

Chapter 3

Charting the future

Trends in health

By the end of the 20th century, we could be living in a world without poliomyelitis, a world without new cases of leprosy, a world without deaths from neonatal tetanus and measles, a world without dracunculiasis (guinea-worm disease).

- Measles killed nearly 1.2 million children in 1993 and infected more than 45 million.
- Poliomyelitis killed 5 500 children in 1993 and as of that year 10 million people were disabled.
- Leprosy killed 2 400 people in 1993 and infected 600 000.
- Neonatal tetanus killed 560 000 newborn babies in 1993.
- Dracunculiasis infected 2 million people in 1993.

In these categories alone the tangible prospect is the saving of more than one and a half million children's lives. But that is not all. By the end of the century maternal mortality could be half what it was in 1993, when more than 500 000 women died in childbirth.

The world at the end of the century could be one in which infant mortality rates are no higher than 50 per 1 000 live births. At least 70 countries had higher rates than this in 1993.

In just six years mortality of children under age 5 could be no more than 70 per 1 000. At least 60 countries had higher rates than this in 1992.

We could be living in a world where less than 10% of babies are born with low birth weight. In 1990, 17% of babies were born with low birth weight. For babies born at the beginning of the 21st century, life expectancy could be at least 60 years in every country of the

world. In 1993, 50 countries were below this target.

In the year 2000 we could be living in a world where at least 85% of the population will be within one hour's distance of medical care. In 1993, about 1 billion people had no access to local health services within a one-hour journey.

We could be living in a world where deaths from malaria will be cut by a fifth in at least 75% of affected countries; where the number of deaths and new infections from tuberculosis will be substantially reduced; where the number of new carriers of hepatitis B will fall by 80% as a result of childhood immunization; where deaths from heart disease in people under age 65 will be reduced by at least 15%; and where all pregnant women will have proper care.

The year 2000 could see a world where malnutrition in children under age 5 will fall by 50%; where micronutrient deficiencies from vitamin A and iodine will be eliminated; where the prevalence of iron deficiency anaemia in women of childbearing age will be reduced by 33%; and where 85% of the population will have access to safe drinking-water and 75% to sanitary facilities.

These are neither utopian targets nor naïve wishes for a perfect world. They are achievable goals – provided the world cares enough and the necessary resources are made available (Box 16).

Such grounds as there are for optimism about what can be achieved have to be tempered by a realistic assessment of the current situation. There have been worldwide improvements in health status and in access to health care, but not all have benefited equally. Development has not always advanced health

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or quality of life. Although appropriate technologies have been devised to prevent or solve many of the major health problems facing countries, these have rarely been available to those who need them most.

Recognition of the importance of lifestyles and a healthy environment

calls for greater attention to health promotion and protection, not just care. A louder voice must be given to the health consumer, the patient, with much closer collaboration between those who receive care and those who provide it. Much more attention must be paid to

Box 16. Progress towards health for all by the year 2000

Estimated global values for selected indicators related to targets of WHO's Ninth General Programme of Work (1996–2001) in 1980, 1990 and 2000 (estimates)^a

Indicator	1980	1990	2000 (estimates)	Targets
Health status				
Life expectancy at birth (in years)				
• Global figure	61	64	67	
• (Number of countries reporting a figure of 60 years or over)	(86)	(103)	(111)	In all countries, life expectancy at birth will be 60 years or over
Infant mortality (per 1 000 live births)				
• Global figure	82	65	54	
• (Number of countries reporting a figure of 50 per 1 000 live births or under)	(70)	(83)	(99)	In all countries, infant mortality will be 50 per 1 000 live births or under
Mortality under 5 years per 1 000 live births	117	92	74	
Disease status				
Poliomyelitis incidence	630 000	116 000	nil	Eradication of poliomyelitis
Dracunculiasis prevalence (adults)	12 million	3.0 million	nil	Eradication of dracunculiasis
Leprosy prevalence	10.5 million	5.5 million	300 000	Elimination of leprosy
Neonatal tetanus incidence	1 million	0.5 million	negligible	Elimination of neonatal tetanus
Hepatitis B carriers among children	NA	350 million	400 million	Control of hepatitis B
Tuberculosis deaths	2.9 million	2.9 million	3.5 million	Control of tuberculosis
Malaria deaths	1.45 million	2.25 million	1.95 million	Control of malaria
Health care coverage (%)				
DPT (third dose)	8	83	98.5	} Primary health care available to whole population
Poliovirus vaccine (third dose)	8	85	99	
Safe water	52	75	86	
Sanitation	24	71	92	
Delivery of babies by trained personnel	NA	55	60	
Health resources^b				
Percentage of GNP expended on health	3.2	3.0		
Per capital health expenditure (in US\$)	111	135		

