

# **SEAMIC HEALTH STATISTICS**

## **1995**

Southeast Asian Medical Information Center  
International Medical Foundation of Japan

**SEAMIC Publication No. 79**  
**ISBN 4-930783-79-8**

**© Copyright 1997 by IMFJ**

**International Medical Foundation of Japan**

Toyo-kaiji Bldg. No. 6, 7-2 Shimbashi 4-chome,  
Minato-ku, Tokyo 105, Japan

*No part of this book shall be translated or reproduced in any form, by photostat, microfilm, or any other means, without written permission from IMFJ, except for inclusion of brief quotations in a review. All rights reserved.*

## Foreword

It is my great pleasure to send you the 1995 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.

Takaji Ishimaru, 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.

The structure of the present issue remains the same as for the last one for 1994, though minor improvements have been incorporated.

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.

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.

February, 1997

Kazuo Uemura  
Chairman  
Editorial Board  
SEAMIC HEALTH STATISTICS

## Editorial Board

Dyg HjH Norsiah binti Hj Johari (Brunei)  
Mr. A.M. Meliala, SKM, DSP (Indonesia)  
Dr. Chong Yok Ching (Malaysia)  
Dr. Zenaida Ludovice (Philippines)  
Dr. Shanta C. Emmanuel (Singapore)  
Dr. Pichai Tangsin (Thailand)  
Prof. Kazuo Uemura (Japan)  
Dr. Seiichi Oda (Japan)  
Prof. Yutaka Inaba (Japan)  
Prof. Seiji Ohsawa (Japan)

## Contents

### Foreword and Preface Editorial Board

### Part I Health Statistics

1. Population	
1-1 Population by Sex, Rate of Population Increase, Surface Area and Density .....	13
1-2 Estimates of Mid-year Population .....	14
1-3 Population Estimates and Projections .....	15
1-4 Population by Age and Sex .....	16
1-5 Urban and Total Population .....	20
2. General Vital Statistics and Life Tables	
2-A Explanatory Notes on Vital Statistics .....	23
2-B A Brief Description of Population and Vital Statistics Trends .....	24
2-1 Crude Live-birth Rates .....	26
2-2 Crude Death Rates .....	28
2-3 Vital Statistics Rates .....	30
2-4 Natality, Mortality and Natural Increase .....	31
2-5 Deaths and Death Rates by Age .....	32
2-6 Expectation of Life at Specified Ages for Each Sex .....	34
2-7 Survivors at Specified Ages for Each Sex .....	36
3. Causes of Death	
3-1 Ten Leading Causes of Death .....	46
3-2 Trends in the Leading Causes of Death .....	48

3-3	Deaths and Death Rates by Causes (ICD-9)	55
4.	Child and Maternal Health	
4-A	A Brief Description of Trends in Infant Mortality and Maternal Mortality	70
4-1	Late Fetal, Infant, Neonatal, Post-neonatal and Perinatal Mortality	71
4-2	Infant Mortality by Age and Sex	72
4-3	Maternal Mortality Rates	74
4-4	Family Planning Methods Used	76
4-5	Percentage of Women Receiving Prenatal Care	77
5.	Morbidity from Infectious Diseases	
5-A	List of Notifiable Infectious Diseases	81
5-B	Infectious Diseases Specified by Immunization Programme	83
5-1	Morbidity Statistics	84
5-2	Percentage of Infants under 1 Year Who Are Fully Immunized against Target Diseases	87
6.	Nutrition	
6-1	Per Capita Food Intake	91
6-2	Mean Length of Infants from Birth to One Year	93
6-3	Mean Weight of Infants from Birth to One Year	94
6-4	Mean Chest Circumference of Infants from Birth to One Year	95
6-5	Mean Height by Age (1-18 years)	96
6-6	Mean Weight by Age (1-18 years)	98
7.	Environmental Health and Socio-economic Situation	
7-1	Housing Conditions	103
7-2	Socio-economic Indicators	104
7-3	Expenditure of the Ministry of Health	105

8. Medical Establishments	
8-A Definitions Used in Hospital Statistics (WHO)	108
8-B Comparative Table on Medical Establishments	109
8-1 Number of Hospitals	110
8-2 Number of Beds	112
8-3 Hospitals and Other Medical Establishments with Beds	114
8-4 Hospital Utilization by Category of Hospital	119
9. Human Resources for Health	
9-A Definition of Medical Personnel (WHO)	124
9-B Comparative Table on Medical Personnel	127
9-1 Medical and Allied Health Personnel	130
9-2 Population/Health Personnel Ratios	138
9-3 Number of Physicians	139
9-4 Number of Dentists	141
9-5 Number of Pharmacists	142
9-6 Number of Midwives	143
9-7 Number of Nurses	144
9-8 Situation of Medical Schools	146

(Figures)

Fig. 1 Population Pyramid	18-19
Fig. 2 Trends in Crude Live-birth Rates	27
Fig. 3 Trends in Crude Death Rates	29
Fig. 4 Survivors at Specified Ages for Each Sex	38-44
Fig. 5 Trends in Infant Mortality Rates	73
Fig. 6 Trends in Maternal Mortality Rates	75

Fig. 7 Trends in Number of Hospitals .....	111
Fig. 8 Trends in Number of Beds .....	113
Fig. 9 Trends in Number of Physicians .....	140
Fig. 10 Trends in Number of Nurses .....	145

## **Part II An Outline of Health Statistics in SEAMIC Countries**

Negara Brunei Darussalam .....	149
Indonesia .....	159
Japan .....	169
Malaysia .....	191
The Philippines .....	203
Singapore .....	211
Thailand .....	227

## **Index**

Part I .....	237
Part II .....	245

## **Appendix**

List of Organizations Related to Health Statistics .....	251
--	-----



# **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 (km <sup>2</sup> )	Density (Persons / km <sup>2</sup> )
	Date	Total	Male	Female	Sex Ratio	Persons per Household			
BRUNEI <sup>(1)</sup>	26 August 1991	260,482	137,616	122,866	112.0	6.0	2.8 <sup>a)</sup>	5,765	48 <sup>b)</sup>
INDONESIA <sup>(2)</sup>	1990	179,322,000	89,436,285	89,885,715	99.5	4.5	2.0	1,919,443	93
JAPAN <sup>(3)</sup>	1 October 1990	123,611,167	60,696,724	62,914,443	96.5	3.0	0.4 <sup>c)</sup>	377,737	332
MALAYSIA <sup>(4)</sup>	14 August 1991	18,379,655	9,327,519	9,052,136	103.0	4.8	2.6 <sup>d)</sup>	329,758	56
Peninsular Malaysia		14,797,616	7,460,363	7,337,253	101.7	4.9	2.3	131,598	112
Sabah		1,863,659	983,875	879,784	111.8	5.1	5.7	73,711	25
Sarawak		1,718,380	883,281	835,099	105.8	4.7	2.6	124,449	14
PHILIPPINES <sup>(5)</sup>	1 May 1990	60,487,185	30,410,475	30,076,710	101.1	5.6	2.5 <sup>d)</sup>	300,000	201
SINGAPORE <sup>(6)e)</sup>	30 June 1990	2,705,115	1,370,059	1,335,056	102.6	4.2	1.8 <sup>f)</sup>	646 <sup>g)</sup>	4,535 <sup>g)</sup>
THAILAND <sup>(7)</sup>	1 April 1990	54,548,530	27,061,733	27,486,797	98.5	4.4	2.0	513,115	106.3

Source: (1) Statistics Section, Economic Planning Unit, Ministry of Finance  
 (2) *Population Census of Indonesia, 1990*, Central Bureau of Statistics  
 (3) *1990 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 1994*, Department of Statistics  
 (7) *1990 Population and Housing Census*, National Statistics Office, Office of the Prime Minister.

Note: a) For 1992  
 b) For 1993  
 c) Annual rate of increase 1985-1990  
 d) Annual rate of increase 1985-1994  
 e) Refer to Singapore residents only  
 f) Annual rate of increase 1984-1993  
 g) Year 1994

## 1-2 Estimates of Mid-year Population

(in thousands)

	1970	1975	1980	1985	1987	1988	1989	1990	1991	1992	1993	1994
BRUNEI <sup>(1)</sup>	130	156	185	222	234	241	249	257	261	268	276	285
INDONESIA <sup>(2)</sup>	<sup>(3)</sup> 119,470	<sup>(3)</sup> 130,500	<sup>(3)</sup> 146,360	162,899	169,850	171,357	174,730	178,170	181,384	186,043	187,589	190,815
JAPAN <sup>(4) a)</sup>	103,119	111,252	116,320	120,266	121,535	122,026	122,460	122,721	123,102	123,476	123,788	124,069
MALAYSIA <sup>(5)</sup>	10,768	12,175	13,764	15,681	16,526	16,942	17,354	17,764	18,327	18,762	19,208	19,658
PHILIPPINES <sup>(6)</sup>	36,849	42,517	48,317	54,668	57,356	58,721	60,097	62,049	63,692	65,339	66,982	68,624
SINGAPORE <sup>(7) b)</sup>	2,075	2,263	2,282	2,483	2,554	2,599	2,648	2,705	2,763	2,818	2,874	2,930
THAILAND <sup>(8)</sup>	36,370	41,388	46,718	51,683	53,605	54,536	55,448	56,340	57,196	57,760	58,584	59,695

Source: (1) Statistics Section, Economic Planning Unit, Ministry of Finance  
 (2) *National Income of Indonesia 1983-1995*, Central Bureau of Statistics  
 (3) *Indonesian Population Projection 1980-2000*, Central Bureau of Statistics  
 (4) *Japan Statistical Yearbook*, Statistics Bureau, Management and Coordination Agency  
 (5) *Vital Statistics Malaysia 1994*, Department of Statistics  
 (6) National Statistics Office  
 (7) *Report on Registration of Births and Deaths*, National Registration Department  
 (8) *Report of Working Group on Population Projections*, Office of the National Economic and Social Development Board

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

## 1-3 Population Estimates and Projections

(in thousands)

	2000	2005	2010	2015	2020	2025	2030	2035	2040
BRUNEI <sup>(1)</sup>	<sup>a)</sup> 345	<sup>b)</sup> 389	<sup>c)</sup> 437						
INDONESIA <sup>(2)</sup>	210,439	225,174	238,927	251,317	262,578				
JAPAN <sup>(3) d)</sup>	126,892	127,684	127,623	126,444	124,133	120,913	117,149	113,114	
MALAYSIA <sup>(4)</sup>	23,264	25,843	28,411	31,081	33,855	31,274			
PHILIPPINES <sup>(5)</sup>	78,415	86,326	93,874	100,950	107,447	113,462	119,095	124,051	128,136
SINGAPORE <sup>(6) e)</sup>	3,259	3,527	3,661	3,764	3,844	3,907	3,940		
THAILAND <sup>(7)</sup>	64,389	67,910	70,865	73,208					

Source : (1) Based on *Demographic Situation & Population Projections 1991-2011*, Statistics Division, Economic Planning Unit, 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: 1991-2090*, 1992, Institute of Population Problems, Ministry of Health and Welfare  
 (4) Department of Statistics  
 (5) Based on *Population Projections (Series 2: Moderate Fertility Decline and Moderate Mortality Decline)*, National Statistics Office  
 (6) Population Planning Unit, Ministry of Health  
 (7) *Report of Working Group on Population Projections*, Office of the National Economic and Social Development Board

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

## 1 - 4 Population by Age and Sex

	Year	Sex	Ages								
			All Ages	0	1 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34
BRUNEI <sup>(1)</sup>	1993	T	276.3	35.0		31.4	27.5	23.8	25.8	27.9	27.9
		M	145.8	18.1		16.2	14.1	12.2	13.2	14.8	15.0
		F	130.5	16.9		15.2	13.4	11.6	12.6	13.1	12.9
INDONESIA <sup>(2) a)</sup>	1994	T	192,217	21,711		21,597	22,554	21,117	18,153	16,099	14,793
		M	95,856	11,049		10,962	11,483	10,861	9,006	7,648	7,105
		F	96,361	10,662		10,635	11,071	10,256	9,147	8,452	7,688
JAPAN <sup>(3) b)</sup>	1994	T	124,069	1,212	4,793	6,683	7,595	8,812	9,880	8,530	7,771
		M	60,839	622	2,461	3,426	3,892	4,522	5,060	4,324	3,926
		F	63,230	590	2,331	3,257	3,703	4,290	4,821	4,206	3,844
MALAYSIA <sup>(4)</sup>	1993	T	19,047	2,487		2,389	2,037	1,874	1,765	1,654	1,466
		M	9,604	1,284		1,230	1,047	957	900	834	715
		F	9,443	1,203		1,159	990	917	865	820	751
PHILIPPINES <sup>(5)</sup>	1994	T	68,624	9,581		8,299	7,934	7,249	6,388	5,683	4,993
		M	34,476	4,894		4,248	4,058	3,711	3,269	2,856	2,424
		F	34,148	4,687		4,051	3,876	3,538	3,119	2,827	2,569
SINGAPORE <sup>(6) c)</sup>	1994	T	2,930	49	196	223	207	201	237	266	303
		M	1,476	25	101	116	107	103	119	132	152
		F	1,454	24	95	108	99	97	118	134	150
THAILAND <sup>(7)</sup>	1994	T	59,695	5,911		6,226	6,326	6,161	6,091	5,844	4,969
		M	29,861	3,005		3,151	3,194	3,123	3,097	2,966	2,505
		F	29,834	2,906		3,075	3,132	3,038	2,994	2,878	2,464

