HEALTH AND HEALTH SYSTEMS IN THE WHO WESTERN PACIFIC REGION

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Abstract

This article provides a summary overview of the Western Pacific region and provides information on key health indicators for the region. There is also a description of the health-care systems in the region including both public and private sectors and data on the number of beds available against population numbers. The article also considers the response of health systems to the challenges facing them, as well as health-care financing, and the regulation of the health sector. Coverage is given to the health workforce and the impact of globalization and trade on health.

The Western Pacific Region of the WHO includes over 1.7 billion people, 27% of the world's population. Extending from western China to the Marshall Islands, it however excludes North Korea and all the countries except Malaysia that form the wide southwestern arc of Asia. Even without these geographical anomalies it would be difficult to generalize about health and health systems in the region. This is because of its enormous diversity in development: nations of the WPR differ by extremes from very poor to very rich, from market to centrally planned economies, from the least to the most highly industrialized, some with populations in hundreds of millions but many measured in thousands.

It is therefore not surprising that there are very different levels of development in national health systems. Resources for health vary widely, and so do the "outputs" of health systems such as morbidity and longevity. Life expectancy at birth ranges from 54 in Cambodia to 82 in Japan, and infant mortality from 97 to 3.0. Women outlive men by as much as 7 years.

The critical demographic factor in the region is population aging, although this is happening at different rates due to diverse health, fertility and social factors. As seen below, the transition to an older population has already happened in Japan, and China is headed for a similar

Country	Life expectancy at birth[1]			Infant mortality[2] per 1000 live births
	Total	Males	Females	
Cambodia	54	51	58	97
Lao, PDR	59	58	60	65
Papua New Guinea	60	58	61	67
Marshall Islands	62	60	64	52
Nauru	61	58	65	25
Tuvalu	61	61	62	36
Kiribati	65	63	67	49
Mongolia	65	61	69	41
Fiji	69	66	71	16
Palau	68	67	70	22
Philippines	68	65	72	26
Samoa	68	66	70	25
Vanuatu	68	67	69	32
Micronesia, FSM	70	68	71	19
Solomon Islands	68	66	70	34
China	72	70	74	26
Cook Islands	72	70	75	18
Niue	71	68	74	27
Tonga	71	71	70	21
Viet Nam	71	69	74	17
Malaysia	72	69	74	10
Korea, Republic of	77	73	80	5
Brunei Darussalam	77	76	78	8
New Zealand	80	77	82	5
Singapore	80	77	82	2
Australia	81	78	83	5
Japan	82	79	86	3

1 World Health Organization. The World Health Report 2006: Working Together For Health.
2 World Health Organization. World Health Statistics 2006.

TABLE 1. LIFE EXPECTANCY AT BIRTH AND INFANT MORTALITY RATE (IMR) IN THE WHO WESTERN PACIFIC REGION, 2004.

The critical demographic factor in the region is population aging, although this is happening at different rates due to diverse health, fertility and social factors

age distribution. The Philippines and other countries with high birth rates and lower life expectancies remain relatively "young".

Percentage of population under age 14, 1975-2050 (3 WPR countries)

At the same time, rapid industrialization and growing trade is shifting the disease pattern from what has been typical of developing tropical areas to that now prevailing in developed countries. Taking care of the elderly is not an insurmountable problem so long as the working population is growing and the dependency ratio is actually falling, but in the next half century chronic diseases in the elderly could overwhelm health systems in some countries.

Large morbidity differences exist in the region, however, as seen in Table 2. The less-developed countries generally have a higher disease burden, with most DALYs lost to communicable diseases, maternal/perinatal conditions, and nutritional deficiencies. Approximately 60% of the DALYs lost are from premature death, the rest from disability. There are still high rates of malaria in the Pacific, especially in Papua New Guinea, Solomon Islands and Vanuatu, but heart disease and stroke, long regarded as ailments of developed countries, are set to become the leading causes of death and disability in the region. Injury rates are alarmingly high in several countries, and neuropsychiatric illnesses cause an estimated 12-14% of morbidity and many suicides.