^a Based on data available in 1992.

^b Central government expenditure only.

NA = not applicable; DPT = diphtheria/pertussis/tetanus vaccine; GNP = gross national product.

understanding the determinants of health, to ensuring equity in health care and services, and to improving the quality of life.

All this has to be done knowing that substantial increases in the resources allocated to health are unlikely to be forthcoming at either national or international level. Whatever resources are made available have therefore to be used judiciously to meet high-priority public health needs, whether in developed or developing countries.

Health prognosis

While the world at the end of the century may have cause to congratulate itself on advances made in improving human health, there is also a likelihood it will have to rebuke itself for opportunities missed and problems left untackled.

Technology and human determination will, it is to be hoped, have made significant inroads into certain infectious diseases. Apart from advances against poliomyelitis, measles, leprosy, neonatal tetanus, dracunculiasis and micronutrient deficiencies, the development of new vaccines could allow significant progress in the control of malaria, schistosomiasis, dengue and leishmaniasis as well as various forms of diarrhoea. The first such preparation, hepatitis B vaccine produced by DNA technology using genetically altered yeast, is now in widespread international use. The confident prediction is that more vaccines against bacterial and parasitic diseases are likely to be developed in the near future using DNA technology rather than conventional means. New insecticides are likely to be available to control the vectors of many diseases, and it is possible that genetic manipulations may be ready for application against some insect carriers.

At the moment it is difficult to be anything other than pessimistic about the spread of HIV/AIDS. The potential for an explosive spread of the virus throughout the world is truly alarming. It could undermine the great hopes for

world prosperity that the emerging global economic recovery promises. Large-scale vaccine trials against HIV will begin in the near future, but there is considerable scientific uncertainty about their effectiveness; other protective measures must therefore be stressed, such as sexual abstinence, mutual monogamy with an uninfected partner and the use of condoms and other barrier methods. An effective, cheap viricide, easily usable by women, would be a highly valuable additional weapon. The need for provision of safe blood and clean needles to injecting drug users must be addressed. In addition, the continuing prejudice against those with the illness must be fought.

The global situation regarding non-communicable diseases, particularly heart disease and cancer, is difficult to predict. In the developed world rates of heart disease are falling, albeit slowly and from very high levels in some countries. Health promotion messages about the importance of diets low in fat and high in fruit and vegetables, more physical exercise and smoking cessation are all contributing to this fall.

Although in 1993 circulatory diseases accounted for only 11% of deaths in developing countries, the absolute number of those killed was more than 4.2 million. In developed countries deaths stood at 5.4 million, accounting for 47% of all mortality. Deaths from heart disease in developing countries could be expected soon to outstrip those in developed countries with the adoption of Western-style diets, smoking and sedentary lifestyles, and inadequate screening services to identify risk factors such as high blood pressure. However, recent studies of adults in the developing world indicate a major decline in cardiovascular disease mortality in women and possibly men. Such a decline is perplexing and contrary to some widely-held beliefs. Perhaps as overall mortality declines, socio-economic improvements bring a decrease in some unknown critical risk factors, which may be of an infectious nature. If so, the declines in these unknown risk factors must be outweighing increases in

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smoking and other well-characterized risk factors. Alternatively, improved access to health care may be postponing deaths from cardiovascular diseases and possibly other noncommunicable diseases to after age 60.