Source : (1) Statistics Section, Economic Planning Unit, Ministry of Finance  
 (2) *Population Projection, Indonesia by Province 1990-1995*, 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) *Report of Working Group on Population Projections*, Office of the National Economics and Social Development Board

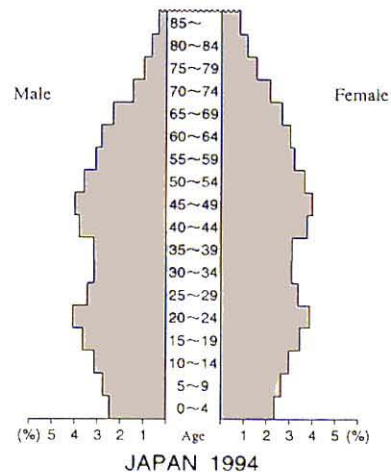
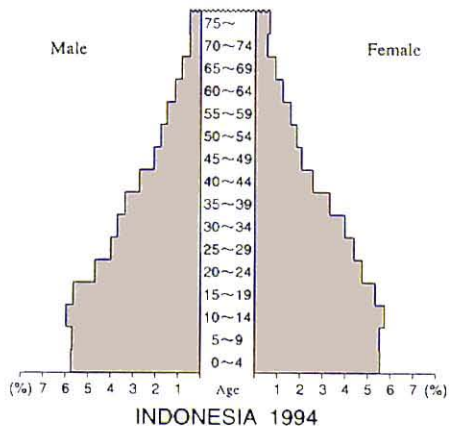
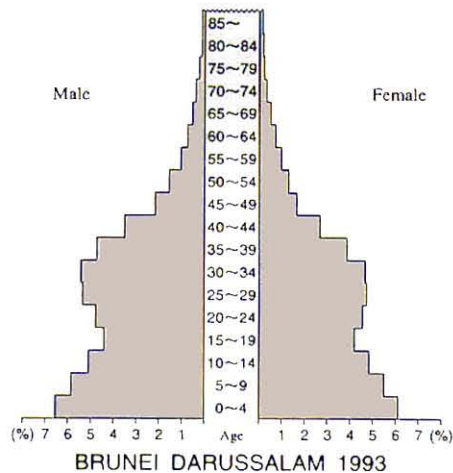
Note : a) Excluding non-permanent resident (homeless people, sailor, boat people and remote area communities) 7,420 person  
 b) Refer to Japanese residents population only  
 c) Refer to Singapore residents population only

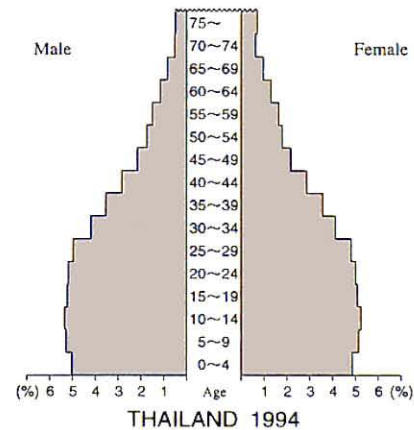
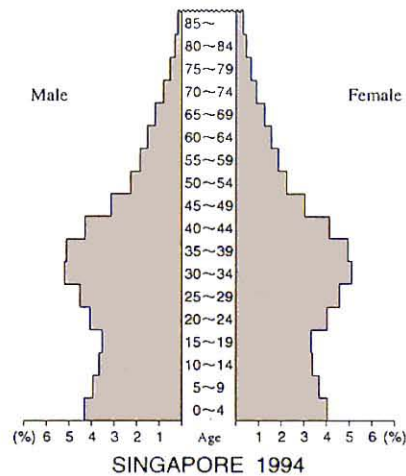
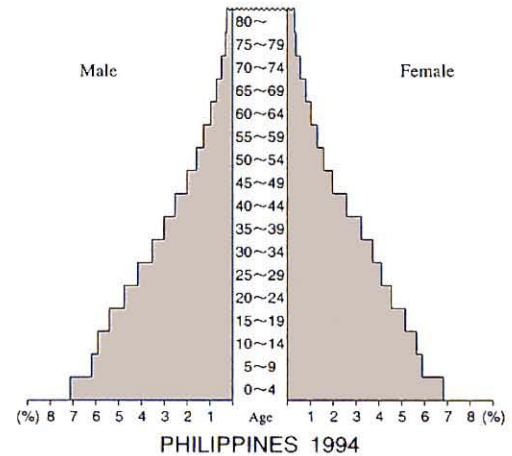
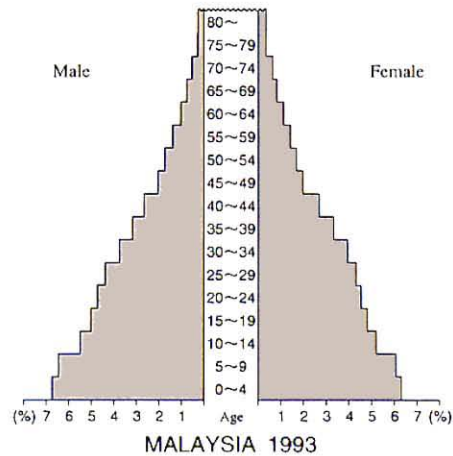
(in thousands)

Age										
35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 - 74	75 - 79	80 - 84	85 +
23.8	17.1	10.6	7.9	5.6	4.1	2.9	2.0	1.3	0.9	0.8
13.1	9.7	6.0	4.3	2.9	2.1	1.5	1.1	0.7	0.4	0.4
10.7	7.4	4.6	3.6	2.7	2.0	1.4	0.9	0.6	0.5	0.4
12,845	10,176	7,998	7,009	5,942	4,568	3,405	1,997	2,254		
6,461	5,220	3,996	3,428	2,889	2,190	1,629	945	986		
6,384	4,956	4,002	3,581	3,053	2,377	1,776	1,053	1,268		
7,812	9,418	9,915	9,017	7,818	7,294	6,204	4,472	3,134	2,238	1,471
3,937	4,724	4,961	4,462	3,831	3,518	2,889	1,808	1,218	807	451
3,875	4,694	4,954	4,554	3,987	3,776	3,315	2,664	1,917	1,431	1,020
1,236	1,018	764	654	536	407	301	223	119	117	
601	507	388	332	265	194	144	101	54	50	
635	512	376	322	271	213	156	121	65	67	
4,288	3,514	2,737	2,177	1,770	1,373	1,032	727	480	401	
2,066	1,736	1,375	1,089	871	662	486	335	219	179	
2,222	1,778	1,362	1,088	899	711	546	392	261	222	
295	247	181	132	109	90	72	50	35	23	15
150	126	92	66	54	45	35	24	15	9	5
145	121	89	66	55	46	37	27	20	14	9
4,248	3,412	2,586	2,110	1,874	1,461	1,079	692	705		
2,116	1,696	1,291	1,037	893	684	500	313	290		
2,132	1,716	1,295	1,073	981	777	579	379	415		



Fig. 1 Population Pyramid





## 1-5 Urban and Total Population

(in thousands)

	1960			1970			1980			1990		
	Total	Urban	(%)	Total	Urban	(%)	Total	Urban	(%)	Total	Urban	(%)
BRUNEI <sup>(1)</sup>	84	37	43.6	<sup>a)</sup> 136	87	63.6	<sup>b)</sup> 193	115	59.4	<sup>c)</sup> 261	173	66.6
INDONESIA <sup>(2)</sup>	<sup>d)</sup> 97,085	14,358	14.8	119,143	20,733	17.4	146,776	32,846	22.4	175,588	50,456	28.7
JAPAN <sup>(3)</sup>	94,300	59,698	63.3	104,666	75,429	72.1	117,600	89,187	76.2	123,611	95,644	77.4
MALAYSIA <sup>(4)</sup> Peninsular Malaysia Sabah Sarawak	8,170	2,060	25.2	10,439	2,787	26.7	13,745	4,687	34.1	<sup>(5) c)</sup> 17,567	8,896	50.6
				8,810	2,530	28.7	11,426	4,250	37.2	14,128	7,677	54.3
				653	107	16.7	1,011	208	20.6	1,791	603	33.7
				975	149	15.4	1,307	230	17.6	1,648	616	37.4
PHILIPPINES <sup>(6)</sup>	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 <sup>(7)</sup>	<sup>d)</sup> 1,446	1,132	78.0	2,075	1,562	75.0	<sup>e)</sup> 2,282	2,282	100.0	<sup>e) f)</sup> 2,874	2,874	100.0
THAILAND <sup>(8)</sup>	<sup>(9)</sup> 26,258	3,274	12.5	34,397	4,553	13.2	44,824	7,633	17.0	54,548	10,215	18.7

Source: (1) Statistics Section, Economic Planning Unit, 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 Census 1980, Vol. 1*, Department of Statistics  
 (5) Population and Housing Census of Malaysia, 1991 (Preliminary Count Report)  
 (6) National Statistics Office  
 (7) *Report on the Census of Population 1970, Singapore, Vol. 1*, Department of Statistics  
 (8) *Population & Housing Census*, National Statistical Office, Office of the Prime Minister  
 (9) *1960 Population Census*, Central Statistics Office, National Economic Development Board

Note: a) For 1971  
 b) For 1981  
 c) For 1991  
 d) For 1957  
 e) Population figures from 1980 onwards refer to Singapore residents only  
 f) For 1994

## **2. General Vital Statistics and Life Tables**

## 2 - A Explanatory Notes on Vital Statistics

Crude Live-birth Rate =  $(B / P) \times 1,000$

Crude Death Rate =  $(D / P) \times 1,000$

Infant Mortality Rate =  $(\text{Infant Deaths} / B) \times 1,000$

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 =  $(M / P) \times 1,000$

Crude Divorce Rate =  $(D / P) \times 1,000$

Crude Birth Rate =  $(B / P) \times 1,000$

General Fertility Rate =  $(B / F_{15-49}) \times 1,000$

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 =  $(D_p / B) \times 100,000$

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

## 2 - B A Brief Description of Population and Vital Statistics Trends

## BRUNEI

The population is rising with an annual growth rate of 2.8%. By the year 2000, it is expected to reach 337,000. The crude birth rate figures suggest a slight decrease over the years whereas the crude death rate remains more or less stationary in recent years.

## JAPAN

## Population:

The population is growing every year, reaching 124.07 million in 1994. The proportion of people over 65 years of age was 14.1% in 1994 and is growing rapidly.

## Crude Birth Rate:

The number of births in 1994 was 1,238,328 and the crude birth rate was 10.0 (per 1,000 population). The crude birth rate had been decreasing gradually, but showed a slight increase in 1994.

## Crude Death Rate:

The number of deaths in 1994 was 875,933 and the crude death rate was 7.1 (per 1,000 population). The crude death 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.

## Life Expectancy:

Japanese life expectancy has been prolonging every year. In 1994 the life expectancy at birth for male was 76.6 years and that for female 83.0 years. These figures show that Japan is among the countries with the highest life expectancy in the world.

## Health Care Status:

Most Japanese are enjoying good health. Over 80% of people consider themselves healthy or very healthy. Ministry of Health and Welfare makes an effort to provide a high-quality, efficient, cost-effective, accessible health care system and to prevent diseases and promote health.

## MALAYSIA

The population of Malaysia was estimated to be 19.49 million in 1994. If the annual growth rate of 2.6 percent between 1980-1991 continues at the same level, the size of the population will double in about 26 years. While the population continued to increase, there were considerable changes in the relative size of the population in each state.

The age structure of the population in Malaysia in 1993 reflects that of a growing population with 36% of the population below age of 15 years and 4% for the elderly aged 65 years and over. The reduction in the population below 15 years of age as compared to 1980 was mainly attributed to continued fertility declines.

The Crude Birth Rate and the Crude Death Rate have shown a drastic decline if we compare 1957 (independence year) with 1993. Similar trend is observed for other vital rates. All these indicators point to the general improvement in the health status of the population and the effectiveness of innovative measures taken by the government to institutionalize long-term measures to satisfy the rising expectations of the people.

Year	Crude Birth Rate	Crude Death Rate	Infant Mortality Rate	Toddler Mortality Rate	Maternal Mortality Rate	Life Expectancy
1957	46.2	12.4	75.5	10.7	2.8	M 55.8 F 58.2
1993	28.2	4.6	11.4	0.9	0.2	M 69.1 F 73.6

## SINGAPORE

### Population:

The mid-year resident population of Singapore grew marginally by about 2% from 2.87 million in 1993 to 2.93 million in 1994. Chinese constituted the majority at 77.5%, followed by 14.2% Malays and 7.1% Indians. The population continued to age, with the proportion of elderly aged 60 years and above increasing from 9.5% in 1993 to 9.7% in 1994.

### Life Expectancy:

The life expectancy at birth of Singaporeans remained at 76 years. Expectation of life at birth for the average male in 1994 was 74 years and that for the average female was 78 years.

### Health Care Status:

Singaporeans continue to enjoy a good state of health. The Ministry of Health intensified its efforts on health promotion and disease prevention, encouraging Singaporeans to stay healthy. The Ministry also provides good, up-to-date and proven medical practices that are cost-effective and accessible to all Singaporeans.

## THAILAND

Owing to an extensive National Family Planning Programme, the population growth rate declined from 2.7% in 1970 to 1.15% in 1994. The crude birth rate of the Thai population shows a steady downward trend in all regions. The crude death rate has increased from 4.5 per 1,000 population in 1989 to 5.2 per 1,000 population in 1994. An increase in the death rate has occurred in males aged 20–49 years.

