2000
2005 keep the promise
2015

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Health and the Millennium Development Goals

World Health Organization

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Foreword

The eight Millennium Development Goals represent a unique global compact. Derived from the Millennium Declaration, which was signed by 189 countries, the MDGs benefit from international political support. As such, they reflect an unprecedented commitment by the world's leaders to tackle the most basic forms of injustice and inequality in our world: poverty, illiteracy and ill-health.

The health-related MDGs do not cover all the health issues that matter to poor people and poor countries. But they do serve as markers of the most basic challenges ahead: to stop women dying during pregnancy and child birth; to protect young children from ill-health and death; and to tackle the major communicable diseases, in particular HIV/AIDS. Unless we can deal with these fundamental issues, what hope is there for us to succeed in other, equally important areas of health?

2005 is a critical year, with the MDG target date of 2015 only 10 years away. The evidence so far suggests that while there has been some progress, too many countries - particularly the poorest - are falling behind in health. This is likely to affect other areas, including education, gender equality and poverty reduction. In short, the MDG vision - to create a better and fairer world - will fail unless we can do more to improve the health of poor people.

This report explains some of the reasons for the slow progress, and suggests solutions. It looks beyond the statistics to discuss strategic and policy areas where change is needed and support should be provided. As such, it summarizes WHO's contribution to debates on the MDGs and to the 2005 World Summit in September.

Much faster progress in health is possible and we have many success stories to draw on. We have the knowledge and tools, and the resources are attainable. What is required is political will and commitment to dramatically scale up our efforts. If we are to succeed, we must start now. Few challenges are more profound, or more urgent.

LEE Jong-wook
Director-General
World Health Organization

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Health and the Millennium Development Goals

Introduction

In 2000, the global community made an historic commitment: to eradicate extreme poverty and improve the health and welfare of the world's poorest people within 15 years. The commitment was set forth in the Millennium Declaration (1) and derived from it are eight time-bound goals, known as the Millennium Development Goals (MDGs, see chart).

The MDGs have gained widespread acceptance in rich and poor countries alike. They are seen to provide an overarching framework for development efforts, and benchmarks against which to judge success. With the MDG target date of 2015 just 10 years away, now is the time to review progress, take stock of achievements, and address challenges. From the perspective of health, the MDGs are important in at least five ways.

First, the MDGs provide a common set of priorities for addressing poverty. This unprecedented level of agreement between national governments, international agencies, and the United Nations system brings both political momentum and focus to development efforts.

Second, health is at the heart of the MDGs - a recognition that health is central to the global agenda of reducing poverty as well as an important measure of human well-being. Health is represented in three of the eight goals, and makes an acknowledged contribution to the achievement of all the other goals, in particular those related to the eradication of extreme poverty and hunger, education, and gender equality. Importantly, the health goals also focus on problems which disproportionally affect the poor.

Third, the MDGs set quantifiable and ambitious targets against which to measure progress. These provide an indication of whether efforts are on track, and a means of holding decision-makers to account.

Fourth, it is possible to calculate what it would cost to achieve the MDGs. This in turn draws attention to the massive funding gap between available and needed resources, thus providing additional support to long-standing calls from the health sector that funding needs to be dramatically increased.

Fifth, goal 8 calls for a global partnership for development. This unique feature of the MDGs recognizes that there are certain actions rich countries must take if poor countries are to achieve goals 1 to 7. Goal 8 is a reminder that global security and prosperity depend on a more equitable world for all.

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Importantly, the MDGs have also helped to crystallize the challenges in health. As developed and developing countries begin to look seriously at what it would take to achieve the health MDGs, the bottlenecks to progress have become clearer. These challenges - again, we have identified five - are the subject of this report. They also represent core elements of WHO's strategy for achieving the goals.

The first challenge is to strengthen health systems. Without more efficient and equitable health systems, countries will not be able to scale up the disease prevention and control programmes required to meet the specific health goals of reducing child and maternal mortality and rolling back HIV/AIDS, TB, and malaria. Chapter 2 outlines an agenda of action to improve health systems and to make them more responsive to the needs of the poor.

The second challenge is to ensure that health is prioritized within overall development and economic policies. This means looking beyond the health system and addressing the broad determinants of ill-health - low levels of education, poverty, unequal gender relations, high risk behaviours, and an unhealthy environment - as well as raising the profile of health within national poverty reduction and government reform processes. Chapter 3 looks at the practical implications of addressing health within the context of poverty reduction, and makes the point that within the group of developing countries there are very different experiences and needs. Fragile states, and those emerging from conflict, require particular attention.

The third challenge is to develop health strategies that respond to the diverse and evolving needs of countries. This means designing cost-effective strategies which address those diseases and conditions which account for the greatest share of the burden of disease, now and in the future. In addition to the priorities reflected in the MDGs, reproductive health interventions will be essential in all countries. Efforts to reduce violence and injuries - as well as noncommunicable diseases such as those related to cardiovascular disease and tobacco use - are important almost everywhere. As discussed in Chapter 4, the MDGs indicate desirable outcomes in terms of overall improvements in human well-being. The means of reaching those outcomes will necessarily encompass a broad range of activities - including a wide range of health actions.

The fourth challenge is to mobilize more resources for health in poor countries. Currently, low-income countries cannot 'afford' to achieve the MDGs, and aid is not filling the gap. Chapter 5 looks at how much it would cost to achieve the health MDGs, while Chapter 6 examines how aid (development assistance) for health could be delivered more efficiently and equitably.

The fifth challenge is that we need to improve the quality of health data. Measuring country progress towards the MDGs is a key responsibility of national governments, and global monitoring is one of the most important functions performed by the United Nations system. Such monitoring is instrumental in

informing global and national policy-making. At the global level, demonstrating progress can help to generate further resources and sustain political momentum. At country level, reliable information can help to ensure that policies are correctly oriented, and targeted at those most in need. Problems include paucity of data, weaknesses in health information systems, over-analysis of data, and the challenge of generating disaggregated information which is needed to look at differences between men and women, rich and poor. Chapter 7 examines some of the difficulties involved in monitoring the MDGs, and suggests some solutions. By examining these five challenges, this report focuses on policy issues of relevance to the health sector as a whole. Accordingly, it does not focus on any particular technical area, nor look at progress towards the MDGs on a country-by-country basis. However, Chapter 1 does provide a global overview of progress towards the health MDGs to date, identifying areas where there has been success, and many others where progress has been slower than hoped.

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Tackling diseases and conditions which disproportionately affect the poor is central to WHO's work. Efforts to achieve the MDGs are thus part of WHO's core business. WHO has extensive programmes to assist countries in their efforts to tackle HIV/AIDS, TB, and malaria; improve child and maternal health and nutrition; and scale up access to essential medicines. As a reflection of this, WHO's commitment to the Millennium Declaration has been reaffirmed by its governing bodies (2, 3) and WHO's next General Programme of Work will cover the period 2006 to 2015 - a time frame that was chosen specifically to correspond to the MDG target date of 2015. So while the MDGs do not reflect the entirety of WHO's work, they are central to its agenda in assisting Member States, and represent important milestones against which the Organization's overall contribution to health development can be measured.

Governments of rich and poor countries, development organizations, and civil society groups look to WHO for leadership and guidance in achieving the health MDGs. This report lays out the essential elements - the strategies and inputs - that will help the international community, working collectively, to tackle the health crisis facing many poor countries and, in so doing, contribute to poverty reduction.

The issues covered in this report were identified at a WHO interregional meeting held in Costa Rica in November 2004. Representatives from all six WHO regions, along with staff from headquarters and some country offices, came together to discuss the key, overarching challenges to achieving the MDGs. The result was a paper prepared for the Executive Board and a resolution approved by the Fifty-eighth World Health Assembly in May 2005 (4, 5). Both documents set forth what WHO believes to be the core strategic directions for achieving the health MDGs. This report goes into detail, reflecting more fully the wealth and depth of the discussions in Costa Rica.

1 - United Nations Millennium Declaration. New York, NY, United Nations, 2000 (A/RES/55/2; http://www.un-ngls.org/MDG/A-RES-55-2.pdf, accessed 22 April 2005).

2 - Resolution EB109.R3. WHO's contribution to achievement of the development goals of the United Nations Millennium Declaration. In: *109th Session of the Executive Board, Geneva, 14-21 January 2002. Resolutions and decisions*. Geneva, World Health Organization, 2002 (EB109.R3; http://www.who.int/gb/ebwha/pdf_files/EB109/eeb109r3.pdf, accessed 22 April 2005).

3 - WHO's contribution to achievement of the development goals of the United Nations Millennium Declaration. Note by the Director-General. In: *Fifty-fifth World Health Assembly, Geneva, 13-18 May 2002.* Geneva, World Health Organization, 2002 (A55/6; http://www.who.int/gb/ebwha/pdf_files/WHA55/ea556.pdf, accessed 22 April 2005).

4 - Achievement of the health-related Millennium Development Goals. Report by the Secretariat. In: *115th Session of the Executive Board, Geneva, 17-25 January 2005.* Geneva, World Health Organization, 2005. (EB115/5; http://www.who.int/gb/ebwha/pdf_files/EB115/B115_5-en.pdf, accessed 1 June 2005).

5 - Resolution WHA58.30. Accelerating the achievement of the internationally agreed health-related development goals including those contained in the Millennium Declaration. In: *Fifty-eighth World Health Assembly, Geneva, 16-25 May 2005*. Geneva, World Health Organization, 2005 (WHA58.30; http://www.who.int/gb/ebwha/pdf_files/WHA58/WHA58_30-en.pdf, accessed 1 June 2005).

Health in the Millennium Development Goals

Health Targets		Health Indicators
Goal 1: Eradicate extreme poverty and hunger		
Target 1	Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day	
Target 2	Halve, between 1990 and 2015, the proportion of people who suffer from hunger	4. Prevalence of underweight children under five years of age 5. Proportion of population below minimum level of dietary energy consumption
Goal 2: Achieve universal primary education		
Target 3	Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling	
Goal 3: Promote gender equality and empower women		
Target 4	Eliminate gender disparity in primary and secondary education, preferably by 2005, and at all levels of education no later than 2015	
Goal 4: Reduce child mortality		
Target 5	Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate	13. Under-five mortality rate 14. Infant mortality rate 15. Proportion of one-year-old children immunized against measles
Goal 5: Improve maternal health		
Target 6	Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio	16. Maternal mortality ratio 17. Proportion of births attended by skilled health personnel
Goal 6: Combat HIV/AIDS, malaria and other diseases		
Target 7	Have halted by 2015 and begun to reverse the spread of HIV/AIDS	18. HIV prevalence among pregnant women aged 15-24 years 19. Condom use rate of the contraceptive prevalence rate 20. Ratio of school attendance of orphans to school attendance of non-orphans aged 10-14 years
Target 8	Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases	21. Prevalence and death rates associated with malaria 22. Proportion of population in malaria-risk areas using effective malaria prevention and treatment measures 23. Prevalence and death rates associated with tuberculosis 24. Proportion of tuberculosis cases detected and cured under DOTS (Directly Observed Treatment Short-course)
Goal 7: Ensure environmental sustainability		
Target 9	Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources	29. Proportion of population using solid fuels
Target 10	Halve by 2015 the proportion of people without sustainable access to safe drinking-water and sanitation	30. Proportion of population with sustainable access to an improved water source, urban and rural
Target 11	By 2020 to have achieved a significant improvement in the lives of at least 100 million slum dwellers	31. Proportion of population with access to improved sanitation, urban and rural
Goal 8: Develop a global partnership for development		
Target 12	Develop further an open, rule-based, predictable, non-discriminatory trading and financial system	
Target 13	Address the special needs of the least developed countries	
Target 14	Address the special needs of landlocked countries and small island developing states	
Target 15	Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term	
Target 16	In cooperation with developing countries, develop and implement strategies for decent and productive work for youth	
Target 17	In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries	46. Proportion of population with access to affordable essential drugs on a sustainable basis
Target 18	In cooperation with the private sector, make available the benefits of new technologies, especially information and communications	

Sources: "Implementation of the United Nations Millennium Declaration", Report of the Secretary-General, A/57/270 (31 July 2002), first annual report based on the "Road map towards the implementation of the United Nations Millennium Declaration", Report of the Secretary-General, A/56/326 (6 September 2001); United Nations Statistics Division, Millennium Indicators Database, verified in July 2004; World Health Organization, Department of MDGs, Health and Development Policy (HDP).

Progress towards the health MDGs

This chapter provides an overview of

progress

towards achieving the Millennium Development Goals and targets related to health.[i] In 2005 we are slightly more than halfway towards the MDG target date of 2015 (targets are set against 1990 baselines). Overall, the data presented here are not encouraging: they suggest that if trends observed during the 1990s continue, the majority of poor countries will not meet the health MDGs.

None of the poorest regions of the developing world is currently on track to meet the child mortality target. For maternal mortality, evidence indicates that declines have been limited to countries with lower levels of mortality; countries with high maternal mortality are experiencing stagnation or even reversals.

Data on *coverage* of some health interventions are more hopeful. For example, the proportion of women who have a skilled medical person with them during delivery has increased rapidly in some regions - especially in Asia, albeit from a low baseline; use of insecticide-treated bednets has risen; and coverage of effective TB treatment has expanded. However, other data (not represented in this chapter) suggest that coverage of child health interventions is not following this pattern: the median coverage rate of key preventive and curative child survival interventions remains at between 20% and 25%.

...

i - The data presented in this report have been provided by WHO, UNICEF and UNAIDS. The charts and maps have been prepared in the context of the 2005 report on progress towards the MDGs by the United Nations Statistics Division. Additional input to the health sections of this UN report were provided by the OECD, UNFPA and the World Bank.

...

The task of generating national averages of the 17 health indicators associated with the MDGs has proved to be technically and operationally complex (see Chapter 7). However, MDG monitoring has for the first time made available a reliable and comparable set of country health statistics - information which is useful for both policy-making and advocacy purposes. Yet, while MDG monitoring generates good descriptive evidence on progress towards health targets, it falls short on analysis.

Statistics alone do not tell us *why* mortality or coverage rates are rising or falling, nor suggest which policy responses are appropriate. Chapters 2-7 of this report look beyond the target-by-target information and attempt to identify trends, successes, and failures which are currently affecting the health sector as a whole. Some of the challenges are fundamental, and characteristic of poverty and lack of development in general, although many are specific to health. WHO believes that only by addressing these broad, sector-wide challenges can we make progress in all areas of health, and ensure that in the future the MDG health statistics will present a more promising picture.

GOAL 1:
ERADICATE EXTREME POVERTY AND HUNGER

Target 2. Halve, between 1990 and 2015, the proportion of people who suffer from hunger

Indicator 4. *Prevalence of underweight children under five years of age*

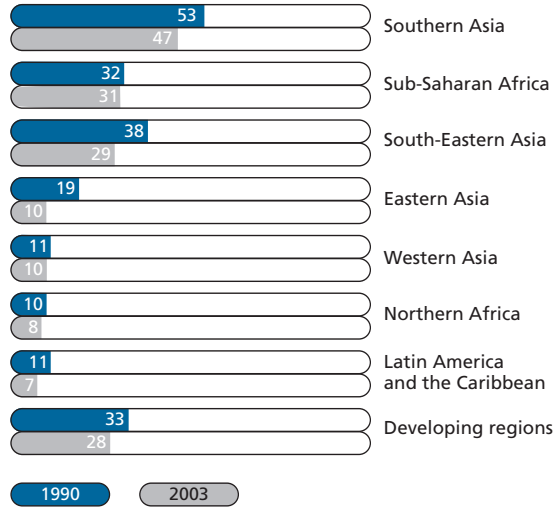
Child malnutrition - measured as poor child growth - is internationally recognized as an important public health indicator. Young children are most vulnerable to malnutrition and face the greatest risk of its adverse consequences.

Malnutrition is caused not only by food deprivation, but also by the debilitating effects of infectious diseases, such as diarrhoea and pneumonia, and lack of care. It contributes to over half of child deaths. Progress in reducing child malnutrition has been slow (see Figure 1).

Over 150 million children under age five in the developing world are malnourished (underweight), including almost half the children in southern Asia. In sub-Saharan Africa, the number of underweight children increased from 29 million to 37 million between 1990 and 2003. Progress was made in eastern Asia where the number of malnourished children declined from 24 to 10 million.

Strategies to combat child malnutrition include exclusive breastfeeding for the first six months, increasing the use of micronutrient supplements, reducing infectious diseases and improving access to clean water and sanitation.

Figure 1: Proportion of children under age five who are underweight, 1990 and 2003 (in percentage)

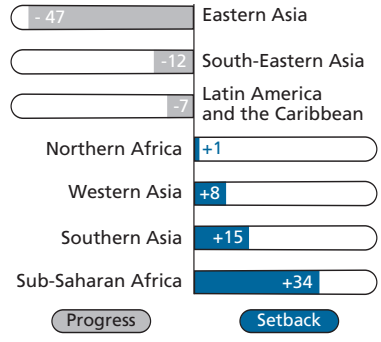


Sources: UNICEF, WHO

Indicator 5. *Proportion of population below minimum level of dietary energy consumption*

There were 815 million hungry people in the developing world in 2002. In the worst-affected regions, the number of hungry people has increased by tens of millions (see Figure 2). Growing populations and poor agricultural productivity have been the main reasons for food shortages in these regions. Hunger tends to be concentrated in rural areas among the landless or among farmers whose plots are too small to provide for their needs.

Figure 2: Change in number of people with insufficient food between 1990 and 2002 (in millions)



Source: FAO

GOAL 4:
REDUCE CHILD MORTALITY

Target 5. Reduce by two thirds, between 1990 and 2015, the under-five mortality rate (U5MR)

Indicator 13. *Under-five mortality rate*

During 1960-1990, child mortality in developing regions was halved to one child in 10 dying before age five. The aim is to further cut child mortality by two thirds.

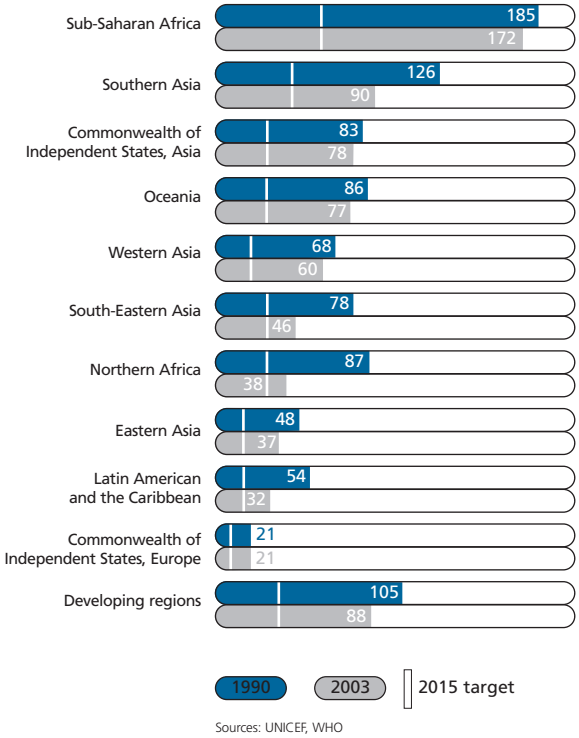
Six causes account for 73% of the 10.6 million deaths in children under five years: pneumonia, diarrhoea, malaria, neonatal pneumonia or sepsis, preterm delivery and asphyxia at birth.

