SEAMIC HEALTH STATISTICS

1998

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Foreword

It is my great pleasure to send you the 1998 edition of SEAMIC Health Statistics. I would like to express my appreciation to the devoted work of our Editorial Board Members.

I hope this publication will serve your reference.

Akio Tanaka, M.D.
Director General
SEAMIC/IMFJ

Preface

The SEAMIC HEALTH STATISTICS has been issued annually since 1979 as one of the SEAMIC/IMFJ publications. It has been presenting, in a uniform manner, information relevant to health developments in the countries participating in the SEAMIC. The publication has been appreciated by users both in those countries and in others.

Part I presents comparative statistics from the participating countries on selected health and related topics. Part II describes the organizational aspects of the health statistics system of each country, providing the background information as to how the statistics included in Part I have been collected, processed and produced.

The structure of the present edition remains the same as in the last one for 1997, but a few changes have been incorporated in its contents, as agreed upon at the recent SEAMIC technical meetings on health statistics attended by the representatives of the countries. In Part I, tables 3–1 and 3–2 on the ranking of the causes of death have been amended by indicating the proportion of each cause among all deaths reported with any specific diagnoses. Both of the tables have now been prepared by the SEAMIC/IMFJ on the basis of the detailed data provided by the countries for table 3–3. The classification list of causes of death used for the ranking purposes has also been added as 3–A. Furthermore, graphs have been inserted as the new Figure 4, showing the trends in the expectation of life at birth. In Part II, minor rearrangements have been made in the sequence of the topics presented.

In view of the evolving information needs of the users, the contents of the publication will continue to be reviewed to make it more relevant, as done in the past. Suggestions in this regard from the users would be much appreciated.

The Editorial Board wishes to express its warmest thanks to all those in the participating countries who have made valuable contributions to the compilation of the present edition.

March, 1999

Kazuo Uemura, Ph.D.
Chairman
Editorial Board
SEAMIC HEALTH STATISTICS

Contents

Part I

Health Statistics

Explanation of Symbols

••	Category not applicable
(blank) or NA	Data not available
–	Nil
0.0	Not nil, but less than 0.05
*	Provisional or estimated

1. Population

1 – 1 Population by Sex, Rate of Population Increase, Surface Area and Density

	Latest Census						Annual Rate of Increase 1981–1990 (%)	Surface Area (km²)	Density (Persons / km²)
	Date	Total	Male	Female	Sex Ratio	Persons per Household			
BRUNEI (1)	26 August 1991	260,482	137,616	122,866	112.0	6.0	a) 4.0	5,765	a) 51
INDONESIA (2)	15 September–31 October 1990	179,322,000	89,436,285	89,885,715	99.5	4.5	b) 1.7	c) 1,919,317	c) 104
JAPAN (3) d)	1 October 1995	125,570,246	61,574,398	63,995,848	96.2	2.8	e) 1.6	377,829	337
MALAYSIA (4)	14 August 1991	18,379,655	9,327,519	9,052,136	103.0	4.8	f) 2.6	329,758	54
PHILIPPINES (5)	1 September 1995	68,616,536	34,584,170	34,032,366	101.6	5.1	f) 2.3	300,000	229
SINGAPORE (6) g)	30 June 1990	2,705,115	1,370,059	1,335,056	102.6	4.2	h) 2.0	i) 648	j) 5,768
THAILAND (7)	1 April 1990	54,548,530	27,061,733	27,486,797	98.5	4.4	2.0	513,115	106
VIETNAM (8)	1 April 1994	72,509,500	35,386,400	37,123,100	106.8	4.8	k) 2.1	331,114	227

Source : (1) Department of Economic Planning and Development, Ministry of Finance
(2) Proyeksi-Penduduk Indonesia Per Provinsi, 1985–1995, Population Projection 1980–2000 Indonesia and Rate of Population Growth Urban and Rural, Central Bureau of Statistics
(3) ***1995 Population Census of Japan,*** Statistics Bureau, Management and Coordination Agency
(4) ***Population and Housing Census of Malaysia, 1991***
(5) National Statistics Office
(6) ***Census of Population 1990 Singapore,*** and ***Yearbook of Statistics, Singapore,*** Department of Statistics
(7) ***1990 Population and Housing Census,*** National Statistics Office, Office of the Prime Minister.
(8) Ministry of Health

Note : a) For 1995
b) Annual rate of increase 1990–1995
c) For 1997
d) All residents
e) Annual rate of increase 1990–1995
f) Annual rate of increase 1980–1991
g) Singapore residents only
h) Annual rate of increase 1988–1997
i) Year 1997
j) Total population 1997
k) Annual rate of increase 1986–1996

1 – 2 Estimates of Mid-year Population

(in thousands)

	1970	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
BRUNEI (1)	130	156	185	222	257	261	268	276	285	296	305	
INDONESIA (2)	119,470	130,500	146,360	163,370	178,440	181,384	184,491	187,589	190,815	195,264	196,263	199,450
JAPAN (3) a)	103,119	111,252	116,320	120,266	122,721	123,102	123,476	123,788	124,069	124,299	124,709	124,963
MALAYSIA (4)	10,768	12,175	13,764	15,681	17,764	18,327	18,762	19,208	19,658	20,108	21,169	21,665
PHILIPPINES (5)	36,849	42,517	48,317	54,668	62,049	63,692	65,339	66,982	68,624	68,616	69,946	
SINGAPORE (6) b)	2,075	2,263	2,282	2,483	2,705	2,763	2,818	2,874	2,930	2,987	3,044	3,104
THAILAND (7)	36,370	41,388	46,718	51,683	56,340	57,196	57,760	58,584	59,695		59,788	60,602
VIETNAM (8)	41,063	47,638	53,722	59,872 c)	66,233	67,774	69,405	70,982	72,509	73,959	75,355	

Source : (1) Department of Economic Planning and Development, Ministry of Finance
(2) Central Bureau of Statistics
(3) ***Japan Statistical Yearbook,*** Statistics Bureau, Management and Coordination Agency
(4) ***Vital Statistics Malaysia 1996,*** Department of Statistics
(5) National Statistics Office, 1995—Census Based National-Regional Projections
(6) ***Report on Registration of Births and Deaths,*** National Registration Department
(7) ***Report of Working Group on Population Projections,*** Office of the National Economic and Social Development Board
(8) Ministry of Health

Note : a) Japanese nationals only
b) Population figures from 1980 onwards refer to Singapore residents only
c) 1986

1 – 3 Population Estimates and Projections

(in thousands)

	2000	2005	2010	2015	2020	2025	2030	2035	2040
BRUNEI (1)	a) 345	b) 389	c) 437						
INDONESIA (2)	209,821	224,074	238,927	251,317	262,578	192,860	194,874		
JAPAN (3) d)	126,892	127,684	127,623	126,444	124,133	120,913	117,149	113,114	108,964
MALAYSIA (4)	23,264	25,843	28,411	31,081	33,855	31,274			
PHILIPPINES (5)	76,320	84,215	91,851	99,008	105,503	111,473	117,060	122,016	126,173
SINGAPORE (6) e)	3,268	3,539	3,798	3,967	4,118	4,248	4,348	4,421	
THAILAND (7)	64,389	67,910	70,865	73,208					
VIETNAM (8)	81,200	88,300	93,400						

Source : (1) Based on ***Demographic Situation and Population Projections 1991–2011,*** Statistics Division, Department of Economic Planning & Development, Ministry of Finance
(2) Based on ***Population Formula Census 1990,*** Central Bureau of Statistics. Calculated by Centre for Health Data
(3) ***Population Projections for Japan: 1996–2050,*** 1997, Institute of Population Problems, Ministry of Health and Welfare
(4) Department of Statistics
(5) Based on 1995 Census based National and Regional Population Projections (medium assumptions), National Statistics Office
(6) Population Planning Section, Ministry of Health
(7) ***Report of Working Group on Population Projections,*** Office of the National Economic and Social Development Board
(8) Ministry of Health

Note : a) Year 2001
b) Year 2006
c) Year 2011
d) Population on 1 October
e) Singapore residents only

1 – 4 Population by Age and Sex

	Year	Sex	Ages								
			All Ages	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39
BRUNEI (1)	1996	T	305.1	36.3	34.2	29.9	26.1	27.8	30.0	29.9	27.1
		M	161.5	16.7	17.7	15.3	13.5	14.4	16.0	16.2	14.9
		F	143.6	17.6	16.5	14.6	12.6	13.4	14.0	13.7	12.2
INDONESIA (2) a)	1997	T	201,164	19,970	20,079	22,839	22,217	18,813	16,715	15,784	14,698
		M	100,128	10,152	10,256	11,682	11,219	9,141	7,892	7,567	7,274
		F	101,036	9,819	9,822	11,158	10,999	9,673	8,823	8,217	7,424
JAPAN (3) b)	1997	T	124,963	5,903	6,187	7,125	7,941	9,459	9,312	8,093	7,683
		M	61,210	3,024	3,170	3,648	4,072	4,839	4,731	4,099	3,880
		F	63,753	2,879	3,017	3,477	3,869	4,620	4,581	3,994	3,803
MALAYSIA (4)	1996	T	21,169	2,540	2,500	2,359	2,116	1,998	1,803	1,677	1,482
		M	10,824	1,310	1,288	1,211	1,090	1,037	927	855	756
		F	10,346	1,230	1,212	1,148	1,026	961	877	822	725
PHILIPPINES (5)	1996	T	69,946	9,495	8,838	8,101	7,335	6,550	5,782	5,014	4,286
		M	35,250	4,898	4,532	4,111	3,696	3,283	2,894	2,517	2,157
		F	34,696	4,597	4,306	3,990	3,639	3,267	2,888	2,497	2,129
SINGAPORE (6) c)	1997	T	3,103.5	243.0	252.4	208.6	204.0	227.9	262.1	300.3	310.3
		M	1,559.4	125.8	130.2	108.1	105.2	113.9	128.8	149.5	157.6
		F	1,544.1	117.2	122.2	100.5	98.8	114.0	133.3	150.8	152.7
THAILAND (7)	1997	T	60,466	5,375	5,417	5,607	5,788	5,744	5,468	5,078	4,649
		M	30,134	2,712	2,732	2,838	2,938	2,925	2,787	2,552	2,321
		F	30,332	2,663	2,685	2,769	2,850	2,819	2,681	2,526	2,328
VIETNAM (8)	1996	T	75,355	9,042	9,494	9,193	7,761	6,480	5,953	5,802	4,822
		M	36,723	4,672	4,898	4,747	3,843	3,089	2,956	2,788	2,260
		F	38,632	4,370	4,596	4,446	3,918	3,391	2,997	3,014	2,562

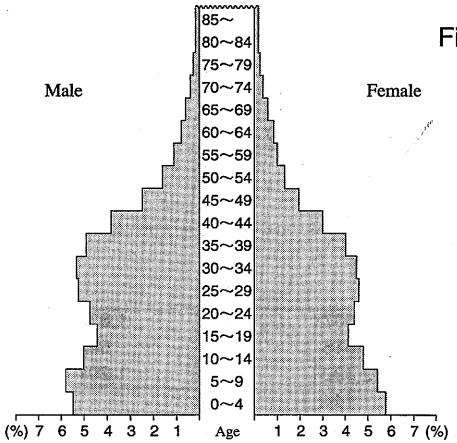
Source : (1) Department of Economic Planning and Development, Ministry of Finance
(2) Central Bureau of Statistics
(3) ***Vital Statistics Japan,*** Ministry of Health and Welfare
(4) Department of Statistics
(5) National Statistics Office
(6) Department of Statistics
(7) ***The Central Office for Civil Registration,*** Ministry of Interior
(8) Ministry of Health

Note : a) Excluding non-permanent residents (homeless people, sailors, boat people and remote area communities)
b) Japanese nationals only
c) Singapore residents only

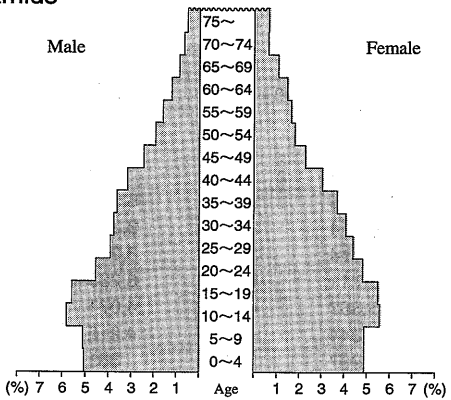
(in thousands)

Age									
40 – 44	45 – 49	50 – 54	55 – 59	60 – 64	65 – 69	70 – 74	75 – 79	80 – 84	85 +
20.8	13.5	8.9	6.4	4.9	3.5	2.3	1.5	1.0	1.0
11.7	7.6	4.9	3.4	2.4	1.8	1.2	0.8	0.5	0.5
9.1	5.9	4.0	3.0	2.5	1.7	1.1	0.7	0.5	0.5
12,443	9,488	7,492	6,503	5,394	3,876	2,556		2,296	
6,351	4,914	3,882	3,215	2,458	1,768	1,336		1,024	
6,093	4,574	3,610	3,288	2,937	2,108	1,220		1,272	
8,121	10,711	8,788	8,283	7,667	6,689	5,242	3,507	2,418	1,833
4,085	5,367	4,366	4,071	3,708	3,154	2,279	1,315	860	542
4,036	5,344	4,422	4,212	3,960	3,536	2,962	2,192	1,558	1,291
1,220	957	709	581	450	324	214	144	96	
625	493	365	293	220	153	97	63	40	
595	465	344	288	230	171	116	80	56	
3,557	2,919	2,309	1,816	1,393	1,030	705	414	402	
1,794	1,470	1,154	898	677	491	327	183	168	
1,763	1,449	1,155	918	716	539	378	231	234	
281.9	228.7	144.4	127.2	95.3	79.2	56.2	37.8	24.0	20.2
143.9	116.0	72.8	62.8	46.7	37.9	26.5	16.6	9.6	7.5
138.0	112.7	71.6	64.4	48.6	41.3	29.7	21.2	14.4	12.7
4,097	3,261	2,603	2,283	1,885	1,360	866		985	
2,030	1,600	1,262	1,094	892	636	399		416	
2,067	1,661	1,341	1,189	993	724	467		569	
3,466	2,336	2,260	2,185	2,260	1,733	602	678	452	836
1,657	1,130	904	904	1,054	753	295	226	150	397
1,809	1,206	1,356	1,281	1,206	980	307	452	302	439

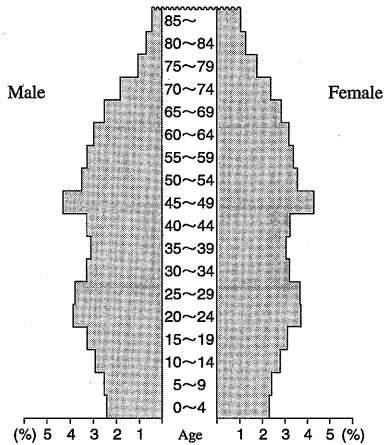
Fig. 1 Population Pyramids



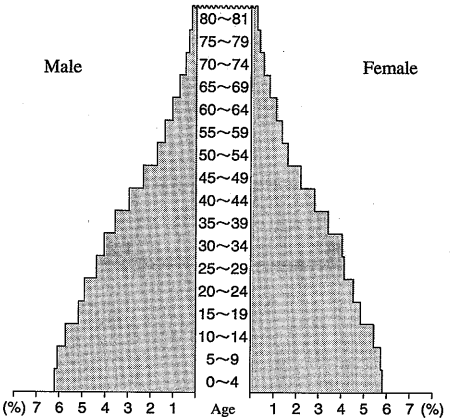
BRUNEI DARUSSALAM 1996



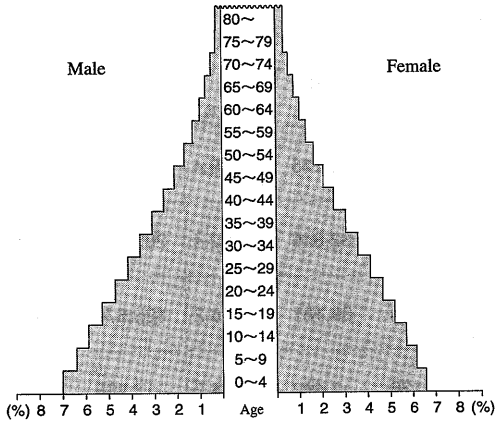
INDONESIA 1997



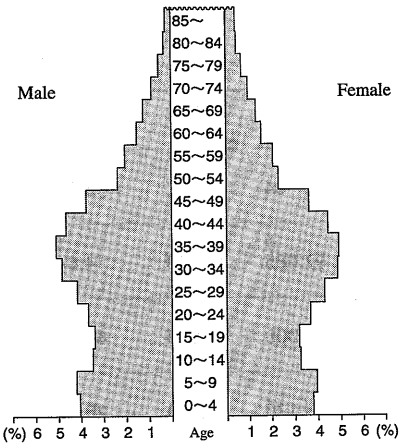
JAPAN 1997



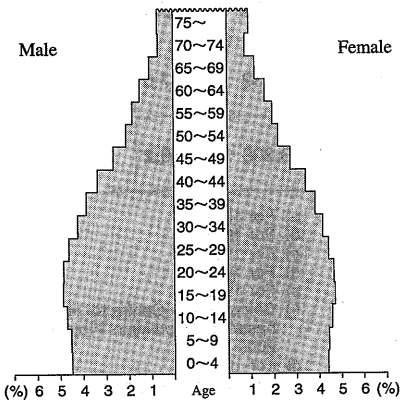
MALAYSIA 1996



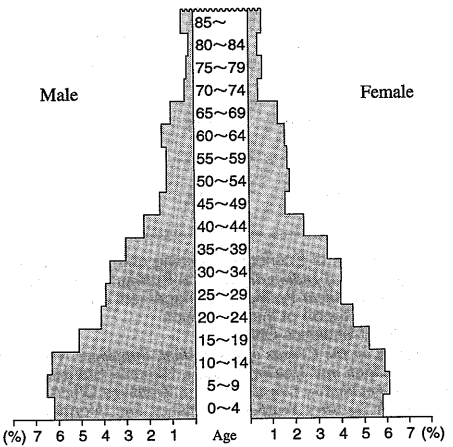
PHILIPPINES 1996



SINGAPORE 1997



THAILAND 1997



VIETNAM 1996

1 – 5 Urban and Total Population

(in thousands)

	1960			1970			1980			1990		
	Total	Urban	(%)	Total	Urban	(%)	Total	Urban	(%)	Total	Urban	(%)
BRUNEI (1)	84	37	43.6	a) 136	87	63.6	b) 193	115	59.4	c) 261	173	66.6
INDONESIA (2)	d) 97,085	14,358	14.8	119,143	20,733	17.4	146,776	32,846	22.4	e) f) 201,119	76,425	38.2
JAPAN (3)	94,300	59,698	63.3	104,666	75,429	72.1	117,600	89,187	76.2	g) 125,570	98,009	78.1
MALAYSIA (4)	8,170	2,060	25.2	10,439	2,799	26.8	13,136	4,492	34.2	c) 17,563	8,899	50.6
PHILIPPINES (5)	28,098	8,513	30.3	37,540	12,366	32.9	48,098	17,944	37.3	60,487	29,419	48.6
SINGAPORE (6)	d) 1,446	1,132	78.0	2,075	1,562	75.0	h) 2,282	2,282	100.0	e) h) 3,104	3,104	100.0
THAILAND (7)	(8) 26,258	3,274	12.5	34,397	4,553	13.2	44,824	7,633	17.0	54,548	10,215	18.7
VIETNAM (9)	30,172	4,727	15.7	41,063	8,787	21.4	53,722	10,300	19.2	i) 75,355	15,232	20.2

Source : (1) Department of Economic Planning and Development, Ministry of Finance
(2) ***Population of Indonesia,*** Central Bureau of Statistics
(3) ***Japan Statistical Yearbook,*** Management and Coordination Agency
(4) General Report of the Population
(5) National Statistics Office
(6) ***Report on the Census of Population, Singapore, Vol. 1,*** Department of Statistics
(7) ***Population and Housing Census,*** National Statistical Office, Office of the Prime Minister
(8) ***1960 Population Census,*** Central Statistics Office, National Economic Development Board
(9) ***Health Statistics Yearbook,*** Statistics and Informatic Division, Ministry of Health

Note : a) For 1971
b) For 1981
c) For 1991
d) For 1957
e) For 1997
f) Calculated by Centre for Health Date, Ministry of Health based on Population Projection 1990–2000 and 2000–2005
g) For 1995
h) Singapore residents only
i) For 1996

2. General Vital Statistics and Life Tables

2 – A Explanatory Notes on Vital Statistics

Crude Live-birth Rate = (B / P) × 1,000
Crude Death Rate = (D / P) × 1,000
Infant Mortality Rate = (Infant Deaths / B) × 1,000

where B = Number of live-births during a year
D = Number of deaths during a year
P = Population at middle of year

Crude Marriage Rate = (M / P) × 1,000
Crude Divorce Rate = (D / P) × 1,000
Crude Birth Rate = (B / P) × 1,000
General Fertility Rate = (B / F_{15-49}) × 1,000

where M = Number of marriages during a year
D = Number of divorces during a year
B = Number of births during a year
P = Population at middle of year
F_{15-49} = Population of women at ages 15–49 at middle of year

Absolute numbers and crude rates per 1,000 live-births

Late fetal deaths:	Fetal deaths after at least 28 weeks' gestation Fetal deaths of unknown gestational age are included
Infant deaths:	Deaths under one year
Neonatal deaths:	Deaths under four weeks
Post-neonatal deaths:	Deaths from four weeks to under one year
Perinatal deaths:	Late fetal deaths and deaths under one week

Maternal Mortality Rate is computed as the ratio of maternal deaths in a year to 100,000 live-births of the same year
Maternal Mortality Rate = (D_p / B) × 100,000

where D_p = Direct obstetric deaths (Chapter XI in ICD-9 and Chapter XV in ICD-10) during a year
B = Number of live-births during a year

2 – B A Brief Description of Population and Vital Statistics Trends

BRUNEI DARUSSALAM

Population:

The population is rising with an annual growth rate of around 3%. The population was estimated at 305,100 in 1996. The rate of natural increase decreased from 22.9 per 1,000 population in 1995 to 21.7 in 1996. The proportion of elderly people aged 60 years and over increased from 4.1% in 1991 to 4.7% in 1996.

Crude Birth and Death Rates:

There were 7,633 live-births with the crude rate of 25.0 per 1,000 population in 1996, as compared with 7,341 live-births with the corresponding rate of 24.8 in 1995. The number of deaths in 1996 was 1,002 and the crude death rate was 3.3. It was found that the death rate remained more or less stationary in recent years.

Trends of Causes of Deaths:

During 1996, accidents (all types) were the top leading cause of death followed by heart diseases, malignant neoplasms, cerebrovascular diseases, and bronchitis (chronic and unspecified), emphysema and asthma. The ICD-10 coding scheme was implemented on 1 January 1996.

Life Expectancy:

The expectation of life at birth was 75.4 years for males and 77.7 years for females in 1995. During the period 1971 to 1995, the gain in life expectancy at birth was 13.5 years for males and 15.6 years for females.

Health Care Status:

The Ministry of Health is always on vigilance of the World Health Organization indicators for monitoring the progress of the Global Strategy for Health for All. All indicators that have been appraised for Brunei Darussalam for the year 1996 were found to meet the WHO targets, which indicated a marked progress towards better health status. Brunei Darussalam is free of major communicable diseases. The long-term health policy is to provide the highest level of health care which is cost effective and a quality of life for the whole population in a clean and healthy environment.

INDONESIA

Population:

Indonesia has an estimated 1997 population of more than 199 million. This would make Indonesia the fourth most populous country in the world after the People's Republic of China, India, and the United States of America.

The nation's population growth rate is continuously declining. During 1990–1997, the estimated annual population growth was 1.60%, compared to 2.05% in 1970–1980 and 2.00% in 1980–1990. The census and survey data show that Indonesia's fertility has declined significantly since the 1970s. The crude birth rate, which was estimated at 33.7 births per 1,000 population in the period 1980–1985, declined to an estimated 25.3 per 1,000 in the period 1990–1995.

Crude Death Rate:

The crude death rate is showing a downward trend since the early 1970s. The rate in 1997 is estimated at 7.7 per 1,000 population, compared to 18.7, 12.5, and 9.7 in 1970, 1980, and 1990 respectively. The 1992 Household Health Survey found that cardiovascular diseases were the prime cause of death. In earlier surveys, infectious diseases were the prime cause, while cardiovascular diseases were not even among the top five causes.

Life Expectancy:

In the early 1970s, the life expectancy at birth was still very low: 45 years for males and 48 years for females. The current life expectancy at birth is estimated at 61.5 years for males and 65.3 years for females. This longer life expectancy is very much influenced by the decreased mortality, particularly among infants, due to the successful health programme.

JAPAN

Population:

The population has been growing every year, reaching 124.96 million on 1 October 1997. The proportion of people over 65 years old was 15.8% in 1997 and is growing rapidly.

Crude Birth Rate:

The number of births in 1997 was 1,191,681 and the crude birth rate was 9.5 (per 1,000 population). The rate had decreased slightly.

Crude Death Rate:

The number of deaths in 1997 was 913,398 and the crude death rate was 7.3 (per 1,000 population). The rate used to decrease after World War II, but has turned increasing gradually in recent years, caused by the rising number of aged people's deaths.

Trends of Causes of Death:

In 1996, there was a significant change in the ranking of causes of death: heart diseases, which used to be the second frequent cause of death, shifted to the third cause, and cerebrovascular diseases, which used to be the third cause, moved to the second rank. This change seems to be due to the use of ICD-10 instead of ICD-9 and to a reform of death certification, consisting of the introduction of the new international certificate and the discouragement of using non-specific disease terms.

Life Expectancy:

In 1997, Japanese life expectancy at birth for male was 77.19 years, which represented an increase by 0.18 year as compared with the preceding year. Life expectancy for females was 83.82 years, also showing an increase by 0.23 year.

Health Care:

Most Japanese are enjoying good health. About 90% of people consider themselves healthy or very healthy. The Ministry of Health and Welfare continues to make efforts to provide a high-quality, efficient, cost-effective, accessible health care system, to prevent diseases and to promote health.

MALAYSIA

In 1997, Malaysia had a population of 21,665,000 people, an increase of 496,700 persons or 2.3% over the population in 1995.

Life expectancy among Malaysians today is comparable to many developed countries. Under the favourable socio-economic conditions prevailing in the country, the life expectancy was 69.4 years for men and 74.3 years for women in 1996.

PHILIPPINES

Population:

The total population of the Philippines on September 1, 1995 by actual count was 68,616,536 persons, showing an increase of 7,913,330 persons or 13 percent over the 1990 census count of 60,703,206. This figure has led to a corrected projection for the 1995 Philippine population published in last year's SEAMIC Health Statistics. The new projections are shown in table 1–2 of the present edition.

The 1995 census showed that the males numbered 34,584,170, which is 551,804 persons more than the female population of 34,032,366. The census indicated a sex ratio of 101.6.

The Philippines continues to have a young population with 58 percent of its citizens aged under 25 years. Only 3.7 percent of the Filipinos are 65 years or older.

Crude Birth Rate:

The crude birth rate stood at 28.2 in 1997.

Crude Death Rate:

The crude death rate continued to decline to 6.1 in 1997, lower by 0.1 from 1996 when it stood at 6.2 per thousand.

Life Expectancy:

Life expectancy continues to improve and is longer for females at 70.83 as against Filipino males who can expect an average lifetime of 65.58 years.

SINGAPORE

Population:

The mid-year resident population of Singapore grew marginally by about 1.9% from 3.04 million in 1996 to 3.10 million in 1997. The majority of the population was the Chinese (77.2%), followed by the Malays (14.1%) and the Indians (7.4%). The population continued to age, with the proportion of those aged 65 years and above increasing from 6.9% in 1996 to 7.0% in 1997. The median age of the population now stands at 32.6 years, up from 32.2 years in 1996.

Population Changes:

The rate of natural increase dropped from 10.6 per 1,000 resident population in 1996 to 10.1 per 1,000 in 1997. There were 47,333 births in 1997, which was a decrease of 2.6% from the 48,577 births in 1996. The total fertility rate correspondingly fell to 1.6 births per woman in 1997 as compared with 1.7 births per woman in 1996. The number of deaths fell slightly from 15,590 to 15,305. The crude death rate was 4.6 deaths per 1,000 resident population in 1997.

Life Expectancy:

The average life expectancy at birth of Singapore residents was 76.7 years in 1996. Expectancy of life at birth for the average male was 74.6 years and that for the average female was 79.0 years.

Health Care Status:

The state of health of Singaporeans continued to improve. In 1997, the Ministry of Health continued to promote good health, prevent disease and encourage Singaporeans to stay healty. The Ministry also continued to ensure that good and cost-effective medical care remained accessible to all Singaporeans.

THAILAND

Population:

Thailand had a population of around 60.6 million in 1997. In 1997, the population growth rate was 0.98 percent and the population is expected to reach 70 million by the year 2010. The trend of population growth indicates that the country is becoming more urbanized, with an increase in proportion of working ages and old ages, and a decrease in the dependency ratio.

Life Expectancy:

As a result of the success in health development, life expectancy of the Thai people has increased by the average of 0.46 year annually, in male from 60 years during 1980–1985 to 63 years during 1990–1995 (66.6 years in 1995) and in female from 66 years to 68 years between the same period of time (71.7 years in 1995).

VIETNAM

Over the period of 10 years from 1986 to 1996, the total population of Vietnam increased from 61.1 million to 75.4 million, with the average annual increase of 2.12%.

The crude birth rate in 1996 was 25.1 per 1,000 live-births, showing a decline from the rate of 28.5 in 1993. The total fertility rate declined from 3.8 in 1989 to 3.1 in 1994.

During the period 1993–1996 the crude death rate dropped from 6.7 to 6.3 per 1,000 population.

2 – 1 Crude Live-birth Rates

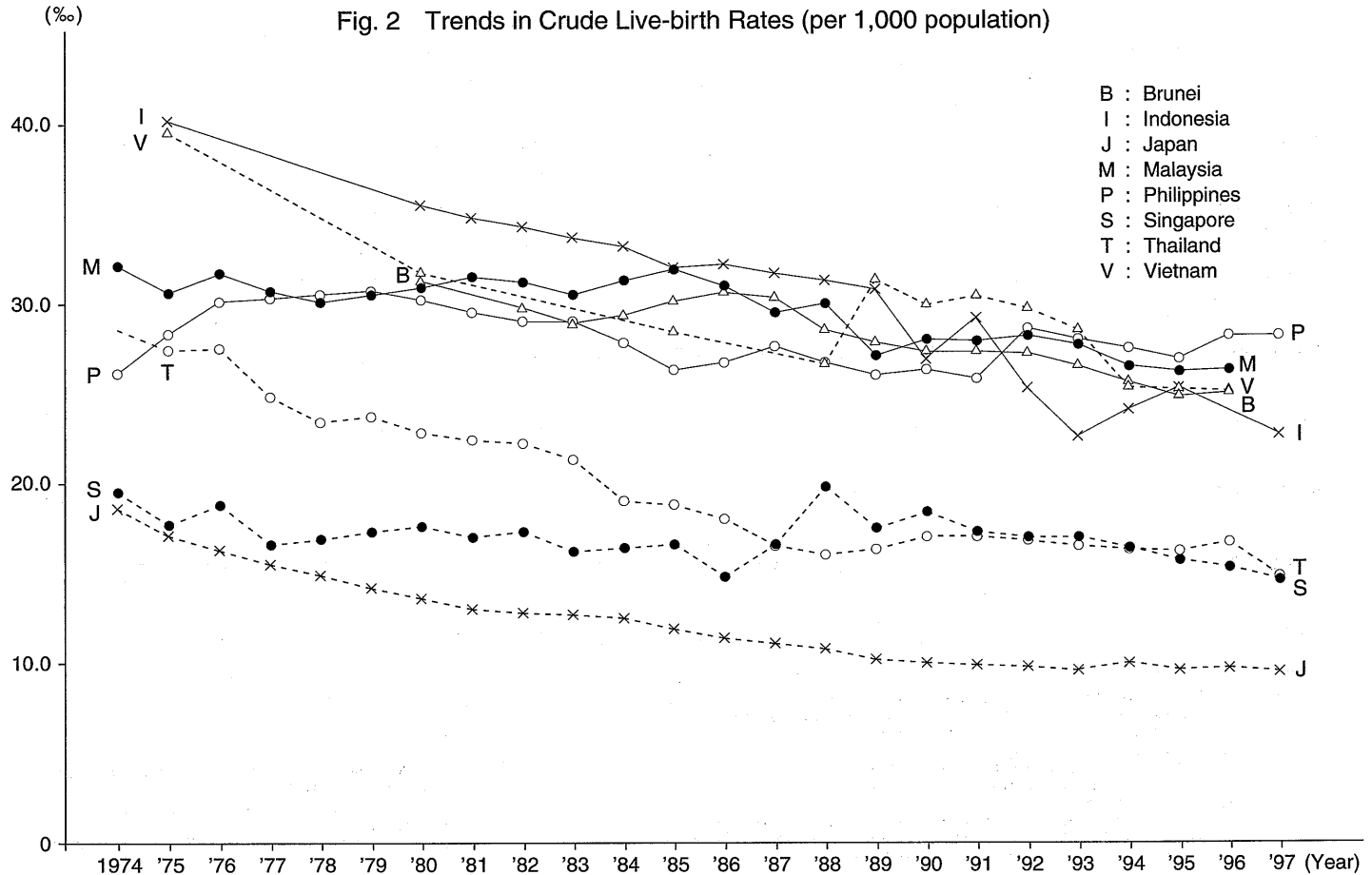
(per 1,000 population)

Year	1970	1975	1980	1985	1989	1990	1991	1992	1993	1994	1995	1996	1997
BRUNEI (1)			31.2	30.1	27.8	27.3	27.3	27.2	26.5	25.6	24.8	25.0	
INDONESIA (2)	(3) a) b) 40.6	40.2	(3) b) 35.5	(3) b) 32.0	30.8	(3) b) 27.9	c) 29.2	c) 25.3	c) 22.6	c) 24.1	c) 25.3		(3) b) 22.7
JAPAN (4)	18.8	17.1	13.6	11.9	10.2	10.0	9.9	9.8	9.6	10.0	9.6	9.7	9.5
MALAYSIA (5)	32.4	30.6	30.9	31.9	27.1	28.0	27.9	28.2	27.7	26.5	26.2	26.3	
PHILIPPINES (6)	27.4	28.8	30.2	26.3	26.0	26.3	25.8	28.6	28.0	27.5	26.9	28.9	d) 28.2
SINGAPORE (7) e)	22.1	17.7	17.6	16.6	17.5	18.4	17.3	17.0	17.0	16.4	15.7	15.3	14.6
THAILAND (8)	31.5	27.4	22.8	18.8	16.3	17.0	17.0	16.8	16.5	16.3	16.3	16.7	14.8
VIETNAM (9)		f) 39.5	31.7	28.4	31.3	29.9	30.4	29.7	28.5	25.3	25.2	25.1	

Source : (1) Registration of Birth and Death and Adoptions, Department of Immigration and Registration of Nationals, Ministry of Home Affairs and Department of Economic Planning and Development, Ministry of Finance
(2) Central Bureau of Statistics
(3) ***Indonesia Demographic and Health Survey 1997***
(4) ***Vital Statistics Japan,*** Ministry of Health and Welfare
(5) Department of Statistics
(6) ***Philippine Health Statistics,*** Health Intelligence Service, Department of Health
(7) ***Report on Registration of Births and Deaths,*** National Registration Department
(8) Health Information Division, Ministry of Public Health
(9) Ministry of Health

Note : a) For 1991
b) Estimated
c) Calculated by Central Bureau of Statistics based on National Census 1990
d) Based on 1995 Census National & Regional Projections
e) Rates from 1980 onward refer to Singapore residents only
f) For 1976

Fig. 2 Trends in Crude Live-birth Rates (per 1,000 population)



2 – 2 Crude Death Rates

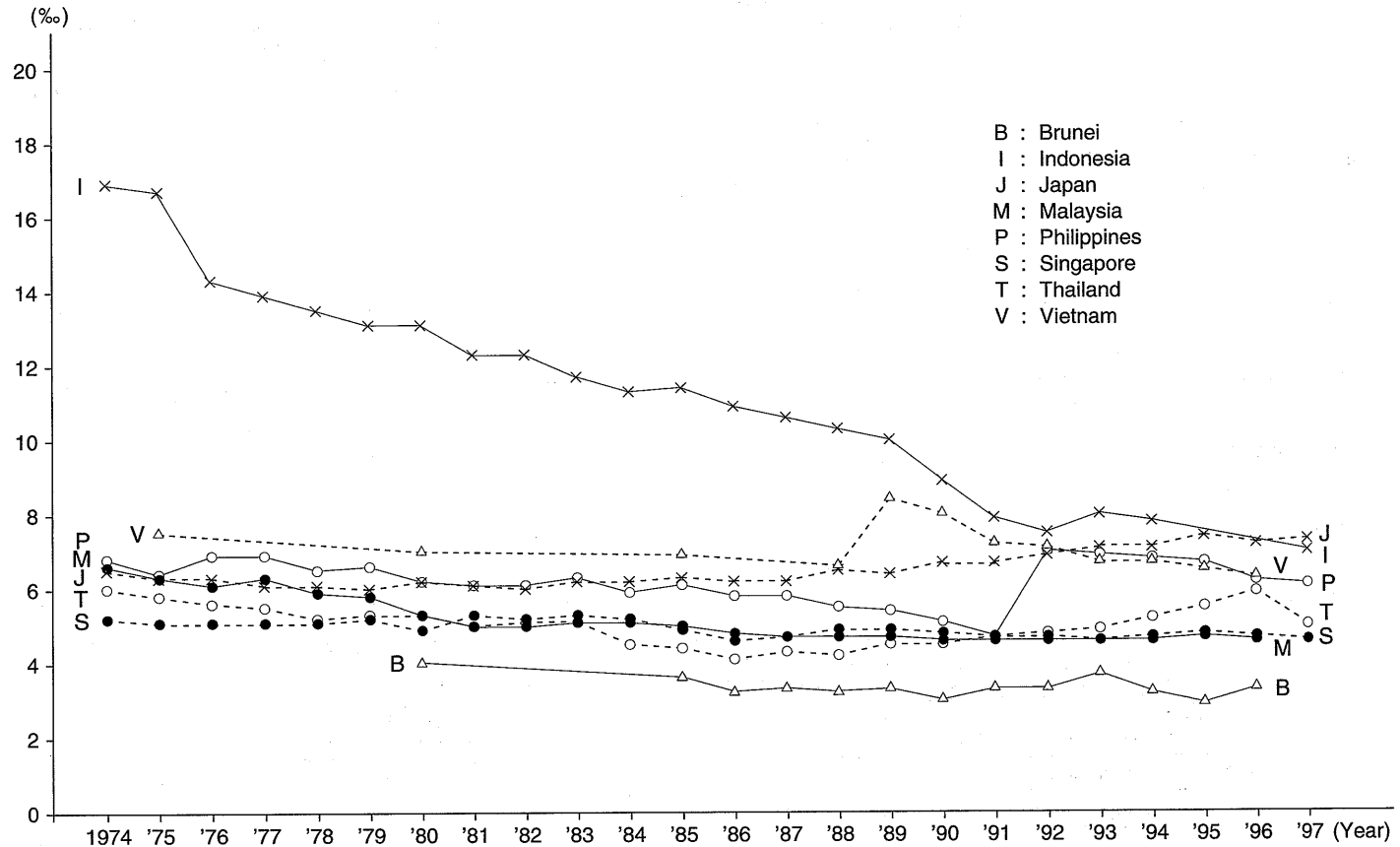
(per 1,000 population)

Year	1970	1975	1980	1985	1989	1990	1991	1992	1993	1994	1995	1996	1997
BRUNEI (1)			4.0	3.6	3.3	3.0	3.3	3.3	3.7	3.2	2.9	3.3	
INDONESIA (2)	(3) a) b) 19.1	16.7	(3) b) 13.1	(3) b) 11.4	10.0	(3) b) 8.9	c) 7.9	c) 7.5	c) 8.0	c) 7.8			(3) b) 7.7
JAPAN (4)	6.9	6.3	6.2	6.3	6.4	6.7	6.7	6.9	7.1	7.1	7.4	7.2	7.3
MALAYSIA (5)	7.0	6.3	5.3	5.0	4.7	4.6	4.6	4.6	4.6	4.6	4.7	4.6	
PHILIPPINES (6)	6.7	6.4	6.2	6.1	5.4	5.1	4.7	7.0	6.9	6.8	6.7	6.2	d) 6.1
SINGAPORE (7) e)	5.2	5.1	4.9	4.9	4.9	4.8	4.7	4.7	4.6	4.7	4.8	4.7	4.6
THAILAND (8)	6.2	5.8	5.3	4.4	4.5	4.5	4.7	4.8	4.9	5.2	5.5	5.9	5.0
VIETNAM (9)		f) 7.5	7.0	6.9	8.4	8.0	7.2	7.1	6.7	6.7	6.5	6.3	

Source : (1) Registration of Birth and Death and Adoptions, Department of Immigration and Registration of Nationals, Ministry of Home Affairs and Department of Economic Planning & Development, Ministry of Finance
(2) Central Bureau of Statistics
(3) ***Indonesia Demographic and Health Survey 1997***
(4) ***Vital Statistics Japan,*** Ministry of Health and Welfare
(5) Department of Statistics
(6) ***Philippine Health Statistics,*** Health Intelligence Service, Department of Health
(7) ***Report on Registration of Biths and Deaths,*** National Registration Department
(8) Health Information Division, Ministry of Public Health
(9) Ministry of Health

Note : a) For 1971
b) Estimated
c) Calculated by Central Bureau of Statistics based on National Census 1990
d) Based on 1995 Census National and Regional Projections
e) Rates from 1980 onward refer to Singapore residents only
f) For 1976

Fig. 3 Trends in Crude Death Rates (per 1,000 population)



2 – 3 Vital Statistics Rates

(per 1,000 population)

	Year	Crude Marriage Rate	Crude Divorce Rate	Crude Birth Rate	General Fertility Rate	Crude Death Rate	Infant Mortality Rate
BRUNEI (1)	1996	a) 4.9	a) 1.1	25.0	94.4	3.3	6.9
INDONESIA (2)	1997	a) 8.4	a) 0.8	(3) b) 22.7	(3) b) 97.0	(3) b) 7.7	(3) b) 52.2
JAPAN (4)	1997	6.2	1.8	9.5	39.4	7.3	3.7
MALAYSIA (5)	1996	8.5	0.7	26.3	98.9	4.6	9.1
PHILIPPINES (6)	1997	c) 13.7	••	28.2	d) 3.6	6.1	c) 24.1
SINGAPORE (7) e)	1997	8.3	1.6	14.6	50.4	4.6	3.6
THAILAND (8)	1997	(8) f) 8.3	(8) f) 0.8	14.8	53.0	5.0	(9) 5.8
VIETNAM (10)	1994			25.3	100.8	6.7	f) 45.3

Source : (1) Registration of Birth and Death and Adoptions, Department of Immigration and Registration of Nationals, Ministry of Home Affairs and Department of Economic Planning and Development, Ministry of Finance
(2) Central Bureau of Statistics
(3) ***Indonesia Demographic and Health Survey 1997***
(4) ***Vital Statistics Japan,*** Ministry of Health and Welfare
(5) Department of Statistics
(6) National Statistics Office (estimated vital rates)
(7) ***Report on Registration of Births and Deaths,*** National Registration Department
(8) Health Information Division, Ministry of Public Health
(9) Ministry of Interior
(10) Ministry of Health

Note : a) Muslims
b) Estimated
c) For 1995
d) Total fertility rate
e) Singapore residents only
f) For 1993

2 – 4 Natality, Mortality and Natural Increase

	Year	Natality (live-born)				Mortality				Natural Increase
		Number			(‰)	Number			(‰)	(‰)
		Total	Male	Female		Total	Male	Female		
BRUNEI (1)	1996	7,633	3,964	3,669	25.0	1,002	602	400	3.3	21.7
INDONESIA (2)	1997				a) 22.7				a) 7.7	a) 15.0
JAPAN (3)	1997	1,191,665	619,005	580,780	9.5	913,402	497,776	415,606	7.3	2.2
MALAYSIA (4)	1996	540,866	279,560	261,306	26.3	95,520	55,369	40,151	4.6	21.9
PHILIPPINES (5)	1995	b) 1,643,707			25.1	c) 333,891	198,771	135,120	4.8	
SINGAPORE (6) d)	1997	e) 47,333	24,553	22,778	14.6	e) 15,305	8,558	6,746	4.6	10.0
THAILAND (7)	1997	897,604	461,916	435,688	14.8	303,918	184,176	119,742	5.0	9.8
VIETNAM (8)	1994 1995	1,834,490	1,022,768	811,722	25.3	485,813				18.6 18.7

Source : (1) Registration of Birth and Death and Adoptions, Department of Immigration and Registration of Nationals, Ministry of Home Affairs and Department of Economic Planning and Development, Ministry of Finance
(2) ***Indonesia Demographic and Health Survey 1997***
(3) ***Vital Statistics Japan,*** Ministry of Health and Welfare
(4) Department of Statistics
(5) ***Philippine Health Statistics,*** Health Intelligence Service, Department of Health
(6) ***Report on Registration of Births and Deaths,*** National Registration Department
(7) Health Statistics Division, Ministry of Public Health
(8) Ministry of Health

Note : Figures for males and females may not add up to the total on account of unknown sex
a) Estimated
b) For 1994
c) For 1995
d) Singapore residents only
e) Includes unknown sex

2 – 5 Deaths and Death Rates by Age

	Year	Sex	All ages		0 – 4		5 – 14		15 – 24		25 – 34	
			Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
BRUNEI (1)	1996	T	1,002	328.4	69	190.1	11	17.2	60	111.3	96	160.3
		M	602	372.8	43	229.9	5	15.2	49	175.6	78	242.2
		F	400	278.6	26	147.7	6	19.3	11	42.3	18	65.0
INDONESIA (2) a)	1992	T	5,352		292		315		443		1,008	
JAPAN (3)	1996	T	896,211	718.6	6,310	106.5	1,865	13.7	7,523	42.1	9,360	55.1
		M	488,605	799.5	3,569	117.6	1,111	15.9	5,439	59.5	6,294	73.1
		F	407,606	641.0	2,741	94.9	754	11.4	2,084	23.9	3,066	36.6
MALAYSIA (4)	1996	T	95,520	451.2	6,302	248.1	1,826	37.6	4,410	107.2	4,767	137.0
		M	55,369	511.6	3,578	273.1	1,113	44.6	3,402	159.9	3,515	197.3
		F	40,151	388.1	2,724	221.5	713	30.2	1,008	50.7	1,252	73.7
PHILIPPINES (5)	1995	T	324,737	475.1	44,622	471.2	10,999	66.0	14,823	109.1	20,868	198.6
		M	193,048	560.4	25,779	526.5	6,492	76.5	9,985	146.3	14,394	273.0
		F	131,689	388.5	18,843	412.0	4,507	55.1	4,838	71.5	6,474	123.6
SINGAPORE (6) b)	1997	T	15,305 c)	455.2	239 c)	83.1	80	15.0	309	43.8	551	57.4
		M	8,558	496.4	145	98.6	50	19.7	220	60.7	398	72.9
		F	6,746	412.9	93	65.7	30	9.9	89	26.3	153	42.2
THAILAND (7)	1997	T	303,918	502.6	4,830	89.6	5,024	45.6	20,719	179.7	40,013	379.4
		M	184,176	611.2	2,630	96.9	3,079	55.3	15,731	268.3	31,438	588.8
		F	119,742	394.8	2,200	82.6	1,945	35.7	4,988	88.0	8,575	164.7
VIETNAM (8)	1989	T	252,486	398.5	65,128	722.8	16,430	102.0	11,669	95.0	10,167	101.1
		M	141,070	463.3	36,091	776.8	8,791	106.2	6,880	118.9	6,263	133.9
		F	111,416	338.5	29,037	665.4	7,639	97.6	4,789	73.7	3,904	72.6

Source : (1) Registration of Birth and Death and Adoptions, Department of Immigration and Registration of Nationals, Ministry of Home Affairs and Department of Economic Planning and Development, Ministry of Finance
(2) Directorate General of Medical Care, Ministry of Health
(3) ***Vital Statistics Japan,*** Ministry of Health and Welfare
(4) Department of Statistics
(5) ***Philippine Health Statistics,*** Health Intelligence Service, Department of Health
(6) ***Report on Registration of Births and Deaths,*** National Registration Department
(7) Health Statistics Division, Ministry of Public Health
(8) General Statistical Office

Note : a) Based on a 10-day sample of discharges from hospital for each quarter
b) Singapore residents only
c) Includes unkown sex

(rate per 100,000 population)

35 – 44		45 – 54		55 – 64		65 – 74		75 & over		Unknown	
Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
87	181.6	87	388.4	144	1,274.3	184	3,172.4	264	7,542.9		
67	251.9	57	456.0	79	1,362.1	98	3,266.7	126	7,000.0		
20	93.9	30	303.0	65	1,181.8	86	3,071.4	138	8,117.6		
1,008		1,464				1,012					
18,489	114.4	56,115	287.0	109,393	698.6	190,691	1,657.5	495,901	6,661.8	564	
11,998	147.4	37,062	379.9	75,374	987.1	122,601	2,365.0	224,671	8,532.9	486	
6,491	81.0	19,053	194.6	34,019	423.9	68,090	1,077.0	271,230	5,636.5	78	
6,132	227.0	8,939	536.5	14,822	1,437.5	20,386	3,794.7	27,256	11,353.4	680	
4,122	298.4	5,736	668.9	9,041	1,761.5	11,214	4,475.6	13,199	12,753.0	449	
2,010	152.2	3,203	396.1	5,781	1,116.4	9,172	3,199.5	14,057	10,292.8	231	
25,596	337.8	32,322	644.6	42,781	1,390.5	50,307	3,028.2	81,828	10,487.1	591	
17,257	451.6	21,941	871.8	28,130	1,862.9	29,978	4,935.8	38,700	11,543.4	392	
8,339	222.0	10,381	415.6	14,651	935.1	20,329	2,317.5	43,128	9,691.3	199	
848	117.7	1,248	300.7	2,310	982.0	3,720	2,644.8	5,948	7,011.0	52	
560	144.9	771	363.9	1,461	1,259.4	2,209	3,295.0	2,701	7,741.8	43	
288	89.4	477	236.0	849	713.3	1,511	2,054.9	3,247	6,501.0	9	
31,829	363.9	30,359	517.7	41,923	1,005.8	49,206	2,210.4	68,290	6,931.7	11,725	
23,601	542.5	19,613	685.0	24,976	1,257.6	27,321	2,639.6	30,340	7,296.7	5,447	
8,228	187.2	10,746	358.0	16,947	776.7	21,885	1,837.4	37,950	6,665.2	6,278	
9,788	180.0	14,910	384.4	28,936	819.3	38,700	1,894.3	56,758	5,559.1		
6,219	249.9	9,288	539.7	18,046	1,109.2	22,769	2,638.4	26,723	7,964.5		
3,569	121.1	5,622	260.6	10,890	571.7	15,931	1,347.8	30,035	4,530.2		

