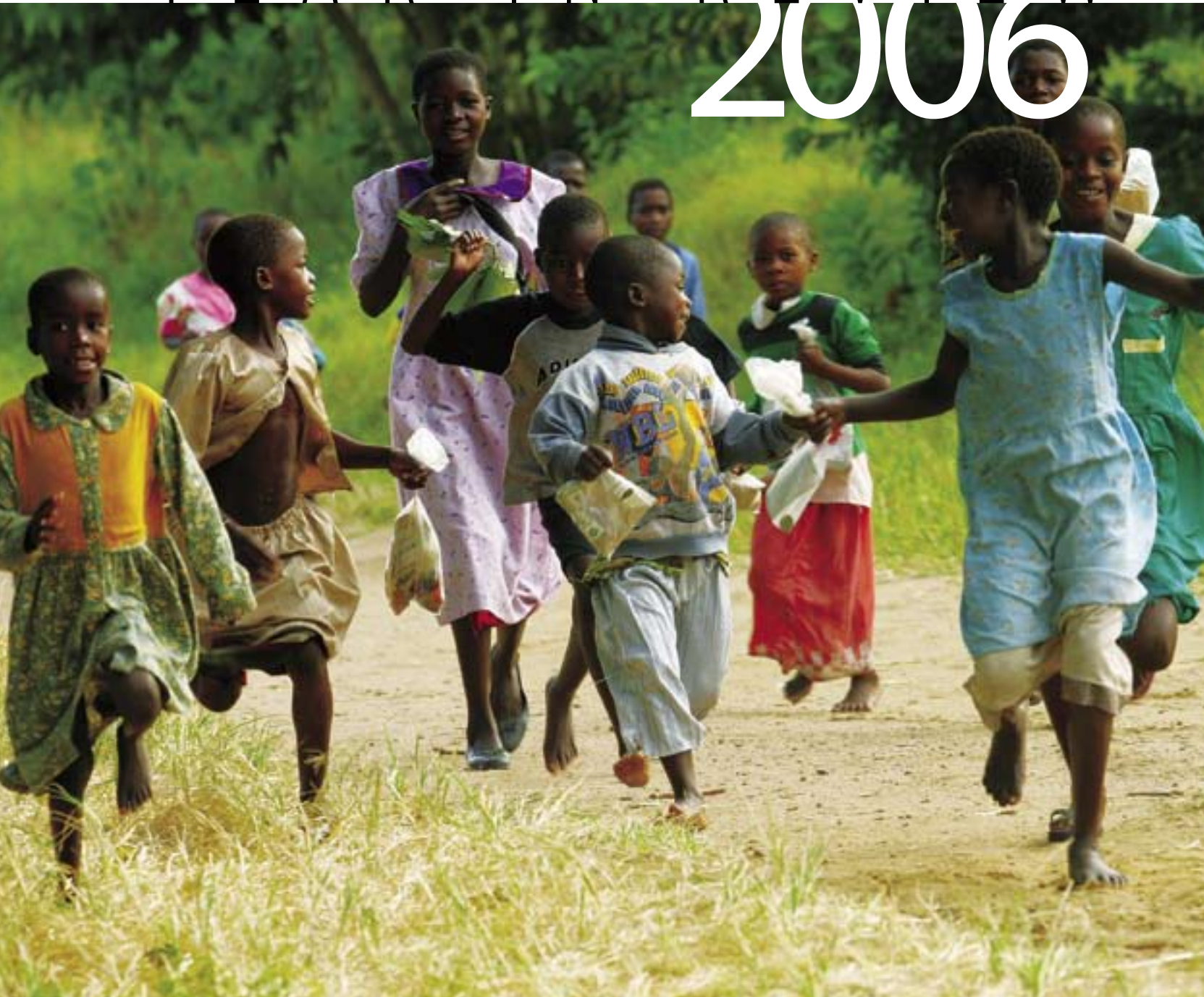




World Health
Organization

YEAR IN REVIEW 2006



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ACRONYMS

DDT	Dichloro-diphenyl trichloroethane used for malaria vector control
DOTS	WHO-recommended treatment strategy for detection and cure of TB
FCTC	Framework Convention on Tobacco Control
GAVI ALLIANCE	Global Alliance for Vaccines and Immunization
HIV/AIDS	Human immunodeficiency virus/Acquired immune deficiency syndrome
IMPACT	International Medical Products Anti-Counterfeiting Taskforce
RED	Reaching Every District
SAGE	WHO multi-country study on global ageing and adult health
SARS	Severe Acute Respiratory Syndrome
TTR	Treat, Train and Retain
UNAIDS	Joint United Programme of the United Nations on AIDS
UNICEF	United Nations Children's Fund
UNITAID	International Facility for funding the purchase of drugs and diagnostics for the management of HIV/AIDS, tuberculosis and malaria
WHO	World Health Organization

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Foreword *A message from the Director-General*

The year saw some important achievements and some setbacks, some steady progress and some surprises requiring emergency action. The work of many people helped to propel the momentum to reach the health-related goals set out in the Millennium Declaration. These goals aim to reduce childhood and maternal mortality and lower the number of deaths caused by the major infectious diseases: HIV/AIDS, tuberculosis, and malaria.

With support from our many partners, record levels of childhood immunization were achieved. In contrast, the number of deaths during pregnancy and childbirth remained stubbornly and tragically high.

For malaria, the year began with the launch of an aggressive new programme designed to get better results quickly. Monitoring of the global tuberculosis epidemic registered steady progress but also encountered a setback: the emergence of a form of this disease that is extensively resistant to drugs and causes extremely high mortality. The extent of this disturbing development is not yet fully known.

For HIV/AIDS, a milestone was reached in sub-Saharan Africa, where the number of people receiving antiretroviral therapy surpassed one million for the first time. This figure represents a ten-fold increase since December 2003. My predecessor, Dr Jong-wook Lee, who died suddenly in May, would have been pleased by this result. It is one of many that can be attributed to the "3 by 5" initiative he launched with such personal passion.

Some of our work during the year required very rapid action: emergency responses to outbreaks, humanitarian crises, and the dumping of toxic chemical wastes. Others represented the culmination of years of meticulous research, like the

new growth standards for infants and young children that make breastfed babies the biological norm. We also saw the power of statistics to raise the profile of a problem, such as that of violence against children.

Some achievements were strategic. In a welcome trend, programmes for reaching children in every district added life-saving and health-promoting interventions, thus increasing operational efficiency with a value-added bonus for health. The year also saw the launch of synergistic strategies, whereby neglected tropical diseases with similar operational demands are now being tackled in an integrated way.

Above all, when we look back over the year, we see the huge diversity of challenges – from the dramatic rise of chronic diseases to the looming threat of an influenza pandemic, from persistent malnutrition in Africa to an epidemic of childhood obesity in Europe.

The World Health Report 2006 drew attention to a critical shortage of health workers that is jeopardizing the delivery of essential care in 57 countries. This problem combines with the weakness of delivery systems, especially in reaching the poor, to define one of the greatest obstacles to progress in public health.

Many initiatives have powerful interventions, good financial support, and strong political commitment. But the impact on health outcomes is diminished by the inability of services, supported by sufficient staff, to deliver these interventions to those in greatest need.

If we want improved health to work as a poverty-reduction strategy, we must do a better job of reaching the poor. We have much to be proud of, and much left to do.



Unprecedented attention to health

In recent years, health has gained unprecedented prominence as a key driver of socioeconomic progress. Poverty contributes to poor health, and poor health anchors large numbers of people in poverty. Better health allows populations to work their way out of poverty and spend household incomes on something other than illness.

The Millennium Development Goals, which aim to attack the interacting causes of poverty at their roots, recognize this two-way relationship. Health-related Goals align with the reality: in all countries, poverty is expressed as high childhood and maternal mortality and increased vulnerability to death from infectious diseases, especially HIV/AIDS, tuberculosis, and malaria.

The increased interest in health as a poverty-reduction strategy was reflected in numerous activities, which also participated in the momentum to achieve the time-bound Millennium Development Goals. Better control of the neglected tropical diseases, which cause life-long impairments, received due attention as a way to improve the human potential of at least one billion people.

International determination to meet development goals took on a concrete form with the creation of two new financial facilities for securing predictable and substantial funds for purchasing medicines and vaccines.



Reducing childhood mortality: a “best buy” gets better

Each year, more than 10 million children die before their fifth birthday. Nearly 4 million of these deaths occur during the neonatal period. Of all these deaths, an estimated 6.5 million could be prevented using proven, cost-effective interventions. As just one example, neonatal tetanus, which has been virtually eliminated in wealthy countries for more than a century, still kills around 130 000 babies a year in impoverished areas of the world.

Immunization has long been recognized as one of public health's most successful and cost-effective interventions. In terms of reducing childhood deaths, the expansion of routine immunization services brought the greatest gains throughout the year. Support from the Global Alliance for Vaccines and Immunization (GAVI Alliance), which provides funds for health and immunization in the world's poorest countries, was instrumental. WHO data for 2006 show that, with the help of the GAVI Alliance, rates of immunization coverage reached record high levels.