More than one in five deaths among children under five occurs during the first week of life, most due to malnutrition in the mother and fetus leading to low birth weights, and compounded by poor antenatal care and lack of skilled birth attendants.

Regional estimates of U5MR in 2003 vary from a low of nine per 1000 live births for developed countries to a high of 172 per 1000 live births in sub-Saharan Africa (see Figure 3). In relation to the goal, the difference between regions in the reduction of U5MR over the period 1990-2003 is striking. Northern Africa, Latin America and the Caribbean, and south-eastern Asia have made rapid progress, but other regions are clearly not on track. For a number of countries in sub-Saharan Africa with high levels of HIV infection this can, to some extent, be attributed to mother-to-child transmission of HIV.

For most countries, however, progress in reducing child deaths has also slowed because efforts to reduce malnutrition and to achieve full coverage with interventions against diarrhoea, pneumonia, vaccine-preventable diseases, and malaria have been inadequate. If trends in U5MR during the 1990s continue at the same rate until 2015, the reduction of U5MR worldwide over the period 1990-2015 will be about one quarter, far from the goal of a two thirds reduction. Even if the rate of reduction increased fivefold, the goal of a two thirds reduction would still not be reached by 2015.

Figure 3: Under-five mortality rate per 1000 live births, 1990 and 2003

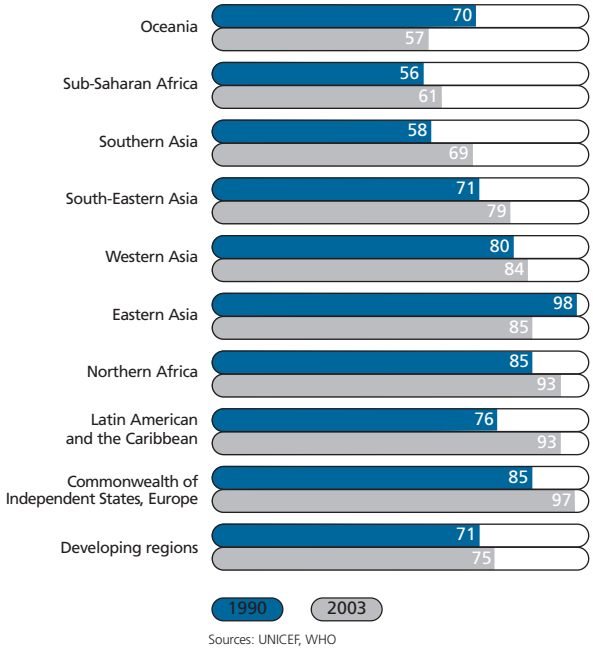


Sources: UNICEF, WHO

Indicator 15. *Proportion of one-year-old children immunized against measles*

Despite the availability of a safe, effective, and relatively inexpensive measles vaccine for more than 40 years, measles remains a major cause of childhood mortality. About 4% of deaths among children under five are attributed to measles.

Figure 4: Measles immunization coverage: regional trends (in percentage)



Sources: UNICEF, WHO

The trend in measles immunization coverage since 1990 is illustrated in Figure 4 for various regions.

The graph shows that while routine measles immunization coverage in developing countries as a whole remained relatively constant between 1990 (71%) and 2003 (75%), striking regional differences exist. The developed market economies, Central and Eastern Europe and the Commonwealth of Independent States, Latin America and the Caribbean, and the Middle East and northern Africa regions show stable trends at above 85% coverage. The southern Asia region remains at below 80% coverage but is improving, primarily due to increasing levels of coverage in India. The eastern Asia region shows a sharp decline from 98% coverage in 1990 to 85% in 2003. This decline is associated primarily with a change in methodology of measuring coverage in the People's Republic of China. There is a gradual but small improvement in coverage in the sub-Saharan Africa region from 56% in 1990 to 61% in 2003.

GOAL 5:
IMPROVE MATERNAL HEALTH

Target 6. Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio

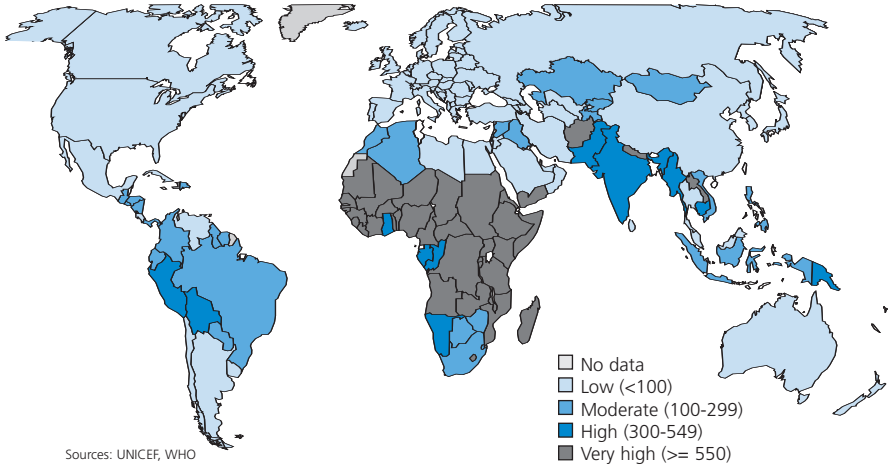
Indicator 16. *Maternal mortality ratio*

Complications during pregnancy and childbirth are a leading cause of death and disability among women of reproductive age in developing countries, killing over half a million women in 2000 and causing disability and suffering among many millions more. In 2000, half of these deaths (251 000) occurred in Africa, about 48% (253 000) occurred in Asia, about 4% (22 000) in Latin America and the Caribbean, and less than 1% (2 500) in the more developed regions of the world.

Universal access to reproductive health care, including family planning, is the starting point for maternal health. It is particularly important for addressing the needs of the 1.3 billion young people about to begin their reproductive lives. Currently, 200 million women have an unmet need for safe and effective contraceptive services.

The maternal mortality ratio, which is a measure of the obstetric risk associated with each pregnancy, is estimated to be 400 per 100 000 live births globally. By region, it is highest in Africa (830), followed by Asia (330), Oceania (240), Latin America and the Caribbean (190), and the developed countries (20). In high fertility settings, women face this risk several times during their lives and the cumulative lifetime risk of maternal death may be as high as one in 16, compared with one in 2 800 in developed countries. Maternal mortality is difficult to measure reliably in most developing countries where there is neither comprehensive registration of deaths nor medical certification of cause of death. Although household surveys offer an alternative approach, sample size requirements are such that the estimates have wide confidence intervals which render them inappropriate for use in tracking trends over time. For this reason, trend data on maternal mortality are sparse. There is some evidence that although some countries have experienced reductions in maternal mortality, such declines have not occured in countries where pregnancy and childbirth are most risky. The status of maternal mortality around the world is illustrated by Figure 5.

Figure 5: Maternal Mortality Ratio per 100 000 live births, 2000



Sources: UNICEF, WHO

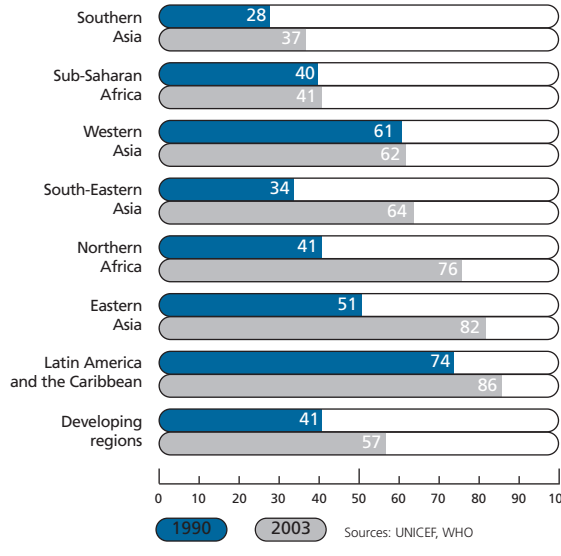
Indicator 17. *Proportion of births attended by skilled health personnel*

Professional care at birth can help reduce maternal mortality. The proportion of women who deliver with the assistance of a skilled health-care provider - doctor, nurse, midwife - is highly correlated with maternal mortality ratios.

Trends in this indicator during the 1990s suggest that significant progress has been made in developing countries, with an overall increase from 41% to 57% between 1990 and 2003. However, there are important differences across regions, as shown in Figure 6. In sub-Saharan Africa, there was no significant change over the period, with coverage of skilled attendants remaining at around 40% throughout the decade. Similarly, in western Asia, there was also little improvement, with coverage increasing by only 2%, although rates were generally higher than in sub-Saharan Africa. By contrast, coverage increased significantly in northern Africa and in south-eastern Asia so that by the year 2003, between two thirds and three quarters of women had a skilled attendant at delivery in these regions.

Although coverage increased over the decade in southern Asia, it remains very low; only one woman in three in southern Asia is assisted by a skilled person during delivery. In Latin America/Caribbean use of skilled attendants increased by 16% over the period - although this region has the highest overall levels of coverage with 86% of women having a skilled attendant at delivery in 2003. Within these regional groupings there are significant differences between and within countries.

Figure 6: Skilled care at delivery: regional trends (in percentage)



Sources: UNICEF, WHO

GOAL 6:
COMBAT HIV/AIDS, MALARIA AND OTHER DISEASES

Target 7. Have halted by 2015 and begun to reverse the spread of HIV/AIDS

Indicator 18. *HIV prevalence among pregnant women aged 15-24*

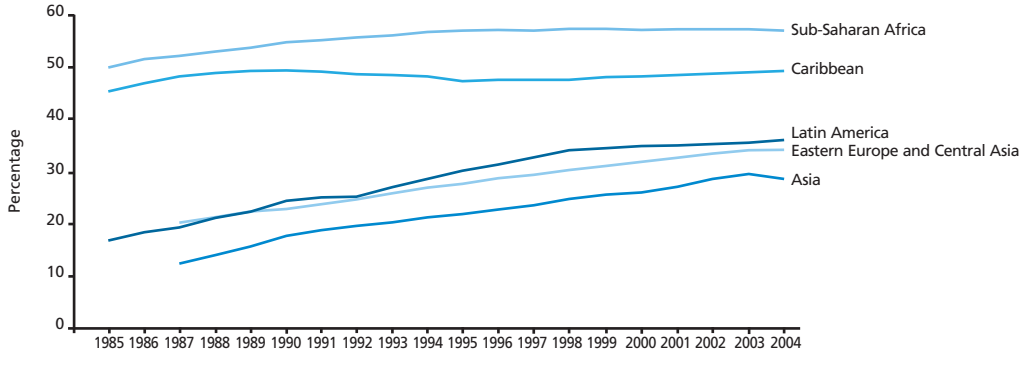
HIV/AIDS is by far the leading cause of premature mortality in sub-Saharan Africa and the fourth-biggest killer worldwide. At the end of 2004, an estimated 39 million people globally were living with HIV. There were 3.1 million AIDS deaths in 2004, including 510 000 child deaths. In sub-Saharan Africa, HIV prevalence rates among adults have reached around 7.4%, rising to over 20% in some settings.

Prevalence rates appear to have stabilized in most subregions in sub-Saharan Africa. The Caribbean is the second most affected region with prevalence among adults at around 2.3%. In recent years, several countries in eastern Europe have experienced rapidly growing epidemics. In countries of Asia and the Pacific, rapid spread has occurred in populations with high-risk behaviour with the potential for gradual spread in the general population, but some countries have shown that generalized epidemics can be checked by a strong response. HIV prevalence among adults in south and south-east Asia is estimated at 0.6% in 2004. In high-income countries in North America, western Europe and Australia, rising infection rates in some groups suggest that advances made in treatment and care have not been matched consistently with progress in prevention.

Globally, just under half the people living with HIV are female, but as the epidemic worsens, the share of infected women and girls is growing. For physiological reasons, and because they typically lack power in sexual relations with men, women and girls are more vulnerable to HIV infection. In sub-Saharan Africa, 57% of the infected people are women (see Figure 7). Services that protect women against HIV should be expanded, and education and prevention are needed to counteract the factors that contribute to women's vulnerability and risk.

The MDG indicator HIV prevalence among young pregnant women (15-24) is used as an indicator of the new infection rate in a population. Currently, not enough data are available to provide a full trend analysis for this indicator.

Figure 7: Percentage of adults aged 15-49 living with HIV who are women, selected developing regions, 1985-2004



Sources: UNAIDS, WHO

Indicator 19. *Condom use rate of the contraceptive prevalence rate*[ii]

There are still relatively few countries that have collected data on condom use at last sex with a non-cohabiting partner. However, of the countries with nationally representative data in sub-Saharan Africa (19 of 48 countries), 41% of young men report using a condom at last sex with a non-cohabiting partner, while 23% of young women report using a condom at last sex with such a partner.

Indicator 20. *Ratio of school attendance of orphans to school attendance of non-orphans aged 10-14 years*

An estimated 3.1 million people died of AIDS in 2004. Around 15 million children under 15 lost one or both parents to AIDS by 2003 in countries in Africa, Asia, and Latin America and the Caribbean. In countries that are highly affected by HIV/AIDS the proportion of orphans under 15 years of age due to all causes can be as high as 17% of all children. The number of double orphans (both mother and father have died) is increasing as the epidemic matures. MDG indicator 20 measures the ratio of

ii - This indicator, mentioned in the MDG framework, is not routinely monitored. Instead, countries collect data on condom use at last sex with a non-cohabiting partner.

current school attendance among orphans and non-orphans aged 10-14 years. Data associated with this indicator are compiled by UNICEF. On average, in sub-Saharan Africa, children who are double orphans are 17% less likely to attend school than children whose parents are both alive and who are living with at least one of those parents.

Target 8. Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases

Indicator 21. *Prevalence and death rates associated with malaria*

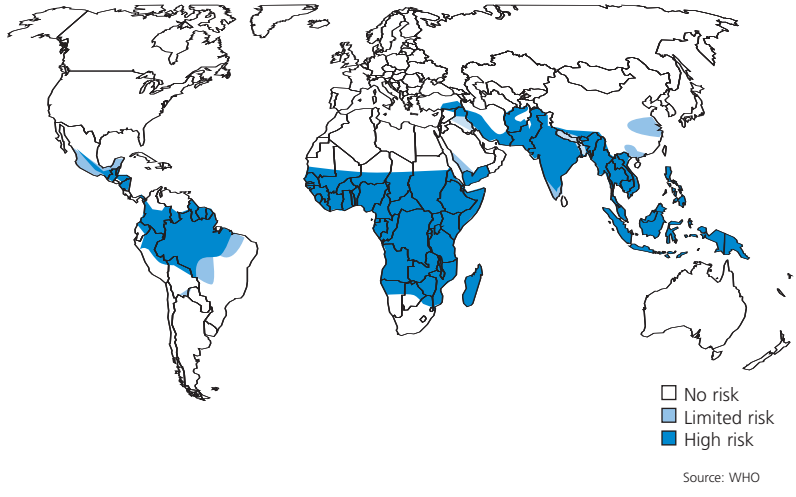
Estimates of the number of acute malaria cases are highly variable, and range up to 500 million. At a minimum, 1 million people die from malaria every year, and malaria is likely to be a contributing factor in another 2 million deaths. About 80% of malaria deaths are among young children living in sub-Saharan Africa. Malaria mortality among children 0-4 years in sub-Saharan Africa in the year 2002 was estimated at more than 800 000 deaths. Today, 40% of the world's population - primarily those living in the world's poorest countries - are at risk of contracting malaria. In many parts of Africa, children experience at least three life-threatening infections by the age of one; those who survive may suffer learning impairments or brain damage. Pregnant women and their unborn children are also at particular risk of malaria, which is a cause of perinatal mortality, low birth weight and maternal anaemia.

The risk of malaria transmission is shown in Figure 8.

Indicator 22. *Proportion of population in malaria-risk areas using effective malaria prevention and treatment measures*

Much of current monitoring on malaria control focuses on children under the age of five in Africa because they suffer the largest burden. Currently only about 15% of them sleep under a net, and only 2% sleep under an insecticide-treated net. In the majority of African countries for which data are available, at

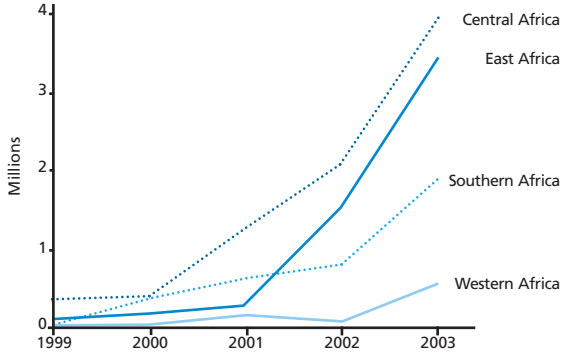
Figure 8: World map of risk of malaria transmission



Source: WHO

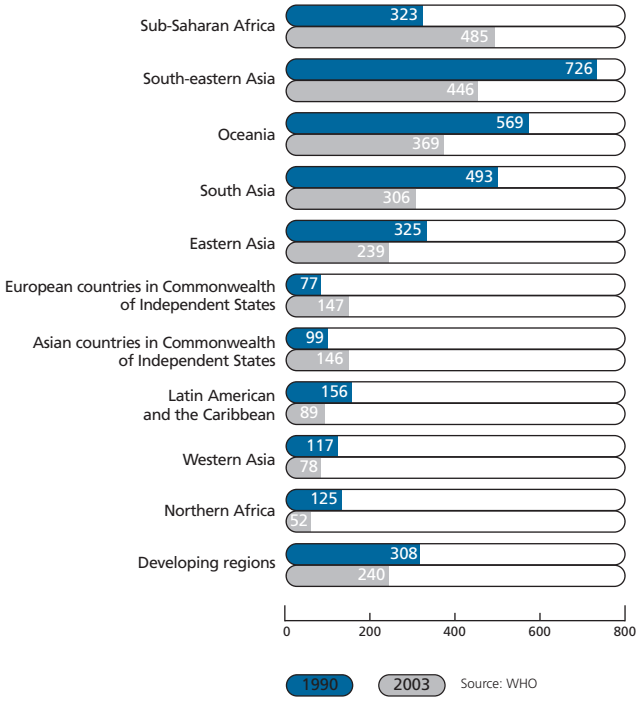
least 50% of children under five years with recent fever are treated with anti-malarial drugs. However, these figures do not take into account late treatment, inadequate dosing, poor quality drugs, or resistance of the malaria parasite to the drugs. So the coverage rates for effective, life-saving treatment are likely to be significantly lower. However, rapid progress has been made in the delivery of mosquito nets and insecticides to malaria-endemic countries in sub-Saharan Africa. As Figure 9 shows, procurement or distribution of bed nets has increased four-fold in sub-Saharan Africa over the past five years.