Inequalities in disease burden within some countries are as large as between countries. In China, under-5 mortality has been reduced dramatically in the past two decades and is now as low as 10 per 1000 live births in well-off coastal and urban areas, but it is 4 to 6 times higher in some western rural areas. Where inequalities have increased, the causes may include adverse changes in health service provision and access.

Country	DALYs lost, all causes (per 1000 population)	Percent of DALYs lost by cause		
		Group I conditions[a]	Non-communicable	Injuries[b] disease
Lao, PDR	403	60.4	27.9	11.7
Cambodia	385	62.4	30.8	6.8
Papua New Guinea	288	53.9	36.0	10.1
Kiribati	274	33.4	64.3	2.3
Tuvalu	272	29.5	60.5	10.0
Marshall Islands	242	25.7	65.2	9.1
Nauru	240	17.6	71.7	10.7
Solomon Islands	235	40.3	53.7	6.0
Mongolia	227	29.2	57.0	13.8
Micronesia, FSM	201	31.5	61.0	7.4
Fiji	196	26.4	66.5	7.2
Philippines	191	33.0	57.6	9.4
Vanuatu	184	32.1	60.5	7.4
Niue	180	27.2	62.6	10.2
Palau	180	23.7	68.1	8.2
Viet Nam	166	32.2	54.9	12.9
Samoa	165	25.9	65.7	8.4
Cook Island	164	24.4	65.6	10.0
China	154	18.5	66.4	15.0
Tonga	154	23.5	69.9	6.6
Malaysia	146	19.9	69.6	10.5
Korea, Republic of	134	11.0	76.1	12.8
Brunei Darussalam	129	15.0	73.6	11.4
New Zealand	117	4.9	85.5	9.7
Australia	110	5.1	85.1	9.8
Singapore	106	10.5	83.5	6.1
Japan	104	5.6	84.3	10.1

Source: http://www3.who.int/whosis/burden/estimates/2002Rev/2002RevCountries/DthDALY2002.zip
a Communicable diseases, maternal and perinatal conditions, and nutritional deficiencies
b Includes self-inflicted

TABLE 2: ESTIMATED TOTAL DALYS BY CAUSE OF ILLNESS IN THE WESTERN PACIFIC REGION, 2002.

Available data on the causes of hospital admissions in the WPR are very incomplete, but normal childbirth and complications account for many, the ranking depending on counter-trends of smaller families and fewer home births. Respiratory and digestive system diseases are major causes, and injuries and circulatory system diseases are also significant.

Health systems in the WPR

In the industrialized countries most health care is provided by urban hospitals and clinics, staffed by qualified practitioners and supported by the latest technology. Several countries also have parallel traditional medicine systems. The countries that are still mainly agrarian rely on small rural health centers supported by secondary hospitals in local urban centers and a few tertiary hospitals in the large cities.

Private providers play a large and growing role in most countries in the Region. Drugstores, small private clinics, and traditional healers are favored by poor patients, and many hospitals are privately owned and operated for profit. Not surprisingly, the most developed countries in the region have more beds per capita than poorer less developed countries, as shown in Table 3. The small island nations tend to have higher than average bed ratios due to their dispersed populations. Wealthier countries also tend to have relatively more private sector health facilities. Some countries with few inpatient facilities are well-resourced at the PHC level. Viet Nam, Lao PDR,

Most and least hospital beds	Year	Total beds/ 1000 population
Japan	2004	14.19
Tokelau	2003	11.76
Mongolia	2004	6.02
New Zealand	2002	5.81
Korea, Republic of	2004	5.28
Cambodia	2004	0.57
Northern Mariana Islands	2000	1.02
Philippines	2002	1.07
Lao PDR	2005	1.20
Guam	2000	1.33

Beds in private hospitals	Year	Proportion
Korea, Republic of	2004	86%
Japan	2004	73%
Macao (China)	2004	52%
New Zealand	2002	48%
Philippines	2002	44%
Samoa	2004	3%
Hong Kong (China)	2005	9%
FS of Micronesia	2005	12%
Mongolia	2004	12%
Brunei Darussalam	2004	14%

Source: World Health Organization. Western Pacific Country Health Information Profiles 2006 Revision.

