

SINGAPORE

1. CONTEXT

1.1 Demographics

Singapore is a small country with a total land area of 704 square kilometres. The total population is about 4.48 million, with a resident population of 3.61 million in 2006. While the population is relatively young, with only 8.5% of the resident population aged 65 and over, the proportion of residents aged 65 and over is projected to increase to 19% by 2030.

In 2006, life expectancy at birth was 78.0 years for males and 81.8 years for females. The crude birth rate for the same year was 10.1 per 1000 resident population and the crude death rate was 4.3 per 1000 resident population. The total fertility rate per resident female is 1.26. The infant mortality rate is very low, at 2.6 per 1000 resident live births.

1.2 Political situation

Singapore is a parliamentary republic that obtained independence from Malaysia on 9 August 1965. The Constitution was established on 3 June 1959 and amended in 1965 (based on the pre-independence State of Singapore Constitution). The legal system is based on English common law.

The head of state is President S R Nathan (since 1 Sep 1999), the head of government is Prime Minister Lee Hsien Loong (since 12 August 2004), and the Deputy Prime Ministers are S Jayakumar (since 12 August 2004), and Wong Kan Seng (since 1 September 2005). The Cabinet is appointed by the President and is responsible to the Parliament. The President is elected by popular vote for a six-year term. President Sellapan Ramanathan was re-elected for his second term in August 2005.

The legislative branch is unicameral parliament (84 seats; members elected by popular vote to serve five-year terms). The judicial branch has a supreme court headed by the Chief Justice, who is appointed by the President on the advice of the Prime Minister.

1.3 Socioeconomic situation

Singapore is characterized by a highly developed and successful free-market economy. It has a very open and corruption-free business environment. With trade 3.9 times the size of gross domestic product (GDP), external demand is the main driver of the economy. The Singapore economy grew by a strong 7.9% in 2006 after a 6.6% growth rate in 2005. Per capita gross national income amounted to US\$ 28 544 in 2006.

Singapore continues to position itself as a vibrant global city and a hub of talent, enterprise and innovation in order to succeed in a globalized world.

1.4 Vulnerabilities and hazards

Singapore suffers from few physical hazards. The island city-state is protected from typhoons and monsoons by neighbouring landmasses. Being a small country of only approximately 700 square kilometres, Singapore's key challenge arises from its size and limited natural resources. As such, human resources are its key strength and great emphasis is given to the development of its population. Singapore is one of the world's most open economies, highly dependent on the foreign investment, trade and health of other economies. This openness, coupled with its high

population density, makes Singapore particularly vulnerable to infectious disease outbreaks, such as severe acute respiratory syndrome (SARS).

2. HEALTH SITUATION AND TREND

2.1 Communicable and noncommunicable diseases, health risk factors and transition

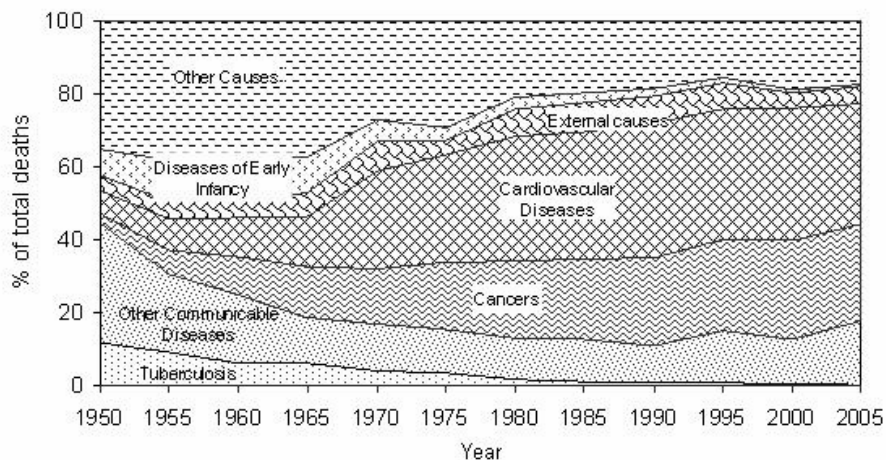
Over previous decades, national efforts to combat traditional and vaccine-preventable, communicable diseases have achieved good success. However, the SARS and Nipah virus outbreaks have highlighted the regional vulnerability to new and emerging infectious diseases. Lessons learnt from the global SARS epidemic have also been applied to enhance surveillance and outbreak response for endemic, as well as emerging and re-emerging infectious diseases.

The effective implementation of the childhood immunization programme against major vaccine-preventable diseases has contributed to a significant reduction in their incidence. The incidence of indigenous acute hepatitis B showed a rapid decline from 9.5 per 100 000 population in 1985 to 1.9 per 100 000 in 2005. No acute hepatitis B case has been reported in children below 15 years of age since 1998. Similarly, the incidence of measles was 0.8 per 100 000 population in 2005, a decline from 2.3 per 100 000 in 2004. Despite being in a region endemic for malaria, Singapore has maintained its malaria-free status, accorded by WHO, since 1982. The incidence of malaria in the resident population was 2.8 per 100 000 population in 2005, with virtually all cases imported from endemic countries.