Figure 9: Mosquito nets sold or distributed, sub-Saharan Africa, 1999-2003 (in millions)



Source: UNICEF

Figure 10: TB prevalence, number of cases per 100 000 population (excluding HIV positive)



Source: WHO

Indicator 23. *Prevalence and death rates associated with tuberculosis*

Tuberculosis kills nearly 1.7 million people a year, most of them in their prime productive years. The emergence of drug-resistant strains of the disease, the spread of HIV/AIDS, which enhances susceptibility to TB, and the growing number of refugees and displaced persons, have all contributed to its spread. In 2003, there were an estimated 8.8 million new cases, including 674 000 in people infected with HIV. The number of new tuberculosis cases has been growing by about 1% a year, predominantly because of the AIDS epidemic in sub-Saharan Africa. By contrast, prevalence and death rates may already be falling in other regions (see Figure 10). Whether the burden of TB can be reduced sufficiently to reach the MDGs by 2015 depends on how rapidly TB treatment programmes can be implemented by a diversity of health-care providers, and how effectively they can be adapted to meet the challenges presented by HIV co-infection (especially in Africa) and drug resistance (especially in eastern Europe).

Indicator 24. *Proportion of tuberculosis cases detected and cured under DOTS*

To reach the target of 85% treatment success, a special effort must be made to improve cure rates in Africa and eastern Europe.

The success of DOTS[iii] depends on expanding case detection while ensuring high treatment success rates. Many of the 182 national DOTS programmes in existence by the end of 2003 have shown that they can achieve high treatment success rates, close to or exceeding the global target, set forth by the Stop TB Partnership, of 85%. The global treatment success rate for DOTS programmes was 82% for the cohort of patients registered in 2002, maintaining the high level achieved for patients treated in 2001. However, cure rates tend to be lower, and death rates higher, where drug resistance is frequent, or HIV prevalence is high.

By contrast, DOTS programmes are less than two thirds of the way to the Stop TB target of 70% case detection. In 2003, 45% of estimated new smear-positive TB cases were notified under DOTS. However, there are signs that case-finding under DOTS has accelerated globally over the past three years (up from 28% in 2000). Between 1995 and 2000, the number of smear-positive cases notified under DOTS increased on average by 134 000 each year. From 2002 to 2003, the increase was 324 000 cases. If the improvement in case-finding between 2002 and 2003 can be maintained, the case-detection rate will be 60% in 2005. To reach the 70% target, DOTS programmes must recruit TB patients from non-participating clinics and hospitals, especially in the private sector in Asia, and from beyond the present limits of public health systems in Africa.

iii - DOTS (Directly Observed Treatment Short-course) is the WHO recommended strategy to control TB.

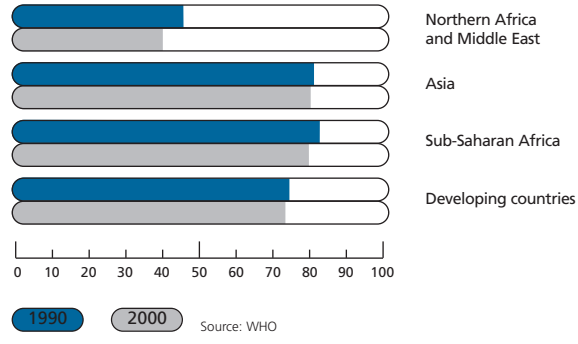
GOAL 7:
ENSURE ENVIRONMENTAL SUSTAINABILITY

Target 9. Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources

Indicator 29. *Proportion of population using solid fuels*

Approximately one half of the world's population rely on biomass (wood, charcoal, crop residues, and dung) and coal as their primary source of domestic energy for cooking and heating. In developing countries, the lack of clean fuels has a direct impact on rural households. Indoor air pollution caused by these fuels is estimated to cause more than 1.6 million deaths per year, mostly among women and children. While virtually no households in the countries of the established market economies use solid fuel as the primary source of domestic energy, the fraction is well above half in Africa and south-east Asia. Solid fuel use is especially common among poor households. In Latin America and the Caribbean, for example, households with a per capita income of less than US$ 1 per day and between US$ 1 and US$ 2 per day, are seven and four times as likely to be solid fuels users, respectively, than those living above US$ 2 per day. In some countries, the declining trend of household dependence on biomass has slowed in the 1990s, or even reversed - especially among poorer households. As a result, the gains in solid fuel reduction in urban regions of China have been offset by increases elsewhere. Overall, the patterns of household solid fuel use in developing countries have remained relatively unchanged between 1990 and 2000 (see Figure 11).

Figure 11: Household solid fuel use: trends in developing countries [iv] (in percentage)



iv - Data from Latin America and the Caribbean were insufficient

Target 10. Halve by 2015 the proportion of people without sustainable access to safe drinking-water and sanitation

Indicator 30. *Proportion of population with sustainable access to an improved water source, urban and rural*

During the period 1990-2002, improved water coverage in developing regions rose from 71% to 79%. As Figure 12 shows, the greatest gain was registered in southern Asia (from 71% to 84%). The lowest coverage rates remain in sub-Saharan Africa where only 58% of the population has access. Rural areas have seen the greatest improvements in coverage compared with urban areas (7% compared with 1%). However, having started from a much lower base, rural areas remain poorly served in terms of access to safe water. Urban-rural disparities are greatest in sub-Saharan Africa where only 45% of the rural population has access to improved sources compared with 83% of the urban population. Similarly high disparities (28%) are found in both Latin America and eastern Asia. In 2002, some 1.1 billion people - one sixth of the world's population - still lacked access to improved drinking-water. The majority of these people live in Africa and Asia. The overall progress seen in the period 1990-2002 (around one third reduction of the percentage without access) shows that the MDG goal, as measured by access to improved water sources, is attainable if the current rate of increase is sustained. However, sub-Saharan Africa is unlikely to achieve the target. Due to the increasing world population, access needs to be provided to about 1.5 billion people. This translates into the establishment of new water supply services for an additional 275 000 people each day until 2015.

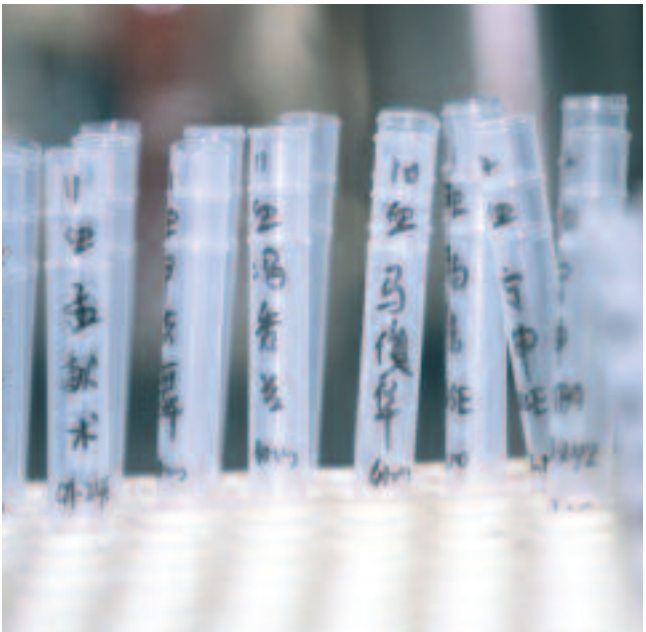
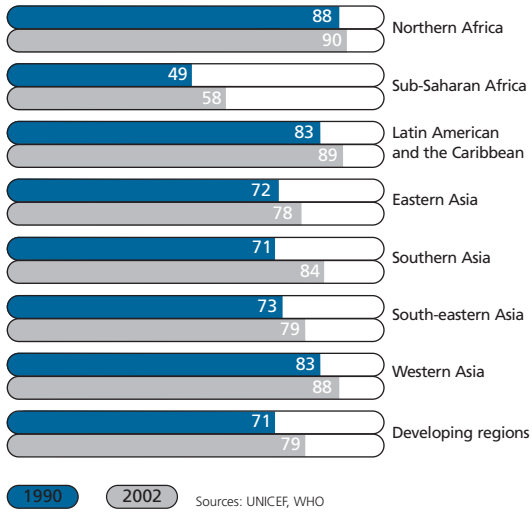
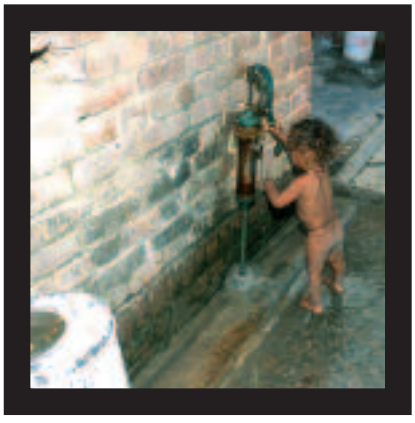


Figure 12: Access to improved water sources: regional trends (in percentage)



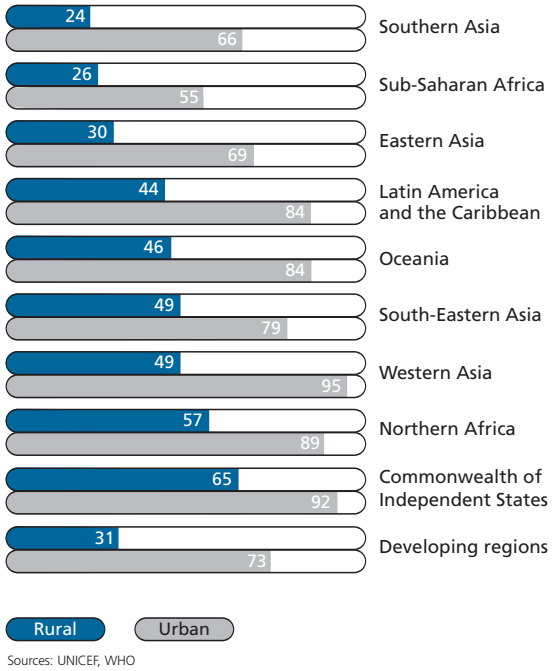
Indicator 31. *Proportion of population with access to improved sanitation, urban and rural*

Sharp disparities in access to sanitation exist between urban and rural areas. Rural populations have less than half the coverage of urban areas (see Figure 13). But statistics on coverage in urban areas mask the deprivation in urban slums. Both use of safe water and basic sanitation coverage remain extremely low in the burgeoning slums of the developing world.



Overall in the developing world, the richest 20% of households are twice as likely to use safe drinking water sources as the poorest 20% of households, and four times more likely to use improved sanitation.

Figure 13: Proportion of population using improved sanitation in urban and rural areas, 2002 (in percentage)



Sources: UNICEF, WHO

GOAL 8:
DEVELOP A GLOBAL PARTNERSHIP FOR DEVELOPMENT

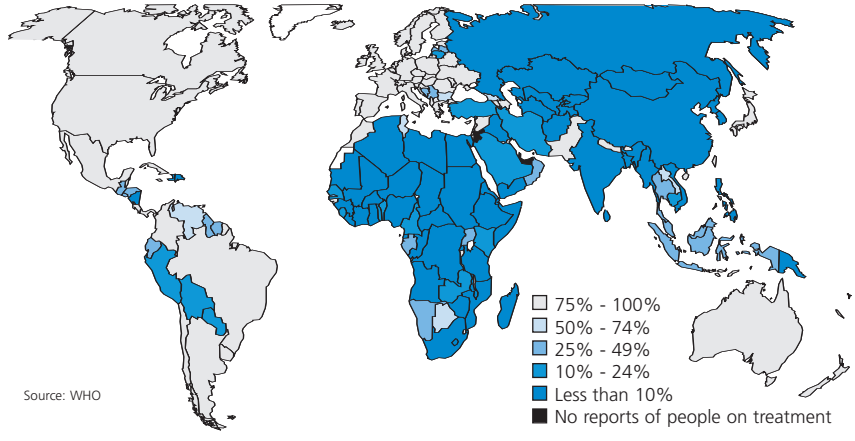
Target 17. In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries

Indicator 46. *Proportion of population with access to affordable essential drugs on a sustainable basis*

Progress continues to be made in increasing the availability of essential drugs to developing regions, as a result of efforts by national governments, donors, the private sector, and others. A major boost to this effort occurred in 2001, when the World Trade Organization (WTO) ruled that the TRIPS (Trade-Related Aspects of Intellectual Property Rights) agreement, which - among other things - protects patents on drugs, should be interpreted to support countries' rights to safeguard public health and promote access to medicines for all. This was followed by a WTO decision in 2003 to ease restrictions on the importation of generic drugs by the poorest countries for the treatment of rapidly spreading 'high-cost' diseases, such as AIDS, malaria, and tuberculosis.

Access to antiretroviral medicines (shown in Figure 14) should not be interpreted as a marker for access to essential medicines more generally, however access to antiretrovirals is an issue of global concern. The number of people receiving antiretroviral therapy increased from 400 000 in early 2004 to just under one million by mid-2005. This however corresponds with only 15% coverage among the 6.5 million people who need such therapy, about three quarters of whom are in sub-Saharan Africa. Though the price of generic versions has dropped precipitously, the cost of these drugs and the challenges of making them available in settings with weak health systems and limited capacity to reach those in need remain the biggest obstacles to treatment.

Figure 14: Access to antiretroviral therapy



Estimated percentage of people covered among those in need of antiretroviral therapy, situation as of December 2004

Fully functioning and equitable health systems: a prerequisite for reaching the health MDGs

health

outcomes are unacceptably low across much of the developing world. Chapter 1 shows that sub-Saharan Africa is worst affected, but there are extreme and acute pockets of ill-health in all regions. At the centre of this human crisis is the failure of health systems, which have both failed to protect the poor from the consequences of ill-health and in some cases contributed to more widespread social breakdown.

Much of the burden of disease can be prevented or cured with known and affordable technologies. The problem is in getting staff, medicines, vaccines, and information - on time, reliably, and in sufficient, sustained and affordable quantities - to those who need them. In too many countries, the health systems needed to achieve these objectives either do not exist or are on the point of collapse. We have examples of successful delivery strategies for single diseases, which have worked on a large scale in low- and middle-income countries (see box). The difficulty has been in achieving similar results for all causes of disease and disability.

Synergies in strengthening systems and public health outcomes: some examples from TB control

In countries where the private sector dominates in providing health care, expanding public-private collaboration in TB control offers a chance to increase access to quality care. It can also reduce dangerous practices that fuel the spread of drug-resistant disease.

In many countries, particularly in Asia, cost-effective public-private mix TB service approaches are expanding. In India, national authorities have set TB service contracting standards for collaborating with the private sector. In Indonesia, DOTS[i] expansion is accelerating: partnerships within the public sector, between TB programmes and large public hospitals, are yielding faster patient recruitment. This approach demands more investment in service supervision as well as the fostering of support from local leaders.

In the Philippines, strengthening of TB services within primary care systems is part of the health reform programme, including decentralization, community engagement and new insurance schemes. In Pakistan, the Lady Health Worker programme provides one platform, and private providers another, for expanding DOTS coverage and treatment follow-up.

Among village workers, hospitals, and provinces in China, financial disincentives to TB control are being overcome through offering compensation to those curing free-care TB patients, as well as through increased central Government subsidies for disease control overall.

In the countries of the former Soviet Union, linkages are being strengthened across the health services of the ministries of health and justice. Prisons have been an epicentre of the resurgence of TB - due to the underlying health status of inmates, overcrowding, and previously poor drug supply. Larger reforms are needed to reduce such underlying risks and to enable more community-based care.

In Bolivia, Ministry of Health outreach teams for poor indigenous communities provide a platform for social mobilization, active TB case-finding, and early treatment among those at risk. Kenya and Malawi have also developed strategies to extend access by the very poor - for example by offering TB treatment at remote health posts and even from shops. In the United Republic of Tanzania, TB control is now financed from the health budget, after a decade of full external dependence.

i - DOTS is the WHO recommended strategy to control TB.

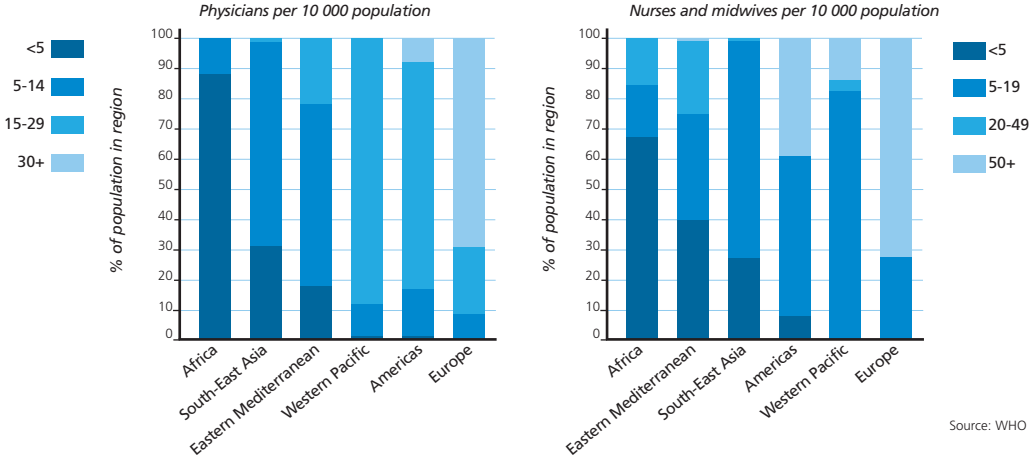
National health systems worldwide have evolved in response to changing historical, economic, and social circumstances. It is therefore not surprising that health systems often mirror the problems that beset societies more broadly, as for example in relation to governance, management, financing, or inclusiveness. The converse is also true: in countries where health systems are at risk of collapse, the causes - such as chronic underinvestment or the impact of HIV/AIDS - do not affect the health sector alone. The starting point for addressing the effectiveness of health systems is therefore to define the elements of a clear and actionable agenda which recognizes and responds to underperformance in the sector itself but which also acknowledges that success depends on a range of factors in wider society.