2 – 6 Expectation of Life at Specified Ages for Each Sex

	Year	Sex	Age								
			0	1	2	3	4	5	10	15	20
BRUNEI (1)	1991	M	72.1	71.9				68.1	63.3	58.5	54.0
		F	76.5	76.5				72.6	67.7	62.8	57.9
INDONESIA (2)	1997	M	63.6	66.1				63.1	58.5	53.7	49.2
		F	67.5	69.3				66.2	61.6	56.8	52.1
JAPAN (3)	1997	M	77.2	76.5	75.5	74.6	73.6	72.6	67.7	62.7	57.9
		F	83.8	83.1	82.2	81.2	80.2	79.2	74.3	69.3	64.4
MALAYSIA (4)	1996	M	69.4	69.2				65.4	60.5	55.6	51.0
		F	74.3	74.0				70.2	65.3	60.4	55.5
PHILIPPINES (5)	1992	M	63.2	66.3				63.9	59.3	54.6	49.9
		F	68.5	71.1				68.8	64.2	59.4	54.7
SINGAPORE (6)	1996	M	74.6	73.8				69.9	65.0	60.1	55.2
		F	79.0	78.2				74.3	69.3	64.4	59.4
THAILAND (7)	1991	M	67.7	69.8				66.2	61.6	56.9	52.3
		F	72.5	74.8				71.1	66.4	61.6	56.9
VIETNAM (8)	1989	M	63.0	65.0	64.4	63.8	63.1	62.3	58.0	53.5	49.0
		F	67.5	69.5	69.2	68.7	68.0	67.3	63.2	58.7	54.1

Source : (1) Department of Economic Planning and Development, Ministry of Finance
(2) Calculated by Centre for Health Data, using ***Model Life Table for Developing Countries,*** the United Nations 1982
(3) ***Abridged Life Table for Japan,*** Ministry of Health and Welfare
(4) ***Abridged Life Table,*** Department of Statistics
(5) University of the Philippines Population Institute, projected using 1990 baseline estimates based on registered deaths aged 5 years and over, corrected for underregistration and implied infant and child mortality from the adjusted deaths at ages 5–9 (Latin American Pattern, Model Life Tables for Developing Countries), assumption = moderate mortality decline.
(6) ***Abridged Life Table,*** Ministry of Health
(7) National Statistical Office
(8) ***Detailed Analysis of Sample Survey,*** General Statistics Office

Age														
25	30	35	40	45	50	55	60	65	70	75	80	85	90	95
49.5 52.9	44.8 48.0	40.2 43.3	35.5 38.4	30.9 33.7	26.4 29.0	22.2 25.0	18.6 21.1	15.2 17.9	12.8 14.4	10.2 12.0	8.8 10.1			
44.8 47.6	40.3 43.0	35.8 38.6	31.4 34.1	27.1 29.7	23.0 25.5	19.2 21.4	15.7 17.5	12.5 13.7	9.7 10.7	7.3 8.0	5.3 5.8			
53.0 59.4	48.2 54.5	43.4 49.7	38.6 44.8	33.9 40.0	29.4 35.3	25.0 30.7	20.9 26.1	17.0 21.8	13.5 17.5	10.3 13.6	7.6 10.1	5.4 7.2	3.8 5.0	2.7 3.6
46.5 50.7	41.9 45.8	37.3 41.0	32.7 36.3	28.3 31.6	24.0 27.1	19.9 22.7	16.2 18.6	12.8 14.8	9.9 11.4	7.5 8.6	5.4 6.3			
45.5 50.0	41.1 45.3	36.8 40.7	32.6 36.2	28.5 31.8	24.5 27.5	20.8 23.3	17.3 19.4	14.1 15.7	11.2 12.3	8.6 9.3	6.4 6.8			
50.4 54.5	45.6 49.6	40.8 44.7	36.0 39.9	31.3 35.1	26.7 30.4	22.5 25.9	18.5 21.6	15.0 17.5	11.9 13.8	9.1 10.5	6.8 7.6	4.4 4.6		
47.7 52.3	43.2 47.7	38.8 43.1	34.4 38.6	30.2 34.1	26.1 29.7	22.3 25.9	18.8 22.0	15.7 18.3	12.8 14.8	10.5 11.4	9.3 9.0			
44.6 49.6	40.0 45.0	35.5 40.4	31.2 35.8	27.0 31.4	23.1 27.0	19.3 22.9	15.6 19.0	12.5 15.3	9.6 11.9	7.3 9.0	5.8 6.4	4.2 4.4	3.1 3.0	

Fig. 4 Trends in Expectation of Life at Birth (Male)

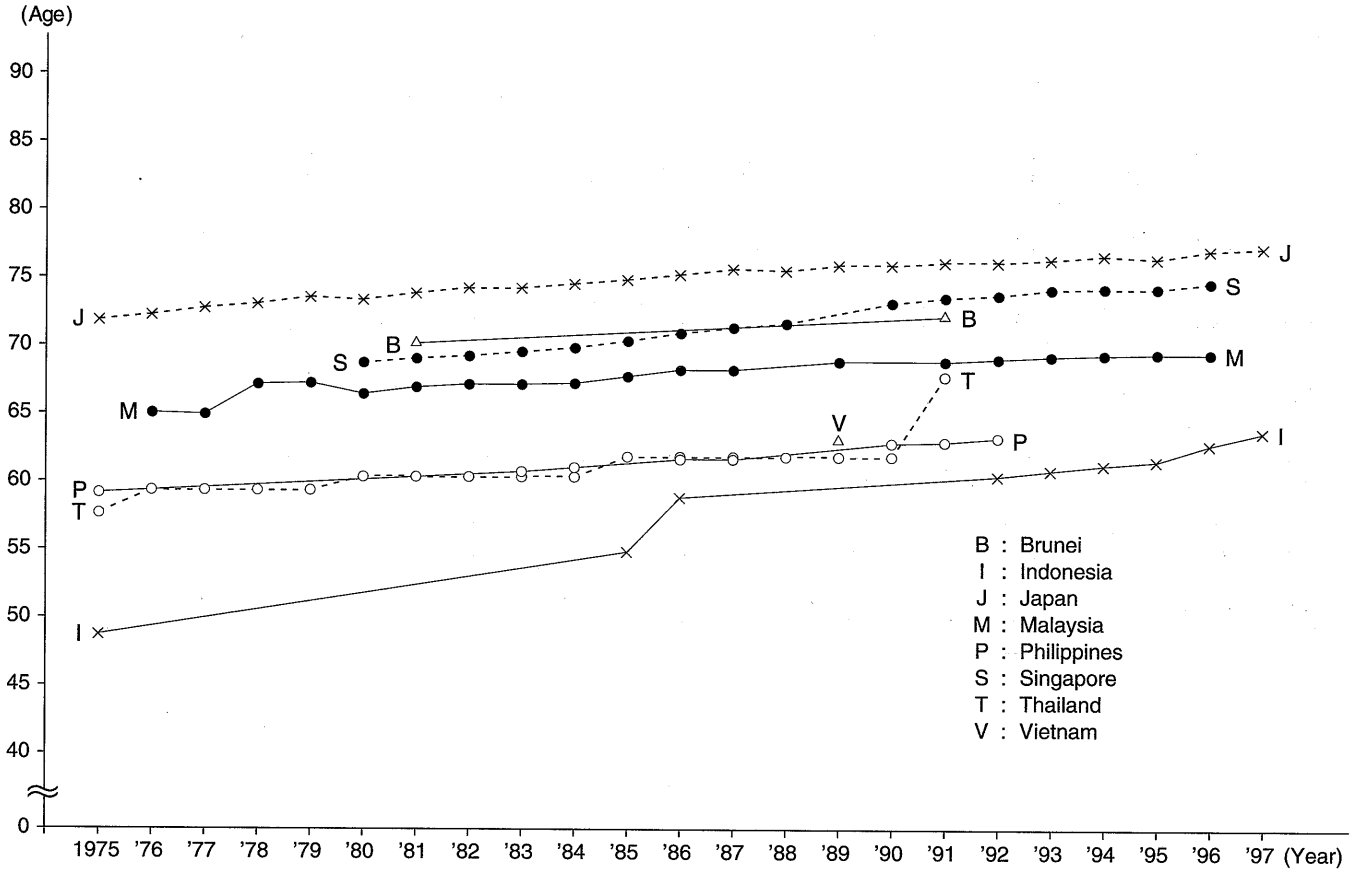
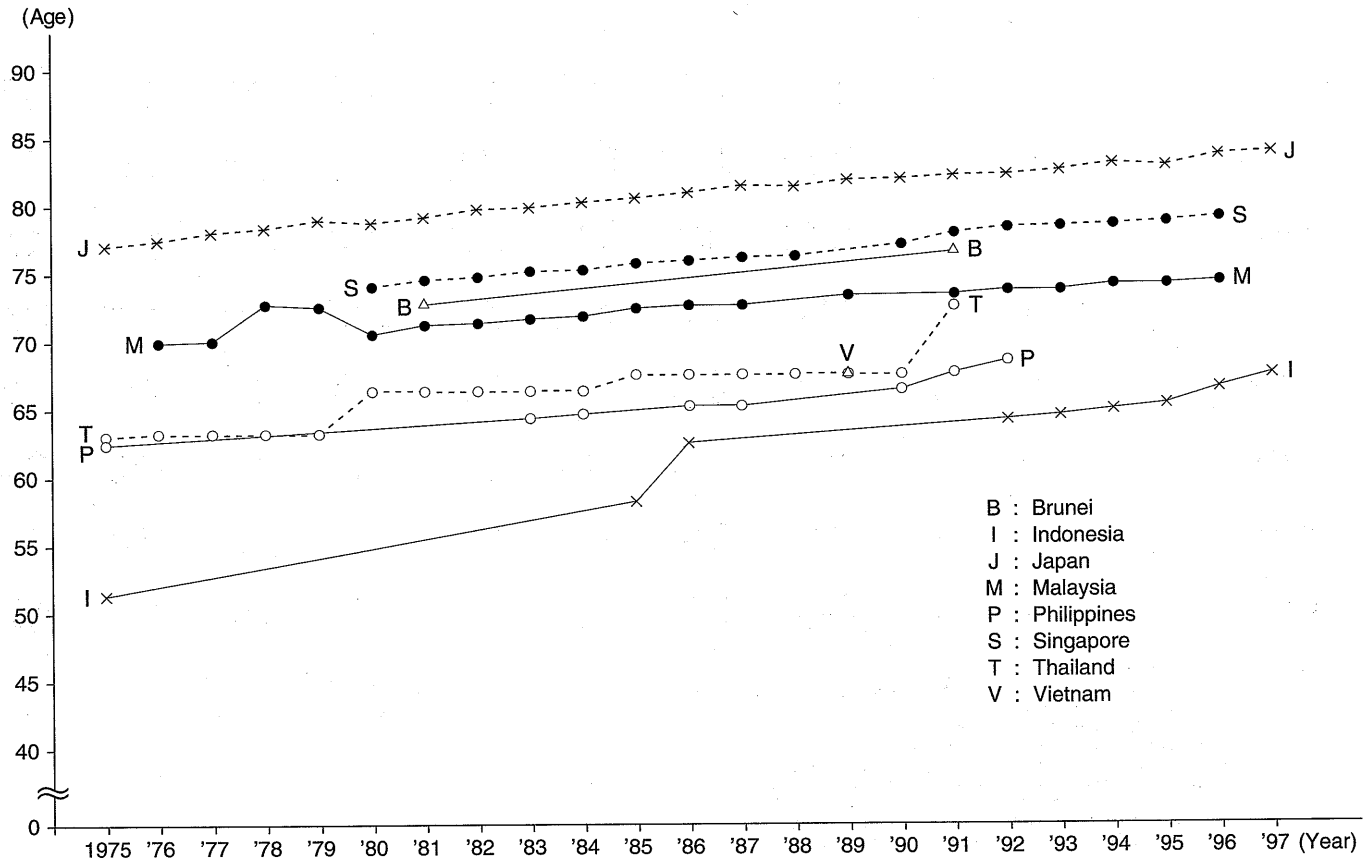


Fig. 4 Trends in Expectation of Life at Birth (Female)



2 – 7 Survivors at Specified Ages for Each Sex

	Year	Sex	Age							
			0	1	5	10	15	20	25	30
BRUNEI (1)	1991	M	100,000	98,850	98,490	98,200	97,945	96,995	96,092	95,532
		F	100,000	98,784	98,694	98,556	98,359	98,226	98,113	98,000
INDONESIA (2)	1997	M	100,000	94,767	92,767	93,353	92,757	92,296	91,509	90,410
		F	100,000	95,931	94,695	94,212	93,838	93,244	92,429	91,468
JAPAN (3)	1997	M	100,000	99,606	99,455	99,376	99,303	99,059	98,742	98,411
		F	100,000	99,658	99,520	99,460	99,415	99,317	99,187	99,031
MALAYSIA (4)	1996	M	100,000	98,895	98,584	98,388	98,141	97,445	96,568	95,687
		F	100,000	99,088	98,828	98,680	98,524	98,289	98,014	97,677
PHILIPPINES (5)	1992	M	100,000	94,032	91,850	91,212	90,790	90,065	88,957	87,593
		F	100,000	95,055	92,932	92,397	92,064	91,650	91,098	90,433
SINGAPORE (6)	1996	M	100,000	99,610	99,473	99,386	99,258	99,021	98,664	98,352
		F	100,000	99,685	99,601	99,542	99,452	99,341	99,192	99,003
THAILAND (7)	1991	M	100,000	95,624	95,106	94,544	94,030	93,385	92,582	91,561
		F	100,000	95,670	95,248	94,798	94,513	94,024	93,316	92,702
VIETNAM (8)	1989	M	100,000	95,537	93,523	92,491	91,736	90,882	89,712	88,687
		F	100,000	95,612	93,160	91,929	91,164	90,519	89,654	88,998

Source : (1) Department of Economic Planning and Development, Ministry of Finance
(2) Calculated by Centre for Health Data, using ***Model Life Table for Developing Countries 1982,*** United Nations
(3) ***Abridged Life Table,*** Ministry of Health and Welfare
(4) ***Abridged Life Table,*** Department of Statistics
(5) University of the Philippines Population Institute, projected using 1990 baseline estimates based on registered deaths aged 5 years and over, corrected for underregistration and implied infant and child mortality from the adjusted deaths at ages 5–9 (Latin American Pattern, Model Life Tables for Developing Countries), assumption = moderate mortality decline.
(6) ***Abridged Life Table,*** Ministry of Health
(7) National Statistical Office
(8) ***Detailed Analysis of Sample Survey,*** General Statistics Office

Age												
35	40	45	50	55	60	65	70	75	80	85	90	95
94,685 97,365	94,020 97,112	92,838 96,339	91,055 95,433	88,072 92,012	82,470 87,510	74,720 79,949	62,180 72,651	50,509 59,577	34,403 45,155	20,647 31,581		
89,285 90,349	88,031 88,990	86,483 87,267	84,392 84,931	81,394 81,653	77,063 77,061	70,854 70,377	62,271 60,737	51,044 47,434	37,356 31,368			
98,016 98,809	97,477 98,510	96,656 98,035	95,260 97,269	92,976 96,139	89,622 94,569	84,307 92,179	76,457 88,528	65,633 82,680	50,632 72,660	32,363 56,635	15,096 34,993	4,440 14,952
94,686 97,264	93,447 96,672	91,859 95,757	89,473 94,244	85,664 91,868	79,802 88,008	71,295 81,856	59,444 72,307	43,962 58,249	27,484 40,411			
86,004 89,620	84,147 88,529	81,775 87,116	78,569 85,189	74,282 82,376	68,623 78,589	61,054 73,023	51,820 65,157	40,521 54,017	27,668 39,264			
97,935 98,764	97,356 98,405	96,432 97,848	94,969 96,955	92,178 95,257	87,732 92,600	80,293 88,273	69,605 81,258	56,106 70,482	40,187 56,207	24,854 40,206		
90,304 91,900	88,711 90,780	86,695 89,406	83,959 87,701	79,901 84,092	74,226 80,437	66,522 75,230	57,251 68,750	45,430 60,596	30,775 47,065			
87,519 88,187	85,637 87,240	83,452 85,704	79,779 83,813	75,554 80,825	69,953 76,573	61,123 70,910	50,508 63,335	36,169 51,350	21,287 37,386	10,624 21,343		

Fig. 5 Survivors at Specified Ages for Each Sex (1) Brunei, 1991

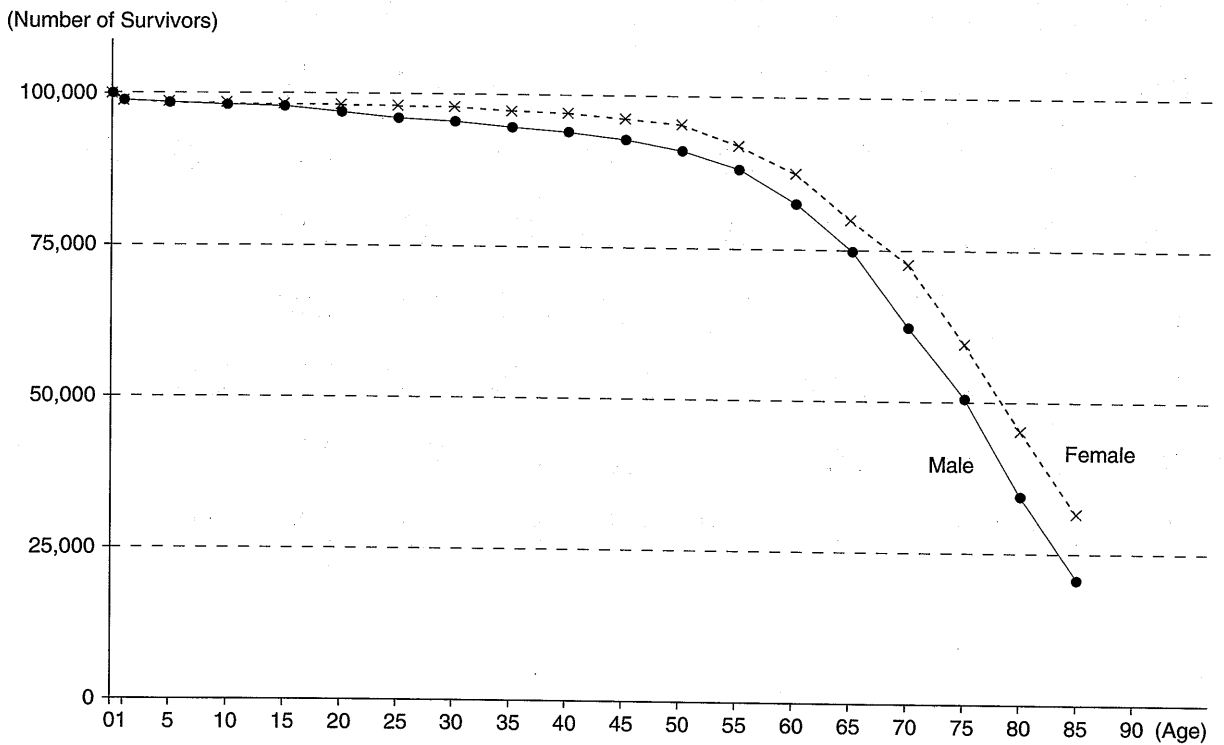


Fig. 5 Survivors at Specified Ages for Each Sex (2) Indonesia, 1997

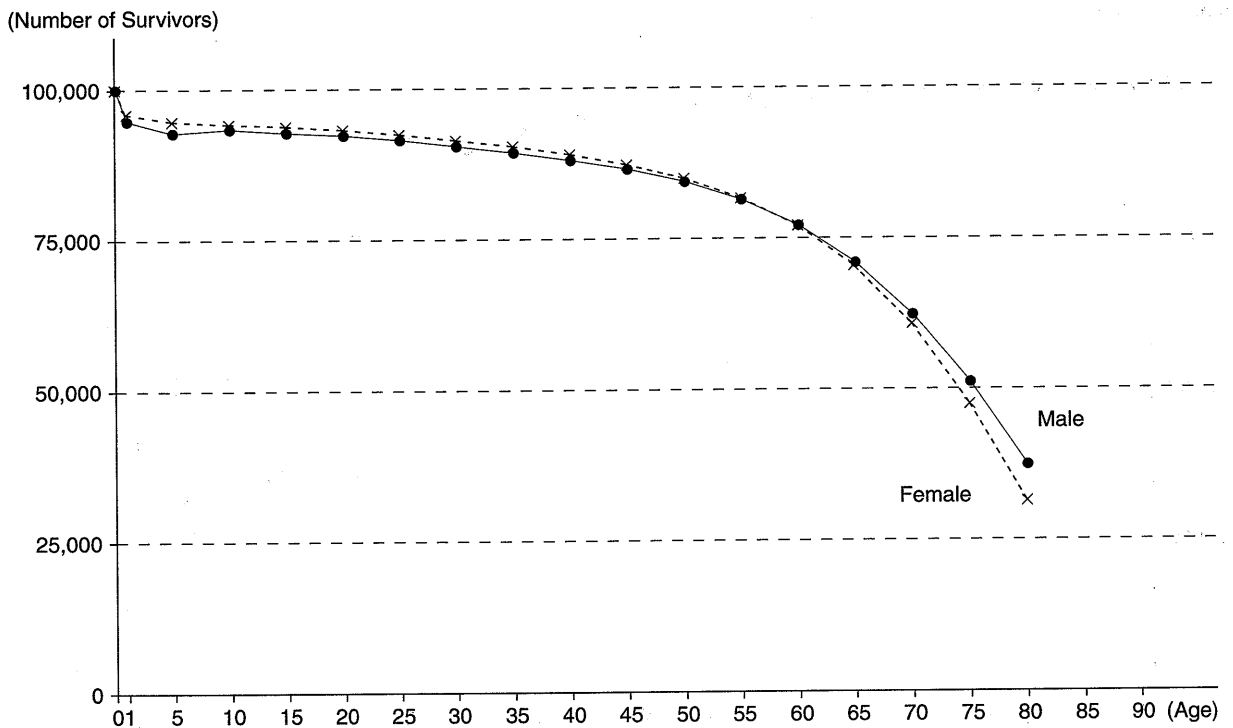


Fig. 5 Survivors at Specified Ages for Each Sex (3) Japan, 1997

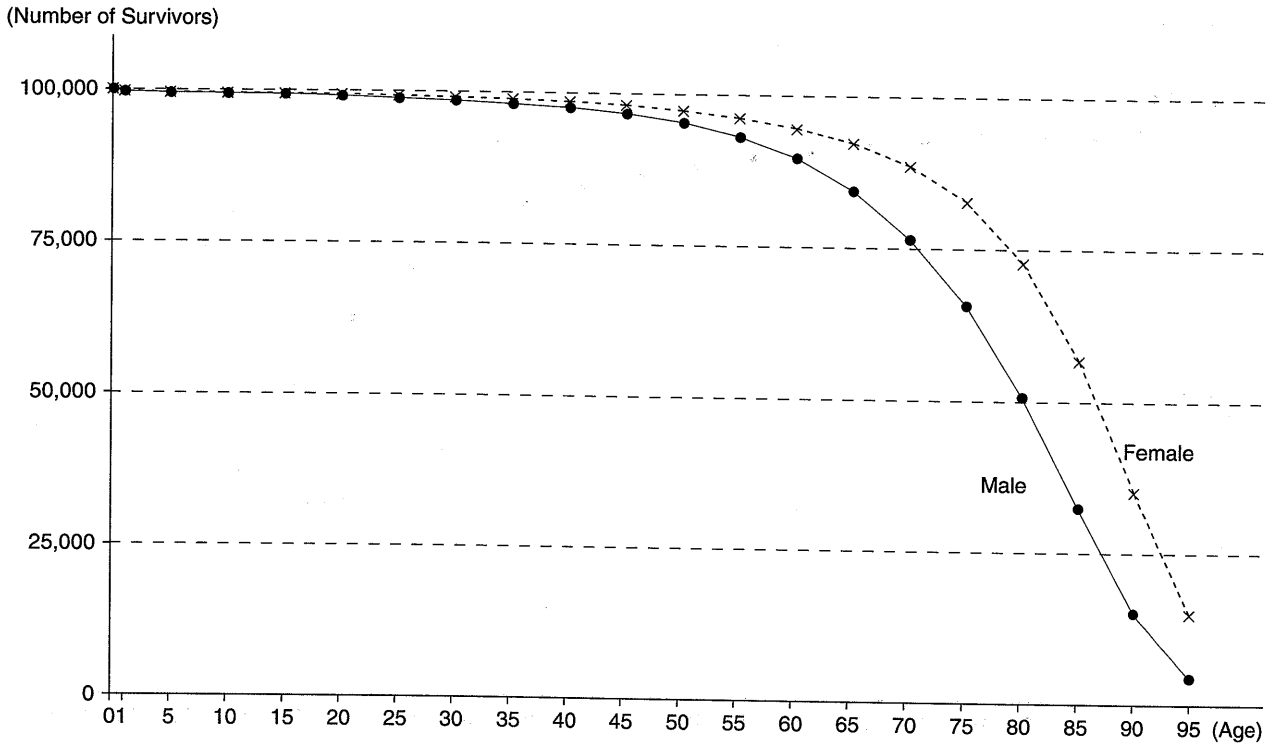


Fig. 5 Survivors at Specified Ages for Each Sex (4) Malaysia, 1996

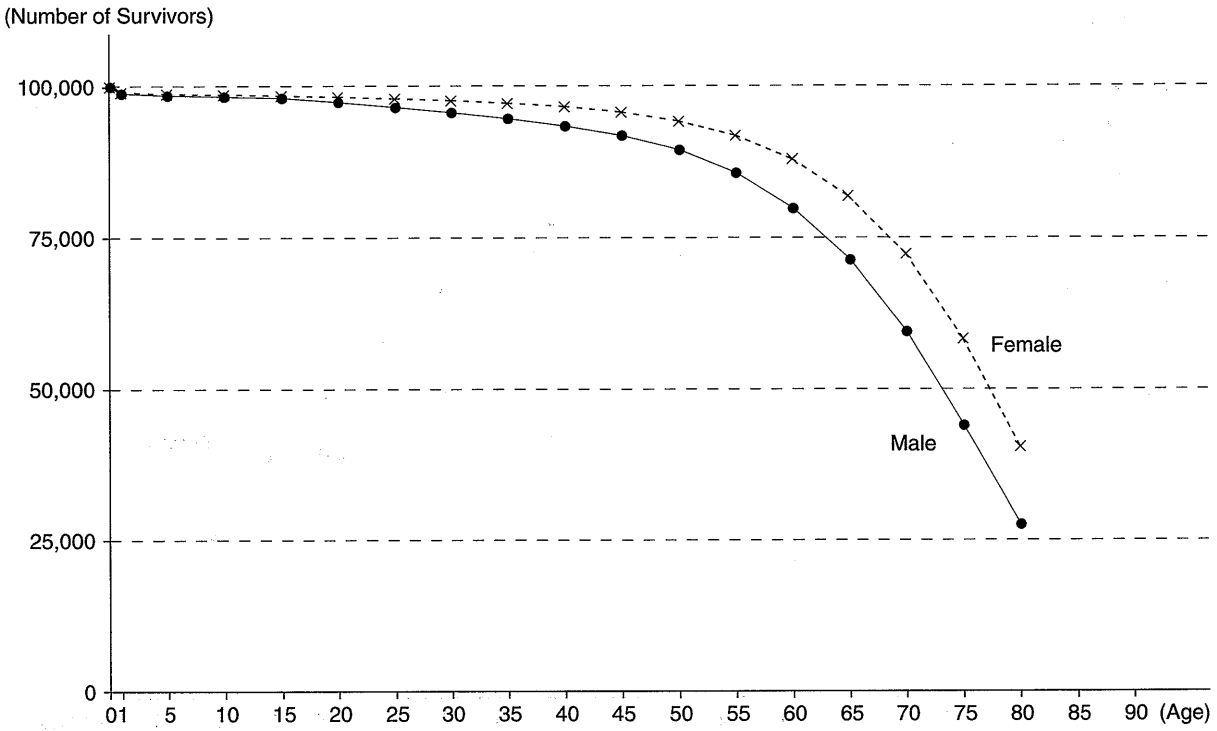


Fig. 5 Survivors at Specified Ages for Each Sex (5) Philippines, 1992

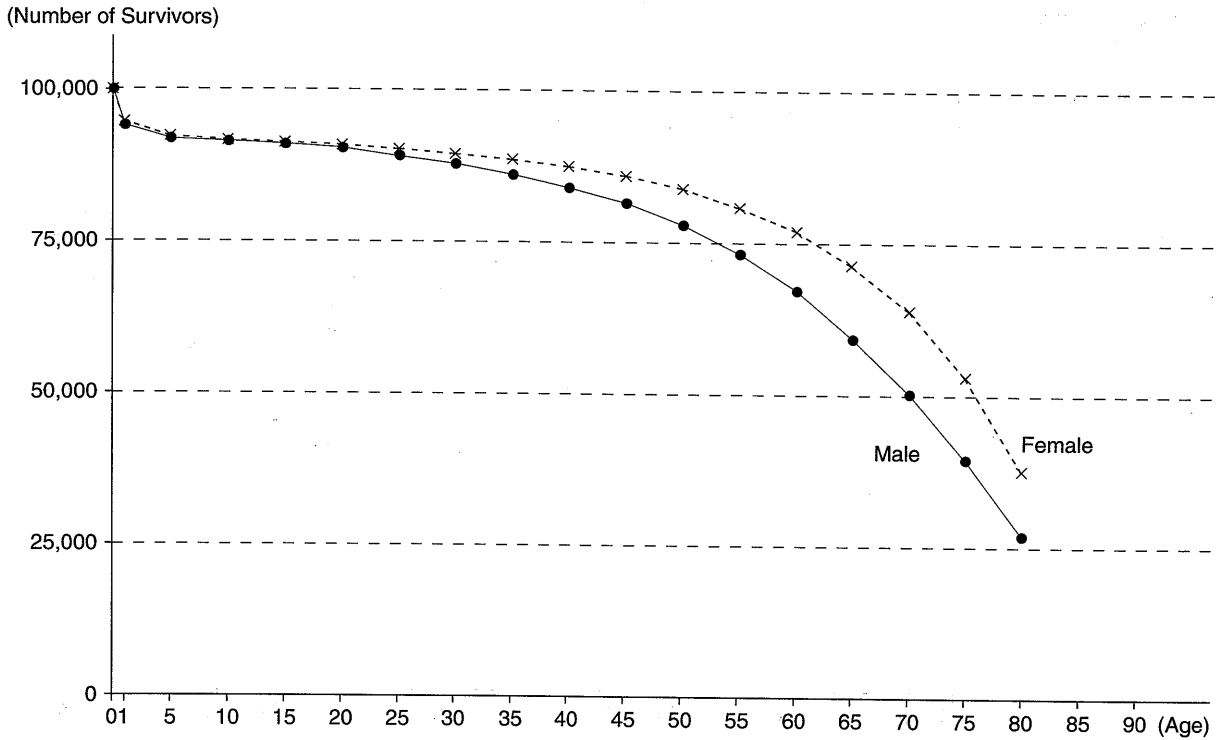


Fig. 5 Survivors at Specified Ages for Each Sex (6) Singapore, 1996

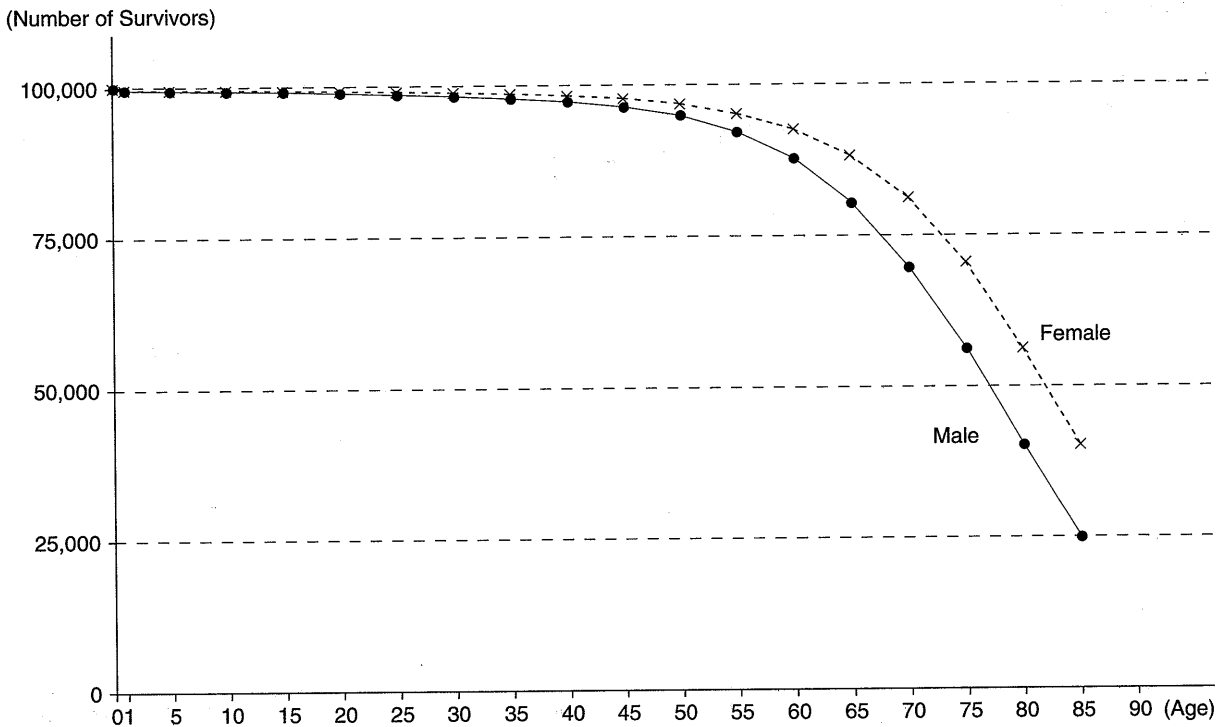


Fig. 5 Survivors at Specified Ages for Each Sex (7) Thailand, 1991

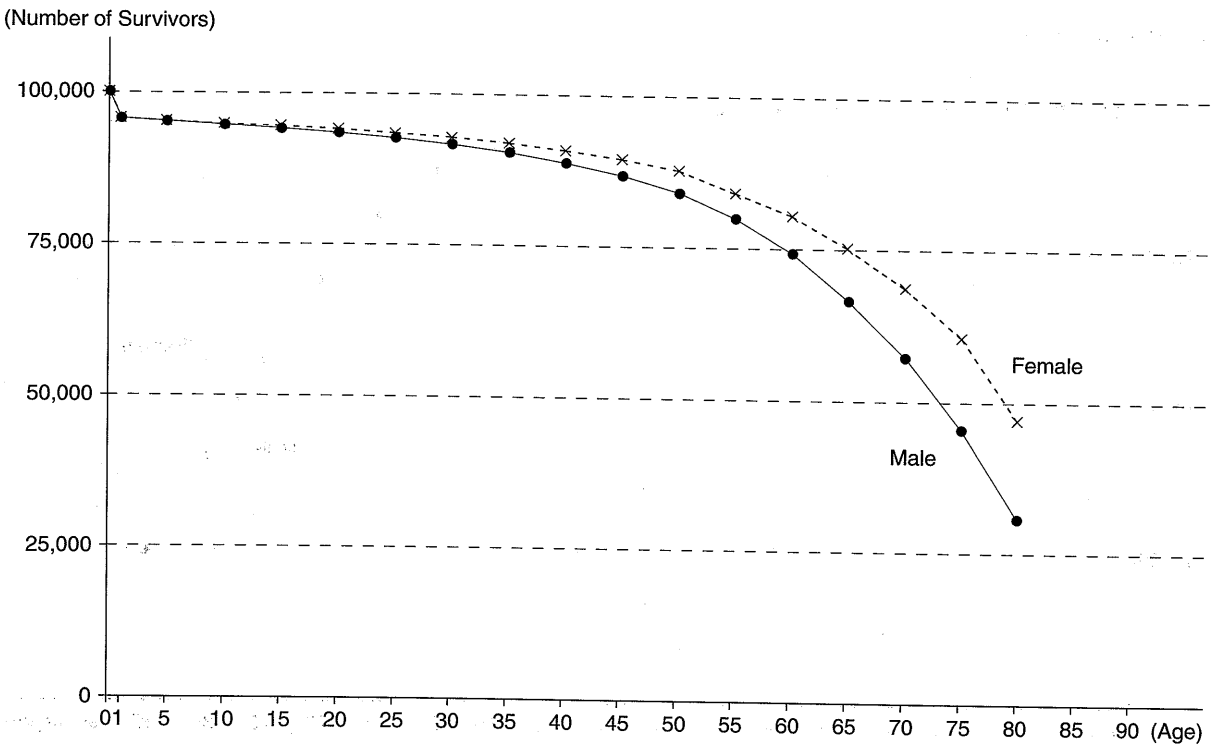
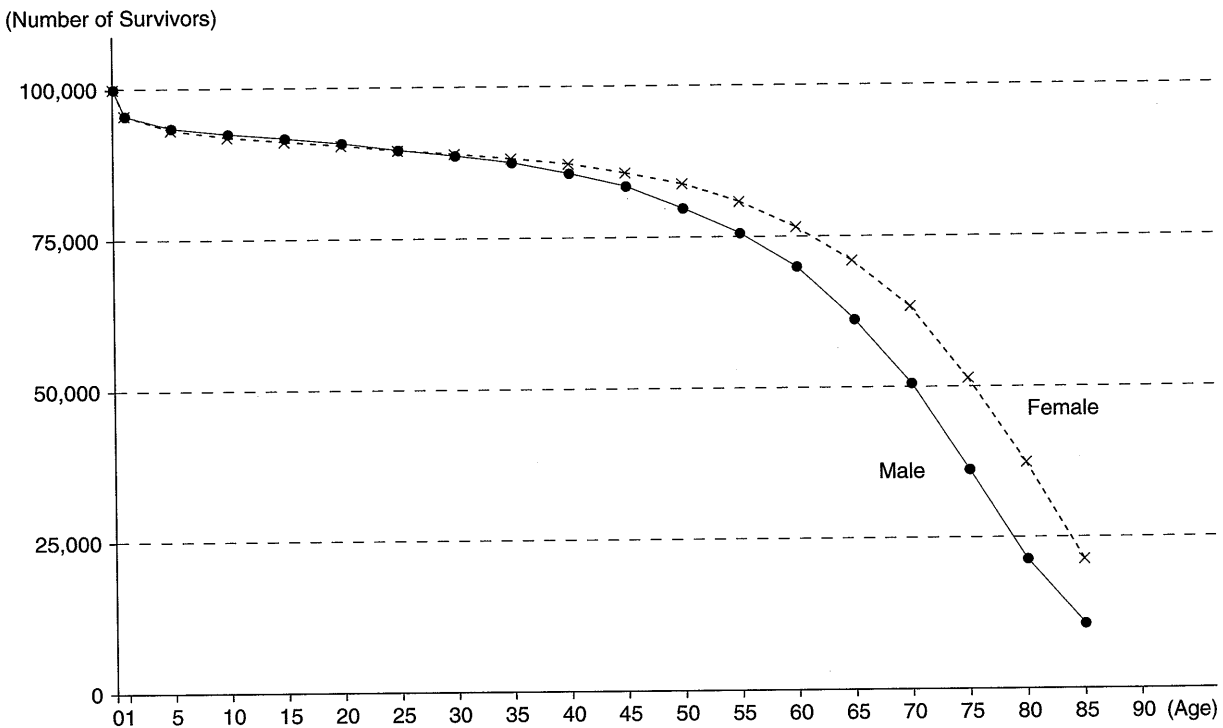


Fig. 5 Survivors at Specified Ages for Each Sex (8) Vietnam, 1989



3. Causes of Death

3 – A Classification List Used for Ranking Causes of Death in Tables 3 – 1 and 3 – 2

ICD – 9*	ICD – 10†	Disease groups
01	A00 – A09	Intestinal infectious diseases
02	A15 – A19	Tuberculosis
033	A36	Diphtheria
034	A37	Whooping cough
036	A39	Meningococcal infection
037, 771.3**	A33 – A35	Tetanus
038	A40, A41	Septicemia
040	A80	Acute poliomyelitis
042	B05	Measles
046	B15 – B19	Viral hepatitis
047	A82	Rabies
279.5**	B20 – B24	AIDS (HIV)
061***	A90	Dengue
065.4**	A91	Dengue hemorrhagic fever
052	B50 – B54	Malaria
06	A50 – A64	Venereal diseases
08 – 14	C00 – C97	Malignant neoplasms
15 – 17	D00 – D48	Benign neoplasms, carcinoma in situ, other and unspecified neoplasms
181	E10 – E14	Diabetes mellitus
19	E40 – E64	Nutritional deficiencies
200	D50 – D64	Anemias
21	F00 – F99	Mental disorders
220	G00 – G09	Meningitis
26	I10 – I15	Hypertensive diseases
25, 27, 28	I00 – I09, I20 – I25, I30 – I52	Heart diseases
29	I60 – I69	Cerebrovascular diseases
300	I70	Atherosclerosis
310 – 312	J00 – J06	Acute upper respiratory infection
320	J20, J21	Acute bronchitis and bronchiolitis
321, 322	J10 – J18	Influenza and pneumonia
323	J40 – J46	Bronchitis, chronic and unspecified, emphysema and asthma
341	K25 – K27	Ulcer of stomach and duodenum
347	K73, K74	Chronic liver diseases and cirrhosis
350	N00 – N19	Nephritis, nephrotic syndrome and nephrosis
38	O00 – O08	Abortion
40, 41	O80, O98 – O99	Indirect obstetric causes
42	L00 – L99	Diseases of skin and subcutaneous tissue
43	M00 – M99	Diseases of musculoskeletal system and connective tissue
44	Q00 – Q99	Congenital anomalies
45	P00 – P96	Certain conditions originating in the perinatal period
E47	V01 – V99	Transport accidents
E48	X40 – X49	Accidental poisoning
E50	W00 – W19	Accidental falls
E51	X00 – X09	Accidents caused by fire and flames
E521	W65 – W79	Accidental drowning and submersion
E53	Y40 – Y84	Drugs, medicaments causing adverse effects in therapeutic use
E54	X60 – X84	Suicide and self-inflicted injuries
E55	X85 – Y09	Homicide and injuries purposely inflicted by other persons

* Categories of the Basic Tabulation List
** 4-digit category
*** 3-digit category
† 3-character codes

3 – 1 Ten Leading Causes of Death (Percentage of All Deaths with Specific Diagnosis [a])

	Year	1	2	3	4	5
BRUNEI (1)	1996	Heart Diseases (18.0%)	Malignant Neoplasms (14.7%)	Cerebrovascular Diseases (10.4%)	Transport Accidents (9.0%)	Bronchitis, Emphysema & Asthma (7.7%)
INDONESIA (2)	1996	Certain Conditions Originating in the Perinatal Period (13.6%)	Heart Diseases (10.1%)	Cerebrovascular Diseases (9.2%)	Influenza and Pneumonia (5.5%)	Tuberculosis (5.0%)
JAPAN (3)	1996	Malignant Neoplasms (31.1%)	Cerebrovascular Diseases (16.1%)	Heart Diseases (15.8%)	Influenza and Pneumonia (8.2%)	Suicide and Self-inflicted Injury (2.5%)
MALAYSIA (4) c)	1996	Heart Diseases (19.4%)	Malignant Neoplasms (10.7%)	Cerebrovascular Diseases (8.4%)	Transport Accidents (7.1%)	Septicemia (6.7%)
PHILIPPINES (5)	1994	Heart Diseases (14.6%)	Malignant Neoplasms (10.4%)	Influenza and Pneumonia (9.3%)	Tuberculosis (8.9%)	Hypertensive Diseases (7.4%)
SINGAPORE (6)	1997	Malignant Neoplasms (27.0%)	Heart Diseases (23.9%)	Cerebrovascular Diseases (10.8%)	Influenza and Pneumonia (10.2%)	Hypertensive Diseases (2.3%)
THAILAND (7)	1997	Heart Diseases (21.8%)	Malignant Neoplasms (13.2%)	Transport Accidents (6.6%)	Septicemia (3.1%)	Cerebrovascular Diseases (2.9%)
VIETNAM (8) c)	1996	Certain Conditions Originating in the Perinatal Period (11.3%)	Heart Diseases (7.7%)	Tuberculosis (5.8%)	Influenza and Pneumonia (5.8%)	Transport Accidents (3.4%)

Source : (1) Birth and Death Registry, Ministry of Health
(2) Directorate General of Medical Care, Ministry of Health
(3) ***Vital Statistics Japan,*** Ministry of Health and Welfare
(4) Information and Documentation System Unit, Ministry of Health
(5) ***Philippine Health Statistics,*** Health Intelligence Service, Department of Health
(6) National Registration Department, Singapore
(7) Health Information Division, Bureau of Health Policy and Plan, Ministry of Public Health
(8) ***Health Statistics Yearbook,*** Statistics and Informatic Division, Ministry of Health

6	7	8	9	10	Conditions excluded from the denominator [b] (% of all deaths)
Diabetes Mellitus (7.2%)	Influenza and Pneumonia (3.5%)	Hypertensive Diseases (2.7%)	9–1 Certain Conditions Originating in the Perinatal Period (2.4%)	9–2 Congenital Anomalies (2.4%)	16.5
Transport Accidents (5.0%)	Nephritis, Nephrotic Syndrome & Nephrosis (4.9%)	Chronic Liver Diseases & Cirrhosis of Liver (4.5%)	Diabetes Mellitus (3.5%)	Intestinal Infectious Diseases (3.4%)	4.9
Nephritis, Nephrotic Syndrome & Nephrosis (2.2%)	Bronchitis, Emphysema & Asthma (2.2%)	Transport Accidents (1.6%)	Diabetes Mellitus (1.5%)	Chronic Liver Diseases & Cirrhosis of Liver (1.3%)	2.8
Certain Conditions Originating in the Perinatal Period (5.6%)	Influenza and Pneumonia (3.7%)	Nephritis, Nephrotic Syndrome & Nephrosis (3.0%)	Congenital Anomalies (2.4%)	Diabetes Mellitus (1.7%)	6.2
Celebrovascular Deseases (6.1%)	Certain Conditions Originating in the Perinatal Period (4.7%)	Homicide and Injuries Inflicted by Other Person (3.9%)	Bronchitis, Emphysema and Asthma (3.7%)	Intestinal Infectious Diseases (2.7%)	5.4
Suicide and Self-inflicted Injury (2.3%)	Transport Accidents (2.0%)	Diabetes Mellitus (1.8%)	Bronchitis, Emphysema and Asthma (1.1%)	Nephritis, Nephrotic Syndrome & Nephrosis (1.0%)	0.0
Influenza and Pneumonia (2.9%)	Nephritis, Nephrotic Syndrome & Nephrosis (2.5%)	Diabetes Mellitus (2.3%)	Suicide and Self-inflicted Injuries (2.1%)	Chronic Liver Diseases & Cirrhosis of Liver (2.0%)	34.3
Intestinal Infectious Diseases (3.3%)	Hypertensive Diseases (3.2%)	Malignant Neoplasms (2.5%)	Chronic Liver Diseases & Cirrhosis of Liver (2.1%)	Homicide and Injuries Inflicted by Other Person (1.5%)	2.6

Note : a) Exculuding senility and ill-defined causes
b) 465 (ICD-9) / R54 (ICD-10): Senility without Mention of Psychosis and 460–464, 466, 467, 469 (ICD-9) / Rest of R00–R99 (ICD-10): Signs, Symptoms and Other Ill-defined Conditions
c) Government hospitals only

[Brunei Darussalam]

3 – 2 Trends in the Leading Causes of Death

Order	Year	1988	1989	1992	1993	1995	1996
No. 1	Cause of Death	Malignant Neoplasms	Heart Diseases				
	Percentage of All Deaths [a]	19.5	19.0	22.5	17.4	16.0	18.0
No. 2	Cause of Death	Heart Diseases	Malignant Neoplasms				
	Percentage of All Deaths [a]	16.2	12.8	15.4	15.6	15.9	14.7
No. 3	Cause of Death	Cerebrovascular Diseases					
	Percentage of All Deaths [a]	8.1	5.0	7.9	7.7	10.5	10.4
No. 4	Cause of Death	Transport Accidents					
	Percentage of All Deaths [a]	6.6	4.8	5.7	7.7	8.1	9.0
No. 5	Cause of Death	Diabetes Mellitus		Influenza and Pneumonia	Certain Conditions Originating in the Perinatal Period	Diabetes Mellitus	Bronchitis, Emphysema & Asthma
	Percentage of All Deaths [a]	5.6	3.7	5.1	4.8	5.8	7.7

Source : Ministry of Health

Note : a) Excluding senility and ill-defined causes

[Indonesia]

3-2 Trends in the Leading Causes of Death (Contd.)