Chronic infectious diseases such as tuberculosis and HIV/AIDS are still considered public health problems in Singapore. The morbidity rate for HIV/AIDS has steadily increased from 0.8 per million in 1985 to 89.2 per million in 2005. After a rapid decline in TB incidence during the period from 1960 to 1987, the incidence rate has been stable at a low level. The TB incidence rate among the resident population was 37 per 100 000 in 2005, a decline from 39 per 100 000 in 2004.

Noncommunicable diseases, like cancer, heart diseases and cerebrovascular disease, remain the leading causes of death among Singaporeans, and together account for 60% of all deaths. This is in contrast to the 1950s, when infectious diseases like tuberculosis featured among the leading causes of death. Figure 1 shows the contribution of major communicable and noncommunicable diseases (as a proportion of total deaths) afflicting Singaporeans from 1950 to 2005.

Figure 1: Contribution of communicable and noncommunicable diseases as a proportion of total deaths, 1950-2005.



Source: Registry of Births and Deaths, ICA, MHA

Nationally representative, population-based health surveys show that the prevalence of chronic diseases, such as diabetes mellitus and hypertension, and health risk factors, such as smoking, physical inactivity, obesity and high blood cholesterol, declined between 1992 and 2004. The age-standardized prevalence of diabetes mellitus fell from 10% to 8%, and that of smoking declined from 18% to 13%. The age-standardized prevalence of high blood cholesterol also dropped, from 21% to 18%, and the proportion of Singaporeans engaging in regular physical activity rose from 14% to 25%. The age-standardized prevalence of hypertension stabilized at 24%, but that of obesity rose from 5% to 7%. Table 1 shows the trends in the prevalence of diabetes mellitus, hypertension and health risk factors between 1992 and 2004.

Table 1: Prevalence of risk factors for cardiovascular diseases, 1992, 1998 and 2004

Risk factor#	Prevalence	1992	1998	2004
Diabetes mellitus [plasma glucose 2 hours post-OGTT \geq 11.1 mmol/l]	Crude	8.6%	9.0%	8.2%
	Age-standardized	10.0%	9.5%	7.8%
Hypertension [systolic pressure \geq 140 mmHg or diastolic pressure \geq 90 mmHg]	Crude	22.2%	27.3%	24.9%
	Age-standardized	24.0%	28.0%	24.0%
High blood cholesterol [Total cholesterol \geq 6.2 mmol/l]	Crude	19.4%	25.4%	18.7%
	Age-standardized	21.4%	26.0%	18.1%
Obesity [BMI \geq 30 kg/m ²]	Crude	5.1%	6.0%	6.9%
	Age-standardized	5.3%	6.2%	6.8%
Cigarette smoking [smoked cigarettes at least once a day]	Crude	18.3%	15.2%	12.6%
	Age-standardized	17.8%	15.0%	12.5%
Physical activity [exercised \geq 20 minutes for \geq 3 days per week]	Crude	13.6%	16.8%	24.9%
	Age-standardized	13.5%	17.0%	25.0%

Risk factor for age group 18-69 except for hypertension which is for age group 30-69

Sources: National Health Survey 1992, 1998 and 2004

2.2 Outbreaks of communicable diseases

To prevent the introduction and spread of infectious diseases with outbreak potential, the Ministry of Health maintains a comprehensive and well-established system of disease surveillance and control involving the epidemiological investigation of diseases specified as notifiable in the Infectious Diseases Act, as well as some emerging infectious diseases of public health importance. In the control of vectorborne diseases like dengue and malaria, the Ministry works closely with the National Environment Agency, which is responsible for eliminating the vector through larval source-reduction activities, environmental controls, public education and community mobilization.

2.3 Leading causes of mortality and morbidity

Cancer has been the leading cause of death in Singapore since 1991. In 2005, it accounted for 27% of all deaths. Men have a much higher death rate relative to women, but death rates for both genders have been slowly declining since 1995. In 2005, the age-standardized death rates in men and women were 127 and 87 per 100 000 resident population, respectively. The incidence rate in men has slowly declined since the early 1980s, due mainly to declines in lung, stomach, liver, nasopharyngeal and oesophageal cancer. Of note is the fact that colorectal and prostate cancers are increasing in men. The cancer incidence rate in women has increased, due mainly to increases in breast and colorectal cancer, despite declines in cervical, stomach, liver and oesophageal cancer. In the five-year period from 1998 to 2002, the five most common cancers were of the lung, colorectum, liver, stomach and prostate in men, and of the breast, colorectum, lung, ovary and cervix in women.

Heart diseases constitute the second most common cause of death among Singaporeans. Coronary heart disease death rates have shown consistent declines over the past 15 years. Men have almost twice the death rates of women, and the difference in rates has remained constant over the years. In 2005, the age-standardized death rate in men was 92 per 100 000 resident population, compared with 55 in women. Incidence of acute myocardial infarction events among adults aged 35-64 has generally decreased since 1990. The incidence rate for men is about six times that for women. In 2004, the age-standardized incidence rate for men was 173 per 100 000 resident population, compared with 29 for women.

Stroke has been among the leading causes of death since 1970. In 2005, it was the fourth leading cause of death, accounting for 13% of all deaths. Nonetheless, death rates for both genders have fallen noticeably over the years. In 2005, the age-standardized death rates in men and women, about the same at 40 per 100 000 resident population, were half their respective levels in 1989.

Figure 2 juxtaposes the leading causes of death of Singaporeans in 1950 with that in 2005.