A health systems action agenda

The creation of strong health systems is not an end in itself - it is a means to achieve better health outcomes. Effective and equitable health systems are an absolute requirement for achieving the MDGs as well as other health goals, such as those related to reproductive health and immunization. It has been estimated that universal access to broad-based health services could meet 60-70% of the child mortality and 70-80% of the maternal mortality MDGs (1). Furthermore, strengthening health systems is essential if the current increase in aid for health (see Chapter 5) is to be well spent now and sustained in the future.

The first challenge is to define clear priorities for improving the functioning of the health system, while at the same time recognizing that its essential elements are - as those of any other system - interdependent. A change in financing strategy which, for instance, makes clinics more dependent for their income on user fees, will inevitably influence provider behaviour, the balance between curative and preventive care, client demand, and so forth. Removing charges, on the other hand, may increase utilization among poorer groups while having unexpected

Figure 1: Human resources for health, by WHO region, 1995-2004



Source: WHO

consequences in terms of demand for commodities, health worker motivation, and quality of care. Accordingly, strengthening of health systems needs to be seen as an integral part of national health policy. Actions to strengthen health systems will draw from a common menu, but specific priorities and sequencing will be determined by national circumstances.

A general point to make is that there are many ways to reflect the relationship between goals, functions, and components of the health system - one approach was articulated in *The world health report 2000* (2). This chapter is not a contribution to that debate. Rather, it aims to highlight the importance of strong health systems to the achievement of the MDGs, to identify some of the factors that affect overall performance, and to emphasize the need for change on a national scale.

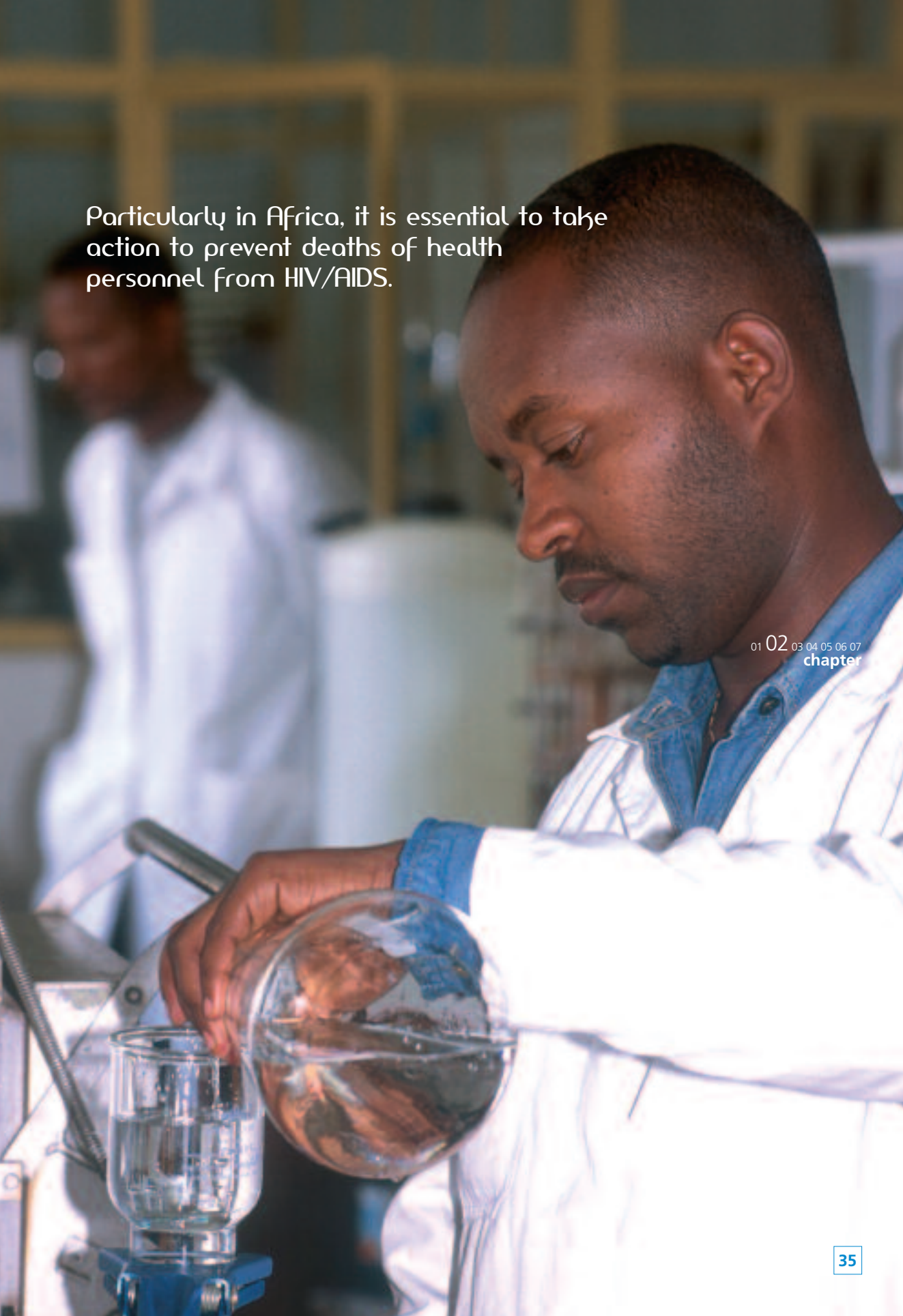
Human resources for health

In many countries, particularly in Africa, the shortage of health service staff has become one of the most serious constraints to scaling up the response to HIV/AIDS and the achievement of the other health MDGs. Health workers are dying; they are leaving public service because the conditions are bad and getting worse - in many countries, health workers themselves live below the poverty line; they are moving from rural to urban areas, migrating to countries that pay them better, or leaving health care altogether. As Figure 1 shows, almost 90% of the population in Africa lives in areas where there are less than five doctors per 10 000 people, and more than 60% have less than five nurses or midwives per 10 000 population.

The action agenda is clear. Addressing the human resources challenge will require work to improve pay, supplements, and incentives for those working in poorer areas; efforts to upgrade the skill-mix of health workers - in particular, to strengthen essential emergency and surgical skills and knowledge of primary health care; and better partnerships with private providers, nongovernmental organizations (NGOs), and community partners.

This agenda will in turn require a reassessment of tasks and responsibilities and a review of job descriptions to ensure the appropriate allocation of tasks to various categories of health workers at various levels of the system - from community health centre to district hospital. In most parts of the world, the key issue is that of shortages of personnel. However, even in those countries of eastern Europe and central Asia where this is not the case, efforts are required on several fronts to increase efficiency and effectiveness.

Particularly in Africa, it is essential to take action to prevent deaths of health personnel from HIV/AIDS. Where migration is stripping health systems of vital personnel, efforts are required - both within and among countries - to manage mobility without infringing upon individual rights. The key point is that the crisis demands political as well as technical solutions because it is deeply associated with national priority setting (for example, why should health workers get special treatment, compared to other public sector workers?) and because it often involves overcoming conflicting interests at the core of national and international political processes (3, 4, 5, 6).


Particularly in Africa, it is essential to take action to prevent deaths of health personnel from HIV/AIDS.

In the countries most affected by the human resources crisis, national as well as global approaches are needed. Also needed is the cooperation of multiple actors both within and across countries. International institutions - including those dealing with trade and immigration, and employment policy bodies and regulatory regimes - must be part of the response. WHO is working with others to draw attention to the challenges and advocate for increased action on the human resources crisis. WHO also assists ministries of health to expand and improve their health workforce, and works to promote policy coherence on human resources issues throughout governments and with development partners.

Fair and sustainable financing

There are reasonably robust estimates of what constitutes an adequate level of investment in health systems, but few developing countries reach anything like this level of spending (see Chapter 5). Beyond level of spending, the key questions concern *how* the health system is financed and what proportion of contributions comes from users themselves - either in the form of out-of-pocket contributions (common in most poor countries) or through insurance payments.

This chapter does not discuss the merits and problems associated with various approaches, such as cost-sharing, cost-recovery, user fees, and private and community-based insurance. Rather, it promotes the principle that whatever system of financing a country adopts, that system should not deter people from seeking and using services. In most cases, this will mean that payments at the point of service will need to be eliminated - or at least related to ability to pay. The financing system should also - as a minimum - protect people from catastrophic expenditure if they become ill, promote treatment according to need, and encourage providers to offer an effective mix of curative and preventive services.

Given these policy objectives, the choice of strategy - between purely tax-based financing and various forms of social insurance, for example - will be determined by a variety of factors. Success will depend upon not just the technical merits of the argument for and against a particular strategy, but will also require careful marshalling of political support and a sober assessment of managerial and administrative capacity.

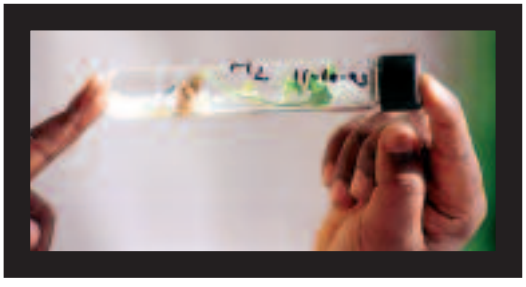
For example, experience suggests that scaling up small-scale community-based insurance schemes often falters when coverage expands. Similarly, establishing a sustainable nationwide health insurance system is a complex task for under-resourced health systems, requiring active political support from legislators, ministries of finance and labour, employers, and unions - as well as reliable systems for managing contributions and payments.

Drugs, diagnostics, and the basic infrastructure needed to deliver services

The provision of health services relies on the availability of regular supplies of medicines and equipment, as well as appropriate infrastructure at facility level. Facilities without safe water and electricity, with non-functioning equipment, and with infrequent or inadequate deliveries of drugs, diagnostics, and other supplies, are all too common in many developing countries.

The provision of drugs and vaccines alone cannot build systems nor ensure quality of care, but without the facilities and materials to do their job, health professionals cannot function. When the health care system cannot deliver, it loses credibility and people turn elsewhere. In many cases, they turn to unqualified health workers, which may worsen their chances of being treated effectively. A poor system of medical supplies can also create problems of drug resistance.

Basic life-saving commodities are in short supply in most low-income health systems. In part, this is a result of resource shortages, but even when substantial increases in funding are available (as is now the case with monies from the Global Fund to Fight AIDS, Tuberculosis and Malaria), problems still remain. Building effective and accountable national procurement and drug management systems is an increasingly prominent component of the health systems action agenda[ii].



After staff shortages, slow and dysfunctional procurement systems can be the most serious constraint to scaling-up. The ideal approach is to build and strengthen national systems, rather than to bypass them or use offshore mechanisms, as is the current practice of some donor agencies. Building the requisite systems that are capable of reliable purchase and distribution of medicines - and which can overcome corruption where it exists - involves addressing a combination of administrative, managerial, and political issues.

Assessing progress and tracking results

Successful scaling-up and maintenance of health care services depend on the generation and use of sound data on health system inputs, processes, outputs, and outcomes. While, at first glance, information does not appear to be an inherently politicized issue, it becomes so when linked to accountability and transparency (particularly of resource allocation). The general public wants reassurance that public policy in health is based on sound evidence of approaches that work, and that the distribution of energies and resources is effective, efficient, and equitable. Reliable health data also provide important information on broader social and developmental progress, as maternal and child mortality indicators are often used as indicators of poverty.

Functional health information systems are needed to deliver that reassurance. Yet, the vast majority of the world's poorest countries cannot even count their dead. In sub-Saharan Africa, fewer than 10 countries have vital registration systems that produce viable data. In many poor countries, patient records - the 'building blocks' of information systems - are so poorly completed and maintained that they become obstacles to better clinical care and improved information systems. Generation of disaggregated data - while challenging - is vital to provide information for the development of health policy targeted at those in need.

ii - See WHO Essential drugs and medicines policy for more detail (http://www.who.int/medicines/, accessed 28 April 2005).

Addressing these issues requires action on two fronts. First, a massive effort is needed to strengthen health information systems, and - crucially - to link data to decision-making and accountability. One of the reasons that health information systems remain underfunded and dysfunctional is that decision-makers are not interested in, nor do they rely on, the outputs of those systems. This is both because data are of poor quality and incomplete, and because they are not summarized in a way that makes sense to decision-makers. Second, work is needed to build international consensus on *what* needs to be monitored, particularly in terms of what constitutes the most appropriate set of indicators for measuring performance of health systems. The Health Metrics Network, based at WHO, has been established to tackle both sets of issues (see Chapter 7).

Organizing health services: towards a more equitable and pro-poor approach

Actions to strengthen health systems need to be grounded within an overarching health strategy which aims, in particular, to improve the health of the poor and vulnerable. The problem of inequitable health outcomes between rich and poor is an issue in all countries, although it is usually worst in the poorest countries (see Chapter 4). Limited health resources are typically spent in urban areas, providing health centres to serve relatively better-off and more vocal populations, while the rural poor and slum dwellers are more likely to seek care from expensive private providers. As a result, the health system can itself contribute to poverty, when health-care payments push the poor or near-poor into destitution, or when lack of access to care creates lifelong disability, limiting earning power.

Much of the debate around provision of health services has tended to focus on public sector primary care. A more comprehensive action agenda must take into account the health system as a whole - recognizing the role of private providers and the contribution of community-based organizations, NGOs, and home-based care. In practice, ambulatory care in many low-income countries is provided by a wide range of private, voluntary, traditional, and community providers.

Getting such a variety of providers to work together to provide consistent and quality services is a key priority. Franchising and other forms of 'managed networks' - in which private businesses such as drug shops undertake to deliver public health interventions in accordance with guidelines set by the franchiser - work well for some specific services, including family planning, treatment of sexually-transmitted diseases, and TB. However, this approach works less well for general care.

In many countries, creating a 'pro-poor' system is likely to require either an increase or a reallocation of resources to primary level and outreach services. However, access to hospital treatment is also critical for obstetric emergencies and for injuries and accidents. In countries in crisis, hospitals can be one of the few places of refuge for those caught up in fighting. In addition to being accessible, hospitals must be affordable; the costs associated with hospital treatment may force poor families to sell the few assets they have, deepening their poverty.

In many countries, administrative decentralization aims to bring health-service management closer to the people. Experience suggests, however, that governments need to consider carefully how financial and other incentives can be used to ensure both that national priorities (for example, in relation to services such as immunization) are maintained, and that locally-run services are genuinely more efficient and responsive - particularly to the needs of the poor. Ensuring quality of care is an important issue in this regard, and can be a problem even in relatively well-resourced countries such as the eastern European countries of the former Soviet Union. Quality and responsiveness are key elements in increasing demand for services. For poor people in particular, a visit to a health clinic can be a demeaning and humiliating experience. Introducing incentives for providers to deliver better quality care must therefore be part of broader efforts to strengthen the health system. Differences between poor men and women also need to be taken into account. Women and men are exposed to poverty differently, and respond in different ways. For example, women are more likely to be subject to violence, be denied property rights, and experience occupational segregation - all of which impact on their health and the health of their families.

A related but sometimes forgotten point is that services in poor areas are often costly to provide. Infrastructure may need to be re-established and staff paid incentives to work in remote locations. That said, these costs need to be compared with the price of providing tertiary care to the urban middle class - which, as mentioned above, often captures a disproportionate share of health budgets in poor countries.

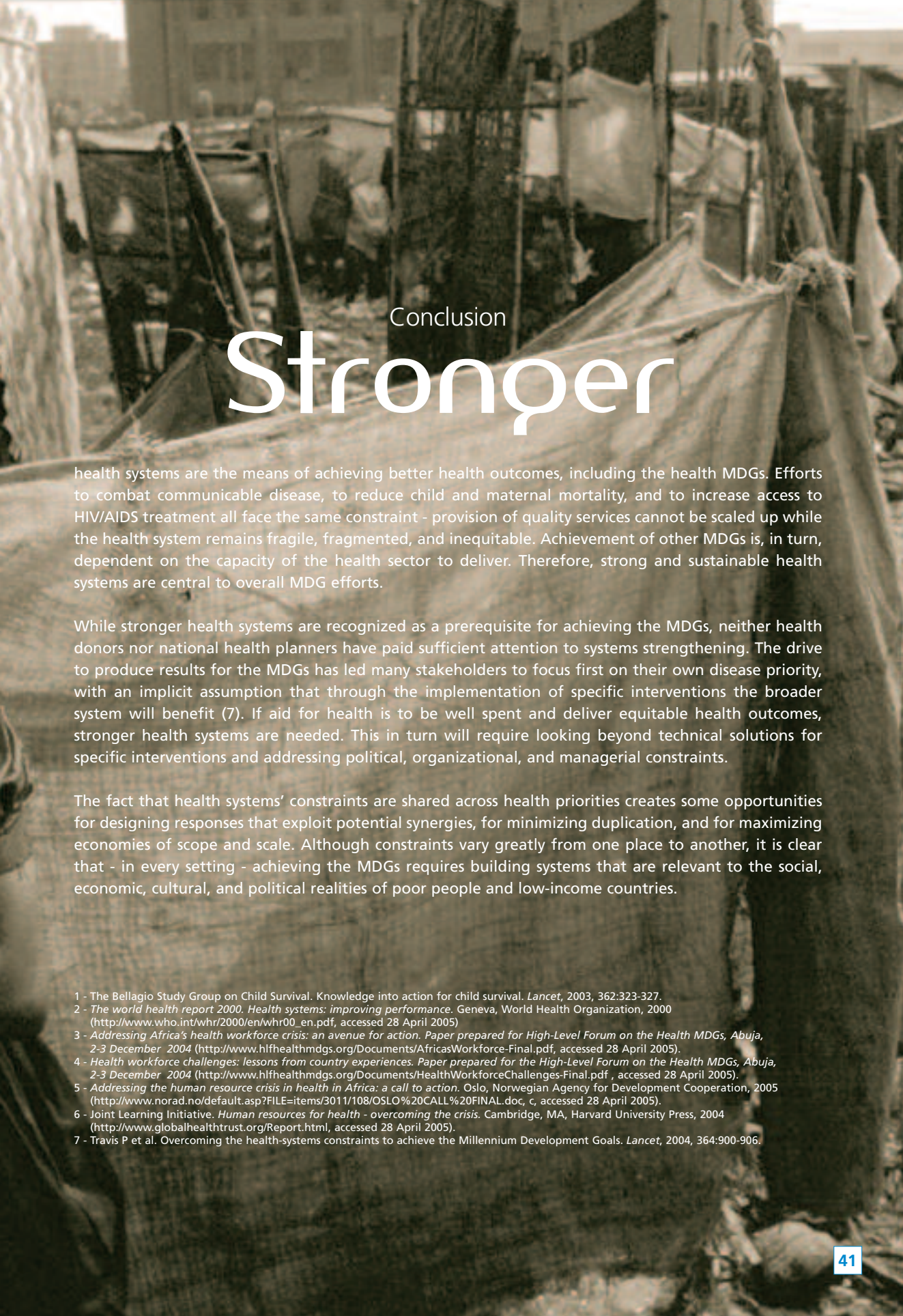
In summary, a 'pro-poor' approach does not imply establishing separate health services for the poor - although targeted outreach services can often be a useful tool for reaching poor communities. Rather, it means addressing the inequitable allocation of staff and funds by shifting resources towards services and activities which benefit the poor and the marginalized. For many countries, the essence of a pro-poor approach is to renew or reinvigorate the primary health care strategy through investments in quality public health and personal care services, and improved access to hospitals. Ensuring equitable financing mechanisms and forming links with other sectors which influence health outcomes - such as education, water, and the environment - are also essential.

