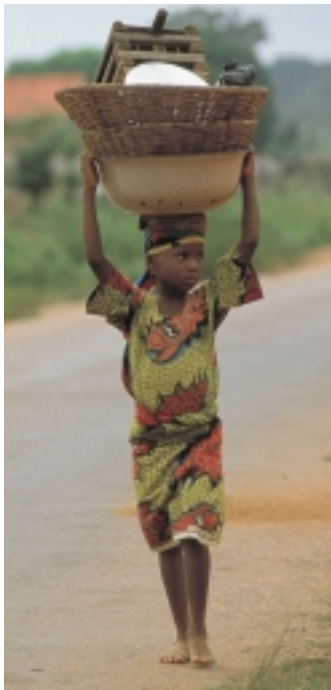
duction in cases of diarrhoea, which dropped by 50% in the city between 1997 and 1998. Meanwhile, the number of pregnant women receiving antenatal care in Palmas almost doubled, from 43% in 1997 to 80% by 1998.

The programme has helped steer families away from a reliance on expensive specialized care. In the city of Sobral, for example, the once high demand for specialized care has dropped in direct proportion to the increase in demand for primary care since the programme began in 1997. And this change has found its way into general medical training in the country, since the programme's 21 training centres for family health are linked to 58 medical schools and 62 nursing schools in 16 of the country's 27 states. The programme has also contributed to a profound shift in the concept of health care in Brazil. Today, health professionals and community members alike place high value on general community practice in preference to expensive, specialized care that only a few can afford.



Bamako Initiative revitalizes primary health care in Benin

Community involvement in primary health care in Benin has helped reduce child death rates, boost immunization coverage, and increase access to antenatal care.



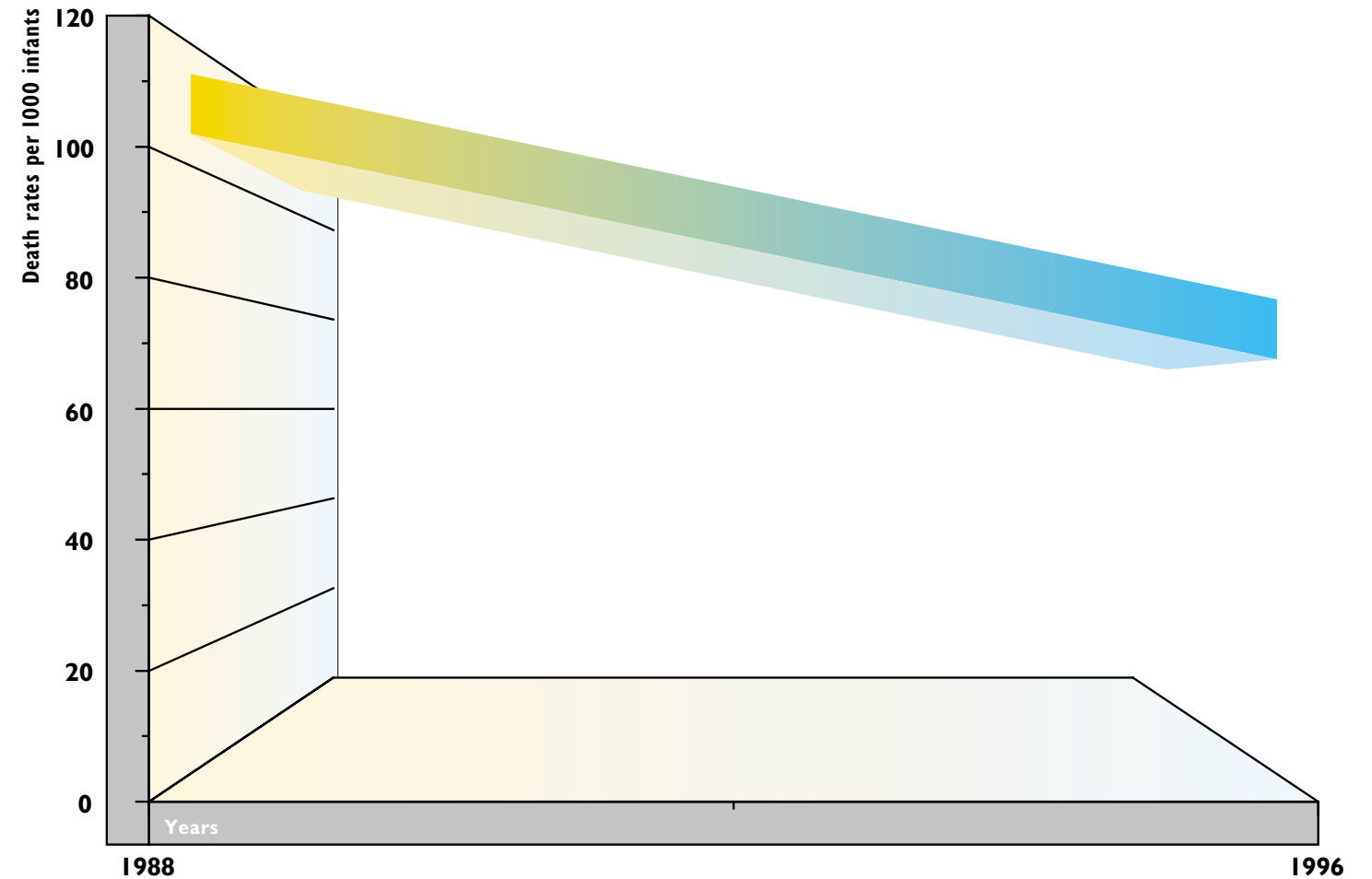
IN THE EARLY 1980s IN BENIN, a child had a slim chance of survival and good health. At the time, Benin had one of the highest under-five death rates in the world: 203 deaths for every 1000 live births. And only one-third of women had access to antenatal care.