FIGURE 3: NUMBER OF HOSPITAL BEDS IN THE WESTERN PACIFIC REGION, 2001-2006.

Cambodia, Malaysia, and Papua New Guinea rely heavily on primary health facilities to compensate for few hospital beds, as do many Pacific Island nations.

The majority of hospital beds in the region are in public general hospitals. China has by far the most district-level referral hospitals and primary health centers in the region. This sometimes can result in overlapping functions and inefficiency, as noted in the box below. To increase efficiency Japan is currently reducing the number of beds, by closing some public hospitals and psychiatric wards.

Box 1 |

China's large rural population is served by a three-tier system. The basic level is the village doctor who often have only rudimentary training. Working on a fee-for-service basis, they diagnose and treat patients, prescribe and sell medicines. The second tier is township health centres or hospitals, with about 25% of all hospital beds in China. Services include deliveries and basic acute treatment and surgery. They tend to have lower bed occupancy rates than county hospitals because of quality and cost concerns. The third tier, the county hospital, is usually the highest level that rural residents use.

Independent of the 3-tier system are three important public health services: The Epidemic Prevention Service and the Maternal and Child Health Programme under the MOH, and family planning programmes under the Family Planning Commission. There are increasing problems with overlap, duplication, and lack of coordination between parts of the vertical and 3-tier services. Urban areas also have issues of duplication and inefficiency. One city might have hospitals under several systems but few community-based service facilities, and have weak outreach of public health programmes to the large unregistered migrant population .

Health system responses

Notwithstanding the differences between them, countries in the WPR share common challenges, including poor and inequitable health outcomes, poor access to care, inadequate quality, continuity and integration of services, and poor responsiveness to clients' needs and demands. Health sector reforms to increase the efficiency and effectiveness of health systems were designed to counter the effects of spending cuts in the 1980s and 90s. Donor pressures for health sector reform were sometimes overwhelming . Only the countries least dependent on foreign aid and ideologies, such as Brunei Darussalam, Malaysia and Singapore, have had the luxury of following their own paths.

The Millennium Development Goals (MDGs), approved by 189 governments in September 2000, provide a clear agenda to improve the lives of the world's poor. Progress towards the MDGs has been mixed across the region. Extreme poverty has declined dramatically due to economic growth, child mortality has been reduced, and the fight against tuberculosis has made great strides. Some MDG targets, such as for malaria, have already been met. Yet rates of progress for other targets have been slow, such as those for sanitation and maternal and child mortality.

A review of seven priority countries found that Cambodia and the Philippines are on track in improving maternal health. Both have achieved at least 50% reduction in maternal mortality ratio (MMR), and China and Mongolia have reduced MMR by 25% to 50% from 1990 to 2002. But halfway between the baseline and target years Papua New Guinea and Viet Nam have reduced MMRs by less than one quarter. Among the countries in the Region with a high burden of tuberculosis, only Viet Nam has performed well in both detection and cure. Although exceeding cure rate targets, Cambodia, China, and the Philippines have yet to reach their target rates for case detection.

Multisectoral and decentralized approaches are increasingly being used to combat communicable disease threats. The traditional infectious diseases have been attenuated through immunization programs, access to improved sanitation, and (to a lesser extent) safe drinking water. HIV/AIDS prevention and control requires collaboration of the health, labor, construction, transportation, migration, and police sectors, as well as social research institutions and blood banks.

Box 2 |

Treatment of chronic NCDs is expensive, involving laboratory procedures and drugs, the costs of which must be covered by government, individuals, or insurers. Singapore has started community health screening of elderly residents (blood pressure, blood sugar, and cholesterol) in response to the increasing rate of age-related chronic illness. The Republic of Korea will provide basic health services at local health centres for the elderly and the national life-long health promotion programmes that aim to correct unhealthy behaviour. Many other countries are devising similar plans for minimizing chronic illnesses.