Defining the rules of engagement: stewardship and the role of the state

Stewardship refers to the oversight role of the state in shaping, regulating, and managing health systems. Governments are expected to provide public and private health system actors with overall policy direction; to create conditions that allow them to do their jobs; to ensure oversight across the whole system with particular attention to equity concerns; and to reconcile competing demands for resources. The growing share of external funding channelled through disease-specific initiatives poses a particular challenge to the government oversight function (see Chapter 6).

'Stewardship' is often used as a shorthand term to describe the more political functions of the state in relation to health systems, with the implicit assumption that the other components are largely technical issues. As the discussion above shows, this is not the case. The stewardship function itself includes several important managerial functions (for example, regulation of insurance markets, setting and maintenance of professional standards, and facility management and logistics).

In addition, stewardship also covers key areas which are influenced by overall government policy, and are thus subject to the differing views of competing groups. These include oversight of human resources for health, the way in which financing is organized, the relationship with the private sector and with voluntary organizations, and - not least - strategies for addressing inclusion and equity. Although increasingly decentralized, these functions remain well within the public sector and are as subject to the political economy as any other component of the health system. Capacity needs to be built within ministries of health to manage these issues and to ensure the best possible results according to available resources.



Conclusion

Stronger

health systems are the means of achieving better health outcomes, including the health MDGs. Efforts to combat communicable disease, to reduce child and maternal mortality, and to increase access to HIV/AIDS treatment all face the same constraint - provision of quality services cannot be scaled up while the health system remains fragile, fragmented, and inequitable. Achievement of other MDGs is, in turn, dependent on the capacity of the health sector to deliver. Therefore, strong and sustainable health systems are central to overall MDG efforts.

While stronger health systems are recognized as a prerequisite for achieving the MDGs, neither health donors nor national health planners have paid sufficient attention to systems strengthening. The drive to produce results for the MDGs has led many stakeholders to focus first on their own disease priority, with an implicit assumption that through the implementation of specific interventions the broader system will benefit (7). If aid for health is to be well spent and deliver equitable health outcomes, stronger health systems are needed. This in turn will require looking beyond technical solutions for specific interventions and addressing political, organizational, and managerial constraints.

The fact that health systems' constraints are shared across health priorities creates some opportunities for designing responses that exploit potential synergies, for minimizing duplication, and for maximizing economies of scope and scale. Although constraints vary greatly from one place to another, it is clear that - in every setting - achieving the MDGs requires building systems that are relevant to the social, economic, cultural, and political realities of poor people and low-income countries.

1 - The Bellagio Study Group on Child Survival. Knowledge into action for child survival. *Lancet*, 2003, 362:323-327.
2 - *The world health report 2000. Health systems: improving performance.* Geneva, World Health Organization, 2000 (http://www.who.int/whr/2000/en/whr00_en.pdf, accessed 28 April 2005)
3 - *Addressing Africa's health workforce crisis: an avenue for action. Paper prepared for High-Level Forum on the Health MDGs, Abuja, 2-3 December 2004* (http://www.hlfhealthmdgs.org/Documents/AfricasWorkforce-Final.pdf, accessed 28 April 2005).
4 - *Health workforce challenges: lessons from country experiences. Paper prepared for the High-Level Forum on the Health MDGs, Abuja, 2-3 December 2004* (http://www.hlfhealthmdgs.org/Documents/HealthWorkforceChallenges-Final.pdf , accessed 28 April 2005).
5 - *Addressing the human resource crisis in health in Africa: a call to action.* Oslo, Norwegian Agency for Development Cooperation, 2005 (http://www.norad.no/default.asp?FILE=items/3011/108/OSLO%20CALL%20FINAL.doc, c, accessed 28 April 2005).
6 - Joint Learning Initiative. *Human resources for health - overcoming the crisis.* Cambridge, MA, Harvard University Press, 2004 (http://www.globalhealthtrust.org/Report.html, accessed 28 April 2005).
7 - Travis P et al. Overcoming the health-systems constraints to achieve the Millennium Development Goals. *Lancet*, 2004, 364:900-906.

Moving beyond health service delivery: health in development

Development is an intersectoral and interdependent

process

As such, the eight MDGs are synergistic and cannot be achieved in isolation. This is particularly true for the health goals: increased coverage of disease interventions alone will not improve health outcomes, which are determined by a host of political, social, and economic factors.

Strategies to improve health also need to look beyond health service delivery and take action to address the broad determinants of health (see page 45). These include gender equality (which affects maternal mortality and the spread of HIV/AIDS); water and sanitation, food security and nutrition (which all affect child health and the spread of communicable disease); and education (which impacts on maternal health, including fertility, and child health). The eighth MDG - which concerns developing a global partnership for development - recognizes that this holistic approach must also include the actions of rich countries (see Chapter 5).

Health and development: what does it mean in practice?

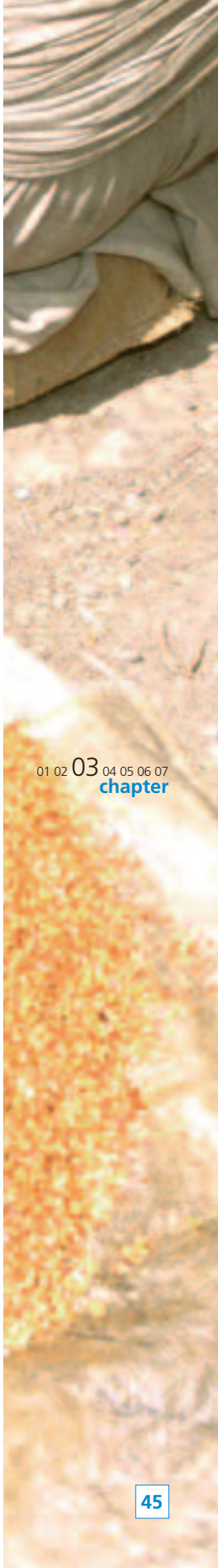
Long-standing knowledge of the cross-sectoral nature of health determinants has more recently evolved into a more comprehensive approach, namely that health be addressed within a broad economic and political framework. In practice, this means looking at how public systems - and public policy more generally - impact on and are affected by health, through some form of health-impact assessment. This approach is pertinent to processes such as civil service reform and decentralization, as well as efforts to reduce poverty, and economic policy in general. While the relationship between health and 'social determinants' - such as income and employment - is well documented, this chapter looks at whether and how developing country governments can use a range of policy levers across government to the benefit of health.

Addressing health within a broad developmental framework must, of course, be carefully balanced with support for development of 'pro-poor' health systems, as discussed in Chapter 2. More equitable health systems are prerequisites for achieving the MDGs. They also contribute to social protection, the empowerment of marginalized groups, and the fulfilment of human rights, and are therefore central to poverty reduction efforts.

It goes without saying that the approach taken should be tailored to the country context. Fragile states (countries emerging from conflict and those with weak structures and institutions) may require a different set of policies from

Broad determinants of health

- Among children under five years, 53% of annual deaths are associated with malnutrition.
- Iron-deficiency anaemia is the second leading cause of disability and may contribute to 20% of maternal deaths.
- At least 25% of the global burden of disease may be attributed to environmental conditions; a child dies every 15 seconds from diarrhoea, caused largely by unsafe water and inadequate sanitation; indoor air pollution causes an estimated two million deaths a year; women are more likely than men to be exposed to harmful cooking fumes.
- There is a strong correlation between literacy of mothers and child mortality: a study in India suggests that a 10% reduction in female illiteracy would result in the reduction of infant mortality by 12.5 deaths per thousand (1).



poor but well-governed countries, which in turn are different from middle-income countries with large pockets of poverty. Equally, international development partners have an important role to play in supporting health in development processes. Both issues - fragile states and development cooperation - are discussed in Chapter 5.

Raising the profile of health in national development processes

Good health is a human right and a measure of human well-being. It is also a driver of growth: investments in health have positive economic returns (2). During the period 1965-1990, health and demographic variables accounted for as much as half of the difference in growth rates between Africa and the rest of the world (3). Healthier populations and disease eradication can also help to attract private investments and encourage tourism.

Similarly, broader economic policies and government-wide reform programmes can have a profound impact on the functioning of the ministry of health and the delivery of health services. Yet health issues are rarely taken into account when such programmes are designed and implemented, and the contribution of health professionals to these processes is usually limited. There are good reasons for this: lack of capacity within already overstretched ministries of health; no tradition in oversight ministries (such as finance and planning) of consultation with line ministries; and no clear mechanisms for consultation.

Some examples of broader processes with direct impact on health include the following:

- Civil service reform, which affects the supply of health workers. Low salaries make it hard to attract and retain staff, particularly in remote rural areas, and can fuel corruption. In most countries, it is impossible to increase salaries for health staff at a different rate than that for other public sector workers, yet given the current crisis in human resources for health (see Chapter 2), there may be a special case for doing just that. The health sector must engage with civil service reform processes if it is to win this argument.

- Budgeting and expenditure systems. In addition to receiving insufficient resources, health services may receive their budget - for salaries, medicines, etc. - erratically or late. This creates management and administrative difficulties, and contributes to poor-quality services. These problems are typical across the public sector, and can only be addressed with government-wide reform. Public expenditure reviews can help to diagnose key problems, and action needs to be taken based on review recommendations.

■ Decentralization can have a profound impact on the delivery of health services. On the one hand, it may bring the managers of health services closer to the people they serve, increasing responsiveness to local needs. On the other, scarce resources may be diverted away from national health priorities once local authorities have jurisdiction over the allocation of funds. Decentralization of administrative and budgeting authority also poses challenges for the delivery and coordination of aid (see Chapter 5).

■ National poverty reduction strategies (PRS) and medium-term expenditure frameworks. A prominent place for health in PRS and associated budgets will help to ensure political backing for health strategies, coordination with other sectors, and appropriate funding.

■ Participatory processes, including those associated with PRS, are important mechanisms for ensuring that poor communities and their representatives are involved in setting the national development agenda. (Millennium Development Goal 3, which includes an indicator on women's political participation, is relevant in this regard.) Health policy-makers could make good use of the results of participatory processes - which can help to identify the varying needs of different poor populations, for example by sex, age, and ethnicity - to ensure that the poor are not treated as an aggregate group.

Research into how health is reflected in poverty reduction strategies gives some indication of the challenges involved in integrating health concerns into broader economic and public policy processes. The evidence (4) suggests that the health content of PRS tends to be poorly elaborated, and does not show how suggested actions (inputs) will lead to desired results (outcomes). In addition, there is often a mismatch between the priorities as expressed in PRS and the main areas of expenditure in budgets. For example, PRS tend to say little about how non-priority expenditures can be reduced in order to fund expanded health services for the poor over the medium term. Finally, PRS do not make use of their potential as intersectoral instruments to encourage action on health in other sectors; rather, they focus on delivery of health services to improve health outcomes.

These findings suggest that action in three areas is required.

■ Building leadership capacity within health ministries to engage ministries of finance and planning. This will require better understanding of economic policies (including macroeconomics) and the kinds of government-wide reform processes mentioned above.

■ Stronger planning processes within ministries of health, and in particular greater capacity to link plans with budgets.

■ Improved mechanisms and processes for intersectoral dialogue - which should in turn be supported by greater collaboration among development partners providing assistance to various sectors.

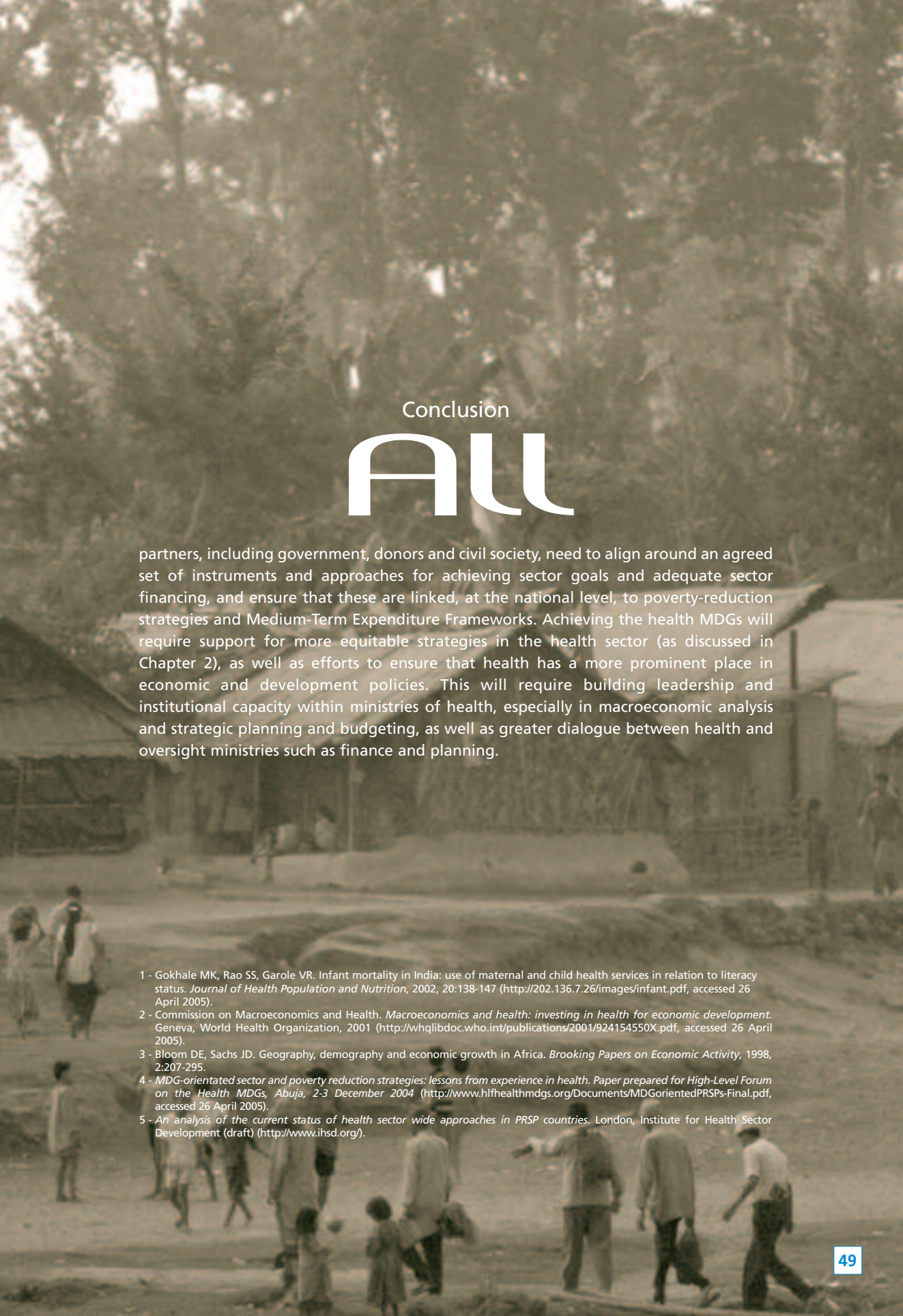
Such efforts will help make the case for larger health budgets - funded from both domestic and external sources. Research

by WHO and the World Bank (4) suggests that most low-income countries are producing fiscal frameworks that assume only modest increases in aid levels over the period of their poverty reduction strategy. This makes it unlikely that further aid increases will be forthcoming. The evidence also shows that actual health expenditures are rising only slowly - too slowly to implement the health objectives outlined in poverty reduction strategies. This suggests a pattern of low ambitions - that ministries of health and governments are planning for only very modest rises in health spending, and that donors in turn are providing only modest increases in aid. Chapter 5 discusses funding for health in more detail.

Programme-based approaches

Poverty reduction strategies are not, and do not include, detailed planning instruments at the sectoral level. If health is to be a priority for government, the ministry of health needs to put its own house in order. This means developing a strong sector plan, a sound financing and expenditure framework, and a reliable monitoring mechanism. These should be elaborated and agreed upon by government and donors through a programme-based or sector-wide approach. All donor assistance - including that provided by nongovernmental donors and global funds - should then be 'on-plan', in the sense that priorities and strategies articulated in the plan are respected.

While the concept of sector-wide approach (SWAp) has been around for more than a decade and has gained widespread acceptance, there are only a few examples of fully-functioning SWAps in the health sector. A recent analysis (5) of the status of health SWAps suggests that just seven countries have well-developed versions of them and eight have pooled funding mechanisms in place. Other research by WHO and the World Bank suggests that the amount of health aid provided in flexible form is surprisingly low: in 14 countries studied, just 20% of aid is provided as budget support - some of which is itself earmarked for specific sectors or budget lines (4). One implication of these findings is that the success of a SWAp should not necessarily be judged by whether it attracts pooled funding - the development of joint policy, monitoring, and management frameworks may be more important.



Conclusion

ALL

partners, including government, donors and civil society, need to align around an agreed set of instruments and approaches for achieving sector goals and adequate sector financing, and ensure that these are linked, at the national level, to poverty-reduction strategies and Medium-Term Expenditure Frameworks. Achieving the health MDGs will require support for more equitable strategies in the health sector (as discussed in Chapter 2), as well as efforts to ensure that health has a more prominent place in economic and development policies. This will require building leadership and institutional capacity within ministries of health, especially in macroeconomic analysis and strategic planning and budgeting, as well as greater dialogue between health and oversight ministries such as finance and planning.

1 - Gokhale MK, Rao SS, Garole VR. Infant mortality in India: use of maternal and child health services in relation to literacy status. *Journal of Health Population and Nutrition*, 2002, 20:138-147 (http://202.136.7.26/images/infant.pdf, accessed 26 April 2005).

2 - Commission on Macroeconomics and Health. *Macroeconomics and health: investing in health for economic development.* Geneva, World Health Organization, 2001 (http://whqlibdoc.who.int/publications/2001/924154550X.pdf, accessed 26 April 2005).

3 - Bloom DE, Sachs JD. Geography, demography and economic growth in Africa. *Brooking Papers on Economic Activity*, 1998, 2:207-295.

4 - *MDG-orientated sector and poverty reduction strategies: lessons from experience in health. Paper prepared for High-Level Forum on the Health MDGs, Abuja, 2-3 December 2004* (http://www.hlfhealthmdgs.org/Documents/MDGorientedPRSPs-Final.pdf, accessed 26 April 2005).