For all population the causes of death related to the lifestyle such as coronary heart disease, hypertension and traffic accident are progressing.

## 2-1 Crude Live-birth Rates

(per 1,000 population)

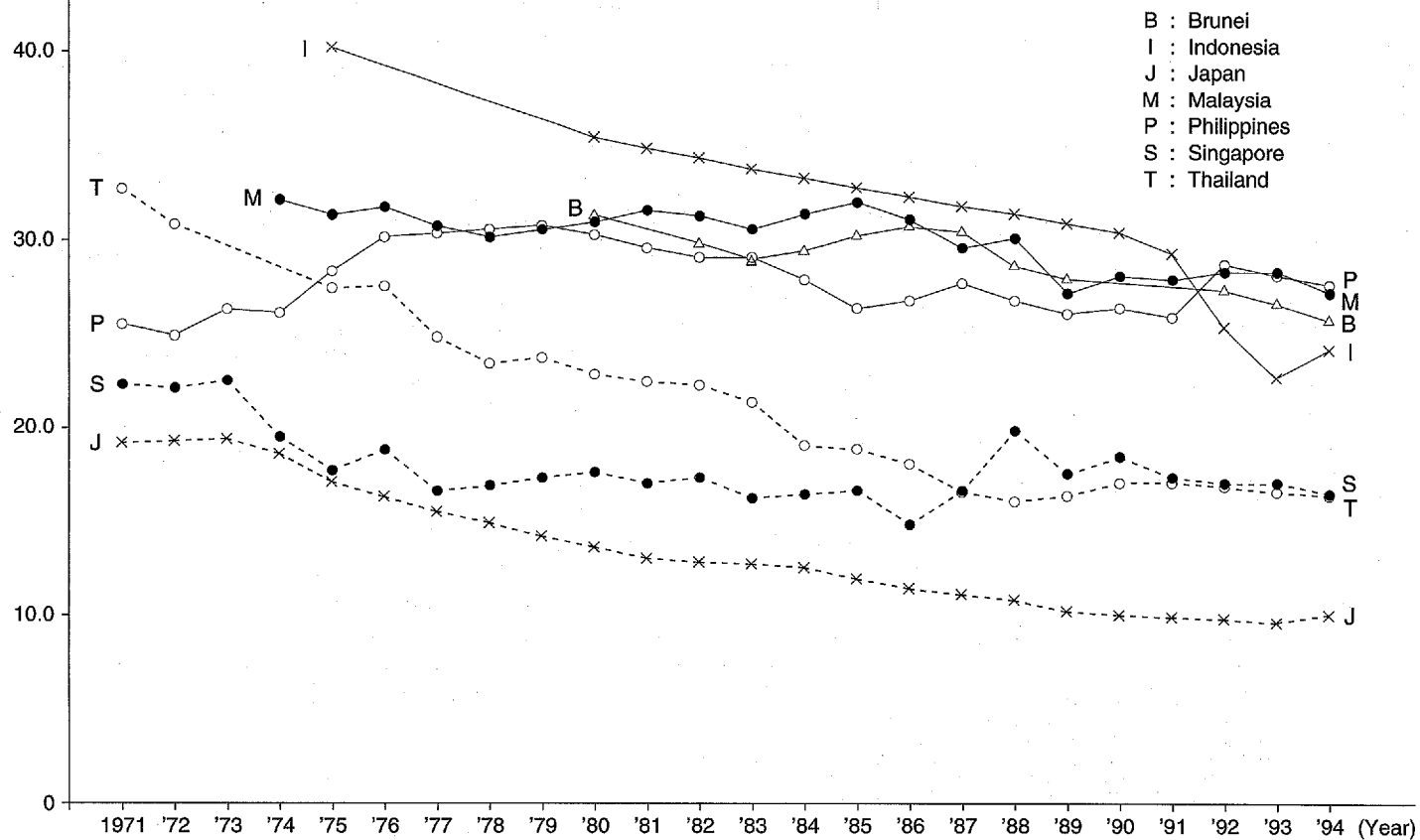
Year	1970	1975	1980	1985	1987	1988	1989	1990	1991	1992	1993	1994
BRUNEI <sup>(1)</sup>			31.2	30.1	30.3	28.5	27.8	27.3	27.3	27.2	26.5	25.6
INDONESIA <sup>(2)</sup>	43.8	40.2	35.4	32.7	31.7	31.3	30.8	30.3	29.2 <sup>a)</sup>	25.3 <sup>a)</sup>	22.6 <sup>a)</sup>	24.1 <sup>a)</sup>
JAPAN <sup>(3)</sup>	18.8	17.1	13.6	11.9	11.1	10.8	10.2	10.0	9.9	9.8	9.6	10.0
MALAYSIA <sup>(4)</sup>				31.9	29.5	30.0	27.1	28.0	27.8	28.2	28.2	27.1
Peninsular Malaysia	33.9	31.3	30.3	31.3	28.6	28.8	26.2	27.0	26.8	27.1	27.1	
Sabah	37.9	35.4	38.7	42.3	40.9	42.1	36.8	38.8	39.2	39.2	38.5	
Sarawak	30.4	29.7	29.4	27.7	28.1	30.0	26.4	27.4	25.6	27.4	27.5	
PHILIPPINES <sup>(5)</sup>	27.4	28.8	30.2	26.3	27.6	26.7	26.0	26.3	25.8	28.6	28.0	27.5
SINGAPORE <sup>(6) b)</sup>	22.1	17.7	17.6	16.6	16.6	19.8	17.5	18.4	17.3	17.0	17.0	16.4
THAILAND <sup>(7)</sup>	31.5	27.4	22.8	18.8	16.5	16.0	16.3	17.0	17.0	16.8	16.5	16.3

Source : (1) Birth & Death Registry, Ministry of Health and Statistics Section, Economic Planning Unit, Ministry of Finance  
 (2) Central Bureau of Statistics  
 (3) *Vital Statistics Japan*, Ministry of Health & Welfare  
 (4) *Yearbook of Statistics Malaysia*, Department of Statistics  
 (5) *Philippine Health Statistics*, Health Intelligence Service, Department of Health  
 (6) *Yearbook of Statistics, Singapore 1994*, Department of Statistics  
 (7) Health Information Division, Ministry of Public Health

Note : a) Calculated by Central Bureau of Statistics based on National Census 1990  
 b) Rates from 1980 onward refer to Singapore residents only



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



## 2-2 Crude Death Rates

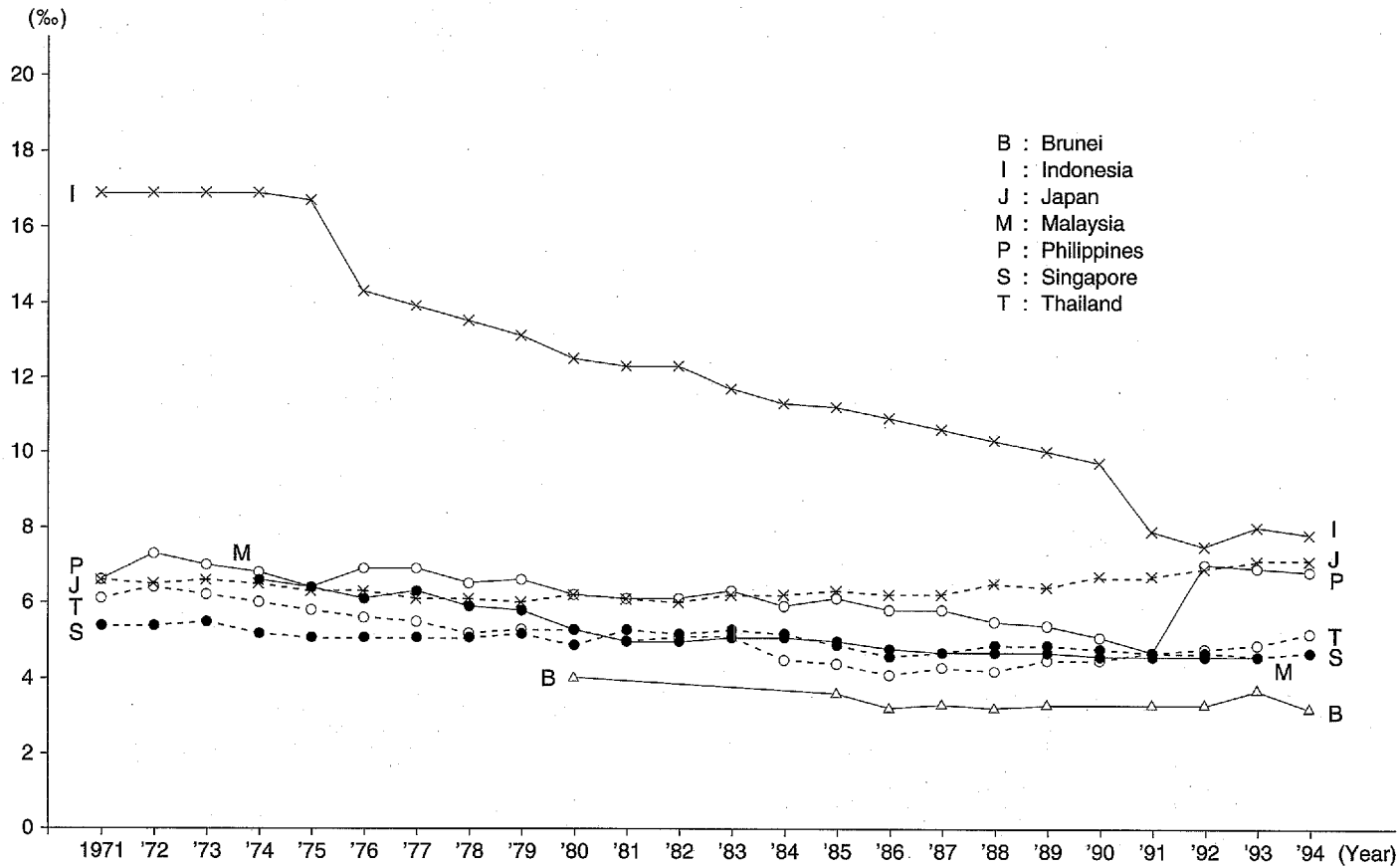
(per 1,000 population)

Year	1970	1975	1980	1985	1987	1988	1989	1990	1991	1992	1993	1994
BRUNEI <sup>(1)</sup>			4.0	3.6	3.3	3.2	3.3		3.3	3.3	3.7	3.2
INDONESIA <sup>(2)</sup>	18.7	16.7	12.5	11.2	10.6	10.3	10.0	9.7	7.9	7.5	8.0 <sup>a)</sup>	7.8
JAPAN' <sup>(3)</sup>	6.9	6.3	6.2	6.3	6.2	6.5	6.4	6.7	6.7	6.9	7.1	7.1
MALAYSIA <sup>(4)</sup>			5.3	5.0	4.7	4.7	4.7	4.6	4.6	4.6	4.6	4.6
Peninsular Malaysia	7.3	6.4	5.5	5.3	4.9	4.9	4.9	4.9	4.9	4.8	4.8	
Sabah	5.9	4.3	4.2	4.1	4.0	3.9	3.8	3.7	3.8	3.6	3.6	
Sarawak	5.2	5.0	4.2	3.7	3.1	3.3	3.8	3.8	3.8	3.7	3.8	
PHILIPPINES <sup>(5)</sup>	6.7	6.4	6.2	6.1	5.8	5.5	5.4	5.1	4.7	7.0	6.9	6.8
SINGAPORE <sup>(6) b)</sup>	5.2	5.1	4.9	4.9	4.7	4.9	4.9	4.8	4.7	4.7	4.6	4.7
THAILAND <sup>(7)</sup>	6.2	5.8	5.3	4.4	4.3	4.2	4.5	4.5	4.7	4.8	4.9	5.2

Source: (1) Birth & Death Registry, Ministry of Health and Statistics Section, Economic Planning Unit, Ministry of Finance  
 (2) Central Bureau of Statistics  
 (3) *Vital Statistics Japan*, Ministry of Health & Welfare  
 (4) *Yearbook of Statistics, Malaysia*, Department of Statistics  
 (5) *Philippine Health Statistics*, Health Intelligence Service, Department of Health  
 (6) *Yearbook of Statistics Singapore, 1993*, Department of Statistics  
 (7) Health Information Division, Ministry of Public Health

Note: a) Calculated by Central Bureau of Statistics based on National Census 1990  
 b) Rates from 1980 onward refer to Singapore residents only

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)	1994	a) 6.0	a) 1.0	25.6	96.8	3.2	8.4
INDONESIA (2) b)	1994	a) 9.0	a) 0.7	24.1		7.8	57.0
JAPAN (3)	1994	6.3	1.6	10.0	40.4	7.1	4.2
MALAYSIA (4)							
Peninsular Malaysia	1993	7.8	0.7	28.2	110.7	4.6	11.4
Sabah		8.6	0.7	27.1	104.8	4.8	10.6
Sarawak		2.8	0.9	38.5	135.4	3.6	18.4
		5.2	0.2	27.5	137.5	3.8	9.3
PHILIPPINES (5)	1992	14.2		28.6	99.7	7.0	53.6
	1993	13.9	..	28.0	126	6.9	52.0
SINGAPORE (6) c)	1994	8.4	1.3	16.4	56.2	4.7	4.3
THAILAND (7)	1994	(8) d) 8.3	(8) d) 0.8	16.3	58.1	5.2	7.1