The need for international coordination became evident in the region with the SARS crisis and the current avian influenza threat, which has also brought the agriculture/veterinary sector into the picture. Health-related sectors such as agriculture, education, industry, trade, and communications are beginning to work together and take the health consequences of their decisions into account when formulating policies.

Different modes and priorities are required to cope with changing disease patterns. The most significant response by health systems in the region to changing demographics and disease burdens is an increased emphasis on disease prevention. While aging cannot be prevented, many non-communicable diseases such as diabetes and hypertension can be prevented or mitigated as effectively as most communicable diseases.

Malnutrition, life-style and environment are the main underlying risk factors causing much of premature mortality. Tobacco use and underweight are also major risks. Risk factors that require social changes are difficult to communicate and even more difficult to present in a manner that can convince many people. Mass media can influence risk perception by the general public, and when done well can influence behavior. Awareness against HIV/AIDS in some countries is an example of the significance of mass media in controlling a disease, and "100% condom use" programs have been effective in the region among high-risk groups.

Keeping PHC on the health system development agenda is essential for increasing both equity and efficiency. In countries with effective health care networks that have largely resolved problems of access, PHC is mainly seen today as a level of care. In low resource countries where there are still significant access challenges the PHC concept is a system-wide strategy for development with emphasis on the rights to health care, social justice and reducing inequality.

Weaknesses in health systems often affect the people who are in most need of services. The poor have more need for healthcare yet face the greatest barriers and opportunity costs. Inequalities in health in the region are being addressed mostly by strategies that specifically target the poor, either by identifying poor households and providing them directly with cash, goods, and/or services, or by redistributing health services preferentially to geographic areas where a high proportion of the poor are living. In addition, focusing on diseases that affect the poor more than others such as tuberculosis, HIV/AIDS, and malaria preferentially improves their health status.

Engagement and commitment by local communities contribute in many ways to health improvement. By identifying, mobilizing and committing their own resources and advocating more effectively for outside resources, communities build a sense of collective purpose and solidarity and improve their capacity for self-help. Small, action-oriented, local initiatives can be effective and efficient. The "healthy settings" initiatives in the Region ('Healthy Cities, Healthy Islands, and Healthy Workplaces') draw on this approach.

Ambulatory care in the most developed countries in the region is provided largely by the private sector. Differences emerge in the hospital sector: hospitals in Hong Kong (China) and Singapore are largely public, while hospitals are largely private in the large social insurance based systems of Japan and Korea. In terms of the private-public mix, these systems span a wide range of ownership and financing combinations.

Several countries in the WPR have decentralized their health systems to better respond to local healthcare needs and to devolve financial responsibility to local governments. Large countries including China had long since made this transition out of necessity, as have others with large populations or difficult geographical access. Complementing this trend is the corporatization or autonomization of large public hospitals, often controversial but generally successful. In some countries decentralization has been implemented simultaneously with a reduction in public spending on healthcare.

Box 3 |

Vietnam is considered a development "success story," having reduced poverty levels rapidly in the past decade. Health strategy emphasizes PHC and in particular preventive care, and focuses on communicable diseases, child, and reproductive health. The strategy is consistently pro-poor: it specifically targets poor people and regions and addresses known poverty-health issues. The affordability of health care for the poor is addressed, and several of the monitoring indicators are specifically pro-poor. There is a commitment to ensure that with any privatization of health care, poor people will retain access.

Health financing: toward better access and equity

Private out-of-pocket spending on healthcare has always been relatively high in Asian countries but privatization was a step backward in some. Millions of the poor and near-poor no longer benefit from free care as hospitals have been corporatized and cut off from central tax-based funding.