Order	Year	1988	1989	1990	1991	1992	1993	1994	1995	1996
No. 1	Cause of Death	Certain Conditions Originating in the Perinatal Period	Cerebro-vascular Diseases	Intestinal Infectious Diseases	Cerebrovascular Diseases					Certain Conditions Originating in the Perinatal Period
	Percentage of All Deaths a)	12.2	13.1	16.1	14.2	12.3	16.5	13.2	12.2	13.6
No. 2	Cause of Death	Heart Diseases	Influenza and Pneumonia	Cerebro-vascular Diseases	Influenza and Pneumonia	HIV Infection	Influenza and Pneumonia	Certain Conditions Originating in the Perinatal Period		Heart Diseases
	Percentage of All Deaths a)	8.2	8.3	10.8	7.5	11.6	9.4	8.8	9.5	10.1
No. 3	Cause of Death	Influenza and Pneumonia	Tuberculosis	Influenza and Pneunmonia	Malignant Neoplasms	Influenza and Pneunmonia	Tuberculosis	Heart Diseases		Cerebro-vascular Diseases
	Percentage of All Deaths a)	6.90	8.2	6.4	6.4	6.6	8.4	6.6	9.1	9.2
No. 4	Cause of Death	Cerebro-vascular Diseases	Malignant Neoplasms	Tuberculosis			Malignant Neoplasms	Influenza and Pneumonia		
	Percentage of All Deaths a)	6.87	6.7	6.4	6.3	5.5	7.2	6.3	6.6	5.5
No. 5	Cause of Death	Intestinal Infectious Diseases		Malignant Neoplasms	Intestinal Infectious Diseases	Malignant Neoplasms	Intestinal Infectious Diseases	Malignant Neoplasms	Intestinal Infectious Diseases	Transport Accidents
	Percentage of All Deaths a)	6.3	4.7	6.1	6.2	4.8	6.3	5.3	5.0	5.0

Source : Ministry of Health

Note : a) Excluding senility and ill-defined causes

[Japan]

3 – 2 Trends in the Leading Causes of Death (Contd.)

Order	Year	1988	1989	1990	1991	1992	1993	1994	1995	1996
No. 1	Cause of Death	Malignant Neoplasms								
	Percentage of All Deaths a)	27.0	28.0	27.5	28.8	28.1	27.8	28.9	29.3	31.1
No. 2	Cause of Death	Heart Diseases								Cerebro-vascular Diseases
	Percentage of All Deaths a)	20.7	20.7	20.9	21.0	21.3	21.3	18.9	16.3	16.1
No. 3	Cause of Death	Cerebrovascular Diseases								Heart Diseases
	Percentage of All Deaths a)	16.9	15.9	15.4	14.8	14.3	14.0	14.2	15.5	15.8
No. 4	Cause of Death	Influenza and Pneumonia								
	Percentage of All Deaths a)	7.5	7.8	8.7	8.8	9.0	9.6	9.9	9.0	8.2
No. 5	Cause of Death	Suicide and Self-inflicted Injuries								
	Percentage of All Deaths a)	3.0	2.8	2.5	2.5	2.5	2.4	2.5	2.4	2.5

Source : Ministry of Health

Note : a) Excluding senility and ill-defined causes

[Malaysia]

3 – 2 Trends in the Leading Causes of Death (Contd.)

Order		Year 1988	1989	1990	1991 [a]	1992	1993	1994	1995	1996
No. 1	Cause of Death	Heart Diseases								
	Percentage of All Deaths [b]	12.7	23.1	20.1	22.0	20.3	20.2	20.0	19.9	19.4
No. 2	Cause of Death	Certain Conditions Originating in the Perinatal Period	Malignant Neoplasms							
	Percentage of All Deaths [b]	9.0	12.3	10.1	12.5	11.8	11.4	10.9	11.6	10.7
No. 3	Cause of Death	Intestinal Infectious Diseases	Certain Conditions Originating in the Perinatal Period	Cerebrovascular Diseases						
	Percentage of All Deaths [b]	7.5	11.8	9.3	9.1	9.1	9.1	8.7	8.6	8.4
No. 4	Cause of Death	Cerebrovascular Diseases		Certain Conditions Originating in the Perinatal Period						Transport Accidents
	Percentage of All Deaths [b]	7.1	9.7	8.4	6.8	7.9	7.9	7.2	6.7	7.1
No. 5	Cause of Death	Malignant Neoplasms	Septicemia	Transport Accidents			Septicemia	Transport Accidents	Septicemia	
	Percentage of All Deaths [b]	6.3	4.9	4.3	5.9	5.7	5.5	5.8	6.7	6.7

Source : Ministry of Health

Note : a) Peninsular Malaysia only
b) Excluding senility and ill-defined causes

[Philippines]

3 – 2 Trends in the Leading Causes of Death (Contd.)

Order	Year	1988	1989	1990	1991	1992	1993	1994
No. 1	Cause of Death	Influenza and Pneumonia		Heart Diseases				
	Percentage of All Deaths [a]	16.4	15.7	15.4	15.6	15.1	15.1	14.6
No. 2	Cause of Death	Heart Diseases		Influenza and Pneumonia				Malignant Neoplasms
	Percentage of All Deaths [a]	13.0	14.0	14.9	13.4	14.2	14.2	10.4
No. 3	Cause of Death	Tuberculosis				Malignant Neoplasms	Tuberculosis	Influenza and Pneumonia
	Percentage of All Deaths [a]	12.5	8.8	8.6	8.2	8.0	8.5	9.3
No. 4	Cause of Death	Malignant Neoplasms				Tuberculosis	Malignant Neoplasms	Tuberculosis
	Percentage of All Deaths [a]	7.2	7.3	7.8	8.1	7.8	7.0	8.9
No. 5	Cause of Death	Certain Conditions Originating in the Perinatal Period	Cerebrovascular Diseases				Hypertensive Diseases	
	Percentage of All Deaths [a]	5.7	5.9	6.2	6.1	6.1	6.6	7.4

Source : Department of Health

Note : a) Excluding senility and ill-defined causes

[Singapore]

3 – 2 Trends in the Leading Causes of Death (Contd.)

Order	Year	1988	1990	1991	1992	1993	1994	1995	1996	1997
No. 1	Cause of Death	Malignant Neoplasms								
	Percentage of All Deaths [a]	23.7	23.9	24.4	24.2	24.5	25.2	25.1	25.6	27.0
No. 2	Cause of Death	Heart Diseases								
	Percentage of All Deaths [a]	22.1	23.2	21.6	22.3	22.6	22.2	21.8	23.3	23.9
No. 3	Cause of Death	Cerebrovascular Diseases						Influenza and Pneumonia	Cerebrovascular Diseases	
	Percentage of All Deaths [a]	7.8	8.7	9.3	10.0	11.1	11.2	13.1	11.6	10.8
No. 4	Cause of Death	Influenza and Pneumonia						Cerebro-vascular Diseases	Influenza and Pneumonia	
	Percentage of All Deaths [a]	7.8	8.7	9.3	10.0	11.1	11.2	11.0	10.9	10.2
No. 5	Cause of Death	Diabetes Mellitus	Suicide and Self-inflicted Injuries	Diabetes Mellitus	Suicide and Self-inflicted Injuries	Transport Accidents	Suicide and Self-inflicted Injuries		Hypertensive Diseases	
	Percentage of All Deaths [a]	3.7	2.6	2.3	2.1	2.2	2.3	2.6	2.3	2.29

Source : Ministry of Health

Note : a) Excluding senility and ill-defined causes

[Thailand]

3 – 2 Trends in the Leading Causes of Death (Contd.)

Order	Year	1988	1989	1990	1991	1992	1993	1994	1995	1996
No. 1	Cause of Death	Heart Diseases								
	Percentage of All Deaths [a]	19.0	20.1	20.2	20.6	20.3	20.2	17.5	19.5	20.9
No. 2	Cause of Death	Malignant Neoplasms								
	Percentage of All Deaths [a]	14.3	14.9	15.5	15.5	15.8	15.6	13.3	14.2	13.3
No. 3	Cause of Death	Transport Accidents								
	Percentage of All Deaths [a]	4.4	5.0	6.0	6.9	7.3	7.5	6.8	8.0	7.7
No. 4	Cause of Death	Homicides & Injuries Inflicted by Other Persons	Cerebrovascular Diseases					Chronic Liver Diseases & Cirrhosis	Septicemia	Influenza and Pneumonia
	Percentage of All Deaths [a]	4.3	4.2	4.1	4.2	4.3	3.9	3.4	3.13	3.2
No. 5	Cause of Death	Cerebro-vascular Diseases	Homicides & Injuries Inflicted by Other Persons	Chronic Liver Diseases & Cirrhosis		Nephritis, Nephrotic Syndrome & Nephrosis		Influenza and Pneumonia		Septicemia
	Percentage of All Deaths [a]	4.1	3.8	3.6	3.6	3.5	3.4	3.0	3.12	3.0

Source : Ministry of Public Health

Note : a) Excluding senility and ill-defined causes

[Vietnam]

3 – 2 Trends in the Leading Causes of Death (Contd.)

Order	Year	1995	1996
No. 1	Cause of Death	Certain Conditions Originating in the Perinatal Period	
	Percentage of All Deaths [a)]	23.5	11.3
No. 2	Cause of Death	Influenza and Pneumonia	Heart Diseases
	Percentage of All Deaths [a)]	4.6	7.7
No. 3	Cause of Death	Tuberculosis	
	Percentage of All Deaths [a)]	4.1	5.8
No. 4	Cause of Death	Heart Diseases	Influenza and Pneumonia
	Percentage of All Deaths [a)]	4.0	5.8
No. 5	Cause of Death	Cerebro-vascular Diseases	Transport Accidents
	Percentage of All Deaths [a)]	2.8	3.4

Source : Ministry of Health

Note : a) Excluding senility and ill-defined causes

3 – 3 Deaths and Death Rates by Causes (ICD-9/ICD-10)

	Basic Tabulation List ICD – 9 a) 3–Char. Categories ICD – 10				01 – 07 A00 – B99		010 A00		011 A01		012, 014 A03,A06	
	Year	Sex	All Causes		Infectious and Parasitic Diseases		Cholera		Typhoid and Paratyphoid Fevers		Dysentery (Amebiasis and Bacillary)	
			Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
BRUNEI (1)	1996	T	1,002	328.4	22	7.2	—		—		—	
		M	602	372.8	14	8.7	—		—		—	
		F	400	278.6	8	5.6	—		—		—	
INDONESIA (2)	1996	T	1,688		229				23			
		M	923		131				11			
		F	765		27				12			
JAPAN (3)	1996	T	896,211	718.6	17,742	14.2	—		—		4	0.0
		M	488,605	799.5	10,046	16.4	—		—		4	0.0
		F	407,606	641.0	7,696	12.1	—		—		—	
MALAYSIA (4) b)	1996	T	41,694	197.0	3,765	17.8	10	0.1	20	0.1	6	0.0
		M	26,695	246.6	2,335	21.6	10	0.1	17	0.2	4	0.0
		F	14,999	145.0	1,430	13.8	—		3	0.0	2	0.0
PHILIPPINES (5)	1994	T	325,099	473.7	45,854	66.8	289	0.4	1,196	1.7	442	0.6
		M	194,541	564.3	28,947	84.0	174	0.5	697	2.0	256	0.7
		F	130,558	382.3	16,907	49.5	115	0.3	499	1.5	186	0.5
SINGAPORE (6) c)	1997	T	15,305 d)	455.2	318	9.2	—		1	0.0	—	
		M	8,558	496.4	182	10.3	—		—		—	
		F	6,746	412.9	136	8.1	—		1	0.1	—	
THAILAND (7)	1997	T	303,918	502.6	16,894	27.9	—		97	0.2	10	0.0
		M	184,176	611.2	11,186	37.1	—		53	0.2	5	0.0
		F	119,742	394.8	5,708	18.8	—		44	0.1	5	0.0
VIETNAM (8) e)	1996	T	21,320		3,794		1		38		45	

Source : (1) Registration of Birth and Death and Adoptions, Department of Immigration and Registration of Nationals, Ministry of Home Affairs
(2) Directorate General of Medical Care, Ministry of Health
Based on 10-day sample of discharges from hospital for each quarter
(3) *Vital Statistics Japan,* Ministry of Health and Welfare
(4) Department of Statistics
(5) ***Philippine Health Statistics,*** Department of Health
(6) ***Report on Registration of Birth and Deaths,*** National Registration Department
(7) Ministry of Public Health (official data)
(8) Ministry of Health

Note : a) ICD – 10: Brunei, Japan, Thailand and Vietnam
b) Medically certified deaths only, which correspond to 43.7% of all deaths.
c) Singapore residents only
d) Includes unknown sex
e) Hospital-based figures

(rate per 100,000 population)

013, 015, 016, 019 Rest of A00 – A09		020 – 021 A15, A16		022 – 025, 029 A17 – A19		033 A36		034 A37		036 A39		037, 771.3 [a] A33 – A35		038 A40, A41	
Other Intestinal Infectious Diseases		Tuberculosis of Respiratory System		Tuberculosis of Other Forms		Diphtheria		Whooping Cough		Meningococcal Infection		Tetanus		Septicemia	
Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
—		3	1.0	3	1.0	—		—		1	0.3	—		13	4.3
—		2	1.2	—		—		—		—		—		10	6.2
—		1	0.7	3	2.1	—		—		1	0.7	—		3	2.1
32		77		3								23		24	
21		50		1								18		14	
11		27		2								5		10	
1,028	0.8	2,639	2.1	219	0.2	—		5	0.0	3	0.0	16	0.0	4,912	3.9
441	0.7	1,948	3.2	116	0.2	—		3	0.0	3	0.0	13	0.0	2,242	3.7
587	0.9	691	1.1	103	0.2	—		2	0.0	—		3	0.0	2,670	4.2
115	0.5	430	2.0	143	0.7	1	0.0	1	0.0	3	0.0	12	0.1	2,641	12.5
83	0.8	329	3.0	77	0.7	—		—		3	0.0	10	0.1	1,549	14.3
32	0.3	101	1.0	66	0.6	1	0.0	1	0.0	—		2	0.0	1,092	10.6
6,439	9.4	26,208	38.2	1,049	1.5	51	0.1	9	0.0	188	0.3	810	1.2	3,615	5.3
3,681	10.7	17,354	50.3	626	1.8	31	0.1	5	0.0	98	0.3	617	1.8	1,991	5.8
2,758	8.1	8,854	26.1	423	1.2	20	0.1	4	0.0	90	0.3	193	0.6	1,624	4.8
19	0.6	103	3.2	12	0.3	—		—		2	0.1	—		117	3.7
7	0.4	81	5.1	9	0.4	—		—		1	0.1	—		41	2.6
12	0.8	22	1.3	3	0.1	—		—		1	0.1	—		76	4.7
965	1.6	2,494	4.1	1,265	2.1	16	0.0	2	0.0	1	0.0	112	0.2	6,150	10.2
607	2.0	1,873	6.2	934	3.1	8	0.0	1	0.0	—		74	0.2	3,439	11.4
358	1.2	621	2.4	331	1.1	8	0.0	1	0.0	1	0.0	38	0.1	2,711	8.9
601		1,146		83		23		3				280 [b]			

Note : a) Four-digit subcategory
b) Age under 5 years

3 – 3 Deaths and Death Rates by Causes (ICD-9/ICD-10) (Contd.)

	Year	Sex	030 – 032, 035, 039 Rest of A20 – A49 Other Bacterial Diseases		040 A80 Acute Poliomyelitis		042 B05 Measles		046 B15 – B19 Viral Hepatitis		047 A82 Rabies	
			Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
BRUNEI	1996	T			—		—		1	0.3	—	
		M			—		—		1	0.6	—	
		F			—		—		—	0.0	—	
INDONESIA	1996	T	4									
		M	3									
		F	1									
JAPAN	1996	T	682	0.5	—		15	0.0	4,696	3.8	—	
		M	349	0.6	—		10	0.0	2,680	4.4	—	
		F	333	0.5	—		5	0.0	2,016	3.2	—	
MALAYSIA	1996	T	91	0.4	—		13	0.1	35	0.2	—	
		M	50	0.5	—		7	0.1	25	0.2	—	
		F	41	0.4	—		6	0.1	10	0.1	—	
PHILIPPINES	1994	T	115	0.2	38	0.1	1,023	4.5	1,065	1.6	538	0.8
		M	54	0.2	22	0.1	557	4.6	750	2.2	363	1.1
		F	61	0.2	16	0.0	466	4.4	315	0.9	175	0.5
SINGAPORE	1997	T	2	0.1	—		—		24	0.6	—	
		M	1	0.1	—		—		20	1.0	—	
		F	1	0.1	—		—		4	0.2	—	
THAILAND	1997	T	47	0.1	22	0.0	6	0.0	188	0.3	30	0.0
		M	38	0.1	13	0.0	2	0.0	148	0.5	17	0.0
		F	9	0.0	9	0.0	4	0.0	40	0.1	13	0.0
VIETNAM	1996	T			52 [a)]		9 [a)]		61		92	

Note : a) Age under 5 years

(rate per 100,000 population)

279.5 [a] B20 – B24		061 [a] A90		065.4 [a] A91		044, 045 ••		041, 043, 048, 049 Rest of A80 – B34		052 B50 – B54		06 A50 – A64		Rest of 01 – 07 Rest of A00 – B99	
AIDS (HIV)		Dengue		Dengue Hemorrhagic Fever		Other Arthropod-borne Viral Diseases		Other Viral Diseases		Malaria		Venereal Diseases		Other Infectious and Parasitic Diseases	
Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
—		—		—				1	0.3	—		—			
—		—		—		••		1	0.6	—		—			
—		—		—				—		—		—			
599 [b]								26		14				3	
387								12		8				1	
191								14		6				2	
76 [c]	0.1	—		—				370	0.3	—		18	0.0	3,059	2.5
69	0.1	—		—		••		202	0.3	—		11	0.0	1,955	3.2
7	0.0	—		—				168	0.3	—		7	0.0	1,104	1.7
—		33	0.2	—		2	0.0	75	0.4	43	0.2	7	0.0	84	0.4
—		16	0.2	—		2	0.0	52	0.5	31	0.3	6	0.1	64	0.6
—		17	0.2	—		—		23	0.2	12	0.1	1	0.0	20	0.2
115	0.2	—		464	0.7	53	0.1	338	0.5	786	1.1	4	0.0	1,019	1.5
65	0.2	—		201	0.6	33	0.1	184	0.5	525	1.5	4	0.0	659	1.9
50	0.1	—		263	0.8	20	0.1	154	0.5	261	0.8	—		360	1.1
63	1.6	—		6	0.1	—		16	0.3	5	0.1	2	0.0	9	0.2
54	2.9	—		4	0.1	—		10	0.3	4	0.1	2	0.1	2	0.1
9	0.3	—		2	0.1	—		6	0.3	1	0.0	—		7	0.4
1,294	2.1	—		—				795	1.3	760	1.3	9	0.0	2,631	4.4
1,032	3.4	—		—		••		532	1.8	541	1.8	7	0.0	1,862	6.2
262	0.9	—		—				263	0.9	219	0.9	2	0.0	769	2.5
225 [d]		268				••		66		158				325	

Note : a) Four-digit subcategory
b) Includes unknown sex
c) Excluding hemophiliacs
d) Up to November, 1996

3 – 3 Deaths and Death Rates by Causes (ICD-9/ICD-10) (Contd.)

	Year	Sex	08 – 14 C00 – C97 Malignant Neoplasms		091 C16 Malignant Neoplasm of Stomach		093 C18 Malignant Neoplasm of Colon		094 C19 – C20 Malignant Neoplasm of Rectum, Rectosigmoid Junction and Anus		095 C22 Malignant Neoplasm of Liver Specified as Primary		101 C33, C34 Malignant Neoplasm of Trachea, Bronchus and Lung	
			Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
BRUNEI	1996	T	121	39.7	7	2.3	12	3.9	3	1.0	10	3.3	24	7.9
		M	64	39.6	5	3.1	7	4.3	2	1.2	9	5.6	16	9.9
		F	57	39.7	2	1.4	5	3.5	1	0.7	1	0.7	8	5.6
INDONESIA	1996	T	20		1		3		3		16		8	
		M	11		1		2		2		9		6	
		F	9		—		1		1		7		2	
JAPAN	1996	T	271,183	217.5	50,165	40.2	21,382	17.1	11,248	9.0	32,175	25.8	48,041	38.5
		M	164,824	269.7	32,384	53.0	11,055	18.1	7,048	11.5	22,904	37.5	35,023	57.3
		F	106,359	167.2	17,781	28.0	10,327	16.2	4,200	6.6	9,271	14.6	13,018	20.5
MALAYSIA	1996	T	4,198	19.8	262	1.2	215	1.0	119	0.6	386	1.8	821	3.9
		M	2,386	22.0	154	1.4	121	1.1	81	0.8	288	2.7	594	5.5
		F	1,812	17.5	108	1.0	94	0.9	38	0.4	98	1.0	227	2.2
PHILIPPINES	1994	T	32,016	46.7	1,370	2.0	953	1.4	425	0.6	4,112	6.0	4,572	6.7
		M	18,168	52.7	795	2.3	528	1.5	237	0.7	3,020	8.8	3,494	10.1
		F	13,848	40.6	575	1.7	425	1.2	188	0.6	1,092	3.2	1,078	3.2
SINGAPORE	1997	T	4,128	126.6	395	12.3	368	11.5	181	5.6	164	5.0	934	28.7
		M	2,335	142.7	254	15.8	177	11.0	102	6.5	136	8.1	637	38.9
		F	1,793	110.4	141	8.9	191	12.0	79	4.8	28	1.7	297	18.5
THAILAND	1997	T	26,296	43.5	254	0.4	1,267	2.1	—		5,782	9.6	2,976	4.9
		M	15,829	52.5	155	0.5	764	2.5	—		4,156	13.8	2,122	7.0
		F	10,467	34.5	99	0.3	503	1.7	—		1,626	5.4	854	2.8
VIETNAM	1996	T	524		63		22				69		89	

(rate per 100,000 population)

113 C50[a]		120 C53		122 C54, C55		141 C91 – C95		140, 149 Rest of C81 – C96		Rest of 8 – 13 Rest of C00 – C80, C97		15 – 17 D00 – D48		181 E10 – E14	
Malignant Neoplasm of Female Breast		Malignant Neoplasm of Cervix Uteri		Malignant Neoplasm of Uterus, Other and Unspecified		Leukemia		Other Malignant Neoplasm of Lymphatic and Hemopoietic Tissue		Malignant Neoplasm of Other Sites		Benign Neoplasm, Carcinoma in Situ, Other and Unspecified Neoplasmas		Diabetes Mellitus	
Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
6	2.0	8	2.6	—		7	2.3					—		59	19.3
—		••		••		4	2.5					—		34	21.1
6	4.2	8	5.6	—		3	2.1					—		25	17.4
8		5				9		7		9		16 [(1)]		57	
••		••				5		5		6		9		17	
8		5				4		2		3		7		40	
7,963	6.4	2,219	1.8	2,744	2.2	6,275	5.0	9,760	7.8	79,211	63.5	7,660	6.1	12,838	10.3
63	0.1	••		••		3,617	5.9	5,532	9.1	47,198	77.2	4,178	6.8	6,394	10.5
7,900	12.4	2,219	3.5	2,744	4.3	2,658	4.2	4,228	6.6	32,013	50.3	3,482	5.5	6,444	10.1
297	1.4	146	0.7	31	0.2	296	1.4	213	1.0	1,412	6.7	178	0.8	677	3.2
••		••		••		167	1.5	131	1.2	850	7.9	86	0.8	341	3.2
297	2.9	146	1.4	31	0.3	129	1.3	82	0.8	562	5.4	92	0.9	336	3.3
2,333	3.4	599	0.9	1,130	1.6	1,777	2.6	691	1.0	14,054	20.5	167	0.2	6,081	8.9
••		••		••		937	2.7	412	1.2	8,745	25.4	89	0.3	2,866	8.3
2,333	6.8	599	1.8	1,130	3.3	840	2.5	279	0.8	5,309	15.5	78	0.2	3,215	9.4
261	7.7	120	3.8	32	1.0	144	3.8	140	4.1	1,389	43.0	50	1.4	282	8.9
••		••		••		79	4.2	83	4.9	867	53.2	24	1.3	114	7.1
261	15.4	120	7.7	32	2.1	65	3.4	57	3.2	522	32.8	26	1.6	168	10.8
503	0.8	324	0.5	276	0.5	892	1.5	206	0.3	13,816	22.8	182	0.3	4,552	7.5
8	0.0	••		••		480	1.6	136	0.5	8,008	26.6	117	0.4	1,798	6.0
495	1.6	324	1.1	276	0.9	412	1.4	70	0.2	5,808	19.1	65	0.2	2,754	9.1
13		29				52		3		174		13		120	

Source : (1) Directorate of Medical Care

Note : a) The code C50 comprises malignant neoplasm of breast, regardless sex

3 – 3 Deaths and Death Rates by Causes (ICD-9/ICD-10) (Contd.)

	Year	Sex	180, 182, 183, 189 Rest of E00 – E90 Other Endocrine and Metabolic Diseases		19 E40 – E64 Nutritional Deficiencies		200 D50 – D64 Anemias		209 D65 – D89 [a] Other Diseases of Blood and Blood-forming Organs		21 F00 – F99 Mental Disorders		220 G00 – G09 Meningitis	
			Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
BRUNEI	1996	T	3			1.0	3	1.0	—		1	0.3	—	
		M	3			1.9	—		—		—		—	
		F	—				3	2.1	—		1	0.7	—	
INDONESIA	1996	T	6		3		16		1		2		28	
		M	3		3		3		—		1		15	
		F	3		—		13		1		1		13	
JAPAN	1996	T	3,217	2.6	1,097	0.9	1,749	1.4	2,270	1.8	3,299	2.6	871	0.7
		M	1,400	2.3	552	0.9	680	1.1	1,100	1.8	1,415	2.3	471	0.8
		F	1,817	2.9	545	0.9	1,069	1.7	1,170	1.8	1,884	3.0	400	0.6
MALAYSIA	1996	T	338	1.6	20	0.1	115	0.5	135	0.6	108	0.5	185	0.9
		M	257	2.4	18	0.2	59	0.6	66	0.6	92	0.9	106	1.0
		F	81	0.8	2	0.0	56	0.5	69	0.7	16	0.2	79	0.8
PHILIPPINES	1994	T	1,466	2.1	2,904	4.2	1,960	2.9	628	0.9	1,038	1.5	2,033	3.0
		M	714	2.1	1,458	4.2	1,017	2.9	314	0.9	769	2.2	1,203	3.5
		F	752	2.2	1,446	4.2	943	2.8	314	0.9	269	0.8	830	2.4
SINGAPORE	1997	T	21	0.7	—		23	0.6	21	0.6	3	0.1	12	0.4
		M	8	0.5	—		8	0.4	13	0.8	1	0.1	8	0.5
		F	13	0.8	—		15	0.9	8	0.5	2	0.1	4	0.2
THAILAND	1997	T	216	0.4	173	0.3	246	0.4	8,560	14.2	868	1.4	1,770	2.9
		M	106	0.4	94	0.3	113	0.4	6,502	21.6	727	2.4	1,303	4.3
		F	110	0.4	79	0.3	133	0.4	2,058	6.8	141	0.5	467	1.5
VIETNAM	1996	T	246		105		387		80		30		[b]	

Note : a) Includes D80 – D89: Certain Disorders Involving the Immune Mechanism
b) See Note a) on page 71

(rate per 100,000 population)

221 – 225, 229, 23,24 G10 – H95		25 – 30 I 00 – I 99		25 I 00 – I 09		26 I 10 – I 15		270 I 21 – I 23		279 I 20, I 24, I 25		28 I 30 – I 52		29 I 60 – I 69	
Other Diseases of Nervous System and Sense Organs		Diseases of Circulatory System		Rheumatic Fever and Rheumatic Heart Diseases		Hypertensive Diseases		Acute Myocardial Infarction		Other Ischemic Heart Diseases		Other Heart Diseases		Cerebrovascular Diseases	
Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
7	2.3	260	85.2	1	0.3	22	7.2	59	19.3	28	9.2	60	19.7	86	28.2
4	2.5	157	97.2	—		12	7.4	41	25.4	18	11.1	37	22.9	46	28.5
3	2.1	103	71.7	1	0.7	10	7.0	18	12.5	10	7.0	23	16.0	40	27.9
74		339		4		29		32		24		103		147	
37		183		3		18		22		14		51		75	
37		156		1		11		10		10		52		72	
7,541	6.0	296,610	237.8	2,568	2.1	7,245	5.8	49,130	39.4	22,754	18.2	63,296	50.8	140,366	112.6
3,988	6.5	144,161	235.9	808	1.3	2,613	4.3	26,678	46.7	11,686	19.1	29,567	48.4	66,479	108.8
3,553	5.6	152,449	239.7	1,760	2.8	4,632	7.3	22,452	35.3	11,068	17.4	33,729	53.0	73,887	116.2
475	2.2	11,603	54.8	109	0.5	362	1.7	3,306	15.6	932	4.4	3,230	15.3	3,271	15.5
302	2.8	7,116	65.7	44	0.4	208	1.9	2,289	21.2	589	5.4	1,885	17.4	1,819	16.8
173	1.7	4,487	43.4	65	0.6	154	1.5	1,017	9.8	343	3.3	1,345	13.0	1,452	14.0
2,998	4.4	89,346	130.2	2,548	3.7	22,776	33.2	16,555	24.1	8,829	12.9	16,876	24.6	18,808	27.4
1,731	5.0	51,399	149.1	1,185	3.4	13,312	38.6	11,010	31.9	4,433	12.9	9,161	26.6	10,816	31.4
1,267	3.7	37,947	111.1	1,363	4.0	9,464	27.7	5,545	16.2	4,396	12.9	7,715	22.6	7,992	23.4
83	2.5	5,680	170.9	32	0.9	349	11.0	1,552	45.9	1,671	49.8	393	10.1	1,645	0.7
48	2.9	3,005	175.8	11	0.6	162	10.1	899	51.4	881	53.3	221	9.9	783	48.0
35	2.1	2,675	165.9	21	1.2	187	11.7	653	40.4	736	46.3	172	10.2	862	53.4
6,666	11.0	59,601	98.6	568	0.9	2,067	3.4	826	1.4	1,100	1.8	41,108	68.0	6,075	10.0
4,305	14.3	36,796	122.1	257	0.9	1,118	3.7	519	1.7	696	2.3	25,403	84.3	3,769	12.5
2,361	7.8	22,805	75.2	311	1.0	949	3.1	307	1.0	404	1.3	15,705	51.8	2,306	7.6
424 a)		3,994		223		683		442		143		812		252	

Note : a) Includes meningitis

3 – 3 Deaths and Death Rates by Causes (ICD-9/ICD-10) (Contd.)

	Year	Sex	300 I 70 Atherosclerosis		301 – 305, 309 Rest of I 00 – I 99 Other Diseases of Circulatory System		310 – 312 J00 – J06 Acute Upper Respiratory Infection		320 J20, J21 Acute Bronchitis and Bronchiolitis		321 J12 – J18 Pneumonia		322 J10, J11 Influenza	
			Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
BRUNEI	1996	T	—		4	1.3	—		5	1.6	28	9.2	1	0.3
		M	—		3	1.9	—		2	1.2	21	13.0	1	0.6
		F	—		1	0.7	—		3	2.1	7	4.9	—	
INDONESIA	1996	T			1		3		4		89			
		M			—		1		2		51			
		F			1		2		2		38			
JAPAN	1996	T	1,135	0.9	10,116	8.1	598	0.5	1,616	1.3	70,971	56.9	166	0.1
		M	503	0.8	5,827	9.5	238	0.4	711	1.2	38,472	63.0	71	0.2
		F	632	1.0	4,289	6.7	360	0.6	905	1.4	32,499	51.1	95	0.1
MALAYSIA	1996	T	2	0.0	391	1.9	9	0.0	11	0.1	1,433	6.8	3	0.0
		M	2	0.0	280	2.6	6	0.1	7	0.1	937	8.7	3	0.0
		F	—		111	1.1	3	0.0	4	0.0	496	4.8	—	
PHILIPPINES	1994	T	2,175	3.2	779	1.1	70	0.1	226	0.3	28,120	41.0	404	0.6
		M	989	2.9	493	1.4	38	0.1	121	0.4	14,829	43.0	213	0.6
		F	1,186	3.5	286	0.8	32	0.1	105	0.3	13,291	38.9	191	0.6
SINGAPORE	1997	T	2	0.1	90	2.5	—		1	0.0	1,553	47.3	—	
		M	1	0.1	47	2.4	—		1	0.1	716	42.5	—	
		F	1	0.1	43	2.6	—		—		837	52.1	—	
THAILAND	1997	T	8	0.0	7,849	13.0	135	0.2	1	0.0	5,634	9.3	197	0.3
		M	5	0.0	5,029	16.7	92	0.3	1	0.0	3,774	12.5	118	0.4
		F	3	0.0	2,820	9.3	43	0.1	—		1,860	6.1	79	0.3
VIETNAM	1996	T	—		605		56		296		1,227		—	

(rate per 100,000 population)

323 J40 – J46		313 – 315, 319, 324 – 327, 329 Rest of J00 – J99		341 K25 – K27		347 K73, K74		33, 340, 342 – 346, 348, 349 Rest of K00 – K93		350 N00 – N19		351 – 353, 359, 36, 37 N20 – N99		38 O00 – O08	
Bronchitis, Chronic and Unspecified, Emphysema and Asthma		Other Diseases of Respiratory System		Ulcer of Stomach and Duodenum		Chronic Liver Diseases and Cirrhosis		Other Diseases of Digestive System		Nephritis, Nephrotic Syndrome and Nephrosis		Other Diseases of Genito-urinary System		Abortion	
Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
63	20.6	10	3.3	13	4.3	5	1.6	6	2.0	3	1.0	31	10.2	—	
37	22.9	9	5.6	7	4.3	3	1.9	4	2.5	1	0.6	17	10.5	••	
26	18.1	1	0.7	6	4.2	2	1.4	2	1.4	2	1.4	14	9.7	—	
33		57		6		72		81		78		17		2	
18		37		5		54		45		48		8		••	
15		20		1		18		36		30		9		2	
18,743	15.0	21,278	17.1	3,918	3.1	11,496	9.2	22,023	17.7	18,977	15.2	1,922	1.5	3	0.0
12,197	20.0	12,491	20.4	2,087	3.4	7,476	12.2	11,622	19.0	8,598	14.1	798	1.3	••	
6,546	10.3	8,787	13.8	1,831	2.9	4,020	6.3	10,401	16.4	10,379	16.3	1,124	1.8	3	0.0
408	1.9	2,325	11.0	144	0.7	341	1.6	1,142	5.4	1,172	5.5	71	0.3	13	0.1
222	2.1	1,617	14.9	99	0.9	254	2.4	787	7.3	667	6.2	39	0.4	••	
186	1.8	708	6.8	45	0.4	87	0.8	355	3.4	505	4.9	32	0.3	13	0.1
11,379	16.6	6,355	9.3	5,674	8.3	3,630	5.3	6,060	8.8	5,825	8.5	2,237	3.3	208	0.3
7,462	21.6	3,210	9.3	3,976	11.5	2,935	8.5	4,373	12.7	3,506	10.2	1,283	3.7	••	
3,917	11.5	3,145	9.3	1,698	5.0	695	2.0	1,687	4.9	2,319	6.8	954	2.8	208	0.6
165	4.9	666	20.7	76	2.4	140	4.2	141	4.2	150	4.6	249	7.9	—	
103	6.1	506	31.4	55	3.3	108	6.4	69	4.1	77	4.7	75	4.8	••	
62	3.6	160	9.8	21	1.4	32	1.9	72	4.3	73	4.5	174	10.9	—	
2,141	3.5	12,307	20.4	342	0.6	4,049	6.7	4,256	7.0	4,948	8.2	294	0.5	19	0.0
1,534	5.1	8,445	28.2	234	0.8	2,985	9.9	2,913	9.7	2,628	8.7	182	0.6	••	
607	2.0	3,862	12.7	108	0.4	1,064	3.5	1,343	4.4	2,320	7.6	112	0.4	19	0.0
184		680		153		452		734		225		87		5	

3 – 3 Deaths and Death Rates by Causes (ICD-9/ICD-10) (Contd.)

	Year	Sex	39 O10 – O75, O81 – O97 Other Direct Obstetric Causes		40, 41 O80, O98 – O99 Indirect Obstetric Causes		42 L00 – L99 Diseases of Skin and Subcutaneous Tissue		43 M00 – M99 Diseases of Musculo-skeletal System and Connective Tissue		44 Q00 – Q99 Congenital Anomalies		45 P00 – P96 Certain Conditions Originating in the Perinatal Period	
			Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
BRUNEI	1996	T	1	0.3	—		3	1.0	2	0.7	20	6.6	20	6.6
		M	••		••		1	0.6	—		12	7.4	13	8.0
		F	1	0.7	—		2	1.4	2	1.4	8	5.6	7	4.9
INDONESIA	1996	T	13		21		9		3		12		218	
		M	••		••		3		2		9		127	
		F	13		21		6		1		3		91	
JAPAN	1996	T	59	0.0	18	0.0	816	0.7	4,073	3.3	2,935	2.4	1,425	1.1
		M	••		••		270	0.4	1,184	1.9	1,533	2.5	808	1.3
		F	59	0.1	18	0.0	546	0.9	2,889	4.5	1,402	2.2	617	1.0
MALAYSIA	1996	T	57	0.3	—		88	0.4	83	0.4	958	4.5	2,193	10.4
		M	••		••		41	0.4	25	0.2	515	4.8	1,250	11.6
		F	57	0.6	—		47	0.5	58	0.6	443	4.3	943	9.1
PHILIPPINES	1994	T	1,586	2.3	—		1,064	1.6	764	1.1	4,054	5.9	14,606	21.3
		M	••		••		513	1.5	458	1.3	2,281	6.6	8,763	25.4
		F	1,586	4.6	—		551	1.6	306	0.9	1,773	5.2	5,843	17.1
SINGAPORE	1997	T	2	0.0	—		19	0.5	71	2.1	108 [a]	3.1	61	1.8
		M	••		••		13	0.7	15	0.8	62	3.6	40	2.1
		F	2	0.1	—		6	0.3	56	3.4	45	2.3	21	1.2
THAILAND	1997	T	74	0.1	2	0.0	268	0.4	320	0.5	237	0.4	652	1.1
		M	••		••		158	0.5	201	0.7	122	0.4	326	1.1
		F	74	0.2	2	0.0	110	0.4	119	0.4	115	0.4	326	1.1
VIETNAM	1996	T	120		16		43		33		257		2,371	

Note : a) Includes unknown sex

(rate per 100,000 population)

465 R54		460 – 464, 466, 467, 469 Rest of R00 – R99		E47 – E56 V01 – Y98		E47 V01 – V99		E48 X40 – X49		E50 W00 – W19		E51 X00 – X09		E521 W65 – W74	
Senility without Mention of Psychosis		Signs, Symptoms and Other Ill-defined Conditions		Accidents and Adverse Effects		Transport Accidents		Accidental Poisoning		Accidental Falls		Accidents Caused by Fire and Flames		Accidental Drowning and Submersion	
Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
130	42.6	35	11.5	150	49.2	74	24.3	10 [a]	3.3	16	5.2	1	0.3	14	4.6
49	30.3	23	14.2	126	78.0	60	37.2	6	3.7	16	9.9	—		13	8.0
81	56.4	12	8.4	24	15.7	14	9.7	4	2.8	—		1	0.7	1	0.7
		82		188		82		3		17		3			
		47		127		59		1		11		2			
		35		61		23		2		6		1			
20,878	16.7	3,890	3.1	64,329	51.6	14,343	11.5	699	0.6	5,918	4.7	1,420	1.1	5,648	4.5
6,372	10.4	2,239	3.7	42,229	69.1	10,170	16.6	459	0.8	3,768	6.2	878	1.4	3,162	5.2
14,506	22.8	1,651	2.6	22,100	34.8	4,173	6.6	240	0.4	2,150	3.4	542	0.9	2,486	
1,095	5.2	1,472	7.0	6,879	32.5	2,792	13.2	207	1.0	340	1.6	145	0.7	421	2.0
453	4.2	1,025	9.5	5,584	51.6	2,376	22.0	164	1.5	293	2.7	94	0.9	240	2.2
642	6.2	447	4.3	1,295	12.5	416	4.0	43	0.4	47	0.5	51	0.5	181	1.8
10,810	15.8	6,744	9.8	28,792	42.0	4,339	6.3	281	0.4	970	1.4	548	0.8	2,565	3.7
4,547	13.2	4,077	11.8	23,281	67.5	3,086	9.0	207	0.6	724	0.7	295	0.9	1,833	5.3
6,263	18.3	2,667	7.8	5,511	16.1	1,253	3.7	74	0.4	246	0.7	253	0.7	732	2.1
3	0.1	29	0.7	1,187	27.3	304	7.1	16	0.4	141	3.2	5	0.1	28	0.5
2	0.1	19	0.9	897	39.5	251	11.4	14	0.6	106	4.4	4	0.2	23	0.9
1	0.0	10	0.3	290	15.0	53	2.7	2	0.1	35	2.0	1	0.0	5	0.2
70,355	116.4	34,001	56.2	37,662	62.3	13,073	21.6	205 [a]	0.3	393	0.6	246	0.4	3,233	5.3
30,830	102.3	20,544	68.2	30,213	100.3	10,682	35.4	137	0.5	301	1.0	145	0.5	2,310	7.7
39,525	130.3	13,457	44.4	7,449	24.6	2,391	7.9	68	0.2	92	0.3	101	0.3	923	3.0
558				4,408		714		461 [a]				—			

Note : a) Includes X20 – X29 (ICD –10): Contact With Venomous Animals and Plants

3 – 3 Deaths and Death Rates by Causes (ICD-9/ICD-10) (Contd.)

	Year	Sex	E49, E520, E522, E529 Rest of W00 – X59 All Other Accidents Including Late Effects		E53 Y40 – Y84 Drugs, Medicaments Causing Adverse Effects in Therapeutic Use		E54 X60 – X84 Suicide and Self-inflicted Injuries		E55 X85 – Y09 Homicide & Injuries Inflicted by Other Persons		E56 Y10 – Y36, Y85 – Y98 Other Violence	
			Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
BRUNEI	1996	T			—		12	3.9	9	2.9		
		M			—		11	6.8	6	3.7		
		F			—		1	0.7	3	2.1		
INDONESIA	1996	T	36						1			
		M	28						1			
		F	8						—			
JAPAN	1996	T	11,156	8.9	126	0.1	22,138	17.8	680	0.5	2,201	1.8
		M	7,048	11.5	66	0.1	14,853	24.3	386	0.6	1,439	2.4
		F	4,108	6.5	60	0.1	7,285	11.5	294	0.5	762	1.2
MALAYSIA	1996	T	372	1.8	7	0.0	92	0.4	74	0.4	2,429	11.5
		M	309	2.9	4	0.0	71	0.7	59	0.6	1,974	18.2
		F	63	0.6	3	0.0	21	0.2	15	0.1	455	4.4
PHILIPPINES	1994	T	4,729	6.9	1,163	1.7	1,254	1.8	11,993	17.5	950	1.4
		M	3,471	10.1	963	2.8	808	2.3	11,149	32.3	745	2.2
		F	1,258	3.7	200	0.6	446	1.3	844	2.5	205	0.6
SINGAPORE	1997	T	78	1.2	—		346	9.8	57	0.9	212	4.2
		M	66	1.7	—		223	12.6	42	1.2	168	6.5
		F	12	0.7	—		123	6.9	15	0.5	44	1.8
THAILAND	1997	T	12,091	20.0	34	0.1	4,218	7.0	3,413	5.6	756	1.3
		M	9,905	32.9	25	0.1	3,239	10.7	2,879	9.6	590	2.0
		F	2,186	7.2	9	0.0	979	3.2	534	1.8	166	0.5
VIETNAM	1996	T					321					

4. Child and Maternal Health

4 – A A Brief Description of Trends in Infant Mortality and Maternal Mortality

BRUNEI DARUSSALAM

Infant Mortality:

During 1996 the number of infant deaths was 53 and the infant mortality rate was 6.9 per 1,000 live-births. The rate has been decreasing since 1993.

Maternal Mortality:

There was only one maternal death during 1996.

INDONESIA

Infant Mortality:

Since the late 1960s, the estimated infant mortality rate in Indonesia declined from 145 to 41 deaths per 1,000 live-births in 1997. The 1992 Household Health Survey found that infant mortality was mainly caused by acute upper respiratory tract infection (36%), diarrheal diseases (11%), and neonatal tetanus (9.8%). Income and nutritional gains, along with the fertility decline probably also account for much of the decline of the rate. The 1994 Demographic and Health Survey found that infant mortality was the lowest for children of mothers who received both antenatal care and assistance at delivery from medical professionals, and the highest for children whose mothers had neither antenatal care nor medical assistance at delivery (39 and 107 deaths per 1,000 live-births, respectively).

Child (under five years) Mortality:

For children under five years, the mortality rate declined from 111 deaths per 1,000 live-births in 1986 to 81 in 1995. The 1992 Household Health Survey found that child mortality was mainly caused by diarrhea (23%) and acute upper respiratory tract infection (13%).

Maternal Mortality:

There are no accurate measures of the national level of maternal mortality, bacause 75% of all deliveries take place at home and the related deaths are not registered. The Household Health Survey findings suggest a decline from 420 in 1992 to the currently estimated range of 312–385 deaths per 100,000 live-births. The relatively high rate is believed to be attributed to the low frequency of deliveries attended by health professionals (35% in the rural and 65% in the urban areas). Furthemore, the high percentage of pregnant women with anemia (about 55%) may aggravate the problem of maternal deaths.

JAPAN

Infant Mortality:

The infant mortality rate has been among the lowest in the world. In 1997, the number of infant deaths was 4,403 and the infant mortality rate was 3.7 (per 1,000 live-births).

Maternal Mortality:

The maternal mortality rate has been gradually decreasing. In 1997, the number of maternal deaths was 78 and the maternal mortality rate was 6.3 (per 100,000 live-births).

MALAYSIA

Infant and Child Mortality:

The perinatal and neonatal mortality rates which reflect the level of health of expectant mothers as well as the level of antenatal care of the mother have improved over the years. In 1991, the perinatal mortality rate was 12.3 per 1,000 live-births and stillbirths but in 1996 it dropped to 9.1. Likewise, the neonatal mortality rate dipped from 8.2 per 1,000 live-births to 6.0.

The infant mortality rate has improved, which reflects, not only the magnitude of the health problems directly responsible for the death of infants such as diarrhoeal diseases, respiratory infections and malnutrition, but also the level of living in general. Malaysia's infant mortality rate is now among the lowest in the Asian region: in 1991 it was 12.5 per 1,000 live-births, and by 1996 it was down to 9.1.

The relatively good survival rate of Malaysian infants has accounted in no small measure for the low toddler mortality at present. In 1996, the toddler mortality rate was less than 1 death per 1,000 toddlers aged 1 to 4 years.

Maternal Mortality:

The maternal mortality rate reflects the risks to mothers during pregnancy and at childbirth. The percentage of safe deliveries, that is, deliveries attended by trained personnel was 95.2% in 1996. Hence, the maternal mortality rate in 1996 was extremely low at 0.2 per 1,000 livebirths.

PHILIPPINES

Infant Mortality:

There were 31,003 infant deaths in 1994 out of 1,285,863 live-births, with an infant mortality rate of 24.1 per thousand, as reported by the field health units nationwide. The official projections were 50.48/1000 and 48.93/1000 for 1994 and 1995, respectively.

SINGAPORE

Infant Mortality:

The infant mortality rate in 1997 was 3.6 per 1,000 resident live-births. This is very favourable by international standards.

Maternal Mortality:

In 1997, only two maternal deaths were registered.

THAILAND

Infant Mortality:

The infant mortality rate has continuously declined since 1987 due to the increased health care coverage and utilization, the improved socioeconomic status and the Extended Programme on Immunization. The rate was 7.2 per 1,000 live-births in 1995.

VIETNAM

After a long, devastating war and under the permanent pressure of high population growth, the health and nutritional status of children and mothers is poor. However, the Extended Programme on Immunization has been a remarkable success, producing a high coverage and leading to a net reduction of morbidity and mortality from the targeted diseases.

Infant Mortality:

The infant mortality rate stood at 45.1 per 1,000 live-births in 1994.

Maternal Mortality:

The maternal mortality rate was 1.1 per 1,000 live-births in 1996.