During the year, sub-Saharan Africa, which has lagged behind the rest of the world in immunization coverage, began to catch up. In late August, African countries, building on a 15% increase in immunization coverage since 2000, launched an ambitious region-wide strategy for doing more immediately. The new four-year plan for Africa draws on proven strategies such as the Reaching Every District (RED) approach. Developed as part of the drive to eradicate polio, where universal coverage is essential, this operational approach has proved its ability in bringing services to hard-to-reach populations. It places

the responsibility for doing so firmly in the hands of district service providers and managers, thus fostering local ownership.

In most parts of the developing world, immunization services are best at reaching remote, underserved populations, thus achieving the kind of targeted access that lies at the heart of poverty-reduction strategies. In impoverished populations, these services frequently provide the first – if not the only – contact with the health system for mothers and babies. During the year, a study conducted by WHO determined that the provision of a range of interventions promoting childhood survival could be promptly expanded using the RED approach as a strategy for integrated delivery. As part of a growing trend, the great effort needed to reach these populations was used as an opportunity to deliver multiple life-saving and health-promoting interventions in addition to vaccines, thus making one of the “best buys” in public health an even better investment for health.

Immunization campaigns delivered vitamin A supplements to boost the immune system, deworming tablets to improve child growth and school performance, bednets to protect against malaria, and tetanus vaccine to protect pregnant women. In Nigeria, a country with one of the lowest rates of childhood immunization, an estimated 29 million children were reached with measles and polio vaccines, vitamin A supplements, and bednets in one of the largest health events of the year.



Another landmark was reached in China when health officials announced the immunization of more than 11 million children against hepatitis B, an initiative that had begun, with GAVI support, in 2002. This figure represents protection for one third of all newborn babies in China against a severe infection that is firmly linked to liver cancer later in life. The achievement is all the more impressive in that it targeted the country's

poorest and most remote western and central provinces. WHO and UNICEF provided technical guidance, but political commitment from the Chinese leadership was decisive. As in Africa, success led to the establishment of even more ambitious targets. As China's Minister of Health announced in July, protection of all babies from this virus at birth is the next goal for the health authorities.

Maternal mortality: stubborn – and tragic – statistics

Efforts to reduce maternal mortality were less successful. Maternal mortality has remained virtually unchanged for the past 20 years. Each year, an estimated 510 000 women die from complications of pregnancy and child-birth. Developing countries account for 99% of maternal deaths. Sub-Saharan Africa, where more than half of all maternal deaths occur, bears the greatest burden; in these countries, a woman is 100 times more likely to die from complications of pregnancy than a woman in the industrialized world.

In response to the lack of progress, WHO issued a new strategic approach aimed at ensuring skilled care for every birth. The strategy addresses the root causes of many of these deaths – poor service delivery – and proposes ways to link, in an integrated manner, the provision of maternal services with existing services, such as those for immunization, HIV/AIDS, and malaria. The challenge is great and much more needs to be done. For example, up to 70% of all maternal deaths are estimated to arise from complications requiring emergency obstetric services. Any great advance

will depend on improved access to such emergency services for many more women.

This approach to the management of pregnancy joined existing WHO programmes for managing, in an integrated way, the chief illnesses of children and of adults and adolescents. During the year, these programmes moved forward in significant ways. The initiatives share important elements. Each integrates the priority health interventions that have the greatest impact on mortality and morbidity. Each integrates treatment with prevention. And each has been designed to function well in resource-limited settings through innovative approaches to service delivery. The overriding objective is to bring high-quality essential care to underserved areas – a move towards universal access that is at the heart of poverty-reduction strategies.

Like the RED approach for immunization, these integrated programmes for addressing priority health needs instil managerial competence among service providers and managers within health districts. They use a modular approach to



simplified but standardized high-quality care, using standard lists of quality-assured drugs. They have mechanisms for shifting tasks from doctors to nurses and then to patients, who assume personal responsibility for home care and compliance. During the year, results were issued of external evaluations of the approach, including a multi-country study. Findings

confirmed value in terms of cost-effectiveness, the quality of services, good outreach, and the superior quality of care provided by trained staff. One evaluation took these conclusions a step further: these approaches can serve as a generic platform for strengthening the delivery of a range of essential services, providing the very backbone of a primary health care approach.

HIV/AIDS: a milestone achievement in Africa

As in past years, an updated report on the HIV/AIDS situation was issued in December. These statistics show that an estimated 39.5 million people are living with HIV/AIDS, around 95% of whom reside in the developing world. Of the 4.3 million new infections in 2006, 2.8 million (65%) occurred in sub-Saharan Africa, which continues to be the most severely affected part of the world. In some countries in this region, the disease has brought life expectancy at birth down to only 47 years. Disturbing trends were also observed in some parts of eastern Europe and central Asia, where infection rates have risen by more than 50% since 2004.

In countries with generalized epidemics, declines in HIV prevalence among young people between 2000 and 2005 were attributed to effective prevention programmes with a positive impact on sexual behaviour. In other countries, even limited investments showed high returns when focused on target groups, such as sex workers and injecting drug users, considered to be at increased risk of exposure to the virus.

The momentum to expand access to treatment, unleashed by the WHO “3 by 5” initiative, continued to grow. The provision of treatment significantly accelerated the demand for counselling and testing, thus strengthening preventive approaches. The results of an external evaluation, issued in June, confirmed the value of WHO’s public health approach for expanding access to treatment. The integrated management of adolescent and adult illness, with its emphasis on simplified, standardized tools, high-quality care, and patient responsibility, has been used as the platform for service delivery and performed well. As the evaluation noted, this approach has shown that antiretroviral therapy can be provided in even the most resource-constrained settings. The approach worked well in integrating HIV services into existing primary care services. One additional conclusion was applicable to many WHO activities: the most successful development programmes are those that devolve power and responsibility to local communities and district managers.



Concerning access to therapy, a milestone was reached in sub-Saharan Africa, where the number of people receiving HIV antiretroviral therapy surpassed one million for the first time, representing a tenfold increase in access to treatment in the region since December 2003.

In an observation echoed in many other areas of health, weaknesses in health systems were identified as the key obstacle to the further widespread provision of treatment, care and preventive services.

Tuberculosis: a setback in the midst of steady progress

WHO announced considerable progress in meeting global targets set for the control of tuberculosis. According to the latest available estimates, some 8.8 million cases of tuberculosis occurred in 2005, with around 1.6 million deaths. These figures herald an encouraging trend: after more than a decade of increase, the global annual incidence of the disease appears to have stabilized in some parts of the world and may now be declining.

Control efforts are paying off, as measured by two important indicators: the percentage of cases being detected and the rates at which patients are being cured. Since 1995, the case detection rate has risen from 11% to 59%. When measured against the estimated rate of 30% in 2001, the percentage of cases being detected has almost doubled over the past five years. At the same time that the number of newly detected cases has grown, the rate of successful treatment has risen to 84%. In sub-Saharan Africa, however, the annual incidence of tuberculosis remains extremely high, owing largely to the impact of HIV/AIDS, which fuels the tuberculosis epidemic.

In the midst of generally encouraging progress, an important setback occurred during the year: the emergence of extensively drug-resistant tuberculosis with significantly worse treatment outcomes than multidrug-resistant forms of the disease. During the year, 20 countries, including South Africa, reported cases of the extensively resistant disease in association with HIV infection. Reported mortality was extremely high at 98%. Although the global scale of the problem is not yet known, the proportion of multidrug-resistant cases that are extensively drug resistant is 4% in the USA, 15% in the Republic of Korea, and 19% in Latvia.

During the year, monitoring of the situation indicated that DOTS – the standard WHO control strategy – would not alone be sufficient to achieve the 2015 tuberculosis target in the Millennium Development Goals and the targets set by the Stop TB Partnership. As a result, WHO launched in March a new strategy for accelerated control. The strategy takes its impetus from six constraints to better control and incorporates ways of overcoming each. Implementation of the strategy, which builds on past success, will lead to significant expansion in the scale and scope of control activities.



Malaria: WHO launches an aggressive new programme

Unfortunately, similar progress was not seen in the case of malaria. This disease continues to cause an estimated 350 million to 500 million clinical episodes of illness each year, with at least 1 million deaths. Around 60% of these cases and more than 80% of the deaths occur in sub-Saharan Africa, which is home to the most lethal species of the parasite. For malaria, the two-way link with poverty is particularly strong. A study conducted in one endemic country found that malaria consumes around 25% of household income. Poverty, in turn, reduces access to preventive interventions and life-saving services.