Source: (1) Birth & Death Registry, Ministry of Health and Statistics Section, Economic Planning Unit, Ministry of Finance  
 (2) Central Bureau of Statistics  
 (3) *Vital Statistics Japan*, Ministry of Health & Welfare  
 (4) National Registration Department  
 (5) National Statistics Office (estimated vital rates)  
 (6) *Yearbook of Statistics Singapore 1994*, Department of Statistics  
 (7) Health Statistics Division, Ministry of Public Health  
 (8) Ministry of Interior

Note: a) Muslims  
 b) Calculated by Central Bureau of Statistics based on National Census 1990  
 c) Rates refer to Singapore residents only  
 d) 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 <sup>(1)</sup>	1993	7,314	3,732	3,582	26.6	1,018	617	401	3.7	22.9
INDONESIA <sup>(2)</sup>	1994				24.1				7.8	16.3
JAPAN <sup>(3)</sup>	1994	1,238,328	635,915	602,413	10.0	875,933	476,080	399,853	7.1	2.9
MALAYSIA <sup>(4)</sup>	1993	536,931	277,901	259,030	28.2	87,175	49,676	37,499	4.6	23.4
Peninsular Malaysia		424,089	218,925	205,164	27.1	74,410	42,075	32,335	4.8	22.8
Sabah		63,575	33,103	30,472	38.5	5,910	3,567	2,343	3.6	29.4
Sarawak		49,267	25,873	23,394	27.5	6,855	4,034	2,821	3.8	23.6
PHILIPPINES <sup>(5)</sup>	1992	1,684,395	877,885	806,510	25.8	319,575	189,565	130,010	4.9	21.1
SINGAPORE <sup>(6) a)</sup>	1994	49,554	25,541	24,013	16.4	14,946	8,466	6,480	4.7	11.7
THAILAND <sup>(7)</sup>	1994	960,248	494,485	465,763	16.3	305,526	184,480	121,046	5.2	11.1

Source: (1) Birth & Death Registry, Ministry of Health and Statistics Section, Economic Planning Unit, Ministry of Finance  
 (2) Calculated by Central Bureau of Statistics  
 (3) *Vital Statistics Japan*, Ministry of Health & Welfare  
 (4) *Vital Statistics, 1993*, Department of Statistics  
 (5) *Philippine Health Statistics*, Health Intelligence Service, Department of Health  
 (6) *Report on Registration of Births and Deaths, 1992*, National Registration Department  
 (7) Health Statistics Division, Ministry of Public Health

Note: Figures for males and females may not add up to the total on account of unknown sex  
 a) Rates refer to Singapore residents only

## 2-5 Deaths and Death Rates by Age

	Year	Sex	All ages		0		1-4		5-14		15-24	
			Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
BRUNEI (1)	1993	T	1,018	368.4	100		285.7		22	37.4	65	131.1
		M	617	423.2	57		314.9		13	42.9	49	192.9
		F	401	307.3	43		254.4		9	31.5	16	66.1
INDONESIA (2) a)	1992	T	5,352		818		292		315		443	
JAPAN (3)	1994	T	875,933	706.0	5,261	434.1	1,925	40.2	2,200	15.4	8,269	44.2
		M	476,080	782.5	2,994	481.4	1,096	44.5	1,383	18.9	6,036	63.0
		F	399,853	632.4	2,267	384.2	829	35.5	817	11.7	2,233	24.5
MALAYSIA (4)	1993	T	87,175	457.7	6,139	1,143.3	1,701	90.0	1,914	43.2	3,698	101.6
		M	49,676	517.2	3,544	1,275.3	908	100.1	1,132	49.7	2,686	144.6
		F	37,499	397.1	2,595	1,001.8	793	89.9	782	36.4	1,012	56.8
PHILIPPINES (5)	1992	T	319,575	489.1	58,214		643.7		13,991	88.0	16,479	126.4
		M	189,565	583.1	33,099		715.2		7,856	96.6	11,007	165.2
		F	130,010	400.0	25,115		569.9		6,135	79.1	5,472	85.9
SINGAPORE (6) b)	1994	T	14,946	473.4	214	436.7	79	40.3	76	15.8	319	48.6
		M	8,466	522.3	114	452.4	42	41.6	49	20.2	233	63.8
		F	6,480	422.6	100	420.2	37	38.9	27	11.1	86	33.0
THAILAND (7)	1994	T	305,526	520.3	10,982		201.6		6,049	53.6	21,206	184.4
		M	184,480	627.9	6,277		227.9		3,742	65.3	16,620	283.3
		F	121,046	412.6	4,705		174.7		2,307	41.5	4,586	81.4

Source : (1) Birth and Death Registry, Ministry of Health and Statistics Section, Economic Planning Unit, Ministry of Finance

(2) Directorate General of Medical Care, Ministry of Health

(3) *Vital Statistics Japan*, Ministry of Health and Welfare

(4) *Vital Statistics, Malaysia, 1993*, Department of Statistics

(5) *Philippine Health Statistics*, Health Intelligence Service, Department of Health

(6) *Report on Registration of Births and Deaths, 1994*, National Registration Department

(7) Health Statistics Division, Ministry of Public Health

Note : a) Based on 10 days sample of discharges from hospital for each quarter

b) Rates refer to Singapore residents only

(rate per 100,000 population)

25-34		35-44		45-54		55-64		65-74		75 & over		Unknown	
Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
74	132.6	71	173.6	52	281.1	156	1,608.3	189	3,857.1	289	9,633.3		
57	191.3	56	245.6	30	291.3	90	1,800.0	107	4,115.4	158	10,533.3		
17	65.4	15	82.9	22	268.3	66	1,404.3	82	3,565.2	131	8,733.3		
1,008				1,464				1,012					
9,262	56.8	20,459	118.7	54,053	285.5	110,546	731.5	179,870	1,684.8	483,440	7,064.7	648	
6,230	75.5	13,238	152.8	35,823	380.2	76,364	1,039.1	112,111	2,836.9	220,251	8,895.4	554	
3,032	37.7	7,221	84.3	18,230	191.7	34,182	440.3	67,759	1,133.3	263,189	6,025.4	94	
4,095	131.3	5,083	225.5	7,810	550.8	13,813	1,464.8	19,051	3,649.6	23,516	9,964.4	355	
2,826	182.4	3,168	285.9	4,866	675.8	8,344	1,817.9	10,351	4,224.9	11,613	11,166.3	238	
1,269	80.8	1,915	167.0	2,944	421.8	5,469	1,130.0	8,700	3,140.8	11,903	9,017.4	117	
21,693	213.3	24,554	339.9	29,390	642.0	38,236	1,303.2	44,527	2,693.7	72,479	8,904.1	12	
15,200	305.2	16,776	471.8	19,800	862.4	24,674	1,727.9	26,059	3,366.8	35,086	9,431.7	8	
6,493	125.1	7,778	212.2	9,590	420.1	13,562	900.5	18,468	2,098.6	37,393	8,459.9	4	
502	56.8	849	132.0	1,243	360.5	2,362	1,123.9	3,733	2,930.5	5,537	7,393.1	32	
371	77.0	579	167.6	789	442.1	1,462	1,404.3	2,205	3,360.6	2,594	8,520.4	28	
131	36.6	270	95.1	454	277.5	900	849.1	1,528	2,294.9	2,943	6,615.0	4	
28,648	279.5	28,473	351.6	31,024	583.6	45,592	1,166.0	52,935	2,683.2	75,810	8,113.3	4,807	
22,946	442.1	20,538	508.1	20,064	771.8	27,572	1,464.5	29,524	3,183.8	34,312	8,810.8	2,885	
5,702	112.7	7,935	195.6	10,960	403.5	18,020	888.9	23,411	2,239.3	41,498	7,622.9	1,922	

## 2-6 Expectation of Life at Specified Ages for Each Sex

	Year	Sex	Age								
			0	1	2	3	4	5	10	15	20
BRUNEI <sup>(1)</sup>	1991	M F	72.1 76.5	71.9 76.5				68.1 72.6	63.3 67.7	58.5 62.8	54.0 57.9
INDONESIA <sup>(2)</sup>	1994	M F	61.2 64.9	64.3 67.4				61.6 64.6	57.1 60.1	52.5 55.4	48.0 50.8
JAPAN <sup>(3)</sup>	1994	M F	76.6 83.0	75.0 82.3	75.0 81.3	74.0 80.4	73.1 79.4	72.1 78.4	67.1 73.5	62.2 68.5	57.4 63.6
MALAYSIA Peninsular Malaysia <sup>(4)</sup>	1993	M F	69.2 73.7	69.0 73.4				65.3 69.7	60.4 64.8	55.6 59.9	50.9 55.0
PHILIPPINES <sup>(5)</sup>	1992	M F	63.2 68.5	66.3 71.1				63.9 68.8	59.3 64.2	54.6 59.4	49.9 54.7
SINGAPORE <sup>(6)</sup>	1993	M F	74.0 78.3	73.4 77.6				69.5 73.7	64.5 68.8	59.6 63.8	54.7 58.9
THAILAND <sup>(7)</sup>	1991	M F	67.7 72.5	69.8 74.8				66.2 71.1	61.6 66.4	56.9 61.6	52.3 56.9

- Source: (1) Economic Planning Unit, Ministry of Finance  
 (2) Calculated by Centre for Health Data, using Model Life Table for West Model and level of mortality = 18.66  
 (3) *Abridged Life Table for Japan*, Ministry of Health & 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



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			
43.6 45.3	39.3 41.0	34.9 37.6	30.6 33.2	26.4 28.9	22.4 24.8	18.7 20.8	15.2 17.0	12.1 13.5	9.4 10.4	7.0 7.7	5.0 5.3			
52.6 58.7	47.7 53.7	42.9 48.9	38.1 44.0	33.5 39.2	28.9 34.5	24.6 29.9	20.4 25.3	16.7 21.0	13.1 16.8	10.0 12.9	7.3 9.5	5.3 6.7	3.7 4.6	2.6 3.1
46.4 50.2	41.8 45.4	37.2 40.6	32.6 35.9	28.1 31.2	23.9 26.7	19.8 22.3	16.1 18.2	12.8 14.4	10.0 11.1	7.5 8.3	5.5 6.1			
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			
50.0 54.0	45.1 49.1	40.3 44.2	35.5 39.4	30.9 34.6	26.4 30.0	22.1 25.5	18.2 21.3	14.8 17.3	11.8 13.6	9.1 10.4	6.8 7.5	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			

## 2-7 Survivors at Specified Ages for Each Sex

	Year	Sex	Age							
			0	1	5	10	15	20	25	30
BRUNEI <sup>(1)</sup>	1991	M F	100,000 100,000	98,850 98,784	98,490 98,694	98,200 98,556	97,945 98,359	96,995 98,226	96,092 98,113	95,532 98,000
INDONESIA <sup>(2)</sup>	1994	M F	100,000 100,000	93,678 93,965	91,691 93,152	90,947 92,507	90,384 92,007	89,490 91,248	88,170 90,228	86,832 89,044
JAPAN <sup>(3)</sup>	1994	M F	100,000 100,000	99,524 99,620	99,344 99,476	99,248 99,410	99,161 99,361	98,898 99,262	98,544 99,121	98,195 98,962
MALAYSIA Peninsular Malaysia <sup>(4)</sup>	1993	M F	100,000 100,000	98,776 99,026	98,412 98,690	98,179 98,517	97,917 98,341	97,239 98,103	96,299 97,791	95,417 97,447
PHILIPPINES <sup>(5)</sup>	1992	M F	100,000 100,000	94,032 95,055	91,850 92,932	91,212 92,397	90,790 92,064	90,065 91,650	88,957 91,098	87,593 90,433
SINGAPORE <sup>(6)</sup>	1993	M F	100,000 100,000	99,526 99,577	99,386 99,457	99,295 99,388	99,151 99,303	98,897 99,168	98,513 99,014	98,154 98,841
THAILAND <sup>(7)</sup>	1991	M F	100,000 100,000	95,624 95,670	95,106 95,248	94,544 94,798	94,030 94,513	93,385 94,024	92,582 93,316	91,561 92,702

Source: (1) Economic Planning Unit, Ministry of Finance

(2) Calculated by Centre for Health Data, using level of mortality = 18.66

(3) *Abridged Life Table*, Ministry of Health & 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

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		
85,346 87,683	83,535 86,073	79,051 84,105	77,884 81,316	73,298 78,033	66,934 73,220	58,310 66,322	46,951 56,655	34,131 43,641	20,429 28,332			
97,796 98,743	97,256 98,435	96,381 97,950	94,932 97,179	92,651 96,044	89,091 94,395	83,355 91,862	75,425 87,968	64,311 81,543	48,860 70,629	30,119 53,022	13,607 31,355	3,860 12,415
94,465 96,968	93,318 96,302	91,751 95,334	89,259 93,765	85,542 91,445	79,608 87,538	70,554 81,143	58,282 70,779	43,497 56,452	27,577 38,207			
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			
97,758 98,596	97,174 98,218	96,181 97,591	94,538 96,579	91,691 94,748	86,845 91,636	78,945 86,913	67,724 79,598	54,117 68,741	38,432 54,101	24,183 38,452		
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			