Less than 30% of the population had access to functioning primary health care (PHC) services and the government spent only about US\$ 1.50 per capita a year on health.

What changed the situation dramatically was the introduction of a series of community-based health system reform strategies, which helped make primary health care more effective and equitable. Innovations included the reliable supply of affordable essential drugs combined with community co-management, cost-sharing and community-based monitoring of an integrated minimum package of PHC services. These include immunization, health and hygiene education, treatment of minor illnesses, and maternal and child health care.

When UNICEF provided substantial funding for the Expanded Programme on Immunization (EPI) in 1985 to help achieve the objective of Universal Child Immunization by 1990, Benin used the funds not only to improve immunization but also to revitalize their PHC systems.

Community involvement reduces infant deaths in Benin



Source: Benin Demographic & Health Survey



The health system reform strategies were subsequently formally adopted in 1987 in Bamako by African Ministers of Health, UNICEF and WHO, as the Bamako Initiative. By 1990, the strategies had helped revitalize the entire existing primary health care network in Benin and the country achieved the objective of reaching 75% of children through the national immunization programme.

When a combined economic and political crisis hit West Africa in the early 1990s and undermined the gains made in EPI, Benin – thanks to the Bamako community-based initiative – continued to achieve high immunization rates and significant reductions in death rates among the under-fives.

As a result, by 1998, death rates among infants and children under five were down by nearly 20%, immunization coverage was being sustained at around 80%, and about 65% of women were using antenatal services.

Within a few years of its inception, the Bamako Initiative was adopted widely throughout West and Central Africa, but not always as successfully as in Benin. The remaining challenge in Benin is to build on the Bamako Initiative experience in order to accelerate large scale implementation of other health initiatives such as Roll Back Malaria, Stop TB, and the International Partnership Against AIDS in Africa.



Bamako Initiative

A recent analysis of the results achieved through the Bamako Initiative highlights the key conditions for success:

- A health system reform approach that addresses service delivery, drug supply, financing, and management in an integrated and coherent way.
- Strong community involvement in planning, managing, monitoring, and problem-solving, especially regarding supply and demand of an integrated package of PHC services.
- Broad-based partnerships that include government, communities, researchers, and donors relying on frequent and frank dialogue and building on the comparative advantage of each.
- Flexibility in approach and regular adaptation of strategies to meet changing needs.
- Strong networking among public health professionals and community leaders, both within and between countries, in a cooperative spirit that facilitates learning from experience, peer review, mutual support, and positive competition.

MATERNAL & PERINATAL CONDITIONS

Integrated Management of Pregnancy and Childbirth (IMPAC)

This low-cost strategy, based on WHO's Mother-Baby Package, which costs no more than US\$ 3 a year per capita in low-income countries, is designed to prevent maternal and infant deaths and the often lifelong disability due to complications of pregnancy and childbirth.

The strategy involves ensuring access to:

- antenatal care
- normal delivery care assisted by a skilled birth attendant
- treatment for complications of pregnancy (including haemorrhage, obstructed labour, eclampsia, sepsis, abortion complications)
- neonatal care
- family planning advice
- management of sexually transmitted infections.

Every year, about half a million women worldwide die from complications of pregnancy and childbirth – mainly severe bleeding, infections, unsafe abortions, hypertension, and obstructed labour. More than 90% of these deaths occur in Asia and sub-Saharan Africa. And most of them could be prevented at low cost.

In addition, over 50 million women suffer from acute pregnancy-related conditions – over a third of them with long-term, painful, and often distressing conditions that will affect them for the rest of their lives. They include permanent incon-

tinence, chronic pain, nerve and muscle damage, and infertility.

Meanwhile, perinatal conditions are the major cause of death among children under five – accounting for more than one in five deaths. Of these, over 3 million die during the first week of life. Most deaths are the result of poor maternal health and nutrition, inadequate care during pregnancy and delivery, lack of essential care for the newborn baby, infections, birth injury, asphyxia, and problems relating to premature births.