No country met the targets for Africa set for 2005. Political commitment lagged, financial support was less than expected, and WHO was criticized for a lack of strong technical leadership. This lack of progress led WHO to establish an aggressive new Global Malaria Programme in early January. Control options are currently limited: a single class of widely effective drugs for treatment, bednets to prevent mosquito bites, and insecticides to kill or repel mosquitoes. The new programme aims to use each of these tools to its best strategic advantage while promoting research and development for better interventions.

As with tuberculosis, the rapid development of resistance to mainstay drugs is a major impediment to malaria control, especially as the speed of drug failure greatly outpaces that at which new drugs are developed. Resistance has now developed for all classes of antimalarial drug save one: artemisinin and its derivatives. When used correctly in combination with other antimalarial drugs, artemisinin is nearly 95% effective in

curing malaria. The rationale is straightforward: when two drugs with different modes of action are administered simultaneously they attack different targets in the parasite. Should a mutation make the parasite resistant to one of the drugs, it will be killed by the second drug.

Shortly after its establishment, the new programme took strong action aimed at preserving the efficacy of this last class of effective drugs. In mid-January, WHO not only recommended the exclusive use of combined therapies but took the further step of asking manufacturers to remove monotherapies from the market. During the year, 19 pharmaceutical companies agreed to comply. Negotiations are continuing with others.

The use of long-lasting insecticide-treated mosquito nets remains a key tool for prevention, but coverage must be scaled up significantly if internationally-agreed targets are to be met. The recent development of nets treated with long-lasting insecticides has dramatically improved their usefulness. Unlike their predecessors, which need to be re-treated every six months, these long-lasting nets remain effective for up to five years. The great effort needed to distribute these nets to hard-to-reach populations thus has a payback lasting years instead of months. During the year, WHO began a systematic exploration of strategies for distributing bednets as part of routine programmes for childhood immunizations.

In September, the malaria programme took another important step when it recommended a return to the use of DDT for targeted spraying



of indoor areas, thus reversing a 30-year trend of phasing out the use of DDT and other insecticides for malaria control. WHO cited compelling scientific and programmatic evidence to support its reassessment. Indoor residual spraying with insecticides can quickly reduce the number of malarial infections. Of the 12 insecticides that WHO has approved as safe for spraying in house-

holds, DDT is the most effective. The chemical causes no harm to humans, wildlife, or the environment when properly used as recommended by WHO. This position was further endorsed in December, when a White House malaria summit held in Washington, DC expressed full support for the WHO strategy, including the use of DDT for indoor residual spraying.

Neglected tropical diseases: a streamlined operational approach

The neglected tropical diseases are ancient diseases, no longer seen in affluent societies, that continue to maim, debilitate, blind, disfigure, and kill impoverished people throughout the developing world. These diseases flourish under conditions of poverty, where sanitation is poor, housing is substandard, and insect vectors are constant household and agricultural companions.

In October, WHO launched an integrated strategy for combating four of these diseases: river blindness (onchocerciasis), elephantiasis (lymphatic filariasis), schistosomiasis, and soil-transmitted helminthiasis. Preventive chemotherapy is at the heart of the new strategy, which was launched with the support of more than 25 partner organizations. All four diseases can be prevented using drugs that are supplied by industry, either free of charge or at substantially reduced prices. The drugs are so effective and safe that they can be administered pre-emptively to all communities at risk, thus obviating the need for costly case-finding and diagnosis. Low-cost and innovative delivery systems have been devised. The new streamlined approach provides a critical first step in combining treatment regimens for

diseases that, although medically diverse, have interventions with similar operational demands and that benefit from shared delivery systems.

For other neglected tropical diseases, including human African trypanosomiasis (sleeping sickness), leishmaniasis, Chagas disease, and Buruli ulcer, new interventions are urgently needed; ambitious control targets cannot be set without new diagnostic tools and better treatments. In February, WHO and the Foundation for Innovative Diagnostics, with a grant from the Bill and Melinda Gates Foundation, announced the start of work to develop and evaluate new diagnostic tests for sleeping sickness, a disease that is invariably fatal if not detected and treated early in the course of infection. Existing tests are cumbersome and difficult to implement in remote, impoverished settings where cases of the disease occur. Further support came in October when the pharmaceutical manufacturer, sanofi-aventis, announced the donation of medicines for sleeping sickness and direct financial support for the control of this disease, leishmaniasis, Chagas disease, and Buruli ulcer.



Two new financing facilities: substantial – and additional – funds for health

Momentum to reach internationally agreed development goals spurred the creation of two innovative funding mechanisms for securing predictable and substantial long-term funding. In February, the new International Finance Facility for Immunization, established as part of the GAVI Alliance, became operational. Recognizing that traditional increases in donor aid budgets will not be enough to meet international development goals, this new multinational fund adapted a proven financing model from capital markets. It uses pledges of future aid, made by six European countries in legally-binding commitments, to leverage money from international capital markets. Money is leveraged, via the sale of bonds to investors, for immediate use in supporting immunization programmes. Initial priorities for use of these funds include the introduction of new vaccines into routine immunization programmes and the strengthening of health systems.

September saw the launch, at United Nations headquarters in New York, of UNITAID, an international facility that funds the purchasing of drugs and diagnostics for the management of HIV/AIDS, tuberculosis, and malaria. The initiative was started by the Presidents of Brazil and France, and was subsequently joined by Chile, Norway and the United Kingdom as founding members.

UNITAID is an innovative mechanism for addressing health needs under the unique conditions of the 21st century. Globalization creates great wealth but has no rules that guar-

antee fair distribution of this wealth. UNITAID has been designed to operate as a mechanism for moving wealth from affluent sectors to improve the health of poor populations. Much of the new funding is secured from direct national taxes on airline tickets, with higher taxes on business class and first class tickets.

UNITAID contributes to greater market efficiency by creating a steady demand for drugs. It also creates economies of scale thanks to long-term pooled purchases, and it uses its purchasing power as leverage to negotiate lower prices. Over time, UNITAID is expected to reduce drug prices, promote the diversification of generic products, and stimulate the entry of new manufacturers into the market.



Health security during crises

The routine functioning of health services can be severely disrupted by conflicts and natural disasters, epidemics of infectious diseases, or an outbreak caused by a new pathogen. Few health systems have adequate surge capacity in terms of staff, hospital beds, and supplies for responding to large-scale emergencies. In the developing world, the demands of coping with an explosive outbreak can push a fragile health system to the brink of collapse.

Under the highly mobile and closely interdependent conditions of the 21st century, vulnerability to outbreaks and their consequences is universal. Shared vulnerability implies shared responsibility and creates a need for collective defences.

WHO has robust mechanisms in place for global outbreak alert and response, and these mechanisms were fully operational throughout the year.

In conflicts and natural disasters, the disruption of routine health services may be compounded by a breakdown in water-supply and sanitation infrastructures or interruption of supplies of medicines and equipment. Moreover, the risk of epidemics increases dramatically when people are crowded together in temporary shelters. Most natural disasters and long-term conflicts require assistance from the international community, with WHO assuming leadership for the health sector.



Outbreaks and epidemics

During the year, WHO teams verified 197 disease outbreaks, 43% of which originated in sub-Saharan Africa. The diseases most frequently implicated included cholera and others with an acute watery diarrhoeal syndrome, acute respiratory diseases, epidemic meningitis, and the viral haemorrhagic fevers. Media reports were the most significant source of early alerts, accounting for 52% of initial reports; this figure reflects the efficiency of the electronic intelligence-gathering system used by WHO. The time between receipt of a report and verification of an event averaged two days. Important events were verified in less than 24 hours.

The tendency of epidemic-prone diseases to flare up under the right conditions was dramatically illustrated by cholera. Outbreaks occurred in numerous African countries, especially when weak water-supply and sanitation infrastructures were aggravated by unusual patterns of rainfall. The most dramatic outbreak occurred in Angola in the middle of the year, causing 47 000 cases and more than 1900 deaths. In Kenya, flooding was linked to a large outbreak of Rift Valley fever that began in December, marking the first outbreak of cases of this disease in humans in six years.

Of greatest international concern was the looming threat of an influenza pandemic, which

continued for a third year. That threat, which is linked to human and avian infection with the highly pathogenic H5N1 virus, evolved in some ominous ways. In birds, the year began with the most explosive and extensive spread of an avian influenza virus on record. Some 36 countries in Africa, Asia, and Europe reported their first cases of infection in domestic or wild birds, or both. Evidence mounted that migratory waterfowl are responsible for at least some of this spread, thus greatly complicating control efforts. So-called "relay" transmission was documented, whereby the virus spreads from domestic to wild birds and back again.

At a consultation convened by WHO in September, international experts summarized the situation succinctly: the seriousness of the present situation, including the risk that a pandemic virus might emerge, is not likely to diminish in the near future.

In the course of the year, researchers determined that the H5N1 virus has now evolved into several genetically distinct groups. Viruses from all groups are currently circulating in different geographical areas. This divergence greatly complicates vaccine development. Initial trials showed that experimental vaccines protective for one virus group did not confer good protection against viruses in other groups.



