Executive summary

The Asia Pacific Region comprises the South-East Asia and Western Pacific Regions of the World Health Organization and includes 48 countries and areas with a population of 3.45 billion, 53% of the world's total. The influence of ancient civilizations and cultural bonds that developed across the Asia Pacific Region through trade and the spread of religions have, perhaps, been overtaken by modern development. While much is shared in terms of perspectives and aspirations, the Region is extremely diverse and encompasses some of the world's least and most developed nations, both market and centrally planned economies, and countries with populations in the hundreds of millions and others measured in mere thousands.

The late 1990s and the early years of this decade were tumultuous times of major natural disasters, wars, financial crisis and a SARS epidemic that seemed to foreshadow future insecurity. Today, most of the Region enjoys optimism, stability and unprecedented prosperity, thanks to hard work and committed leadership. Benefits, however, are unevenly distributed, with many countries and a disturbingly large part of the total population left out of the development mainstream, subsisting in poverty and poor health. Even more troubling, evidence suggests these inequalities are widening, both across and within countries.

This report on health in Asia and the Pacific responds to the request of WHO Member States for a single document that summarizes progress made, highlights differences and similarities across the Region, and clarifies remaining obstacles to achieving good health for all. Successes include major progress in reducing or eliminating the burden of infectious diseases, improved awareness of health risks from tobacco and other lifestyle factors, vastly increased numbers of HIV/AIDS patients receiving antiretroviral treatment, and a reduction in high levels of infant and child mortality. Many new technologies and social approaches have proven effective, but the cost of scaling them up is very high, and initiating change is often difficult. Much work remains to be done to ensure health systems in the Region become more inclusive and better capable of responding to the challenges of shifting morbidity patterns and increasing health inequalities.

This report has three main sections. The first examines the determinants of health—the socioeconomic, environmental and demographic factors that cause some people to be more vulnerable to the microbes and toxins that are the direct causes of illness and disability. The second section reviews health status and the important diseases in the Region, the new and re-emerging infectious diseases that can spread rapidly and are a global threat calling for coordinated countermeasures, and the increasingly important "lifestyle" and "life-course" health issues. The third section reviews how health systems in the Region are responding to these challenges and describes the essential functions performed by health authorities. A concluding chapter summarizes the key public health challenges facing the Region in the near future.

Section A

Health determinants

Health is strongly influenced by socioeconomic factors, which include the conditions in which people and communities live and work, their physical and social environments, how others regard them, what society can provide for them, and what they can provide for themselves. Wealth, and how it is distributed, varies widely in the Region, with the five most industrialized countries enjoying US$ 18 000 to US$ 30 000 per capita income (adjusted for purchasing power), but with the least developed countries having only small fractions of this level of wealth. The poorer countries in the Region also have higher proportions of impoverished people, who are generally more vulnerable to serious health risks. Large income disparities within many countries are also reflected in differences in health status. Other key social determinants of health include ethnicity or race, gender, education, employment conditions and location (rural versus urban). Some groups are systematically more disadvantaged with respect to these determinants, resulting in their relatively poorer health. These factors also give rise to inequities between population groups with regard to health risks, health-seeking behaviour, access to services, responsiveness of the health system and health outcomes. There is growing evidence that health inequities are rising, but little information exists on how to best address this.

The Region remains predominantly rural, with agriculture the main occupation. Food production and security have improved markedly, but some countries in the Region still have difficulty meeting their requirements for sufficient, safe and nutritious food. The capacity to fulfil the food needs of the growing world population is limited by rapidly increasing pressures on natural resources in the Region and elsewhere. The recent increase in global food prices also has affected the Region severely. The urgent priority of meeting the immediate needs of vulnerable populations, building longer-term resilience and contributing to food and nutrition security requires intersectoral action on food production, nutrition and other social determinants of health.

Demographic trends provide evidence of a changing situation characterized by declining fertility, longer life expectancy, increased dependency ratios and ageing populations. The transition to an older population has already occurred in countries that developed rapidly and has reduced the fertility of their large working-age populations. These countries are now bearing a heavy "demographic burden" as former workers are supported by a smaller, younger generation. Health systems and programmes in both developed and developing countries will need to cope with the chronic diseases of older persons and new health and welfare issues which could pose overwhelming problems in the near future.