Sri Lanka reduces maternal deaths

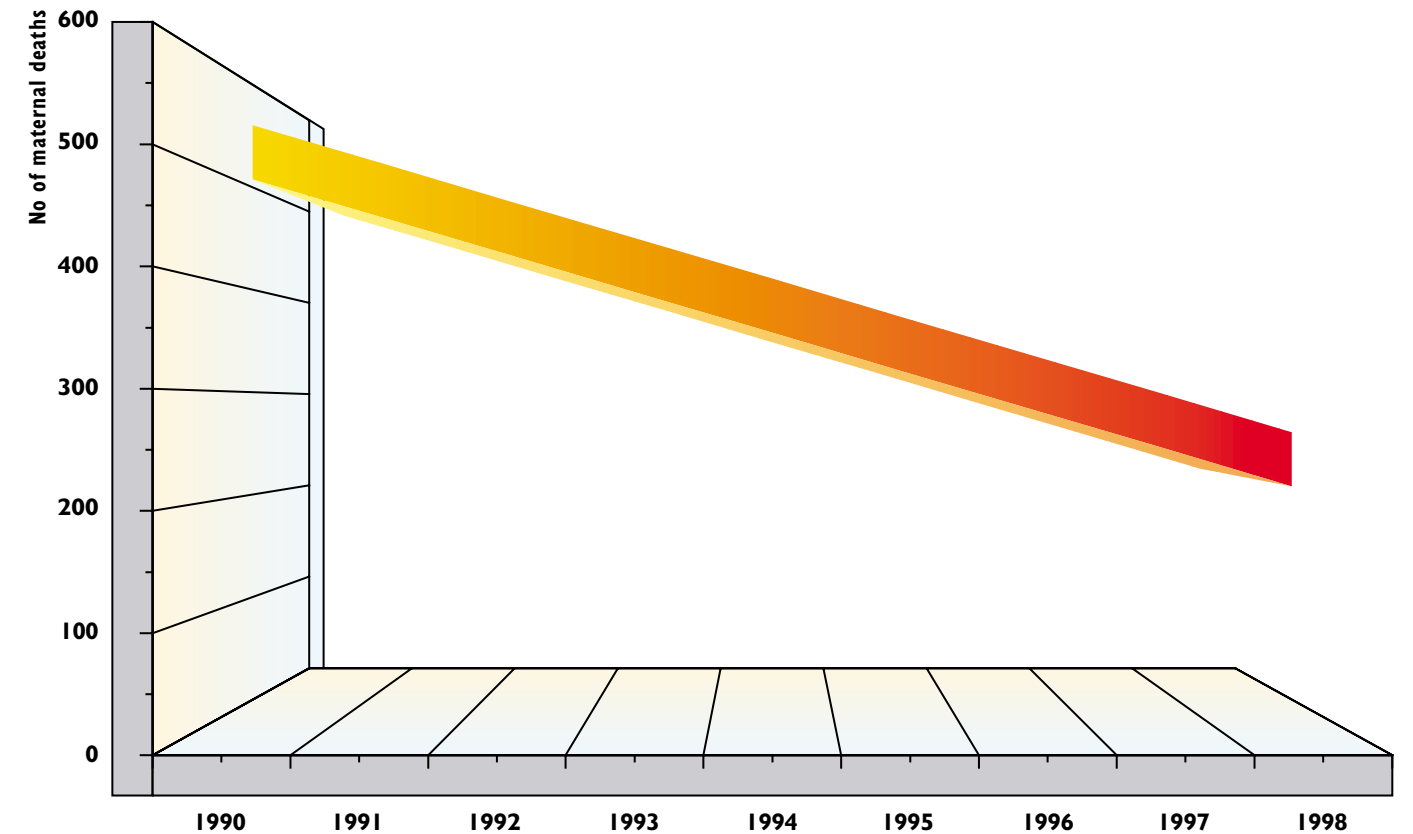
In Sri Lanka, where a third of the population are estimated to live below the national poverty line, maternal mortality ratios are among the lowest in the developing world. Most deliveries take place in a health facility, with the support of a skilled birth attendant. This achievement is the result of government commitment to improving education and health care in Sri Lanka, the relatively high status of women, and high female literacy rates.

IN MANY DEVELOPING COUNTRIES, women still do not have access to good antenatal care or adequate nutrition during pregnancy. Only about half of all deliveries are assisted by a skilled birth attendant (a doctor, midwife, nurse or community worker with midwifery training) – one of the key requisites for safe motherhood. Every year, 60 million births take place in which the mother is helped by a family member or an untrained traditional birth attendant – or gives birth alone. The problem is often compounded by poor follow-up care for both mother and baby and by a lack of family planning services to ensure that any future births are well spaced. WHO estimates that providing this minimum level of care – the so-called Mother-Baby Package – would cost about US\$ 3 per person each year in low-income countries.

In the midst of this casual disregard for the human rights and well-being of millions of women in developing countries, Sri Lanka is one country that stands out for its long-term commitment to safe motherhood. Infection rates have been reduced and the maternal mortality ratio is one of the lowest in the developing world at 60 per 100 000 live births. Since 1990, the number of maternal deaths has been halved from 520 to 250 in 1998.

Today, over 96% of deliveries in Sri Lanka are attended by a skilled birth attendant and over 90% take place in a health facility – with a referral system in place to ensure transport to one of 45 hospitals if complications occur. All first pregnancies and high-risk pregnancies are referred to

The Safe Motherhood Initiative reduces maternal deaths in Sri Lanka



Source: FCH/RHR/WHO



health facilities with obstetricians. And a network of community midwives provides antenatal care for about 75% of women throughout their pregnancy.

Yet Sri Lanka is not a rich country. In 1998, its GDP was only US\$ 802 per capita and more than a third of the population were estimated to be living below the national poverty line. By comparison, in Côte d'Ivoire, with a slightly higher GDP of US\$ 823, maternal mortality ratios are ten times higher.