Although cases in humans remained rare, the virus lost none of its virulence. During the year, 116 cases in humans, including 80 fatalities, were reported from 9 countries, representing a case-fatality rate of 69%. Some instances of human-to-human transmission occurred. In all such instances, the virus had many opportunities to spread into the general population or to infect unprotected health care workers, but did not do so. Chains of human-to-human transmission were short, and most were limited to relatives in close contact with an infected family member.

Throughout the year, the WHO level of pandemic alert, put in place in January 2004, remained at phase III: a novel influenza virus is causing sporadic cases in humans, but is poorly adapted to humans and is still primarily a disease of domestic birds.

In May, the World Health Assembly adopted a Resolution calling for immediate voluntary compliance with provisions in the revised International Health Regulations relevant to avian influenza and the threat of a pandemic. That Resolution was both an expression of deep international concern and a sign of confidence that the revised and greatly strengthened Regulations will enhance global health security. In effect, the revised Regulations, which come into force in June 2007, have moved the world from a focus on passive control measures at borders, airports, and seaports to a strategy of proactive risk management that aims to stop an outbreak at its source, before it has the opportunity to become an international threat.

Sudan: continuity of services in Darfur

Concerning support during humanitarian crises, the deteriorating situation in Sudan, and particularly in the Darfur region, continued to require a massive and sustained response from WHO. Activities aimed at preventing an already severe humanitarian crisis from claiming more lives by ensuring the provision of essential health care. Staff at the WHO country office and sub-offices in Sudan managed to make significant progress despite an operational situation made precarious by military conflict, including attacks on aid workers and the forced displacement of an estimated 3.5 million people.

In terms of basic health infrastructure, hospitals were rehabilitated, public health laboratories were upgraded, and primary health care clinics were supported by quality control programmes. In terms of supporting service delivery, WHO continued to purchase essential medicines and supplies. Childhood immunization programmes were sustained, water supplies were protected, and long-lasting insecticide-treated mosquito nets were distributed to prevent malaria.

The prevention of outbreaks of epidemic-prone diseases, including cholera, meningitis, and

hepatitis, remained an urgent need and a high priority for WHO. An efficient early warning system, extending routine surveillance to more than two million people, functioned well to guard against potentially explosive outbreaks in camps where hundreds of thousands of people live under crowded conditions. The year saw major outbreaks of cholera but good care, supported by medical supplies procured by WHO, kept the fatality rate low.

In collaboration with the Sudanese Ministry of Health, morbidity and mortality bulletins were issued weekly. To ensure a rapid response to epidemics, essential supplies have been pre-positioned in strategically important areas. Every suspected case of an epidemic-prone disease is now immediately notified and thoroughly investigated.

Although renewed fighting over the summer threatened to shut down international assistance, WHO continued working to keep an already tragic situation from causing preventable deaths from disease.



Lebanon: vaccines, drugs, and safe water

In Lebanon, the conflict that began in July damaged health infrastructures and disrupted services in the southern part of the country, requiring international assistance. As many as 900 000 people initially fled their homes. An estimated 25% of health facilities were unable to function properly because of physical damage, lack of staff, or lack of fuel to run generators in the absence of power supplies.

Teams conducted rapid assessments to identify priority needs. WHO provided drugs to ensure that patients under treatment for chronic diseases received uninterrupted care. Vaccination campaigns were conducted to protect people from diseases, such as measles and meningitis, that can flare up when routine services are disrupted. Together with other United Nations agencies, WHO also addressed the urgent need for safe water supplies. Emergency humanitarian operations continued until the end of October.



Conflict and instability: a threat to disease eradication efforts

Conflict and instability within a given country can also have significance for the achievement of international health goals. During 2006, for example, Sudan accounted for the world's largest number of cases of guinea-worm disease, a disease that is now close to global eradication. Most experts agree that the successful eradication of guinea-worm disease will not be possible until peace is achieved in Sudan.

In other instances, global disease control initiatives made progress despite civil unrest. Efforts to eradicate polio saw further progress – and some setbacks – during the year. The disease has now been pushed back to a small number of reservoir zones in four countries: Afghanistan, India, Nigeria, and Pakistan. Importation of cases from these areas into previously polio-free countries continued to cause international concern.

Other developments were encouraging. One of the three strains of wild poliovirus has been eradicated. Improved monovalent vaccines are now available for targeted immunization. Highly sensitive surveillance systems are in place to ensure that cases are not missed. Strategies have been tailored to match challenges and capacities in each of the remaining areas. In India, for example, the closing of the population immunity gap has made polio a disease of very young children, and this group is now the target of immunization campaigns.



In Nigeria, the distribution of mosquito nets together with polio vaccine has proved attractive for local populations, thus increasing their cooperation.

In Afghanistan and Pakistan, the remaining problems are concentrated in the border area, where security concerns are high and population movements are fluid. To address these shared zones of transmission, the health ministries in the two countries agreed to strengthen collaboration on polio eradication. During the year, immunization posts at border crossing points were increased. Efforts were also set in motion to negotiate periods of tranquility in security-compromised areas to allow access for vaccinators.





Care on the international agenda

A policy of equity calls for attention to the health needs of populations made vulnerable because of social and economic factors beyond their control. The health-related Millennium Development Goals address health conditions, strongly associated with poverty, that are expressed as high levels of morbidity and mortality.

Populations whose health is compromised by economic or social factors face many other problems that make their lives

miserable yet may not show up in statistical tables. The problem is compounded by the fact that these groups usually live in remote rural areas or shantytowns and have little political voice – whether because of young or old age, gender, ethnicity, or education. The fact that their health problems are poorly documented further contributes to the low profile they receive on national and international health agendas.



Obstetric fistula: a devastating but neglected complication of pregnancy

During the year, the continuing drive to ensure that all women have access to a skilled attendant during childbirth addressed a common but long-neglected problem: obstetric fistula. Obstetric fistula is a preventable and treatable complication of childbirth that is rarely seen in affluent societies. Elsewhere, mainly in parts of sub-Saharan Africa and Asia, at least two million women currently live with this devastating condition. This estimate is considered conservative: reliable statistics are difficult to compile as the condition is largely “hidden”. Strongly associated with poverty, obstetric fistula occurs most often in poor, young, and often illiterate women and girls living in remote areas.

Obstetric fistula is also hidden for another reason. The condition occurs when obstructed labour results in an abnormal opening between the woman’s vagina and bladder or rectum, causing a continuous leakage of urine or faeces. The pain and shame that follow loss of control over bodily functions, the poor hygiene, and the foul smell are compounded by stigmatization and a heightened risk of recurring infection. Those most frequently affected are usually girls who become pregnant when their pelvises are not fully developed, increasing their susceptibility to obstructed labour.

During the year, WHO issued the first comprehensive manual for the prevention and management of obstetric fistula, including advice on clinical management and procedures for surgical repair. As noted in the manual, a single simple operation can usually end the problem, allowing

around 90% of affected women to return to active and fulfilling lives, including the birth of further children. The manual adopts a programmatic approach, arguing strongly for the inclusion of prevention and management of the condition as part of national programmes for the integrated management of pregnancy and childbirth. The rationale is straightforward: the factors that lead to obstetric fistula are the same as those that cause maternal morbidity and mortality and many neonatal deaths. As with other complications of childbirth, improving access to emergency obstetric care is the most important preventive measure.

In September, Liya Kebede, a fashion model who acts as the WHO Goodwill Ambassador for Maternal, Newborn and Child Health, returned to her native Ethiopia to launch the obstetric fistula manual. The event brought together medical experts and heads of state to raise awareness about the problem and motivate action. In opening the event, Ms Kebede addressed the urgent need to prevent the condition through better access to services. She also spoke about the equally urgent need for social reintegration and rehabilitation of the roughly two million women already affected.



A global first: violence against children receives due attention

Children are another group that needs to be protected from multiple threats to health. The year saw increased attention to one threat that is particularly disturbing: violence. In November, the first *World report on violence against children* was launched in Geneva with technical support from WHO, UNICEF, and the United Nations High Commissioner on Human Rights. The study on which the report is based was commissioned by the United Nations Secretary-General and provides the first in-depth global picture of violence against children in five settings: the home and family, institutions, schools, the workplace, and the community.

It makes recommendations for prevention through improvements to legislation, policies, and programmes, and considers the need to provide services for childhood victims of violence.

Female genital mutilation: more evidence of harm

Traditional cultural practices can also jeopardize childbirth. In June, WHO published the results of a collaborative study in six African countries documenting the effect of female genital mutilation on obstetric outcome. The study, which included more than 28 000 women, was the largest ever conducted. Its conclusions were unequivocal. The study found that childbirth in women who have undergone the procedure is significantly more likely to be complicated by caesarean section, postpartum bleeding, an extended stay in hospital, resuscitation of the infant, or stillbirth or early neonatal death.