Gender is a major determinant of health risks, disease burden, access to services and health outcomes in the Region. Both maternal and child mortality, as well as a host of other health risks and outcomes, are influenced by the health, education and nutritional status of women, and their access

to health services. The high ratio of male births in comparison to female births, in some countries, including those with most of the Region's population, suggests widespread use of selective abortion due to a male child preference. The higher mortality rate of females under five years of age compared to male children may be attributable to discrimination against girls in provision of sufficient food and timely health care. Appropriate policies in health, education and employment, and women's economic and political empowerment, can help redress the structural disadvantages faced by women.

Environmental trends are linked to population health, and in this respect rapid development has had significant negative effects in the Region. Urbanization is associated with health issues, such as sedentary lifestyle, unhealthy diet, substance abuse, air pollution, occupational hazards, accidents and injuries. Scarcity of urban land and the development of slums create problems of water supply, sanitation and overcrowding. Under these conditions, infectious diseases spread more rapidly than in rural areas. Safe drinking water has been provided to hundreds of millions of people in the Region in recent decades, but over 18% of the population still lack this basic health measure. Diarrhoea remains one of the leading causes of morbidity and mortality in urban slums and in rural communities, where there is the greatest lack of household sanitation. Experience shows that with political will and community participation, rapid improvements in sanitation can be achieved.

Air quality is deteriorating in the Region due to industrialization, increased energy consumption, and urbanization, with urban and indoor air pollution implicated in 1.5 million deaths annually. The immense quantities of chemicals used in the Region have impacted human health and ecosystems. Countries in rapid transition have reduced mortality from traditional agriculture-related hazards, but injuries and diseases due to industrialization may be increasing. Climate change is a serious threat that must be urgently addressed, with better evidence required on its effect on human health to strengthen preparedness and response for climate-sensitive diseases.

Food contamination is a significant public health problem and requires a "farm-to-table" approach involving all stakeholders to establish effective national food safety control systems. While 500 million people in the Region struggle to meet basic food needs, a burgeoning middle class is developing unhealthy lifestyles. Adverse dietary changes, lack of physical activity and stress contribute to "diseases of affluence". Unless health promotion efforts are intensified, tobacco and drug use, unsafe sex, and other high-risk behaviours are expected to increase.

Section B

The regional health situation

In 2002, the Asia Pacific Region contributed 46% of total disability-adjusted life years (DALYs) lost worldwide, but both morbidity and mortality are declining more rapidly in the Region than elsewhere. Given the great variations in economic, social, demographic and environmental factors in the Region, it is not surprising to find large differences in health status. Despite great progress in combating disease, pockets of high mortality and morbidity remain. In general, health indicators for the poorest countries lag far behind the wealthiest, and within most countries they are much worse for the poor. In less-developed countries, most deaths occur at younger ages rather than the older ages that are the norm in more highly developed countries.

Deaths from communicable, perinatal, nutritional and maternal conditions have declined to 20% of total deaths in the Region. The share of deaths from noncommunicable diseases is now over 60%, and injuries account for 10%.

Emerging infectious diseases pose serious public health threats in the Region. Outbreaks of two newly emerging diseases in the 21st century, Severe Acute Respiratory Syndrome (SARS) and highly pathogenic avian influenza A (H5N1) virus, are historically unprecedented in the Region. These outbreaks clearly demonstrate that in today's interconnected and globalized world, new infectious diseases can rapidly spread from country to country and seriously impact economic development and social stability, threatening national, regional and global health security. The Region currently faces the risk of a human influenza pandemic arising from the evolving avian influenza A (H5N1) virus, as well as potential new subtypes of the influenza virus. It is crucial to strengthen the capacity to detect and respond to emerging infectious diseases before the next pandemic to minimize its impact.

One fifth of all deaths in the Region are caused by infectious diseases. HIV/AIDS and other sexually transmitted diseases, tuberculosis (TB), malaria, and vaccine-preventable diseases such as polio and measles, dengue, kala azar and lymphatic filariasis, all remain priority diseases in the Region.

The HIV/AIDS epidemics in the Region are driven by populations whose behaviours carry a high risk of exposure to HIV. Targeted interventions, such as the 100% Condom Use Programme in sex work and harm reduction strategies for injecting drug users, have proven effective in reducing HIV prevalence in a number of countries. Improved health sector response means increased numbers of people are receiving needed antiretroviral treatment. However, the HIV burden is still increasing in several countries. Better quality and scaling up of programmes for comprehensive prevention, care and treatment for HIV/AIDS are needed, including interventions through the health sector and targeted approaches for populations at high risk.