It is already the case that more deaths from cancer occur in the developing world – some 3.5 million in 1993 – than in industrialized countries –

about 2.5 million in 1993. Projections suggest that by 2000 two-thirds of cancer cases, 10 million as against 5 million, will occur in the developing world. In developed countries lifestyle advice, screening services and in some cases curative therapy all have the potential to reduce mortality. In the developing world, however, the toll of cancer deaths will rise as a result of demographic increase and an aging population, together with rising smoking rates, changing lifestyles and inadequate access to protective measures such as cervical and breast screening and vaccinations against hepatitis B. Two-thirds of new cases will occur in those countries which have the least resources. However, cancer can be controlled through properly-formulated national cancer control programmes (Box 17).

Other lifestyle diseases are also likely to add to health costs in the developing world. This applies particularly to diabetes, of which there will be an expected 100 million cases by the year 2000.

Until the classic infectious diseases, particularly those of childhood, are brought under control and the resources devoted to them can be made available for other programmes, developing countries will increasingly face the double burden of continuing to cope with a legacy of the traditional diseases of poverty, while dealing with a growing number of lifestyle diseases. In the foreseeable future – say for the next 20 years at least – this burden will substantially increase the health funding needs of the least developed countries.

Priorities for the future

Achieving the goals and targets given in WHO's Ninth General Programme of Work (1996 – 2001) will be much easier if the world community that approved them can also ensure provision of the resources needed to make them a reality. Many countries are already near the targets or have long since exceeded them. In certain areas of public health cost-effective technologies exist, intervention strategies have proved effective, and organizational and managerial ex-

Box 17. Cancer is controllable

The present annual incidence of 9 million new cancer cases a year will increase to 15 million by 2015 according to present estimates. Two-thirds of the cases will occur in developing countries.

The science of cancer control now enables us to prevent at least a third of all cancers. Another third can be cured if diagnosed in time. For the remaining group, the incurable, palliative care exists which allows the patient the best possible quality of life. Unfortunately many countries lack suitable mechanisms to apply research findings and use available resources in a rational manner.

Regrettably countries are spending up to 90% of already scarce resources on therapies of marginal effectiveness, because the disease is diagnosed too late. Yet experience has shown that even in developing countries, which dispose of only a fraction of the total resources available, cancer control can work. For instance when women have been informed about the early symptoms of the disease, they come earlier to see health workers, who can diagnose most cases using relatively uncomplicated methods. Through this approach the proportion of cases diagnosed at an early stage, when treatment is usually successful, has risen considerably and the proportion of patients diagnosed at a later stage, when treatment is usually ineffective, has fallen.

National cancer control programmes are the key to success. Four basic activities are essential at the outset. First, the magnitude of the cancer problem must be established, even if the figure is only an estimate in the absence of reliable data. Second, policies must be reviewed and measurable cancer control objectives set, taking into account the major involvement of nongovernmental agencies in this field. Third, different strategies must be evaluated, and the best and most realistic selected. Lastly, specific activities must be decided upon, including preventive and promotive measures such as health education and regulatory action to combat smoking. Programmes must be concentrated at district level to achieve satisfactory coverage. They must include early referral for treatment such as radiotherapy with relatively cost-effective cobalt units rather than sophisticated electronic devices, and have a strong focus on palliative care.

It is important to keep district cancer programmes under constant review to ensure the most rational use of resources. This can be done by assessing the effectiveness of different activities in terms of various indicators: primary prevention, for instance, according to the observed reduction in smoking and chewing tobacco; early referral according to the promptness of presentation of cervical, oral and breast cancers; increased cure rates according to the availability of cobalt machines and the introduction of clear policies on treatment and referral; and palliative care according to the provision of oral morphine, the education of care givers and the empowerment of families to give home care.

perience and expertise are available. The following priorities are thus identified for international health action including action by WHO.

The **first priority** for the future must be to ensure value for money by refocusing resources on those who need them most; using the available resources more efficiently; mobilizing additional resources, expertise and efforts and directing them to those countries (and population groups) where the targets have not been reached. In the process, the creation of self-help environments in which the countries can initiate and sustain development activities should also be promoted. Least developed countries, particularly those that are low-income and severely indebted (most of which are in sub-Saharan Africa), must be targeted for intensive time-limited efforts for international funding and technical support.