Figure 2: Top 10 causes of death in Singapore, 1950 and 2005

<u>1950</u>	<u>% of Deaths</u>	<u>2005</u>	<u>% of Deaths</u>
Tuberculosis	12.0	Cancer	26.5
Infantile convulsions	11.1	Heart diseases	20.6
Pneumonia	10.9	Pneumonia	15.9
Gastroenteritis	8.9	Cerebrovascular diseases	12.6
Diseases of early infancy	6.6	Injuries	4.0
Heart diseases	4.6	Diabetes mellitus	3.9
Injuries	4.0	Urinary tract infections	3.1

Source: Registry of Births and Deaths, ICA, MHA

2.4 Maternal, child and infant diseases

The number of maternal deaths declined sharply in the period from 1950 to 1975 from 86 to 12, and has dropped further to less than eight deaths per year since. There were four maternal deaths in 2006. The corresponding maternal mortality ratio fell in tandem from 180 per 100 000 live births and stillbirths in 1950 to 30 in 1975, and has remained at a low level of between 10 and 20 since then. The maternal mortality ratio was 5.2 per 100 000 live births in 2006.

The infant mortality rate also fell sharply from 82.2 per 1000 live births in 1950 to 6.6 in 1990, and has continued to drop steadily since. The rate was 2.6 in 2006. The main causes of infant death are perinatal conditions, congenital anomalies and pneumonia.

2.5 Burden of disease

No available information.

3. HEALTH SYSTEM

3.1 Ministry of Health's mission, vision and objectives

The vision of the Ministry of Health is to develop the world's most cost-effective health care system to keep Singaporeans in good health. Its mission is to promote good health and reduce illness, ensure access to good and affordable health care, and pursue medical excellence. This is to be achieved through three strategies:

- Promote good health and reduce illness.
- Ensure access to good and affordable health care.
- Pursue medical excellence.

3.2 Organization of health services and delivery systems

Health services are provided through three cooperating ministries, as well as the private sector.

The Ministry of Health is responsible for providing preventive, curative and rehabilitative health services. The Ministry formulates national health policies, coordinates the development and planning of the private and public health sectors, and regulates health standards.

The Ministry of Environment manages Singapore's water resources and the supply of drinking water to the nation. It is responsible for weather forecasting services; environmental and public health services, such as collection and treatment of used water, pollution and toxic chemicals and poisons; control of vectors that could spread diseases; and the hygienic preparation of food. The Ministry also licenses food-stall proprietors and looks after all public markets and food centres, public toilets and public cemeteries and crematoria.

The Ministry of Manpower is responsible for the health, safety and welfare of employed persons. The Ministry enforces requirements on employment conditions under the Employment Act, has provisions in the Workplace Safety and Health Act to safeguard the health and safety of the workforce, and administers the Workmen's Compensation Act to ensure fair compensation for persons with work-related injuries and diseases.

There is a dual system of health care delivery. The public system is managed by the Government, while the private system is provided by private hospitals and general practitioners. The health care delivery system comprises primary health care provision at outpatient polyclinics and private medical practitioners' clinics and secondary and tertiary specialist care in the public and private hospitals. Eighty per cent of primary health care services are provided by private practitioners, while government polyclinics provide the remainder. For hospital care, the ratios are reversed, with 80% provided by the public sector and the remainder by the private sector.

In 1999, the public health care delivery system was reorganized into two vertically integrated delivery networks, the National Healthcare Group (NHG) and Singapore Health Services (SHS). These two integrated networks enable comprehensive, yet affordable quality health care services through cooperation and collaboration between public health care establishments. The clustering of the health care delivery system encourages cooperation among the institutions within the cluster, fosters vertical integration of services and enhances synergy and economies of scale. It is envisaged that the friendly competition between the two clusters will spur them to innovate and improve the quality of care while ensuring that medical costs remain affordable.

Patients are free to choose their health care providers within the dual health care delivery system and can walk in for a consultation at any private clinic or any government polyclinic. For emergency services, patients can access the 24-hour accident and emergency departments located in government hospitals. The Singapore Civil Defence Force runs an emergency ambulance service to transport accident and trauma cases and medical emergencies to the acute general hospitals.

Primary health care involves the provision of primary medical treatment, preventive health care and health education. Primary health care is provided through an island network of 18 outpatient polyclinics and over 1400 private medical practitioners' clinics. Each polyclinic is an affordable, subsidized one-stop health centre, providing outpatient medical care, follow-up of patients discharged from hospital, immunization, health screening and education, investigative facilities and pharmacy services. The needy elderly receive further help through the Primary Care Partnership Scheme (PCPS). PCPS is most helpful for those who cannot travel to polyclinics. The private clinics are located in close proximity to population centres in the city, housing estates and satellite towns. The average outpatient consultation fee is between S\$ 10 (US\$ 6.00) and S\$ 15 (US\$ 9.00), well within the means of Singaporeans. At government polyclinics, Singapore citizens aged 65 and above, children up to 18 years of age and all schoolchildren are given a discount of up to 57% on their consultation and treatment fees. Other Singapore citizens are given a 50% discount.

There are about 11 545 hospital beds in the 29 public and private hospitals and speciality centres, giving a ratio of 3.2 beds per 1000 population; 72% of the beds are in the 13 public-sector speciality centres and hospitals, each with between 185 and 2064 beds. The 16 private-sector hospitals are smaller, with a capacity of between 16 and 505 beds. The Government's role as the dominant provider of secondary and tertiary care allows it to manage the supply of hospital beds, the adoption of high-tech/ high-cost medicine, and cost increases in the public sector, which serves as a price benchmark for the private sector.