4 – 1 Late Fetal, Infant, Neonatal, Post-neonatal and Perinatal Mortality (per 1,000 live-births)

	Year	Late Fetal Mortality		Infant Mortality		Neonatal Mortality		Post-neonatal Mortality		Perinatal Mortality	
		Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
BRUNEI (1)	1996	57	7.5	53	6.9	34	4.5	19	2.5	82	10.7
INDONESIA (2)	1997				41.4						
JAPAN (3)	1997	3,905	3.2	4,403	3.7	2,307	1.9	2,096	1.8	4,974	4.2
MALAYSIA (4)	1996	2,354	4.1	4,908	9.1	3,258	6.0	1,650	3.1	4,950	9.1
PHILIPPINES (5)	1994	(6) 3,520	2.7	31,003	24.1	16,300	12.7	14,703	11.4	(6) 8,820	6.9
SINGAPORE (7)	1997	139	2.9	179	3.6	106	2.2	73	1.5	208	4.4
THAILAND (8) a)	1997	b) 327	b) 0.3	5,172	5.8	2,299	2.6	2,873	3.2	2,437	2.5
VIETNAM (9)	1993	c) 5,916	3.3	77,940	43.3	43,560	24.2	27,000	15.0		

Source : (1) Registration of Birth and Death and Adoptions, Department of Immigration and Registration of Nationals, Ministry of Home Affairs and Department of Economic Planning and Development, Ministry of Finance
(2) Central Bureau of Statistics
(3) ***Vital Statistics Japan,*** Ministry of Health and Welfare
(4) ***Vital Statistics Malaysia,*** Department of Statistics
(5) ***Philippine Health Statistics,*** Health Intelligence Service, Department of Health
(6) Field Health Service Information System (FHSIS) 1994 Data
(7) ***Report on Registration of Births and Deaths,*** National Registration Department
(8) Health Statistics Division, Ministry of Public Health
(9) Ministry of Health

Note : a) While the vital registration system of the whole country was revised for improvement in 1984, the registration of stillbirth has no longer been emphasized since then. The stillbirth data are therefore incomplete and not valid enough to be presented in the vital statistics.
b) For 1995
c) For 1996

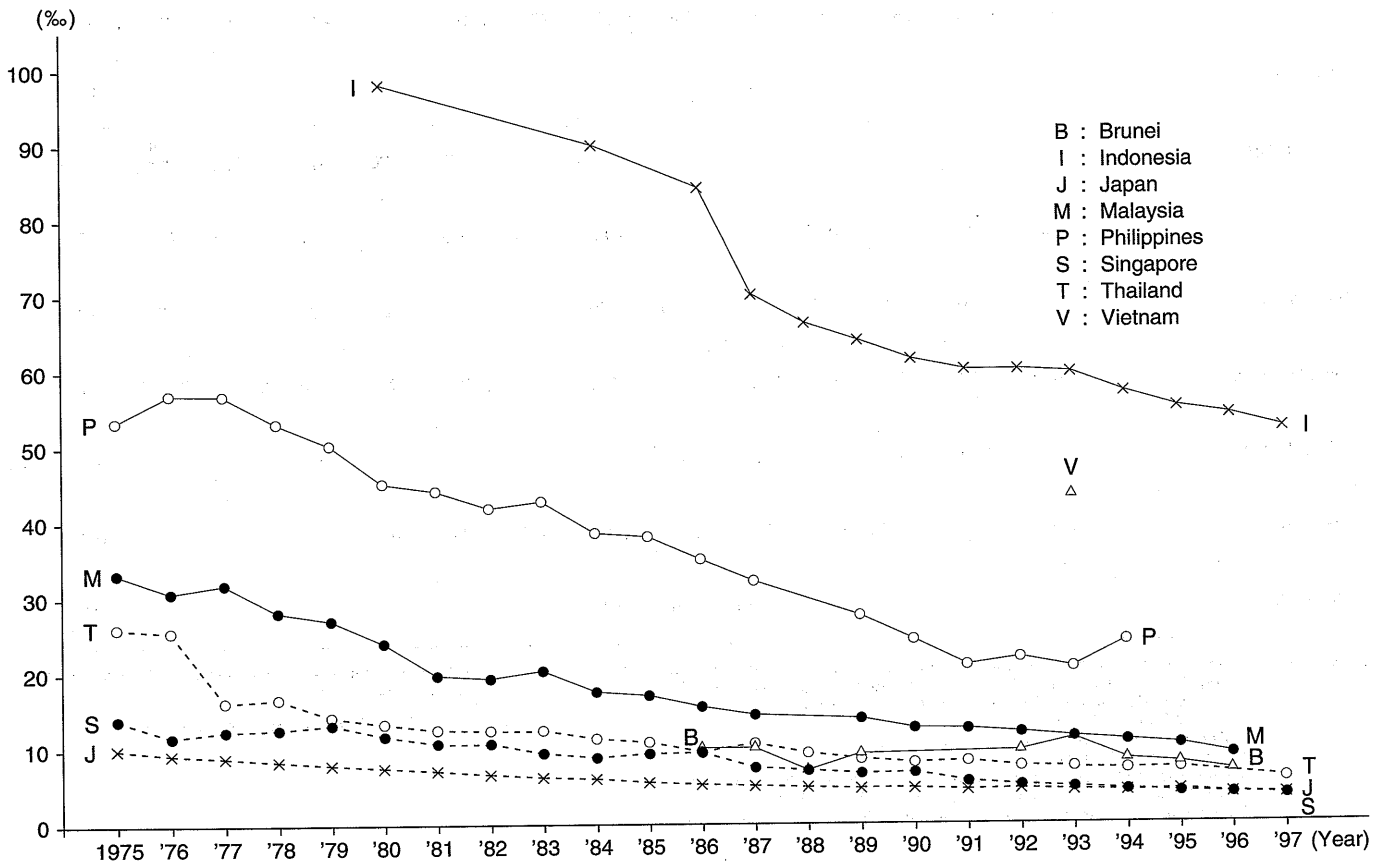
4 – 2 Infant Mortality by Age and Sex

	Year	Sex	Number						Rate (per 1,000 live-births)					
			Total	– 1 day	2 – 6	7 – 27	28 – 365	Unknown	Total	– 1 day	2 – 6	7 – 27	28 – 365	Unknown
BRUNEI (1)	1996	T	53	14	11	9	19	—	6.9	1.8	1.4	1.2	2.5	—
		M	32	7	8	4	13	—	8.1	1.8	2.0	1.0	3.3	—
		F	21	7	3	5	6	—	5.7	1.9	0.8	1.4	1.6	—
INDONESIA (2)	1997	T							a) 52.2					
JAPAN (3)	1997	T	4,403	1,148	467	692	2,096	—	3.7	1.0	0.4	0.6	1.8	—
		M	2,414	626	250	365	1,173	—	4.0	1.0	0.4	0.6	1.9	—
		F	1,989	522	217	327	923	—	3.4	0.9	0.4	0.6	1.6	—
MALAYSIA (4)	1996	T	4,908	2,596		662	1,650	—	9.1	4.8		1.2	3.1	—
		M	2,788	1,486		378	924	—	10.0	5.3		1.4	3.3	—
		F	2,120	1,110		284	726	—	8.1	4.3		1.1	2.8	—
PHILIPPINES (5)	1994	T	31,003	12,783		3,517	14,703	—	24.1					
SINGAPORE (6)	1997	T	b) 79	b) 43	26	37	73	—	3.6	0.9	0.6	0.7	1.4	—
		M	104	28	15	22	39	—	4.1	1.1	0.6	0.9	1.4	—
		F	74	14	11	15	34	—	3.1	0.6	0.5	0.6	1.4	—
THAILAND (7)	1997	T	5,172	220	1,300	779	2,707	166	5.8	0.2	1.4	0.9	3.0	0.2
		M	2,914	117	759	466	1,477	95	6.3	0.3	1.6	1.0	3.2	0.2
		F	2,258	103	541	313	1,230	71	5.2	0.2	1.2	0.7	2.8	0.2
VIETNAM (8)	1993	T	77,940						43.3					
		M	44,563						51.0					
		F	33,377						34.9					

Source : (1) Registration of Birth and Death and Adoptions, Department of Immigration and Registration of Nationals, Ministry of Home Affairs and Department of Economic Planning and Development, Ministry of Finance
(2) *Indonesia Demographic and Health Survey 1997*
(3) *Vital Statistics Japan,* Ministry of Health and Welfare
(4) *Vital Statistics Peninsular Malaysia, Sabah and Sarawak,* Department of Statistics
(5) Health Intelligence Service, Department of Health
(6) *Report on Registration of Births and Deaths,* National Registration Department
(7) Health Statistics Division, Ministry of Public Health
(8) Ministry of Health

Note : a) Estimated
b) Includes unknown sex

Fig. 6 Trends in Infant Mortality Rates (per 1,000 live-births)



4 – 3 Maternal Mortality Rates

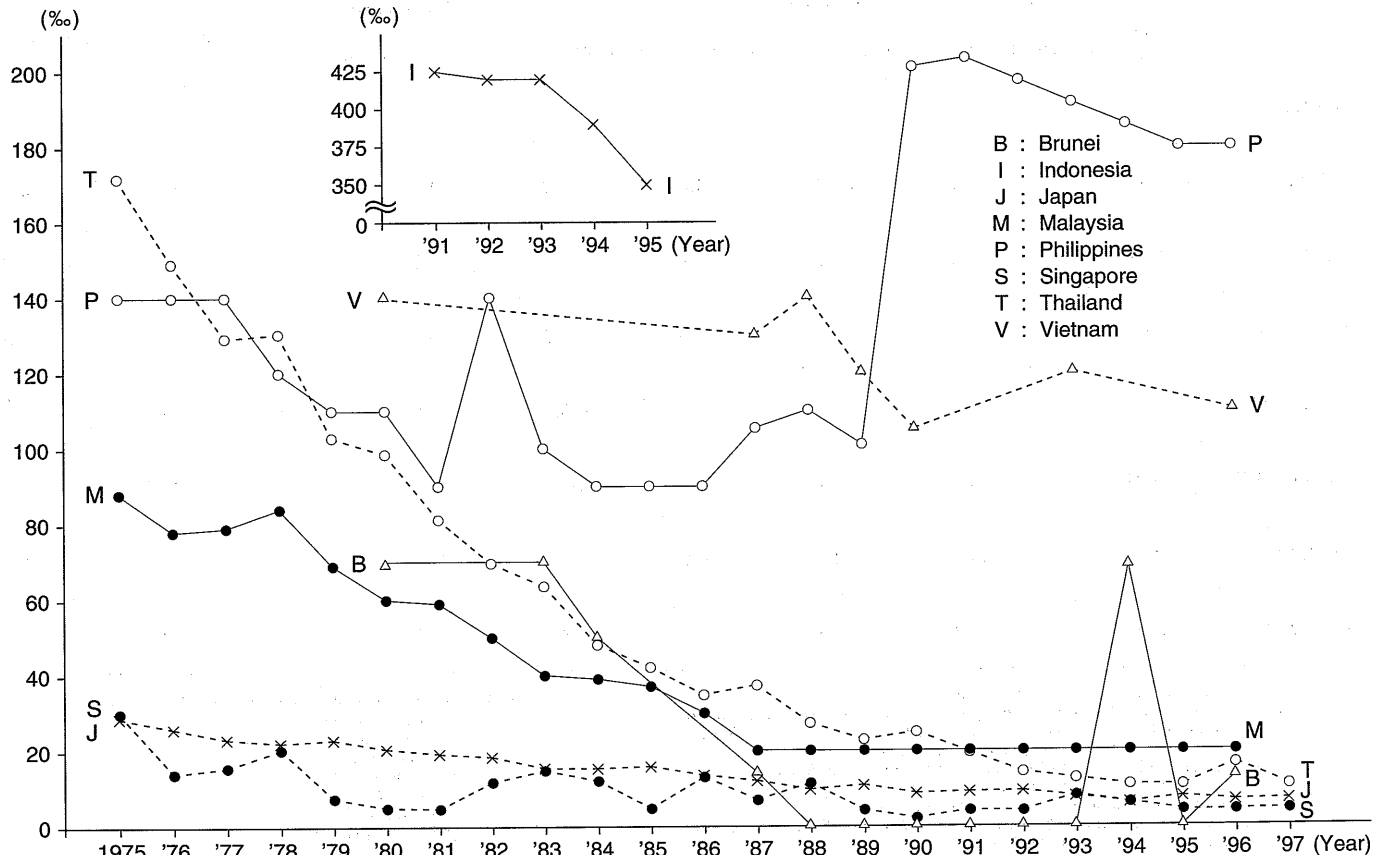
(per 100,000 live-births)

	1970	1975	1980	1985	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
BRUNEI (1)			69.2	—	14.1	—	—	—	—	—	—	68.8	—	13.1	
INDONESIA (2)									425	420	420	390	a) 312–385		
JAPAN (3)	50.0	28.7	20.5	15.8	12.0	9.6	10.8	8.6	9.0	9.2	7.7	6.1	7.6	6.6	6.8
MALAYSIA (4)	160	88	60	37	20	20	20	20	20	20	20	20	20	20	
PHILIPPINES (5)	190.0	140.0	110.0	90.0	105.3	110.0	100.9	200.9	203.2	197.3	191.4	185.6	179.7	179.7	
SINGAPORE (6)	32.7	30.0	4.9	4.7	6.9	11.3	4.2	2.0	4.1	4.0	8.0	6.1	4.1	4.1	4.2
THAILAND (7)	226.1	171.7	98.5	42.0	37.2	27.2	22.8	24.8	19.4	14.2	12.5	10.8	10.7	16.4	10.6
VIETNAM (8)			140		130	140	120	105			120			110	

Source : (1) Registration of Birth and Death and Adoptions, Department of Immigration and Registration of Nationals, Ministry of Home Affairs and Department of Economic Planning and Development, Ministry of Finance
(2) Central Bureau of Statistics
(3) ***Vital Statistics Japan,*** Ministry of Health and Welfare
(4) Department of Statistics
(5) ***Philippine Health Statistics,*** Intelligence Health Service, Department of Health (1970–1989), National Statistical Coordination Board (1990–)
(6) ***Report on the Registration of Births and Deaths,*** National Registration Department
(7) Health Statistics Division, Ministry of Public Health
(8) Ministry of Health

Note : a) Estimated from the Household Survey

Fig. 7 Trends in Maternal Mortality Rates (per 100,000 live-births)



4 – 4 Family Planning Methods Used

(%)

	Year	Reversible				Irreversible	Natural [a]	Others [b]
		Oral Contraceptive	IUD	Injection	Condom	Sterilization		
BRUNEI								
INDONESIA [1]	1997	20.4	20.4	34.0	1.2	1.1		9.0
JAPAN [2] c)	1996	1.3	3.8	—	77.2	6.5	17.0	10.6
MALAYSIA [3]	1996	73.3	4.5	2.6	10.9	6.2	—	2.5
PHILIPPINES [4]	1995	55.8	14.7		15.3	d) 5.6 e) 0.6	f) 2.3	g) 2.6
SINGAPORE [5]	1992	10.7	10.1	1.0	33.4	23.6	14.5	6.7
THAILAND [6]	1996	54.7	3.5	14.3	0.3	d) 23.9 e) 1.9	—	1.4
VIETNAM [7]	1996	5.3	55.8	0.4	7.1	8.7	21.3	1.4

Source : (1) Family Planning Coordination Board
(2) ***Toward a New Century of Equality and Symbiosis, Summary of Twenty-third National Survey on Family Planning,*** The Population Problems Research Council, The Mainichi Shimbun, Tokyo, Japan
(3) National Population and Family Development Board Malaysia
(4) Family Planning, Department of Health only
(5) Population Planning Section, Ministry of Health
(6) ***Report on Population Characteristics, the 1995–1996,*** Survey of Population Change, National Statistical Office
(7) ***Helth Statistics Yearbook,*** Health Statistics and Informatic Division, Ministry of Health

Note : a) Basic body temperature, cervical mucous, rhythm method
b) Diaphragm, etc.
c) Plural choice
d) Tubal ligation
e) Vasectomy
f) Excluding Rhythm
g) Including Rhythm

4 – 5 Women Receiving Prenatal Care

	Year	Percentage of Pregnant Women who Received Prenatal Care at least 4 Times from Trained Health Personnel during Entire Pregnancy
BRUNEI	1995	a) 8.1
INDONESIA	1997	73.0
JAPAN	1996	b) 401,000
MALAYSIA	1996	c) 71.7
PHILIPPINES	1996	d) 52.8
SINGAPORE	1997	100
THAILAND	1996	(1) 85.9
VIETNAM	1995	54.9

Source : Ministry of Health of each country
(1) Provincial Health Survey 1996, Bureau of Health Policy and Planning, Ministry of Public Health

Note : a) Average number of visits to trained health personnel during entire pregnancy
b) Number of pregnant women reported in the National Patient Survey
c) 1 time
d) 3 or more visits

5. Morbidity from Infectious Diseases

5 – A List of Notifiable Infectious Diseases

ICD-9/ICD-10 Categories	Brunei 1996	Indonesia 1997	Japan 1997	Malaysia 1997	Philippines 1995	Singapore 1997	Thailand 1997	Vietnam 1996
001/A00 Cholera	√	√	√	√	√	√	√	√
002/A01 Typhoid and Paratyphoid Fevers	√	√	√	√	√	√	√	√
003/A02 Other Salmonella Infections	√			√	√		√	
004, 006/A03, A06 Shigellosis	√		√					
008/A04 – A09 Intestinal Infections due to Other Organisms			√ a)					
010 – 018/A5 – A19 Tuberculosis	√	√	√	√	√	√	√	√
020/A20 Plague	√	√	√	√		√		√
022/A22 Anthrax		√	√				√	
030/A30 Leprosy	√	√		√	√	√	√	√
032/A36 Diphtheria	√	√	√	√	√	√	√	√
033/A37 Whooping Cough	√	√	√	√	√		√	√
034/A38, J02.0 Streptococcal Sore Throat and Scarlet Fever			√ b)				√	
036/A39 Meningococcal Infection			√				√	
037, 771.3[c)]/A33 – A35 Tetanus	√	√	√	√	√		√	√ d)
045/A80 Acute Poliomyelitis	√	√	√	√	√	√		√
052/B01 Chickenpox	√				√	√	√	
055/B05 Measles	√	√	√	√	√	√	√	√
060/A95 Yellow Fever	√		√	√		√		
061/A90 Dengue	√	√		√	√	√	√	√
062/A83 Mosquito-borne Viral Encephalitis	√		√	√		√	√	√
070/B15 – B19 Viral Hepatitis	√	√		√	√	√	√	√
071/A82 Rabies		√	√	√			√	√

Note : a) Infectious diarrhoea only
b) Scarlet fever only
c) Four-digit subcategory
d) New born only

5 – A List of Notifiable Infectious Diseases (Contd.)

ICD-9/ICD-10 Categories	Brunei 1996	Indonesia 1997	Japan 1997	Malaysia 1997	Philippines 1995	Singapore 1997	Thailand 1997	Vietnam 1996
072/B26 Mumps	√					√	√	
081/A75.1 – A75.9 Other Typhus	√			√			√	
084/B50 – B54 Malaria	√	√	√	√	√	√	√	√
087/A68 Relapsing Fever			√	√				
090/A50 Congenital Syphilis	√	√	√	√	√	√	√	
098/A54 Gonococcal Infections	√	√	√	√	√	√	√	√
099/A55 – A64 Other Venereal Diseases	√		√ a)	√ b)		√ c)	√	√
100/A27 Leptospirosis	√						√	
102/A66 Yaws							√	
120/B65 Schistosomiasis [Bilharziasis]		√			√			
124/B75 Trichinosis							√	
125/B72, B74 Filarial Infection and Dracontiasis	√		√ d)					
279.5/B20 – B24 AIDS (HIV Infections)	√	√	√	√	√	√	√	√
487/J10, J11 Influenza		√	√		√		√	

Note : a) Chancroid + lymphogranuloma inguinale
b) Chancroid
c) All sexually transmitted diseases
d) Filariasis only

5 – B Infectious Diseases Specified by Immunization Programme

	Brunei 1996	Indonesia 1997	Japan 1997	Malaysia 1997	Philippines 1995	Singapore 1997	Thailand 1997	Vietnam 1995
Cholera	√	√			√		√	
Diphtheria	√	√	√	√	√	√	√	√
Measles	√	√	√	√	√	√	√	√
Mosquito-borne Viral Encephalitis			√				√	
Mumps	√					√	√	
Poliomyelitis	√	√	√	√	√	√	√	√
Rubella	√		√	√ a)		√	√	
Tetanus	√	√	√	√	√	√	√	√
Tuberculosis (BCG)	√	√	√	√	√	√	√	√
Typhoid and Paratyphoid Fever	√	√			√		√	
Whooping Cough	√	√	√	√	√	√	√	√
Yellow Fever	√			√ b)				

Note : a) Women only
b) Required under Institute for Medical Research

5 – 1 Morbidity Statistics (ICD-9/ICD-10)

	ICD – 9 ICD – 10 [a)]	001 A00	002 A01	004, 006 A03, A06	003, 005 A02, A04, A05	010 – 018 A15 – A19	030 A30
	Year	Cholera	Typhoid and Paratyphoid Fever	Amebiasis and Bacillary Dysentery	Food Poisoning (Bacterial)	Tuberculosis of All Forms	Leprosy
BRUNEI (1)	1996	—	3	4	37	140	2
INDONESIA (2)	1997	788	119,115	305,367	3,919	394,551	28,088
JAPAN (3) (4) (5)	1997	89	116	1,301	39,989	42,715	
MALAYSIA (6)	1997	391	836	86	7,966	13,539	277
PHILIPPINES (7)	1995	1,097	20,815	10,049		118,951	1,711
SINGAPORE (8)	1997	11	112	15	1,013	2,772	23
THAILAND (9)	1997	—	14,527	50,416	102,454	26,787	675
VIETNAM (10)	1996	1,828	29,294			70,349	3,291

Source : (1) Disease Control Unit, Health Department
(2) Directorate General of CDC, Ministry of Health
(3) ***Statistics on Communicable Diseases,*** Ministry of Health and Welfare
(4) ***Statistics of Food Poisoning,*** Ministry of Health and Welfare
(5) ***Annual Report of Surveillance of Tuberculosis and Infectious Diseases,*** Ministry of Health and Welfare
(6) Information and Documentation System Unit, Ministry of Health
(7) ***Philippine Health Statistics,*** Health Intelligence Service, Department of Health
(8) Ministry of the Environment and Ministry of Health
(9) Health Information Division, Ministry of Public Health
(10) Ministry of Health

032 A36	052 B01	070 B15 – B19	071 A82	084 B50 – B54	487 J10, J11	033 A37	036 A39	037, 771.3 [b] A33 – A35	055 B05
Diphtheria	Chickenpox	Viral Hepatitis	Rabies	Malaria	Influenza (Grippe)	Whooping Cough	Meningococcal Infection	Tetanus	Measles
—	1,855	92		76		—		1	142
4,448	—	16,018	17,890	661,975	—	7,303		1,467	16,127
1	[c] 185,603	[11] [d] 81,400	—	69	8,816	42	5	47	899
2		756	7	26,649		3		28	565
557	54,809	9,762		56,285	750,932	1,356		1,393	23,382
—	27,723	345	—	421		1			1,413
37	49,608	7,932	57	58,698	51,020	111	59	351	15,122
143	5,663	14,490	138,161	532,860	1,060,073	1,037		[e] 257	6,410

Source : (11) ***Patient Survey,*** Ministry of Health and Welfare

Note : a) ICD-10: Brunei, Japan, Thailand and Vietnam
b) Four-digit category
c) Cases treated in large hospitals only
d) For 1996
e) New-born only

5 – 1 Morbidity Statistics (ICD-9/ICD-10)

		056 B06	072 B26	279.5 [a] B20 – B24	045 A80	047 – 049, 062 – 064 A83 – A89	060, 061, 065 A90, A91	125 B74	120 B65	090 – 097 A50 – A53	098 A54	099 A55 – A64
		Rubella	Mumps	AIDS (HIV)	Acute Polio-myelitis	Viral Meningitis and Encephalitis	Viral Hemor-rhagic Fever	Filariasis	Schisto-somiasis	Syphilis	Gonococcal Infections	Other Venereal Diseases
BRUNEI (1)	1996	48	23	—	—	—	1	1		11	86	5
INDONESIA (2)	1997			118	207		31,784	—	—	2,194	13,003	
JAPAN (3) (4) (5)	1997	[b] 47,292	[b] 150,385	250 (647)	—	5		—		448	2,355	4
MALAYSIA (6)	1997			526	—	12	[c] 787	—	—	1,317	1,393	
PHILIPPINES (7)	1995			31	104		12,121	615	8,686	181	2,200	
SINGAPORE (8)	1997	360	374	[d] 88	—	2	4,300			1,380	1,357	3,064
THAILAND (9)	1997	1,410	30,482	20,633	—	2,302	101,689	—	—	2,032	3,744	13,422
VIETNAM	1996		24,624	[c] 618 (4,765)	136	[e] 3,122	[f] 89,963			1,916		

Note : a) Four-digit category
b) Cases treated in large hospitals only
c) Refer to dengue hemorrhagic fever
d) Cumulative AIDS (HIV) patients
e) Acute encephalitis syndrome
f) Dengue fever and dengue hemorrhagic fever

5 – 2 Percentage of Infants under 1 Year Who Are Fully Immunized Against Target Diseases

	Year	Diphtheria	Pertussis	Tetanus	Poliomyelitis	Measles	Tuberculosis
BRUNEI (1)	1994	97			97		99
INDONESIA (2)	1997	90.1			85.5	92.3	98.4
JAPAN (3)	1996	101.7			a) 98.5	b) 93.5	
MALAYSIA (4)	1996	94.3			93.9	86.1	100
PHILIPPINES (5)	1995	81.9			84.4	83.7	88.9
SINGAPORE (6)	1997	93			94	c) 90	98
THAILAND (7)	1996	95.7			95.7	91.7	98.3
VIETNAM (8)	1995	93.4			93.6	98.5	95.7

Source : (1) Ministry of Health
(2) Directorate General of Communicable Disease Control and Environmental Health, Ministry of Health
(3) Ministry of Health and Welfare
(4) Ministry of Health
(5) Health Intelligence Service-Field Health Services Information System, Department of Health
(6) Family Health Service, Ministry of Health
(7) National Immunization Coverage Survey in 1996, Department of Communicable Diseases Control, Ministry of Public Health
(8) Ministry of Health

Note : a) 3 months to 1.5 years old children
b) 1 to 2 years old children
c) 2 years old children

6. Nutrition

6 – 1 Per Capita Food Intake

	Year	Energy (kcal / day)			Protein (g / day)			Fat (g / day)		
		Total	Vegetable Products	Animal Products	Total	Vegetable Products	Animal Products	Total	Vegetable Products	Animal Products
BRUNEI										
INDONESIA (1)	1996	2,020	1,682	338	54.5	42.4	12.3	30.5 a)		
JAPAN (2)	1997	2,007			80.5	36.6	43.9	59.3	29.6	29.7
MALAYSIA										
PHILIPPINES (3)	1993	1,684	1,475	209	49.9	29.8	20.1	28	16	12
SINGAPORE (4)	1993	1,981			76.4			67.0		
THAILAND (5)	1995	1,751			51.1	21.4	29.7	45.6		
VIETNAM (6)	1996	1,900	1,662	238	50	35.4	14.6	25.7	11.8	

Source : (1) ***Welfare Indonesia,*** Central Bureau of Statistics
(2) ***National Nutrition Survey,*** Health Promotion and Nutrition Division, Ministry of Health and Welfare
(3) Actual Food Consumption Survey (Food Weighing Technique), Food and Nutrition Research Institute, Department of Science and Technology 1987
(4) ***Food Consumption Study of Adults (24 hour recall) 1993,*** Food and Nutrition Department, Ministry of Health
(5) The 4th National Nutrition Survey 1995, Nutrition Division, Ministry of Public Health
(6) Ministry of Health

Note : a) For 1993

6 – 1 Per Capita Food Intake (Contd.)

	Year	Calcium (mg / day)	Iron (mg / day)	Vitamin A (μg / day)	Vitamin B_1 (mg / day)	Vitamin B_2 (mg / day)	Vitamin C (mg / day)	Carbohydrate (g / day)
BRUNEI								
INDONESIA	1986	215	10.0	a) 1,096	1.18		142	b) 353.8
JAPAN	1997	579	11.6	a) 2,832	1.19	1.43	135	273
MALAYSIA								
PHILIPPINES	1993	390	10.1	c) 392	0.67	0.56	47	302
SINGAPORE	1993	491	14.0	578				265.9
THAILAND	1995	344	18.1	c) 677	0.9	1.1	95	276.9
VIETNAM								

Note : a) Unit = IU
b) For 1990
c) Unit = Retinol Equivalent, mcg.

6 – 2 Mean Length of Infants from Birth to One Year

(cm)

	Population or Place	Year	Sex	Age					
				Birth	4 wks	3 mos	6 mos	9 mos	12 mos
BRUNEI									
INDONESIA (1)	National	1994	M	49.4					
			F	48.9					
JAPAN (2)	National	1990	M	49.6	56.7	63.2	68.5	72.0	75.4
			F	48.9	55.6	61.5	66.8	70.6	74.2
MALAYSIA									
PHILIPPINES (3)	National	1993	M	51.3	57.5	64.1	67.7	72.0	77.6 a)
			F	51.1	56.7	62.0	68.0	70.8	76.6
SINGAPORE									
THAILAND (4)	National	1995	M	50.0	53.0	58.6	65.5	70.7	74.8
			F	49.8	52.5	57.7	64.4	69.5	73.4
VIETNAM									

Source : (1) Ministry of Health
(2) Ministry of Health and Welfare
(3) Food and Nutrition Research Institute
(4) ***National Food and Nutrition Survey,*** Department of Health, Ministry of Public Health

Note : a) For 1–1.99 years old

6 – 3 Mean Weight of Infants from Birth to One Year

(kg)

	Population or Place	Year	Sex	Age					
				Birth	4 wks	3 mos	6 mos	9 mos	12 mos
BRUNEI									
INDONESIA (1)	National	1994	M F	3.1 3.0					
JAPAN (2)	National	1990	M F	3.2 3.1	5.1 4.7	6.9 6.3	8.1 7.5	9.0 8.4	9.6 9.0
MALAYSIA (3)	Peninsular Malaysia	1996	T	3.2					
PHILIPPINES (4)	National	1993	M F	3.5 3.4	5.3 4.8	6.6 6.1	7.4 7.2	8.1 7.8	a) 9.4 9.0
SINGAPORE (5)	National	1997	M F	3.2 3.1					
THAILAND (6)	National	1995	M F	3.3 3.1	4.0 3.8	5.5 5.1	7.3 6.7	8.6 7.9	9.5 8.9
VIETNAM									

Source : (1) Ministry of Health
(2) Ministry of Health and Welfare
(3) Department of Statistics
(4) Food and Nutrition Research Institute
(5) Ministry of Health
(6) ***The 4th National Nutrition Survey 1995,*** Department of Health, Ministry of Public Health

Note : a) For 1–1.99 years old

6 – 4 Mean Chest Circumference of Infants from Birth to One Year

(cm)

	Population or Place	Year	Sex	Age					
				Birth	4 wks	3 mos	6 mos	9 mos	12 mos
BRUNEI									
INDONESIA (1)	National	1994	M F	32.5 32.4					
JAPAN (2)	National	1990	M F	32.2 32.0	38.6 37.6	42.2 41.0	44.2 43.1	45.6 44.5	46.5 45.4
MALAYSIA									
PHILIPPINES (3)	National	1987	M F	34.5 34.3	37.8 36.8	41.7 40.0	43.5 42.1	44.1 43.2	46.1 45.0
SINGAPORE									
THAILAND (4)	National	1995	M F	32.5 32.0	34.5 33.8	38.1 37.2	42.2 41.1	44.6 43.4	46.3 44.8
VIETNAM									

Source : (1) Ministry of Health
(2) Ministry of Health and Welfare
(3) Food and Nutrition Research Institute
(4) ***The 4th National Nutrition Survey 1995,*** Department of Health, Ministry of Public Health

6 – 5 Mean Height by Age (1–18 years)

	Population or Place	Year	Sex	Age						
				1	2	3	4	5	6	7
BRUNEI										
INDONESIA (1)	National	1994	M					107.1	109.7	112.2
			F					106.1	108.7	111.3
JAPAN (2)	National	1996	M	81.3	89.1	96.2	103.7	108.3	115.6	122.1
			F	79.3	87.6	95.5	102.5	108.8	114.6	120.9
MALAYSIA										
PHILIPPINES (3)	National	1994	M	77.3	85.3	91.9	98.5	104.1	109.4	114.5
			F	76.3	83.9	91.3	98.0	103.5	109.2	114.6
SINGAPORE (4)	National	1997	M						120.1	
			F						119.3	
THAILAND (5)	National	1995	M	74.8	87.0	95.3	102.1	108.4	114.4	120.0
			F	73.4	84.7	94.1	101.1	107.6	113.9	119.8
VIETNAM										

Source : (1) ***Report on Height of School Entrance in Indonesia 1994/1995,*** Directorate of Community Nutrition, Ministry of Health
(2) ***National Nutrition Survey,*** Health Service Bureau, Ministry of Health and Welfare
(3) Food and Nutrition Research Institute
(4) School Health Service, Ministry of Health
(5) ***The 4th National Nutrition Survey 1995,*** Department of Health, Ministry of Public Health

(cm)

Age										
8	9	10	11	12	13	14	15	16	17	18
115.0 114.0	117.9 117.0	121.3 120.1	123.7 122.9	a) b) 128.9 130.0		151.3 148.9	b) c) 155.2 149.7	b) c) 159.7 150.9	b) c) 161.3 151.6	b) c) 162.9 151.7
127.4 126.4	132.1 133.2	138.8 138.8	143.8 145.3	150.7 151.7	158.3 154.6	164.4 155.2	168.4 156.4	170.1 156.9	170.2 157.3	170.4 158.7
a) 119.0 119.1	a) 124.5 124.3	a) 128.5 130.6	a) 131.7 135.1	a) 137.4 141.3	a) 143.6 145.8	a) 150.9 148.7	a) 156.2 150.6	a) 159.6 150.2	a) 160.9 151.1	a) 162.3 151.7
			148.8 150.2				170.3 159.3			
125.2 124.8	130.3 130.9	135.1 136.2	139.3 143.0	145.4 148.8	153.2 152.7	160.8 154.7	164.8 156.0	167.6 156.6	169.3 156.9	169.4 156.9

Note : a) For 1993
b) West Sumatra, Central Java and West Nusa Tenggara
c) For 1989

6 – 6 Mean Weight by Age (1–18 years)

	Population or Place	Year	Sex	Age						
				1	2	3	4	5	6	7
BRUNEI										
INDONESIA (1)	National	1977	M F		10.4 10.1	12.1 11.6	13.8 13.2	15.5 14.5	15.7 15.7	18.2 17.0
JAPAN (2)	National	1996	M F	11.1 11.5	12.8 12.4	14.8 14.6	16.3 16.3	17.7 18.0	20.5 21.1	23.6 23.4
MALAYSIA										
PHILIPPINES (3)	National	1994	M F	9.4 8.9	11.5 10.8	13.0 12.6	14.6 14.1	16.0 15.6	17.5 17.2	19.2 19.1
SINGAPORE (4)	National	1997	M F						22.6 21.7	
THAILAND (5)	National	1995	M F	9.5 8.9	12.4 11.6	14.6 14.0	16.2 15.7	17.8 17.4	19.7 19.3	21.9 21.5
VIETNAM										

Source : (1) Ohsawa's Laboratory, Otsuma Women's University
(2) ***National Nutrition Survey,*** Health Service Bureau, Ministry of Health and Welfare
(3) Food and Nutrition Research Institute
(4) School Health Service, Ministry of Health
(5) ***The 4th National Nutrition Survey 1995,*** Department of Health, Ministry of Public Health

Note: a) For 1993

(kg)

Age										
8	9	10	11	12	13	14	15	16	17	18
19.9 19.2	21.3 21.0	23.3 23.4	25.7 26.3	27.3 30.3	31.8 33.4	37.1 37.6	40.9 40.4	44.7 43.2	46.9 44.6	48.7 45.9
27.9 26.3	30.7 29.6	34.8 33.1	38.7 37.2	43.2 43.4	47.8 46.6	53.3 47.6	57.3 50.0	57.6 52.0	61.7 50.0	63.5 52.3
21.3 21.0	23.4 23.5	25.2 26.0	a) 27.6 29.1	a) 31.0 33.4	a) 34.7 37.9	a) 39.8 40.8	a) 44.4 44.6	a) 49.0 46.8	a) 52.0 46.5	a) 54.0 46.0
			41.9 41.8				60.0 51.1			
24.1 23.4	26.5 26.4	29.8 29.7	32.4 34.4	36.3 38.7	41.5 42.4	47.3 45.1	50.7 47.0	54.2 48.1	56.1 48.4	57.9 48.6

7. Environmental Health and Socio-economic Situation

7 – 1 Housing Conditions

(%)

	Year		Percentage of Population Served with Safe Water	Percentage of Population with Sanitary Toilet	Lighting				
					Electricity	Pressure / Gas Lamp	Oil Lamp	Kerosene	Other
BRUNEI (1)	1991	Total	a) 96.0	a) 79.0	97.5			2.0	0.5
INDONESIA (2)	1997	Total	a) b) 18.0	a) c) 49.5	80.2				
		Urban	41.8	70.5	97.5				
		Rural	8.4	41.2	73.3				
JAPAN (3)	1997	Total	d) 96.0	e) 97.2	99.9				
MALAYSIA (4) (5)	1996	Total	89.0	97.9	f) 91	f) 2	f) 7	f) —	f) 1
PHILIPPINES (6)	1996	Total	83.0	77.0	g) 55.1	g) 1.7	g) 0.1	g) 49.6	g) 0.5
		Urban	91.0	88.0	79.2	1.2	0.1	19.3	0.2
		Rural	81.0	64.0	31.9	2.1	0.2	65.1	0.7
SINGAPORE (7)	1997	Total	100.0	100.0	100.0				
THAILAND (8)	1996	Total	93.4	98.1	97.7				
VIETNAM (9)	1996	Total	50.0	42.7					

Source : (1) Department of Economic Planning and Development, Ministry of Finance
(2) ***Indonesia Demographic and Health Survey 1997***
(3) Water Supply and Environmental Sanitation Department, Ministry of Health and Welfare
(4) Ministry of Health
(5) Department of Statistics
(6) ***Census of Population and Housing,*** National Statistics Office
(7) Public Utilities Board, Ministry of the Environment and Singapore Power
(8) ***Provincial Health Survey 1996,*** Bureau of Health Policy and Planning, Ministry of Public Health
(9) Ministry of Health

Note : a) Percentage of households
b) Piped water and public tap
c) Private toilet
d) As of March 31, 1997
e) For 1994
f) For 1991
g) For 1990

7 – 2 Socio-economic Indicators

	Year	Adult Literacy Rate (%) (1)	Year	Per Capita GNP (in US $) a)	Year	Labour Force Participation Rate (%)
BRUNEI	1995	88.2	1995	17,003 b)	1991	65.6 c)
INDONESIA	1995	83.8	1996	979.7	1994	58.0
JAPAN	1995	99.0	1996	30,160 (2) b)	1996	63.7 (3) c)
MALAYSIA	1995	83.5	1997	4,284 (4)	1997	67.0 (4)
PHILIPPINES	1995	94.6	1993	826 (5)	1993	65.6 (6)
SINGAPORE	1995	91.1	1997	26,475 (7)	1997	64.2 (7) d)
THAILAND	1995	93.8	1996	2,943 (8)	1997	55.3 (9)
VIETNAM	1995	93.7	1995	279 (10)		

Source : (1) ***Human Development Report 1998,*** the United Nations Development Programme
(2) ***Comparative Economic and Financial Statistics, Japan and Other Major Countries 1998,*** Bank of Japan
(3) ***Annual Report on the Labour Force Survey,*** Statistics Bureau, Management and Coordination Agency
(4) ***Yearbook of Statistics, Malaysia***
(5) National Statistics Office
(6) ***Philippine Statistical Yearbook,*** National Statistical Coordinating Board
(7) ***Year Book of Statistics, Singapore,*** Department of Statistics
(8) ***8th National Economic and Social Development Plan,*** Office of the National Economic and Social Development Board
(9) Office of the National Economic and Social Development Board
(10) ***Health Statistics Yearbook,*** Health Statistics and Informatic Division, Ministry of Health

Note : a) Figures for each country except Japan and Philippines converted into US $ by SEAMIC / IMFJ, using yearly average exchange rates (except Vietnam) shown in ***IMF International Financial Statistics.*** For Vietnam, the rate at the end of period was applied.
b) GDP
c) Age 15 years and over
d) Per 100 resident population aged 15 years and over

7 – 3 Expenditure of the Ministry of Health

	Fiscal Year	Total Health Budget (in US $)	Health Budget as % of National Budget	Per Capita Health Budget (in US $)	Health Expenditure (in US $)			
					Total	Personal Services	Maintenance and Other	Capital Outlay (Development Expenditure)
BRUNEI	1996	149,533,333	6.7	490.1	115,756,482	63,681,340	42,616,766	9,458,377
INDONESIA	1991	480,167,150	1.9	1.7				
JAPAN a)	1997	121,635,672,369	19.0	973.4				
MALAYSIA	1997	1,355,959,620	6.3	62.2	1,316,367,542	1,156,910,721		159,456,821
PHILIPPINES b)	1997	275,502,075 b)	2.5		275,502,075	99,624,850	114,914,550	60,962,675
SINGAPORE	1997	851,499	2.0	227.9	788,242	147,103	456,364	184,774
THAILAND	1997	2,857,041,392	7.1	29.4				
VIETNAM	1995	201,743,419 c)	3.5	2.7				

Source : Ministry of Health in each country

Note : Figures for each country except Philippines converted into US $ by SEAMIC / IMFJ, using yearly average exchange rates (except Vietnam) shown in ***IMF International Financial Statistics***. For Vietnam, the rate at the end of the period.

a) Including budget for social welfare
b) Including attached agencies
c) Including foreign aids

7 – 4 Adult Smoking Prevalence

(%)

	Year	Total	Male	Female
BRUNEI (1) a)	1993	17.0	27.3	3.1
INDONESIA				
JAPAN (2) b)	1997	28.7	52.7	11.6
MALAYSIA				
PHILIPPINES				
SINGAPORE (1) c)	1995	17.0	32.0	3.0
THAILAND (3)	1996	23.4	44.5	2.5
VIETNAM				

Source : (1) Ministry of Health
(2) Ministry of Health and Welfare
(3) National Statistical Office

Note: Adult smoking prevalence = $\frac{\text{Number of adult smokers}}{\text{Number of adults investigated}} \times 100$ (%)

All regular smokers are included in the numerator, regardless of the amount smoked daily.

a) Cardiovascular diseases screening among civil servants aged 30 years and over
b) 20 years old and over
c) Age 18 – 64 years

8. Medical Establishments

8 – A Definitions Used in Hospital Statistics

	Definition
1. Hospital	Any establishment permanently staffed by at least one physician that can offer inpatient accommodation and provide active medical and nursing care. Establishments providing principally custodial care should not be included.
2. General Hospital	A hospital other than local or rural hospitals providing medical and nursing care for more than one category of medical discipline (e.g., general medicine, specialized medicine, general surgery, obstetrics, etc.)
3. Local or Rural Hospital	A hospital, usually in rural areas, permanently staffed by one or more physicians, which in respect of their functions is also a general hospital, but provides medical and nursing care of a more limited range than that provided by principal general hospitals.
4. Specialized Hospital	A hospital providing medical and nursing care primarily for only one discipline, such as for mental disorders, maternity, infectious diseases, leprosy and tuberculosis. This category does not include the specialized department administratively attached to a principal general hospital and sometimes located in an annex or separate building; their beds (and the related data) are included with the principal general hospital.
5. Primary Health Care Faclility	An establishment serving as the first-level contact point in the country's health system and providing outpatient medical and nursing care under a physician's supervision, though the physician may or may not be its permanent staff. This category includes general practitioners' offices, peripheral health stations, etc.
6. Bed	A hospital bed is one regularly maintained and staffed for the accommodation and full-time care of a succession of inpatients and is situated in wards or a part of the hospital where continuous medical care for inpatients is provided. The total of such beds constitutes the normally available bed complement of the hospital. Cribs and bassinets maintained for use by healthy newborn infants who do not require special care should not be included.
7. Admission	An inpatient admission is the formal admission by a hospital of an inpatient and always involves the allocation of a hospital bed. Healthy babies born in the hospital should not be counted if they do not require special care.
8. Discharges (including deaths)	The number of persons, living or dead, whose stay has terminated and whose departure has been officially recorded.
9. Patient days	Total of daily censuses of inpatients in the hospitals during the year. Not included in the daily censuses are healthy babies born in the hospitals if they do not require special care. The day of admission and the day of discharge should be counted together as one day.

8 – B Comparative Table on Medical Establishments

	Brunei (1996)	Indonesia (1997)	Japan (1997)	Malaysia (1996)	Philippines (1996)	Singapore (1997)	Thailand (1995)	Vietnam (1996)
1 General Hospital	√	√	√	√ [a)]	√	√	√	√
2 Local or Rural Hospital		√			√	√	√	
3 Mental Hospital		√	√	√	√	√	√	
4 Maternity Hospitals		√			√	√	√	√
5 Infectious Diseases Hospitals		√	√		√		√	
6 Leprosy Hospitals		√		√	√		√	√
7 Tuberculosis Hospitals		√	√	√	√		√	√
8 Other Specialized Hospitals		√			√	√ [b)]	√	√ [c)]
9 PHC [d)] Facilities with Beds, Staffed with Physician(s)			√	√			√	
10 PHC [d)] Facilities without Beds, Permanently Staffed with Physician(s)	√	√	√	√	√	√	√	√
11 PHC [d)] Facilities without Beds and without Permanently Staffed Physician		√		√	√		√	√

Note : a) Hospitals. The previous categorization into general hospital and local or rural hospitals does no longer apply.
b) Singapore National Eye Centre and National Skin Centre, providing only ambulatory care.
c) Pediatric hospitals, ophthalmological hospitals, cancer hospitals, surgical hospitals, Cardiological Institute, dermatological hospitals, oto-rhino-laryngological hospitals, dental-naso-facial hospitals, Traditional Medical Institute, Acupuncture Institute
d) Primary health care

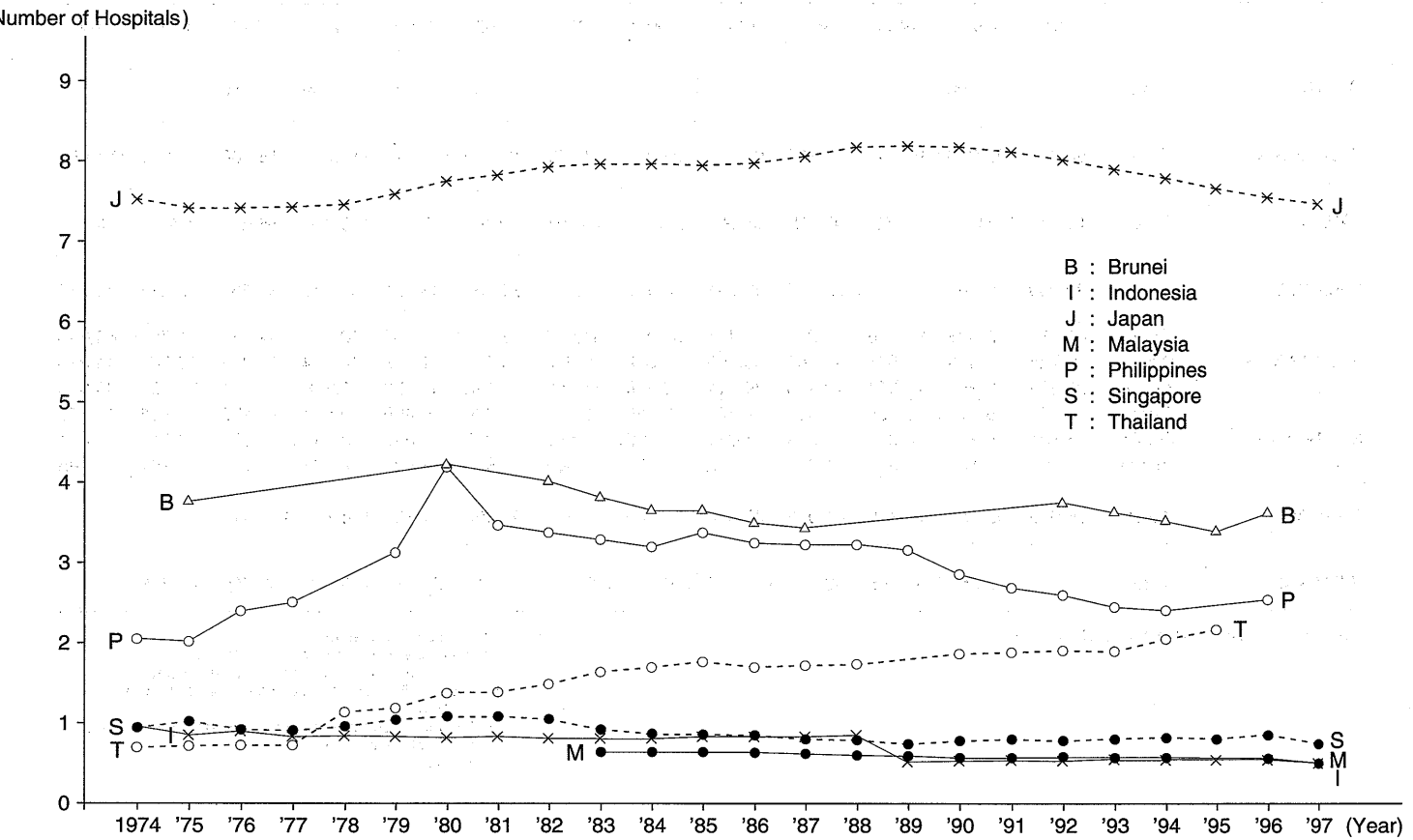
8 – 1 Number of Hospitals

		1970	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
BRUNEI	Total		6	8	8			10	10	10	10	11	
INDONESIA	Total	1,164	1,115	1,208	1,367	[a] 950	[a] 982	994	1,026	1,039	1,062	1,074	1,090
JAPAN [b]	Total	7,974	8,294	9,055	9,608	10,096	10,066	9,963	9,844	9,731	9,606	9,490	9,413
MALAYSIA	Total	86	90	96	101	102	104	107	108	112	118	118	118
PHILIPPINES	Total	650	927	2,020	1,846	1,726	1,663	1,691	1,723	1,648	1,702	1,738	1,817
	Public	220	316	413	612	[c] 594	[c] 562	582	[d] 628	[d] 553	607	600	645
	Private	430	611	1,607	1,229	1,132	1,101	1,109	1,095	1,095	1,095	1,138	1,172
SINGAPORE	Total	17	23	26	22	21	22	22	24	25	24	26	23
	Public	11	13	13	11	11	11	12	13	13	12	12	10
	Private	6	10	13	11	10	11	10	11	12	12	14	13
THAILAND	Total	98	281	636	910	1,043	1,064	1,097	1,105	1,215	1,280		
VIETNAM	Total		[e] 550	685	738	782	785	792	793	792	796	794	

Source : Ministry of Health in each country

Note : a) Excluding maternity hospitals
b) Hospitals (with 20 or more beds) only
c) Licensed only
d) Retained and devolved hospitals
e) For 1976

Fig. 8 Trends in Number of Hospitals (per 100,000 population)



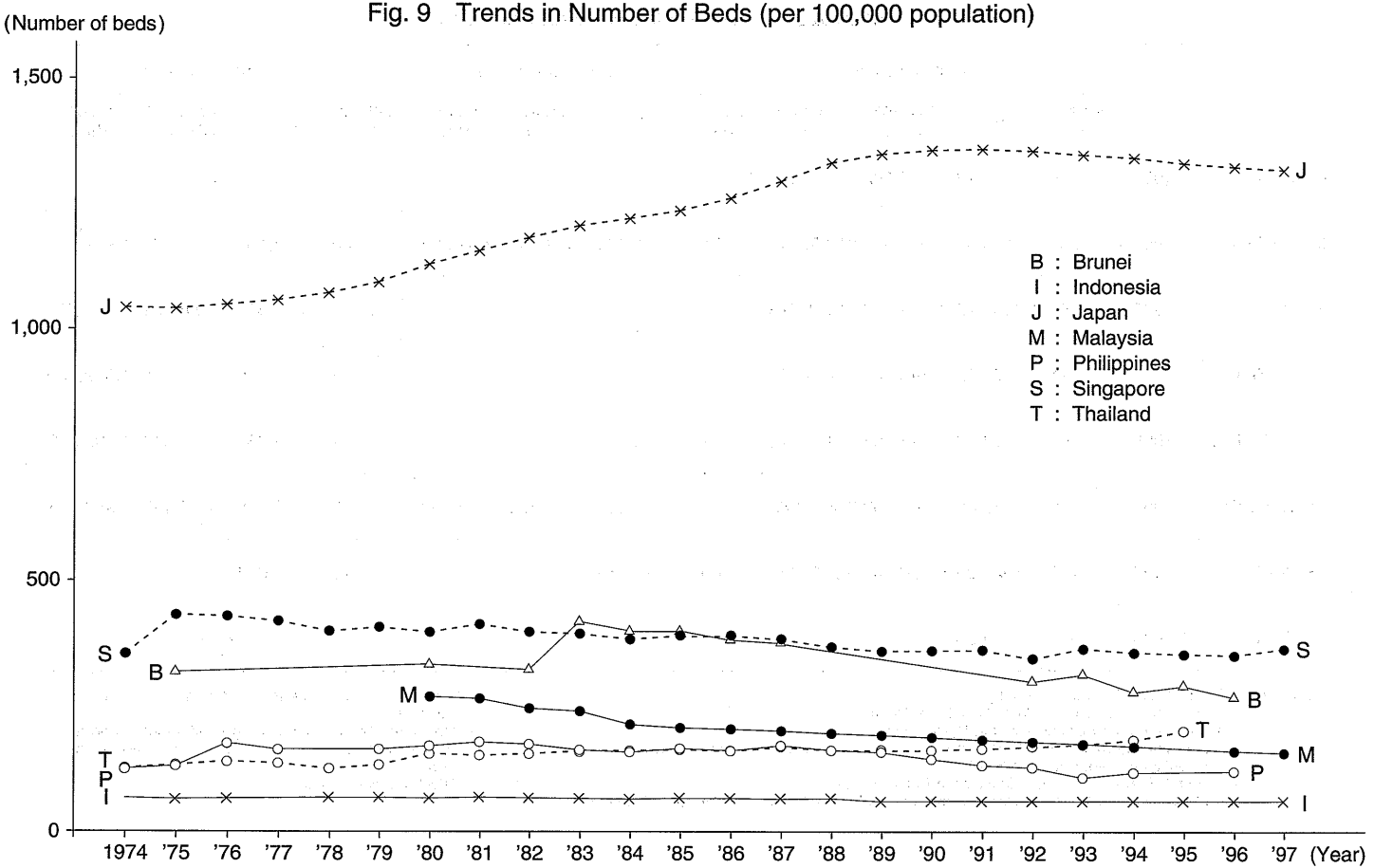
8 – 2 Number of Beds

		1970	1975	1980	1985	1989	1990	1991	1992	1993	1994	1995	1996	1997
BRUNEI	Total		506	630	876				797	772	789	856	a) 813	
INDONESIA	Total	86,022	83,696	98,543	110,361	107,112	109,387	111,127	112,779	114,474	116,847	118,306	120,083	121,990
JAPAN b)	Total	1,062,553	1,164,098	1,319,406	1,495,328	1,661,952	1,676,803	1,685,589	1,686,696	1,680,952	1,677,041	1,669,951	1,664,629	1,660,784
MALAYSIA	Total	30,900	32,164	35,291	32,495	33,341	33,400	33,432	33,261	33,201	33,246	33,588	33,818	33,918
PHILIPPINES c)	Total	40,289	55,323	81,976	90,279	90,414	86,948	81,647	83,113	77,734	80,580	84,482	81,789	84,648
	Public	19,725	27,075	39,625	47,861	50,703	48,602	46,338	45,971	41,498	44,344	46,911	43,582	44,818
	Private	20,564	28,248	42,351	42,418	39,711	38,346	35,309	37,142	36,236	36,236	37,571	38,207	39,830
SINGAPORE	Total	7,760	9,311	9,585	10,000	9,644	9,759	9,801	9,726	10,469	10,407	10,498	10,668	11,276
	Public	6,891	8,211	8,078	8,329	7,852	7,922	7,892	7,833	8,640	8,346	8,326	8,511	9,091
	Private	869	1,100	1,507	1,671	1,792	1,837	1,909	1,893	1,829	2,061	2,172	2,157	2,185
THAILAND d)	Total	25,619	52,652	71,718	84,045	89,982	90,740	93,852	97,856	101,166	108,747	118,417		
VIETNAM e)	Total		f) 98,362	131,265	143,771	154,776	140,076	123,602	120,710	134,635	119,519	130,760	121,808	

Source : Ministry of Health in each country

Note : a) Based on 5 hospitals
b) Hospitals (with 20 or more beds) only
c) From 1993, retained and devolved hospitals
d) From 1985 onwards, including private maternity centres
e) Including beds of policlinics and specialized clinics and maternity houses
f) For 1976

Fig. 9 Trends in Number of Beds (per 100,000 population)



8 – 3 Hospitals and Other Medical Establishments

	Year	1 General Hospitals				2 Local or Rural Hospitals				3 Mental Hospitals			
		Establish-ments	Beds	Admissions or Discharges	Patient-days	Establish-ments	Beds	Admissions or Discharges	Patient-days	Establish-ments	Beds	Admissions or Discharges	Patient-days
BRUNEI	1996	10	a) 813	a) 35,002	a) 172,564	..				..			
INDONESIA (1)	1997	330	62,483	2,531,343	13,355,813	543	41,403	1,596,926	7,628,231	48	8,184	39,292	1,991,716
JAPAN	1997	8,347	1,398,692	11,770,600	418,516,763	..				1,055	261,398	186,532	90,656,731
MALAYSIA (2)	1996	b) 111	b) 27,126	b) 1,343,416	b) 5,116,373	..				4	5,720	9,660	1,572,720
PHILIPPINES (3) c)	1996	52	22,080	596,308	5,856,113	272	10,110			1	5,834	9,414	1,192,975
SINGAPORE	1997	10	6,406	301,732	1,626,860	8	804	5,632	180,629	2	3,168	7,147	940,773
THAILAND (4)	1995	1,192	102,986	5,787,549	25,057,419	698	22,055			12	7,684		
VIETNAM (5)	1996	671	73,658			..				..			