An estimated 5 million people develop TB each year in the Region, resulting in 800 000 deaths, making TB the communicable disease with the highest number of fatalities. Much progress has been achieved in the past decade following the implementation of an effective diagnosis and treatment strategy. Nonetheless, further progress is threatened by the emergence of drug-resistant TB and the TB and HIV coinfection. This situation is exacerbated by weak TB laboratory infrastructure. Increased funding from both government and external sources will help countries further strengthen TB control programmes and keep them on track to reach the Millennium Development Goals (MDGs) target of reducing prevalence and mortality due to TB by half, compared to 1990.

Endemic in 20 countries in the Region, malaria is estimated to cause the loss of 3.2 million DALYs per year. Significant control efforts have resulted in a decreasing trend in several countries, especially in mortality. Meanwhile, drug-resistant strains are spreading steadily in the Region, with reduced effectiveness of mefloquine in the Cambodia and Thailand border region. This could endanger malaria control and elimination globally and thus requires urgent control efforts. Irrational drug use and substandard and counterfeit medicines are considered to be major contributors to antimalarial drug resistance. Rapid diagnostic tests (RDTs) and microscopy are essential tools for early case detection, and a new programme of quality assurance for microscopy and efforts to scale up use of RDTs are ongoing.

Today, immunizations save more than 3 million lives annually worldwide, yet millions of children in the Asia Pacific Region remain unimmunized and continue to die or become disabled from diseases that can be prevented with vaccines available in their own countries. While the majority of countries have remained polio-free for many years, the disease remains endemic in India, and several countries have experienced recent importations of wild poliovirus. Despite a substantial reduction in measles cases and deaths in the Region, compared to the pre-vaccine era, measles continues to be a leading cause of vaccine-preventable morbidity and mortality in children.

Most countries in the Region are either endemic or hyper-endemic for hepatitis B, with an estimated 258 million chronic carriers. Many countries have achieved elimination of maternal and neonatal tetanus however, neonatal tetanus remains one of the most underreported of vaccine-preventable diseases because it tends to occur in areas with poor or no access to health care and goes unidentified within the community. Significant effort has been made to advance these programmes. Recent successes targeting the P1 serotype of wild poliovirus in India provide encouragement that global eradication will be achieved. Many countries have set a measles elimination goal of 2012 and have developed multi-year national plans of action specifically addressing measles elimination or mortality reduction using WHO- recommended strategies. Regional plans have been developed for hepatitis B vaccination programmes. The Region has also initiated expansion of underutilized vaccines such as the vaccine for *Haemophilus influenzae* type b (Hib); vaccine against Japanese encephalitis; for rubella; the introduction of new vaccines against pneumococcus and rotavirus; and a vaccine against major serotypes of human papilloma virus (HPV). This should result in substantial morbidity and mortality reduction.

While dengue case fatality rates have been declining in most countries, possibly as a result of better access to health care and timely case management, dengue fever continues to cause large outbreaks that require significant resources to control. A Dengue Strategic Plan for the Asia Pacific Region has been developed, which will serve as the framework for the development of national plans as a tool for resource mobilization and for advocacy purposes to increase political and financial commitment.

Regular epidemic cycles of kala azar (KA) every 15–20 years put about 200 million people at risk. Resource allocation to control KA is still low, but significant steps have been made, including the signing of a memorandum of understanding to eliminate KA by the health ministers of Bangladesh, India and Nepal.

Significant effort has been made in leprosy and lymphatic filariasis (LF) control in the Region. In the past, the Region accounted for the highest burden of leprosy globally, but now only three countries report more than 5000 cases, and five countries report more than 1000 but fewer than 5000 cases. The Region accounts for about 70% of the global population at risk of LF. Mass drug administration campaigns for LF covered about 370 million people living in 21 endemic countries in 2005. To achieve the goal of elimination, efforts to scale up the programme should be maintained.

The disease burden of soil-transmitted helminthiasis is enormous, with more than 1.2 billion people in the Region estimated to be chronically infected. Although death is rare, soil-transmitted helminthiasis cause morbidity by affecting nutritional equilibrium, reducing growth, inducing intestinal bleeding, causing physical complications and impairing the cognitive development of children. Until recently, very little attention was paid to controlling soil-transmitted helminthiasis, but there are many successful examples of countries that have integrated deworming into general school health programmes.

To confront continuing emerging disease threats more effectively and establish health security in the Region, all countries need to develop and strengthen fundamental surveillance and response systems and capacities that are capable of early detection of and response to emerging infectious disease outbreaks and public health events. The substantially revised International Health Regulations, known as IHR (2005), provide a global legal framework for collectively combating acute public health threats and emergencies of potential international concern, including emerging infectious diseases. The IHR (2005) also emphasize the importance of building national and local core capacities for surveillance and response. Joint efforts are being made to meet IHR (2005) obligations through implementation of the Asia Pacific Strategy for Emerging Diseases (APSED) in an effort to develop health security by the end of 2010.