Fig. 4 Survivors at Specified Ages for Each Sex (1) Brunei, 1991

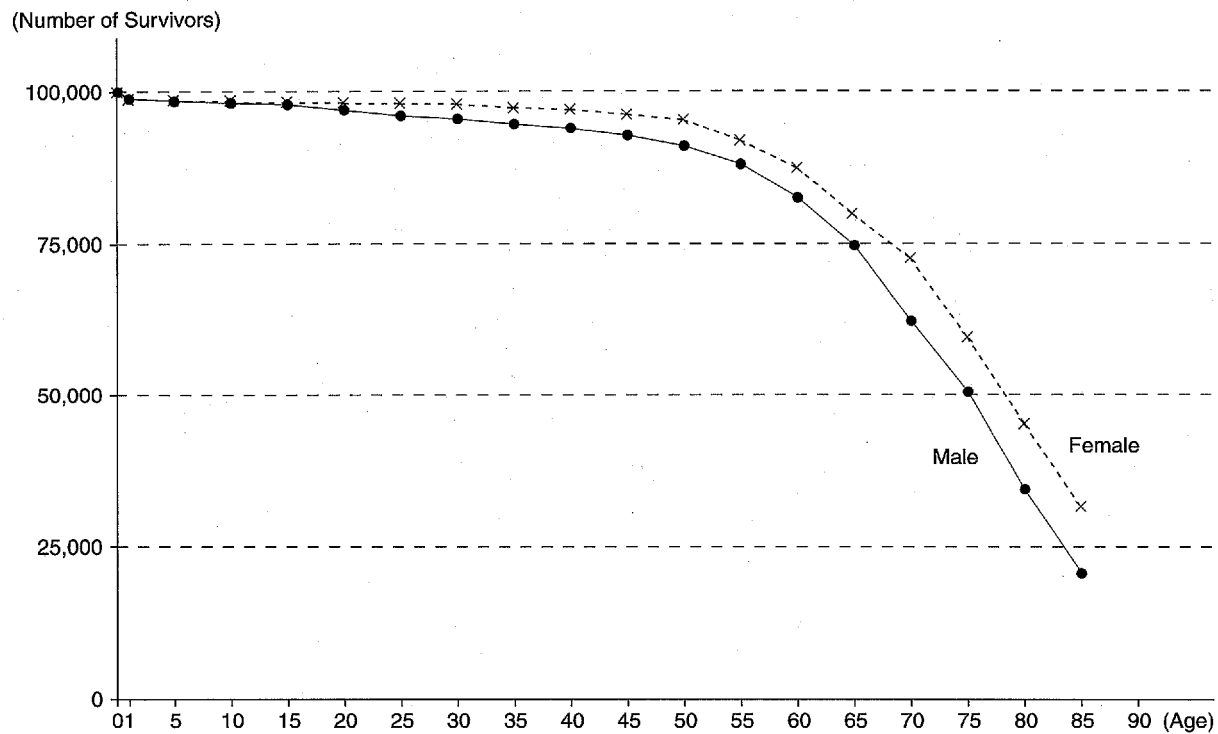


Fig. 4 Survivors at Specified Ages for Each Sex (2) Indonesia, 1994

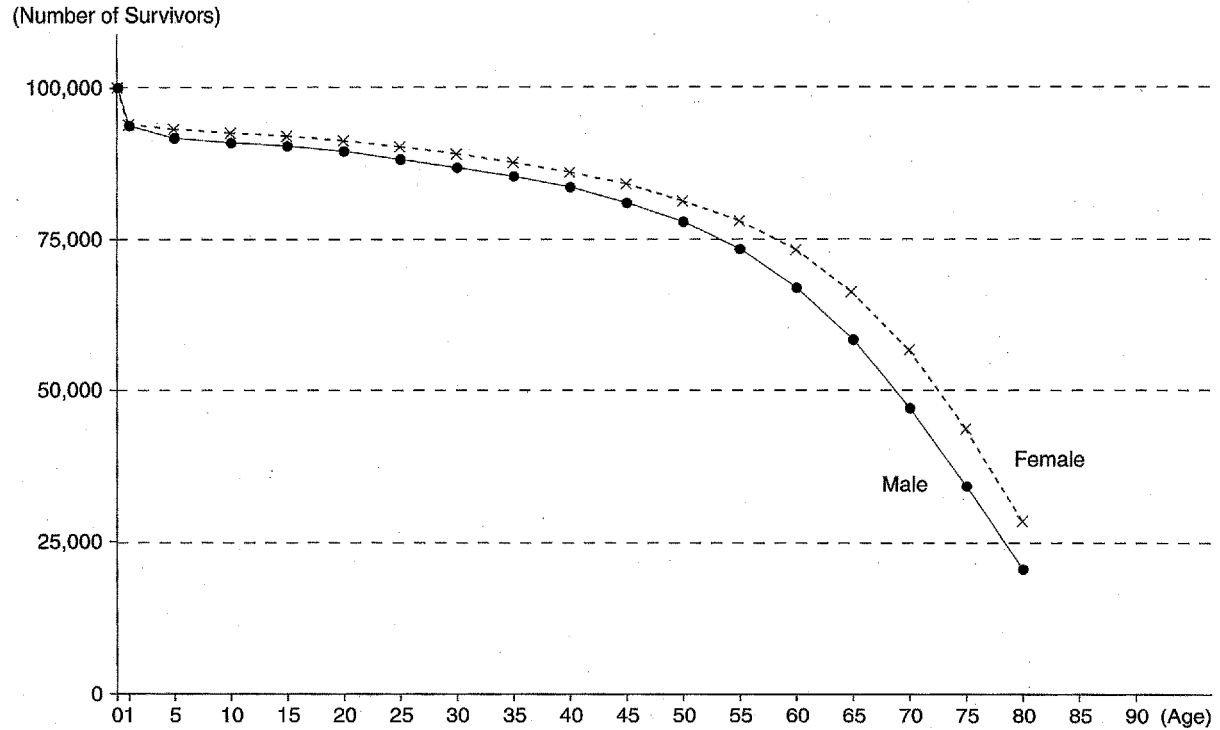


Fig. 4 Survivors at Specified Ages for Each Sex (3) Japan, 1994

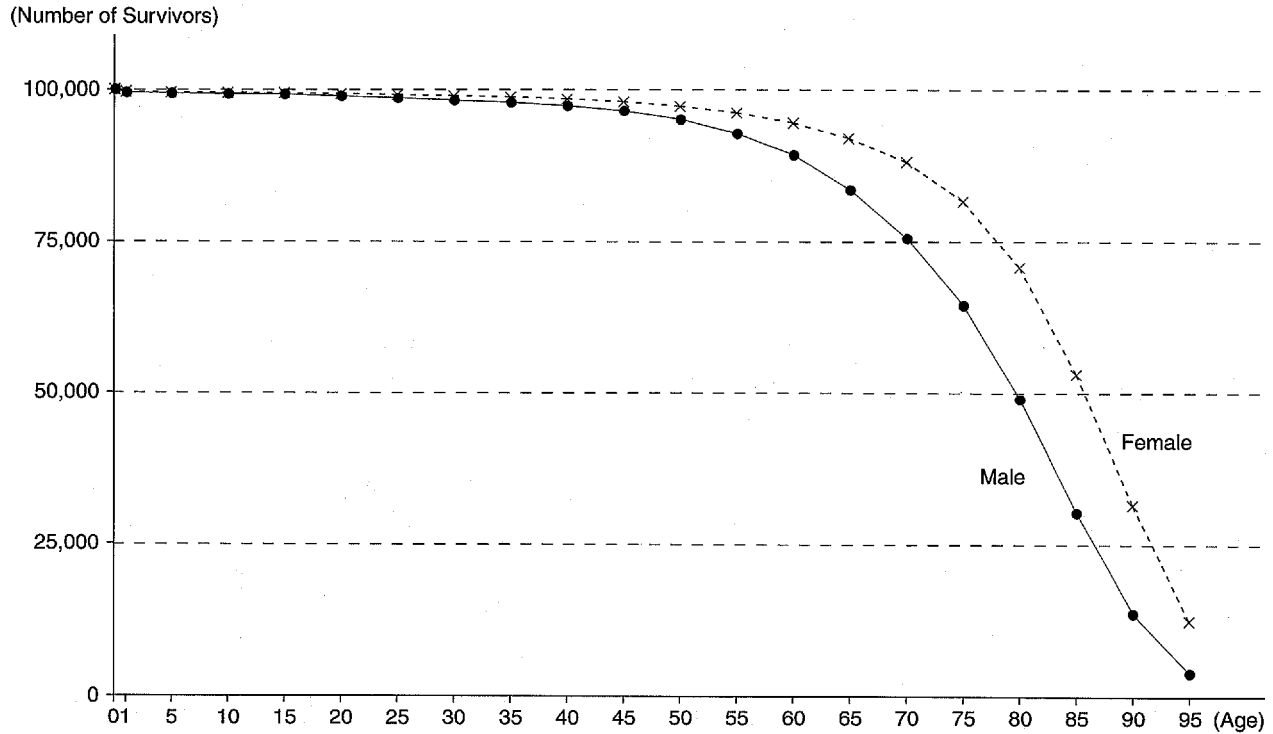


Fig. 4 Survivors at Specified Ages for Each Sex (4) Peninsular Malaysia, 1993

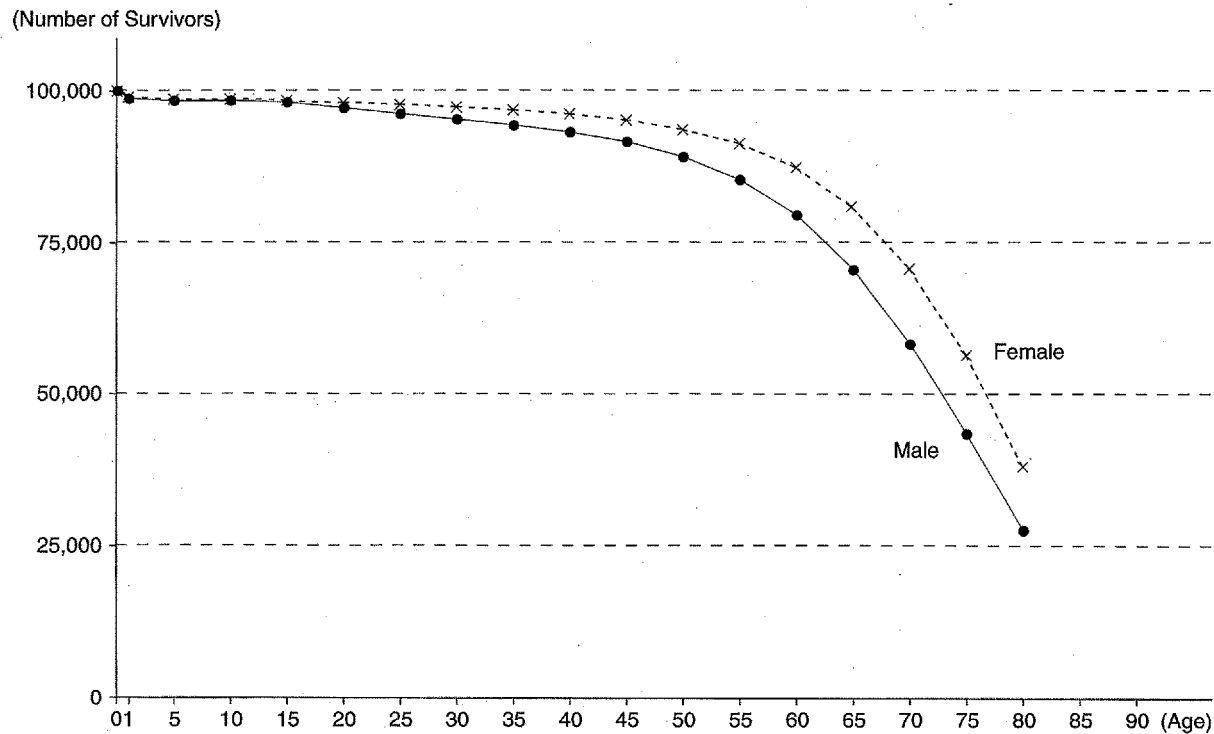


Fig. 4 Survivors at Specified Ages for Each Sex (5) Philippines, 1992

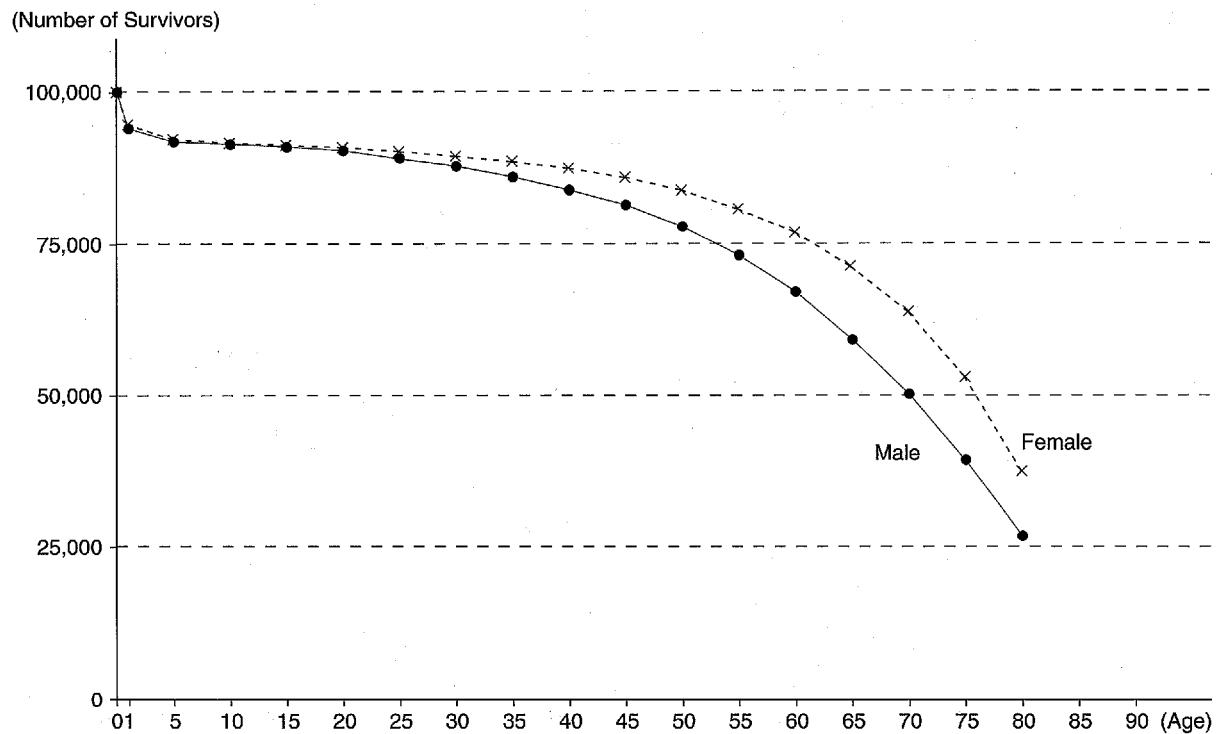




Fig. 4 Survivors at Specified Ages for Each Sex (6) Singapore, 1993

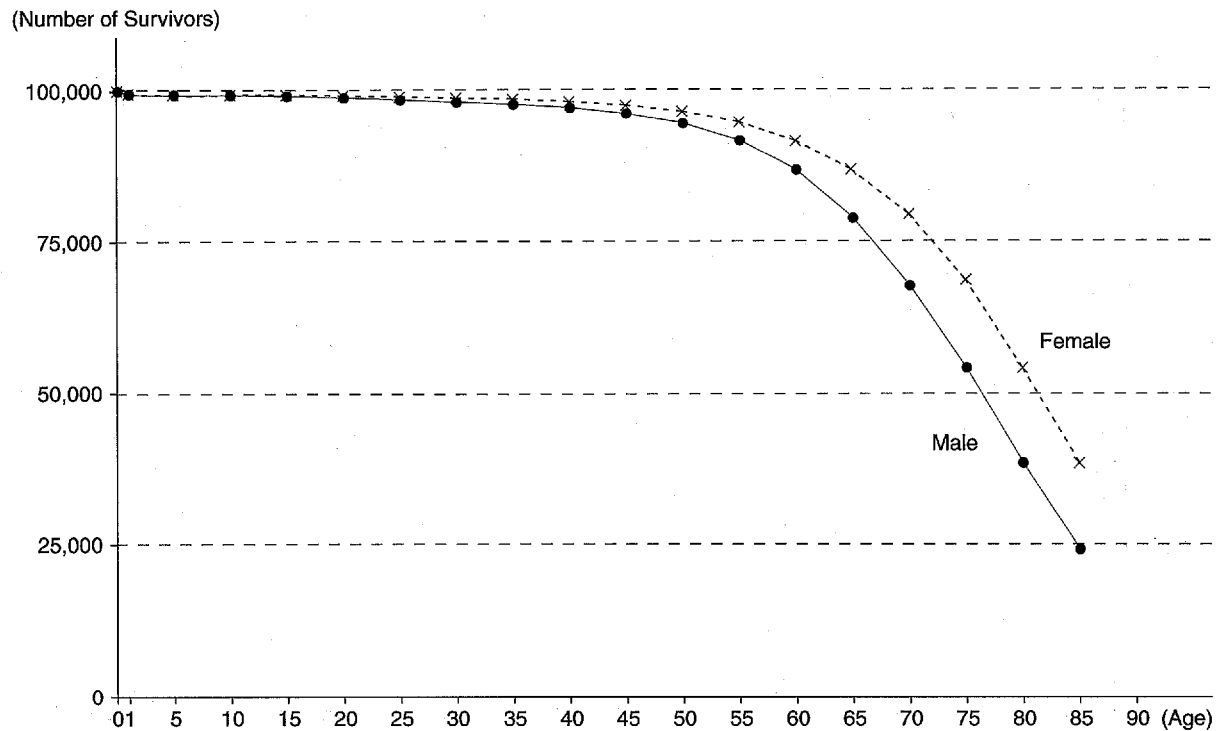
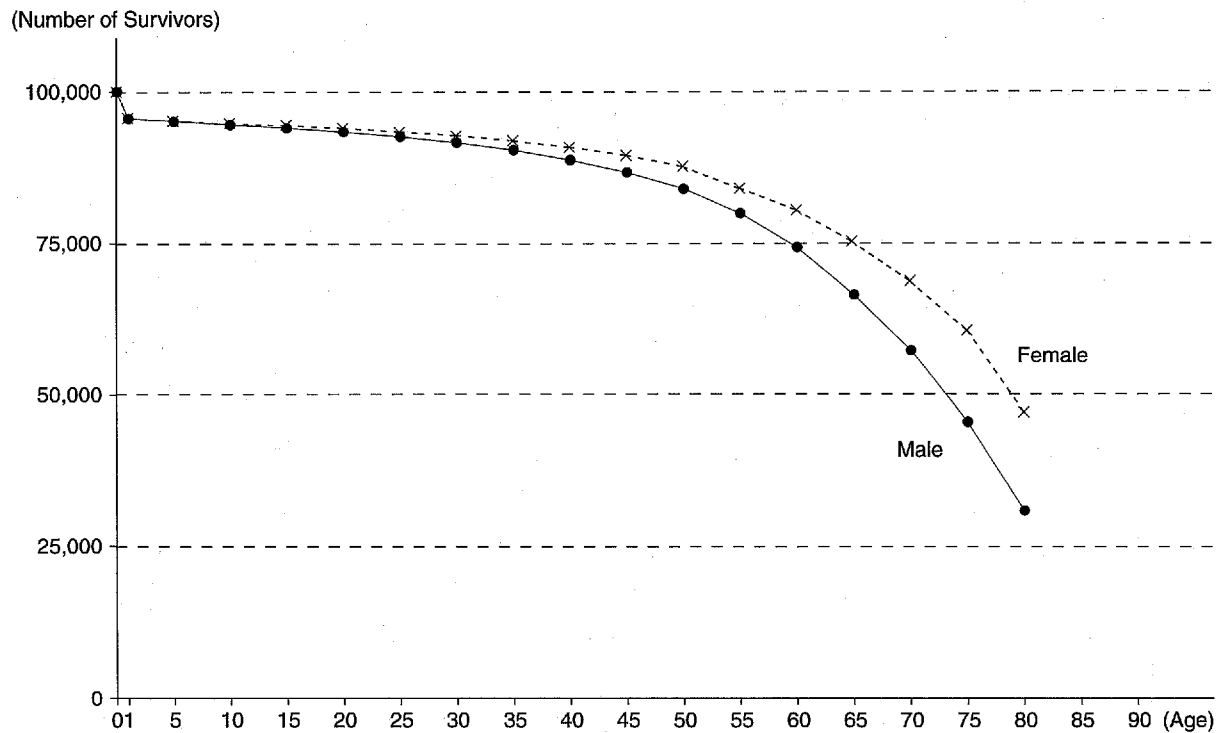


Fig. 4 Survivors at Specified Ages for Each Sex (7) Thailand, 1991



### **3. Causes of Death**

## 3-1 Ten Leading Causes of Death

	Year	1	2	3	4	
BRUNEI <sup>(1)</sup>	1993	Heart Diseases	Accidents, Poisoning & Other Violence	Malignant Neoplasms	Cerebrovascular Diseases	
INDONESIA <sup>(2)</sup>	1993	Celebrovascular Diseases	Lower Respiratory Diseases	Cardiovascular Diseases	Perinatal Diseases	
JAPAN <sup>(3)</sup>	1994	Malignant Neoplasms	Heart Diseases	Cerebrovascular Diseases	Pneumonia and Bronchitis	
MALAYSIA <sup>(4) a)</sup>	Peninsular Malaysia	1994	Heart Diseases and Diseases of Pulmonary Circulation	Accidents	Certain Condition Originating in the Perinatal Period	Cerebrovascular Diseases
	Sabah	1994	Septicemia	Certain Condition Originating in the Perinatal Period	Heart Diseases and Diseases of Pulmonary Circulation	Malignant Neoplasm
	Sarawak	1994	Heart Diseases and Diseases of Pulmonary Circulation	Septicemia	Cerebrovascular Diseases	Certain Condition Originating in the Perinatal Period
PHILIPPINES <sup>(5)</sup>	1992	Heart Diseases	Pneumonia	Diseases of the Vascular System	Malignant Neoplasms	
SINGAPORE <sup>(6)</sup>	1994	Malignat Neoplasms	Heart Diseases	Cerebrovascular Diseases	Pneumonia	
THAILAND <sup>(7) b)</sup>	1994	Heart Diseases	Accidents and Poisoning	Malignant Neoplasms, All Forms	Hypertension and Cerebrovascular Diseases	

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 Statistics Division, Office of the Permanent Secretary, Ministry of Public Health

Note : a) Government hospitals only  
 b) First 10 leading cause groups of death according to ICD Basic Tabulation List, 9th Revision

5	6	7	8	9	10
Conditions Originating in the Perinatal Period	Bronchitis, Chronic & Unspecified Emphysema & Asthma	Nephritis, Nephrotic Syndrome & Nephrosis	Hypertensive Diseases	Congenital Anomalies	Tuberculosis
Injury and Poisoning	Neoplasms	Diseases of Nervous Systems	Tuberculosis	Hepatitis	Enteritis
Accidents, Poisoning and Violence	Suicide	Nephritis, Nephrotic Syndrome & Nephrosis	Chronic Liver Diseases & Cirrhosis of Liver	Diabetes Mellitus	Hypertensive Diseases