5 - *An analysis of the current status of health sector wide approaches in PRSP countries*. London, Institute for Health Sector Development (draft) (http://www.ihsd.org/).

Addressing the changing health challenges of the developing world

The current state of adult health is characterized by three major

trends

- a slowing of health gains in poor countries and, as a result, a widening health gap between rich and poor nations.
- an increasingly complex burden of disease; and
- the globalization of adult health risks (1).

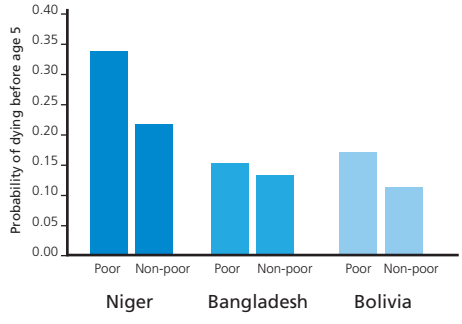
Each of these trends, discussed below, is a serious challenge to both national and international health and requires swift, coordinated action.

Widening health gaps

The United Nations Millennium Declaration - and the resulting Millennium Development Goals - represent a commitment to reduce global poverty and close the gap between rich and poor (2). Current trends in health suggest that the world is moving in the opposite direction.

During the past half century, we have observed a gradual increase in life expectancy: the global average life expectancy now exceeds 65 years, reaching that of the European countries in 1950. However, this rate of increase has slowed in recent decades.

Figure 1: Differentials in child mortality in three developing countries according to socioeconomic status



Source: WHO, 2003

Note: The poor are the individuals from the lowest quintile of income, while the non-poor are the remainder. The vertical axis represents the probability of dying in childhood (on a zero to one scale). The horizontal axis disaggregates the information by poor and non-poor. The identification of poor and non-poor populations uses a global scale based on an estimate of permanent income constructed from information on ownership of assets, availability of services and household characteristics. This approach has the advantage of allowing comparison of socioeconomic level across countries. It implies that the individuals defined as 'poor' in Bangladesh have the same economic status as the population defined as 'poor' in Niger.

A recent analysis shows that inequality in life expectancy decreased until the late 1980s, but increased during the 1990s - primarily due to an increase in adult mortality in sub-Saharan Africa (from the HIV/AIDS epidemic) and in the former socialist economies in Europe (3).

In global terms, child mortality rates in developing regions are continuously declining (3). However, in many countries of sub-Saharan Africa, the downward trend in child mortality has been reversed over the past decade. Overall, 35% of Africa's children face a greater risk of dying today, as compared with 10 years ago (1). Almost half of all deaths among children under five occur in this region, where progress has slowed due to lack of preventive care and treatment, fragile health systems, and socioeconomic stagnation due to conflicts, instability, and HIV/AIDS (4, 5). Those who do survive beyond childhood are confronted with adult mortality rates that exceed those of 30 years ago.

The result of these trends is a widening of the health gap within and across populations (3). Moreover, there is often considerable variation in mortality between rich and poor populations within countries. Data collected in more than 60 countries show that children from poor households have a significantly higher risk of dying before the age of five than children from better-off families. This trend is illustrated in Figure 1, using the results for three countries from different regions (6).

The analysis also shows that while child mortality has increased in the African countries surveyed, the gap between the poor and non-poor has remained constant over time (6). By contrast, there

has been a widening of the mortality gap between the poor and better-off in the Americas, where - overall - child mortality rates have fallen. This indicates that increases in survival rates in many regions have benefited the better-off and occurred at the expense of the poor. Another recent analysis confirms this finding, showing that the reduction of child mortality has been much slower in rural than in urban areas (6).

Health interventions implemented in the past decade may not have been as effective as intended in reaching the poor. Those formulating strategies to address the health MDGs must learn from this failure, and work actively to reduce health inequities. In practice, this means focusing on those countries most in need, and - within those countries - on the most disadvantaged population groups.

Increasingly complex burden of disease

In 2002, 57 million people died. An analysis of the causes of death, and the age at which death occurred, reveals that the world is facing an increasingly complex set of health challenges (see Figure 2). The graph shows that the health priorities reflected in the MDGs - HIV, malaria, TB and other communicable diseases along with maternal deaths - together account for 32% of global mortality.

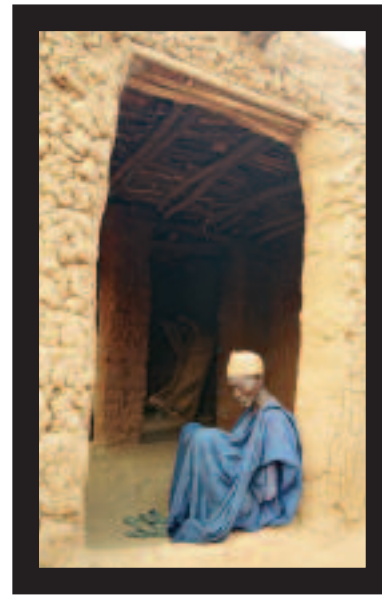
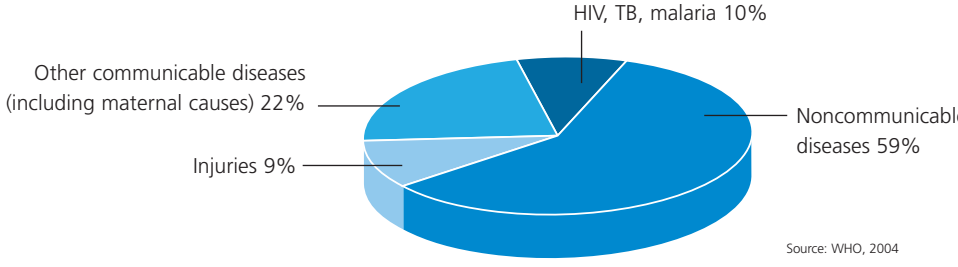


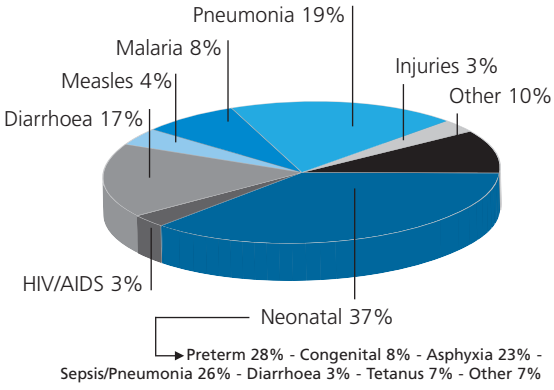
Figure 2: Worldwide distribution of causes of deaths, all ages, 2002

Global mortality: 57 million deaths in 2002



Source: WHO, 2004

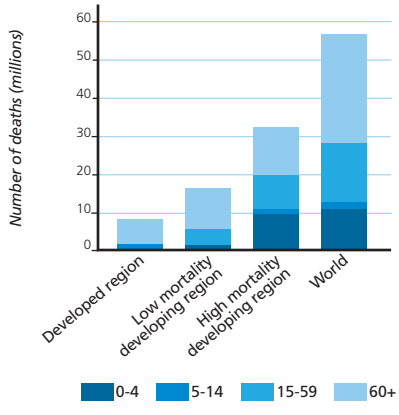
Figure 3: Major causes of death worldwide among children under five years of age and neonates, annual average for 2000-2003



Undernutrition is an underlying cause of 53% of deaths among children under five years of age

Source: Bryce et al., 2005; WHO, 2005

Figure 4: Age distribution of global mortality, 2002



Source: WHO, 2003

Developing countries have much higher rates of mortality in all age groups. Of greatest concern is child mortality: children under five years account for nearly 20% of deaths globally, and 99% of child deaths occur in developing countries. According to the most recent estimate (7), almost 90% of all child deaths are attributable to just six conditions (see Figure 3) and most could be avoided through more widespread use of existing interventions that are simple, affordable, and effective (8, 9) [i]. To reduce the death toll, strategies to achieve the health MDGs should make much greater use of these known interventions, and develop a 'continuum of care' for mother and child that begins before pregnancy and extends through childbirth and into childhood (8).

Premature adult death is a less recognized but equally serious problem. As shown in Figure 4, there is a comparatively higher number of deaths in developing countries among adults aged 15-59 years (10). Just over 30% of all deaths in developing countries occur at these ages, as compared to 15% in richer regions. By contrast, almost 70% of deaths in developed countries occur beyond the age of 70, compared to approximately 30% in developing countries.

Furthermore, there is a growing burden of chronic and noncommunicable diseases in the poor countries. Until recently, major risk factors - such as blood pressure, cholesterol, tobacco, alcohol, obesity, and the chronic diseases linked to them - were thought to be a threat only in high-income countries. In fact, globally many of the deaths due to these risk factors occur in middle- and low-income countries (see Figure 5) (10). This change is part of a 'risk transition' reflecting shifting patterns of lifestyle and diet in developing countries.

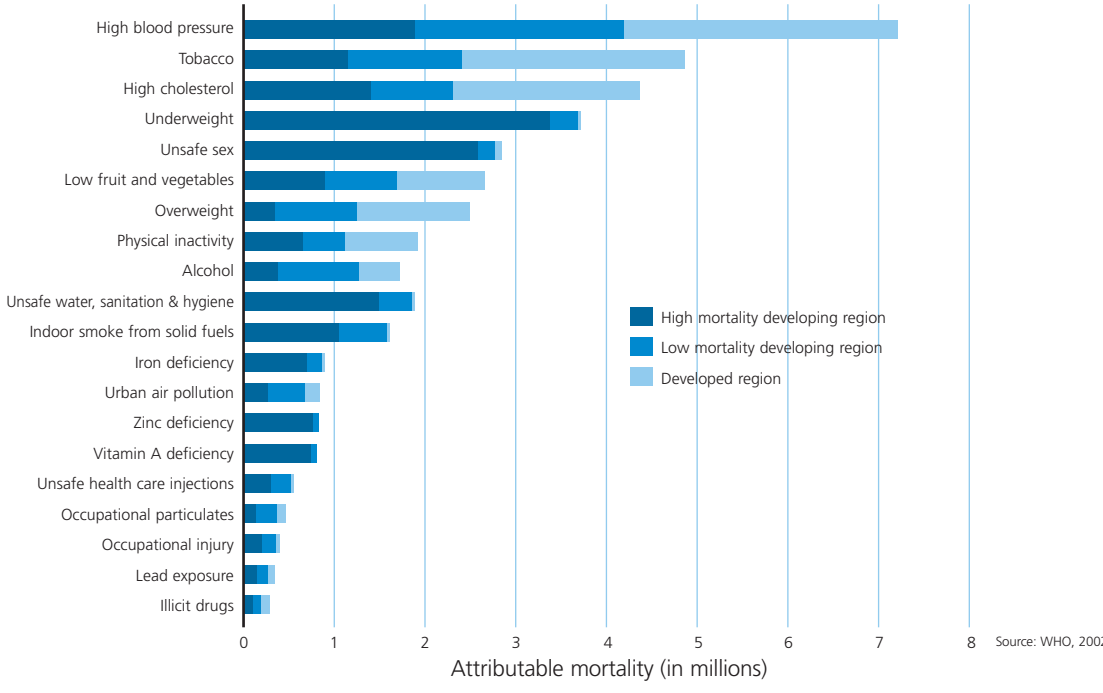
Globally, the communicable disease burden among adults is declining, although HIV/AIDS has become the

i - These include oral rehydration therapy, antibiotics, antimalarial drugs and insecticide-treated bednets, vitamin A and other micronutrients, promotion of breastfeeding, immunization, and skilled care during pregnancy and childbirth.

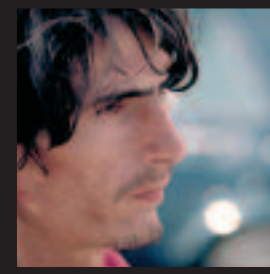
leading cause of mortality among adults aged 15-59 years - it is responsible for over 2.2 million deaths annually, which represent 14% of deaths globally in this age group. However, an almost equal proportion of deaths in this age group is caused by ischaemic heart disease and cerebrovascular disease combined, and as many again by road traffic accidents and intentional injuries (suicide, homicide, and war). Four of the highest 10 causes of death worldwide are related to smoking - making tobacco control an important strategy to prevent premature deaths among adults. Tobacco has an impact on each of the MDGs (see page 56).

Given the rapid spread of the double burden of disease due to ageing and health transitions in developing countries, adult mortality becomes a matter of global concern. However, according to the WHO mortality database only one-third of adult deaths in the world are registered, most of which are in high- and middle-income countries (11). Furthermore, mortality statistics substantially underestimate the burden of noncommunicable diseases among adults because they exclude non-fatal health outcomes such as neuropsychiatry conditions, blindness, and hearing loss. More comprehensive evidence is needed on non-fatal health outcomes in order to assess the magnitude of the global burden due to morbidity and disability, in particular among adults.

Figure 5: Global distribution of mortality attributable to 20 leading selected risk factors, 2000



Source: WHO, 2002



Tobacco and the MDGs

The implementation of tobacco control measures can have a positive impact on achieving each of the MDGs [i]

Eradicate extreme poverty and hunger GOAL 1

Data from many countries show that the poor are more likely to smoke. Indeed, many poor families spend more on tobacco than on health and education. Tobacco use can also contribute to national impoverishment. For example, the productivity cost of tobacco-related premature deaths is US$ 82 billion per annum in the United States of America. [ii]

Achieve universal primary education GOAL 2

The opportunity cost of tobacco use is very high for poor families. When a significant share of the family income is spent on tobacco, resources for child education and health care are limited. Moreover, child labourers are employed by the tobacco industry - which in turn affects education levels.

Promote gender equality and empower women GOAL 3

Young girls are smoking almost as much as young boys, and girls are also using non-cigarette tobacco products such as spit tobacco, bidis, and water pipes at similar rates as boys. The tobacco industry targets women and girls with seductive but false images of vitality, slimness, emancipation, sophistication, and sexual allure. Liberation, autonomy and even female friendship are being used in advertising in developed countries, and increasingly in regions where female roles have begun to change. It is thus important to incorporate a gender-perspective to tobacco control efforts.

Reduce child mortality and GOAL 4

Improve maternal health GOAL 5

Poor maternal nutrition and health are major causes of infant mortality. Money spent on tobacco deprives mothers and babies of food and possibly of medical attention. Women who use tobacco are at higher risk of having smaller babies, who in turn are more likely to suffer from ill-health and die. Second-hand tobacco smoke disproportionately affects women and children and increases respiratory and other diseases in children.

Combat HIV/AIDS, malaria and other diseases GOAL 6

Smoking causes further illness in those with HIV/AIDS, including bacterial pneumonia and AIDS-related dementia. Smoking causes sub-clinical tuberculosis to advance to clinical tuberculosis and increased deaths. Already, smoking is implicated in 50% of deaths from tuberculosis in India.

Ensure environmental sustainability GOAL 7

An estimated 200 000 hectares of forests and woodlands are cut down each year because of tobacco farming, and almost 5% of deforestation in developing countries where tobacco is grown is due to tobacco cultivation. [iii]

Furthermore, 10 to 20 million people could be fed by food crops grown instead of tobacco.[iv] *Moreover, tobacco causes degradation of the soil; pesticides used during tobacco cultivation lead to environmental degradation; and tobacco manufacturing produces 2.5 billion kilograms of waste each year.*

Develop a global partnership for development GOAL 8

The global problem of tobacco needs to be addressed from a global perspective. The WHO Framework Convention on Tobacco Control (WHO FCTC) is an instrument that aims to address tobacco control at the global level

i - *The millennium development goals and tobacco control. An opportunity for global partnership. Executive Summary.* Geneva, World Health Organization, 2004.
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The impact of globalization

Globalization - worldwide social and economic integration - has accelerated in the past decade. This has had direct and indirect consequences for health.

First, the increased movement of people and goods associated with globalization has facilitated the spread of communicable diseases. Throughout history, health threats have swept across continents irrespective of national borders (12). In the 21st century, diseases can spread even more rapidly across national borders and affect communities worldwide - as illustrated by the recent outbreaks of SARS and avian influenza. Second, globalization has also facilitated adverse lifestyle changes, including inappropriate diets and physical inactivity, which in turn affect health. For example, an increase in imported foods to developing regions has led to greater consumption of processed foods containing high levels of salt and saturated fats. This 'nutrition transition' - now increasingly evident in middle- and lower-income countries - has, together with reduced exercise, contributed to a higher prevalence of risk factors (e.g. high blood pressure, high cholesterol, and obesity) and the rising incidence of noncommunicable diseases described above (13).

Third, lower trade tariffs - negotiated as part of globalization processes - may have a positive effect by reducing the price of medical equipment and products. On the other hand, changing international rules concerning patent protection affect access to essential medicines (14).

The process of globalization has also highlighted the incongruity between threats to global health and the policy instruments that decision-makers use to manage these threats on a national level.

Neglected tropical diseases

The MDGs have helped to focus international attention on and mobilize much-needed resources for HIV/AIDS, TB and malaria - three of the world's most devastating diseases. Additionally - and importantly - Goal 6 of the MDGs recognizes that there are 'other major diseases' which affect at least one billion people. These include Buruli ulcer, Chagas disease, lymphatic filariasis (elephantiasis), schistosomiasis, intestinal parasites, leprosy, leishmaniasis, sleeping sickness (African trypanosomiasis) and others. Sometimes called the 'neglected diseases' because of their lack of both international attention and resources, these diseases thrive in resource-poor settings and tend to affect poor and marginalized groups. Most at risk are those living in remote areas, conflict zones, or urban slums - with little or no access to health, clean water, or other services.

Illness and disability caused by the neglected tropical diseases have tremendous social and economic impacts. These diseases cause the most severe health-related impairment of social and economic activities in the developing world, and they do so among the poorest populations.

Fortunately, many of these diseases can be controlled using low-cost technologies that are safe, rapidly effective, and easy to administer in resource-poor settings. When applied on a large scale, control strategies can interrupt transmission - helping to reduce the risk of onward infection for a limited time. These population-wide interventions (such as vector control and mass drug administration) do not discriminate between poor and non-poor - reducing the risk that excluded groups are further marginalized.

Efforts to achieve the MDGs should prioritize intensified control of neglected tropical diseases. This approach will contribute directly to the reduction of the communicable disease burden (Goal 6) and indirectly to efforts to reduce poverty and hunger (Goal 1).

It is clear that new rules and regulations for interaction between countries are required to better cope with globalized health risks. Increasingly, the global community is establishing mechanisms to tackle such risks.