Sri Lanka's success in preventing maternal deaths has been achieved against a backdrop of government commitment to improving education and health care. Over 93% of people today have access to basic health care. Health services are provided free of charge – although over 50% of people use the private sector – and few people are more than 1.4 km from the nearest health centre. Maternal and child health services are available at community level as part of integrated reproductive health services. Contraception is used by over 60% of



married women – allowing them to space pregnancies and limit family size. This has also helped reduce maternal deaths.

Another driving force today is the education and relatively high status of women. Adult literacy rates among women are 88% and girls have access to free education up to university level. As a result, there has been an increase in the age of marriage – to 25 in 1993 – and women are better able to take advantage of family planning and maternal health services.

However, continuing efforts will be needed to reach the small percentage of women in Sri Lanka who still do not have access to good maternal health care. Of the 5% of women who give birth at home, not all have access to a skilled birth attendant. And maternal death ratios are far higher in the north of the country due to the ongoing civil conflict and poor living conditions. Elsewhere, unsafe abortions account for an estimated 5%-9% of maternal deaths each year.

Mekong countries join hands in preventing HIV transmission to children

In Thailand, a programme to reduce mother-to-child transmission of HIV has helped in halving the number of young children infected in this way. Today Thailand is providing technical assistance to other countries in the Mekong region to help them achieve similar results.



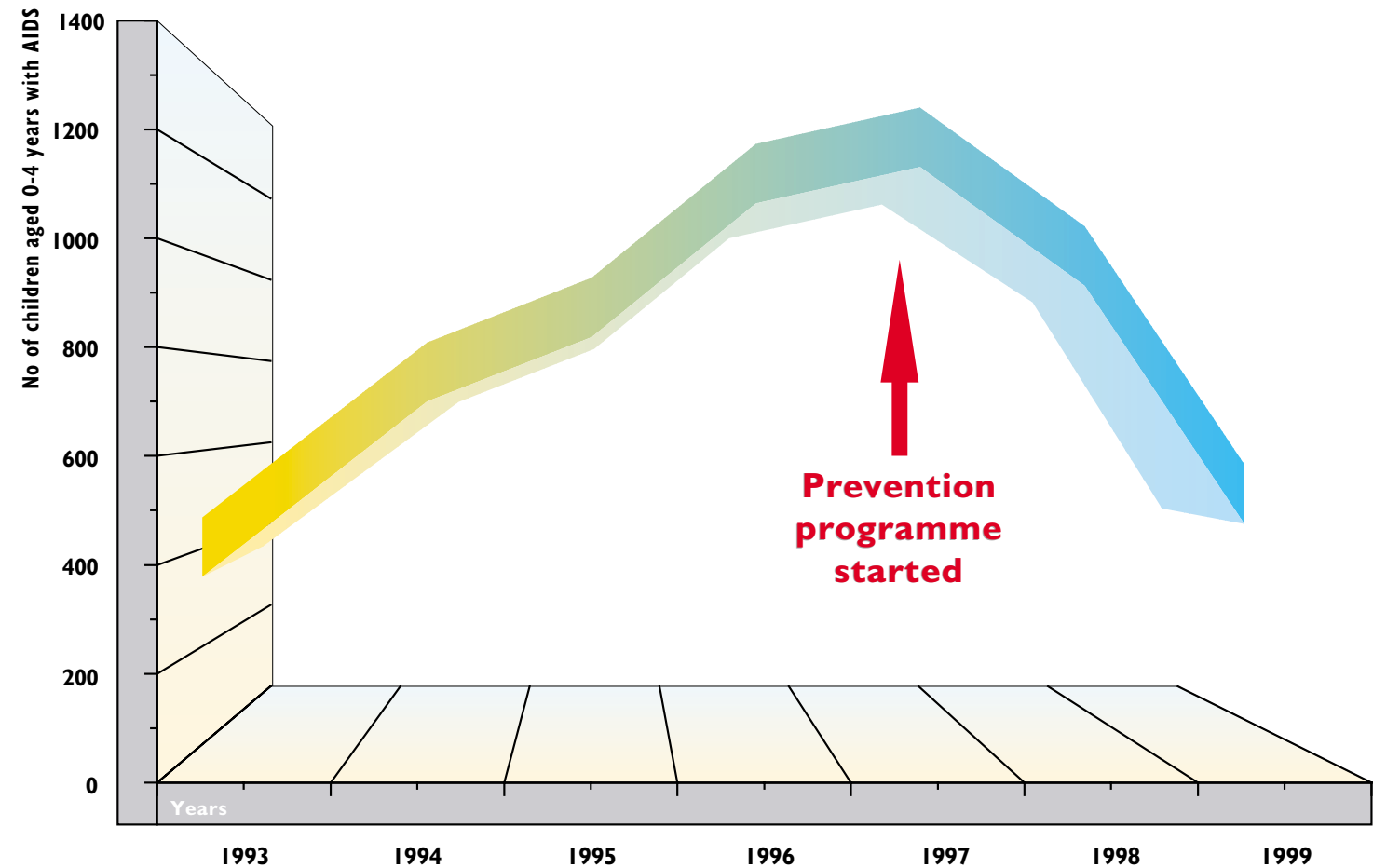
IN THAILAND, concerted efforts to reduce the rate of mother-to-child transmission of HIV have helped in achieving a 50% reduction in the number of children under four infected with the virus.