Malignant Neoplasms	Septicemia	Nephritis, Nephrotic Syndrome & Nephrosis	Diseases of the Digestive Systems	Congenital Anomalies	Symptoms, Signs and Ill-defined Conditions
Cerebrovascular Diseases	Pneumonia	Accidents	Diseases of Nervous Systems	Diseases of Digestive Systems	Symptoms, Signs and Ill-defined Conditions
Malignant Neoplasms	Symptoms, Signs and Ill-defined Conditions	Accidents	Nephritis, Nephrotic Syndrome and Nephrosis	Diseases of the Digestive Systems	Pneumonia
Tuberculosis, All Forms	Accidents	Chronic Obstructive Pulmonary Diseases & Allied Conditions	Other Diseases of Respiratory System	Diarrheal Disease	Septicemia
Accidents	Diabetes Mellitus	Nephritis and Nephrosis	Septicemia	Chronic Liver Diseases and Cirrhosis	Congenital Anomalies
Diseases of Liver and Pancreas	Pneumonia and Other Diseases of Lung	Suicide, Homicide and Other Injury	Nephritis, Nephrotic Syndrome and Nephrosis	Tuberculosis, All Forms	Paralysis, All Types

## 3-2 (B)

[Brunei Darussalam]

## 3-2 Trends in the Leading Causes of Death

Year		1984	1985	1987	1988	1989	1990	1991	1992	1993	1994
Order											
No. 1	Cause of Death	Accidents, Poisoning & Violence	Accidents, Poisoning & Violence	Accidents, Poisoning & Violence	Malignant Neoplasms	Heart Diseases	Heart Diseases	Heart Diseases	Malignant Neoplasms	Heart Diseases	Malignant Neoplasms
	Death Rate per 100,000 Population	32.0	37.0	40.2	43.1	46.6	54.6	49.8	37.3	48.9	42.5
No. 2	Cause of Death	Malignant Neoplasms	Heart Diseases	Malignant Neoplasms	Heart Diseases	Malignant Neoplasms	Malignant Neoplasms	Malignant Neoplasms	Heart Diseases	Accidents, Poisoning & Violence	Accidents, Poisoning & Violence
	Death Rate per 100,000 Population	26.4	32.4	35.5	35.6	45.0	36.6	41.0	36.6	46.3	42.2
No. 3	Cause of Death	Heart Diseases	Malignant Neoplasms	Heart Diseases	Accidents, Poisoning & Violence	Accidents, Poisoning & Violence	Accidents, Poisoning & Violence	Accidents, Poisoning & Violence	Accidents, Poisoning & Violence	Malignant Neoplasms	Heart Diseases
	Death Rate per 100,000 Population	26.4	28.8	32.1	29.8	24.9	26.1	38.0	30.6	44.9	38.7
No. 4	Cause of Death	Cerebro-vascular Diseases	Cerebro-vascular Diseases	Cerebro-vascular Diseases	Cerebro-vascular Diseases	Pneumonia	Cerebro-vascular Diseases	Hypertensive Diseases	Cerebro-vascular Diseases	Cerebro-vascular Diseases	Cerebro-vascular Diseases
	Death Rate per 100,000 Population	16.2	18.0	15.0	17.8	22.1	14.4	15.3	19.0	22.1	23.6
No. 5	Cause of Death	Congenital Anomalies	Pneumonia	Bronchitis Emphysema & Asthma	Diabetes Mellitus	Hypertensive Diseases	Hypertensive Diseases	Cerebro-vascular Diseases	Pneumonia	Conditions Originating in the Perinatal Period	Conditions Originating in the Perinatal Period
	Death Rate per 100,000 Population	13.0	13.1	12.8	12.4	16.5	11.7	13.0	12.3	13.8	9.1