Cardiovascular disease, diabetes and many cancers are increasing rapidly, but these are amenable to preventive strategies. The prevalence of diabetes in the Region is expected to double over the next 15 years. The global tobacco epidemic is the second major cause of all deaths from noncommunicable diseases, and the Region accounts for almost 2.3 million out of 5 million global tobacco deaths each year. Smoking prevalence has decreased in developed countries, but overall tobacco use is still very high among men and is increasing rapidly among women. Rates and severity of injuries, violence and accidents are also increasing.

Reproductive health, child and adolescent health, nutrition disorders and health care for older persons are "life-course" health issues that affect nearly everyone. Maternal mortality is still unacceptably high in some countries, with approximately 200 000 maternal deaths, nearly 40% of the global figure, occurring annually in the Region. The major risk factor for maternal and neonatal deaths is lack of access to three critical services—skilled care at birth, emergency obstetric care and family planning. Young people (ages 10–24) constitute a significant portion of the population, and early marriage and childbearing is common in many countries. Maternal mortality in girls under 18 is two to five times higher than in women between 18 and 25. There are nearly 8 million unsafe abortions each year in the Region.

Remarkable progress has been made in child survival over the last three decades, but the Region still accounts for about 40% of all infant and child deaths globally. Regional and national averages conceal the large disparities in child mortality among and within countries, a result of geographic, financial and other barriers. Within countries, child health indicators tend to be worse among the poor, where health service utilization is very low, quality of health care delivery is inadequate, and unsafe environments and poor sanitation and hygiene prevail. Infant mortality is declining, but 10 out of 48 countries and areas still have rates above 50 per 1000 live births. Most child deaths (and 99% of neonatal deaths) occur in low-income countries or poor communities in middle-income countries. Over half of these are from preventable diseases or easily treatable conditons and are compounded by undernutrition. Cost-effective child survival interventions are in use but have not received the investments and intersectoral collaboration needed to take them to scale. Neonatal mortality has not been effectively addressed, although it makes up almost half of all child mortality.

Chronic undernutrition in the Region is steadily decreasing, but progress is unevenly distributed and undernutrition rates in some countries remain disturbingly high. Many countries are facing the double burden of underweight and overweight children, as well as adults, especially women. Overweight children are a growing concern. Two trends can be seen: increasing obesity rates with increasing age; and rising obesity rates as time passes. Success in reducing child malnutrition is greatest in countries experiencing economic development and where interventions target groups at highest risk. Effective solutions exist to address nutritional problems, and more and more countries are promoting healthy diets and lifestyles in schools and communities.

Section C

Health systems development

Governments can improve the health of their citizens by taking actions that lead to responsive, well-resourced, efficient and well-regulated health systems. Health systems must be continually oriented to respond to public health challenges. The values of primary health care, as enunciated in the Declaration of Alma-Ata adopted at the International Conference on Primary Health Care in 1978, remain the guiding principles for health systems throughout the Region. Despite this, health systems have become increasingly fragmented, which is generally an obstacle to effective delivery of health

services and efficient achievement of health goals. Systems need to be understood in their entirety. Actions to strengthen health systems need to build system capacity and not just divert capacity from one part of the system to another to meet short-term goals. A recently disseminated and useful analytic framework calls for action across six health system building blocks, while addressing key cross-cutting concerns of equity, quality, gender and human rights.[1] The six building blocks are:

(1) Health service delivery—safe, quality personal and non-personal health interventions.

(2) Health workforce—sufficient numbers and mix of competent staff, who are fairly distributed, responsive and productive.

(3) Health information systems—production, analysis, dissemination and use of reliable and timely information.

(4) Medical products and technology—high-quality, safe, efficacious, cost-effective and scientifically sound.

(5) Health financing—adequate in amount, ensuring access to needed services and raised in ways that protect people from financial catastrophe and impoverishment.

(6) Leadership and governance—effective strategic and policy frameworks, combined with oversight, working with partners, regulation and accountability.