The most developed countries in the region are far better off than the least developed. Real GDP per capita (adjusted for purchasing power) ranges from US$30,000 in Australia and Japan to under $3,000 in six countries. Most of the

Box 4 |

Singapore's experience with corporatizing public hospitals illustrates the difficulties of this strategy. There have been rapid increases in costs and prices charged to patients, rapid growth in technology and high-tech interventions (especially surgical procedures), and attempts by hospitals to dump high-cost patients and to avoid offering services to low-income patients

Country	GDP per capita PPP US$ (2004)[1]	Total Health expenditures per capita in PPP US$ (2003)[2]	Public health expenditures, % of GDP (2003)[2]	Private health expenditures,% of GDP (2003)[2]	Total health expenditures, % of GDP (2003)[2]
Australia	30,331	2,874	6.4	3.1	9.5
Japan	29,251	2,244	6.4	1.5	7.9
Singapore	28,077	1,156	1.6	2.9	4.5
New Zealand	23,413	1,893	6.3	1.8	8.1
Korea, Rep. of	20,499	1,074	2.8	2.8	5.6
Brunei Darussalam	19,210	681	2.8	0.7	3.5
Malaysia	10,276	374	2.2	1.6	3.8
Tonga	7,870	300	5.5	1.0	6.5
Fiji	6,066	220	2.3	1.4	3.7
China	5,896	278	2.0	3.6	5.6
Samoa (Western)	5,613	209	4.3	1.1	5.4
Philippines	4,614	174	1.4	1.8	3.2
Vanuatu	3,051	110	2.9	1.0	3.9
Viet Nam	2,745	164	1.5	3.9	5.4
Papua New Guinea	2,543	132	3.0	0.4	3.4
Cambodia	2,423	188	2.1	8.8	10.9
Mongolia	2,056	140	4.3	2.4	6.7
Lao PDR	1,954	56	1.2	2.0	3.2
Solomon Islands	1,814	87	4.5	0.3	4.8

[1] Human Development Report 2006, Beyond Scarcity: Power, Poverty and Global water Crisis. United Nations Development Programme, NY 2006. http://hdr.undp.org/hdr2006/ (Some GDP estimates are statistical extrapolations).
[2] World Health Organization. The World Health Report 2006: Working Together for Health

TABLE 4: DEVELOPMENT AND HEALTH INDICATORS IN SELECTED COUNTRIES IN THE WPR, 2003 AND 2004.

Selected WPR countries	Percentage of households experiencing catastrophic Out-of-Pocketa payment
Vietnam	10.45
Cambodia	5.02
Republic of Korea	1.73
Philippines	0.78

* Defined here as the incidence of household payments for health services exceeding 40% of net income after subsistence needs have been met.

FIGURE 5: PROPORTION OF HOUSEHOLDS WITH CATASTROPHIC HEALTH EXPENDITURE*

region's population lives in large countries having real GDPs under US$6,000. The wealthier countries have higher expenditures on health, both in absolute terms as would be expected, and also in terms of the percentage of GDP spent on health. Public spending on health is closely related to national income. Wealthier countries have social health insurance (SHI) contributions available for investment in health, as well as more resources from general taxation.

The percentage of GDP spent by on health by governments varies from a low of 1.1% in the Philippines to over 6%. Private spending on health varies even more widely and tends to be highest in countries where public spending is low (Viet Nam, Cambodia and China), and also in Singapore. Total (real) health expenditure varies from only US$56 per capita in Lao PDR to US$2,874 in Australia. The Commission for Macroeconomics and Health estimated that in order to achieve the health MDGs a minimum government expenditure of US$ 34 per person per year is required to provide an essential package of public health interventions. Seven governments in the region currently spend less than US $34.

High private health expenditures do not assure good health outcomes because much is spent on ineffective or non-timely care. Out-of-pocket payment at the time of service can result in catastrophic payments when households need to spend a significant fraction of their net income on health care. In the WPR region 10.5% of households in Viet Nam and 5% in Cambodia experienced catastrophic healthcare events.

The main goal of health financing in the region is for health systems to be funded by prepaid, equitable sources such as SHI contributions and progressive general taxation. Such financing pools risks and can provide health services according to need rather than ability to pay. Near-universal coverage has been achieved by Australia, New Zealand, Japan, Republic of Korea, Singapore, Taiwan, Malaysia, Brunei, Hong Kong (China), and Taiwan through a mixture of various health financing mechanisms. China, Lao PDR, Mongolia, the Philippines, and Vietnam have introduced some form of SHI but face the challenge of extending coverage to the informal sector (and migrants in China), much of the economically active population in these countries.