Launched in 1997, the programme includes voluntary counselling and testing for women attending antenatal care, a short course of anti-retroviral drugs during pregnancy for women found to be HIV-positive, and subsidies for breast-milk substitutes for one year. By 1999, the number of children under four years old infected during pregnancy, at birth, or through breastfeeding had been halved – from over 1200 in 1997 to 600 in 1999.

Mother-to-child transmission of HIV is today a high priority in East Asia, due to the rapid spread of HIV/AIDS, especially among women of reproductive age. In Thailand, where the government launched broad-based efforts to halt the spread of HIV, less than 2% of pregnant women are infected with HIV. In Myanmar, a study in early 1999 found that 2.6% of pregnant women were HIV-positive – with as many as 10%-13% of women testing positive at some test sites.

Today, Thailand is sharing technical assistance and expertise with Myanmar, Cambodia, and other countries in an effort to reduce mother-to-child transmission of HIV throughout the region. Rapid and flexible tools for assessing HIV transmission to children have been developed.

Thailand reduces mother-to-child transmission of HIV



Source: Ministry of Health, Thailand



Results from these assessments in various countries have underlined the critical importance of continuing primary prevention of HIV in women and men, and the need to strengthen community-based efforts to care for and support individuals and families affected by HIV/AIDS. The Thailand success story has also shown that these efforts must involve all levels and sectors of government as well as communities.

With assistance from Thailand, a bold programme is being developed in Myanmar to halt mother-to-child transmission of HIV. The programme will include training health workers in prevention issues, encouraging voluntary counselling and confidential testing, supporting the use of anti-retroviral drugs, assisting mothers in making the best choices for infant feeding, promotion of birth spacing, and strengthening existing health care for mothers and infants. The programme will involve working in partnership with NGOs and community-based organizations to provide care and support for people affected by HIV/AIDS. All of these activities will take place within the overall framework of HIV/AIDS prevention nationwide.

In Myanmar, some of this work has already begun. A working group has developed voluntary-counselling training manuals for health care providers, NGOs, and community leaders. And by the end of 2000, 120 participants – including health staff, NGO representatives, and community and religious lead-

ers – from the three pilot townships will have been trained in various aspects of preventing mother-to-child transmission of HIV.

The Thailand experience also highlighted the importance of complementing technical efforts for prevention of mother-to-child transmission of HIV with a social mobilization campaign. A social mobilization campaign has been launched in the pilot townships, which addresses the key role of families, communities, and religious leaders in building support for HIV prevention efforts. The campaign will focus on the need to encourage pregnant women to make better use of antenatal facilities, including services to prevent mother-to-child transmission of HIV, and to support mothers in making informed choices about infant feeding. Meanwhile, continuing efforts will also be needed to reduce the social stigma associated with HIV/AIDS and to provide assistance to people living with HIV.



Bangladesh reduces neonatal tetanus death rates by 90%

In Bangladesh, where most women still do not have access to a clean birth or skilled birth attendant, death rates for neonatal tetanus have been reduced by over 90% in just over a decade. Government commitment and support from a range of partnerships have led to a massive increase in tetanus toxoid immunization coverage among women of childbearing age, ensuring that both mothers and babies are protected against tetanus infection.

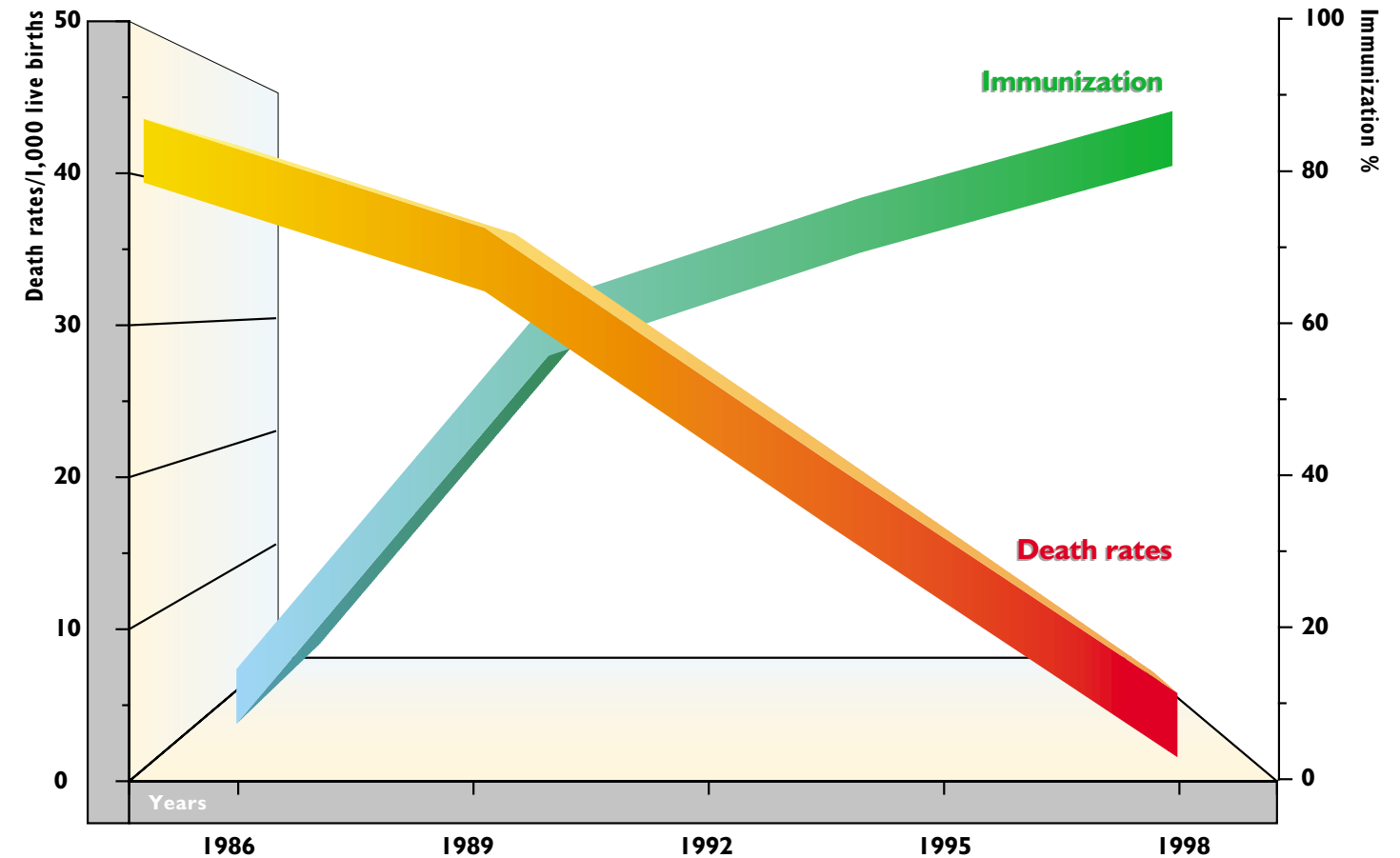
DURING 1998, ABOUT 215 000 BABIES WORLDWIDE died from neonatal tetanus infections. The disease strikes during the first few days or weeks of life when babies are most vulnerable to infection. Their short and painful lives often go unrecorded – neither the birth nor death officially registered. Infection usually starts because the umbilical cord stump has been exposed to dirt containing tetanus spores – through dirty hands or the use of a soiled implement to cut the cord.