Sufficient financial resources are required to ensure the coverage and quality of health services, but how these resources are used is of equal importance. Some countries in the Region have achieved good overall health relative to available resources by implementing policies that address the greatest health needs and promote preventive activities and healthy lifestyles. A focus on primary health care can increase the efficiency of health systems and improve access and responsiveness. Low utilization of services is an issue in many countries and is associated with high barriers to access and low quality of services, both of which must be tackled simultaneously. The Region has seen innovative methods to improve service delivery, such as contracting out, with private and nongovernmental sectors as valuable partners. The private sector plays a large role in providing health services in the Region, but using the private sector for public benefit requires effective laws and regulatory capacity, something that is lacking in many countries.

Public spending on the health workforce accounts for a large part of government health expenditures in the Region. Relative to need, there is still an overall shortage of human resources for health, as well as imbalances in distribution, with the fewest health workers often found where health needs are greatest. Skill imbalances create inefficiencies and low capacity to meet changing needs. Educated and well-trained health workers save lives, and there is evidence of a direct relationship between the number of health workers and health outcomes. Tackling health workforce challenges in the Region, such as inadequate supply, imbalances in skill-mix and distribution, and migration, requires strong political commitment, government leadership, increased investment and innovative strategic actions, as well as effective partnerships and collaboration among key stakeholders.

National health information systems need to be developed to a level where reliable data is transformed into usable evidence for strengthening health systems, including collecting and analysing information that is disaggregated by relevant indicators of social exclusion, to measure the nature of inequalities between different population groups. While several countries have notifiable disease

[1] Everybody's business: strengthening health systems to improve health outcomes: WHO's framework for action. Geneva, World Health Organization, 2007. Available from: http://www.wpro.who.int/NR/rdonlyres/5BA80B95-DC1F-4427-8E8B-0D9B1E9AF776/0/EB.pdf

surveillance systems and send data regularly to WHO, some are not fully developed or do not work well as early warning systems, nor can they reliably detect and report events caused by unknown diseases. The risk of cross-border transmission of emerging diseases requires greater intercountry collaboration in terms of information sharing and dissemination. Health research capacity is well advanced in most developed countries and is increasing in some developing countries. More targeting of research is required on the largest health needs, namely those of poorer or marginalized groups in poorer countries. In addition, there is still a gap in converting information gained from health systems research into actual policy and implementation.

National medicine policies are a well-established concept globally, but such policies have not been fully implemented. Limited access to and availability of essential drugs in many parts of the Region, as well as irrational drug use, increasing antimicrobial resistance and the high prevalence of counterfeit and substandard drugs, pose serious health threats. Traditional medicine is flourishing with official support, alongside allopathic medicine in many countries, although the links between the two systems could be stronger. Laboratory and blood transfusion programmes are essential parts of health systems. In many countries these services are under-resourced and fragmented. Policies for the selection, management, maintenance and financing of appropriate health technology are a challenge to all countries. Ad hoc decision-making needs to be replaced by coherent, evidence-based policy.

The Region has the world's highest dependence on out-of-pocket expenditure to finance health care systems and the highest number of households driven into poverty by the need to pay for health care at the time of service. Government spending on health tends to be low in the Region, particularly in less developed countries, with half of them spending less than 5% of gross domestic product on health. Countries need to emphasize health-care financing that is prepaid, risk-pooled and progressive. The goal should be universality, ensuring that the most vulnerable and currently underserved populations have access. This may be done through a mix of sources that includes general taxes, earmarked taxes, compulsory social health insurance, other types of health insurance, international aid and even private copayments, as long as the most vulnerable are protected. Health financing mechanisms should provide incentives for rational and efficient use of health services.

Governments, even when not the primary providers of services, have a major role to play in oversight, regulation and guidance of the health sector. Good stewardship by government should ensure that the health sector is accountable to all people. Development partners and earmarked funding can influence, and sometimes distort, health systems, particularly in highly aid-dependent countries, and the international community has recognized this. There is a trend, as embodied in the Paris Declaration on Aid Effectiveness, towards harmonization and alignment of donor assistance with government-led planning and implementation processes in recipient countries.[2] There are multiple methods for moving towards this goal, including sector-wide approaches.

A high level of emergency and humanitarian response preparedness is a necessity in the disaster-prone Asia Pacific Region. Between 1995 and 2005 there were more natural and industrial disasters and casualties than in any other region. Governments are building capacity for disaster preparedness in health, but communities and health systems must become more self-reliant and resilient. Policy-makers and managers are receiving training focused on public health needs and competencies. Emergency response needs to become an intrinsic part of the health system and consistent with its principles.

[2] *Paris Declaration on Aid Effectiveness: ownership, harmonization, alignment, results and mutual accountability.* Washington DC, World Bank, 2005. Available from: http://www1.worldbank.org/harmonization/Paris/FINALPARISDECLARATION.pdf