The seven public hospitals comprise five general hospitals, a women's and children's hospital and a psychiatric hospital. The general hospitals provide inpatient and specialist outpatient services and a 24-hour emergency department; 75% of public-hospital beds are heavily subsidized. There are also six national speciality centres for oncology, cardiology, ophthalmology, dermatology, neuroscience and dentistry. Tertiary specialist care in the areas of cardiology, renal medicine, haematology, neurology, oncology, radiotherapy, plastic and reconstructive surgery, paediatric surgery, neurosurgery, cardiothoracic surgery and transplant surgery is centralized in two of the larger general hospitals, the Singapore General Hospital and the National University Hospital. The private hospitals have similar specialist disciplines and comparable facilities.

The Government has restructured all its 13 hospitals and speciality institutes into private companies wholly owned by the Government and managed as not-for-profit organizations. This has granted the public hospitals management autonomy and flexibility to respond more promptly to the needs of their patients. In the process, greater financial discipline and accountability have been introduced. Unlike private hospitals, the restructured public hospitals receive an annual government subsidy for the provision of subsidized patient care, and are subject to broad government policy guidance through the Ministry of Health. The Government has also introduced low-cost community hospitals for intermediate health care for the convalescent sick and aged who do not require the more expensive care provided by the acute general hospitals.

Support services for the hospital and primary health care programmes include forensic pathology, pharmaceutical services and the blood transfusion service. Except for forensic pathology and the blood transfusion service, which are centralized in the Ministry of Health, most of the other services can be found in both the public and private sectors.

Dental care begins with preventive dentistry promoted through the Health Promotion Board. The Board targets students through a network of 200 static clinics located in schools, as well as 30 mobile dental clinics. This, plus fluoridation of potable water and availability of fluoridated toothpaste, has greatly diminished dental decay and tooth loss. Public dental services are available in some polyclinics and hospitals, and in the National Dental Centre.

Besides tertiary, secondary and primary health care services, there is a comprehensive range of residential and community-based health care services that cater to the intermediate and long-term care needs of elderly Singaporeans. The services are managed either by not-for-profit organizations (otherwise known as voluntary welfare organizations in Singapore) or private

operators. The services available include community hospitals; chronic-sick hospitals; nursing homes; sheltered homes for persons with psychiatric conditions; inpatient hospice institutions; home medical, home nursing and home hospice care services; day rehabilitation centres; dementia day-care centres; psychiatric day-care centres; and psychiatric rehabilitation homes. Some government subsidies are available to the elderly needy who require such services.

3.3 Health policy, planning and regulatory framework

The Singapore health care philosophy emphasizes the building of a healthy population through preventive health care programmes and the promotion of healthy living. Singaporeans are encouraged, through the public health education programme, to adopt healthy lifestyles and be responsible for their health, and are made aware of the adverse consequences of harmful habits like smoking, alcohol consumption, bad diet and sedentary lifestyles. The child immunization programme, which targets infectious diseases like tuberculosis, poliomyelitis, diphtheria, whooping cough, tetanus, measles, mumps, rubella and hepatitis B, is offered at government polyclinics, as well as private primary health care clinics. Health screening programmes have been introduced for the early detection of common ailments such as cancer, heart disease, hypertension and diabetes mellitus. These are available in both primary and secondary care settings.

The Government ensures that good and affordable basic medical services are made available to all Singaporeans through heavily subsidized medical services at public hospitals and government clinics. The basic medical package includes evidence-based medical practices, and is delivered cost-effectively by trained personnel. Experimental, non-evidence-based treatments, as well as cosmetic and aesthetic treatments may be excluded.

Singapore's health care regulatory framework consists mainly of two parties; the regulator (comprising the Ministry of Health and its statutory boards) and the regulated (comprising public and private providers). All hospitals, clinics, clinical laboratories and nursing homes are required to maintain a good standard of medical services through licensing by the Ministry. Health care professionals are self-regulated by their relevant professional bodies:

- Singapore Medical Council,
- Singapore Dental Council,
- Singapore Nursing Board,
- Singapore Pharmacy Board, and the
- Traditional Chinese Medicine Practitioners Board.

In addition, health-related products such as medicines and medical devices are regulated by the Health Sciences Authority.

3.4 Health care financing

In 2005, Singapore spent about S\$ 7.0 billion (US\$ 4.2 billion) or 3.6% of GDP on health care. Out of this, the Government expended S\$ 2.4 billion (US\$ 1.5 billion) on health services.

The financing philosophy of the health care delivery system is based on individual responsibility, coupled with Government subsidies, to keep basic health care affordable. Patients are expected to pay part of the cost of the medical services they use, and to pay more when they demand a higher level of service. The principle of co-payment applies even to the most heavily subsidized wards to avoid the pitfalls of providing completely “free” medical services.

To help Singaporeans to pay for their medical expenses, the Government has put in place a financing framework, which consists of Medisave, Medishield, ElderShield and Medifund. Individuals are encouraged to take responsibility for their own health by saving for their medical expenses. Medisave is the national savings scheme which helps individuals put aside part of their income to meet their personal or immediate family's hospitalization expenses. Under the

Medisave scheme, every working person is required by law to save 6.5%-8.5% of his or her income in a personal Medisave account.