Most SHI schemes in the region, such as PhilHealth, Korean Health Insurance, Vietnam Health Insurance and the China's new Cooperative Medical Scheme (NCMS) now use a fee-for-service reimbursement model, with either deductibles, copayments, and ceilings on total reimbursement. Insurers have great

Box 5

Chinese hospitals earn most of their income from dispensing medicines. New regulations meant to restrict drug profits may lead hospitals to seek other ways to make money. Ultrasound machines appeared in China in large numbers during the 1980s, in part due to the demand for sex-selective abortions which Chinese demographers say account for a large part of the abnormal male-female ratio in the Chinese population [vi].

purchasing power and can improve resource use by means of efficient provider payment methods. Vietnam is considering introducing capitation, Philippines implemented capitation for an indigent program, and Japan and Korea are developing Diagnostic Related Group (DRG) systems.

In countries in the region remaining without SHI, the transition from out-of-pocket financing to universal coverage could occur in stages. During a transitional stage of coverage a mix of co-operative and enterprise-based health insurance and other private insurance would cover the informal sector, with specific employed groups covered by new SHI-type plans, and with limited tax-based financing for a safety net. Ultimately there would be universal coverage through social health insurance for most of the population, and a mix of other insurance and tax-based financing to cover the rest.

Regulation of the health sector

The increasing role of the private sector in the WPR has led to more focus on profitable curative services and neglect of preventive and public health programs. Regulation and guidance appear to be needed to maintain an adequate level of preventive services. Except for countries with well-established parliamentary systems, the capacity of many health ministries in the region to generate legislative proposals is quite weak, even non-existent in the case of the smaller Pacific Island nations. At best, the enactment process is generally lengthy and there is often reliance on ministerial decrees that may not necessarily harmonize with those of other ministries, creating severe challenges for intersectoral health issues. Regulatory weakness results in problematic issues such as automatic renewal of licenses. Professional organizations fill this gap but are not completely impartial.

Few countries in the region have standards or codes of ethics. Ethical questions arise in communicable disease control. How much coercion and isolation is required for successful control of an infectious disease like tuberculosis? The challenges involved in the equitable provision of HIV/AIDS treatment and care include addressing ethical issues related to expanded access to ART.

Cell, tissue and organ transplantation are performed worldwide, saving lives and the improving quality of life. Trafficking of organs has been detected in some countries in the Region, with vulnerable persons being tricked or coerced into donating their organs. 'Transplant tourism' programs operating within the Region in effect reduce the access of local people to transplantation . There is clear need for better regulation and monitoring of organ transplantation activities.

The health workforce

An overall shortage of health workers is a basic and critical problem in the region. Besides low production, attrition and restricted staffing levels, other causes are insufficient investment in pre-service education and training, ineffective coordination between the health, education and employment sectors and the development partners, poor workforce planning, and out-migration due to unattractive career structures and working conditions. The latter has left many Pacific Island countries at crisis level and is also a problem for countries like the Philippines that export doctors and nurses.

In some countries the skill mix depends highly on medical doctors and specialists, with some actually having more doctors than nurses. Australia, New Zealand and Pacific Island countries have shortages of doctors in important specialties, and many countries lacked the expertise in epidemiology, infection control, and other specialities to deal with the emergence of SARS and the continuing threat of avian influenza.

Globalization, trade and health

Expanding trade has been a central component of increasing connectedness among countries of the region. Movement of patients to seek treatment abroad is common in small countries, such as in the Pacific, where certain specialized medical services are not available domestically. Meanwhile, countries such as Malaysia, Singapore are actively seeking to attract foreign patients. Hospitals in these countries offer packages of health checkups or elective surgery. By providing services of good quality at prices significantly lower than western countries, they have seen a steady increase in the numbers of patients from developed countries.

The commercial presence in the hospital sector, while still relatively small, is increasing in several countries. Investment is coming from outside Asia, and foreign investors are also active in health insurance. An issue of concern related to foreign investment in this sector is whether these private hospitals and insurers will primarily target only patients who can afford to pay high rates. ❑