For example, the extensive global surveillance network offers health authorities more time to plan for and respond to communicable disease outbreaks. However, such collective elements are generally too fragmented, and need:

- better evidence on the global nature of health challenges and the effectiveness of recommended strategies to deal with them;
- further development of mechanisms - including the refinement of international rules and regulations - to address global health threats (12).

WHO is addressing these issues through its efforts to strengthen international measures to control disease (e.g. WHO Framework Convention on Tobacco Control, and the revision of the International Health Regulations), and by strengthening surveillance and control measures (15).

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The health MDGs

Focus

on some of the leading causes of death and illness in poor countries and among poor populations. HIV/AIDS, TB, and malaria as well as other communicable diseases and maternal deaths, account for roughly one third of global mortality (see Figure 2).

In addition, demographic trends and health transition - together with changes in the distribution of risk factors - have accelerated an epidemic of noncommunicable disease in developing countries (10). As a consequence, many poor countries are now facing a double burden of disease: ill-health associated with poverty and lack of development on the one hand, and chronic diseases associated with smoking, obesity, poor diet, and physical inactivity on the other.

Strategies to improve health should therefore address the totality of the disease burden in poor countries. In some cases, this will require substantial transformation of the scope of health systems and services, as well as much better quality data on the changing levels and causes of adult mortality. The MDGs provide a framework for action. For example, the MDG Goal 6 "Combat HIV/AIDS, malaria and other diseases" recognizes to need to address other important diseases and risk factors. An example includes "neglected tropical diseases" which are prevalent in poor communities and impose substantial burden of disease, but which have received too little attention to date (see page 57).

WHO continues to collect and analyse evidence on the changing disease burden and, towards this end, has defined a strategy for long-term development of core health indicators (see Chapter 7) to complement the health indicators specified in the MDGs. These will be reported on periodically. The strategy will gradually identify essential indicators for health, performance of health systems, and those areas that are inadequately reflected in the development goals. This scheme also takes into account indicators recommended by international initiatives, such as the Global Fund to Fight HIV/AIDS, Tuberculosis and Malaria and the Global Alliance for Vaccines and Immunization (GAVI).

Concurrent with this analysis is an assessment of potential interventions that can be used to address the changing health challenges (10). As with child survival (9), we now know of feasible strategies to reduce disease burden among adults - including HIV/AIDS prevention and treatment, reduction of tobacco and alcohol use, prevention of cardiovascular disease, and treatment of mental illness.

WHO has a leading role to play in helping countries to prepare for emerging and evolving global health threats, by strengthening their public health infrastructure and health systems. Epidemics of both communicable and noncommunicable diseases cannot be controlled by domestic policies alone; specific commitments to address challenges that cross national boundaries are needed. WHO can contribute to the achievement of the MDGs by providing a better evidence base on the global nature of health challenges and recommended strategies to deal with them, and by supporting countries to address these challenges.

Mobilizing resources

when

developing countries adopt the MDGs - and when rich countries pledge to support them - all need to be clear about the resource implications. Although the amounts of money needed are relatively small in global terms, they are significantly higher than current levels of investment in the health sector.

Resources will also need to come from the governments of low-income countries themselves; even the poorest countries have some scope to increase domestic health spending. But this will not be enough. Reaching the health goals will require a dramatic increase in *aid for health*. As discussed earlier, developing countries will need to improve the quality of their health plans and strategies, and strengthen their health systems, if they are to attract these resources.

This chapter looks at *what it will cost* to achieve the health MDGs, and addresses the arguments against increasing aid. Chapter 6 looks at the issues of aid effectiveness, i.e. ensuring that aid is delivered to countries in the most useful and efficient form.

Monitoring Goal 8

Achievement of Millennium Development Goals 1 to 7 will depend largely on the actions of developing countries. Complementing these are actions outlined in Goal 8 which identify what rich countries must do to provide the necessary support. While Goal 8 identifies key elements for a genuine global partnership for development - mainly aid, trade, and debt relief - it does not set specific quantified targets to measure donor countries' efforts. The lack of specific targets for actions by rich countries is regarded as a major weakness of the MDGs, not least by developing countries. In response, some donor countries have produced their own MDG reports - complementing the MDG reports produced by developing countries - that focus on aspects of the quality and quantity of their aid, and their role in and views on global trade, debt relief, technology transfers and the overall coherence of government policies. These donors include Denmark, the European Commission, Finland, Ireland, the Netherlands, Norway, Sweden and the United Kingdom. Other reports have already been announced for 2005, including a joint report by the countries of the European Union.

Debt

For those countries classified as "heavily indebted", debt relief is potentially a more significant source of funding than conventional aid. In Malawi and Mozambique, 100% debt cancellation would immediately release US$ 600 million in additional resources per country over the period 2000-2015. In Uganda it could release up to US$ 1 billion, and in Tanzania US$ 700 million. Even after maximum debt relief under the 'Enhanced HIPC' (Highly Indebted Poor Countries) initiative, these countries would pay US$ 3 billion in debt service payments between 2000 and 2015; this figure excludes payments on more recently contracted debts (6). In addition to the volume of resources released, debt cancellation is, potentially, an effective means of delivering resources: it releases funds to the general budget, and is a sustained source of income - allowing governments to plan the use of additional resources over a long-term period. Efforts are therefore needed to expand and extend debt relief, including to those countries which do not qualify for relief under current schemes. The announcement by G8 countries in July 2005 that they would "cancel 100% of outstanding debts of the eligible HIPCs to the IMF, IDA and African Development Fund" is a welcome step in this regard.

Goal 8

The eighth goal of the MDGs is to "Develop a Global Partnership for Development". This is the goal that makes the MDGs unique, marking them as a compact between rich and poor countries, and making explicit that progress in poor countries will depend on the actions of rich ones. Goal 8 (see opposite) represents the donors' side of the MDG bargain and is a reminder that global security and prosperity depend on the creation of a more equitable world for *all*.

The content of the "Global Partnership" has been elaborated in various ways. The Monterrey Consensus - the outcome of the International Conference on Financing for Development in 2002 - is seen to lay out the key elements. These include trade liberalization, private financial flows, debt (see opposite), domestic resource mobilization, and development assistance (aid).

Clearly, all these aspects have an important impact on the capacity of countries to achieve the first seven MDGs. Aid is particularly important to the health sector (as it is to other social sectors) because health receives a significant share of its resources from the public purse - resources which, given the non-profit-making nature of public health investments, cannot be replaced through private investment. *Aid is thus often the only reliable alternative when public funds for health run short.*

What will it cost to achieve the health MDGs?

Development assistance for health (DAH) was estimated at US$ 8.1 billion (€6.3 billion) in 2002, the most recent year for which figures are available[i] (1). This represents a significant rise - up from an average of US$ 6.4 billion between 1997 and 1999 - and reflects an upward trend in overall aid levels. Total aid from OECD members rose by 7% in real terms between 2001 and 2002, and by a further 3.9% in 2003 (2, 3). Much of the increase between 2002 and 2003 was due to the start of reconstruction aid flows to Iraq, while much of the increase in aid for health was due to new funds committed to the Global Fund to Fight AIDS, Tuberculosis and Malaria, the majority of which have been committed to sub-Saharan Africa.

While these increases are welcome, they remain far short of the amounts that are needed. The Millennium Project recently estimated that meeting *all* the MDGs would require an estimated US$ 135 billion of Official Development Assistance (ODA) in 2006, rising to US$ 195 billion by 2015. Importantly, the Millennium Project notes that these increases remain well within the target adopted by the United Nations General Assembly in 1970 and recently renewed at Monterrey, that rich countries should allocate 0.7% of their GNP as development aid: US$ 135 billion is equivalent to 0.44% of rich countries' GNP.

Within health, there have been a number of studies on the need to increase spending. In 2001, the Commission on Macroeconomics and Health estimated that a minimally adequate set of interventions - and the infrastructure needed to deliver them - would cost in the region of US$ 30 to US$ 40 per capita[ii] (4). Other estimates suggest that as much as US$ 60 per capita is needed (5). While these figures differ markedly, the overriding message is clear: in the poorest countries, health spending needs to be of a different order of magnitude compared to its current level of just US$ 8-10 per capita.

Global figures now need to be matched by country-specific estimates on the cost of scaling up. Costing the expansion of specific disease-control programmes is useful for advocacy purposes, but should be complemented by estimates which take into account the financial implications of expanding and strengthening the sector as a whole.

i This includes contributions from bilateral and multilateral agencies, the UN and the World Bank, the Bill and Melinda Gates Foundation and the Global Fund to Fight AIDS, Tuberculosis and Malaria.
ii This figure does not include family planning, tertiary hospitals, and emergencies.

Done in this way, costing exercises will help make the case for larger health budgets.

The economic impact of scaling-up

Attention is now turning from costing exercises to the difficult question of how to mobilize support for long-term investment in health. Here a debate arises concerning the possible macroeconomic impact of rapidly scaling up aid flows to poor countries. Arguments against rapid increases include the observation that when aid is used to pay for local goods and services (salaries, construction materials, etc.) the result may be to push up the prices of these resources without increasing the supply (7). This issue affects the health sector, where local costs are typically 70-75% of total spending (8) and where the number of skilled staff cannot be increased quickly. Other concerns include:

- when aid is in the form of loans, it will increase the debt burden and may threaten debt sustainability;

- aid flows are typically volatile, which may increase macroeconomic instability and affect the sustainability of increases in recurrent costs such as salaries, in turn raising concerns about medium-term fiscal sustainability;

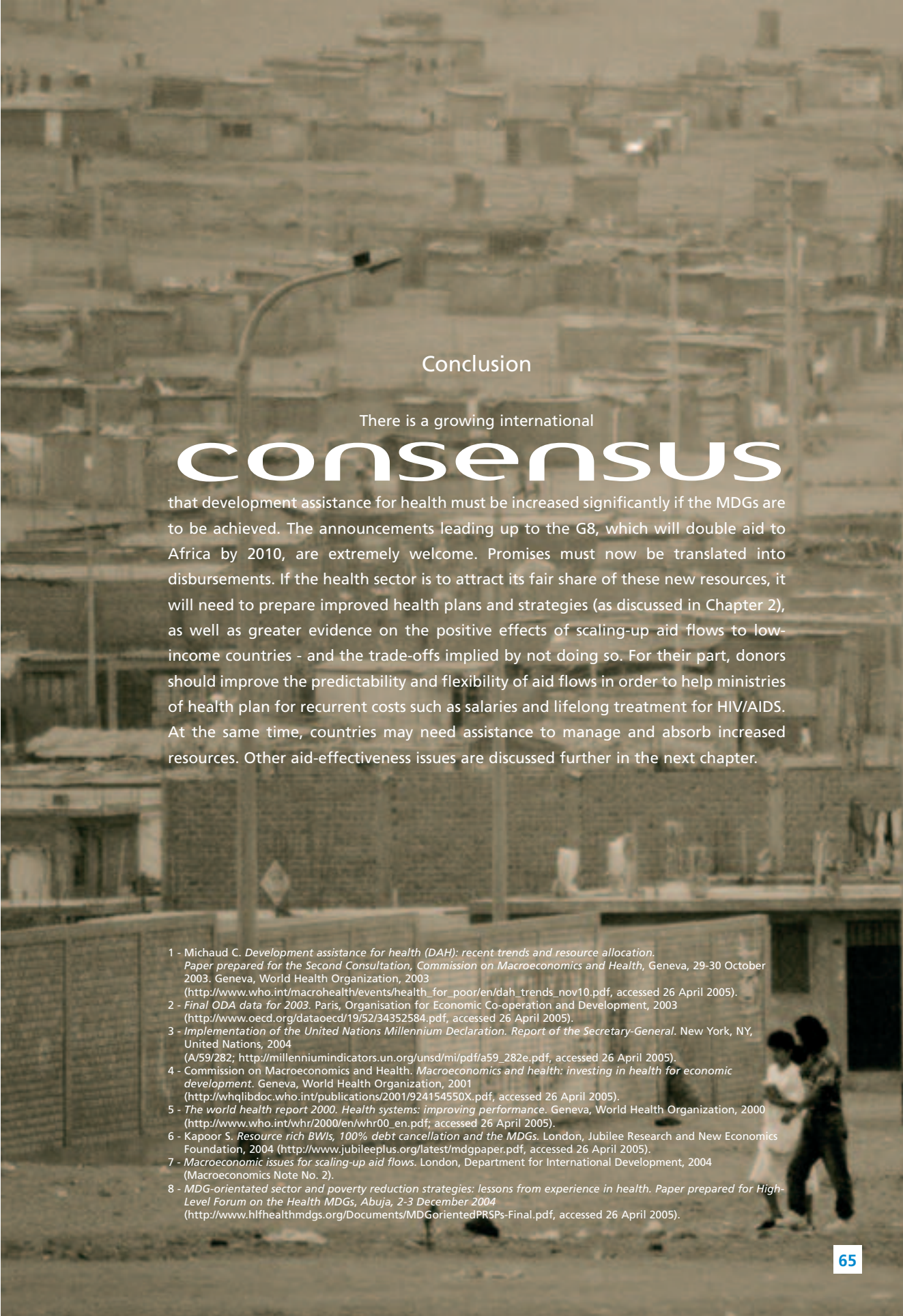
- increased aid flows may create short-run volatility in the exchange rate and interest rates, both of which can damage private-sector investment.

However, much of the evidence on which these concerns are based is inconclusive, or was gathered in the 1980s and 1990s and may no longer be applicable in countries that have undertaken macroeconomic and public expenditure reforms. Further, many of the concerns refer to the way in which aid is delivered - predictability is a particularly important issue, as is timing of disbursements to match national budget cycles. Thus, there is not necessarily a problem with high levels of aid per se. Aid inflows that are reasonably predictable and persistent are neither intrinsically inflationary nor do they necessarily generate macroeconomic instability.

Most important of all, the potential disadvantages of increasing aid need to be weighed against the likely advantages, and the costs of inaction. In poor countries where there is both some record of success in improving health and a measure of economic stability, and where governments are willing to embark on a process of scaling up, the international community should provide support. Financial ceilings and expenditure management norms may need to be stretched, and close monitoring by the international financial institutions will be essential. But this will provide evidence of the approaches that work, as well as lessons for future engagement.

Exactly how much aid could be usefully absorbed, and where it should be directed, depends on countries themselves. In some places, expenditure can be immediately increased in sectors such as road construction and sanitation (which can have a positive impact on health when well targeted) while the health sector develops the basic systems to take on more resources. The key is to ensure that scaled-up investments support equitable progress towards all the MDGs, recognizing the synergistic nature of the goals.

WHO's experience working with ministries of health suggests that many countries receive conflicting advice about the potential macroeconomic impacts of increasing aid. Donors (and in particular the international financial institutions) should work together to avoid this inconsistency, and where necessary encourage countries to seek independent advice. WHO will work with partners to develop an economically-robust case for increasing aid in order to encourage a much more ambitious approach to raising both the level and the predictability of resource flows to poor countries, including fragile states and countries in crisis.



Conclusion

There is a growing international

consensus

that development assistance for health must be increased significantly if the MDGs are to be achieved. The announcements leading up to the G8, which will double aid to Africa by 2010, are extremely welcome. Promises must now be translated into disbursements. If the health sector is to attract its fair share of these new resources, it will need to prepare improved health plans and strategies (as discussed in Chapter 2), as well as greater evidence on the positive effects of scaling-up aid flows to low-income countries - and the trade-offs implied by not doing so. For their part, donors should improve the predictability and flexibility of aid flows in order to help ministries of health plan for recurrent costs such as salaries and lifelong treatment for HIV/AIDS. At the same time, countries may need assistance to manage and absorb increased resources. Other aid-effectiveness issues are discussed further in the next chapter.

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Improving the effectiveness of aid for health

The ways in which donors deliver their

aid

- and the priorities and conditions that are attached to it - have an important influence over government health policy and delivery of services. This chapter considers the relevance of aid-effectiveness measures to the health sector, and the emergence of new aid mechanisms - namely, global health initiatives. It also explores approaches to development cooperation in fragile states.

Ownership, harmonization, alignment, and results

Harmonization and *simplification* of various donor policies, and *alignment* with country priorities and systems, are the key elements of the aid-effectiveness agenda. The experience of Viet Nam encapsulates the problems that need to be tackled. In 2003, Viet Nam received approximately 400 separate missions from donors, of which just 2% were undertaken jointly. Donors' use of country systems in Viet Nam is extremely low: the share of donor projects using national monitoring and evaluation systems is just 13%; national procurement systems, 18%; and national auditing systems, 9%. In the health sector, coordination among the many donors is reportedly poor, and there are no systems in place to harmonize donor activities. Further, no donors are using national health monitoring systems (1).

The situation in Viet Nam is neither atypical nor new. As early as the 1980s, there was concern that a proliferation of donor projects - combined with differences in donor policies, operational procedures, and reporting mechanisms - was not only hindering the effectiveness of aid, but also creating obstacles to development by overburdening countries' administrative and reporting systems and reducing country ownership.

Recognition of such problems led, in the late 1980s and early 1990s, to new approaches to development cooperation. Budget support - the provision of resources directly to ministries of finance, either unearmarked or earmarked for a specific sector such as health - was seen as a more efficient way of channelling funds, because this approach leaves decision-making on resource allocation completely in the hands of government and minimizes transaction costs. Similarly, sector-wide approaches (see Chapter 3) emerged as a way of coordinating development partners around a common set of policy objectives at the sector level.

By the late 1990s, the Poverty Reduction Strategy Paper (PRSP) had become the most influential development instrument. Its attraction was that it provided a means of coherence and coordination among donors by encompassing both the international financial institutions and bilateral donors; that it provided financial support directly to governments; and that strategies were developed by countries themselves.

The *high-level fora on aid effectiveness,* held in Rome in February 2003 and Paris in March 2005, have added to the momentum for more effective aid. At Rome, the practical implications of the harmonization and alignment agenda were laid out for the first time - while at Paris, development partners began the important process of adding targets and indicators to their efforts to improve aid (see opposite).

One important issue for the future will be how to include new donors in the aid-effectiveness debate. Over the next decade, the accession countries of the European Union, as well as Brazil, China, the Republic of Korea, and Russia, will likely become important donors. Persuading these countries to follow good practice in development cooperation from the outset is critical.

The Rome Declaration on Harmonization (2) commits donors to:

- ensuring that development assistance is delivered in accordance with partner country priorities, including poverty reduction strategies;
- reducing donor missions, reviews and reports, streamlining conditionalities, and simplifying and harmonizing documentation;
- intensifying donor efforts to work through delegated cooperation at country level and increasing the flexibility of country-based staff to manage country programmes and projects more effectively;
- providing support for country analytical work in ways that will strengthen governments' ability to assume a greater leadership role and take ownership of development results;
- providing budget support, sector support, or balance of payments support where it is consistent with the mandate of the donor and where appropriate policy and fiduciary arrangements are in place. Good practice principles and standards - including aligning with national budget cycles and national poverty reduction strategy reviews - should be used in delivering such assistance[i].