MediShield is a low-cost catastrophic illness insurance scheme designed to help members meet the medical expenses from major or prolonged illnesses, for which their Medisave balance would not be sufficient. Annual premiums for MediShield can be paid from the individual's Medisave account.

Medifund is an endowment fund set up by the Government as a safety net to help poor Singaporeans pay for their medical care. Medifund is meant to be an avenue of last resort for patients who, despite heavy Government subsidies, are unable to pay for their medical expenses. Therefore, no Singaporean is denied access into the health care system or turned away by the public hospitals because of their inability to pay.

ElderShield was introduced by the Ministry of Health in June 2002. It is an affordable, severe-disability insurance scheme, designed to provide Singaporeans with basic financial protection against expenses required in the event of severe disabilities, especially in old age.

Public sector health services are provided for cater to the lower income groups who cannot afford the private sector charges and also to set the benchmark for the private sector on professional standards and charges. Charges for public sector health services are regulated by the Government. In public hospitals, patients can choose different classes of ward accommodation ranging from one-bedded rooms to an open dormitory with eight or more beds. Patients in the one-two-bedded rooms (Class A) pay the full cost, whereas patients in other ward classes enjoy subsidies ranging from 20% of the cost for the four-bedded rooms (Class B1) to 80% of the cost for the open dormitories (Class C). In private hospitals and outpatient clinics, patients pay the amount charged by the hospitals and doctors on a fee-for-service basis.

To enhance transparency of pricing for health care services, the Ministry of Health publishes public and private hospital pricing data for common conditions on its internet website (<http://www.moh.gov.sg>).

3.5 Human resources for health

In 2006, Singapore had 6931 doctors in its health care delivery system (42.8% in the private sector), giving a doctor-to-population ratio of 1:650. Of these doctors, 38.3% were trained specialists with postgraduate medical degrees and advanced specialty training. In 2006, there were 1323 dentists (62.9% in private practice), giving a dentist-to-total population ratio of 1:3390.

In 2006, Singapore had 15 452 registered nurses, 5163 enrolled nurses and 312 registered midwives, giving a nurse-to-population ratio of 1: 214 or 4.7 nurses per 1000 population. Of these, 55.3% work in the public sector. The Singapore Nursing Board licenses all nurses and midwives practising in Singapore. To meet the growing demands in health care, the Singapore Nursing Board implemented an Advanced Practice Nurse Register in 2006.

3.6 Partnerships

Harnessing and forging strong partnerships is important for the attainment of national health goals. The Ministry of Health maintains strong partnerships and strategic alliances with voluntary welfare organizations and charities to ensure that their activities are in alignment with the national health care framework. The Ministry continues to work with health care institutions, organizations, professional associations, private general practitioners and other partners to develop health services in an integrated manner throughout the continuum of primary, intermediate and long-term care services.

3.7 Challenges to health system strengthening

Singapore is facing an ageing population. It is projected that the number of residents aged 65 years or older will increase from 8% to 19% by 2030, and careful planning is needed to ensure

that this population will be provided for. The Government has set up a Ministerial Committee on Ageing to spearhead a whole-of-Government response to the opportunities and challenges presented by the ageing population. The Government aims to achieve its vision of successful ageing for Singapore by creating an environment where Singaporeans can look forward to leading healthy, active and productive lives as they grow old.

The health workforce also faces the challenges of an ageing population as well as new technologies, lifestyle medicine and higher demands for good medical care. There are shortages of professional staff that will have to be filled. At the same time, the growth of the private sector may lead to higher attrition from the public sector. High quality care is delivered by health care professionals who need to be constantly trained in a holistic way to meet the required standards of care in a changing, more sophisticated population. The challenge is to ensure adequate numbers of such health care professionals trained in different disciplines, especially in those health care disciplines that are currently undersubscribed.

Chronic diseases are another area of concern. An estimated one million Singaporeans suffer from four major chronic diseases: diabetes, hypertension, lipid disorder and stroke, and the numbers are expected to rise with the ageing population base. In 2006, the Ministry of Health initiated the Medisave for Chronic Disease Management Programme, a coordinated, nationwide effort to transform care for chronic illnesses. Participating medical institutions include all public hospitals and polyclinics, as well as more than half of the 1400 private primary care clinics in the country.

The programme seeks to improve chronic disease care through two chief avenues: enhancing access; and improving care. By liberalizing the use of Medisave to cover outpatient treatments for these diseases (enhancing access) and implementing evidence-based disease management programmes, together with clinical quality improvement efforts (improving care), complications arising from these chronic diseases can be better prevented. Correspondingly, patients will be healthier and the risks of expensive hospitalization and potential disabilities will be reduced. The programme is supported by the participation of medical and allied health professionals in the public and private sectors, enhancements to IT systems to improve sharing of essential medical data, and education tools to improve patients' ability to manage their conditions.