Pragmatic outcome-oriented measures should be taken in major areas for action such as maternal and child health with adequate family planning services; immunization coverage of infants; access to safe drinking-water and sanitation; control of malaria; improved nutrition and food safety; and innovative action-oriented school health curriculums for the promotion of healthy lifestyles, particularly as regards sexual issues and HIV/AIDS. All of these should be combined with measures to strengthen local institutions and human resource bases, thus ensuring capacity building, particularly in skills which are critical to the development process. This would enable men and women to solve their own problems and establish and sustain a process that could also ensure a brighter future for their children.

The **second priority** is directly concerned with poverty reduction. Investing in health saves money as well as lives. Poverty and ill-health are closely interrelated. While poverty prevents a person from satisfying the most basic human needs (adequate food, safe water and sanitation, and access to social services such as basic health and education), ill-health inhibits an individual's ability to work, reduces earning capacity and deepens poverty. Health is thus

a fundamental ingredient of the economic and social productivity of individuals and of the community, since better health increases labour productivity and enhances quality of life. Poor health not only affects the individual – it can undermine a country's ability to export its goods, or to attract much-needed investment. Recent outbreaks of cholera in Peru and plague in India did far more damage in economic terms than the numbers of people affected warranted, because of a distorted perception of the severity of the problem. Improving health is thus a social investment that contributes to greater national and global stability.

While human capital formation and investment in people are key determinants in achieving socially sustainable economic growth, the major emphasis for poverty alleviation should be on providing opportunities for people to earn their way out of their difficulties. This is possible only through increased labour productivity. Many studies have shown that low-productivity employment rather than unemployment is a major problem in developing countries. For people to be employed they must be healthy, educated and skilled; better health contributes significantly to higher productivity and thus to more earnings.

In addition to meeting basic minimum needs (e.g. access to health services, housing, education, etc.), efforts should be made to address the long-term needs of the labour market for higher productivity, which can be achieved if the workforce is healthy. This should in turn lead to a "virtuous" circle of better health, economic growth, poverty alleviation, improved welfare, and ultimately reduced social disparities, from a vicious circle of ill-health, low productivity, poverty and misery.

Poverty should thus be tackled on two fronts: one to ensure that the poor have access to primary health care (especially families with young children and vulnerable groups such as the elderly); the other to enhance the health potential of the current workforce and future workforce (schoolchildren).

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Poverty reduction need not be a long-term process. Many developing countries have demonstrated that the worst forms of poverty can be rapidly reduced or eliminated in a relatively short time with determined, well-designed and efficiently implemented strategies.

In addition to the economic aspect there is another side to poverty – social discrimination and low status of some population groups, particularly women. Apart from economic considerations, it is essential that the social status of women be improved – this disempowerment of half of the planet must end. Women play a key role in health care, yet their own health is being jeopardized daily. The potential contributions of women to world development and improvement of the human condition are being wilfully squandered. The world can no longer afford to waste so precious a resource of potential benefit to communities and health services.

Integrating health and human development in overall public policies as outlined in WHO's Ninth General Programme of Work is a strategic move to enforce a "health in development outlook" in investment decisions at national and international levels for achieving and sustaining better health and thus ensuring a better quality of life in the future.

The *third priority* relates to public health policy. During the decade of the 1990s national and international policies have been influenced not only by the health-for-all movement but also by political and economic changes in countries and in the world at large. In a democratic setting, for instance, health and other measures require popular support. Moreover, distortions cannot be concealed; they must be corrected.

In the future it will therefore not be possible to dissociate public health policy from the overall political and economic setting. If the world community endorses the concept of equity in health, it will commit itself to achieving a better quality of life for all people, and reducing differences in health status among countries and population groups.