Neonatal tetanus has been eliminated today in over 100 countries – through ensuring that women are immunized with tetanus toxoid during pregnancy and that they have access to a safe birth. The aim is twofold: to protect women against tetanus infection during pregnancy – which today accounts for 30 000 deaths worldwide – and to ensure that mothers pass this immunity to their unborn child. In this way, babies are protected against tetanus during the first two months of life, up to the age when they themselves can be immunized against the disease.

Tetanus toxoid is one of the cheapest, safest, and most effective vaccines. It costs about US\$ 1.20 on average to protect a mother and her newborn babies against tetanus infection – a sum that includes the purchase and delivery costs of three doses of vaccine as well as efforts to promote clean births. Yet in some of the poorest countries in the world less than one in three women of childbearing age have been immunized.

In Bangladesh, one of the world's least developed countries, over 80% of women give birth without any help from

Immunization against tetanus reduces mother & child deaths in Bangladesh



Source: EPI/WHO



a skilled birth attendant. Most deliveries take place at home, often in conditions of very poor hygiene – placing the lives of both mother and child at risk. An added problem in Bangladesh, especially in rural areas, is the traditional practice of using home-made ghee (clarified butter) to “heal” the umbilical stump. Yet despite this unpromising start to life, death rates for neonatal tetanus in newborn babies have been reduced by over 90% in Bangladesh in little more than a decade.

The turnaround is the result of mass immunization campaigns to protect women of childbearing age against tetanus infection. Nationwide efforts to increase coverage with tetanus toxoid vaccine have boosted immunization rates from 5% in 1986 to 86% by 1998.

In the mid-1980s, Bangladesh had one of the highest rates of neonatal tetanus in the world: 41 cases for every 1000 live births. Only 5% of women of childbearing age were immunized with tetanus toxoid and only 5% of pregnant women had access to a clean birth. Not surprisingly, neonatal tetanus accounted for one in four infant deaths.

Since then, the Bangladesh Government has orchestrated a nationwide effort to immunize all women of childbearing age with tetanus toxoid. With support from a consortium of partners including UNICEF, USAID, and WHO, thousands of vaccinators have been trained and a cold chain system established to ensure the safe storage and transport of vaccine. Vaccinators have used every means of transport at their disposal – including rickshaws, boats, and bikes – to ensure that supplies of vaccine are available even in the remotest areas.



In the early 1990s, there were fears that progress would be stalled when an inspection of local manufacture of tetanus toxoid revealed that the vaccine was sub-potent. The government responded by temporarily increasing imports of tetanus toxoid from outside suppliers and overhauled local vaccine production with support from the Finnish Government – ensuring that local production conformed to good manufacturing practices. A survey carried out two years later revealed that neonatal deaths rates were still on a downward trend.

Today, Bangladesh has succeeded in reducing death rates from 41 for every 1000 live births in 1986 to only 4 per 1000 by 1998. And in a final push to reach the WHO global target for elimination of neonatal tetanus – less than one neonatal tetanus death per 1000 live births in every district in every country – the focus has now switched to women in the highest-risk areas. In the latest round of this campaign in August 2000, up to 3 million women were targeted in high-risk areas. Contingency plans to use boats to reach and vaccinate women in areas cut off by the seasonal monsoon weather were not needed when the women regrouped to settle temporarily on dry land, making mass immunization a lot easier.