The study also documents the magnitude and consequences of various types of violence against children. Some findings are particularly striking. Children in low- and middle-income countries are over twice as likely to die from homicide as children in high-income countries. Among children under 18 years of age, 150 million girls and 73 million boys face forced sexual intercourse and other forms of sexual violence. The lifetime impact of child sexual abuse accounts for approximately 6% of cases of depression, 6% of cases of alcohol and drug abuse or dependence, 8% of suicide attempts, 10% of panic disorders, and 27% of post-traumatic stress disorders.

The study conclusively adds adverse obstetric and perinatal outcomes to an existing list of harmful immediate and long-term effects of the procedure. As the authors conclude, female genital mutilation remains a pressing human rights issue. Reliable data, such as these, about its harmful effects on reproductive outcomes should contribute to the abandonment of the practice, in line with the firm recommendations issued by WHO.



Access to sexual and reproductive health services: a disturbing decline

Strategies aimed at reducing maternal morbidity and mortality include access to sexual and reproductive health care. Statistics released during the year show poor access to these services. The consequences for young people are particularly severe. In sexually active adolescents, problems include early pregnancy, unsafe abortion, sexually transmitted infections (including HIV), and sexual coercion and violence.

According to these statistics, more than 100 million curable sexually transmitted infections occur each year. Around 40% of the estimated 4.3 million new HIV infections in 2006 were in young people between the ages of 15 and 24 years. In the developing world, unsafe sex is the second most important risk factor for illness and death.

Pesticide ingestion: a leading cause of suicide

Self-directed violence is another major public health challenge. WHO estimates that nearly 900 000 suicides occur every year worldwide. In April, reports drew attention to the link between suicides and pesticides – a significant yet largely hidden problem, particularly in rural areas of the developing world. Asian countries are the most severely affected. In surveys conducted over a 10-year period, pesticide ingestion was responsible for 60–90% of suicides in China, Malaysia, Sri Lanka, and Trinidad and Tobago. WHO also received reports of a growing number of suicides due to pesticide ingestion in Central and South American countries. These new estimates clearly make pesticide ingestion the most common method of suicide worldwide.

The estimates also open possibilities for significant new approaches to suicide prevention on a large scale. Controlling access to pesticides is one approach to prevention. Better treatment is another. For example, for every 1000 self-

poisoning patients admitted to European hospitals, fewer than 5 die, whereas for every 1000 admitted to rural hospitals in Asia, 100–200 die.

In response to the problem, three WHO departments – for mental health and substance abuse, injuries and violence prevention, and the promotion of chemical safety – worked together to issue a plan of action, released in September, for preventing both intentional and unintentional deaths from pesticide poisoning.



Active aging for older people

Every month, one million people worldwide reach the age of 60 years. Of these, 80% live in the developing world. Although demographic ageing affects all parts of the world, WHO is most concerned about the impact of trends in developing countries, where systems for health services and social support may exclude older people or fail to meet their needs. Moreover, for older people in the developing world, life-long hardship and access to fewer resources, combined with isolation in later life, leave a traditionally vulnerable group at greater risk of poor health and diminished well-being.

During the year, WHO continued a range of activities aimed at helping populations remain active and independent as they age. One of the most promising of these initiatives is a new project for making cities “age-friendly”. The initiative encourages municipal authorities and urban planners to provide services and adapt infrastructures in ways that make life easier and more rewarding for the elderly. Projects within individual cities are designed following consultation with older residents: what they want, what they need, and what they feel is missing in their day-to-day lives.

The resulting changes range from age-friendly housing and public transport, to well-lit streets that encourage walking, to traffic lights that give people more time to cross the street. Cities are also encouraged to introduce recreational activities, create opportunities for voluntary or income-generating activity, and increase access to cost-effective procedures, such as cataract surgery and hip replacement, that help main-

tain activity. By enabling older people to “age actively”, municipal authorities help prolong mobility and preserve self-reliance, thus reducing some of the burden on health and social support systems and resources.

The initiative has great potential as a policy approach for responding to the growing number of older people throughout the world. It also responds to the trend towards growing urbanization, which often disrupts traditional family networks of social support and leaves older people isolated. By end of the year, more than 30 cities – from London and Tokyo to Nairobi and New Delhi – were participating in the initiative.

The dynamics and implications of population ageing have been well-documented in affluent countries but remain poorly understood in low- and middle-income countries. The year also saw the inauguration of a large WHO multi-country study on global ageing and adult health – the so-called SAGE study. This rigorously designed study, which uses a standardized methodology and survey tools, is being undertaken to examine patterns and dynamics of age-related changes in health and well-being and to investigate the socioeconomic consequences of these changes. The focus is on six low- and middle-income countries, including China and India. The study, which began at the first field site in June, has been launched to generate reliable, valid, and comparable data for older adult populations as an evidence base to document patterns of morbidity and the related risk factors, and to monitor the effects of interventions.



Health problems in sub-Saharan Africa: vulnerable on multiple fronts

For reasons of history, geography, climate, and ecology, countries in sub-Saharan Africa bear the greatest burden of disease and poor health, including chronic undernutrition. Drought combines with poor soil conditions to jeopardize food security. The region has more than its share of conflict and natural disasters. These countries are the most severely affected by HIV/AIDS, tuberculosis, and malaria, by the neglected tropical diseases, and by high rates of maternal, infant, and childhood mortality.

In the case of malaria, the region is home to the deadliest form of the parasite and of the mosquito species that transmits the disease most efficiently. Africa has the so-called “meningitis belt”, where deadly epidemics flare up in a recurring pattern. Africa is also home to the still-unidentified reservoirs of the Ebola and Marburg haemorrhagic fever viruses, and is vulnerable to explosive urban outbreaks of yellow fever.

In November, WHO issued the first *African regional health report* as both an inventory of health problems and a guide to actions needed for an adequate response. Among its many conclusions, the report notes that infectious diseases continue to impose the greatest burden on health and economies, and that health systems are almost universally weak. Many of Africa’s diseases are strongly linked to poverty, and will persist as long as poverty remains. The shortage of skilled health staff is critical: neither antiretroviral drugs for AIDS nor the DOTS strategy for tuberculosis can be delivered on an adequate scale.

The present weakness of health systems was identified as the single greatest challenge facing health development in these countries. Increased investment in health will have little impact in the absence of basic infrastructures and evidence to guide policy decisions, priority-setting, and choice of interventions. Parallel systems for addressing the various infectious diseases are yet another burden on countries, again pointing to the need for integrated service delivery.

However, while the report acknowledges existing challenges, it highlights progress in the region. For example, of the 42 malaria-endemic countries in the region, 33 have moved towards better treatment policies by adopting artemisinin-based combination therapy, the most effective antimalarial medicines available today. River blindness has been eliminated as a public health problem, and guinea worm control efforts have resulted in a 97% reduction in cases since 1986. Leprosy is close to elimination, and measles deaths have declined by more than 75% since 1999.



Standardized registration of clinical trials: protecting participants while making clinical research more efficient

Clinical trials, in which interventions, such as new drugs, are tested on patients or healthy volunteers, are essential to the continuing improvement of clinical care. Questions have been raised, however, about the recruitment of participants (especially in developing countries), the registration of such trials, and the timing and content of results that should be disclosed to the public. Hundreds of registries for clinical trials exist around the world, but they are not coordinated and their operation is not governed by common scientific and ethical principles. For example, some companies may be reluctant to disclose the results of unfavourable trials, and such results may not be made public.

WHO began addressing these problems in 2004, initially by collecting the views of patients' groups, doctors, scientists, the pharmaceutical industry, and the editors of medical and scientific journals. The results of this broad consultation were announced in May: international agreement, by all parties, on a standardized 20-item dataset that should be used for the registration of clinical trials throughout the world. Two fundamental scientific and ethical principles underpin the dataset, which is known as the International Clinical Trials Registry Platform.

First, the Platform calls for the registration of all interventional trials, including early-phase uncontrolled trials in patients or healthy volunteers that may not be further pursued. Second, and equally important, it calls for full public disclosure of registration data on all 20 items at the time of registration – before the first participant is recruited.

The Registry Platform has been welcomed as an endorsement of WHO's policy of full transparency surrounding clinical trials. Apart from earning public confidence that trial subjects are not being used as "guinea-pigs", the policy will reduce duplication of research efforts and, with unfavourable outcomes also recorded, guide the planning of new trials, thus increasing the overall efficiency of clinical research.





Protecting populations from harm

International standards and norms issued by WHO support a range of public health functions that protect the health of populations on a daily basis. WHO programmes continuously update safety standards for industrial chemicals, pollutants in air and water, additives and contaminants in food, and the quality and efficacy of medicinal products.

These standards guide national protective measures, including legislation, aimed at population-wide protection. They also facilitate international trade. Unfortunately, health legislation and regulatory controls are weak in large parts of the developing world, where rapid industrialization and urbanization may be

accompanied by dangerously high levels of pollution and counterfeit drugs often flood the market.