Source : Ministry of Health in each country
(1) Directorate of Medical Care, Ministry of Health
(2) Information and Documentation System Unit
(3) Hospital Operation and Management Services, and Bureau of Licensing and Regulation, Department of Health
(4) Health Statistics Division, Ministry of Public Health
(5) ***Health Statistics Yearbook,*** Health Statistics and Informatic Division, Ministry of Health

Note : a) Based on 4 government hospitals and 1 private hospital
b) Hospitals. The previous categorization into general hospital and local or rural hospitals does no longer apply.
c) DOH-retained hospitals only.

4 Maternity Hospitals				5 Infectious Diseases Hospitals				6 Leprosy Hospitals			
Establish-ments	Beds	Admissions or Discharges	Patient-days	Establish-ments	Beds	Admissions or Discharges	Patient-days	Establish-ments	Beds	Admissions or Discharges	Patient-days
..				..				..			
50	2,270	91,470	345,648	1	103			24	2,724	3,022	486,022
..				5	274	119	3,554	..			
..				..				2	856	4,419	89,434
1	700	52,022	202,869	3	975	59,144	224,642	8	4,420	5,499	1,282,766
a) 1	898	54,821	190,032	..				..			
8	939			3	1,200			15	1,516		
b) 66	b) 1,207			..				c) 19	2,637		

Note : a) Women's and Children's Hospital
b) Maternity homes
c) Leprosaria

8 – 3 Hospitals and Other Medical Establishments (Contd.)

	Year	7 Tuberculosis Hospitals				8 Other Specialized Hospitals				9 PHC[a] Facilities with Beds, Staffed with Physician(s)			
		Establish-ments	Beds	Admissions or Discharges	Patient-days	Establish-ments	Beds	Admissions or Discharges	Patient-days	Establish-ments	Beds	Admissions or Discharges	Patient-days
BRUNEI	1996	..				..							
INDONESIA	1997	10	747	10,784	128,985	84	4,082	146,239	652,170				
JAPAN	1997	6	402	486	108,891	..				19,796	239,771		
MALAYSIA	1996	1	116	2,710	18,121								
PHILIPPINES	1996					4	975	34,587	273,224				
SINGAPORE	1997	..				[b] 2	—	—	—				
THAILAND	1995	1	600			50	2,954						
VIETNAM	1996	[c] 80				[d] 74	16,308						

Note : a) Primary health care
b) Singapore National Eye Centre and National Skin Centre, providing only ambulatory care
c) Sanatoria
d) Pediatric hospitals, ophthalmological hospitals, cancer hospitals, surgical hospitals, Cardiological Institute, dermatological hospitals, oto-rhino-laryngological hospitals, dental-naso-facial hospitals, Traditional Medical Institute, Acupuncture Institute

10 PHC[a] Faclities without Beds, Permanently Staffed with Physician(s)	11 PHC[a] Facilities without Beds and without Permanently Staffed Physician	12 Total			
Establishments	Establishments	Establish-ments	Beds	Admissions or Discharges	Patient-days
		11	[b] 813	[b] 35,002	[b] 172,564
		1,090	121,996	4,419,067	24,588,585
69,496	••	98,705	1,900,537	[c] 11,957,737	[c] 509,285,939
877	1,998	2,993	33,818	1,360,205	6,796,648
[1] 2,405	[1] 13,109	341	45,094	756,974	9,032,589
[d] 20	••	43	11,276	369,332	2,938,294
	[e] 9,258	1,280	118,417	5,967,424	28,998,559
		12,556	172,642		

Source : (1) Field Health Service Information System 1997

Note : a) Primary health care
b) Based on 4 government hospitals and 1 private hospital
c) Excluding PHC facilities
d) Government only
e) Health Centres

8 – 4 Hospital Utilization by Category of Hospital

	Year	All Hospitals					General Hospitals					
		Type	Population per Bed	Beds per 10,000 Population	Admissions per 10,000 Population	Bed Occupancy Rate (%)	Type	Beds per 10,000 Population	Admissions		Bed Occupancy Rate (%)	Average Length of Stay (Days)
									per 10,000 Population	per Bed		
BRUNEI [a]	1996	T	375	27	1,147	58	T	27	1,147	43	58	5.0
INDONESIA [1]	1997	G	1,650	6.0	204.9	55.3	G	3.1	125.6	40.5	58.5	6.0
JAPAN	1997	T	76	131.6	947.8	83.9	T	100.0	932.9	8.4	82.7	32.8
MALAYSIA [2]	1996	G	626	16.0	642.5	54.9	G	12.8 [b]	634.6 [b]	49.5 [b]	51.7 [b]	3.8 [b]
PHILIPPINES [3] [c]	1996	T	1,491	0.8	52.4	82.4						
SINGAPORE [d]	1997	T	331	30.2	988.4	79.4	T	17.1	807.5	47.1	78.1	5.4
THAILAND [4]	1995	T	500	19.9	1,006.6	67.1	T	17.4	976.3	56.1		
VIETNAM [5]	1996	G			681.1	89.5						

Source : Ministry of Health in each country
(1) Directorate of Medical Care, Ministry of Health
(2) Information and Documentation System Unit
(3) Hospital Operation and Management Services
(4) Health Statistics Division
(5) ***Health Statistics Yearbook,*** Health Statistics and Informatic Division, Ministry of Health

Note : Type of hospitals
T = Total
G = Government hospital establishments
a) 4 government hospitals and 1 private hospital
b) Hospitals. The previous categorization into general hospitals and district hospitals does no longer apply.
c) Refer to data from 36 retained tertiary hospitals by Department of Health
d) Based on total population

District Hospitals						Tuberculosis Hospitals					
Type	Beds per 10,000 Population	Admissions		Bed Occupancy Rate (%)	Average Length of Stay (Days)	Type	Beds per 10,000 Population	Admissions		Bed Occupancy Rate (%)	Average Length of Stay (Days)
		per 10,000 Population	per Bed					per 10,000 Population	per Bed		
		..						..			
G	2.0	79.2	38.5	50.4	5.0	G	0.0	0.5	14.4	47.3	12
		..				T	0.0	0.0	1.1	59.4	205.5
		..				G	0.1	1.3	23.4	42.7	6.7
		..						..			
G	3.7					T	0.1				

8 – 4 Hospital Utilization by Category of Hospital (Contd.)

	Year	Mental Hospitals						Maternity Hospitals					
		Type	Beds per 10,000 Population	Admissions		Bed Occupancy Rate (%)	Average Length of Stay (Days)	Type	Beds per 10,000 Population	Admissions		Bed Occupancy Rate (%)	Average Length of Stay (Days)
				per 10,000 Population	per Bed					per 10,000 Population	per Bed		
BRUNEI	1996	..						..					
INDONESIA (1)	1997	G	0.4	1.9	4.8	66.6	60	G	0.1	4.5	40.2	41.7	4
JAPAN	1997	T	20.8	14.8	0.7	94.8	483.1	..					
MALAYSIA (2)	1996	G	2.7	4.6	1.7	75.3	159.7	..					
PHILIPPINES (3)	1995	Special	0.4	0.9	2.2	76.4	157.6	Tertiary	0.1	5.1	73.0	106.1	4.3
SINGAPORE a)	1997	T	8.5	19.1	2.3	84.4	102.2	T b)	2.4	146.7	61.0	79.2	3.5
THAILAND (4)	1995	T	1.2					T	0.1				
VIETNAM													

Source : Ministry of Health in each country
(1) Directorate of Medical Care, Ministry of Health
(2) Information and Documentation System Unit
(3) Hospital Operation and Management Services
(4) Health Statistics Division

Note : a) Based on total population
b) Women's and Children's Hospital

9. Human Resources for Health

9 – A Definitions of Medical and Allied Health Personnel

	Definition
1. Physicians	All graduates of a medical school or faculty actually working in any medical field (practice, teaching, administration, research, laboratory, etc).
2. Medical Assistants	Personnel performing duties ranging from simple curative procedures for common diseases to wider medical care that may include a variety of diagnostic, curative and preventive practices. These personnel have no medical education of university level or equivalent.
3. Dentists / Dental Surgeons (a) High (university) level (b) Middle (non-university) level	(a) All graduates of a dental school (or faculty of odontology or stomatology) actually working in any dental field. (b) Personnel qualified from a dental school of non-university level and licensed to practice dentistry.
4. Dental Nurses	Personnel performing a limited range of diagnostic, preventive, and curative services in dentistry. These personnel usually do not have complete dental education of university level or equivalent.
5. Dental Assistants / Dental Auxiliaries	Dental non-operating auxiliaries who assist dentists and dental nurses in their clinical work but do not carry out any independent intra-oral procedures. These dental personnel usually have technical training either in formal courses or by apprenticeship.
6. Dental Technicians	Personnel who make dentures, bridges, etc. as specified by dentists for their patients. These personnel usually have technical trainingg in formal courses, e.g. at a specialized educational institution.
7. Pharmacists	All graduates of a faculty or school of pharmacy actually working in pharmacies, hospitals, laboratories, industry, etc.
8. Pharmaceutical Assistants / Dispensers	Personnel assisting in pharmacies, hospitals, or dispensaries to make and dispense medicaments, under the supervision of a pharmacist. These personnel do not have pharmaceutical education of university level or equivalent.
9. Veterinarians / Veterinary Surgeons	All graduates of a faculty or school of veterinary medicine actually working in any field of veterinary activity, including teaching and pubilic health.
10. Veterinary Assistants	Personnel providing limited diagnostic, preventive, and curative veterinary services. These personnel have no veterinary education of university level.
11. Professional Midwives	All graduates of a midwifery school actually working in any field of midwifery (practice in institutions and community health services, teaching, administration, private practice, etc.)
12. Assistant Midwives / Auxiliary Midwives	Personnel carrying out midwifery duties in normal obstetrics, in institutions and other health services, in principle under the supervision of a professional midwife. These personnel do not have the full education and training of a professional midwife.
13. Trained Traditional Birth Attendants	Personnel who practice traditional care of pregnant women and assist in the delivery, as accepted by the culture of a specific community, and who have later received some training in midwifery work.
14. Untrained Traditional Birth Attendants	Personnel without formal training in midwifery work who practice traditional care of pregnant women and assist in the delivery, as accepted by the culture of a specific community.
15. Voluntary Health Workers	Personnel performing voluntarily various types of health-related work, usually at the community level. They may have received some training in the work involved, either in formal courses or by apprentice-ship.

	Definition
16. Professional Nurses	All graduates of a nursing school working in any nursing field (general nursing, specialized clinical nursing services in mental health, pediatrics, cardiovascular diseases, etc., or public health, occupational health, teaching, administration, research, etc.). These personnel are qualified and authorized to provide the most responsible and competent professional nursing service.
17. Assistant Nurses / Auxiliary Nurses	Personnel performing general patient care of a less complex nature in hospitals and other health services, in principle under the supervision of a professional nurse. These personnel do not have the full education and training of a professional nurse.
18. Physiotherapists / Physical Therapists	Professional personnel treating patients by exercise, physical means, and massage, usually as prescribed by a physician.
19. Occupational Therapists	Professional personnel helping patients' recovery from illness or injury by supervising mental or physical tasks prescribed by a physician, such as daily activities of life, or vocational or recreational activities.
20. Dietitians / Nutritionists	Professional personnel who are experts in nutrients and nutrition and their application to the choice and use of food.
21. Medical Social Workers	Professional personnel providing help to persons with family or social problems arising from disease, injury or impairment.
22. Medical Laboratory Technicians	Professionals who have graduated from a school for laboratory technicians and work under the responsibility of a scientific or medical specialist. They also participate in the supervision, teaching and training of subordinate technical personnel.

	Definition
23. Assistant Medical Laboratory Technicians	Auxiliary technical laboratory personnel working under the supervision of a professional laboratory technologist or technician. These auxiliary personnel do not have the full training and theoretical knowledge of the professional.
24. Radiographers	Professionals who have graduated from a school for radiological technicians and work under the general responsibility of a specialist or physician in the field of radiology.
25. Assistant Radiographers	Auxiliary medical radiological personnel working under the direct supervision of a medical radiological technician or under a specialist or physician.
26. Sanitary Engineers	Professionally qualified engineers specialized in the prevention, control, and management of environmental factors that influence man's health adversely, e.g., in the design and operation of facilities for control and the planning and administration of environmental health programmes.
27. Sanitarians (a) High level (b) Middle level	(a) Professional personnel other than physicians inspecting the environment, promoting measures to restore or improve sanitary conditions (food inspection, inspection of public premises, etc.) and supervising the implementation of these measures. (b) Personnel who perform to a limited extent the functions of a professional sanitarian but do not have the full training and theoretical knowledge of the professional.

9 – A Definitions of Medical and Allied Health Personnel (Contd.)

	Definition
28. Malaria Field Officers	Personnel performing field work in malaria control under the supervision of the medical officer in charge, such as vector control, distribution of medicaments and field investigations. These personnel usually do not have education of university level, but are trained in formal courses in the work to be performed.
29. Entomologists	In health work, professional personnel with education of university level in entomology of disease vectors and in vector control.
30. Health Educators	Personnel providing community population groups with knowledge regarding health, such as disease treatment, disease prevention and health promotion. These personnel usually do not have education of university level, but are trained in formal courses in various subjects relating to health work.

9 – B Comparative Table on Medical and Allied Health Personnel

	Brunei (1996)	Indonesia (1997)	Japan (1996)	Malaysia (1997)	Philippines (1996)	Singapore (1997)	Thailand (1995)	Vietnam (1996)
1 Physicians	√	√	√	√	√	√	√	√
2 Medical Assistants				√			√	√
3 Dentists / Dental Surgeons	√	√	√	√	√	√	√	√
4 Dental Nurses	√	√		√		√		
5 Dental Assistants / Dental Auxiliaries	√	√	√	√		√	√	
6 Dental Technicians	√	√	√	√		√		
7 Pharmacists	√	√	√	√	√	√	√	√
8 Pharmaceutical Assistants / Dispensers	√	√		√		√	√	√
9 Veterinarians / Veterinary Surgeons	√		√	√	√	√	√	
10 Veterinary Assistants						√	√	
11 Professional Midwives	√	√	√	√	√	√	√	√
12 Assistant Midwives / Auxiliary Midwives	√							√
13 Trained Traditional Birth Attendants					√			
14 Untrained Traditional Birth Attendants					√			
15 Voluntary Health Workers					√		√	
16 Professional Nurses	√	√	√	√	√	√	√	√
17 Assistant Nurses / Auxiliary Nurses	√		√	√		√	√	√
18 Physiotherapists / Physical Therapists	√	√	√	√	√	√	√	
19 Occupational Therapists	√	√	√	√	√	√	√	
20 Dietitians / Nutritionists	√	√	√	√	√	√	√	
21 Medical Social Workers	√		√	√	√	√	√	
22 Medical Laboratory Technicians	√	√	√	√	√	√	√	√
23 Assistant Medical Laboratory Technicians	√	√		√	√	√	√	
24 Radiographers	√	√	√	√	√	√	√	
25 Assistant Radiographers	√							

9 – B Comparative Table on Medical and Allied Health Personnel (Contd.)

	Brunei (1996)	Indonesia (1997)	Japan (1996)	Malaysia (1997)	Philippines (1996)	Singapore (1997)	Thailand (1995)	Vietnam (1996)
26 Sanitary Engineers		√		√	√	√	√	
27 Sanitarian / Assistant Sanitarian	√	√			√	√	√	
28 Malaria Field Officers	√	√		√	√		√	
29 Entomologists	√			√	√		√	
30 Health Educators	√	√		√	√	√	√	

9 – 1 Medical and Allied Health Personnel

	Year	1. Physicians	2. Medical Assistants	3. Dentists / Dental Surgeons	4. Dental Nurses	5. Dental Assistants / Dental Auxiliaries	6. Dental Technicians	7. Pharmacists
BRUNEI	1996	251	••	24	81	41	19	20
INDONESIA	1997	a) 36,688	••	6,476	b) 7,184	c) 11,508	b) 95	6,993
JAPAN	1996	240,908	••	85,518	••	56,466	d) 80,192	194,300
MALAYSIA (1)	1997	14,248	5,074	1,865	1,388	1,050	424	1,746
PHILIPPINES (2)	1996	86,878	••	36,707	••	••	••	37,650
SINGAPORE	1997	4,912	••	952	e) 269	e) 238	e) 19	944
THAILAND (3)	1995	14,181	709	2,920	••	2,649	••	5,867
VIETNAM (4)	1996	33,470	f) 48,238					5,286

Source : Ministry of Health in each country
(1) Information and Documentation System Unit
(2) Professional Regulation Comission (Cumulative)
(3) ***Health Resources Report,*** Health Information Division
(4) ***Health Statistics Yearbook***, Health Statistics and Informatic Division, Ministry of Health

Note : a) 1996
b) 1995
c) 1994
d) Licensees at the end of 1996
e) Government only
f) Assistant doctors

9 – 1 Medical and Allied Health Personnel (Contd.)

	Year	8. Pharmaceutical Assistants / Dispensers	9. Veterinarians / Veterinary surgeons	10. Veterinary Assistants	11. Professional Midwives	12. Assistant Midwives / Auxiliary Midwives	13. Trained Traditional Birth Attendants	14. Untrained Traditional Birth Attendants
BRUNEI	1996	33	4	••	145	196	••	
INDONESIA	1997	36,181	••	••	58,656	••	••	••
JAPAN	1996	••	(1) a) 29,301	••	23,615	••	••	••
MALAYSIA	1997	2,162			5,827	••		••
PHILIPPINES	1996	••	4,441	••	117,995	••	(2) 33,506	(2) 5,834
SINGAPORE	1997	b) 323	b) 23	b) 113	473	••	••	••
THAILAND	1995	2,896	798	1,716	9,713	••		
VIETNAM	1996	15,835			8,101	4,461		

Source : (1) Livestock Industry Bureau, Ministry of Agriculture, Forestry and Fisheries
(2) Community Health Service

Note : a) As of December 31, 1996
b) Government only

15. Voluntary Health Workers	16. Professional Nurses	17. Assistant Nurses / Auxiliary Nurses	18. Physiotherapists / Physical Therapists	19. Occupational Therapists	20. Dietitians / Nutritionists	21. Medical Social Workers	22. Medical Loboratory Technicians	23. Assistant Medical Laboratory Technicians	24. Radiographers
	563	391	12	11	10	3	48	47	13
	a) 110,504	..	a) 1,179	b) 667	a) a) 9,504 / 4,948	..	b) 284	a) 7,832	a) 1,739
..	544,929	383,967	c) 17,316	c) 8,741	c) d) 661,720	a) e) 6,321	c) 128,455	..	c) 42,630
..	16,068	8,738	233	227	77	44	1,784	1,124	505
(1) 173,187	289,473	..	4,586	365	9,376	f) 171	3,035	a) 143	3,028
	10,867	3,365	g) 10	g) 15	g) 17	g) 26	g) 125	g) 16	g) 13
528,979	54,262	31,280	681	212	1,193	751	1,721	3,753	
	22,536	20,886					1,597		

Source : (1) Community Health Service

Note: a) For 1995
b) For 1991
c) Licensees at the end of 1996
d) Cumulative
e) Hospitals only
f) Department of Health only
g) Government only

9 – 1 Medical and Allied Health Personnel (Contd.)

	Year	25. Assistant Radiographers	26. Sanitary Engineers	27. Sanitarians / Assistant Sanitarians	28. Malaria Field Officers	29. Entomologists	30. Health Educators
BRUNEI	1996	20	..	54	10	1	2
INDONESIA (1)	1997		a) 4,568	b) 4,131	3,685	..	c) 78
JAPAN	1996	..	..	..	..	..	..
MALAYSIA	1997	..	87	..		25	89
PHILIPPINES	1996	..	1,988	d) 3,460	d) 760	d) 20	d) 80
SINGAPORE	1997		e) 239	e) 590			e) 20
THAILAND	1995		54	745	16,289	28	565
VIETNAM	1996						

Note : a) For 1994
b) For 1995
c) For 1991
d) Department of Health only
e) Government only

9 – 2 Population / Health Personnel Ratios

	Year	Physicians per 10,000 Population	Population per Physician	Dentists per 10,000 Population	Population per Dentist	Pharmacists per 10,000 Population	Population per Pharmacist	Medical Assistants per 10,000 Population	Population per Medical Assistant	Nursing Personnel per 10,000 Population	Population per Nursing Personnel	Nursing & Midwifery Personnel per 10,000 Population	Population per Nursing & Midwifery Personnel
BRUNEI	1996	8.2	1,216	0.8	12,713	0.7	15,255	••	••	33.9	295	43.6	229
INDONESIA	1996	1.9	5,402	0.3	33,245	0.4	28,343	••	••	a) 5.0	a) 1,993	a) 7.7	a) 1,291
JAPAN	1996	19.1	522	6.8	1,472	15.4	648	••	••	73.8	135	75.7	132
MALAYSIA	1997	6.6	1,521	0.9	11,617	0.8	12,409	2.3	4,270	7.4	1,348	10.1	990
PHILIPPINES (1)	1994	12.0	831	5.0	1,996	6.2	1,627	••	••	37.8	264	53	189
SINGAPORE b)	1997	13.1	761	2.5	3,925	2.5	3,958	••	••	38.1	263	39.4	254
THAILAND	1995	2.3	4,180	0.5	20,300	1.0	10,103	0.1	83,607	9.1	1,092		
VIETNAM	1996	4.4	2,253			0.7	14,256	c) 6.4	c) 1,562	5.8	1,735	7.4	1,346

Source : Ministry of Health in each country
(1) Professional Regulation Commission

Note : a) For 1994
b) Based on total population
c) Assistant doctor

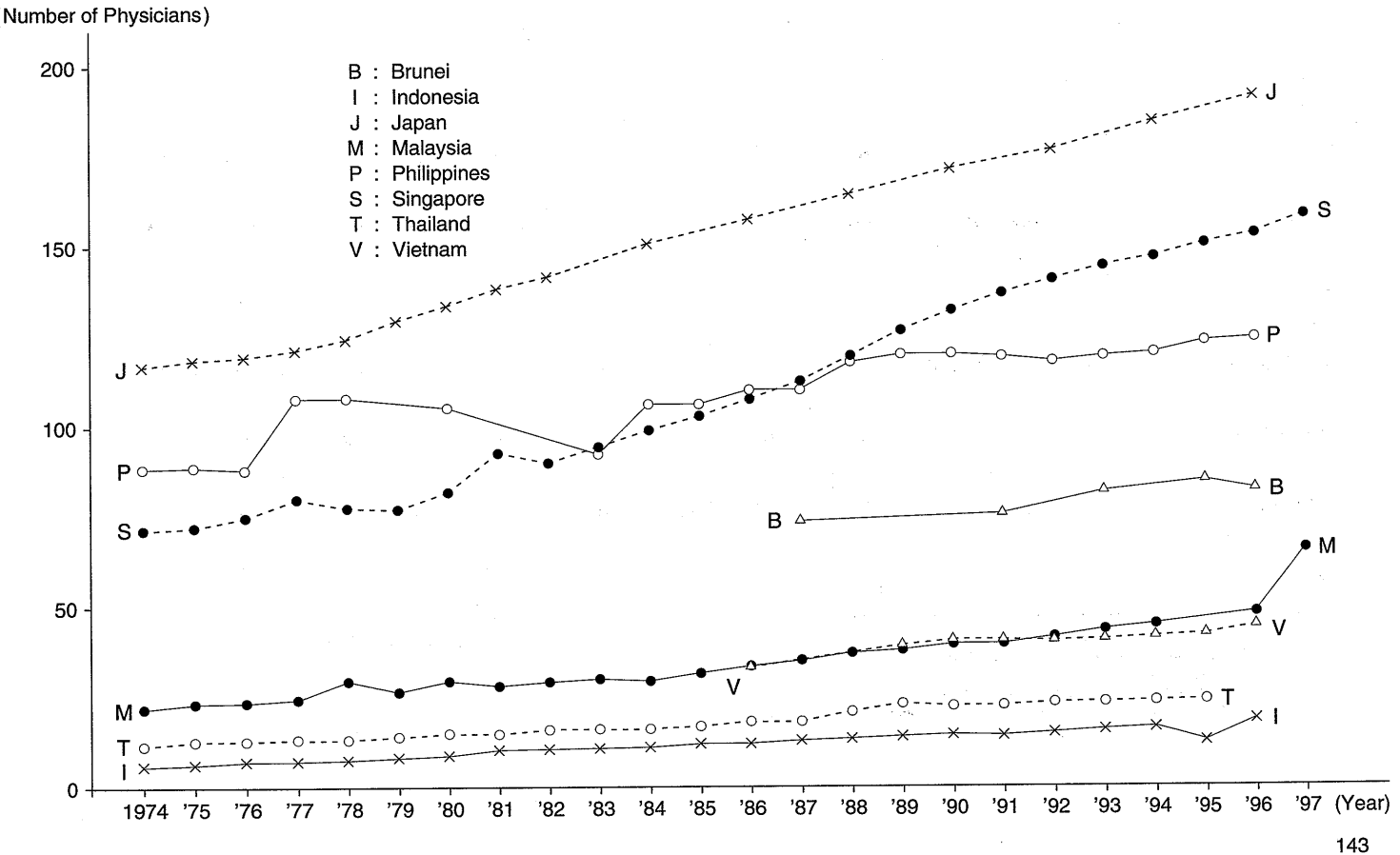
9 – 3 Number of Physicians

Year	1970	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
BRUNEI						197		226		251	251	
INDONESIA (1)	3,578	8,279	12,931	(2) 19,875	25,752	25,754	27,652	29,450	31,400	(3) 34,440	(4) 36,688	
JAPAN a)	118,990	132,479	156,235	NA	211,797	NA	219,704	NA	230,519	NA	240,908	NA
MALAYSIA (5)	2,543	2,757	3,858	4,939	7,012	7,198	7,719	8,279	8,831	9,608	10,196	14,248
PHILIPPINES (6)	31,515	37,276	50,848	58,015	72,593	74,008	77,127	79,936	82,494	84,671	86,878	
SINGAPORE	1,363	1,622	1,976	2,6317	3,573	3,779	3,962	4,146	4,301	4,495	4,661	4,912
THAILAND (7)	5,407	5,005	6,867	8,650	12,520	12,803	13,398	13,634	14,098	14,181		
VIETNAM (8)		b) 9,108		c) 19,804	26,821	27,413	27,953	28,884	30,017	31,122	33,470	

Source : Ministry of Health in each country
(1) ***The Health Situation of Indonesia,*** Ministry of Health
(2) Personnel Bureau 1987
(3) Indonesia Health Profile 1996
(4) Indonesian Five Year's Planning
(5) Information and Documentation System Unit, Ministry of Health
(6) Professional Regulation Commission, Registered
(7) Health Statistics Division, Ministry of Public Health
(8) ***Health Statistics Yearbook,*** Health Statistics and Informatic Division, Ministry of Health

Note: a) Since 1982, data collection every other year
b) 1976
c) 1986

Fig. 10 Trends in Number of Physicians (per 100,000 population)



9 – 4 Number of Dentists

Year	1970	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
BRUNEI						27		31		38	24	
INDONESIA (1)	452		1,681	(2) 4,237	5,545	6,176	6,753	7,231	7,836	7,836	5,962	
JAPAN a)	37,859	43,586	53,602	NA	74,028	NA	77,416	NA	81,055	NA	85,518	NA
MALAYSIA (3)	301	504	691	1,041	1,471	1,501	1,562	1,606	1,712	1,750	1,800	1,865
PHILIPPINES (4)	12,174	13,096	15,158	21,148	28,204	30,354	32,093	33,302	34,379	35,483	36,707	
SINGAPORE	398	419	485	604	776	784	806	839	859	875	913	952
THAILAND	683	652	1,169	1,451	2,285	2,408	2,669	2,786	2,984	2,290		
VIETNAM												

Source : Ministry of Health in each country
(1) ***The Health Situation of Indonesia,*** Ministry of Health
(2) Personnel Bureau, 1987
(3) Information and Documentation System Unit
(4) Professional Regulation Commission, Registered (cumulative)

Note : a) Since 1982, data collection every other year

9 – 5 . Number of Pharmacists

Year	1970	1975	1980	1985	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
BRUNEI								10		13		13	20	
INDONESIA (1)	1,486	1,847	3,013	(2) 4,268	5,085	5,207	5,399	5,345	5,592	5,762	6,559	6,971	6,993	
JAPAN a)	79,393	94,362	116,056	NA	143,429	NA	150,627	NA	162,021	NA	176,871	NA	194,300	NA
MALAYSIA (3)		258	488	843	1,084	1,170	1,239	1,214	1,351	1,324	1,510	1,537	1,715	1,746
PHILIPPINES (4)	19,076	20,838	23,225	26,440	27,732	28,764	29,612	30,971	32,126	33,233	34,854	36,352	37,650	
SINGAPORE	245	288	368	436	526	557	587	629	677	720	773	815	858	944
THAILAND (5)	1,407	1,913	2,650	3,376	3,681	3,825	4,163	4,333	4,609	4,721	5,575	5,867		
VIETNAM		b) 3,089		c) 5,700							5,757	4,941	5,286	

Source : Ministry of Health in each country
(1) ***The Health Situation of Indonesia,*** Ministry of Health
(2) Directorate General, Food and Drugs Control, Ministry of Health
(3) Information and Documentation System Unit
(4) Professional Regulation Commission, Registered (cumulative)
(5) Health Information Division, Ministry of Public Health

Note: a) Since 1982, data collection every other year
b) 1976
c) 1986

9 – 6 Number of Midwives

Year	1970	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
BRUNEI						407		464		452	341	
INDONESIA (1)	3,752	10,720	16,472		22,405 (2)	29,869 (3)	36,187	42,518	51,067		58,656	
JAPAN a)	28,087	26,742	25,867	NA	22,918	NA	22,690	NA	23,048	NA	23,615	
MALAYSIA (4)		1,995 b)	4,355 b)	5,047	5,492	5,543	5,476	5,508	5,500	5,495	5,746	5,827
PHILIPPINES (5)	16,082	18,528	42,114	55,841	71,092	77,773	85,172	94,849	102,875	111,700	117,995	
SINGAPORE	1,058	930	779	623	543	529	530	522	507	499	487	473
THAILAND (6)	4,203	6,335	8,669	7,716	10,796	10,582	10,492	10,525	10,342	9,713		
VIETNAM		647 c)		4,480 d)	5,025		5,835	5,986	6,625	7,145	8,101	

Source : Ministry of Health in each country
(1) ***The Health Situation of Indonesia,*** Ministry of Health
(2) Centre for Health Manpower Education, Ministry of Health
(3) Biro Kepegawaian, Data Jumlah yang bekerja di Depkes
(4) Nursing Board, Ministry of Health
(5) Professional Regulation Commission, Registered (cumulative)
(6) Health Information Division, Ministry of Public Health

Note : a) Since 1982, data collection every other year
b) Peninsular Malaysia only
c) 1976
d) 1986

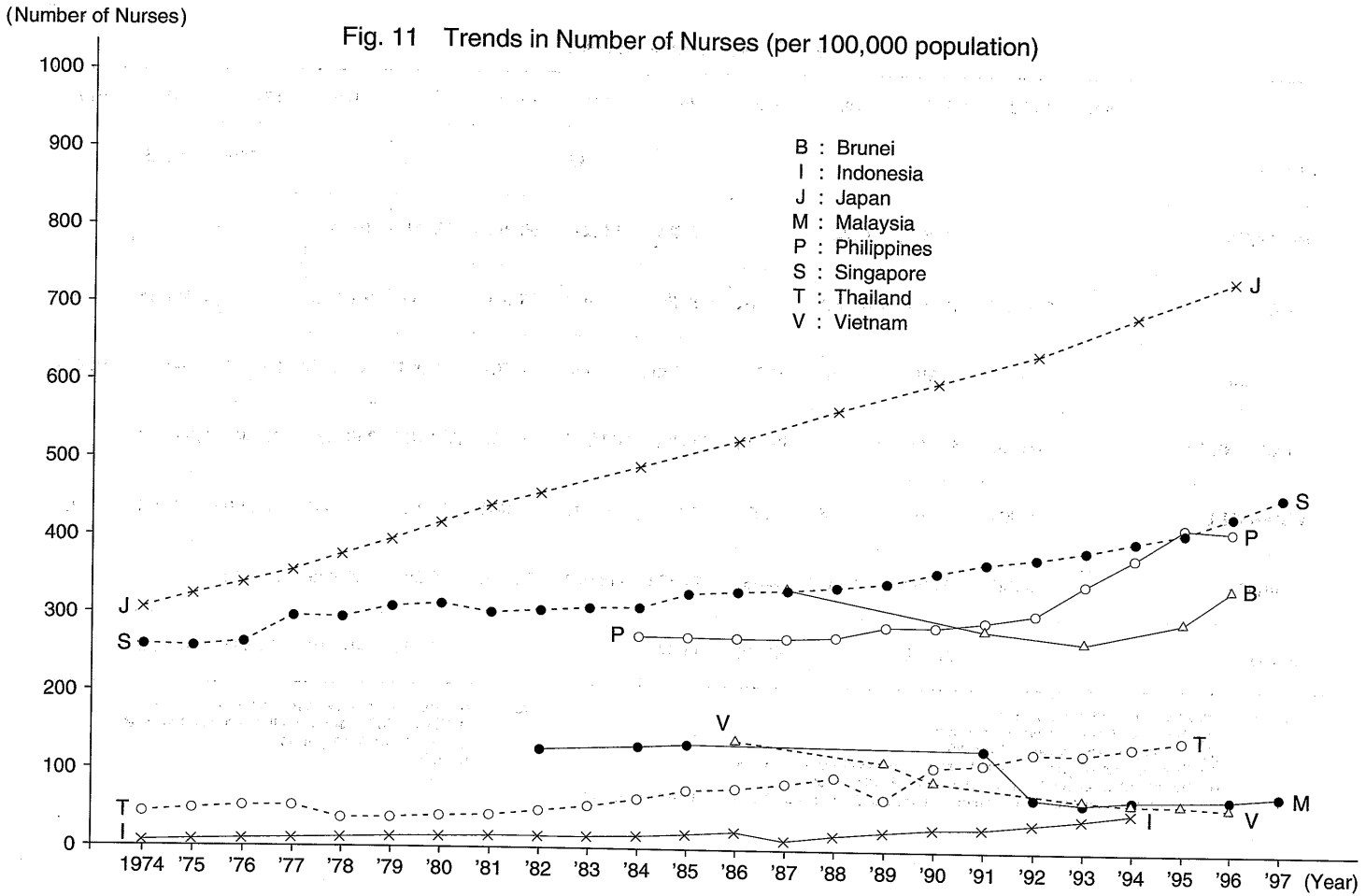
9 – 7 Number of Nurses

Year	1970	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
BRUNEI						739		743		876	1,035	
INDONESIA (1)		9,856	20,201		50,350	53,308	65,805	78,290	96,427			
JAPAN a) b)	273,572	361,604	487,169	NA	745,301	NA	795,810	NA	862,013	NA	928,896	NA
MALAYSIA (2)	5,617	4,207	7,649 c)	10,311	11,569	11,604	12,789	11,961	13,224	13,647	14,614	16,068
PHILIPPINES (3)	38,918	64,165	114,657	148,514	174,112	183,277	199,263	230,187	259,629	286,901	289,473	
SINGAPORE a)	4,304	5,767	7,545	8,393	9,695	10,233	10,633	11,127	11,723	12,298	13,193	14,232
THAILAND (4)	15,387	18,993	18,483	38,683	60,672	63,974	73,319	73,684	80,938	85,542		
VIETNAM (5)		63,458 d)		83,222 e)	58,674			47,125	45,279	45,561	43,422	

Source : Ministry of Health each country
(1) Personal Bureau, Ministry of Health
(2) Nursing Board, Ministry of Health
(3) Professional Regulation Commissioner, Registered (cumulative)
(4) Health Information Division, Ministry of Public Health
(5) ***Health Statistics Yearbook,*** Health Statistics and Informatic Division, Ministry of Health

Note: a) Professional nurses and assistant nurses
b) Since 1982, date collection every other year
c) Peninsular Malaysia only
d) 1976
e) 1986

Fig. 11 Trends in Number of Nurses (per 100,000 population)



9 – 8 Situation of Medical Schools

	Academic Year	Number of Medical Schools	Duration of Studies	Total Enrolment	Admissions	Graduates
BRUNEI	..					
INDONESIA (1)	1996	32	6 years			1,660
JAPAN (2) a)	1997	80	6 Years	47,806	7,596	7,884
MALAYSIA (3)	1997 / 1998	5	5 – 6 Years	2,378		
PHILIPPINES (4) b)	1997	30	Pre-Med-4 Years Proper-4 Years Intern-1 Years	12,000	3,800	2,500
SINGAPORE (5)	1997 / 1998	1	5 Years	c) 739 d) 50	c) 161 d) 19	c) 141 d) 7
THAILAND (6)	1996	11	7 Years			819
VIETNAM (7)	1996	e) 9	6 Years	13,382	2,950	1,797

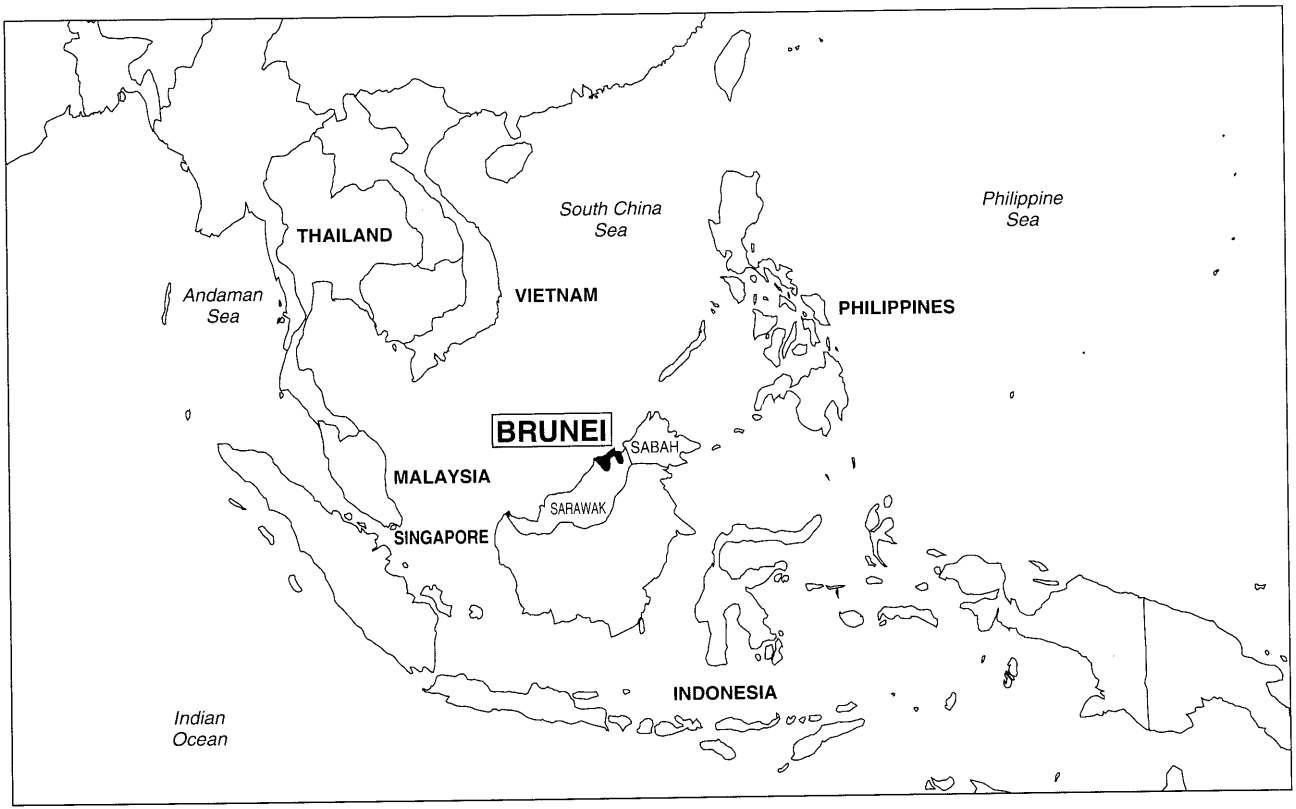
Source : (1) Consortium Medical Science
(2) Ministry of Education
(3) Ministry of Education
(4) Association of Philippine Medical Colleges, Manila
(5) National University of Singapore
(6) Ministry of Public Health
(7) Ministry of Health and Ministry of Education

Note : a) Data on 1 May
b) Estimated
c) Singaporeans
d) Non-Singaporeans
e) 5 medical colleges belong to Ministry of Health and 4 medical departments of universities belong to Ministry of Education

Part II

An Outline of Health Statistics in SEAMIC Countries

Negara Brunei Darussalam



Negara Brunei Darussalam

1. Population Statistics

(1) Background Information

The main sources of information on population are censuses. The first census took place in 1911 and the last decennial census was conducted in 1991. Mid-year population estimates are made for the intercensal years based on the census figures.

(2) Purpose

The main purpose is to satisfy the internal need for statistical information on population, housing and agricultural activities, thereby providing the background for general planning purposes and for the Brunei Darussalam National Development Committee which requires timely and reliable data as essential information.

(3) Coverage

Nationwide

(4) Contents

In the 1991 (latest) census, the information collected could be classified under the following categories:

(a) Geographical, census house and census household characteristics;
(b) Demographic and personal characteristics;
(c) Educational characteristics;
(d) Fertility characteristics;
(e) Economic characteristics.

(5) Data Collection Procedures

In the 1991 population census, trained enumerators visited every house or building suspected of being used for habitation to collect information pertaining to name, identity card number, relationship to head of household, sex, age, place of birth, citizenship, marital status, religion, level of education, age at first marriage, number of children born alive, employment and income of each person staying in the house or building

during the census night, i.e. the night of 26 August 1991.

(6) Tabulation and Publication

The Economic Planning Unit is responsible for the tabulation and release of census results. The data are also published in the *Brunei Statistical Yearbook.*

2. Vital Statistics

(1) Background Information

The main source of information on vital statistics is the compulsory vital registration of births and deaths. The occurrence of birth and death events is registered by law. The registration system has been operative since 1 January 1923 under the "Births and Deaths Registration Act". Although stillbirths have been recorded, they are not registered by law.

(2) Coverage

Nationwide

(3) Contents

Statistics and health indicators derived from the vital registration system include:

Births

(a) Number and rate by sex, race, urban/rural, month;
(b) Number by district/registration area;
(c) Crude birth rate.

Deaths

(a) All deaths: Number and rate by age, sex, race, nationality, month and causes;
(b) Number by district/registration area;
(c) Infant deaths: Number and rate by age, sex, district/registration area and cause;
(d) Neonatal deaths: Number and rate by sex, district/registration area and cause;
(e) Early neonatal deaths: Number and rate by sex, district and cause;
(f) Stillbirths: Number and rate by sex and district/registration area;
(g) Perinatal deaths: Number and rate

by sex and district/registration area;
(h) Maternal deaths: Number and rate by district/registration area;
(i) Crude death rate;
(j) Causes of death by age and sex (coding based on ICD-10).

(4) Data Collection Procedures

The vital registration system is operating in 25 registration areas under the supervision of six Deputy Registrars. The responsible agency is the Birth and Death Registry, under the Medical and Health Directorate. The vital events information is now processed by the Birth and Death Registry and the Computer Unit, Ministry of Health.

(5) Tabulation and Publication

The vital events information is presented in the *Public Health Services Annual Report.*

3. Morbidity Statistics

(1) Background Information

Notifiable and infectious disease statistics are collected from hospitals, health centres and general practitioners. To augment these data, hospital outpatient as well as inpatient information is being collected.

(2) Purpose

To take prompt action on the occurrence of notifiable diseases. To study the general pattern and trend of morbidity situation in Brunei.

(3) Coverage

All inpatients and outpatients.

(4) Contents

Diseases by age, sex, average length of stay, district and Bruneian/non-Bruneian.