To put this commitment into practice, however, society must first be clear about the meaning of "equity" in the health sphere. Does it refer to "equity in health", meaning that the health status of all communities should be more or less the same? This concept of equity does take account of the individual but as a member of a community and obviously, for biological reasons, it does not imply that each person will enjoy the same level of health. Or are we talking about "equity of access to health care", meaning that every individual should have equal access to health services irrespective of the need for and outcome of use of the services?

The distinction, in essence, is between fairness in the *outcome* of health care and fairness in the *provision* of health care. These concepts are not mutually exclusive nor is the distinction always clear-cut; they do, however, reflect different perceptions of fairness. Ensuring equal access, a traditional goal of public health authorities, is essentially a matter of equitable distribution of resources. But recent studies have shown that even when access is being made equal, it has not always resulted in a significant reduction in gaps in health status within a given society or between societies. Ensuring true equity in health, which is the philosophy of health for all, calls for a far broader approach.

To remove inequities in health status, public health strategies must be outcome-oriented and take into account the changing picture of health in the world. The term "health transition" has been coined to refer to the combined effect of demographic change – in terms of fertility and mortality patterns – and epidemiological change – in terms of the growing incidence of noncommunicable diseases such as cardiovascular diseases and cancer, accidents, suicide, violence and the harmful effects of alcohol and drug use. As developing countries go through the health transition, they experience a double burden of ill-health which is determined by behaviour and the environment, as well as by biological and genetic factors.

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Thus health status increasingly depends on social and economic circumstances over which the conventional health care sector has little control. In other words the availability and use of health care will not in themselves guarantee better health to the extent that disease is influenced by such factors as lifestyle and the working and living environment. The impact of these determinants naturally varies widely, and as a result many countries are now experiencing an “epidemiological polarization” of health i.e. persistence (and in some cases widening) of differences in disease patterns within countries. Communicable diseases are more prevalent among the poorer and rural people while middle- and upper-income urban dwellers experience more the noncommunicable diseases and conditions.

Any further improvements in health will thus call for integrated, comprehensive action addressing all the determinants of ill-health. Countries, particularly in the developing world, can no longer afford to deal with the two problems of communicable and noncommunicable diseases sequentially as in the past; they must address them simultaneously. Action is first needed within the health sector, which in turn must make intensified efforts to mobilize support from other sectors such as education, agriculture and the environment. Such a policy has financial, organizational and managerial implications.

Health professionals will inevitably be at the centre of change in the health arena. In addition to basic and specialized training, they must be given managerial skills through transdisciplinary arrangements, and be taught to address the broader problems of society. Emphasis in training must shift from the traditional recourse to technology to provide the best possible care to the individual (which in some instances may be at the expense of the community) to a concern for overall fairness and social well-being. The needs of the individual will have to be balanced with those of the community in selecting the most appro-

priate technologies and making them a part of an outcome-oriented health care system. Within that framework health services must be provided pragmatically in a way that gives each individual access to an entry-point of essential health care from which it is possible for them to seek other relevant services as and when needed.

Ethical considerations will figure prominently in the health care of the future in the broad sense of ensuring equity in health outcome and the specific sense of addressing such questions as new reproductive health technology, medical research, human genome studies and the allocation of scarce resources. In this situation, advocacy and technical support will be expected not only in establishing international health standards but in designing blueprints for action.

Finally, the *fourth priority* relates to strengthening national capabilities for emergency relief and humanitarian assistance in the health sector. The new policy of “emergency management for sustainable development” will provide a bridge between relief work and development proper, the aim being to provide a long-term solution for reducing human suffering and avoiding economic loss due to epidemics, complex emergencies and mass population displacements.

The health problems of the future are awesome. But the situation is not hopeless, and much can be done to tackle them with the knowledge we already possess. To succeed, the world will have to care more and to try harder. Martin Luther King, referring to the civil rights struggle in the United States in the 1960s, once wrote: “We shall have to repent in this generation, not so much for the evil deeds of wicked people, but for the appalling silence of the good people”.

Today, as a new generation approaches a new century, it is time for the appalling silence over health inequities in the world to be broken – and for the cries for help of hundreds of millions of people to be heard.

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