A population-wide approach to health protection also includes measures aimed at preventing chronic diseases, many of which are linked to lifestyle factors, the marketing and labelling of consumer products, and – above all – the sale of tobacco products. In this regard, the WHO Framework Convention on Tobacco Control provides an outstanding example of collaborative legislation, whereby countries agree on a common legal framework for protecting all populations from a lethal product.



The hazards of toxic waste

The year's highest-profile incident involving industrial chemicals occurred in Côte d'Ivoire. During the night of 19 August, a tanker unloaded around 500 tonnes of liquid chemical waste, which was then dumped at open-air garbage sites across the commercial city of Abidjan. No health or environmental precautions were taken. Within days, residents began complaining of respiratory symptoms, nosebleeds, rashes, nausea, diarrhoea, and headaches linked to toxic fumes emanating from the waste.

A WHO team assisted with the emergency response, which included supplies for the immediate care of patients, measures to prevent further exposure, and arrangements to accelerate removal of the waste. The incident raised

many urgent questions about international trade in toxic waste and the need to protect developing countries from being used as dumping grounds. The incident also illustrates the extreme consequences of improper disposal of toxic waste: dozens of hospital admissions, more than 85 000 medical consultations, and the mass resignation of the Prime Minister's cabinet. The country's already fragile health system was paralysed.

Urban air pollution: greater threat, stricter protection

During the year, WHO revised its guidelines for urban air quality, concentrating on the four most common air pollutants: particulate matter, ozone, nitrogen dioxide, and sulfur dioxide. The guidelines, which specify levels considered safe for human health, were revised in line with mounting data linking air pollution to a number of adverse effects on health. A critical review of this evidence led to a dramatic lowering of recommended levels for particulate matter, ozone, and sulfur dioxide compared with earlier WHO guidelines.

By reducing values for acceptable levels of common air pollutants, WHO aims to give governments a tool and a reliable yardstick for protecting the health of urban residents. According to WHO assessments, an estimated two million premature deaths can be attributed each year to the effects of urban outdoor and indoor air pollution. More than half of this disease burden is borne by populations in the developing world.



Unsafe drinking-water and sanitation: an acute problem in urban areas

Unsafe drinking-water and inadequate sanitation are linked to a large number of diseases transmitted by viruses and bacteria – from hepatitis A to typhoid fever and epidemic cholera. Diarrhoea, the most common symptom arising from the consumption of contaminated water, causes an estimated 4.5 billion episodes of illness yearly, with around 1.8 million deaths, largely in infants and young children in the developing world. A large number of parasitic diseases are also transmitted by water, causing a huge disease burden.

In September, a joint WHO/UNICEF report warned that the world is in danger of missing

the target set by the Millennium Development Goals for access to safe drinking-water and sanitation by 2015. Meeting the target will require a dramatic increase in the pace of work and the level of investment. The problem has become particularly acute in urban areas, where population growth has greatly outpaced the provision of basic sanitary services. In sub-Saharan Africa, for example, around 37% of the population live in cities; of these, 72% live in slums. Statistics set out in the report indicate that, worldwide, more than 1.1 billion city dwellers lack access to safe drinking-water and 2.6 billion lack basic sanitation.

Chronic diseases: on the rise – at a very high cost

Chronic diseases, including heart disease, stroke, cancer, diabetes, and asthma, are a significant impediment to development that is often overlooked. While the consequences of these diseases are felt in every part of the world, the burden is now greatest in low- and middle-income countries, where the age of onset is usually lower, health systems are ill-equipped to cope with the demands of chronic care, and the costs to households can be catastrophic. The consequences for national economies are also high. In countries experiencing rapid economic growth, for example, heart disease, stroke, and diabetes alone have been shown to hold back economic growth by 1–5% per year.

Chronic diseases were responsible for 35 million of the estimated 58 million deaths that occurred in 2005. Apart from this high death toll, chronic diseases cause disability, often for decades of a person's life. Given the long-term suffering and recurring expense caused by these diseases, WHO gives high priority to prevention. Fortunately, the major chronic diseases share a limited number of risk factors: improper diet, inadequate exercise, smoking, and excessive alcohol consumption. An intervention that addresses one of these factors thus reduces the risk for several diseases. Similarly, long-term care of these diseases creates a set of shared demands for service delivery. WHO therefore promotes an integrated approach to both the prevention and management of these diseases.



In November, a high-level ministerial conference was held in Istanbul, Turkey to search for ways to combat the epidemic of obesity now seen throughout Europe as well as most other parts of the world. As evidence of the concern, the meeting was attended by ministers, deputy ministers and secretaries of state representing 48 countries. New data helped generate this concern. Over the past two decades, the prevalence of obesity in Europe has risen almost three-fold. Half the population of Europe and one in five children are overweight. Moreover, WHO estimates that the costs of treating problems associated with obesity amount to around 6% of total spending in the health sector.

The Istanbul meeting adopted a European charter on counteracting obesity. Noting the broad social, economic, and environmental causes of the epidemic, the charter calls for a population-based preventive approach, paying major attention to collaboration with the food industry and regulatory measures to reduce the promotion of energy-dense foods and beverages, especially towards children. The need to encourage more exercise was also considered. To support high-level political action, the WHO Regional Office for Europe issued new guides on practical strategies for increasing physical activity, especially in urban settings, and ways of addressing the underlying factors that influence eating habits and physical activity in adolescents.

Efforts to reduce the burden of cancer, particularly in the developing world, received a boost in December when a new vaccine conferring protection against human papillomavirus was

licensed. The new vaccine prevents infections that are responsible for some 70% of all cervical cancers. Cancer of the cervix is the second most common cancer in women; almost 90% of the estimated 500 000 new cases in 2005 occurred in the developing world.

WHO data show that well-organized screening and early treatment programmes are effective in preventing the most common form of cervical cancer, but they are costly and difficult to implement in low-resource settings. While the new vaccine has great potential to save lives, its impact will depend on affordable prices for the developing world and adequate systems for delivery.



Risks from tobacco: deadly in any form or disguise

Tobacco addiction is a global epidemic that is increasingly ravaging countries that can least afford its toll of disability, disease, and death. Tobacco use remains the second major cause of death in the world, being currently responsible for about one in ten adult deaths – nearly five million deaths each year. Of the total number of smokers in the world, 900 million, or 84%, live in low- and middle-income countries.

In a disturbing trend, the dangers linked to tobacco products are being camouflaged under healthy-sounding names or masked by fruity flavours or more attractive packaging. To raise awareness of this trend, the slogan of World No Tobacco Day in 2006 was “Tobacco: deadly in any form or disguise”. WHO is working with countries and governments to counter this trend through strict regulation and warning labels on packaging.

The WHO Framework Convention on Tobacco Control, an international treaty designed to reduce tobacco-related deaths and disease, is now supported by more than 125 countries as Contracting Parties to the Convention. The Convention, which entered into force in early 2005, is one of the most widely embraced treaties in the history of the United Nations.

In February, the first Conference of the Parties met to establish a permanent secretariat within WHO, agree on a budget, and create working groups that will begin developing legally-binding protocols, initially in the areas of cross-border advertising and illicit trade.

In addition, non-legally-binding guidelines are being developed to help countries establish smoke-free places and find effective ways of regulating tobacco products.

In August, global tobacco control received strong support when Michael Bloomberg, the mayor of New York City, announced his Foundation's contribution of US\$ 125 million to support a new Worldwide Stop Smoking Initiative, with particular emphasis on the developing world. This contribution more than doubles the total of private and public donor resources devoted to fighting tobacco use in developing countries, where most smokers live.



Counterfeit medicines

One of the major reasons for gaps in health outcomes is a lack of access to essential medicines of assured quality. WHO has long-standing programmes, including its model lists of essential medicines, for addressing the situation. In recent years, however, the problem has been compounded by a rise in supplies of counterfeit and substandard medicines – in some cases, flooding the market with useless or even toxic products.

According to WHO, the drugs most commonly counterfeited include antibiotics, antimalarials, hormones, and steroids. Increasingly, anticancer and antiviral drugs, including those used to treat HIV/AIDS, are also being faked.

WHO estimates that, in developing countries, some 10–30% of medicines on sale, often in open-air markets, are counterfeit. Countries with economies in transition have an estimated proportion of counterfeit medicines above 20% of market value. Medicines purchased over the Internet from sites that conceal their true physical address are counterfeit in over 50% of cases.

Counterfeit drugs are found throughout the world, but sub-Saharan Africa is particularly affected by the problem. In this part of the world, an ideal market for fake and substandard drugs is created by weak health systems, a lack of laboratory capacity for testing drug authenticity and quality, and thriving open markets where medicines are sold without prescription. For example, a recent study conducted by WHO in selected

African countries found that 50–90% of antimalarial drugs failed quality control tests.