(5) Data Collection Procedures

The notifiable disease statistics are collected through specially designed yellow forms. The inpatient morbidity data are collected, based on individual case summaries of discharged patients, while outpatient morbidity data are collected, based on outpatient folder request forms. The disease coding is done by physicians and trained medical coders.

(6) Tabulation and Publication

The Medical Records Officers at the Government hospitals are responsible for compilation of the source information. The Medical and Health Statistics Section, Planning, Research and Development Unit (PRDU) in the Ministry of Health is responsible for collection, compilation, processing, analysis and interpretation of the information.

4. Public Health Statistics

Statistics are collected on maternal and child health services, primary health care training, school health services, expanded programme of immunization, environmental health (food safety, pollution control and vector control), port health, disease control, nutrition, psychology, building and development, and health education programmes. Monitoring and evaluation indicators have accordingly been developed and are used for the assessment of these programmes.

5. Hospital Performance Statistics

The Medical and Health Statistics Unit, PRDU, Ministry of Health is collecting hospital administrative statistics to obtain information on the workload, bed-usage and activities in order to plan, monitor and evaluate the hospital services. In so doing, the nursing census is properly maintained in all hospitals. These statistics are collected by using a specially designed hospital activities format. Its contents relate to inpatient/outpatient/surgical/dental/miscellaneous activities, laboratory and radiological investigations, X-ray and blood transfusions, obstetric services, and results of care and information on beds.

6. Monitoring System

At the early part of 1991 Ministry of Health began an improvement programme called PIP (Performance Improvement Programming). The PIP concept is nothing but a planning process applied in Health Programming for Improved Performance. This approach is similar to the Country Health Programming Instrument used in some WHO member countries. Based on this PIP, the monitoring system for Medical Care and Public Health Programmes was developed and put into operation by the Ministry of Health in April 1991. Regular meetings have been held ever since, at which the performance of the programme activities is monitored.

7. Health Manpower Statistics

(1) Background Information

Special health manpower registers for doctors, dentists, pharmacists, nurses and midwives are systematically kept. Another source of health manpower data is from administrative records. This source covers all categories of personnel working under the Ministry of Health.

(2) Purpose

To provide up-to-date information for health manpower planning.

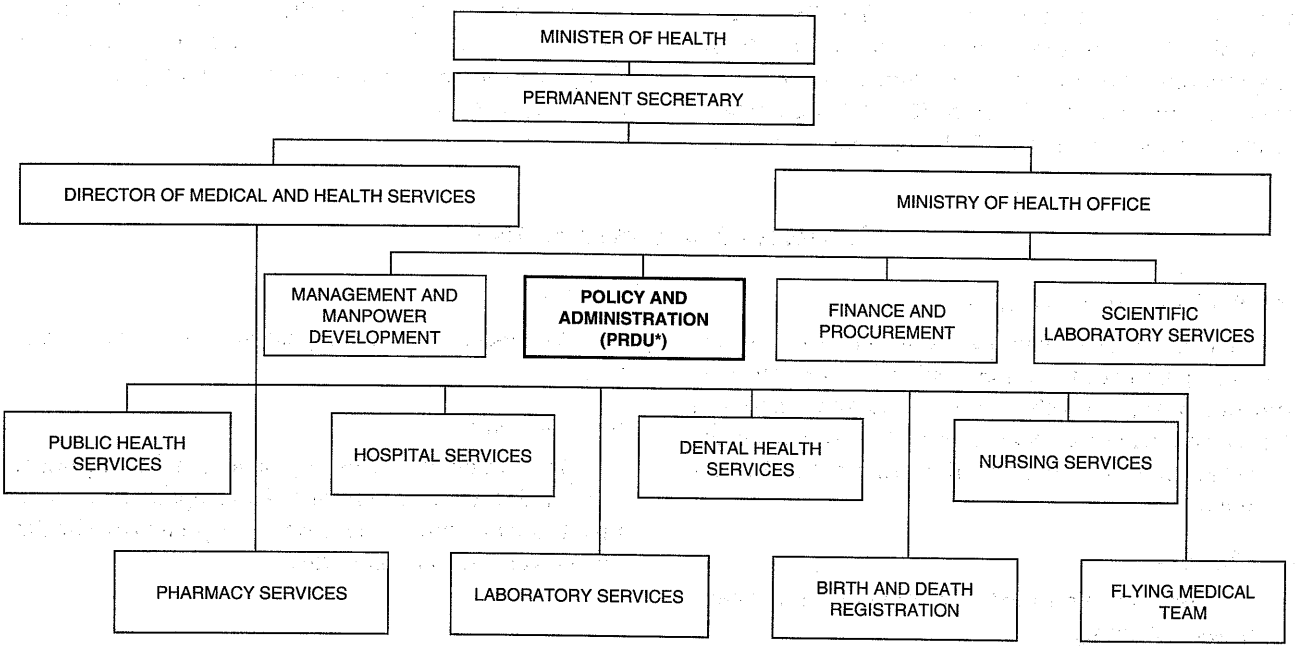
(3) Coverage

All doctors, dentists, pharmacists, nurses, midwives, etc.

(4) The Plan

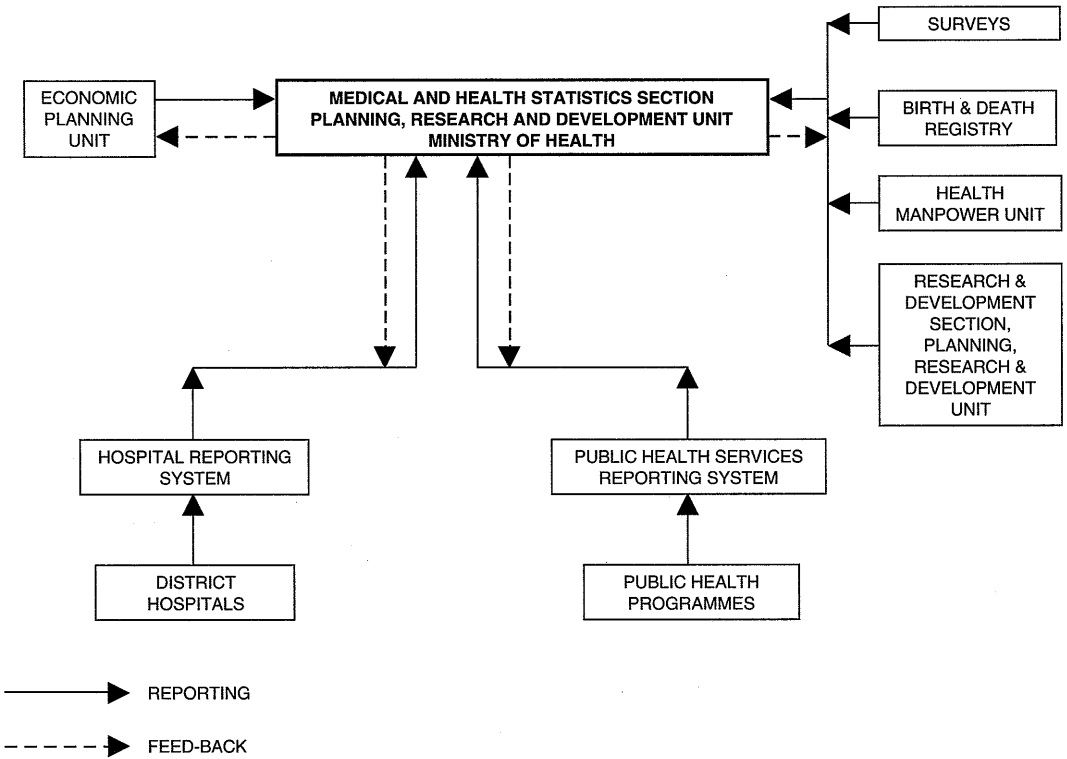
The Manpower Development and Management Unit and the Research and Development Section, PRDU are planning to develop a comprehensive health manpower information system.

Ministry of Health
Negara Brunei Darussalam

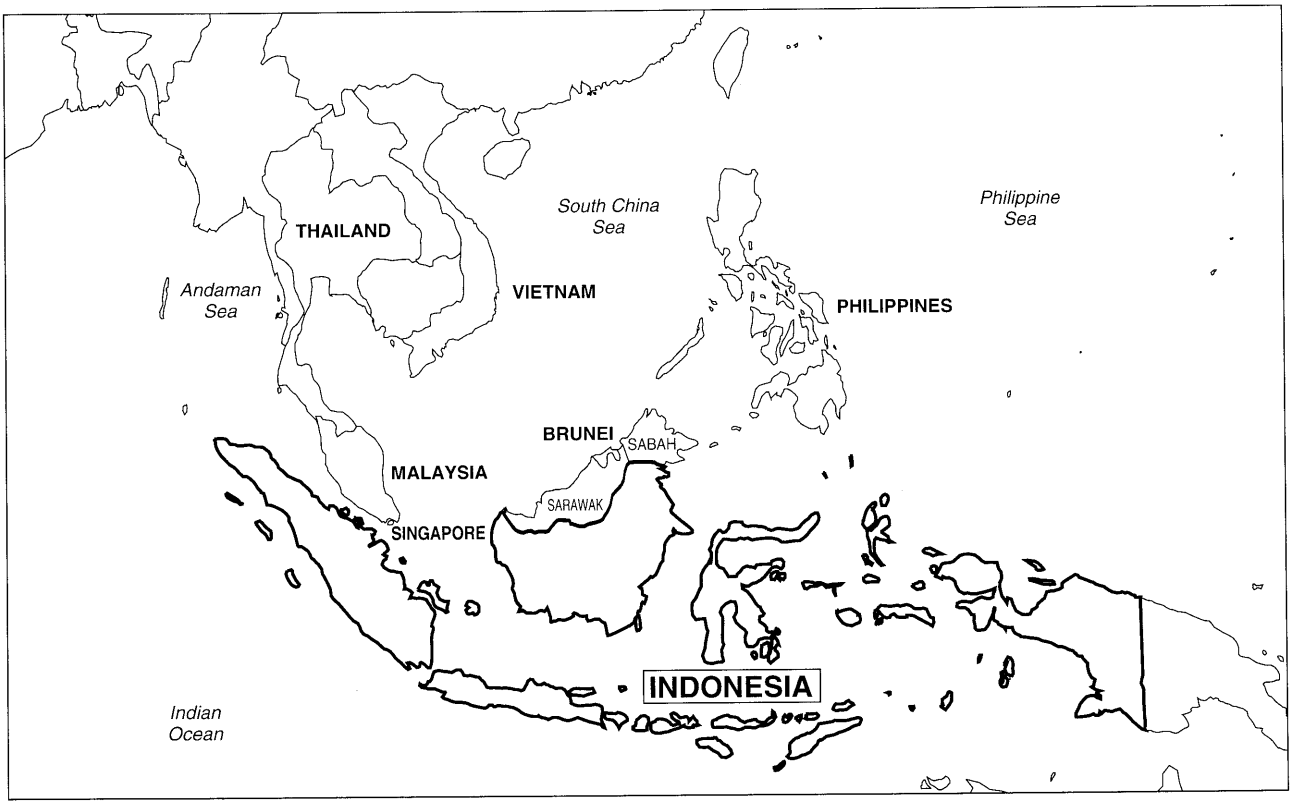


*PRDU = Medical & Health Statistics Section, Planning, Research & Development Unit

Flow of Health Information



Indonesia


THAILAND
South China Sea
Philippine Sea
Andaman Sea
VIETNAM
PHILIPPINES
BRUNEI
SABAH
MALAYSIA
SARAWAK
SINGAPORE
INDONESIA
Indian Ocean

Indonesia

1. Population Census

(1) Purpose

To obtain the latest data and information on the population for monitoring and evaluating the development programmes such as health, housing, education, etc.

(2) Methodology

The scope of the census is the whole population who live or stay in Indonesia, either Indonesian citizens or foreigners (excluding diplomatic corps), ship crews on Indonesian flagships in Indonesian waters, nomadic groups and homeless persons.

The ceusus collects data on migration, education, mortality, natality and other vital statistics, etc.

The data are collected once every ten years so that annual data can only be obtained through estimation and projection.

The data are collected in two phases. In the first phase, a complete census of the whole population is done to collect basic information on the number of population by sex and citizenship. In the second phase, five percent of the total population is taken as a sample to collect more detailed information.

The Central Bureau of Statistics organizes the activities.

2. Intercensal Population Survey

(1) Purpose

The objectives of the survey are:

a. to estimate the number of population in the time period between two censuses;
b. to estimate birth rates, death rates, and population mobility;

c. to collect socio-economic data on the population;
d. to collect information on building and housing.

(2) Methodology

The survey covers all geographical areas and populations that have permanent residence in the Indonesian territory. The data are collected once every ten years, namely, in the middle year between two successive censuses.

In the first phase of the survey, all households in the latest census are listed. Based on the list, some households are selected as samples in such a way that the number of the sample households becomes ten times the number of selected census blocks in the district. The data are collected through interview with respondents during the second phase of the survey. The data collected in the second phase consist of information about the family and the house; individual information relates to socio-economic characteristics, marriage, birth, family planning, health, death, migration, and labour force or activity.

The Central Bureau of Statistics organizes the survey.

3. Epidemic and Communicable Disease Report

(1) Purpose

To monitor closely some communicable diseases which are epidemic or potentially epidemic that might give rise to an outbreak or unusual events.

(2) Methodology

The scope of the report is the whole population who are reached by health facilities or personnel. The types of communicable diseases being reported are:

a. Quarantinable or serious epidemic diseases such as cholera, typhus, poliomyelitis and diphtheria;
b. Potentially epidemic diseases which spread quickly or cause high mortality and require quick action, namely, dengue hemorrhagic fever (DHF), measles, pertussis and rabies;
c. Other potential epidemic diseases, such as malaria, framboesia, influenza, anthrax, hepa-

titis, typhus abdominalis, meningitis, encephalitis, tetanus and tetanus neonatorum;
d. Other communicable diseases which are not potentially epidemic such as worms, leprosy, tuberculosis, syphilis, gonorrhoea, filariasis, etc.

Amongst those diseases, only diseases in item a. and b. need to be reported weekly, provided there is no epidemic. The others must be reported through the Health Centre's recording and reporting system, but if there is an epidemic, it must be reported immediately within 24 hours.

In the recording and reporting system, there are two types of form to be used.

(i) W-1 Form.

This form is used to report an outbreak or unusual events within 24 hours by all health facilities to the administrative level one step up.

Since it is a rough report on an epidemic, the report should be followed up with a temporary epidemiological investigation, and a plan of actions.

(ii) W-2 Form.

This form is used to report weekly some potentially epidemic diseases such as cholera, diarrhoea, typhus, DHF, rabies, diphtheria, poliomyelitis, pertussis, measles and other communicable diseases which are endemic at the time of outbreak.

The reports are done by all health facilities to the administrative level one step up.

The Directorate General of Communicable Diseases, Ministry of Health, Provincial Health Service, District Health Service and Health Centres organize the activity at the central, provincial, district and subdistrict levels, respectively.

4. Food Balance Sheets

(1) Purpose

The objectives of composing Food Balance Sheets are:

a. to present the food consumption pattern in general, namely, composition of food commodities, total consumption of calories and protein and fats, for monitoring and evaluating nutrition programmes;
b. to describe the distribution of the food supply

for export, import, industrial use and also for domestic consumption;

c. to indicate the quality of the basic data available on exports, imports, conversion factors used, and the per capita consumption.

(2) Methodology

The Food Balance Sheets cover all information dealing with the food consumption pattern and its nutrients, distribution of food supply for export, industrial use and domestic consumption and its quality.

The available annual data are compiled using FAO methods, in which some necessary adjustments have to be made based on the existing data in Indonesia.

The Central Bureau of Statistics assisted by the FAO experts in collaboration with the Food and Nutrition Unit of the Ministry of Agriculture undertakes the composition.

5. National Household Health Survey

(1) Purpose

To obtain the latest data and information on the health situation of the population, especially on:

a. morbidity and mortality pattern;
b. fertility, pregnancy and child delivery pattern;
c. pattern of health facilities utilization, both governmental and private;
d. condition of environmental health;
e. KAP and community participation in health service;
f. nutritional status of infants, children, and pregnant women.

(2) Methodology

Due to the limitations in ability and coverage of the survey, the number of population being taken as a sample is limited. The survey might not be able to cover every aspect of change in the health situation in the year of the survey. The survey is done once every five years.

Data are collected through interviews, environmental observation, and physical and laboratory examination. The head of the household acts as the respondent in the interview.

Six types of questionnaire are used to ask data on

characteristics of household and living environment, individual characteristics, morbidity, mortality, and pregnancy and delivery.

A stratified multistage random sampling is done based on the clusters of the infant mortality rate.

From each cluster one province is chosen whose characteristics are considered to approximately correspond to the median of the values. In each province chosen, random sampling of districts and subdistricts is done to select three districts, and two or three subdistricts in each district. Approximately 889 households are selected in each subdistrict or about 4,445 population.

The Institute of Health Research and Development, Ministry of Health organizes the survey.

6. National Socio-Economic Survey

(1) Purpose

To collect data on the population which are related to socio-economic activities.

(2) Methodology

The survey covers all geographical areas and populations of Indonesia, and collects information on population, health, fertility, household expenditure, crime, housing and environment.

The samples are drawn from both urban and rural areas. In the rural areas, the samples are collected in four stages. The first two stages are meant for the selection of subdistricts and villages, respectively, which is conducted using the probability sampling proportional to the total population. In the third stage, census blocks are selected using a random sampling procedure, and in the last stage, nine households are selected from each census block systematically. In the urban areas, the samples are drawn systematically in two stages: selection of clusters and households. A cluster is part of a village which consists of 50 households or 250 population living close to each other and which has a clear boundary. From each cluster nine households are selected.

The survey covers approximately 25,000 to 100,000 households and in each quarter one fourth of the households are to be visited for survey.

The Central Bureau of Statistics organizes the activities.

7. Hospital Recording System

(1) Purpose

To obtain the latest data and information from hospitals concerning hospital activity or service.

(2) Methodology

The recording covers all hospitals in Indonesia, either governmental or private. There are some limitations to the data being collected:

a. the morbidity and mortality rates resulted from the hospital records do not cover all population in the district area;
b. data on hospital service comprise hospital outpatient visits and inpatient care.

The data on morbidity and mortality are based on a ten-day sampling in three months. The data on visits and delivery are based on the daily census.

All of the data are recorded in the registers or individual records. Individual records are used for inpatient care including delivery. Based on the registers, quarterly reports are made.

The Directorate General of Medical Care organizes the activity, whereas the Centre for Health Data organizes the activity in the pilot project areas.

8. Health Manpower Recording and Reporting System

(1) Purpose

To obtain data on health manpower and personnel, health schools and their students, and also data on training activities.

(2) Methodology

The activity covers all health personnel who work in health offices, government health centres, and hospitals, either governmental or private. It covers also all health schools and their students. Training of health personnel is also included in the activity.

a. Health personnel records:
Every health personnel fills in the computerized form to record individual biodata and other attributes such as educational level, place of work, salary, etc. Every change of

those attributes should be reported for updating.

b. Health Schools:
Every health school should record and report basic data on the school such as the number of teachers, number of classrooms, number of students and amount of budget, etc. Besides, every students should report his or her biodata, status and its changes.

c. Data on health personnel training are reported, pertaining to the type of training, duration, budget, and number of personnel trained.

The Centre for Health Data organizes the activity.

9. Consortium of Health Sciences (CHS)

(1) Purpose

To obtain data on the number of schools and graduates from all faculties of medicine in Indonesia to be used for planning and development of medical doctor education.

(2) Methodology

The activity covers all governmental medical schools in Indonesia; private schools are not included.

Every medical school should report the number of students in every class and also the number of graduates every year.

The Ministry of Education and Culture organizes the activity. All reports should be addressed to the CHS.

10. Recent Developments in the Health Information System

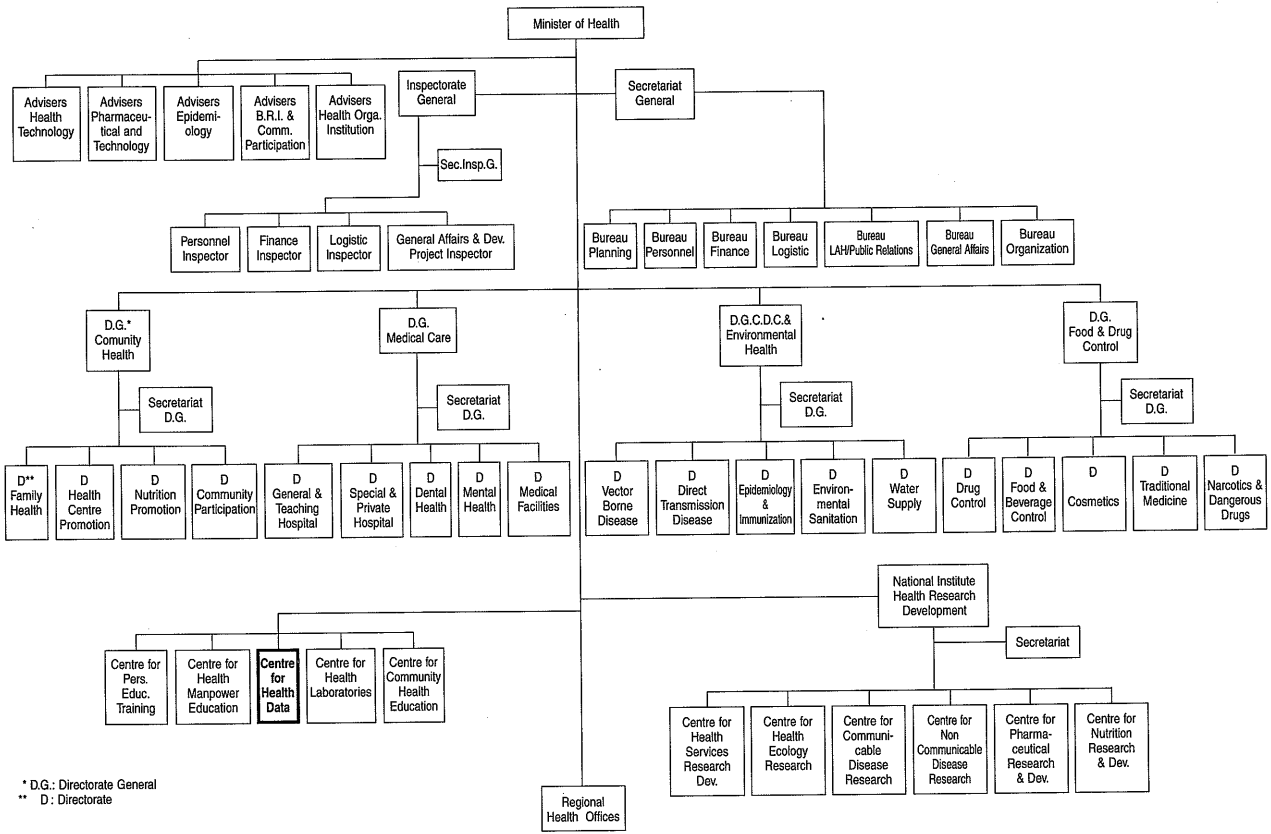
Since 1988, the Centre for Health Data, Ministry of Health initiated the preparation of the National Profile and Provincial and District Annual Health Profiles to be used among others as supportive information for policy formulation and decision-making at each government level. Furthermore in 1994, the Ministry of

Health developed monthly and trimonthly executive reporting from each Provincial Health Office to the Health Minister.

Recent technological advances in computing and informatics offer almost unlimited opportunities for the improvement of the information system. To support the executive functions at national level, the local area network (intranet) and the wide area network (internet) have been developed.

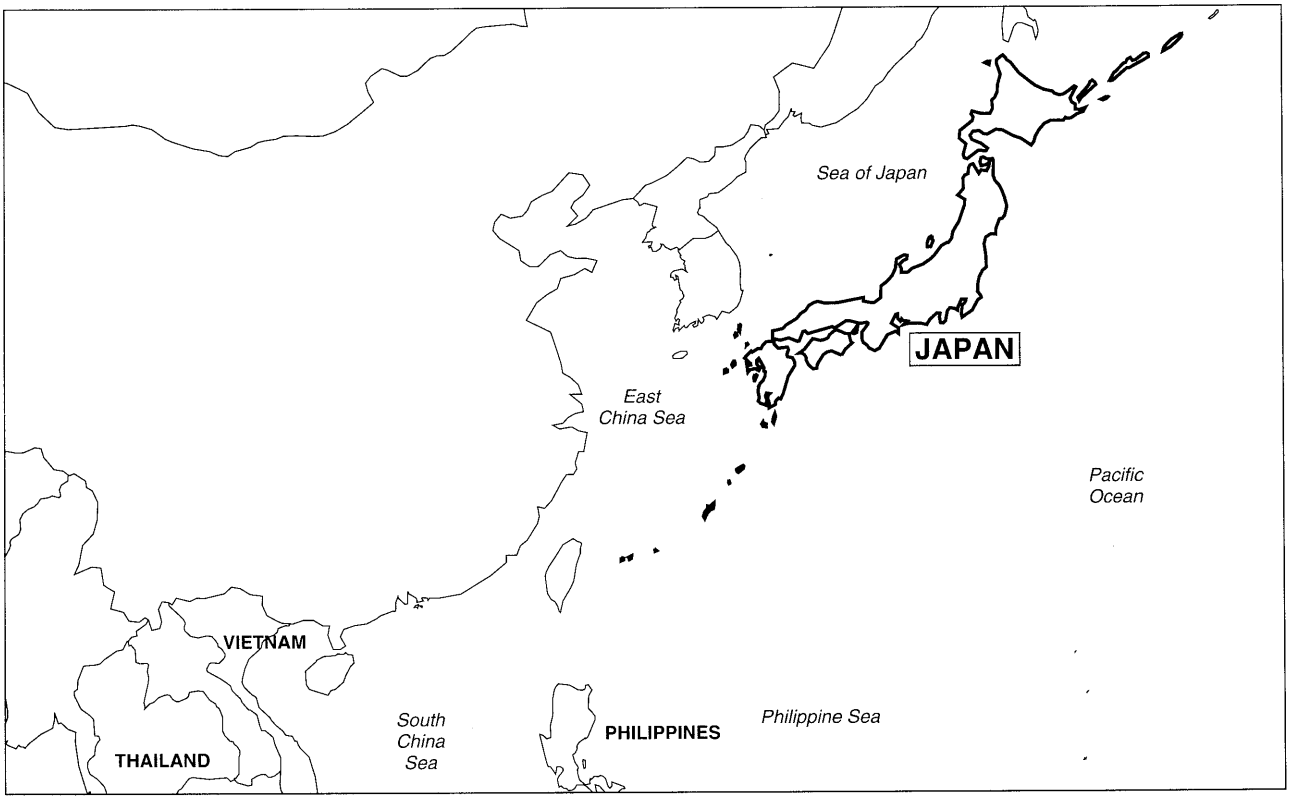
(Centre for Health Data, Ministry of Health)

Organization Structure
Ministry of Health, Indonesia



* D.G.: Directorate General
** D : Directorate

Japan


Sea of Japan
JAPAN
East
China Sea
Pacific
Ocean
VIETNAM
South
China
Sea
PHILIPPINES
Philippine Sea
THAILAND

Japan

1. Population Census

(1) History

Population censuses in Japan have been conducted every five years since 1920. The last 1995 Population Census was the sixteenth one.

After World War II, the scope of census-taking has generally been amplified so as to satisfy the increased demands from the variety of users of the census results.

The censuses include large-scale censuses and simplified censuses. The censuses taken every ten years starting 1920 have been the large-scale censuses, while the censuses taken quinquennially between the large-scale decennial censuses have been the simplified ones. The main difference between the two is the number of questions asked in the census. In a simplified one, questions are limited to basic characteristics of population, i.e., name, sex, age, marital status, etc., while a large-scale census covers questions on socio-economic characteristics such as occupation and industry in addition to the basic characteristics of population. The 1995 Population Census was taken as a simplified census.

(2) Purpose

To provide data on the current situation of population in Japan.

(3) Coverage

The whole population in Japan.

A person is enumerated at the place where he or she usually lives and is counted in the population of that area.

(4) Date

As of 0:00 a.m. of 1 October of the census year.

(5) Contents of Questionnaire for the 1990 Population Census (large-scale census)

(i) For each household member

a. Name
b. Sex
c. Date of birth
d. Relationship to the head of the household
e. Marital status
f. Nationality
g. Previous address five years ago
h. Educational record
i. Type of employment (permanent/part-time employment)
j. Industry
k. Occupation
l. Employment status (rank in enterprise)
m. Place of work or location of school
n. Transportation to the place of work or location of school
o. Commutation time

(ii) For the household

a. Type of household (extended/nuclear family, etc.)
b. Number of household members
c. Source of income
d. Type of tenure (purchased/rental)
e. Number of dwelling rooms
f. Total floor space
g. Type of building (wooden/reinforced concrete) and number of stories

(6) Data Collection Procedure

The field enumeration of the 1990 Population Census was conducted, within their respective jurisdictions, by the mayors or the heads of city, ward, town and village, under the supervision of the governments of prefectures. The whole procedure was planned and administered by the Statistics Bureau under the Management and Coordination Agency, the Prime Minister's Office.

(7) Tabulation and Publication

The Statistics Bureau takes charge of the whole tabulation and releases the results through publications and other media.

2. Vital Statistics

(1) History

The Family Registration System was established and came to function as a permanent source of vital statistics in 1872. The jurisdiction of vital statistics system was transferred from the Statistics Bureau, Prime Minister's Office to the Ministry of Health and Welfare in 1947, with a view to making full use of the collected data mainly for public health activities.

(2) Method of Collecting Data

The basic characteristics of the present vital statistics system are based on the Family Registration System, which registers each individual's legal status under the jurisdiction of the Ministry of Justice.

According to the provisions of the Family Registration Law, vital events of birth, death, marriage and divorce have to be reported to the head of the local administrative office. The event of stillbirth (fetal death) also has to be reported under the provisions of the Stillbirth Report.

A birth report has to be accompanied with a birth certificate by the physician or the midwife who attended the delivery. The report should be submitted by either father, mother, a person who lives with them, or anyone who attended the delivery, within 14 days after the birth.

A death has to be reported with a doctor's death certificate or autopsy report. The death report has to be submitted by a relative or anyone who lived with the deceased, the landowner, or the custodian, within 7 days after the death or the time when the death was known.

The report on stillbirth has to be made with a doctor's or midwife's certificate of stillbirth, and is to be submitted by father, mother, any person who lives with them, or anyone who attended the delivery, within 7 days after the stillbirth.

The channel of collecting vital statistics data can be illustrated in the chart shown below.

(3) Publications on Vital Statistics

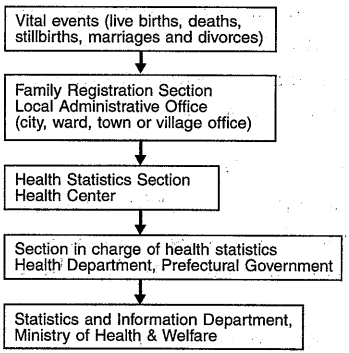
The results of vital statistics are published by the Statistics and Information Department, Ministry of Health and Welfare on a periodical basis in the following three publications:

a. *Monthly Brief Report on Vital Statistics*
The Monthly Brief Report covers total figures of live births, deaths, stillbirths, marriages and

divorces by prefecture. It should be noted that the figures stated in this report represent only the number of forms submitted for each type of vital events forwarded from Prefectural Governments and received by the Ministry of Health and Welfare. This is published 2 months later.

b. *Monthly Report on Vital Statistics*
The Monthly Report containing the figures derived from the processed data is published 5 months after the month of occurrence of the vital events. This report covers a wider variety of detailed tables of results.

c. *Annual Report on Vital Statistics*
The Annual Report is a fundamental one among the periodical publications on vital statistics. The Report includes a wide variety of detailed tables and presents final tabulations of vital statistics in Japan. The Report is published one year after the year of occurrence.



Channel of collecting vital statistics data

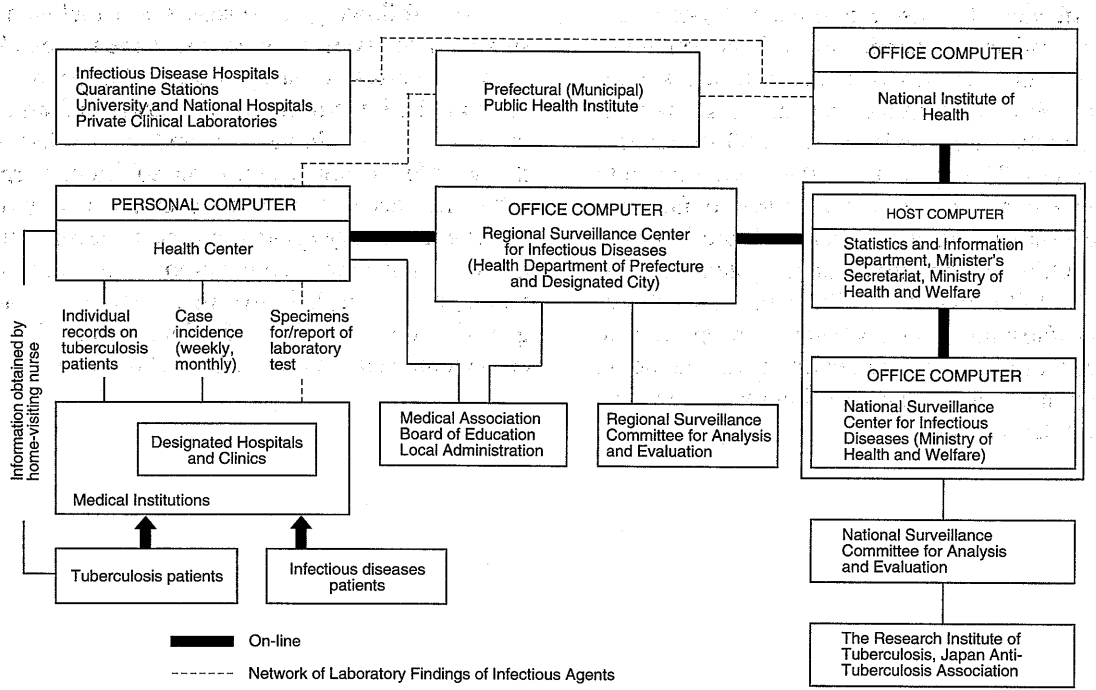
1. Reporting.
2. Report accepted after scrutiny.
3. Vital statistics schedules prepared.
4. The schedules forwarded to the Health Centers immediately.
5. All schedules examined.
6. The schedules submitted to the Prefectural Government before the 25th of every month.
7. The schedules examined.
8. The schedules submitted to the Ministry of Health and Welfare before the 5th of the following month.
9. Vital statistics are tabulated, analysed and published monthly and consolidated annually.
10. Supervision and guidance given to local authorities in the handling of vital statistics.

3. Infectious Disease Surveillance System

The Infectious Disease Surveillance System, designed to investigate epidemics of various communicable diseases on a weekly or monthly basis, was introduced in 1981 in all prefectures and large municipalities, in collaboration with over 3,000 designated clinics/hospitals. This system was then developed into a computerized on-line system in 1987 to facilitate communication and analysis of surveillance information. The outline of the surveillance system is illustrated in the following chart. The number of designated clinics/hospitals was allocated in proportion to the population served by each health center, including clinics/hospitals for pediatrics, internal medicine, urology and dermatology.

The following 26 diseases are included in this surveillance system: measles, rubella, chickenpox, mumps, pertussis, streptococcal infection, atypical pneumonia, infectious gastroenteritis, infantile vomiting and diarrhea, hand, foot and mouth disease, erythema infectiosum, exanthema subitum, herpangina, influenza, acute febrile mucocutaneous lymphnode syndrome, pharyngo-conjunctival fever, epidemic keratoconjunctivitis, acute hemorrhagic conjunctivitis, meningitis, encephalomyelitis, hepatitis, gonorrhea, genital chlamydial infection, genital herpes, condyloma acuminatum, and trichomoniasis.

Infectious Disease Surveillance System



4. Patient Survey

(1) History

The annual Patient Survey was formally established in 1953, though some morbidity data had been collected annually since 1948.

A major modification in the structural management and procedure was made in 1984. The address of the patient was added to the questionnaire and the sampling rate was increased. Since then the survey has been conducted every three years.

(2) Purpose

To obtain fundamental information about patients treated in medical institutions.

(3) Coverage

In the 1996 survey, 6,649 hospitals, 5,879 general clinics and 991 dental clinics were randomly selected after stratification by prefecture. The sampling rates were: 70% for hospitals, 7.5% for general clinics and 2.0% for dental clinics.

(4) Date

As of one designated day of October (since 1984 once every 3 years).

(5) Contents of Reporting Forms

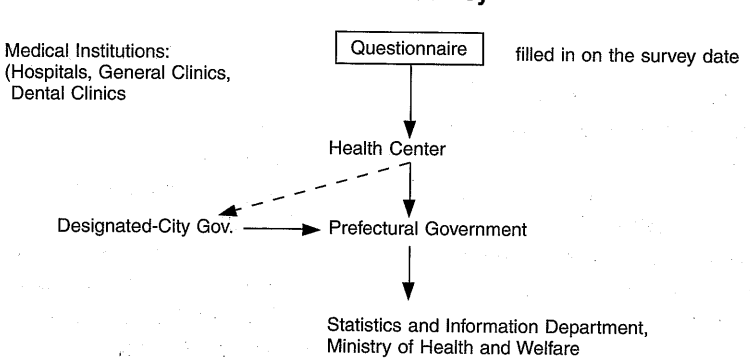
a. Sex
b. Date of birth
c. Address
d. Type of treatment
e. Diagnosis
f. Specialty of medical facility
g. Type of health insurance
h. Date of the last visit
i. Route of reference

(6) Data Collection Procedure

The questionnaires completed by the responsible institution are submitted to the health center of the area. Those collected are sent to the Statistics and Information Department of the Ministry of Health and Welfare through the prefectural and, where applicable, the designated-city governments.

(7) Tabulation and Publication

The Statistics and Information Department is responsible for the tabulation and releases the results through publications and other media.



5. National Nutrition Survey

(1) History

The National Nutrition Survey in Japan has been conducted annually for more than 50 years. It was started in 1946, under the instructions of the Allied Forces occupying Japan (1945–1952), to assess the nutritional conditions and socio-economical aspects of the Japanese people, with a view to acquiring urgent food supplies from other countries. At the beginning, the survey covered only the Tokyo area, but it was rapidly expanded to become nation-wide in 1948.

In 1952, the Nutrition Improvement Law was enacted, in which the aim of the National Nutrition Survey and its enforcement were also stated. Under the law, the nutritional conditions of the Japanese have been improved, and, with the high economic growth from around 1960, the dietary habits of the Japanese have been 'modernized' and malnutrition has become rare. On the other hand, an excessive intake, which may be related to obesity, heart diseases, diabetes mellitus and other chronic diseases, has become a more important concern in the nutrition policy. The

focus of this survey has therefore been shifted from the policy-making for food supplies to the monitoring of excessive food intake, prevention of diet-related chronic diseases, and health promotion.

(2) Purpose

The Nutrition Improvement Law states that this survey should aim to monitor the food consumption and the nutrient intake of the Japanese people, and to clarify the relationship between nutrition and health conditions, in order to obtain basic data for the nutrition and health promotion policy.

(3) Coverage

In the 1997 survey, about 15,000 persons from about 5,000 households in randomly selected 300 census enumeration districts were investigated.

(4) Date

As of one designated day of November 1997.

(5) Contents of Reporting Form

a) Physical check for individual persons
   1) Anthropometry: height and body weight [aged one year or over]
   2) Blood pressure measurement (sitting position) [aged 15 years or over]
   3) Blood tests: RBC, hemoglobin, total cholesterol, HDL-cholesterol, triglyceride, total protein, blood sugar [aged 20 years or over]
   4) Physical activity: number of steps in a day measured by pedometer [aged 15 years or over]
   5) Interview on smoking and drinking habits and physical exercise [aged 20 years or over]

b) Dietary study for households
   1) Members who compose the household: age, sex, birth date, profession, pregnancy or lactation
   2) Food intake (weighed food record in one day with additional information regarding the proportion of food shared by each family member, to compute the nutrient intake of individual members), foods taken outside, meals not taken

c) Dietary habits [aged 20 years or over]

The contents of this section change in each survey. In the 1997 survey, the focus was placed on the regularity of food intake such as a habitual omission of breakfast and how

the evening meal is taken.

(6) Data Collection Procedure

The Community Health, Health Promotion and Nutrition Division of the Health Service Bureau in the Ministry of Health and Welfare is responsible for the budget, planing and implementation of the survey.

The actual data collection is done by regional health centers under the supervision of the Health Promotion and Nutrition Division, and the prefecture or major city (the designated city) authorities. The survey team consists of physicians, public health nurses, dietitians, nurses, medical laboratory technicians, and assistant medical laboratory technicians.

(7) Tabulation and publication

The Statistics and Information Department is responsible for the tabulation and releases the results through publications and other media.

6. Statistical Report on Public Health Administration Services

(1) History

The Statistical Report on Home Affairs, the predecessor of the Statistical Report on Public Health Administration and Services, was initiated in 1886.

When the Ministry of Health and Welfare was established in 1938, the Report was newly started as the Statistical Report on Public Health Administration and Services.

The jurisdiction of the Report was transferred from the General Affairs Division of the Minister's Secretariat to the Statistics and Information Department in 1949, and thereafter there have been many changes in the reporting forms to meet the administrative demands.

(2) Purpose

To collect data on the present situation of the health administrative activities in the prefectural and designated-city governments.

(3) Coverage

All prefectural and designated-city governments.

(4) Date

As of 31 December, annually.

(5) Contents of Reporting Form

All administrative activities about mental health, nutrition, leprosy, communicable diseases, venereal diseases, clinical examinations, environmental sanitation, food sanitation, veterinary sanitation, medical care inspections, dental technicians, public health nurses and pharmaceutical affairs in all the prefectural and designated-city governments.

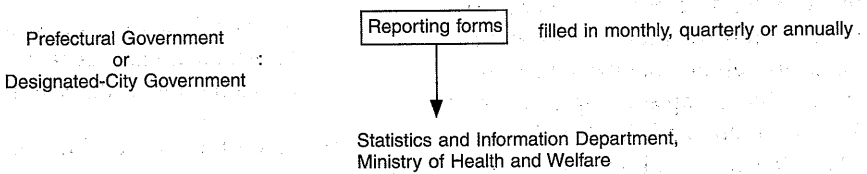
(6) Data Collection Procedure

The reporting forms filled by the responsible persons in the prefectural and designated-city governments are sent to the Statistics and Information Department of the Ministry of Health and Welfare.

(7) Tabulation and Publication

The Statistics and Information Department takes charge of the tabulation and releases the results through publications.

Statistical Report on Public Health Administration Services



7. Comprehensive Survey of Living Conditions of People on Health and Welfare

(1) History

Ad-hoc surveys of households had been conducted by the Ministry of Health and Welfare since 1945. The Comprehensive Survey of Living Conditions of People on Health and Welfare has been conducted since 1986.

(2) Purpose

To provide data on living conditions such as the health status, pensions, welfare, and incomes.

(3) Coverage

A detailed survey is conducted every 3 years, and a brief survey in each intervening year. In the detailed survey carried out in 1995, 5,240 census enumeration districts were randomly sampled after stratification, and all households and household members in those districts were surveyed. The sample comprised approximately 270,000 households and 800,000 household members. On the other hand, a brief survey has been conducted with a sample of 1/5 the size of the sample for a detailed survey.

(4) Date

A designated day in June or July

Detailed survey: every 3 years
Brief survey: annually

(5) Contents of Questionnaire (used in the detailed survey in 1995)

(i) Questionnaire on Household

a. Housing conditions, cultivated area, household expenditure, etc.
b. For each household member:
Sex, date of birth, participation in health insurance and pension schemes, disability, occupational status, etc.

(ii) Questionnaire on Health

a. Health status and symptoms
b. Medical care received
c. Activities of daily living (ADL), etc.

(iii) Questionnaire on Income

a. Status of income
b. Tax and social security contributions

(iv) Questionnaire on Saving

a. Status of saving

(6) Data Collection Procedure

The interviewer-administered questionnaires on household and on income and the self-administered questionnaires on health and on savings are used in the Survey. The questionnaires on household and on health are submitted to the Health Center, while the questionnaire on income and savings collected by the investigator are submitted to the Welfare Office. All the collected questionnaires are then sent to the Statistics and Information Department of the Ministry of Health and Welfare through the prefectural and, where applicable, the designated-city governments.

(7) Tabulation and Publication

The Statistics and Information Department is responsible for the tabulation, and releases the results through publications and other media.

8. Census of Medical Care Institutions

(1) History

Before the formal establishment of the Census of Medical Care Institutions, the reporting on the number of facilities, their geographical location and type of services provided had been included in the Statistical Report on Home Affairs.

After the first census of medical care institutions was conducted in 1948, some improvements in the census method and data collection procedure were made, and they resulted in the establishment of the Census of Medical Care Institutions in the present form, which has been conducted on a regular basis since 1953.

In 1973, a major modification was made in the structural arrangement and procedure, dividing the census into two portions, namely, the Main Detailed Survey and the Brief Monthly Survey.

(2) Purpose

To provide data on the geographical distribution, characteristics, manpower and equipments of medical care institutions.

(3) Coverage

All hospitals and clinics in Japan.

(4) Date

The Main Detailed Survey is conducted as of 1 October every three years, and the Brief Monthly Survey is done as of the end of every month.

(5) Contents of Questionnaire

(i) Main Detailed Survey

a. Name of medical care institution
b. Address
c. Type of ownership
d. Number of beds, by type of disease
e. Equipments installed
f. Specialty
g. Others

(ii) Brief Monthly Survey

This survey covers only the institutions newly registered or those reporting changes.

a. Name of medical care institution
b. Address
c. Type of ownership
d. Type of registration (establishment/abolition/suspension)
e. Number of beds, by type of disease
f. Specialty
g. Others

(6) Data Collection Procedure

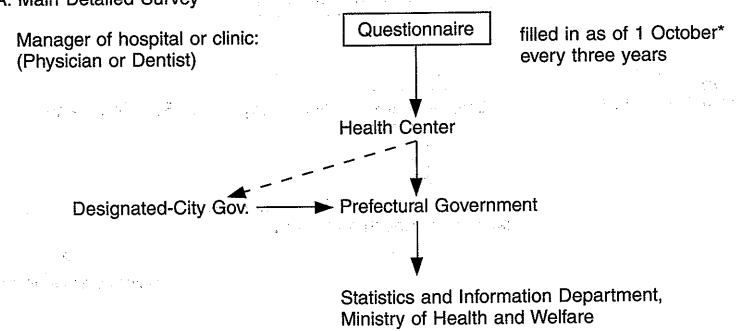
The questionnaire completed by the responsible person in each institution is submitted to the health center that administers the area where the medical care institution is located. Those collected questionnaires are sent to the Statistics and Information Department of the Ministry of Health and Welfare through prefectural, and where applicable, the designated-city governments.

(7) Tabulation and Publication

The Statistics and Information Department is responsible for the tabulation, and releases the results through publications and other media.

Census of Medical Care Institutions

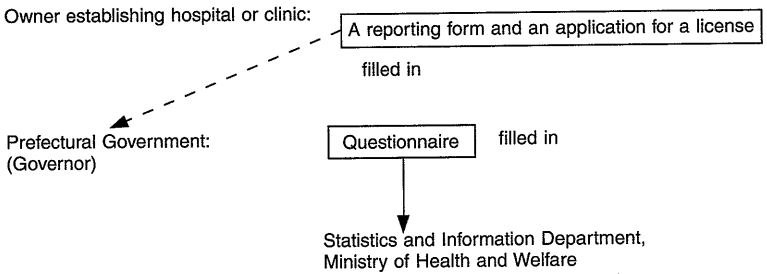
A. Main Detailed Survey



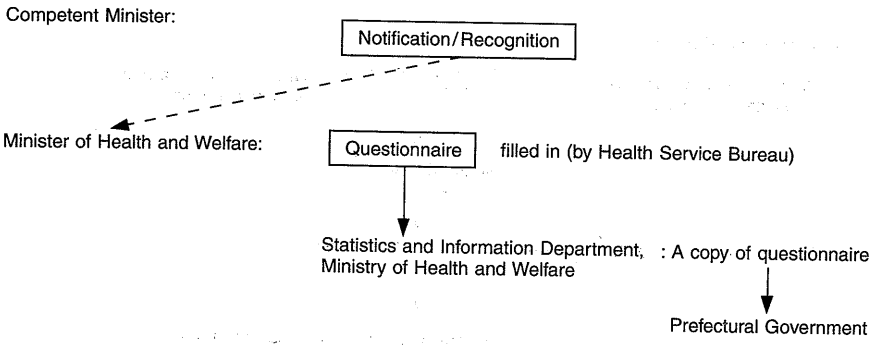
* Questionnaire had been filled in as of the last day of the year up to 1981.

B. Brief Monthly Survey

B-1. Medical Institutions except those established by the central government



B-2. Medical Institutions established by the central government



9. Hospital Report

(1) History

The Report originated as the Weekly Hospital Report in 1945. In 1948 it was modified as a monthly report, together with the extension of the coverage by including tuberculosis and leprosy hospitals, and renamed as the Hospital Report, with the enactment of the Medical Service Law.

The number of newborns and the number of employees have been added to the items of the report since 1968 and 1973, respectively.

(2) Purpose

The purpose of the Report is to provide data on the geographical distribution, present situation and utilization of hospitals.

(3) Coverage

All hospitals in Japan.

(4) Contents of Report Form

a. Patient form (monthly)
   Number of inpatients, outpatients, newborns, etc.
b. Employee form (annual)
   Number of physicians, pharmacists, nurses, etc.