Source : Ministry of Health

[Indonesia]

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

Year		1972	1980	1986	1992
Order					
No. 1	Cause of Death	Diarrhea	Lower Respiratory Tract Infection	Diarrhea	Circulatory System Diseases
	Death Rate per 100,000 Population	425.7	146.0	84.5	68.1
No. 2	Cause of Death	Lower Respiratory Tract Infection	Diarrhea	Tuberculosis	Tuberculosis
	Death Rate per 100,000 Population	331.1	137.9	60.2	40.6
No. 3	Cause of Death	Tuberculosis	Cardio-vascular Diseases	Diphtheria, Measles & Cough	Lower Respiratory Tract Infection
	Death Rate per 100,000 Population	165.6	73.0	53.0	37.9
No. 4	Cause of Death	Cardiovascular Disorder & Nervous System	Tuberculosis	Tetanus	Diarrhea
	Death Rate per 100,000 Population	141.9	61.7	42.1	30.8
No. 5	Cause of Death	Tetanus	Tetanus	Malaria	Perinatal Diseases
	Death Rate per 100,000 Population	141.9	47.9	23.9	29.5

Source : Household Health Survey in Indonesia

[Japan]

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

Year		1899	1920	1930	1940	1950	1960	1970	1980	1985	1990	1992	1993	1994
Order														
No. 1	Cause of Death	Pneumonia and Bronchitis	Pneumonia and Bronchitis	Gastro-enteritis	Tuber-culosis	Tuber-culosis	Cerebro-vascular Diseases	Cerebro-vascular Diseases	Cerebro-vascular Diseases	Malignant Neoplasms	Malignant Neoplasms	Malignant Neoplasms	Malignant Neoplasms	Malignant Neoplasms
	Death Rate per 100,000 Population	206.1	408.6	221.4	212.9	146.4	160.7	175.8	139.5	156.1	177.2	187.8	190.4	196.4
No. 2	Cause of Death	Cerebro-vascular Diseases	Gastro-enteritis	Pneumonia and Bronchitis	Pneumonia and Bronchitis	Cerebro-vascular Diseases	Malignant Neoplasms	Malignant Neoplasms	Malignant Neoplasms	Heart Diseases	Heart Diseases	Heart Diseases	Heart Diseases	Heart Diseases
	Death Rate per 100,000 Population	170.5	254.2	200.1	185.8	127.1	100.4	116.3	139.1	117.3	134.8	142.2	145.6	128.6
No. 3	Cause of Death	Tuber-culosis	Tuber-culosis	Tuber-culosis	Cerebro-vascular Diseases	Pneumonia and Bronchitis	Heart Diseases	Heart Diseases	Heart Diseases	Cerebro-vascular Diseases	Cerebro-vascular Diseases	Cerebro-vascular Diseases	Cerebro-vascular Diseases	Cerebro-vascular Diseases
	Death Rate per 100,000 Population	155.7	223.7	185.6	177.7	93.2	73.2	86.7	106.2	112.2	99.4	95.6	96.0	96.9
No. 4	Cause of Death	Gastro-enteritis	Influenza	Cerebro-vascular Diseases	Gastro-enteritis	Gastro-enteritis	Pneumonia and Bronchitis	Accidents, Poisoning & Violence	Pneumonia and Bronchitis	Pneumonia and Bronchitis	Pneumonia and Bronchitis	Pneumonia and Bronchitis	Pneumonia and Bronchitis	Pneumonia and Bronchitis
	Death Rate per 100,000 Population	149.7	193.7	162.8	159.2	82.4	58.0	42.5	33.7	42.7	60.7	65.0	70.6	72.4
No. 5	Cause of Death	Senility	Cerebro-vascular Diseases	Senility	Senility	Malignant Neoplasms	Accidents, Poisoning & Violence	Pneumonia and Bronchitis	Accidents, Poisoning & Violence	Accidents, Poisoning & Violence	Accidents, Poisoning & Violence	Accidents, Poisoning & Violence	Accidents, Poisoning & Violence	Accidents, Poisoning & Violence
	Death Rate per 100,000 Population	127.2	157.6	118.8	124.5	77.4	49.3	34.1	25.1	24.6	26.9	28.1	28.0	29.1

Source : Ministry of Health and Welfare



[Peninsular Malaysia]

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

Year		1980	1985	1988	1989	1990	1991	1992	1993	1994
Order										
No. 1	Cause of Death	Heart Diseases	Heart Diseases and Diseases of Pulmonary Circulation	Heart Diseases and Diseases of Pulmonary Circulation	Heart Diseases and Diseases of Pulmonary Circulation	Heart Diseases and Diseases of Pulmonary Circulation	Heart Diseases and Diseases of Pulmonary Circulation	Heart Diseases and Diseases of Pulmonary Circulation	Heart Diseases and Diseases of Pulmonary Circulation	Heart Diseases and Diseases of Pulmonary Circulation
	Death Rate per 100,000 Population	25.0	27.5	24.4	23.8	23.8	19.2	22.1	20.3	21.2
No. 2	Cause of Death	Diseases of Early Infancy	Certain Condition Originating in the Perinatal Period	Certain Condition Originating in the Perinatal Period	Certain Condition Originating in the Perinatal Period	Certain Condition Originating in the Perinatal Period	Certain Condition Originating in the Perinatal Period	Certain Condition Originating in the Perinatal Period	Certain Condition Originating in the Perinatal Period	Accidents
	Death Rate per 100,000 Population	22.7	18.9	14.2	13.4	14.1	11.6	13.3	12.6	13.2
No. 3	Cause of Death	Accidents	Accidents	Cerebrovascular Diseases	Cerebrovascular Diseases	Cerebrovascular Diseases	Accidents	Accidents	Cerebrovascular Diseases	Certain Condition Originating in the Perinatal Period
	Death Rate per 100,000 Population	20.0	17.8	11.9	12.5	12.7	11.4	13.2	12.2	13.1
No. 4	Cause of Death	Cerebrovascular Diseases	Cerebrovascular Diseases	Accidents	Accidents	Accidents	Cerebrovascular Diseases	Cerebrovascular Diseases	Accidents	Cerebrovascular Diseases
	Death Rate per 100,000 Population	12.1	12.2	11.9	12.5	12.7	11.4	13.1	11.8	13.1
No. 5	Cause of Death	Malignant Neoplasms	Malignant Neoplasms	Malignant Neoplasms	Malignant Neoplasms	Malignant Neoplasms	Septicemia	Septicemia	Malignant Neoplasms	Malignant Neoplasms
	Death Rate per 100,000 Population	11.9	11.3	11.8	12.4	12.0	9.7	11.2	11.3	12.0

Source : Annual Report-1980, 1985-1994 of Ministry of Health Malaysia

[Philippines]

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

Year		1960	1965	1970	1975	1980	1985	1987	1988	1989	1990	1991	1992
Order													
No. 1	Cause of Death	Pneumonia	Pneumonia	Pneumonia	Pneumonia	Pneumonia	Pneumonia	Pneumonia	Pneumonia	Pneumonia	Heart Diseases	Heart Diseases	Heart Diseases
	Death Rate per 100,000 Population	100.4	83.4	118.2	102.0	93.6	96.7	91.9	80.8	77.0	74.4	72.9	75.2
No. 2	Cause of Death	Tuberculosis (All Forms)	Respiratory Tuberculosis	Tuberculosis (All Forms)	Tuberculosis (All Forms)	Heart Diseases	Heart Diseases	Heart Diseases	Heart Diseases	Heart Diseases	Pneumonia	Pneumonia	Pneumonia
	Death Rate per 100,000 Population	92.1	83.4	80.1	69.2	60.8	66.3	67.7	69.1	74.6	66.3	57.7	64.5
No. 3	Cause of Death	Gastro-enteritis & Colitis	Gastro-enteritis & Colitis	Diseases of Vascular System	Heart Diseases	Tuberculosis (All Forms)	Tuberculosis (All Forms)	Diseases of Vascular System	Diseases of Vascular System	Diseases of Vascular System	Diseases of Vascular System	Diseases of Vascular System	Diseases of Vascular System
	Death Rate per 100,000 Population	60.5	46.0	35.8	56.6	59.6	57.9	52.1	53.1	56.1	54.2	51.8	54.3
No. 4	Cause of Death	Bronchitis	Bronchitis	Gastro-enteritis & Colitis	Diseases of Vascular System	Diseases of Vascular System	Diseases of Vascular System	Tuberculosis (All Forms)	Tuberculosis (All Forms)	Tuberculosis (All Forms)	Tuberculosis (All Forms)	Tuberculosis (All Forms)	Malignant Neoplasms
	Death Rate per 100,000 Population	57.2	43.1	35.0	31.8	43.8	49.7	50.0	46.0	43.8	39.1	35.9	36.7
No. 5	Cause of Death	Beri-beri	Beri-beri	Heart Diseases	Malignant Neoplasms	Diarrhea	Malignant Neoplasms	Malignant Neoplasms	Malignant Neoplasms	Malignant Neoplasms	Malignant Neoplasms	Malignant Neoplasms	Tuberculosis (All Forms)
	Death Rate per 100,000 Population	54.4	32.8	34.0	29.4	33.2	33.2	35.5	36.1	36.5	35.7	35.2	35.8

Source : *Philippine Health Statistics, 1960-1992*, Health Intelligence Service

[Singapore]

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

Year		1950	1955	1960	1970	1980	1985	1988	1989 <sup>a)</sup>	1990 <sup>a)</sup>	1991 <sup>a)</sup>	1992 <sup>a)</sup>	1993 <sup>a)</sup>	1994 <sup>a)</sup>
Order														
No. 1	Cause of Death	Tuberculosis	Pneumonia	Malignant Neoplasms	Malignant Neoplasms	Heart Diseases	Heart Diseases	Heart Diseases	Heart Diseases	Heart Diseases	Malignant Neoplasms	Malignant Neoplasms	Malignant Neoplasms	Malignant Neoplasms
	Death Rate per 100,000 Population	145	79	62	77	111	118	121	121	117	116	117	117	122
No. 2	Cause of Death	Infantile Convulsions	Tuberculosis	Pneumonia	Heart Diseases	Malignant Neoplasms	Malignant Neoplasms	Malignant Neoplasms	Malignant Neoplasms	Malignant Neoplasms	Heart Diseases	Heart Diseases	Heart Diseases	Heart Diseases
	Death Rate per 100,000 Population	133	76	56	76	106	113	121	117	115	107	115	112	114
No. 3	Cause of Death	Pneumonia	Heart Diseases	Heart Diseases	Cerebro-vascular Diseases	Cerebro-vascular Diseases	Cerebro-vascular Diseases	Cerebro-vascular Diseases	Cerebro-vascular Diseases	Cerebro-vascular Diseases	Cerebro-vascular Diseases	Cerebro-vascular Diseases	Cerebro-vascular Diseases	Cerebro-vascular Diseases
	Death Rate per 100,000 Population	131	56	49	50	60	55	60	56	58	59	57	55	55
No. 4	Cause of Death	Gastro-enteritis	Gastro-enteritis	Tuberculosis	Accidents	Pneumonia	Pneumonia	Pneumonia	Pneumonia	Pneumonia	Pneumonia	Pneumonia	Pneumonia	Pneumonia
	Death Rate per 100,000 Population	108	54	39	41	47	50	39	40	41	44	46	52	54
No. 5	Cause of Death	Diseases of Early Infancy	Malignant Neoplasms	Gastro-enteritis	Pneumonia	Accidents	Accidents	Accidents	Accidents	Accidents	Accidents	Accidents	Accidents	Accidents
	Death Rate per 100,000 Population	79	50	33	41	37	42	36	32	31	31	31	27	28

Source : National Registration Department

Note : a) Rates refer to Singapore residents only

[Thailand]

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

Year		1930	1940	1950	1960	1970	1980	1985	1989	1990	1991	1992	1993	1994
Order														
No. 1	Cause of Death	Malaria	Malaria	Malaria	Gastro-enteritis	Accidents	Accidents	Heart Diseases	Diseases of Pulmonary Circulation and Other Forms of Heart Diseases			Heart Diseases	Heart Diseases	Heart Diseases
	Death Rate per 100,000 Population	342.4	277.8	195.0	38.7	27.2	35.9	36.4	47.5	49.6	52.5	56.0	58.5	72.7
No. 2	Cause of Death	Gastro-enteritis	Gastro-enteritis	T.B. of Respiratory System	T.B. of Respiratory System	T.B. of Respiratory System	Heart Diseases	Accidents and Poisoning	Other Accidents Including Late Effect			Accidents and Poisoning	Accidents and Poisoning	Accidents and Poisoning
	Death Rate per 100,000 Population	159.8	168.8	65.5	34.7	20.8	31.4	28.9	21.5	25.3	25.8	48.5	52.7	61.5
No. 3	Cause of Death	T.B. of Respiratory System	Dysentery	Gastro-enteritis	Pneumonia	Diarrhea	Malignant Neoplasms	Malignant Neoplasms	Malignant Neoplasms of Other and Unspecified Sites			Malignant Neoplasm, All Forms	Malignant Neoplasm, All Forms	Malignant Neoplasm, All Forms
	Death Rate per 100,000 Population	79.2	110.0	66.1	32.5	17.6	23.6	27.0	20.2	22.0	21.9	43.5	45.0	48.9
No. 4	Cause of Death	Dysentery	T.B. of Respiratory System	Pneumonia	Malaria	Heart Diseases	T.B. of Respiratory System	T.B. of Respiratory System	Diseases of Digestive System Other than Oral Cavity, Salivary Glands and Jaws			Hypertension and Cerebro-vascular Diseases	Hypertension and Cerebro-vascular Diseases	Hypertension and Cerebro-vascular Diseases
	Death Rate per 100,000 Population	74.3	80.9	39.4	30.2	15.3	14.3	10.3	19.1	18.4	18.5	16.9	16.4	15.7
No. 5	Cause of Death	Pneumonia	Pneumonia	Dysentery	Heart Diseases	Pneumonia	Pneumonia	Pneumonia	a)	Transport Accidents		Suicide, Homicide and Other Injury	Suicide, Homicide and Other Injury	Diseases of Liver and Pancreas
	Death Rate per 100,000 Population	22.0	48.7	32.8	19.0	14.8	10.0	7.4	13.8	15.2	18.3	13.3	14.7	13.0