In response to this growing problem, WHO formally launched the International Medical Products Anti-Counterfeiting Taskforce (IMPACT) in November. This new initiative, developed during meetings earlier in the year, aims to put a stop to the illegal trade in counterfeit drugs, vaccines, and other medical products. IMPACT is taking action through a coordinated network, within and between countries, that engages international organizations, law enforcement agencies, pharmaceutical manufacturers, nongovernmental organizations, and drug and regulatory authorities.

The approach is two-pronged: to encourage the public, distributors, pharmacists and hospital staff to report suspicious products to the authorities, and to help governments make better use of their police forces and customs authorities. IMPACT is also encouraging manufacturers to make their products more difficult to fake. Another strategy being pursued is to package medicines with a unique identifier that can be tracked using widely available technology, thus allowing authenticity checks at any point throughout the distribution chain.



A new – and universal – “gold standard” for measuring childhood growth

In April, WHO issued new and significantly revised standards for measuring the growth of infants and young children and detecting any problems. At the heart of the new standards is an assumption that has now been thoroughly tested and proven: all infants and young children have a similar growth potential, and will grow in a similar way provided essential needs for nutrition and care are met. The new standards differ dramatically from those of the past in terms of their accuracy, universal relevance, and versatility of use for family, clinical, research, and public health purposes. They are also far more sensitive to problems ranging from stunting and wasting in malnourished children to childhood obesity.

Growth curves and charts have been widely used since the early 1970s as a simple tool for plotting the growth of infants and young children and detecting deviations from the norm. Simple measurements, such as length, height and weight by age, and weight for a given height, are a useful way for parents and doctors to assess normal growth. In recent years, weaknesses in these references became apparent as questions arose about how “normal” growth had been defined. References used over all these years were based on observations of how bottle-fed infants and young children grew in a single affluent country. Moreover, as evidence of the immense advantages of breastfeeding grew, the use of bottle-fed infants as the norm was recognized as inappropriate, if not misleading.

The new growth standards respond to all of these problems. They were developed during a rigorously-designed long-term investigation, begun in 1997, that included children from a range of different geographical locations, cultures, and ethnic backgrounds. The study was deliberately designed to produce an ideal standard by selecting healthy children living under conditions likely to favour the achievement of their full genetic growth potential. All were raised in an environment that minimized well-known constraints to growth, including poor diets and infection. In addition, their mothers followed health-promoting practices, such as breastfeeding, and did not smoke.

The result is a set of new growth curves that establish a single universal “gold standard” for the healthy growth of children in every part of the world. Deviations from the standards are thus a reliable signal of a problem in feeding or care, either for an individual child, for a community, or for a large geographical area. In another key departure from the past, the new standards make breastfeeding the biological “norm” and establish the breastfed infant as the normative growth model. The standards also include innovative new growth indicators – beyond height and weight – that are particularly useful for monitoring the increasing epidemic of childhood obesity.

¿Estamos creciendo bien?
Правильно ли мы растем
и развиваемся?

Are we growing right?

هل نتمو نمواً سليماً؟

Est-ce qu'on grandit bien?

我们是否在健康成长?



Est-ce qu'on grandit bien?
Are we growing right?

هل نتمو نمواً سليماً؟

我们是否在健康成长?

Правильно ли мы растем и развиваемся?

¿Estamos creciendo bien?





A critical shortage of health workers

The world health report 2006: working together for health drew attention to a health crisis caused by a growing trend: health workers are leaving poorer areas for wealthier ones, and often leaving the countries that invested in their training to take up jobs abroad.

According to the latest statistics, a serious shortage of health workers in 57 countries – 36 of which are in sub-Saharan Africa – is impairing the provision of essential

life-saving interventions. The report also sets out a 12-point agenda for taking urgent action.

In response to the report, WHO launched a new partnership, the Global Health Workforce Alliance, in May. Its purpose is to pursue the report's recommendations by urgently identifying and implementing solutions to the crisis.



Health services jeopardized by this trend include childhood immunization, care during pregnancy and childbirth, and access to treatment for HIV/AIDS, tuberculosis and malaria. Sub-Saharan Africa faces the greatest crisis: this part of the world accounts for 11% of the global population and 24% of the global burden of disease, but has only 3% of the world's health workforce.

Factors contributing to the shortage of health workers include growth of the global population as training of health workers stagnates, the rise in chronic diseases, and the ageing of populations, which increases the need for long-term care. Globalization of the labour market facilitates migration, which is often step-wise: from rural areas to cities and then abroad.

Health systems in a number of industrialized countries depend heavily on doctors and nurses who have been trained abroad. English-speaking countries draw the greatest share of their health workers from abroad. In Canada, New Zealand, the United Kingdom, and the United States of America, a quarter or more of all physicians have been recruited from other countries.

In the 57 most severely affected countries, more than 4 million additional doctors, nurses, midwives, and other health workers are urgently needed to maintain essential services. Evidence cited shows a clear relationship between an increase in the ratio of health care workers in a population and increases in infant, child, and maternal survival.

Recommended steps in the report range from more direct investment in training and support,

to the shifting of routine tasks to less-skilled workers, to reduced incentives for early retirement and changes in training and career incentives to encourage service in rural areas.

In August, WHO announced a new plan to tackle the shortage of workers for HIV/AIDS prevention and treatment. This shortage is especially critical in sub-Saharan Africa, where rates of illness and mortality are highest, depleting and demoralizing the workforce and making health work an undesirable career choice for young people. The new plan, known as "Treat, Train, Retain" (TTR), draws on a growing body of evidence of what works best to improve the performance of the health workforce.

The "treat" component ensures that health workers themselves have priority access to prevention, treatment, and care services, including testing and counselling services, protection from transmission in the workplace, and access to antiretroviral drugs for themselves and their families. The "train" component gives national authorities a set of strategies to expand the numbers of new health workers and maximize the efficiency of the existing workforce. The "retain" component embraces a set of interventions to help ensure that countries can keep the workers they train. Interventions range from improving the quality of the working environment, to guarantees of job security, to the provision of financial and other incentives.



Tribute to Dr LEE Jong-wook

Dr LEE Jong-wook, Director-General of the World Health Organization since 2003 and the driving force in WHO's effort to expand AIDS treatment to the developing world, died in Geneva on Monday 22 May at the age of 61. His death followed surgery to remove a subdural haematoma.

Dr Lee served the Organization for 23 years. Before taking the reins as Director-General in 2003, in the aftermath of the SARS epidemic and amid the initial signs of the avian influenza crisis, he played a key role in eliminating polio from the Western Pacific Region and organizing the battle against tuberculosis. Shortly after taking up office, he was faced with containing avian influenza. He ensured that outbreaks were controlled and that affected poultry flocks were slaughtered. He arranged for WHO to stockpile three million treatment courses of Tamiflu donated by Roche, and warned that in the event of a pandemic it was unlikely there would be enough vaccine, drugs, health care workers, and hospital capacity to cope. At the same time, he reassured the world that no one had caught the disease after eating properly cooked poultry.

Dr Lee will be remembered for initiating the ambitious "3 by 5" campaign to bring treatment to at least half of the world's 6.5 million people living with AIDS by the end of 2005. Although the effort fell short of its goal, it marked the first serious international effort to bring expensive anti-AIDS drugs to the countries of Africa. A few days before his death, Dr Lee told his staff that "there can be no 'comfort level' in the fight against HIV." A key outcome of the 3 by 5 programme was, he said, "the commitment to universal access by the end of 2010".

His death was announced at the official opening of the World Health Assembly by Dr Elena Salgado, Minister of Health of Spain. She described Dr Lee as "an exceptional person and an exceptional Director-General". The Health Assembly then observed a two-minute silence. Delegates to the Health Assembly signed books of condolence, adding to hundreds of tributes and messages received from people around the world. Dr Lee was the first national of the Republic of Korea to head a United Nations agency.

"LEE Jong-wook was a man of conviction and passion. He was a strong voice for the right of every man, woman and child to health prevention and care, and advocated on behalf of the very poorest people. He tackled the most difficult problems head on, while upholding the highest principles. He will be very gravely missed, but history will mark LEE Jong-wook's many contributions to public health."

Kofi Annan, Secretary-General of the United Nations

"While Dr Lee's death is a tragic loss for the global health community, the world will benefit from his vision and inspiration. His commitment to a healthier, more equitable world will be his enduring legacy."

Bill and Melinda Gates, the Gates Foundation

"I would above all like to convey my admiration for Dr Lee's tireless efforts in the service of mankind and for his outstanding contribution to the ideals of the United Nations."

Jacques Chirac, President of the French Republic

"My father loved his work and his colleagues and those whom he hoped to help 100%, while also loving his family 100%. This was the only way he could have accomplished all he did in his career, devoted to helping others, while supporting my mother's work in Peru and being an incredible and loving father, husband, brother, and uncle. Even as a doctor he gave 100% to his patients and through his work in WHO. He had a lot to give and he did give it all."

Tadhiro Lee, son of LEE Jong-wook

"Dr Lee worked tirelessly to improve the health of millions of people, from combating tuberculosis and HIV/AIDS to his aggressive efforts to eradicate polio."