Even when the elimination target has been reached in Bangladesh, routine immunization and disease surveillance will have to continue, together with efforts to promote safe births. Unlike polio, maternal and neonatal tetanus can never be eradicated since the tetanus spores that cause the disease will persist in the environment.



A massive effort for better health among the poor



Global health has moved higher up the political agenda today as governments become increasingly aware that health is key to poverty reduction and development. Leaders of the G8 industrialized nations have recently added their voice to increasing global concern at the impact of infectious diseases in developing countries – endorsing the 10-year targets for reductions in the disease burden of HIV/AIDS, TB, and malaria which have been established by heads of state. The G8 leaders, meeting in Okinawa, Japan, in July 2000, committed themselves to making it possible to meet the 2010 health targets: to halve TB deaths and the prevalence of the disease; to halve the burden of disease associated with malaria; and to achieve a 25% reduction in the number of HIV/AIDS-infected young people.

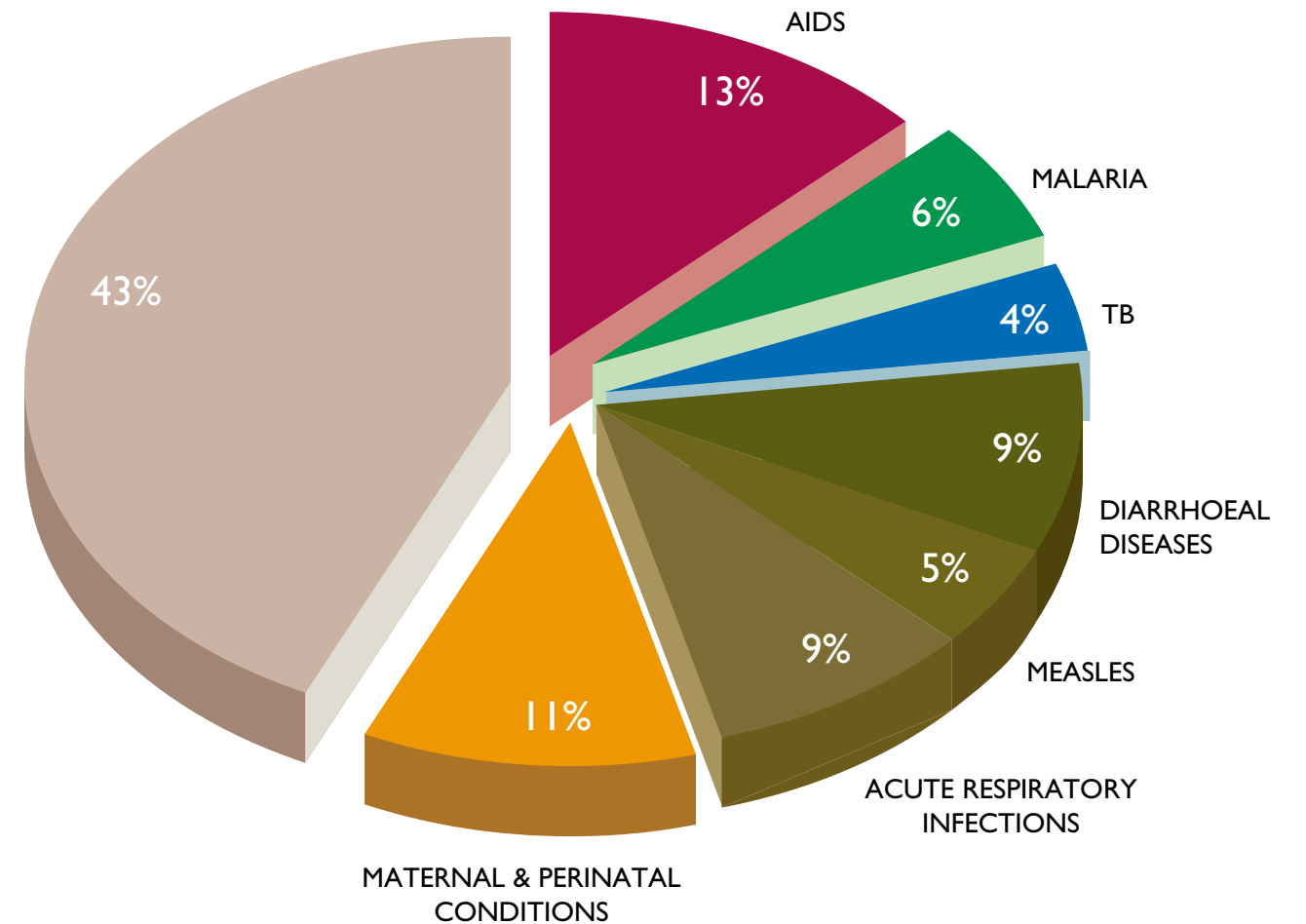
Since then, the European Commission has adopted a new policy framework on accelerated action against HIV/AIDS, malaria, and TB, in the context of poverty reduction. Meanwhile, the United States Government has warned of the global security threat posed by infectious diseases – which risk exacerbating social and political instability in key countries and regions.