4. LISTING OF MAJOR INFORMATION SOURCES AND DATABASES

<i>Title 1</i>	:	<i>Ministry of Health</i>
<i>Features</i>	:	Information on health policies, facilities and statistics
<i>Web address</i>	:	http://www.moh.gov.sg
<i>Title 2</i>	:	<i>Singapore Department of Statistics</i>
<i>Features</i>	:	Information on general Singapore statistics
<i>Web address</i>	:	http://www.singstat.gov.sg
<i>Title 3</i>	:	<i>Report on Registration of Births and Deaths 2006</i>
<i>Operator</i>	:	Registry of Births and Deaths, Immigration and Checkpoints Authority Singapore
<i>Features</i>	:	Information on population, births, deaths and other vital statistics of Singapore

5. ADDRESSES

MINISTRY OF HEALTH

<i>Office Address</i>	:	Ministry of Health, College of Medicine Building, 16 College Road, Singapore 169854
<i>Postal Address</i>	:	As above
<i>Official Email Address</i>	:	moh_info@moh.gov.sg
<i>Telephone</i>	:	(65) 6325 9220
<i>Fax</i>	:	(65) 6224 1677
<i>Office Hours</i>	:	8.30am – 5.30pm
<i>Website</i>	:	http://www.moh.gov.sg

COUNTRY HEALTH INFORMATION PROFILE

SINGAPORE

WESTERN PACIFIC REGION HEALTH DATABANK, 2007 Revision

	INDICATORS	DATA			Year	Source
		Total	Male	Female		
1	Area (1 000 km ²)	0.70			2006	1
2	Estimated population ('000s)	3608.50 ^a	1787.60 ^a	1820.80 ^a	2006	1
3	Annual population growth rate (%)	1.80 ^a	...	...	2006	1
4	Percentage of population					
	- 0-4 years	5.40 ^a	...	...	2006	1
	- 5-14 years	13.90 ^a	...	...	2006	1
	- 65 years and above	8.49 ^a	...	...	2006	1
5	Urban population (%)	100.00	...	...	2006	1
6	Crude birth rate (per 1000 population)	10.10 ^a	...	...	2006	1
7	Crude death rate (per 1000 population)	4.30 ^a	...	...	2006	1
8	Rate of natural increase of population (% per annum)	0.58 ^a	...	...	2006	4
9	Life expectancy (years)					
	- at birth	79.90	78.00	81.80	2006	1
	- Healthy Life Expectancy (HALE) at age 60	18.30 ^b	17.10 ^b	19.40 ^b	2006	1
10	Adult literacy rate (%)	95.40 ^a	...	...	2006	1
11	Neonatal mortality rate (per 1000 live births)	1.80 ^a	...	...	2006	4
12	Infant mortality rate (per 1000 live births)	2.60 ^a	...	...	2006	4
13	Under-five mortality rate (per 1000 live births)	3.70	...	...	2006	4
14	Total fertility rate (women aged 15-49 years)	1.26			2006	1
15	Maternal mortality ratio (per 100 000 live births)	5.20			2006	4
16	Percentage of newborn infants weighing at least 2500 g at birth	90.90	...	...	2005	3
17	Prevalence of underweight children under five years of age	14.00	...	...	1995-2003	14
18	Percentage of pregnant women with anaemia			...	0	0
19	Percentage of teenage pregnancy			...	0	0
20	Immunization coverage for infants (%)					
	- BCG	98.00	...	...	2006	5
	- DTP3	95.00	...	...	2006	5
	- POL3	95.00	...	...	2006	5
	- Measles	93.00	...	...	2006	5
	- Hepatitis B III	94.00	...	...	2006	5
21	MCH coverage (pregnancies, deliveries, infant care)					
	- Percentage of pregnant women cared for by skilled health personnel	100.00			2006	2
	- Percentage of pregnant women immunized with tetanus toxoid (TT2)	...				
	- Percentage of deliveries attended by skilled health personnel	...				
	- Percentage of deliveries at home by skilled health personnel (as % of total deliveries)	...				
	- Percentage of deliveries in health facilities (as % of total deliveries)	99.71			2006	4
22	Percentage of women in the reproductive age group using modern contraceptive methods			72.50	2003	14
23	Condom use rate of the contraceptive prevalence rate	...	...	...
24	HIV prevalence among 15-24 year-old pregnant women			...		
25	Number of children orphaned by HIV/AIDS ^{aa}	...	...	...

INDICATORS		DATA					Year	Source					
		Total	Urban	Rural									
26	Proportion of population with sustainable access to an improved water source	100.00	100.00	NA			2006	2					
27	Proportion of population with access to improved sanitation	100.00	100.00	NA			2006	2					
28	Proportion of the population using solid fuels (%)	<5.00	...	NA			2002	13					
29	Proportion of households with access to secure tenure	...											
30	Proportion of vehicles using unleaded gasoline (%)	...	...	NA							
31	Health care waste generation (metric tons per year)	...	...	NA							
32	Human development index			0.92			2004	12					
33	Per capita GDP at current market prices (US\$)			29 474.00			2006	1					
34	Rate of growth of per capita GDP (%)			4.68			2006	1					
35	Health expenditure												
	Total health expenditure												
	- amount (in million US\$)			4264.46			2005p	6					
	- total expenditure on health as % of GDP			3.60			2005p	6					
	- per capita total expenditure on health (in US\$)			985.77			2005p	6					
	Government expenditure on health												
	- amount (in million US\$)			1477.71			2005p	6					
	- general government expenditure on health as % of total expenditure on health			34.70			2005p	6					
	- general government expenditure on health as % of total general government expenditure			6.30			2005p	6					
	External source of government health expenditure												
	- external resources for health as % of general government expenditure on health			0.00			2005p	6					
	Private health expenditure												
	- private expenditure on health as % of total expenditure on health			65.30			2005p	6					
	Exchange rate in US\$ of local currency is: 1 US\$ =			1.66			2005p	6					
36	Health insurance coverage as % of total population			...									
		Number					Rate per 10 000 population						
37	Health workforce	Total	Male	Female	Public	Private	Total	Male	Female	Public	Private		
	- physicians	6931 ^e	3505	2966	15.50	9.71 ^h	8.22 ^h	2006	7,2
	- dentists	1323 ^f	293	833	3.00	0.81 ^h	2.30 ^h	2006	8,2
	- pharmacists	1421 ^g	449	832	3.20	1.24 ^h	2.30 ^h	2006	9,2
	- nurses	20 615 ^c	46.00	2006	10
	- midwives	312	0.70	2006	10
	- other nursing / auxiliary staff		
	- other paramedical staff (e.g. medical assistants, laboratory technicians, X-ray		
	- other health personnel (health inspectors, assistant sanitarians, traditional workers, etc.)		
38	Workforce losses/ attrition									
39	Yearly new graduates - physicians	231 ^d								2006	7
40	Yearly new graduates - nurses	1583 ^d								2006	10