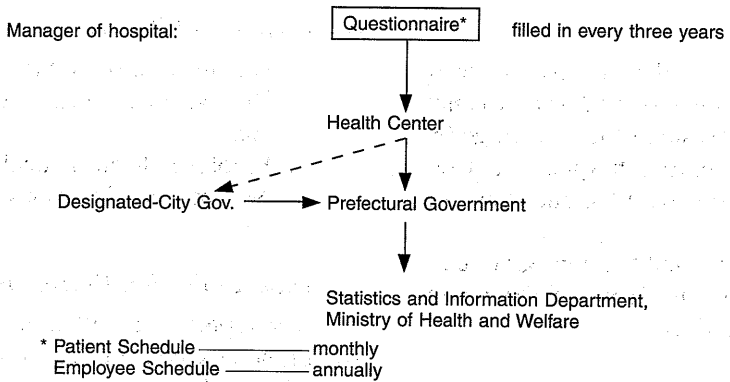
(5) Data Collection Procedure

The report forms filled in by the responsible person of the hospitals are sent to the Ministry of Health and Welfare through the health centers and prefectural governments.

(6) Tabulation and Publication

The Statistics and Information Department takes charge of the tabulation and releases the results through publications and other media.

Hospital Report



10. Survey on Physicians, Dentists and Pharmacists

(1) History

Originally, the Survey on Physicians, Dentists and Pharmacists was included in the Statistical Report on Public Health Services started in 1874.

With the enactment of the Medical Practitioners Law and the Dentists Law in 1948 and with the amendment of the Pharmaceutical Affairs Law in 1954, the reporting forms on physicians, dentists and pharmacists were separated from the Statistical Report and constituted the forms for a new survey, the Survey on Physicians, Dentists and Pharmacists in 1954.

(2) Purpose

To collect information on the number and geographical distribution of these health personnel.

(3) Coverage

All physicians, dentists, and pharmacists registered in Japan.

(4) Date

As of 31 December (since 1982 every two years).

(5) Contents of Reporting Forms

a. Name
b. Sex
c. Date of birth
d. Date of registration
e. Registration number
f. Main activity
g. Employment status

(6) Data Collection Procedure

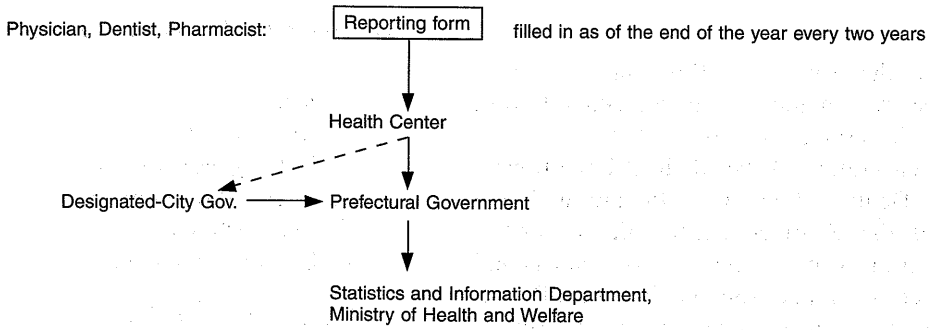
The report form filled in by each professional is submitted to the health center. At the health center, editing work is done and the report is sent to the Statistics and Information Department via the prefectural government.

(7) Tabulation and Publication

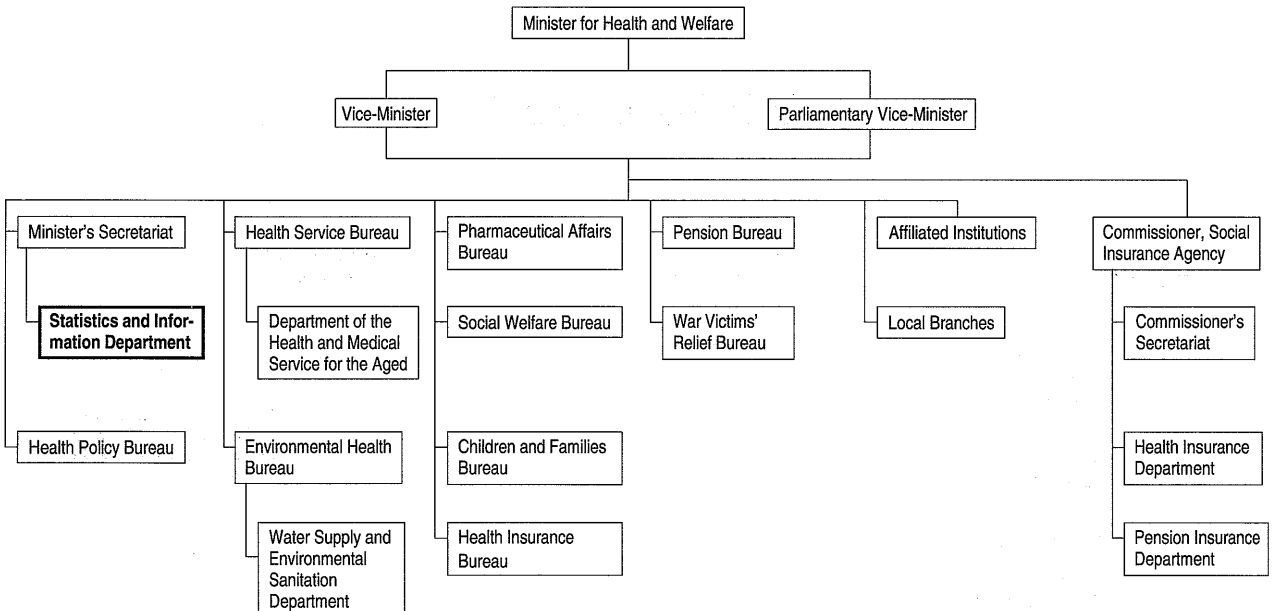
The Statistics and Information Department takes charge of the tabulation and releases the results through publications.

(Statistics and Information Department, Ministry of Health and Welfare)

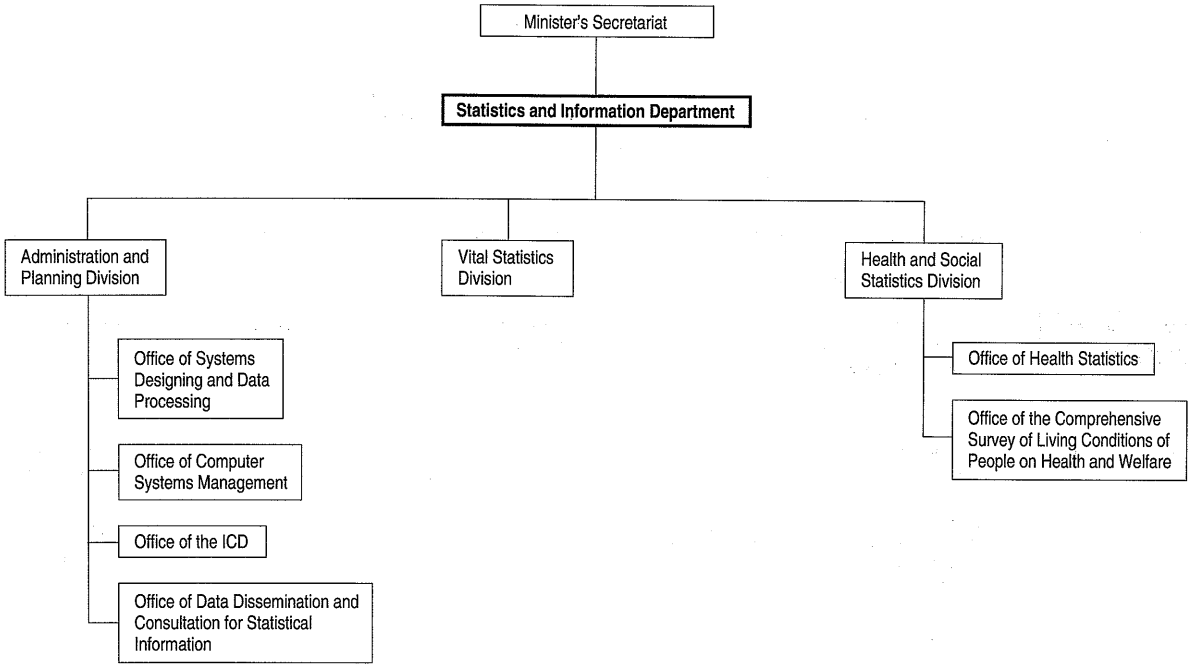
Survey on Physicians, Dentists, and Pharmacists



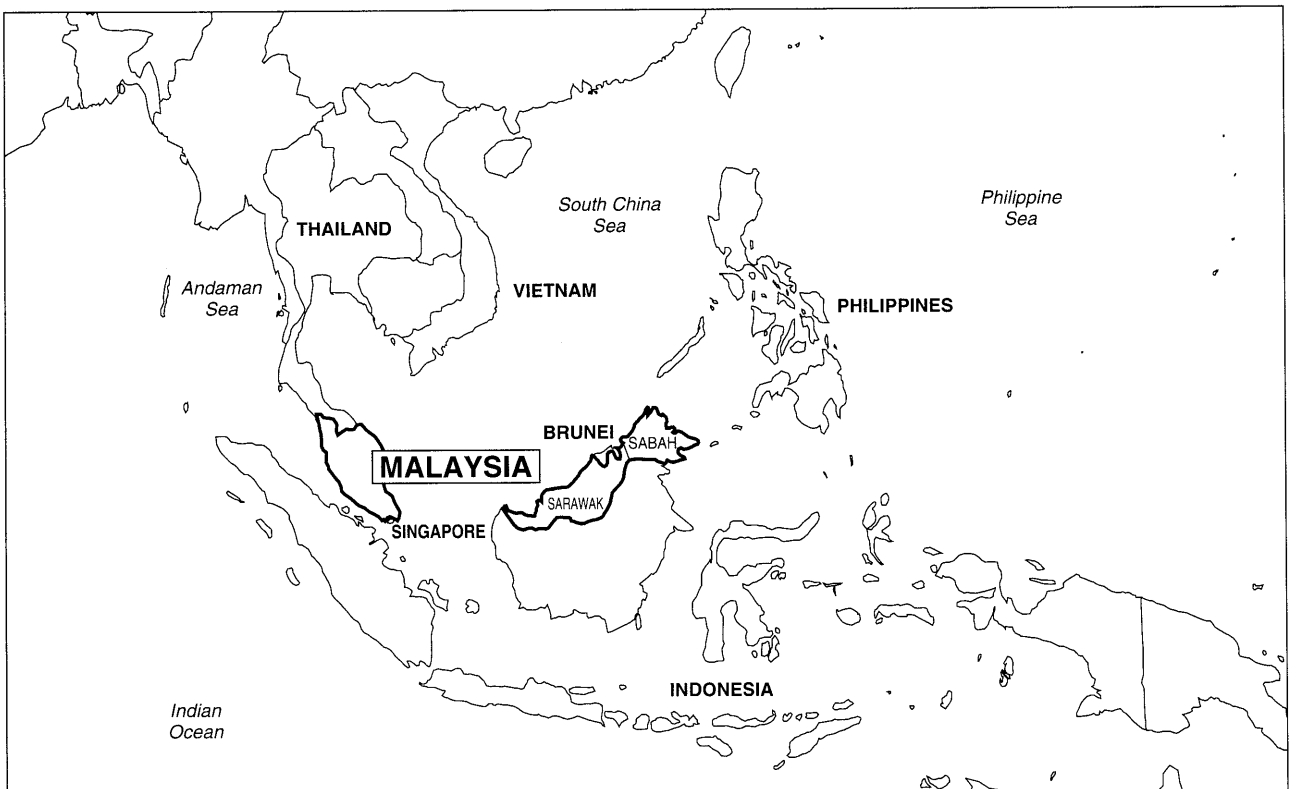
Annex I. Organization Chart of the Ministry of Health and Welfare, Japan



Annex II. Organization Chart of Statistics and Information Department, Ministry of Health and Welfare



Malaysia


THAILAND
South China Sea
Philippine Sea
Andaman Sea
VIETNAM
PHILIPPINES
BRUNEI
SABAH
MALAYSIA
SARAWAK
SINGAPORE
INDONESIA
Indian Ocean

Malaysia

1. Population Statistics

(1) Background Information

The main sources of information on population statistics of Malaysia are censuses.

In 1991 Malaysia conducted its third census of population since its formation in 1963, the first and second having been held in 1970 and 1980. Postwar population censuses were held in 1947 and 1957 in Peninsular Malaysia and in 1960 in Sabah (North Borneo as it was then known) and Sarawak.

Intercensal estimates based mainly on natural increases in population are undertaken by the Department of Statistics under the Prime Minister's Department.

(2) Purpose

The main purpose of conducting these censuses is to obtain updated information on the population in the country, with each subsequent census covering an increasing number of items of socio-economic information in addition to the basic enumeration. The census information is used in sectoral planning by the Government as well as by the private sector and by researchers.

(3) Coverage

Nationwide.

(4) Contents

The 1991 census report contains a detailed analysis of the key census topics such as population changes and its structure, marriage and fertility, migration, labour force, education, household and other socio-economic characteristics.

(5) Data Collection Procedure

In the 1991 population census, the particulars of all persons in Malaysia were recorded at their place of residence on the designated census day by field enumerators sent to the different census districts. Data collection and computerized processing are done wholly by the Department of Statistics.

(6) Tabulation and Publications

The Department of Statistics is responsible for the tabulation and release of census results and for the annual publication on current population estimates.

Census information is published in the *Census Report* and the *Year Book of Statistics.*

2. Vital Statistics

(1) Background Information

The main sources of information on vital statistics are vital registration of births and deaths.

Since 1963 the Department of Statistics, with the concurrence of the Registrar-General of Births and Deaths, has been coding and publishing statistical data on vital events based on information contained in Birth, Death and Stillbirth Certificates.

The Registry of Births and Deaths responsible for the vital statistics information is under the Ministry of Home Affairs.

(2) Purpose

The main purpose of the vital statistics, apart from its legal value, is to inform on changes in the current population in respect of births, deaths and causes of death, and fertility trends in general. It is thus useful for constructing the intercensal population estimates and population projections. It is particularly useful in health planning as the data collected are on a national basis.

(3) Coverage

Nationwide

(4) Contents

The vital registration statistics cover births, deaths and causes of death.

(5) Data Collection Procedure

Vital statistics on births and deaths are collected at designated registration centres throughout the country. However, processing by computers is still done by the Department of Statistics.

(6) Tabulation and Publications

Information pertaining to current demographic changes is published in the annual Vital Statistics publication and the Year Book of Statistics.

3. Health Statistics

(1) Background Information

A major portion of the health service information under the Ministry of Health is collected by the Information and Documentation System Unit (IDSU) through the Health Management Information System (HMIS). For the information whose collection is managed by the respective divisions in the Ministry (e.g. Finance, Manpower, Pharmacy, Research, etc.), the final output will need to be channelled through the IDSU when it is meant for consumption of the general public.

The types of health information can be classified under three general groupings, viz.

- Health status
- Health resources
- Health activities.

(2) Health Status

Information under the health status is comprised of two types:

(i) Vital statistics as published by the Department of Statistics; and

(ii) Morbidity and mortality statistics from government medical and health facilities as collected by the Ministry itself.

a. Purpose

These statistics depict the current health status of the general population and also its trend over the years.

b. Coverage

The vital statistics cover the total population while the mortality information covers all reported deaths. Owing to the nature of the occurrence of deaths, about two-thirds are non-medically certified. Generally, the causes of death (and morbidity) reported at government hospitals are fairly reliable.

Statistics on births, deaths and causes of death are published in Vital Statistics by the Department of Statistics while statistics on morbidity and mortality in government hospitals are available up till the third terminal digit of the ICD (9th Revision).

c. Data Collection Procedure

Vital statistics are collected by the Registry of Births and Deaths through its network of registration centres all over the country by gazetted personnel. The data are processed and published by

the Department of Statistics.
Morbidity and mortality statistics in government health facilities are collected monthly by the IDSU of the Ministry.

d. Tabulation and Publication

Annual data are published in the HMIS Report, the Indicators for Monitoring and Evaluation of the Strategy for Health for All by the Year 2000 (HFA/2000), and the Annual Report of the Ministry of Health.

(3) Health Resources

These cover health manpower, financing, inventory and infrastructure.

a. Purpose

The main purpose of this information is to ensure that the needed resources are adequate at all times for supporting the regular health services.

b. Coverage and Contents

- All registered medical professionals, paramedics and auxiliaries.
- Financing of all activities based on priority.
- All existing inventory in the Ministry of Health.
- Status of development of physical projects.

c. Data Collection Procedure

The information on health manpower is obtained through the various registration boards for the professionals and sub-professionals. These registers cover both the practitioners in the public and the private sectors and are updated annually.
Employment status of specific categories of personnel in the Ministry of Health (including non-medical professionals, sub-professionals, and also contract foreign medical personnel) is also available from administrative records.
Health financing is monitored by the Finance Division of the Ministry of Health in the annual budgeting examinations. The Ministry has adopted the Modified Budgeting System introduced in 1990.

In the absence of a central inventory system and national guidelines, the existing lists of inventories or assets owned (plant, equipment and building, land, vehicles) are kept by the following divisions of the Ministry: Contract and Supply Division, Hospital Division, Health Division, Dental Division, Engineering Division, Planning and Development Division, the IDSU and the Computer Unit. However, plans for a centralized inventory system are under way.
The progress of physical projects is monitored by

the Planning and Development Division. However, for projects that have gone off the ground, the maintenance is monitored by various divisions concerned with specific aspects of the fixed asset, for example, Engineering Division, Hospital Division, Health Division, and Finance Division.

d. Tabulation and Publication

The information on health resources is documented in the respective annual reports of the various divisions of the Ministry, and also in the Annual Report of the Ministry of Health in a somewhat summarized form. The State's annual report and the Hospital's annual report also contain such information but in greater detail.

(4) Health Activities

In the formulation of the Seventh Malaysia Plan (1995-2000), the health information system continues to receive emphasis from health management as a decision support system. Among the various programmes, some of the information systems were reviewed and further strengthened to accommodate the changing information needs of the health programmes.

The emphasis in health care delivery is gradually changing from adequacy of care to quality of care, and this has prompted the need to upgrade the analytical skills of health personnel at all levels in using information as a management tool.

a. Purpose

The main objective of the information system is to monitor prevailing health programme performance towards specific goals or targets. On a long-term basis, the information is used for policy formulation, resources planning and projection of future demands for health and medical services.

b. Coverage

Information is collected for all activities carried out by the twenty-three programmes in different types of health and medical establishments run by the Ministry of Health.

c. Contents

The information collected measures, directly or indirectly, performance in terms of achievement of objectives in the specific programmes. These include:

- family health activities;
- morbidity and mortality data and utilization of facilities in government medical establishments;
- incidence of notifiable communicable diseases

and their prevention and control;
- environmental sanitation;
- food quality control;
- dental health;
- pharmaceuticals production and control;
- leprosy, tuberculosis and vector-borne disease control;
- health education activities;
- manpower planning;
- health systems research and biomedical research.

d. Data Collection Procedures

Information for a majority of the health care programmes is collected through the HMIS. However, many of the service support programmes like pharmacy, manpower development, general health planning, and health and medical research collect information through their own effort and initiative. There are plans to streamline these independent systems into the general HMIS.

All information generated at service delivery points, namely at hospitals and public health facilities, is compiled into a monthly report and sent to the district level for further compilation. The process is repeated from the district to the state and the province, and subsequently stopped at the Information and Documentation System Unit at the national level for final processing.

e. Tabulation and Publication

Much of the routine data collection is on a monthly basis. However, published data for official use in general planning at national and at state levels are usually annual and in an aggregated or summarized form. Such information is to be found in the annual reports for specific programmes, the HMIS annual reports, the *Ministry of Health Annual Report* and the *Indicators for the HFA/2000.*

The state and hospital reports are also available but these contain detailed information useful for planning at local level.

4. Computerization of Health Information

(1) Background Information

Computerization as a supportive service to health management was conceptualized as early as in 1976. However, due mainly to technical manpower con-

straints it was deferred until 1979 when it gained momentum starting off with the computerization of accounting activities within the Ministry.

In the absence of a central coordinating unit, computerization developed as separate functional entities within the Ministry of Health. In an effort to coordinate and streamline such sporadic proliferation, the Technological Information Centre was established within the Ministry in January 1991.

(2) Current Development

At present there are six key projects under the computerization plan in the Ministry covering the following activities:

(i) Store Management and Inventory Control System;
(ii) Biomedical Research;
(iii) Staff Management Information System;
(iv) Financial Information System;
(v) Health Management Information System;
(vi) National Pharmaceutical Laboratory Control System.

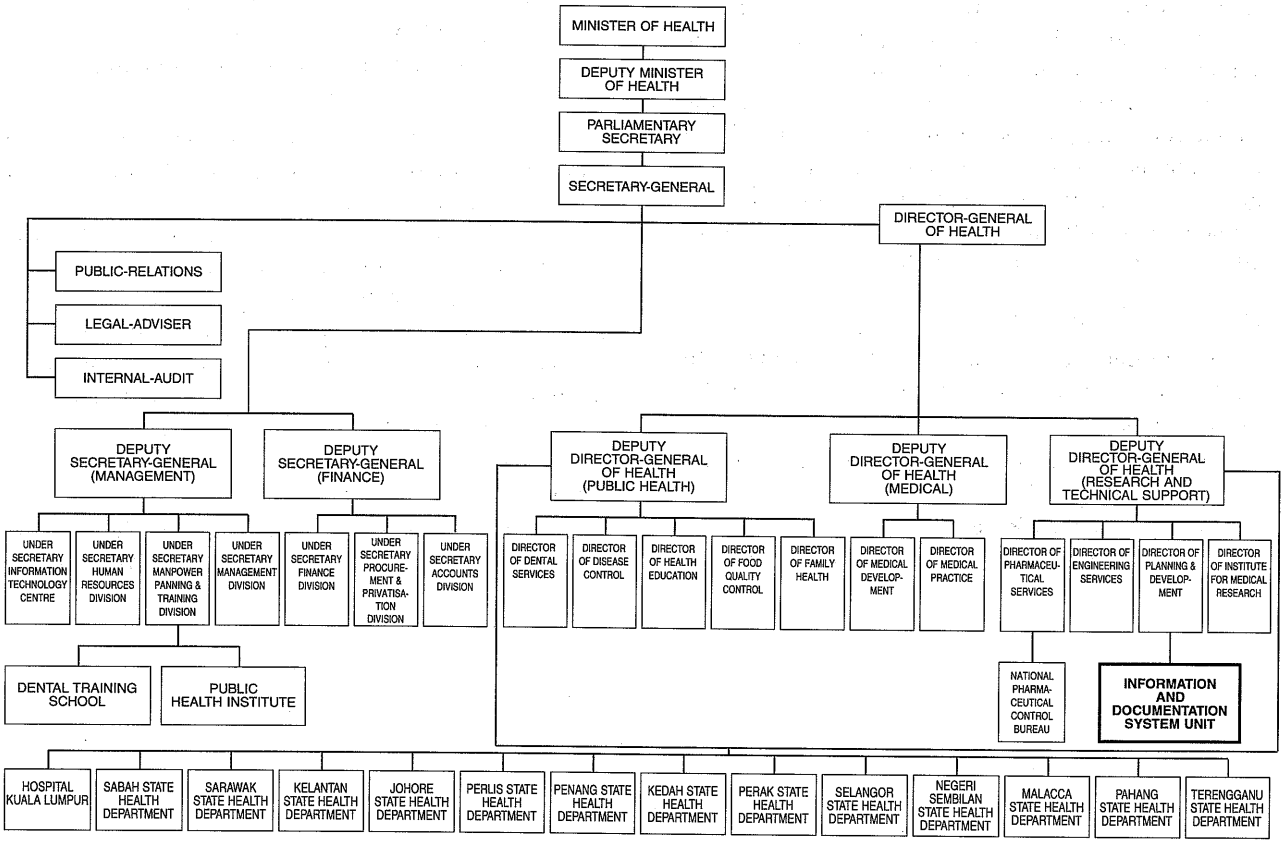
All the above projects either have been implemented fully (and continually upgraded) or are in various stages of implementation.

The hardware is in the form of mainframes, supermicros/minicomputers and microcomputers.

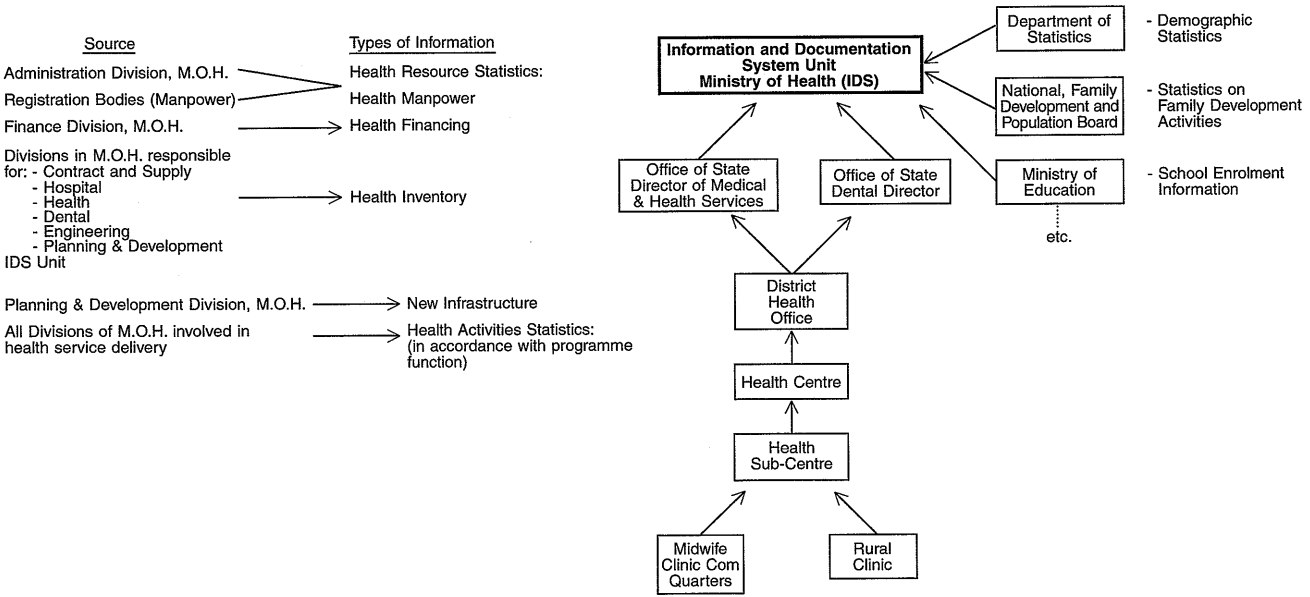
In response to the growing number of users of computerized information within the Ministry itself coupled with the availability of more sophisticated micros at lower costs, the Ministry is encouraging the use of a microcomputer system at local levels. Information sharing is one of the ultimate aims in computerization but duplication need to be avoided.

(Information and Documentation System Unit, Ministry of Health Malaysia)

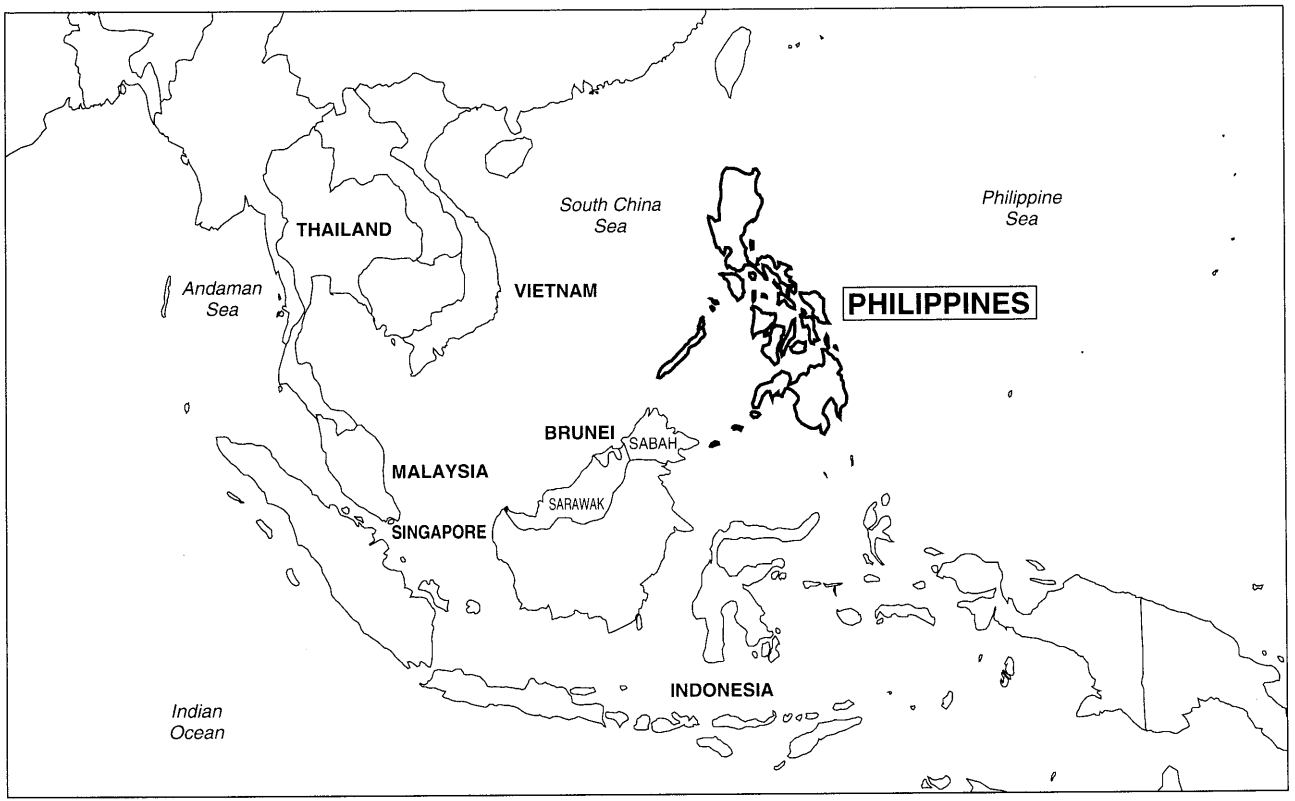
Organization Chart of the Ministry of Health, Malaysia



Flow of Health and Health-Related Information, Malaysia



The Philippines



The Philippines

1. Population Statistics

(1) History

The first complete count of the population of the archipelago was made in 1903. The census of 1903 was followed by others carried out in 1918, 1939, 1948, 1960, 1970, 1975, 1980, 1990 and 1995. The 1995 census was the tenth national population census and this was carried out in September, 1995 by the National Statistics Office (NSO).

(2) Purpose

While the 1995 census was mainly intended to make an inventory of the total population and its characteristics, the census will also form the basis for the apportionment of Internal Revenue Allocations for local government units (as defined by the Philippines' 1991 Local Government Code, implemented in 1992) and for the creation of new legislative areas (regions, provinces, municipalities and barangays). Requests for conversions of local government units to another level (municipality to city) will also be based on this census.

In general the population census is the source of information on the size and distribution of the population as well as information about the demographic, social, economic and cultural characteristics of the Filipinos.

The NSO is mandated by law to conduct a national census every ten years, but a multi-agency board (NSCB-National Statistical Coordination Board) decreed the conduct of the mid-decade population census to serve the statistical requirements of the national government.

(3) Consolidation, Analysis and Presentation

The NSO published a report in March 1997 on the Population Census of 1995. The report highlights the population's size and trends since the first census in 1903, its distribution among the regions of the country, and disaggregates the population by age groupings and sex, the numbers married and single by sex, the educa-

tional attainment of the population (highest level completed), the mother tongue spoken, types of disability, numbers and sizes of households and the characteristics of the household head, the number of overseas workers, trade skills of the population and class of worker.

(4) Projections in the years between censuses

The NSO and the NSCB have created technical committees on population, housing and population projections to cover annual projections on the population.

2. Vital Statistics

I. Natality Statistics

(1) History and Operation

As provided by the Civil Registry Law, all live-births are registered within thirty days from the date of birth at the local Civil Registrar of the place of birth through a certificate of live-birth. The NSO collects and analyzes all information on these certificates and reports it regularly. The head of the NSO is the country's Civil Registrar-General.

(2) Field Health Natality Reports

Natality statistics are collected by health facilities nationwide from the civil registrars using MFHSIS (Modified Field Health Services Information System) Annual Form 1 - Vital Statistics Report. The annual forms collected in January are reported by local governments to the regional offices of the Department of Health (DOH), who in turn submit consolidated natality statistics to the Health Intelligence Service in Manila. These reports are released through the *Philippine Health Statistics*, published annually by the DOH - Health Intelligence Service.

II. Mortality Statistics

(1) History and Operation

Deaths are registered also under the Civil Registry Law through local Civil Registrars in the form of death certificates within thirty days from the time of death through the registrar of the place of death. When the death occurred in transit or where the place of death cannot be ascertained, registration is made in the registrar of the place of burial. Reports from the registrars are submitted to the NSO, which releases data on causes of death by the ICD-9 classification to the DOH's Health Intelligence Service.

(2) Field Health Mortality Reports

Mortality statistics are collected by field health units from the civil registrars and reported to the DOH on January, using MFHSIS Annual Form 1- Vital Statistics Report and MFHSIS Annual Form 3 - Mortality Report. Form No. 1 provides a summary of mortalities by group: maternal deaths, infant deaths, infant deaths due to neonatal tetanus, and late fetal deaths. The Mortality Report on the other hand reflects the probable cause of death as noted from the death certificate; this is reported by age and gender.

Local governments nationwide collate the reports for submission to the DOH's regional offices for eventual submission to the DOH's Health Intelligence Service in Manila which includes the information in the *Philippine Health Statistics.*

3. Morbidity Statistics

(1) History and Operation

Diseases of public health importance (notifiable diseases) have been reported to the DOH based on the law on Reporting of Communicable Diseases since 1929. The list of notifiable diseases is updated regularly by the DOH through its Health Intelligence Service.

Those notifiable diseases seen by the rural health unit (RHU) staff, reports from private practitioners and reports from midwives based at barangay health stations (where cases of pneumonia, measles, diarrhea, chicken pox and hypertension are usually first seen)

are gathered by field health personnel at the municipal and city levels where the weekly trend of diseases is analyzed. These Municipal and City Health Offices submit monthly (4-week) consolidation reports to the provincial health office for further consolidation, analysis and possible action when there are outbreaks.

At the end of the year, the field health offices consolidate their monthly reports into the MFHSIS Annual Form No. 2 - Notifiable Diseases Report which is submitted every January to the DOH. The report lists the notifiable diseases occurring in their area by age and gender.

The reports consolidated by the DOH are used in compiling the ten leading causes of morbidity and annual morbidity rates. The results are released through the regular publications of the Health Intelligence Service which include:

a) HIS Updates (every two months)
b) MFHSIS Annual Reports
c) *Philippine Health Statistics*

4. Health Resources Statistics

These include data on health manpower, health facilities such as hospitals and health centers, finance, budget, supplies and equipment.

The Health Intelligence Service has various sources for these data. The following are the sources for such information.

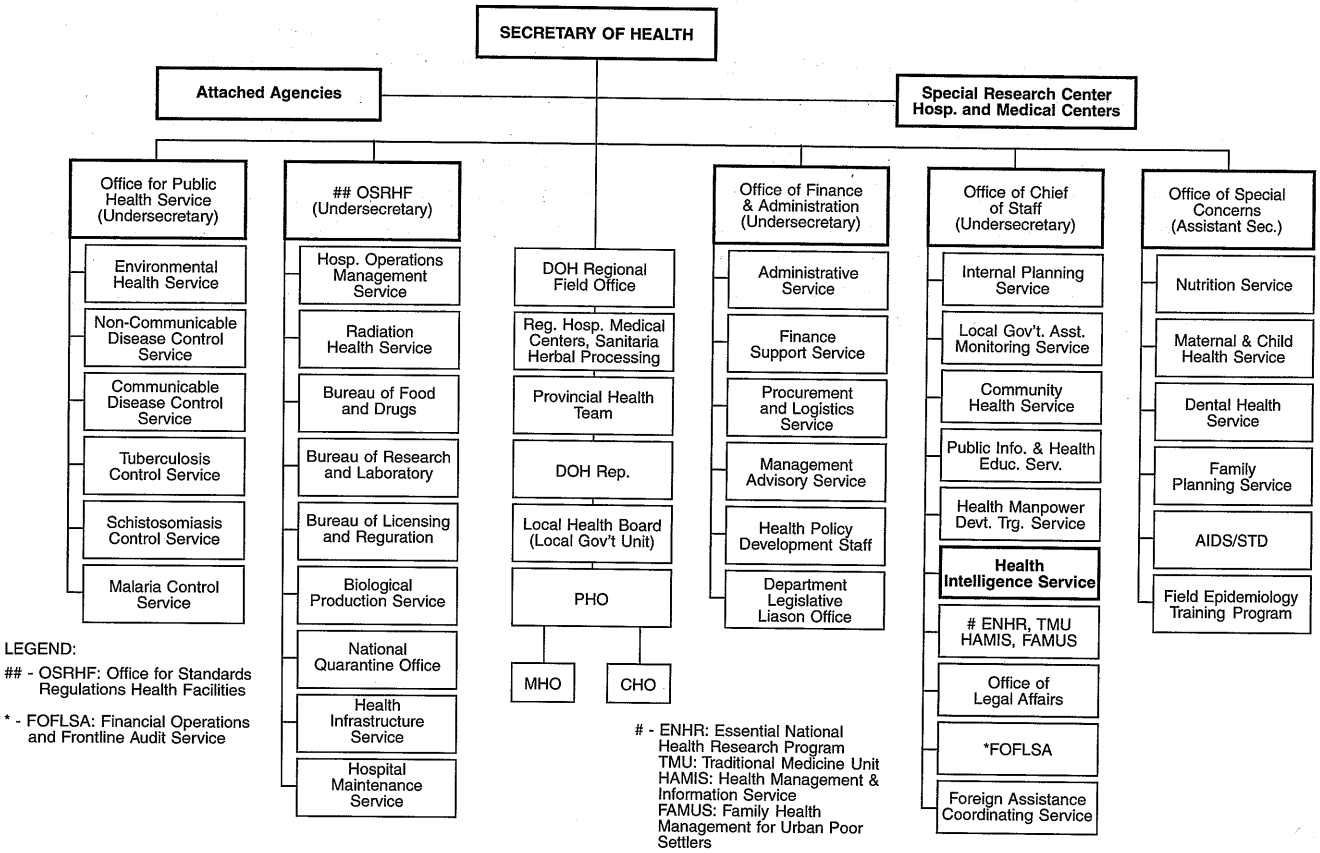
1. Bureau of Licensing and Regulation (BLR) and Hospital Operations and Management Services (HOMS) provides data on the total number of licensed government and private hospitals as well as the total bed capacity of each hospital.
2. FHSIS Annual Demographic Report - Information on the total number of Rural/Main Health Centers and Barangay Health Stations (PHCs) throughout the country are reported through the FHSIS A-1.
3. Professional Regulation Commission (PRC) - This agency is the source of all licensed/registered manpower in a given year who passed different Board/Bar examinations given by the

government. The data are on annual basis with cumulative total for each category.

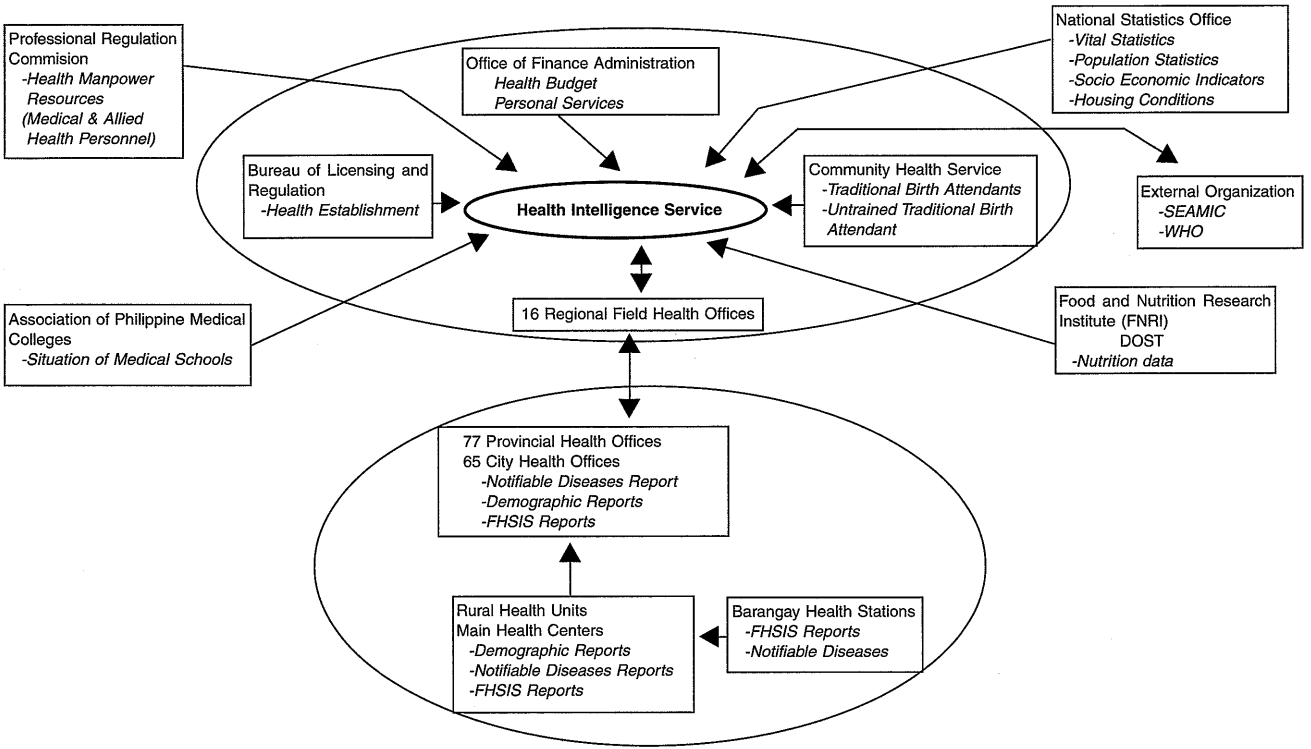
4. Administrative Division of the DOH - The Central Office and the different Regional Field Offices provide the total number of health manpower who are retained by the Department of Health. For those devolved to the local government units (LGUs), the total number of the existing health manpower is submitted through the FHSIS on an annual basis by all Regional Field Health Offices.
5. Community Health Service provides data on total number of Voluntary Health Workers and Traditional Birth Attendants nationwide.
6. Association of Philippines Medical Schools releases data on total number of enrolment and graduates per year.
7. Finance Service gives information on the DOH budget on different programs and activities, procurements, supplies and equipment.

(Health Intelligence Service, Department of Health)

ORGANIZATIONAL CHART OF THE DEPARTMENT OF HEALTH



FLOW OF HEALTH INFORMATION



Singapore


THAILAND
South China Sea
Philippine Sea
Andaman Sea
VIETNAM
PHILIPPINES
BRUNEI
SABAH
MALAYSIA
SARAWAK
SINGAPORE
INDONESIA
Indian Ocean

Singapore

1. Population Statistics

(1) Background Information

The main sources of information on population statistics of Singapore are censuses.

Singapore conducted its first population census in 1871 and subsequent censuses at ten-year intervals till the outbreak of World War II. In the pre-war censuses, Singapore was included as part of the Straits Settlements and later, of Malaya. Separate censuses for Singapore were carried out in 1947, 1959, 1970, 1980 and 1990. Mid-year population estimates are made for the intercensal years.

(2) Purpose

The main purpose of conducting censuses is to obtain updated information on the population situation in the country. Such data are essential for statistical analysis of changes in the population. Census information is particularly useful for planning and for evaluation of programmes such as housing, education, health, transport and other social amenities, as well as for research and analysis by the Government, private corporations and individuals.

(3) Coverage

The whole population of Singapore.

(4) Contents

In the 1990 Census of Population, the detailed information collected on the population could be classified under the following broad categories:

a. Demographic characteristics;
b. Literacy and educational qualifications;
c. Economic characteristics and employment;
d. Geographic distribution;
e. Houses and households;
f. Income and mode of transport;
g. Language and dialects spoken at home;
h. Religion and fertility.

(5) Data Collection Procedure

In the 1990 Population Census, a new approach was adopted. Particulars of individuals and houses which were readily available in the databases and administrative records of public authorities were preprinted on census schedules. This procedure saved the effort of obtaining the information from the individuals; the field interviewers had only to verify/confirm as the case might be. Any changes, e.g. births or deaths or occupancy of the houses, were taken into account for the extraction of the particulars from the administrative records. Additional information which was not available in the database was obtained from the households and updated in the census schedules.

Data processing was undertaken from June 1990 to March 1991, by the Department of Computer Information Services of the Ministry of Finance, using the latest technology. This involved automatic coding for occupation and household structure, and computer-assisted coding of economic activity. The computer was also designed to carry out comprehensive checks for record errors and inconsistencies.

(6) Tabulation and Publication

The Department of Statistics is responsible for the tabulation and release of census results and also for the periodic publication of population and vital statistics. The data are published in the *Monthly Demographic Bulletin*, *Monthly Digest of Statistics*, *Statistical Highlights Singapore* and the *Yearbook of Statistics, Singapore*.

2. Vital Statistics

(1) Background Information

The main source of vital statistics is compulsory registration of births and deaths.

Under the Registration of Births and Deaths Act, all occurrences of births and deaths within Singapore are required to be reported within stipulated periods. The registration system has been operative for many years and records of vital statistics are virtually complete.

(2) Purpose

In the case of vital registration, besides the legal requirements, the aim is to collect detailed information on births and deaths including the underlying causes of

mortality.

Such data are essential for statistical analysis of changes in the population and studies of mortality trends.

(3) Coverage

The whole population of Singapore.

(4) Contents

Statistics and health indicators derived from the vital registration system include:

(i) Births

a. Number and rate;
b. Number and percentage distribution by birth attendant;
c. Number and rate by age of mother and ethnicity;
d. Number by occupation of father and birth order;
e. Number by birth weight and gestation period;
f. Crude birth rate;
g. Age-specific fertility rate;
h. Total fertility rate;
i. General fertility rate;
j. Gross reproduction rate.

(ii) Deaths

a. All deaths, number and rate by age, sex, ethnic group, medical attendance and cause;
b. Infant deaths, number and rate by sex, ethnic group and cause;
c. Neonatal deaths, number and rate by sex, ethnic group and cause;
d. Perinatal deaths, number and rate;
e. Stillbirths, number and rate;
f. Maternal deaths, number and rate;
g. Crude death rate;
h. Causes of deaths by age and sex (coding based on ICD-9);
i. Standardized mortality ratio.

(5) Data Collection Procedure

Vital statistics on births and deaths are processed from the Special Preliminary Report Forms completed by the various vital registration centres. Processing of the statistical information is undertaken by the Registry of Births and Deaths which is under the purview of the Ministry of Home Affairs.

(6) Tabulation and Publication

Detailed information on births and deaths are published annually in the *Annual Report on the Registration of Births and Deaths*.

3. Statistics on Notifiable Diseases

(1) Background Information

Statistics from notification of specific infectious diseases, e.g. cholera, enteric fevers, dengue hemorrhagic fever, malaria, viral encephalitis, viral hepatitis, tuberculosis, venereal diseases and leprosy, are collected routinely.

In 1973, a Joint Co-ordination Committee on Epidemic Diseases was set up. The main objective of the Committee is to co-ordinate the work and responsibilities of the Ministry of Health and the Ministry of the Environment on diseases of public health importance, specifically, the notifiable diseases and other diseases which may be considered of sufficient importance to require co-ordinating action and liaison between the two Ministries.

Statistics on diseases of key interest are monitored and reviewed by this Committee.

(2) Purpose

To monitor and control the epidemiological situation of the country with the primary aim of early detection of outbreaks of infectious diseases so that control measures can be instituted promptly.

(3) Coverage

All persons reported to have contracted any of the notifiable diseases.

(4) Contents

All reported cases of notifiable infectious diseases by type, including information on the profile of infected persons.

(5) Data Collection Procedure

Except for tuberculosis, venereal diseases and leprosy for which notifications are made to special registries in the Ministry of Health, notifications of the other infectious diseases are received by the Quarantine and Epidemiology Department of the Ministry of the Environment. Under the existing regulations, notifications of the specific notifiable diseases are compulsory by all providers of health and medical service in the country.

(6) Tabulation and Publication

Based on information from notifications of specific notifiable diseases, the Committee on Epidemic Diseases publishes the *Weekly Infectious Diseases Bulletin* and the *Monthly Epidemiological News Bulletin.*

4. Morbidity Statistics

(1) Background Information

Routine collection of morbidity statistics on patients admitted into government hospitals started in 1969 as part of an overall objective of augmenting the existing data on specific notifiable diseases and other data on specific diseases from special disease registers such as those of tuberculosis, leprosy, venereal diseases and cancer.

In 1974, the scope of morbidity data was extended to the outpatient level, and since then the records of cases seen at all government primary health care clinics have been compiled according to disease conditions.

In 1978, a new statistical series was introduced by the Ministry of Health requiring private hospitals to provide, on prescribed forms, information pertaining to each patient admitted into their hospitals.

In July 1990, the Central Claims Processing System (CCPS), an automated system, was introduced by the Ministry of Health to facilitate all public and private hospitals to submit their Universal Claims Forms (UCF) through the Singapore Network Systems. The UCF is a single electronic message that contains all information for the Medisave*, claims for MediShield** and Hospital Inpatient Discharge Summary (HIDS). Through this system, Medisave and MediShield claims are submitted to the Central Provident Fund Board while the information from the HIDS is made available to the Ministry of Health for the processing of patient profile and disease data.

* The Medisave Scheme is a compulsory savings scheme introduced in April 1984 to help Singaporeans to set aside sufficient savings for their hospitalization expenses, especially during old age. Under the Scheme, every employee contributes 6–8% (depending on the age group) of the monthly salary to his/her Medisave Account. The savings can be withdrawn to pay for the hospital bills for the participant or his/her dependent(s).

** The MediShield was introduced in July 1990 to supplement the Medisave. It is a low-cost catastrophic illness insurance scheme designed to help members meet the medical expenses from major and prolonged illnesses which the Medisave balances would not be sufficient to cover.

(2) Purpose

The main purpose of collecting the data is to study the morbidity patterns of patients and to analyse the disease profile of patients. This helps in the planning and proper design of government and community

health programmes.

(3) Coverage

All patients admitted into government and private hospitals and patients attending government primary health care clinics.