George W. Bush, President of the United States of America

Warm reception for Dr Margaret Chan

On 9 November, at a one-day special session of the World Health Assembly, Dr Margaret Chan was confirmed as the next Director-General of WHO. Dr Chan told the Health Assembly that she would focus on six key areas for health: development and security, capacity and evidence, and partnerships and performance. "All regions, all countries, all people are equally important. This is a health organization for the whole world. Our work must touch on the lives of everyone, everywhere," she said. "But we must focus our attention on the people in greatest need."

In her acceptance speech, Dr Chan said: "what matters most to me is people. And two specific groups of people in particular. I want us to be judged by the impact we have on the health of the people of Africa, and the health of women... Improvements in the health of the people of Africa and the health of women are key indicators of the performance of WHO."

Dr Chan obtained her medical degree from the University of Western Ontario in Canada and also has a degree in public health from the National University of Singapore. She joined the Hong

Kong Department of Health in 1978 and was appointed Director of Health in 1994. As Director, she was known for her decisive management of avian influenza in 1997 and for her work to halt the outbreak of SARS in 2003. Prior to her appointment as WHO Director-General, she was Assistant Director-General for Communicable Diseases and Representative of the Director-General for Pandemic Influenza.

Acting Director-General Anders Nordström welcomed Dr Chan and confirmed his support together with that of all Member States. "You know that you have the commitment, energy and enthusiasm of all of us behind you," he told her. Dr Nordström remained Acting-Director General until Dr Chan took up her post on 4 January 2007. In recognition of this responsibility, the Health Assembly passed a Resolution commending Dr Nordström for ensuring the continuation of WHO's work on the global health agenda after Dr Lee's sudden death.

Timeline

EB 117
JANUARY 2006

January

Headquarters building 40 years old

Executive Board opens
23 January



February

World Cancer Day
3 February



March

World No TB Day
Trends in TB control are positive:
26 countries and areas reach target ahead of schedule
24 March



April

World Health Day and launch of *World Health Report 2006: Working Together for Health* is a comprehensive study of the global health workforce pointing to a severe shortage of health workers which impairs many countries' ability to improve health
7 April

Africa Malaria Day
25 April



May

World Health Assembly
22 May

Dr Lee died, a shock on the first day of the World Health Assembly: tributes poured in from around the world; Dr Anders Nordström was nominated to serve as Acting Director-General.
22 May

Visit of Prince Charles to WHA
23 May

World No Tobacco Day
31 May

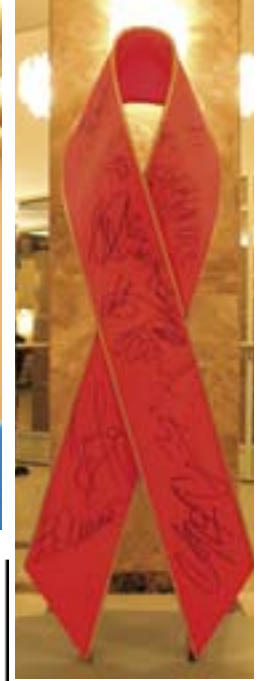
Jorge Sampaio
Former President of Portugal appointed as Special Envoy to STB



June

World Blood Donor Day
14 June

Visit of UN Secretary General to WHO Headquarters
21 June



July

G8 Meeting in St Petersburg
Dr Anders Nordström, acting Director-General, led a senior WHO team at the G8 Summit where surveillance for infectious diseases, including improving transparency by all countries in sharing information was given top priority

4 July

August

WHO assessment visit to Lebanon

AIDS Conference in Toronto – Medicines, money and motivated health workers are key to universal access to HIV/AIDS prevention, treatment care and support

16 August

SEARO Regional Committee

22 August

AFRO Regional Committee

28 August

September

WHO's Goodwill Ambassador for Maternal, Newborn and Child health, supermodel Liya Kebede, travelled to Ethiopia, where she saw first hand WHO's efforts to improve the well-being of mothers and their newborn babies

EMRO Regional Committee

9 September

WHO welcomes Republic of Montenegro as WHO's 193rd Member State

EURO Regional Committee

11 September

WPRO RC

18 September

AMRO RC

25 September

October

World Mental Health Day

10 October

World Sight Day

12 October

November

The appointment of Dr Margaret Chan as the next Director-General was confirmed in a special one-day session of the World Health Assembly

9 November

Opening of new WHO UNAIDS building with UN Secretary General Kofi Annan

22 November

Launch of *African Health Report* which provides an unprecedented overview of recent achievements in the Region – Africa is finding African approaches to solving its health problems

December

World Aids Day

4 December

- AFRICAN HEALTH** *The Health of the People: The African Regional Health.* The first report of its kind to focus on the health of the 738 million people living in the African Region of the World Health Organization. (Available in English and French at <http://www.who.int/bulletin/africanhealth>).
- AIDS** *UNAIDS/WHO 2006 AIDS Epidemic Update* at <http://www.who.int/hiv>.
- AVIAN INFLUENZA** Global pandemic influenza action plan to increase vaccine supply – a plan to reduce the gap between the potential vaccine demand and supply anticipated during an influenza pandemic, at http://whqlibdoc.who.int/hq/2006/WHO_IVB_06.13_eng.pdf.
- BULLETIN** *The Bulletin of the World Health Organization* aims to give public health policy and practice guidance based on the best evidence available, while also encouraging closer links between scientific investigation and the art of helping populations to lead healthier lives. (Available in English and French at <http://www.who.int/bulletin>).
- CANCER** *Cancer control: knowledge into action* – WHO guide for effective programmes provides practical advice on how to advocate, plan and implement effective cancer control programmes and integrate with programmes for other chronic diseases and related problems, at <http://www.who.int/cancer>.
- CHILD GROWTH** The WHO Child Growth Standards, developed using data collected in the WHO Multicentre Growth Reference Study, shows how the physical growth curves and motor milestone windows of achievement were developed as well as application tools to support implementation of the standards, at <http://www.who.int/childgrowth/en>.
- MALARIA** The *WHO Guidelines for the treatment of malaria* recommend the most effective antimalarial medicines on the basis of evidence, of efficacy and safety, at <http://www.who.int/malaria>.
- OBESITY** European charter on counteracting obesity – Diet and physical activity for health. The Charter identifies key areas of action to reducing marketing pressure; promote breastfeeding; reduce free sugars, fat and salt in manufactured products; ensure adequate nutrition labelling of foods; and promote cycling and walking through better urban design and transport policies, at <http://www.euro.who.int/obesity>.
- OBSTETRIC FISTULA** *Guiding Principles for Clinical Management and Programme Development.* A practical guide for health-care professionals and planners, policy-makers and community leaders. Can be purchased on-line from the WHO Bookshop at <http://www.who.int/bookorders>.
- SEXUAL HEALTH** Sexual and Reproductive health – Laying the foundation for a more just world through research and action. (Available in English at <http://www.who.int/reproductive-health/management>).
- STATISTICS** The WHO Statistical Information System launched a new, user-friendly web-based profiles for all Member States that include life expectancy, mortality in children under five, distribution of causes of death among children, top 10 causes of death and wealth quintiles. (Available in English and French at <http://www.who.int/whosis/en/>).
- TOBACCO** The WHO Framework Convention on Tobacco Control (FCTC): Mobilizing the world for global public health, is an introduction the first global public health treaty aimed at reducing the burden of disease and death caused by tobacco consumption. Tobacco: Deadly in any form or disguise, published for World No Tobacco Day 2006, examines the many different forms of tobacco in use throughout the world today. Both documents available at: <http://www.who.int/tobacco/resources/publications>.
- TRAVEL** The *International travel and health* publication offers guidance on the full range of health risks likely to be encountered at specific destinations and associated with different types of travel, at <http://www.who.int/ith/en>.
- TUBERCULOSIS** The *Global Plan to Stop TB, 2006–2015*, sets out actions for life – actions towards a world free of TB, at <http://www.who.int/tb>.
- VIOLENCE** First world report on violence against children produced by WHO, UNICEF, and the United Nations High Commissioner on Human Rights, at <http://www.violencestudy.org>.
- WATER** *WHO/UNICEF joint MDG Drinking Water and Sanitation Target* – The Urban and Rural Challenge of the Decade highlights the challenges required to meet the MDG drinking water target, at http://www.who.int/water_sanitation_health.
- WER** The *Weekly Epidemiological Record* serves as an essential instrument for the collation and dissemination of epidemiological data useful in disease surveillance on a global level. Priority is given to diseases or risk factors known to threaten international health. (Available in English and French at <http://www.who.int/wer/en/>).
- WORLD HEALTH** The *World Health Report 2006* is drawing the world's attention to the health workforce crisis and its deadly impact on many countries' ability to fight disease and improve health. (Available in English, French and Spanish at <http://www.who.int/whr/2006>).