COUNTRY HEALTH INFORMATION PROFILE

INDICATORS		DATA						Year	Source
		Number			Rate per 100 000 population				
		Total	Male	Female	Total	Male	Female		
41	Leading causes of morbidity								
	1. Accidents, poisoning & violence (ICD9: 800-999)	38 072	22 719	15 353	849.13	...	...	2006	2
	2. Cancer (ICD9: 140-208)	23 202	11 428	11 774	517.45	...	...	2006	2
	3. Ischemic heart disease (ICD9: 410 - 414)	16 159	11 471	4688	360.38	...	...	2006	2
	4. Obstetric complications affecting fetus or newborn (ICD9: 761 - 763)	9963	5067	4896	222.22	...	...	2006	2
	5. Pneumonia (ICD9: 480 - 486)	9659	5288	4371	215.42	...	...	2006	2
	6. Other heart disease (ICD9: 393 - 398, 402, 415 - 429)	9627	5086	4541	214.70	...	...	2006	2
	7. Chronic obstructive lung disease (ICD9: 490 - 493, 496)	9555	6119	3436	213.10	...	...	2006	2
	8. Cerebrovascular disease (ICD9: 430 - 438)	8894	5040	3854	198.35	...	...	2006	2
	9. Intestinal infectious infections (ICD9: 001 - 009)	8619	4340	4279	192.22	...	...	2006	2
10. Complications related to pregnancy (ICD9: 640 - 648)	8076		8076	180.11		180.11	2006	2	
42	Leading causes of mortality								
	1. Cancer (ICD9: 140-208)	4677	2576	2101	104.31	...	...	2006p	3
	2. Ischemic heart disease (ICD9: 410 - 414)	3035	1842	1193	67.69	...	...	2006p	3
	3. Pneumonia (ICD9: 480 - 486)	2244	1147	1097	50.05	...	...	2006p	3
	4. Cerebrovascular disease (ICD9: 430 - 438)	1462	642	820	32.61	...	...	2006p	3
	5. Accidents, poisoning & violence (ICD9: E800-E999)	1025	690	335	22.90	...	...	2006p	3
	6. Other heart disease (ICD9: 393 - 398, 402, 415 - 429)	712	405	307	15.88	...	...	2006p	3
	7. Diabetes mellitus (ICD9: 250)	536	223	313	11.95	...	...	2006p	3
	8. Chronic obstructive lung disease (ICD9: 490 - 493, 496)	535	400	135	11.93	...	...	2006p	3
	9. Urinary tract infections (ICD9: 599.0)	335	107	228	7.47	...	...	2006p	3
10. Nephritis, nephrotic syndrome & nephrosis (ICD9: 580 - 589)	284	147	137	6.33	...	...	2006p	3	
43	Selected diseases under the WHO-EPI	Number of cases			Number of deaths				
	- Congenital rubella syndrome	0	0	0	0	0	0	2006	3
	- Diphtheria	0	0	0	0	0	0	2006	3
	- Hib meningitis	4	2	2	...	...	...	2006	3
	- Measles	23	13	10	...	...	...	2006	3
	- Mumps	844	479	365	...	...	...	2006	3
	- Neonatal tetanus	0	0	0	0	0	0	2006	3
	- Pertussis (whooping cough)	2	1	1	...	...	...	2006	3
	- Poliomyelitis	0	0	0	0	0	0	2006	3
	- Rubella	90	37	53	...	...	...	2006	3
- Total Tetanus	0	0	0	0	0	0	2006	3	
44	Selected communicable diseases	Number of cases			Number of deaths				
	Hepatitis viral								
	- Type A	132	105	27	...	...	...	2006	2
	- Type B	93	74	19	...	...	...	2006	2
	- Type C	32	29	3	...	...	...	2006	2
	- Type E	29	24	5	...	...	...	2006	2
- Unspecified	0	0	0	0	0	0	2006	2	