Over the past year, UN agencies (including WHO, UNAIDS, UNICEF, UNESCO), the World Bank, national governments, and a broad range of development partners have examined how the year 2010 health targets can be met. And in December 2000, the G8 leaders meet again in Okinawa, to deliver agreement on a new strategy to meet these targets. A broad range of new partnerships are needed to create a powerful social and political movement worldwide, based on informal coalitions of partners from both the public and private sectors, NGOs, and other development partners, to scale up the use of current interventions for disease control, help accelerate the development of new tools, and push for reductions in the price of urgently needed drugs and vaccines. The initiatives are intended to help reduce poverty through efforts to reduce the excessive burden of illness and premature deaths among the poor.

The boundaries of health service provision need to be extended – engaging public and private sector partners in efforts to reach the millions of people

Deaths in developing countries

Two out of three deaths among children and young adults in Africa and South-East Asia are due to seven causes (ages 0-44)



with no access to the health services or commodities they need. A quantum leap forward is needed, not only in scale but in the level of funding required and in the use of innovative ways of delivering health care.

National governments will be at the centre of these efforts, which are intended to strengthen – not undermine – existing health service provision. If the massive effort is to be sustainable it will require concerted efforts to strengthen the capacity of national health systems – not only to effectively deliver essential commodities and services but also to set priorities in response to health needs, to ensure equity in the provision of goods and services, and to work in partnership with other sectors, while ensuring effective stewardship of health care.

In addition, efforts will be needed to increase people's control over their own health – through ensuring that people are aware of and seek access to available health interventions and services. Above all, the new partnerships will build on the experience of what works best – drawing on the experience of the success stories featured here.

New donors need to be attracted and a major increase in the current low level of development assistance for health needs to be mobilized. The emerging political commitment to address poverty and ill-health provides a unique window of opportunity for global action to reduce the burden of disease and help lift the poorest people out of poverty.



The challenge ahead is to:

- **target the health conditions that have the greatest impact on the well-being of the poor (including HIV/AIDS, malaria, TB, childhood infections, and reproductive health conditions)**
- **work through existing partnerships (such as the International Partnership Against AIDS in Africa, Stop TB, Roll Back Malaria, and Making Pregnancy Safer) to identify the most effective health strategies for different settings, based on the best available evidence**
- **reduce barriers to implementing strategies and ensure wider access to key interventions, in ways that involve poor populations**
- **establish new mechanisms within countries to make use of the most effective channels to ensure that the poor have access to life-saving interventions**
- **establish independent systems to monitor progress and impact**
- **encourage government stewardship and strengthen health and other systems to improve service delivery**
- **make use of poverty reduction strategies and sector-wide approaches**
- **work through partnerships with civil society and the private sector**
- **strengthen local and national capacity**
- **encourage intensified efforts to research and develop new diagnostics, medicines, and vaccines, and better public health approaches**
- **review the interaction between international trade practices and public health**
- **develop new relationships with the pharmaceutical industry (including the possibility of “tiered” pricing for different markets)**
- **increase political action to ensure that globalization benefits the poor.**

ABBREVIATIONS

AIDS:	Acquired Immunodeficiency Syndrome	ORT:	Oral Rehydration Therapy
AMREF:	African Medical Research Foundation	PHC:	Primary Health Care
ARI:	Acute Respiratory Infections	RBM:	Roll Back Malaria
DFID:	Department for International Development (UK)	STI:	Sexually Transmitted Infections
DOTS:	Directly Observed Treatment Short-course	TB:	Tuberculosis
EPI:	Expanded Programme on Immunization	UN:	United Nations
GDP:	Gross Domestic Product	UNESCO:	United Nations Educational, Scientific and Cultural Organization
HIV:	Human Immunodeficiency Virus	UNICEF:	United Nations Children's Fund
IFRC:	International Federation of Red Cross and Red Crescent Societies	WB:	World Bank
IMCI:	Integrated Management of Childhood Illness	WHO:	World Health Organization
NGO:	Non Governmental Organization		

PROJECT MANAGER Agnès Leotsakos
WRITER AND EDITOR Sheila Davey
EDITORIAL ADVISORS Kraig Klautt, Elil Renganathan, David Heymann
TECHNICAL INPUT WHO Programme on Communicable Diseases, Family and Community Health, Health Technology and Pharmaceuticals, Evidence and Information for Policy, UNICEF, UNAIDS

ART, DESIGN AND PUBLICATION CONSULTANT Fokion Kopanaris
PHOTOGRAPHS WHO, V&B/Polio, TDR, and UNAIDS Photo Libraries, Jad Davenport, Gary Hampton, Heidi Larson, Michael Midgley, Julie Graber.

PRINTED BY ATAR - ROTO PRESS, Switzerland

© 2000 COMMUNICABLE DISEASES/ WORLD HEALTH ORGANIZATION
All rights reserved

This document is not a formal publication of the World Health Organization, and all rights are reserved by the Organization. The document may, however, be freely reviewed, abstracted, reproduced and translated in part or in whole, but not for sale nor for use in conjunction with commercial purposes. Applications and enquiries should be addressed to the CDS Information Resource Centre, which will be glad to provide the latest information on plans for new editions and reprints, and translations already available.

WORLD HEALTH ORGANIZATION, COMMUNICABLE DISEASES (CDS)
20 Avenue Appia, CH-1211 Geneva 27, Switzerland,
<http://www.who.int>