(4) Contents

Data on hospitalized patients include:

a. Socio-economic profile, e.g. age, sex, ethnicity, nationality, occupation;
b. Patient classification by specialty;
c. Source of referral;
d. Diagnoses (coding based on ICD-9);
e. Surgical operation;
f. Underlying cause of death (in the case of death of patient).

For outpatients, the principal morbid condition for which the patient is treated is recorded.

(5) Data Collection Procedure

With the introduction of the CCPS, all public and private hospitals submit electronically their Medisave and MediShield claims to the Central Provident Fund Board and their Hospital Inpatient Discharge Summaries (HIDS) to the Ministry of Health through their UCF. Morbidity data on outpatients are compiled from computerized records of patients attending government primary health care clinics.

(6) Tabulation and Publication

The Information Services Department of the Ministry of Health is responsible for co-ordinating and ensuring that individual hospitals are up-to-date in their submissions of their returns before the statistical tabulations are generated.

The statistics are processed annually.

5. Statistics on Occupational Diseases

(1) Background Information

The Department of Industrial Health in the Ministry of Labour is responsible for controlling health hazards in workplaces and preventing occupational diseases. The department's inspectors, industrial hygiene staff, nurses and doctors check workplaces, investigate

complaints and notifications of occupational diseases, and enforce the health provisions of the Factories Act. Advice is given to companies, unions and other organizations with problems relating to occupational health matters. Surveys are also conducted to delineate specific occupational health problems so that appropriate preventive programmes, including legislation, may be instituted.

(2) Purpose

Statistics on occupational diseases are collected for the following reasons:

a) To assess the size of various occupational health problems in Singapore;
b) To identify areas of concern;
c) To study occupational disease trends and patterns;
d) To formulate action plans so as to effectively control the hazards and prevent occupational diseases.

(3) Data Collection and Publication

Workers suspected to have occupational disease are referred to the Department through:

a) Notifications under the Factories Act and the Workmen's Compensation Act;
b) Complaints and consultation received from workers, unions and employers;
c) Returns on medical surveillance results of workers exposed to specific hazards, including hazards prescribed under the Factories (Medical Examinations) Regulations 1985.

All these cases are investigated by the Department in order to establish the diagnosis and ensure that control measures are taken to prevent further cases.

Data collected following the above investigations of occupational diseases cases are analysed. This is the only source of data on occupational diseases in Singapore.

These data are published annually in the Ministry of Labour's *Annual Report*, the *Singapore Yearbook*, the *Yearbook of Labour Statistics*, as well as *Singapore Facts and Pictures*. On an ad hoc basis, the data may be published in the Labour Ministry's newsletters, in scientific journals and in reports to international bodies, such as the ILO and WHO.

6. Health Service Utilization Statistics

(1) Background Information

Prior to 1976, the responsibility for data collection and the determination of the type of data to be collected rested with each government health institution depending on their specific administrative needs and requirements. However, with increasing awareness and recognition of the importance of developing an effective health management information system for both administrative and planning purposes, the overall system of data collection was revamped in 1976. This was undertaken by the then Research and Evaluation Section (now Information Services Department) of the Ministry of Health. The statistical system has undergone a number of revisions since 1976 in tandem with the changing needs and requirements of health administrators and planners.

In 1978, the statistical system was extended to cover the activities of private hospitals. However, information on activities of private clinics is not monitored routinely. Some information on private clinics are available from ad hoc surveys conducted by the Department of Statistics.

(2) Purpose

One of the prime objectives of collecting the data is to monitor and make a short-term appraisal of the performance of the various service departments within the Ministry of Health and the utilization of private hospitals. The statistical information is also utilized in conjunction with other data for purposes of resource allocation, projection of future demand for health facilities and manpower as well as overall planning for health services in the country.

(3) Coverage

Statistics collected cover activities of all government hospitals, ancillary services and primary health care clinics. Coverage of activities of private medical establishments is currently confined to private hospitals.

(4) Contents

The current range and type of data collected are fairly wide and include, amongst other things, information on:

a. Use of inpatient facilities, e.g. hospital admissions, bed-days, bed occupancy, dura-

tion of stay and discharges by specialty;
b. Surgical operations and anaesthetic procedures;
c. Outpatient attendances at hospital specialist clinics, ambulatory, emergency and walk-in clinic departments, primary health care and dental clinics;
d. Radiological and laboratory investigations and extent of use of services of various other paraclinical and ancillary departments, e.g. physiotherapy, occupational therapy, medical social services, etc;
e. Selected health manpower;
f. Average hospital inpatient bill sizes;

(5) Data Collection Procedure

The statistical returns are submitted on a monthly basis by various service centres to Information Services Department, Ministry of Health for processing.

(6) Tabulation and Publication

The data are collected and published quarterly and annually in the form of statistical bulletins and other special reports.

7. Statistics on Preventive Health Care Service

(1) Background Information

Immunization of pre-school children is the responsibility of the Family Health Service.

The School Health Service is responsible for the immunization of school children at regular intervals and the Ministry of Defence for national servicemen.

The Government Vaccination Centre provides immunization against cholera and yellow fever to any member of the public. Private medical practitioners also provide immunizations.

Since the early 1960's all childhood immunizations are notified to the Central Immunization Registry and statistics pertaining to immunizations administered have been collected and compiled.

(2) Purpose

To help determine immunization coverage in the country and to monitor immunization programme activities.

(3) Coverage

All pre-school and school children in Singapore.

(4) Contents

Data collected include:

a) Number of immunizations administered;
b) Number of children immunized by age;
c) Type of immunization;
d) Immunization coverage rate.

(5) Data Collection Procedure

Data are collected from the various Family Health Service Clinics and from vaccination records kept by the School Health Service and private practitioners as well as from the compulsory notifications of diphtheria immunization carried out in pre-school children received by the Central Immunization Registry.

(6) Tabulation and Publication

Statistics on the immunization programme are tabulated and published in the *Report of the Childhood Immunization Programme in Singapore* by the Quarantine and Epidemiology Department of the Ministry of the Environment. Information is also available in the *Family Health Service Annual Report* and the *School Health Service Annual Report.*

8. Statistics on Legalized Abortion and Sterilization

(1) Background Information

The Singapore Family Planning and Population Board was established in 1966 by an act of Parliament as a Statutory Board under the portfolio of the Minister for Health. When the National Programme began in 1966, the main objective was to provide good and easily accessible clinical services where all couples wishing to practice family planning could obtain professional advice and contraceptive supplies.

In 1972, all existing programmes of the Board were intensified and many new measures were initiated.

Both the Abortion Act (1969) and the Voluntary Sterilization Act (1969) legalizing abortion and sterilization were repealed at the end of 1974 and replaced by the Abortion Act 1974 and the Sterilization Act

1974 which further liberalized abortion and sterilization in the Republic.

The collection of statistics on sterilizations and legalized abortions started in 1970.

(2) Purpose

The purpose of collecting the data is to monitor abortions and sterilizations carried by approved clinics and hospitals and the profile of persons undergoing such procedures . This is to provide the necessary information for policy formulation and programme planning.

(3) Coverage

All persons who have undergone sterilization or abortion.

(4) Contents

The statistical data collected include:

a) Number of sterilizations performed and profile of persons who have undergone sterilization;

b) Number of legalized abortions performed and profile of persons who have had their pregnancies terminated.

(5) Data Collection Procedure

Monthly returns on sterilization and abortion returns from all hospitals and clinics/institutions are submitted to the Medical Audit & Accreditation Unit, Ministry of Health for data processing.

(6) Tabulation and Publication

The Medical Audit & Accreditation Unit of the Ministry of Health is responsible for statistical tabulation and compilation of the data. The information is published annually.

9. Health Manpower Statistics

(1) Background Information

Although statistics on all grades of health personnel are available from administrative records, particular emphasis is focused on certain key personnel, viz. doctors, dentists, pharmacists, nurses and midwives, who are also incidentally required to be registered under the relevant acts, namely, the Medical Registration Act, the Dentists Act, the Pharmacists Act, the Nurses and the Midwives Act.

Manpower registers for these groups of personnel are computerized and updated periodically for them to be kept "live".

(2) Purpose

The purpose of these registers is to provide up-to-date data on the stock of the key health personnel in the country both for administrative use and for manpower planning.

(3) Coverage

All registered doctors, dentists, pharmacists, nurses and midwives in Singapore.

(4) Contents

Personnel particulars maintained in the registers contain not only vital information such as sex, age, race, religion and citizenship, but also details on qualifications, year of qualification and the university/institution which conferred the degree and specialist qualification, etc. Information on the type, duration and place of practice is also captured.

(5) Data Collection Procedure

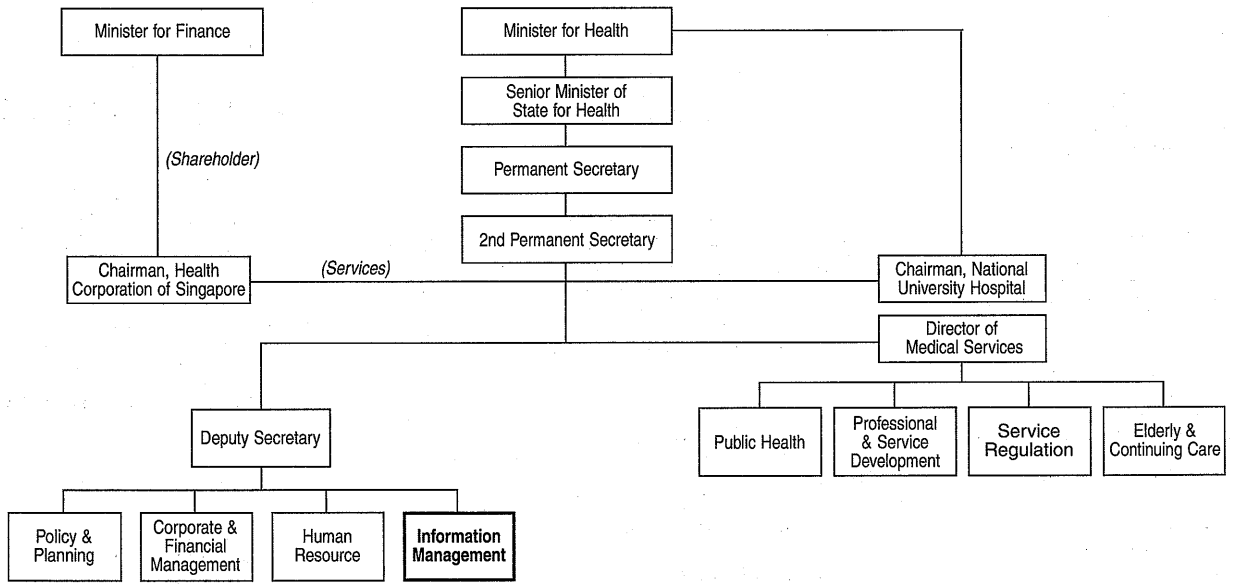
The information is obtained from the registration forms completed by the doctors, dentists, pharmacists, nurses and midwives. The manpower registers are updated annually.

(6) Tabulation and Publication

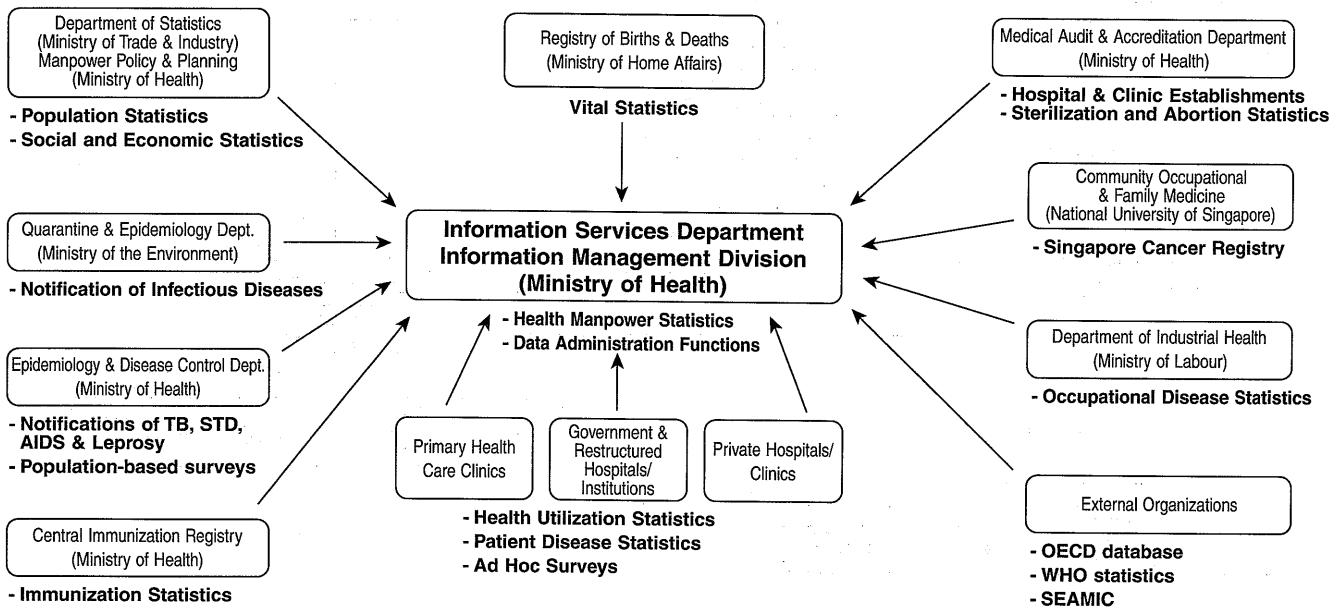
The Information Services Department, Ministry of Health, is responsible for the tabulation and analysis of the statistical data. Reports on these key health personnel are published annually.

(Information Services Department, Information Management Division, Ministry of Health)

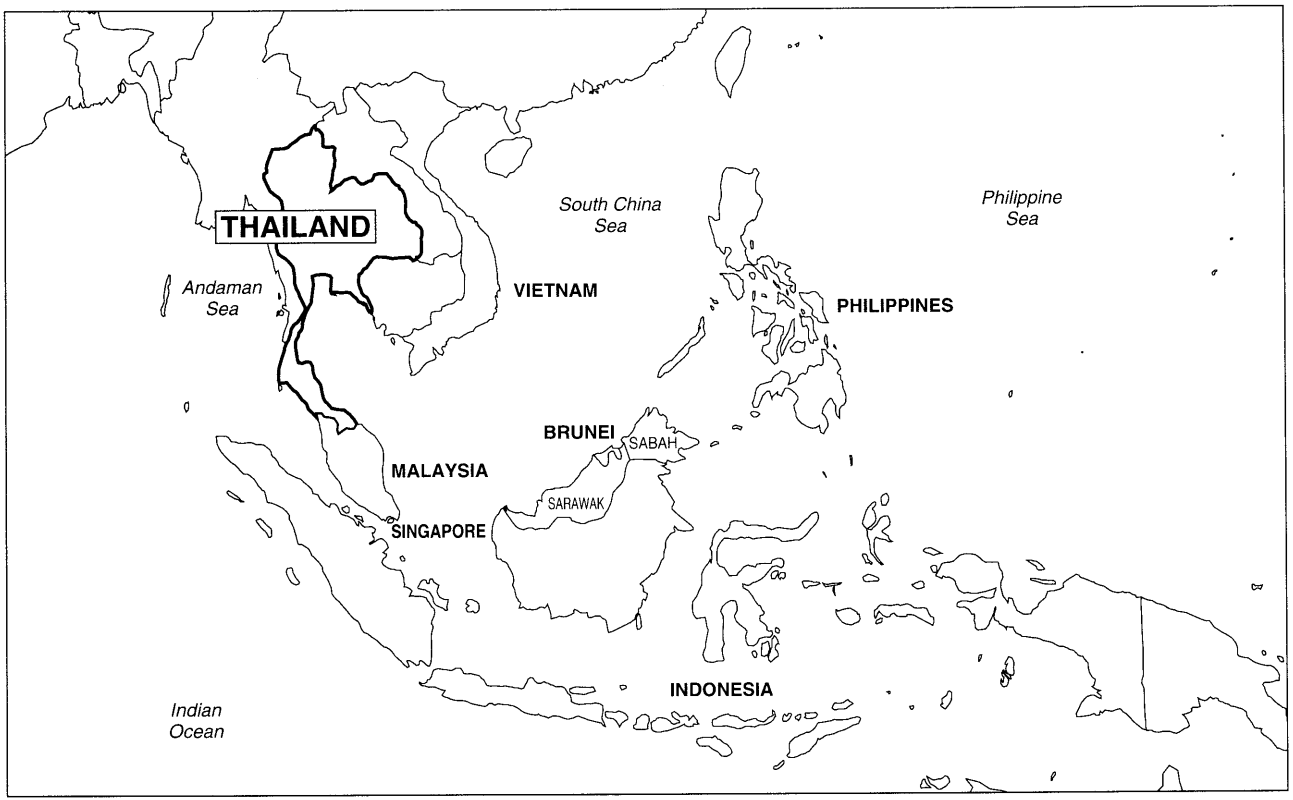
Ministry of Health Organisation Chart, Singapore (effective 15 July 1998)



Ministry of Health, Singapore
Flowchart of Health & Health-Related Information



Thailand


THAILAND
South China Sea
Philippine Sea
Andaman Sea
VIETNAM
PHILIPPINES
BRUNEI
SABAH
MALAYSIA
SARAWAK
SINGAPORE
INDONESIA
Indian Ocean

Thailand

1. Outline

It is well accepted that in the development of any country, the quality of life of the population is one of the most important factors which has to be arrived at. Among those acquired conditions, health status is considered the main element to come prior. The Ministry of Public Health has fully been involved in taking care of such responsibility by rendering health care to the population as a whole.

In Thailand the administrative area has been classified into various levels: central, provincial, district, subdistrict (tambon), and village. The health care delivery systems are provided along with such an organizational structure.

In order to know the relevant status on health of the population, the system for collecting vital and health statistics has been established. Started with vital statistics, it was about 70 years ago that the registration of vital events became compulsory by laws in terms of births, deaths, and marriages. The responsible organization was the Ministry of Interior to which at that time the Health Department was attached. After that the Health Department was promoted and became the Ministry of Public Health, but the vital registration was still under the responsibility of the Ministry of Interior. When it came to the time for health development, the requirement for information concerning the health situation of population was not only confined to the vital statistics but also to other fields of health.

Within the context of health situation of the population, a variety of health information other than health and vital statistics is required so as to identify health problems. Health policies have been planned in accordance with the health problems of the people and subjected to the improvement of the unsatisfactory health situations. Health development plans are formulated to serve such policies and are included in the five-year National Economic and Social Development Plans. Particularly in the fourth five-year Plan, Country Health Programming became the strategy for the health planning formulation in Thailand. With the concept of problem-oriented planning, the health problems are duly identified to prop up the health policy in

planning to solve them. Then the requirements for the health information including vital and health statistics have become greater and greater, and the effective approaches to obtain more reliable and timely information have been implemented in the essence of high technology. The validity and accuracy of the statistics and information have gradually come up to a satisfactory level, but the timeliness is still the major problem. So it is expected that with the modern technology of computerized data processing system, it will bring in more satisfaction to the users.

2. Population Statistics

Thailand has conducted a population census for the whole country for 9 times since 1911. At the beginning, the population census was under the responsibility of the Ministry of Interior. When the National Statistical Office was organized under the Office of the Prime Minister, the responsibility for conducting the population census was transfered from the Ministry of Interior to the National Statistical Office since then. The ninth census "Population and Housing Census 1990," was undertaken on 1 April 1990.

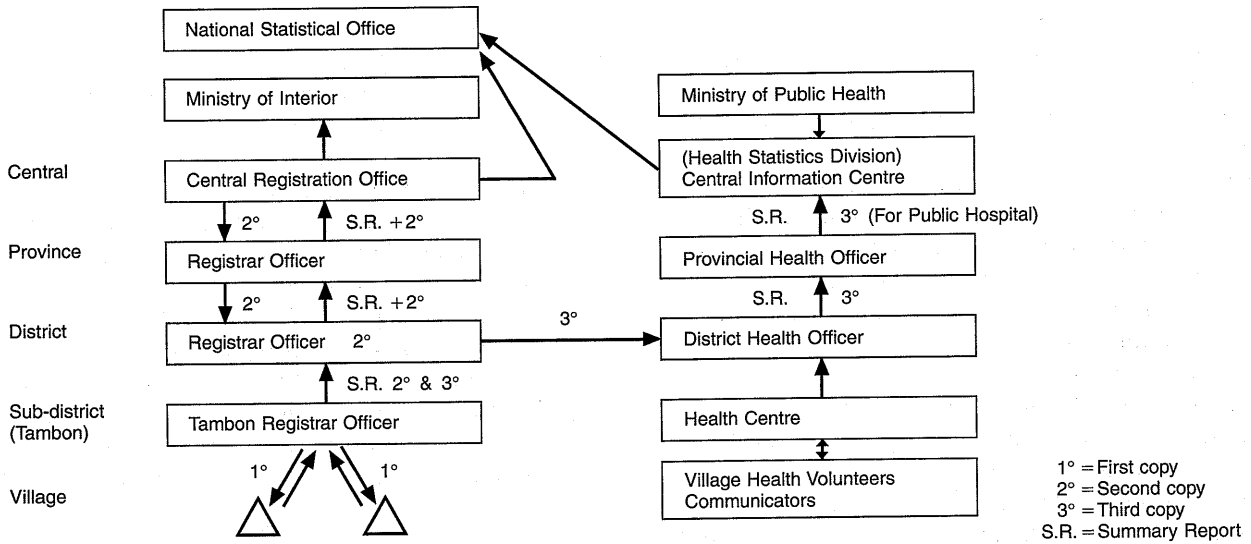
The main population statistics presented are put into 3 groups:

1. Census population and its components
2. Population estimates and expectation of life
3. Distribution of population

3. Vital Statistics

(1) Current System

The Vital Registration System of Thailand is at present under the jurisdiction of the Ministry of Interior. The function of this system is compulsory and nationwide which is very essential as a source of vital statistics. The raw data are collected through the channel of the local registrar office at the most peripheral level and are accumulated at the above level until the data reach the central level. This system can be illustrated as follows.



(2) Channel of Data Collection

If there happens a vital event, birth or death, the owner of the household in the village must report to the Registrar Officer at the sub-district level for registration. The Registrar Officer produces three copies of the birth or death certificate. The first copy will be handed to the informant, and the second and the third copies are transferred to the District Registrar Officer with a summary report on a monthly basis.

The District Registrar Officer collects reports and certificates from all sub-districts within the district and prepare a summary report to be presented to the provincial level. The second copy of the certificate is sent to the Central Registration Office for photocopying into microfilm and returned back to be kept as the legal document at the local registration office, while the

third copy is passed to the District Health Officer. At this junction, the vital registration system and the health information system are coordinated.

Provincial Registrar Officers prepare the summary report to be submitted to the central level which is under the responsibility of the Central Registration Office, Department of Local Administration, Ministry of Interior. The reports are made on a monthly basis, and at the end of each year the Central Registration Office publishes the total number of population, deaths and other movements.

When the third copies of vital certificates are passed from the District Registrar Officer to the District Health Officer, a summary report on vital events is prepared and submitted to the Provincial Health Officer together with the actual third copies. At the provincial level, the total numbers of births and deaths are computed and submitted to the central level of the Ministry of Public Health in terms of a summary report. At the same time, birth and death certificates from public hospitals are collected and sent to the central level for processing in more details.

The Central Information Centre or the Health Statistics Division of the Ministry of Public Health collects and compiles the total number of vital events from the summary reports and prepares the annual report for the Ministry after having analysed and performed various types of statistical presentation.

The National Statistical Office performs the function of publishing all national statistical figures for the whole country. The vital statistics from the Ministry of Public Health are also sent to this Office on an annual basis.

4. Health Statistics

Other health statistics can be obtained under the jurisdiction of the Ministry of Public Health. The diagram below illustrates the flow of information from the grass-roots of the health delivery system. The information can be classified into health status, health activities, and health resources.

(1) Health Status

(i) Morbidity data are collected from the outpatients and inpatients in hospitals and other health institutions. The disease categorization is based on the A-list and the 9th edition of the International Classification of Diseases (ICD) provided by WHO.

(ii) Epidemiological data are obtained from the prompt reports from the surveillance scheme which provide information without delay on the occurrence of disease or unfavourable conditions of the population concerning ill-health.

(iii) Natality, mortality and causes of death statistics are obtained from the vital registration system.

(iv) Data Collection Procedure

Morbidity statistics for inpatients and outpatients are submitted on the monthly basis from public hospitals and health service centres and compiled for the whole province and separately for municipal areas in each province. Epidemiological data are submitted in prescribed forms on the daily basis for other communicable diseases from public and private health service centres.

(v) Tabulation and Publication

Natality, morbidity and mortality data are published in *Public Health Statistics*. Epidemiological data are published yearly in the *Epidemiological Surveillance Report* and in other special publications weekly, monthly and quarterly.

(2) Health Activities

(i) This kind of health information can be obtained from each level of the health delivery system in accordance with the progress of the activities performed by the health personnel. The health indicators have been established for each programme or project, and the recording and reporting systems are required to facilitate the monitoring and evaluation of the health projects.

A variety of record and report formats have been designed and put into practice according to the requirements of the responsible health units. The publication of information is undertaken on an annual basis.

The health service personnel have to perform the task of recording and reporting of their health activities which consumes so much of their time that complaints are made against insufficient time devoted to rendering the services. There have been many attempts to reduce this burden by revising or simplifying the record and report forms, but problems still exist.

(ii) Coverage

Activities on health projects or programmes undertaken by public health personnel at all levels.

(iii) Contents of report

a. Health care delivery
b. Mental health
c. Referral system
d. Immunization
e. Venereal disease control

f. Leprosy control
g. Tuberculosis control
h. Worm and parasite control
i. Malaria control
j. Veterinary public health
k. Diarrhoea control
l. Maternal and child health
m. School health
n. Nutrition
o. Dental health
p. Health education
q. Health supervision
r. Epidemiological surveillance
s. Primary health care
t. Food sanitation
u. Planning management information

(iv) Data Collection Procedure

The statistical data are filled in the prescribed health activities report forms on a monthly basis by the various public service centres and sent to the Provincial Health Information Centre. The data are then compiled for the whole province and separately for municipal areas and sent to the Central Health Information Centre on quarterly and 6-monthly bases.

(v) Tabulation and Publication

The data are classified according to provinces, regions and the whole country and are published annually in *Public Health Statistics* and other special reports.

(3) Health Resources

(i) This kind of information is also essential for the administration in the health field. Without knowing the health resources, health activities could not run smoothly and efficiently. Health resources comprise health manpower, health institutions, hospitals and health centres, finance, budget, supplies and equipment. These kinds of information are collected on an annual basis and the Central Information Centre of the Ministry of Public Health has been assigned to perform this job.

(ii) Coverage

The data on health manpower, the number of health service units and the number of beds are collected from all government and state enterprises and private sectors. The data on budget, supplies and equipment, buildings and construction can be collected only from health service units under the Ministry of Public Health.

(iii) Contents

a. Number of health service units classified by number of beds, specialties and type of

organization
b. Number of health personnel
c. Buildings and construction
d. Equipment
e. Budget and finance

(iv) Data Collection Procedures

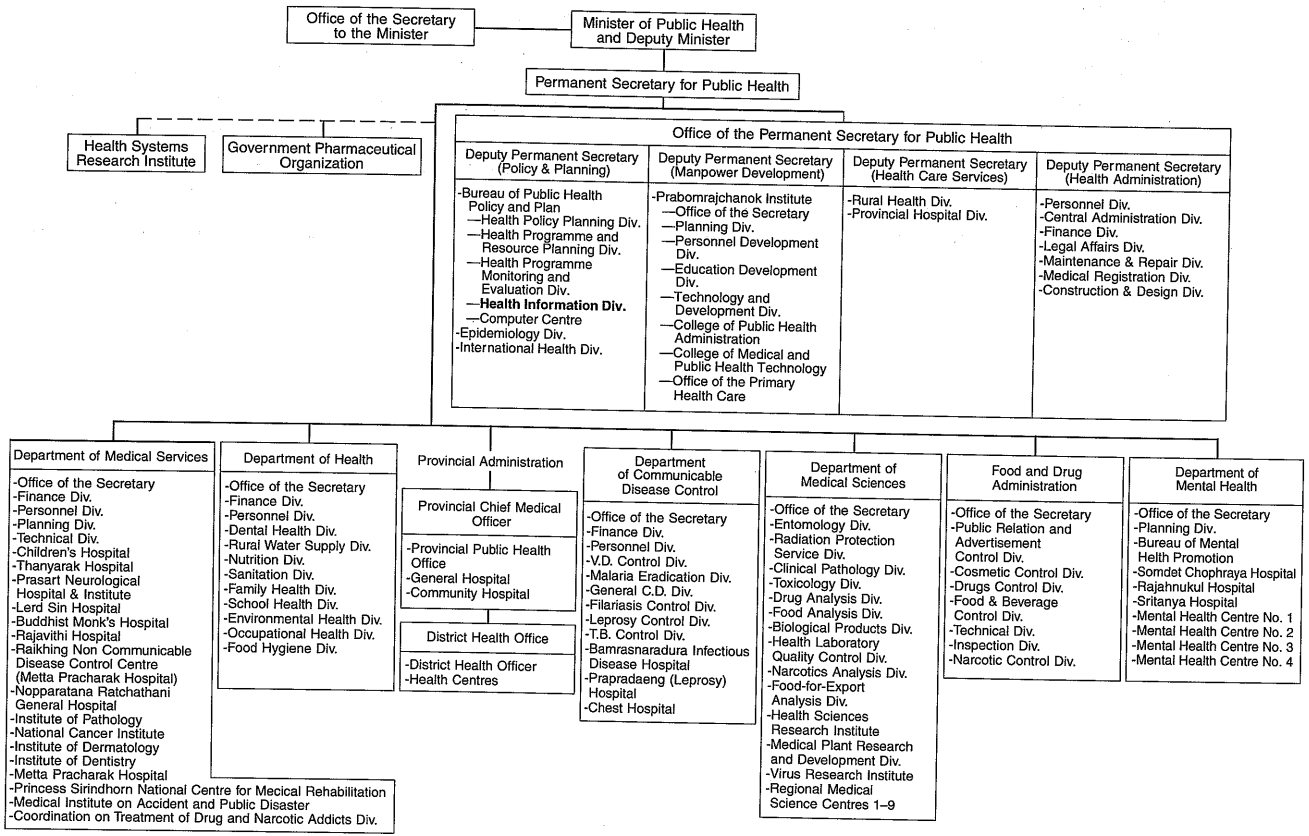
The data are collected in the prescribed health resources report form on a yearly basis by the various health service centres to the Central Health Information Centre.

(v) Tabulation and Publication

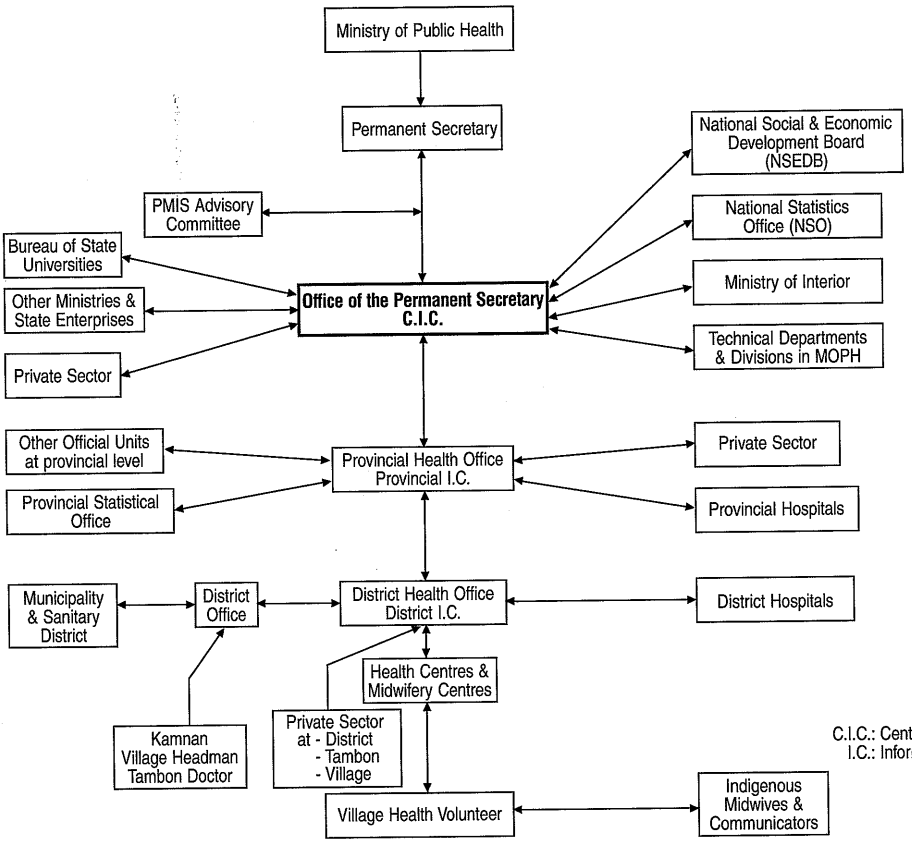
The data are collected and published annually in summary in the *Public Health Statistics* and in more details in the *Report on Health Resources*.

(Health Information Division, Ministry of Public Health)

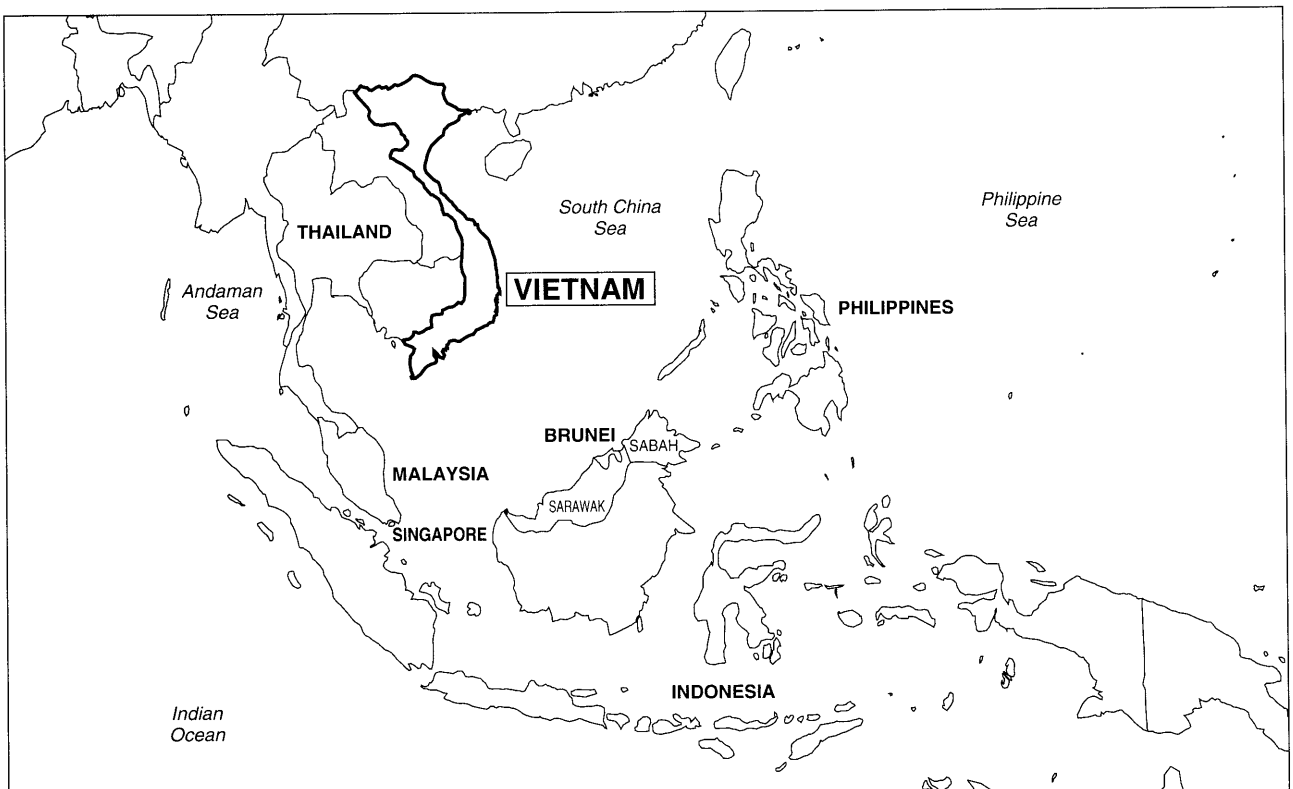
Organization Chart, Thailand



Thailand National Health Information System Network



Vietnam


THAILAND
South China Sea
Philippine Sea
VIETNAM
Andaman Sea
PHILIPPINES
BRUNEI
SABAH
MALAYSIA
SARAWAK
SINGAPORE
INDONESIA
Indian Ocean

Vietnam

1. Population Census

(1) Background information

The major sources of information on population in Vietnam are censuses. The first population census was conducted in Vietnam in 1959. It has been repeated every ten years since then. Between censuses, intercensal population surveys were conducted with an interval of five years. All censuses and population surveys have been organized by the General Statistics Office (GSO).

(2) Purpose

The main purpose of the censuses is to obtain updated information on the population of the country. The intercensal population surveys aim at collecting information on fertility, morbidity, mortality, family planning and mother/child health care. The information is used for making national plans as well as health plans.

(3) Coverage

Due to the war and separation of the country, the first two censuses were conducted only in the North of Vietnam. The two later censuses covered the whole country.

(4) Contents

The 1989 census, the latest one, collected data from the population on age, sex, marital status, nationality, educational level, occupation, employment status, labour force and other data on economic status of the households. The 1994 intercensal population survey collected data about fertility, mortality, family planning, and mother and child health.

2. Vital Statistics

(1) Background information

The major sources of information on vital statistics in Vietnam are registrations of births and deaths. The registers are fulfilled at the commune level, the lowest administrative level in vietnam. At this level, the People Committees are responsible for vital registrations. The crude data are summarized in monthly reports which are referred to higher levels and end at the GSO as the central level.

(2) Purpose

The main purpose of the vital registrations is to obtain data on births, age at death and causes of deaths, so that changes in the population of the country can be projected. The data are very useful for health planning, family planning and population programmes.

(3) Coverage

Nationwide

(4) Contents

The birth registration statistics cover the address, age and occupation of the mother, date of birth and name of the baby. The death registration statistics cover information on name, age, address, date of death and cause of death.

3. Health Statistics

3.1. Health Management Information System (HMIS)

(1) Background information

A major proportion of health statistics are collected by the HMIS under the Department of Planning (Division of Health Statistics and Information), Ministry of Health (MOH). This is the official system according to the Decision No. 882/BYT-QD issued by the Ministry of Health on 15 August 1992. The crude data are collected by a set of seven primary registers at the commune health centre. Based on these registers, a

monthly health statistics report is compiled by the head of the commune health centre and referred to the district health bureau, where data are further referred to the provincial health bureau and finally to MOH in quarterly health statistics reports. In addition, some other sources also provide data for the HMIS (see diagram below).

(2) Purpose

The main purpose of the HMIS is to provide timely health statistics to health managers and health policy makers. These statistics are used to monitor, supervise and evaluate health activities at different levels.

(3) Coverage

Nationwide

(4) Contents

The HMIS covers a wide range of health statistics, including data on (1) health resources (health facilities, manpower, and health budget); (2) health performance (preventive and curative services); and (3) health outcomes (mortality, morbidity, etc.).

3.2. Hospital-Based Statistics System (HBSS)

(1) Background information

The HMIS mainly collects data from commune health centres where primary health care is provided. Data from all Government hospitals of the country are collected by the HBSS. Quarterly reports are referred to the MOH (Department of Therapy) through the provincial health bureau.

(2) Purpose

The main purpose of this system is to provide information on the performance of curative care for its management.

(3) Coverage

Nationwide

(4) Contents

The HBSS collects data on hospital facilities and equipment, manpower, curative services (consultations, out-patients, in-patients), laboratory services, financial management, etc.

3.3. Statistics Systems of Vertical Health Programmes

(1) Background information

Currently, many vertical health programmes, e.g. ARI, CDD, malaria, tuberculosis, family planning, etc., are being implemented in Vietnam. The HMIS concentrates on collecting data for basic and essential indicators for planning purposes of the health sector. Nevertheless, it can not cover all the information required by the vertical programmes. Therefore, vertical programmes often create their own systems so that detailed information needed for programme management can be collected. Data are collected at the basic level (commonly at the commune health centre) and aggregated in periodical reports. These reports are referred to higher levels through the management system of the programme under the programme manager concerned at the central level.

(2) Purpose

The main purpose of these systems is to provide information on the performance of the programmes for their management.

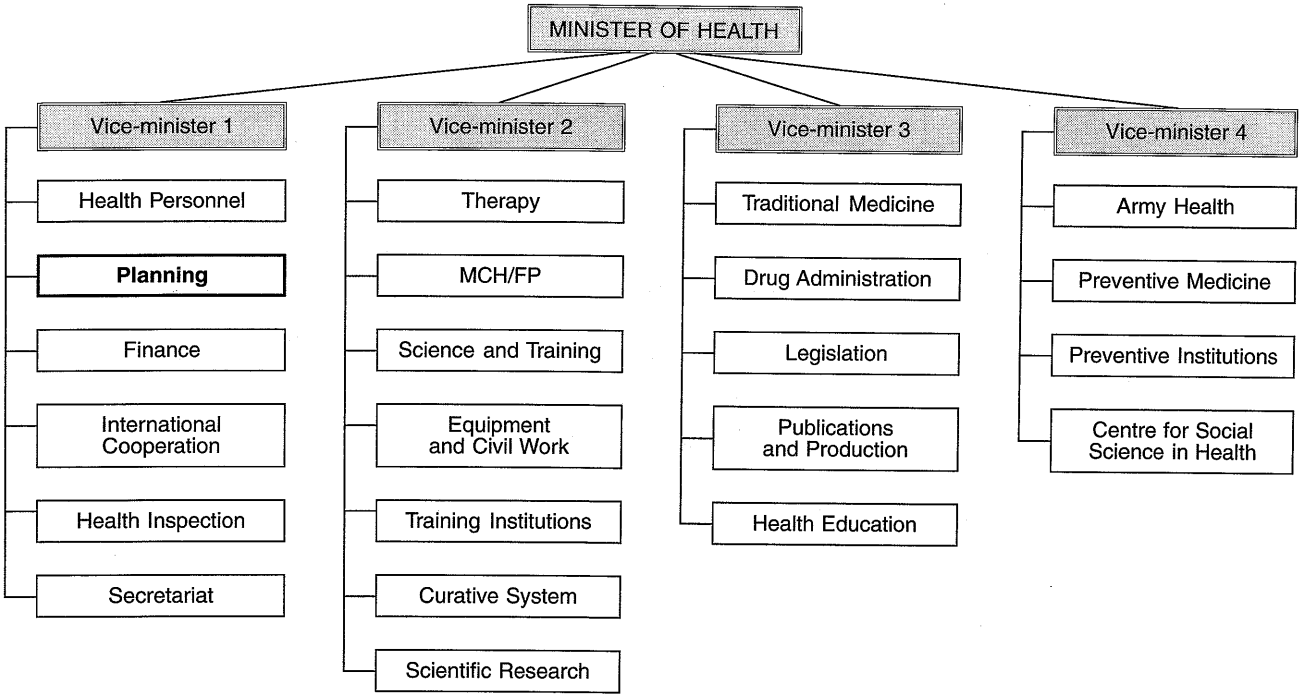
(3) Coverage

Within the coverage areas of the vertical health programmes.

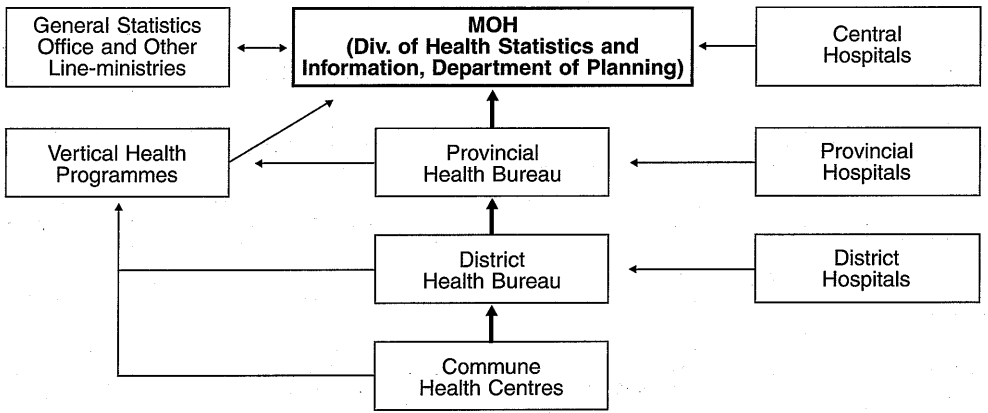
(4) Contents

The contents depend on each programme. In general, following data are collected: coverage, programme performances (service delivery) and programme outcomes.

Ministry of Health Organization Chart, Vietnam



Health Management Information System Chart, Vietnam



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Part II

Appendix

List of Organizations Related to Health Statistics

BRUNEI

Ministry of Health	Bandar Seri Begawan 1210 Negara Brunei Darussalam

INDONESIA

Centre for Health Data Ministry of Health (Departmen Kesehatan)	Jalan H.R. Rasuna Said Kav. X 4-9, Jakarta
Directorate-General of Communicable Diseases Control Ministry of Health	Jalan Percetakan Negara 29 P.O. Box 223, Jakarta
Central Bureau of Statistics	Jalan Dr. Sutomo No. 8 P.O. Box 3, Jakarta

JAPAN

Statistics and Information Department Ministry of Health and Welfare	2-3, Kasumigaseki 1-chome, Chiyoda-ku, Tokyo 100-0013
Communicable Diseases Surveillance Division Health Service Bureau, Ministry of Health and Welfare	2-2, Kasumigaseki 1-chome, Chiyoda-ku, Tokyo 100-8045
Statistics Bureau, the Management and Coordination Agency	19-1, Wakamatsu-cho, Shinjuku-ku, Tokyo 162-8668

MALAYSIA

Information & Documentation System Unit Ministry of Health (Kementarian Kesihatan)	TKT. 10, Bangunan Perkim, Jalan Ipoh, 51200 Kuala Lumpur
Department of Statistics	Kuala Lumpur Kota Kinabalu, Sabah Kuching, Sarawak

PHILIPPINES

Health Intelligence Service, Department of Health	San Lazaro Compound, Rizal Avenue, Manila P.O. Box 1116, Manila
National Statistical Coordination Board	21F Midland Buendia Bldg. 403 Sen. Gil Puyaf Ave., Makati

SINGAPORE

Information Services Department, Information Management Division, Ministry of Health	College of Medicine Bldg., 16 College Road, Singapore 169854
Joint Co-ordinating Committee on Epidemic Diseases	College of Medicine Bldg., 16 College Road, Singapore 169854
Department of Statistics	100 High Street, #05-01, The Treasury Singapore 179434

THAILAND

Health Information Division, Ministry of Public Health	Tivanond Road, Nonthaburi 11000
Epidemiology Division, Ministry of Public Health	Tivanond Road, Nonthaburi 11000
National Statistical Office, Office for the Prime Minister	Lanlaung Road, Khate Pomprab, Bangkok 10100

VIETNAM

Department of Planning, Ministry of Health	138A Giang Vo Street, Hanoi

WHO

WHO Regional Office for the Western Pacific	United Nations Avenue, P.O. Box 2932, 12115, Manila, The Philippines
WHO Regional Office for South-East Asia	World Health House, New Delhi 110002, India

Corrigenda for *SEAMIC Health Statistics 1997*

Table 2–5, p. 34, JAPAN Year: 1995

Table 3–3, p. 61, JAPAN 046/B15-B19 Viral Hepatitis
Number: T 5,029, M 2,899, F 2,130
Rate: T 4.0, M 4.8, F 3.4

〃 p. 62, JAPAN 041,043,048,049/Rest of A80-B34
Other Viral Diseases
Number: T 412, M 198, F 214
Rate: T 0.3, M 0.3, F 0.3

〃 p. 63, JAPAN Rest of 01-07/Rest of A00-B99
Other Infectious and Parasitic Diseases
Number: T 3,333, M 2,076, F 1,257
Rate: T 2.7, M 3.4, F 2.0

〃 p. 69, JAPAN 39/O10-O75, O81-O97
Other Direct Obstetric Causes
Number: T 70, M ••, F 70

Table 4–3, p. 80, JAPAN 1995: 7.6, 1996: 6.6

Table 4–5, p. 83, JAPAN Year: 1996

Table 8–1, p. 116, JAPAN 1996: 9,490

Table 8–2, p. 118, JAPAN 1996: 1,664,629

Table 8–3, p. 120, JAPAN 1 General Hospitals
Admissions or Discharges: 11,584,623
Patient-days: 420,806,049
3 Mental Hospitals
Admissions or Discharges: 182,798
Patient-days: 92,153,700

〃 p. 121, JAPAN 5 Infectious Diseases Hospitals
Establishments: 5
Beds: 274
Admissions or Discharges: 148
Patient-days: 3,861

Table 8–3, p. 122, JAPAN 7 Tuberculosis Hospitals
Establishments: 7
Beds: 502
Admissions or Discharges: 554
Patient-days: 135,222

〃 〃 PHILIPPINES 8 Other Specialized Hospitals
Establishments: 4
Beds: 975
Admissions or Discharges: 34,587
Patient-days: 273,224

〃 〃 SINGAPORE 8 Other Specialized Hospitals
Establishments: 3
Beds: —
Admissions or Discharges: —
Patient-days: —

〃 p. 123, JAPAN 12 Total
Establishments: 97,399
Beds: 1,911,408
Admissions or Discharges: 11,768,123
Patient-days: 513,098,832

Table 9–1, p. 134 PHILIPPINES
10. Veterinarians/Veterinary Surgeons: 4,254

〃 p. 135 PHILIPPINES
19. Physiotherapists/Physical Therapists: 3,809
20. Occupational Therapists: 329
21. Dietitians/Nutritionists: 8,909
23. Medical Laboratory Technicians: 2,967

〃 p. 136 PHILIPPINES
25. Radiographers: 1,431
27. Sanitary Engineers: 1,946