INDICATORS		DATA						Year	Source
		Number of cases			Number of deaths				
44	Selected communicable diseases	Total	Male	Female	Total	Male	Female		
	Cholera	0	0	0	0	0	0	2006	2
	Dengue/DHF	3127	1856	1271	...	...	...	2006	2
	Encephalitis	40	24	16	...	...	...	2006	2
	Gonorrhoea	2420	2017	403	...	...	...	2006	2
	Leprosy	12	7	5	...	...	...	2006	2
	Malaria	124	95	29	...	...	...	2006	2
	Plague	0	0	0	0	0	0	2006	2
	Syphilis	1589	1113	476	...	...	...	2006	2
	Typhoid fever	42	26	16	...	...	...	2006	2
45	Malaria	Prevalence rates			Death rates				
	- Rates associated with malaria (per 100 000 population)	...	...	...	...	...	...
	- Proportion of population in malaria-risk areas using effective malaria prevention measures ^{ab}							...	
	- Proportion of population in malaria-risk areas using effective malaria treatment measures ^{ac}							...	
46	Tuberculosis	Number of cases			Number of deaths				
	- All types	1393	977	416	...	...	...	2006	2
	- New pulmonary tuberculosis (smear-positive)	541	397	144	...	...	...	2006	2
		Prevalence rates			Death rates				
	- Rates associated with tuberculosis (per 100 000 population)	28.00	...	...	3.00	...	...	2005	11
		Detection rates			Success rates				
	- Proportion of tuberculosis cases detected and cured under directly observed treatment, short-course (DOTS)	100.00	...	...	81.00 (2004)	...	...	2005	11
		Number of cases			Number of deaths				
47	Acute respiratory infections	7670	4189	3481	4	2	2	2006	2,3
48	Diarrhoeal diseases	...	...	...	...	...	...
49	Cancers								
	All cancers (malignant neoplasms only)	23 202	11 428	11 774	4677	2576	2101	2006	2,3
	- Breast	2692	4	2688	375	0	375	2006	2,3
	- Colon and rectum	2979	1654	1325	684	364	320	2006	2,3
	- Cervix	709		709	80		80	2006	2,3
	- Oesophagus	246	184	62	77	59	18	2006	2,3
	- Leukaemia	1539	804	735	144	75	69	2006	2,3
	- Lip, oral cavity and pharynx	830	616	214	224	169	55	2006	2,3
	- Liver	1839	1428	411	442	329	113	2006	2,3
	- Stomach	1004	604	400	303	176	127	2006	2,3
	- Trachea, bronchus, and lung	2471	1653	818	1096	724	372	2006	2,3
50	Circulatory								
	All circulatory system diseases	43 437	26 312	17 125	5441	3017	2424	2006	2,3
	- Acute myocardial infarction	5250	3617	1633	1504	877	627	2006	2,3
	- Cerebrovascular diseases	8894	5040	3854	1462	642	820	2006	2,3

COUNTRY HEALTH INFORMATION PROFILE

INDICATORS		DATA						Year	Source
		Number of cases			Number of deaths				
		Total	Male	Female	Total	Male	Female		
50	Circulatory								
	- Hypertension	1759	712	1047	443	250	193	2006	2,3
	- Ischaemic heart disease	16 159	11 471	4688	3035	1842	1193	2006	2,3
	- Rheumatic fever and rheumatic heart diseases	192	66	126	28	13	15	2006	2,3
51	Maternal causes								
	- Abortion			4026			0	2006	2,3
	- Eclampsia			5			0	2006	2,3
	- Haemorrhage			2064			0	2006	2,3
	- Obstructed labour			268			0	2006	2,3
	- Sepsis			10			0	2006	2,3
52	Diabetes mellitus	4356	2233	2123	536	223	313	2006	2,3
53	Mental disorders	12 741	6708	6033	2	1	1	2006	2,3
54	Injuries								
	All types	...	...	...	1025	690	335	2006	3
	- Homicide and violence	...	...	...	19	14	5	2006	3
	- Motor and other vehicular accidents	...	...	...	198	162	36	2006	3
	- Occupational injuries	...	...	...	...	...	...
	- Suicide	...	...	...	419	260	159	2006	3
55	Proportion of population with access to affordable essential drugs on a sustainable basis						...		
56	Health infrastructure				Number	Number of Beds			
	Public health facilities				13	8338	2006	2	
	- General hospitals				5	...	2006	2	
	- Specialized hospitals				2	...	2006	2	
	- District/first-level referral hospitals				6	...	2006	2	
	- Primary health care centres				18	0	2006	2	
	Private hospitals				16	3207	2006	2	
Notes:									
Red text	Millennium Development Goals (MDG) indicators								
...	Data not available								
p	Provisional								
est	Estimate								
NR	Not relevant								
NA	Not applicable								
aa	Proxy indicator for MDG indicator 20: Ratio of school attendance of orphans to school attendance on non-orphans age 10-14 years								
ab	Prevention is measured by the percentage of children ages 0-59 months sleeping under insecticide-treated bednets								
ac	Treatment is measured by the proportion of children ages 0-59 months who were ill with the fever in the two weeks before the survey and who received appropriate antimalarial drugs								
a	Figure refers to resident population								
b	Figure refers to HALE at 65 years								
c	Figure refers to 15 452 registered nurses and 5163 enrolled nurses								
d	Figure refers to yearly intake of physicians and nurses								
e	Figure includes 460 physicians who are not in active practice								
f	Figure includes 197 dentists who are not in active practice								
g	Figure includes 140 pharmacists who are not in active practice								
h	Computed by Health Information and Evidence for Policy Unit of WHO Regional Office for the Western Pacific								

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