At the Paris Meeting on Aid Effectiveness (3), donors set themselves provisional targets for 2010, including that:

- 75% of aid be disbursed according to agreed schedules;
- 85% of aid be reported on budgets;
- at least 25% of aid be provided in the form of programme-based approaches.

For their part, developing countries agreed to:
- articulate national development strategies that have clear strategic priorities and are linked to medium-term expenditure frameworks and reflected in annual budgets;
- develop results-oriented monitoring frameworks (75% of partner countries to have these in place by 2010).

Targets relating to seven other indicators will be developed by September 2005, in time for the United Nations Summit to review progress towards the Millennium Development Goals. These indicators cover issues such as the percentage of untied aid, use of country systems, the number of joint donor field missions, and reductions in the use of parallel implementation structures such as project implementation units.

i - These points are summarized from the *Rome Declaration on Harmonization.*

The case of health: an increasingly complex sector

Efforts to improve the effectiveness of development cooperation are particularly pertinent to the health sector, which is characterized by a high number of actors, both national and external, and - particularly in the poorest countries - a heavy dependence on aid.

The increase in volume of development assistance for health noted in Chapter 5, has been associated with new health initiatives and partners - many with their own mandate, priorities, and administrative processes. At least three main groups of Global Health Initiatives (GHIs) can be identified:

- those concerned with **research and development** of new technologies (vaccines, drugs, tests, etc.) to tackle diseases neglected by the commercial sector;

- **global funds**, such as the Vaccine Fund and the Global Fund to Fight AIDS, Tuberculosis and Malaria, which provide new resources but also bring new administrative and reporting burdens; and

- **global partnerships**, such as Roll Back Malaria and Stop TB, which aim to coordinate the efforts of various partners working on specific diseases.

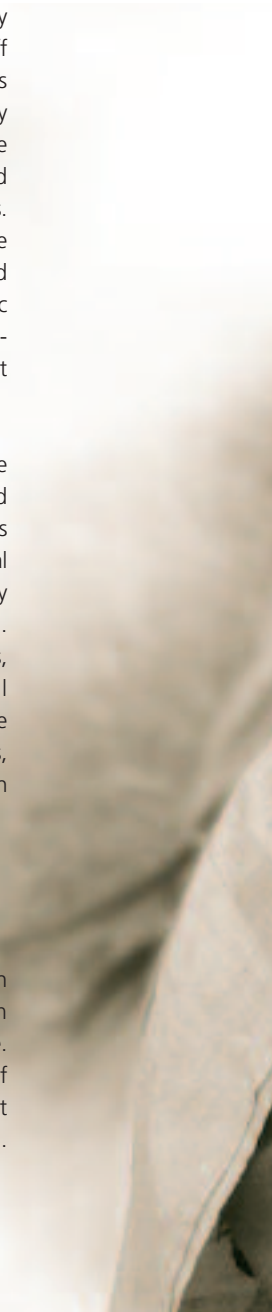
GHIs can help to raise awareness, as well as much-needed resources for health. In just three years, the Global Fund to Fight AIDS, TB and Malaria has approved grants totalling US$ 3.1 billion, covering 127 countries (as of March 2005, US$ 1 billion had been disbursed) (4). In addition, GHIs are often well placed to build links with civil society groups, which is particularly important in the context of tackling HIV/AIDS.

The emergence of GHIs has also raised concerns and challenges. First, there is evidence that large commitments from GHIs are distorting priorities in some countries - by, for example, committing an unsustainable share of resources to HIV/AIDS medicines. Second, GHIs may weaken health systems by diverting staff and resources into vertical programmes - the costs of which are not domestically sustainable in the long term - therefore undermining national institutions and other equally vital health programmes. Third, GHIs may establish separate coordination, implementation, and monitoring arrangements specific to the funds that they provide - increasing the burden on government of managing aid flows.

Many GHIs themselves recognize these problems and are focusing increased attention on ensuring that their activities are in line with a country's national health strategy and policy, and that they help to strengthen the health system. WHO is actively involved in many GHIs, and houses a number of global partnerships. WHO works to increase the involvement of countries in GHIs, and to facilitate access to resources in line with countries needs and priorities.

Development cooperation in fragile states

The orthodoxy that 'aid works best in well-governed countries' is both intuitive and confirmed by experience. The difficulty is that the category of 'well-governed countries' does not include those in greatest need of aid.



Fragile states - those with weak governance and institutions - account for one sixth of the people living in the developing world and one third of those living on less than US$ 1 per day. These countries are least likely to achieve the MDGs: a third of maternal deaths and nearly half of under-five deaths in developing countries occur in fragile states.

There is a growing consensus that investing aid in fragile states is not only necessary, but cost-effective compared to the costs of not engaging. It is better to prevent states from falling into conflict or collapse than to respond after they have failed. A recent study (5) estimated that on average each US$ 1 spent on conflict prevention generates over US$ 4 in savings to the international community. In addition, aid can be a powerful tool in stabilizing countries which are emerging from crisis, and in accelerating their return to the development process.

However, it is not easy for development agencies to engage with fragile states, and consequently aid to such states is approximately 40% less per capita than aid to other (non-fragile) low-income countries. Aid to fragile states also tends to be more volatile. When donors do engage, they often establish parallel systems because

government systems are weak. This approach can further undermine fragile states, and can make future capacity-building difficult. 'Shadow alignment' with government systems and priorities (for example, basing donors' systems on local administrative boundaries or using local planning and budget cycles) is one possible way forward.

Within health, fragile states present particular problems - but also opportunities - for donors. Working in health is likely to be more expensive in fragile states than in other low-income countries due to poor infrastructure, insecurity, and the need to implement small-scale operations. Delivery of health services is nevertheless one of the most viable ways to engage with the people living in fragile states, providing much-needed assistance and helping to restore confidence in the government.

Other issues include:

- how to make best use of non-state providers while enhancing ministry of health leadership and regulatory capacity;
- how to train, equip, and pay health workers when the pool of qualified staff is depleted;
- how to avoid a gap in support during the transition from conflict to post-conflict financing of the health sector.

Donors need to find and institutionalize more effective ways of working with fragile states. There is no golden recipe for success. However, well targeted and sequenced aid - especially to support service delivery and build national capacity (government and non-government) - can support peace-building initiatives, prevent crises, and diminish fragility.

Conclusion

As aid flows increase, development partners should devote special

attention

to the increasingly complex operational field in the health sector, and ensure that strengthening of government institutions and management structures is prioritized. Policy coherence, as well as country ownership and leadership, are equally important. To this end, and as noted in the Paris Declaration, an increasing amount of aid should be provided as budget support to allow governments to make necessary sector-wide improvements - including strengthening core health systems functions - that are necessary to achieve the MDGs.

GHIs can facilitate a dramatic and quick scaling-up of resources for health, and can help give civil-society actors a stronger voice in the health sector. GHIs also present particular challenges in the context of efforts to harmonize aid for health, reduce the administrative and reporting burdens on recipient countries, respect country priorities, and strengthen health systems.

Development partners need to increase their commitment to fragile states, and accept the fact that this engagement will be difficult and will carry a certain level of risk. Further work is also needed to reduce the costs and uncertainty of working in fragile states. This includes finding better tools for harmonization and alignment; building a better evidence base for models of health service delivery and on how to rebuild the workforce in fragile states; and gathering additional evidence on how to make best use of government and donor resources in the financing of the health sector.

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2 - *Rome Declaration on harmonization*, Rome, 24-25 February 2003 (http://www.aidharmonisation.org, accessed 27 April 2005).
3 - High-Level Forum on Aid Effectiveness, Paris, 28 February-2 March 2005 (http://www.aidharmonisation.org, accessed 27 April 2005).
4 - *Progress report - 14 March 2005*. Geneva, The Global Fund to Fight AIDS, Tuberculosis and Malaria (http://www.theglobalfund.org/en/files/factsheets/progressreport.pdf, accessed 27 April 2005).
5 - *Why we need to work more effectively in fragile states*. London, Department for International Development, January 2005 (http://www.dfid.gov.uk/pubs/files/fragilestates-paper.pdf, accessed 27 April 2005).

Challenges in tracking progress and measuring achievements

An important

strength

of the MDGs is that they are associated with measurable indicators of progress and an institutionalized system of reporting. The overall exercise of MDG monitoring has led to making publicly available a reliable and comparable set of country health statistics. Indeed, it is now possible to access child mortality and health intervention coverage data for a vast majority of countries. Moreover, these data are often accompanied by explicative information on definitions, sources, methodologies for estimation, and possible sources of errors.

However, the increased focus on tracking progress has drawn attention to a number of interrelated policy, technical, and operational challenges, and to the underlying weaknesses of country health information systems upon which reliable monitoring depends. For example, if MDG monitoring generates good descriptive evidence of progress or stagnation, it falls short on analytic capacity. It is not possible to provide a well-documented explanation on how much diminishing resources in health care are associated in full or in part with deteriorating health outcomes. The absence of subnational health data also limits the possibilities for documenting relative changes and mapping inequalities at country level.

Policy challenges

From a policy perspective, the MDG targets and indicators have played an important role in drawing attention to critical health and development needs, and in monitoring responses at the global and country levels. However, there are inherent tensions in the monitoring process that need to be managed. One of these tensions is the balance between global and country reporting. From a global perspective, the emphasis is on cross-country comparability - which countries are on track to achieve the goals and which are faltering. From this perspective, it is critical that the indicators be generated using standardized definitions and data collection approaches, and that there be agreed methods for filling data gaps.

However, from a country perspective, cross-country comparability is less relevant than ownership, representativeness, and variations among various population groups. Policy-makers at country level also need to be able to monitor the effectiveness of their policies and programmes - what works and what does not - for which the evidence base is currently quite limited.

Ideally, the identification and generation of global indicators should respond to country needs and emanate from country health information systems. In practice, it is not always the case that global and country needs coincide in the same indicators. Part of the difficulty is that many indicators - those which are most needed at country level and which are most relevant to improving performance - may not be the same as those needed for global tracking.

An added level of complexity relates to the relevance of the MDGs at the subnational level. This issue has generated considerable discussion in the context of equity. As has been pointed out by Gwatkin (1), achieving the MDGs at the national level is not the same as achieving the MDGs for all. Although the global health community has necessarily focused largely on the national level in the context of global reporting, within countries there is an urgent need to address progress among particular population groups or in particular areas of the country.

Technical challenges

From a technical perspective, the simplicity and focus of the MDG indicators mask some significant challenges. Most of the MDG health-related indicators are complex and difficult to measure because country health information systems are weak and fragmented, having suffered from a history of underinvestment.

For example, reliable annual reporting on adult mortality - number of deaths by age, gender, and cause - is possible only where there is comprehensive and accurate recording of deaths and medical certification of causes of death. Such reporting exists for only 78 countries - covering approximately one third of the world's population, mostly people living in high-income countries. For the remaining countries, estimates of mortality are indeed just estimates - based on incomplete data, extrapolation of trends, and modelling. These are precisely the countries where the overall burden of disease is greatest and where sound data are most urgently needed to guide policy formulation and programme implementation.

Attempts are being made to improve cause-of-death reporting through the use of verbal autopsy techniques, where family members and others provide lay information on the causes and circumstances surrounding a death, and the resulting information is reviewed by a medical professional to assign cause. However, the reliability and validity of verbal autopsies remain unproven, especially in relation to newborn and premature adult mortality.

Estimating disease incidence and prevalence - such as that of HIV/AIDS, tuberculosis and malaria - is also problematic. Three prerequisites are essential for obtaining sound data on diseases:

- a reliable diagnostic test for the condition (a clinical test, a survey question, or a set of signs and symptoms);

- reliable ways of administering tests to representative population groups - for example, through household surveys or surveillance;

- agreed ways of adjusting for known biases in the information, or filling data gaps.

Unfortunately, one or more of these prerequisites is frequently missing. For example, although there is a reliable diagnostic test for HIV and the test can be administered at surveillance sites - or, increasingly,

the MDGs have succeeded in focusing attention on the importance of sound data as a basis for public policy decision-making

through population-based surveys - there continue to be uncertainties concerning how to correct for the biases inherent in both these data collection approaches.

The situation is more difficult with regard to other communicable diseases, such as malaria, where either reliable diagnostic tests do not exist or where there is no efficient way of delivering them to the general population. The identification of many disease conditions relies heavily on testing among people who voluntarily seek health care, although these people are known to represent only a fraction of those in need in developing countries.

An added complication is that health status indicators such as mortality and disease prevalence are slow to respond to programme inputs because they reflect a variety of contextual, environmental, and programmatic factors, which makes them very insensitive to change. Reductions in child or maternal mortality, for example, require long-term, multisectoral efforts that address not only the health system requirements for prevention and care, but also more indirect determinants such as family and community practices and the socioeconomic and cultural context.

Fortunately, in addition to the hard-to-measure health status indicators, the MDG indicators include several programme coverage indicators such as immunization coverage, use of maternity care, and condom use. Programmatic indicators have a number of advantages over outcome indicators, not least of which is that they are generally much easier to measure - by directly asking the people themselves through household surveys.

Moreover, to the extent that coverage indicators are shown to be associated with hard-to-measure outcomes, they can be used as intermediate measures of progress. Thus, for example, whereas malaria mortality is very difficult to measure with any degree of precision, the proportion of households using insecticide-treated bednets can be estimated through household surveys - and the use of bednets is known to be closely associated with both malaria prevalence and mortality.

On the other hand, heavy reliance on household surveys means that the costs of regular monitoring can be prohibitive. For frequent monitoring, it is essential to identify intermediate indicators that are readily measurable, at low cost, and sensitive to change. The selection of such indicators is a delicate exercise:

on the one hand, the indicator needs to be simple and easily measurable, but on the other hand, it cannot compromise too much in specificity, meaning it must remain a strong predictor of the health outcome in question.

Underlying the technical complexities related to the measurement of specific health indicators is a simultaneous need to be able to monitor the performance of the overall health system. But monitoring health system performance is difficult, and there are currently no universally agreed indicators of health system performance that can be monitored alongside the disease-focused indicators.

In the education sector a single indicator - primary school enrolment - is used as a proxy for overall performance of the sector. Having such a single, recognized measure of progress is useful for advocacy purposes and can facilitate communication with non-education specialists, such as ministers of finance (2).

Work is now under way within WHO and among partners to agree on a core set of health system metrics, including location and distribution of health facilities; location and distribution of key services (public health mapping); human resources level and distribution; financial information (expenditure, budgets, and health accounts); and drugs, equipment, and supplies (service delivery). Most information should be derived from administrative records, and thus be readily available on a regular and cost-effective basis.

Operational challenges

The reporting of MDG statistical information is often perceived as a burden on the national health information system. Many of the indicators are of limited use at the national level, and the effort to ensure cross-country comparability for global reporting requires statistical capacities that are not always available. Moreover, countries vary greatly both in the quantity and quality of health data available and, more seriously, in their willingness to generate and use sound data for decision-making. It has even been suggested that new approaches and mechanisms are needed to overcome the potential for conflict of interest when programmes or countries are responsible for monitoring their own progress (3).

Notwithstanding the practical difficulties and political implications, the MDGs have succeeded in focusing attention on the importance of sound data as a basis for public policy decision-making. There is universal acknowledgement that better use of health data will lead to better policy and health outcomes, including in areas of health currently not addressed by the MDGs (such as noncommunicable diseases). Importantly, making available information concerning the location, functioning, and performance of health services should also improve transparency and accountability in the management of the health sector.

International reporting obligations of Member States - including those associated with the MDGs - create opportunities to mobilize investments

in national information systems and serve as a good entry point for reform. The pressure to demonstrate sectoral performance and accountability for results is stimulating better linkages between data collection, analysis, and use in order to improve performance and accountability - especially at district level (4). Public health programmes that have built strong routine reporting systems, such as for immunization, polio eradication, and TB treatment, present a foundation upon which to build more integrated systems.

Health Metrics Network

Moving beyond building disease-specific information systems to strengthen national health information systems

overall requires the mobilization of all partners at country level, regionally and globally: hence the establishment of the Health Metrics Network (HMN), designed to capitalize on a variety of expertise and resources. The purpose of the HMN is to synergize donors and implementing agencies to reverse past underinvestment in health information systems and to support their modernization and reform. More specifically, the HMN aims to address the technical, operational, and policy challenges by:

- forging consensus around technical approaches including tools, indicators, and analyses to drive the development of country health information systems and enhance access to and quality of data;

- providing technical and financial support to countries to strengthen their health information systems; and

- developing policies, systems and incentives to ensure access to and use of information for decision-making both at country level and globally.

Central to the philosophy of the HMN is the premise that strengthening country health information systems requires that all partners, both in country and in the donor community, come together around an agreed set of standards that focus actions and guide the overall direction of reform. By bringing together all partners (including donors and technical agencies) around a country-owned plan for health information, it will be possible to reduce overlap and duplication and seriously address some of the policy, technical, and operational constraints that impede effective national and global monitoring - including that of the MDGs.

Conclusion

health

information is important not only to the health sector, but also to other sectors. Additional efforts to streamline data production across sectors - both technically and operationally - will improve capacity to compare progress and achievement. Moreover, consideration of MDG data should not be monolithic. Rather, only cross-tabulation and trend-comparison of indicators - within and across MDG goals and targets - can identify priorities.

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2 - Health Metrics Network funding proposal, Annex A, 1 September 2004.

3 - Murray CJL et al. Monitoring global health: time for new solutions. *British Medical Journal*, 2004, 329:1096-1100 (http://bmj.bmjjournals.com/cgi/reprint/329/7474/1096?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&andorexactfull-text=and&searchid=1112876550903_8943&stored_search=&FIRSTINDEX=0&sortspec=relevance&volume=329&firstpage=1096&resourcetype=1, accessed 27 April 2005).

4 - The Tanzania Essential Health Interventions Project, Dar es Salaam, Tanzania, info@tehip.or.tz (http://www.idrc.ca/en/ev-64404-201-1-DO_TOPIC.html, accessed 27 April 2005).

List of Acronyms

CIS	Commonwealth of Independent States
DAH	Development Assistance for Health
FCTC	Framework Convention on Tobacco Control
GAVI	Global Alliance for Vaccines and Immunization
GHI	Global Health Initiative
HIPC	Highly Indebted Poor Countries
HMN	Health Metrics Network
IDA	International Development Association
MDG	Millennium Development Goal
MTEF	Medium-Term Expenditure Framework
NGO	Nongovernmental Organization
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
PRS	Poverty Reduction Strategy
PRSP	Poverty Reduction Strategy Paper
SWAp	Sector-Wide Approach
TRIPS	Trade-Related Aspects of Intellectual Property
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
WHO	World Health Organization
WTO	World Trade Organization

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