Source : Ministry of Public Health

Note: a) Diseases of Respiratory System Other than the Upper Respiratory Tract

## 3-3 Deaths and Death Rates by Causes (ICD-9)

	Basic Tabulation List				01-07		010		011		012, 014	
	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 <sup>(1)</sup>	1993	T	1,018	388.4	50	18.1	—	—	—	—	2	0.7
		M	617	423.2	31	21.3	—	—	—	—	2	1.4
		F	401	307.3	19	14.6	—	—	—	—	—	—
INDONESIA <sup>(2) a)</sup>	1994	T							55			
		M							27			
		F							28			
JAPAN <sup>(3)</sup>	1994	T	875,933	706.0	15,711	12.7	—	—	1	0.0	1	0.0
		M	476,080	782.5	9,048	14.9	—	—	—	—	1	0.0
		F	399,853	632.4	6,663	10.5	—	—	1	0.0	—	—
MALAYSIA <sup>(4) a)</sup>	1993	T	36,984	194.2	2,950	15.5	16	0.1	21	0.1	8	0.0
		M	22,827	237.7	1,760	18.3	10	0.1	11	0.1	3	0.0
		F	14,157	149.9	1,190	12.6	6	0.1	10	0.1	5	0.1
PHILIPPINES <sup>(5)</sup>	1992	T	319,575	489.1	45,091	69.0	195	0.3	1,108	1.7	433	0.7
		M	189,565	583.1	27,821	84.7	120	0.4	638	1.9	247	0.8
		F	130,010	400.0	17,270	53.1	75	0.2	470	1.4	186	0.6
SINGAPORE <sup>(6) b)</sup>	1994	T	14,946	473.4	366	11.9	—	—	—	—	1	0.0
		M	8,466	522.3	200	12.8	—	—	—	—	—	—
		F	6,480	422.6	166	10.9	—	—	—	—	1	0.1
THAILAND <sup>(7)</sup>	1994	T	305,526	520.3	15,961	27.2	—	—	97	0.2	16	0.0
		M	184,480	627.9	10,609	36.1	—	—	72	0.2	12	0.0
		F	121,046	412.6	5,352	18.2	—	—	25	0.1	4	0.0

Source : (1) Birth and Death Registry, Ministry of Health  
 (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) *Vital Statistics Peninsular Malaysia, Sabah & Sarawak*, 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)

Note : a) Medically certified deaths only  
 b) Rates refer to Singapore residents only  
 c) Includes unknown sex

## 3-3 Deaths and Death Rates by Causes (ICD-9) (Contd.)

	Year	Sex	013, 015, 016, 019		020-021		022-025, 029		033		034	
			Other Intestinal Infectious Diseases		Tuberculosis of Respiratory System		Tuberculosis of Other Forms		Diphtheria		Whooping Cough	
			Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
BRUNEI	1993	T	—		16	5.8	6	2.2	—		—	
		M	—		10	6.9	4	2.7	—		—	
		F	—		6	4.6	2	1.5	—		—	
INDONESIA	1994	T	79		122		6				—	
		M	44		65		2				—	
		F	35		57		4				—	
JAPAN	1994	T	943	0.8	2,890	2.3	204	0.2	—		3	0.0
		M	383	0.6	2,177	3.6	113	0.2	—		1	0.0
		F	560	0.9	713	1.1	91	0.1	—		2	0.0
MALAYSIA	1993	T	102	0.5	449	2.4	38	0.2	—		1	0.0
		M	60	0.6	304	3.2	17	0.2	—		—	
		F	42	0.4	145	1.5	21	0.2	—		1	0.0
PHILIPPINES	1992	T	5,006	7.7	22,774	34.8	582	0.9	63	0.1	8	0.0
		M	2,939	9.0	14,871	45.3	342	1.0	37	0.1	4	0.0
		F	2,067	6.4	7,903	24.3	240	0.7	26	0.8	4	0.0
SINGAPORE	1994	T	37	1.2	90	3.0	11	0.3	—		—	
		M	12	0.7	78	5.1	5	0.3	—		—	
		F	25	1.7	12	0.8	6	0.4	—		—	
THAILAND	1994	T	147	0.3	2,121	3.6	1,352	2.3	8	0.0	1	0.0
		M	103	0.4	1,556	5.3	932	3.2	3	0.0	0	0.0
		F	44	0.1	565	1.9	420	1.4	5	0.0	1	0.0

(rate per 100,000 population)

036		037		038		030-032, 035, 039		040		042		046		047	
Meningococcal Infection		Tetanus		Septicemia		Other Bacterial Diseases		Acute Poliomyelitis		Measles		Viral Hepatitis		Rabies	
Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
—		—		19	6.9	—		—		2	0.7	1	0.4		
—		—		11	7.5	—		—		—		1	0.7		
—		—		8	6.1	—		—		2	1.5	—			
—		35		43		2		—		2		—		—	
—		24		23		1		—		1		—		—	
—		11		20		1		—		1		—		—	
2	0.0	11	0.0	4,594	3.7	581	0.5	—		11	0.0	3,182	2.6	—	
2	0.0	8	0.0	2,099	3.5	300	0.5	—		5	0.0	1,890	3.1	—	
—		3	0.0	2,495	3.9	281	0.4	—		6	0.0	1,292	2.0	—	
3	0.0	13	0.1	1,920	10.1	64	0.3	—		11	0.1	30	0.2	—	
1	0.0	6	0.1	1,112	11.6	38	0.4	—		7	0.1	22	0.2	—	
2	0.0	7	0.1	808	8.6	26	0.3	—		4	0.0	8	0.1	—	
201	0.3	956	1.5	5,774	8.8	101	0.2	26	0.0	3,874	5.9	956	1.5	480	0.7
117	0.4	683	2.1	3,195	9.7	59	0.2	15	0.0	2,028	6.2	647	2.0	326	1.0
84	0.3	273	0.8	2,579	7.9	42	0.1	11	0.0	1,846	5.7	309	1.0	154	0.5
2	0.1	—		182	6.0	5	0.2	—		—		11	0.3	—	
2	0.1	—		80	5.3	4	0.3	—		—		5	0.3	—	
—		—		102	6.7	1	0.1	—		—		6	0.3	—	
—		130	0.2	5,224	8.9			10	0.0	19	0.0	112	0.2	79	0.1
—		80	0.3	2,930	9.8			7	0.0	10	0.0	84	0.3	45	0.2
—		50	0.2	2,294	7.8			3	0.0	9	0.0	28	0.1	34	0.1

## 3-3 Deaths and Death Rates by Causes (ICD-9) (Contd.)

	Year	Sex	279.5 <sup>a)</sup>		065.4 <sup>a)</sup>		061 <sup>a)</sup>		044, 045		041, 043, 048, 049		052	
			AIDS (HIV)		Dengue Hemorrhagic Fever		Dengue		Other Arthropod-borne Viral Diseases		Other Viral Diseases		Malaria	
			Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
BRUNEI	1993	T							2	0.7	—		1	0.4
		M							2	1.4	—		—	
		F							—		—		1	0.8
INDONESIA	1994	T									25		25	
		M									16		15	
		F									9		10	
JAPAN	1994	T	162 <sup>(1) b) c)</sup>		—		—		1	0.0	406	0.3	3	0.0
		M			—		—		—		218	0.4	3	0.0
		F			—		—		1	0.0	188	0.3	—	
MALAYSIA	1993	T	—		—		23	0.1	4	0.0	77	0.4	22	0.1
		M	—		—		12	0.1	1	0.0	44	0.5	13	0.1
		F	—		—		11	0.1	3	0.0	33	0.3	9	0.1
PHILIPPINES	1992	T	10	0.0	522	0.8	—		61	0.1	178	0.3	927	1.4
		M	6	0.0	264	0.8	—		37	0.1	117	0.4	651	1.9
		F	4	0.0	258	0.8	—		24	0.1	61	0.2	296	0.9
SINGAPORE	1994	T	29	0.9	1	0.0	1	0.0	—		13	0.3	2	0.1
		M	25	1.6	—		—		—		6	0.3	2	0.1
		F	4	0.3	1	0.1	1	0.1	—		7	0.4	—	
THAILAND	1994	T	1,310	2.2	171	0.6	—		100	0.2	19	0.0	908	1.5
		M	1,167	4.0	85	0.7	—		49	0.2	17	0.1	644	2.2
		F	143	0.5	86	0.6	—		51	0.2	2	0.0	264	0.9

Source: (1) Committee of AIDS Surveillance, Ministry of Health and Welfare

Note: a) Four-digit subcategories  
b) Excluding hemophiliacs  
c) All of these deaths are also included under some other ICD rubrics shown in this table  
d) Including malignant neoplasm of intrahepatic bile ducts



(rate per 100,000 population)

06		Rest of 01-07		08-14		091		093		094		095		101	
Venereal Diseases		Other Infectious and Parasitic Diseases		Malignant Neoplasms		Malignant Neoplasm of Stomach		Malignant Neoplasm of Colon		Malignant Neoplasm of Rectum, Rectosigmoid Junction and Anus		Malignant Neoplasm of Liver Specified as Primary		Malignant Neoplasm of Trachea, Bronchus and Lung	
Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
—		1	0.4	123	44.5	5	1.8	8	2.9	5	1.8	12	4.3	37	13.4
—		1	0.7	75	51.4	4	2.7	4	2.7	4	2.7	8	5.5	25	17.1
—		—		48	36.8	1	0.8	4	3.1	1	0.8	4	3.1	12	9.2
—		4		138		3		7		9		30		20	
—		4		76		2		5		6		26		10	
—		—		62		1		2		3		4		10	
34	0.0	2,844	2.3	243,670	196.4	47,791	38.5	19,063	15.4	10,025	8.1	20,536	16.6	43,476	35.0
23	0.0	1,825	3.0	146,896	241.5	30,564	50.2	9,646	15.9	6,189	10.2	15,237	25.0	31,724	52.1
11	0.0	1,019	1.6	96,774	153.1	17,227	27.2	9,417	14.9	3,836	6.1	5,299	8.4	11,752	18.6
6	0.0	142	0.7	3,967	20.8	275	1.4	183	1.0	119	0.6	369	1.9	781	4.1
3	0.0	96	1.0	2,261	23.5	166	1.7	99	1.0	74	0.8	269	2.8	563	5.9
3	0.0	46	0.5	1,706	18.1	109	1.2	84	0.9	45	0.5	100	1.1	218	2.3
9	0.0	847	1.3	23,760	36.4	1,244	1.9	604	0.9	360	0.6	—		3,976	6.1
5	0.0	493	1.5	12,295	37.4	706	2.1	331	1.0	218	0.7	—		2,918	8.9
4	0.0	354	1.1	11,465	35.3	538	1.7	273	0.8	142	0.4	—		1,058	3.2
1	0.0	9	0.3	3,756	122.2	350	11.5	325	10.8	175	5.6	157	5.1	840	27.4
1	0.1	5	0.3	2,188	140.8	216	13.9	164	10.8	107	6.9	133	8.6	583	37.8
—	0.0	4	0.3	1,568	103.2	134	9.1	161	10.8	68	4.3	24	1.6	257	16.8
9	0.0	2,959	5.0	28,058	47.8	415	0.7	970	1.7	16	0.0	6,098 <sup>d)</sup>	10.4	2,413	3.7
5	0.0	2,094	7.1	16,737	57.0	237	0.8	578	2.0	10	0.0	4,220	14.4	1,724	5.3
4	0.0	865	2.9	11,321	38.6	178	0.6	392	1.3	6	0.0	1,878	6.1	689	2.1

## 3-3 Deaths and Death Rates by Causes (ICD-9) (Contd.)

	Year	Sex	113		120		122		Rest of (08-13)		141		140, 149	
			Malignant Neoplasm of Female Breast	Rate	Malignant Neoplasm of Cervix Uteri	Rate	Malignant Neoplasm of Uterus, Other and Unspecified	Rate	Malignant Neoplasm of Other Sites	Rate	Leukemia		Other Malignant Neoplasm of Lymphatic and Hemopoietic Tissue	Rate
			Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
BRUNEI	1993	T	2	0.7	2	0.7	—	—	45	16.3	2	0.7	5	1.8
		M	..	..	..	..	—	—	27	18.5	1	0.7	2	1.4
		F	2	1.5	2	1.5	—	—	18	13.8	1	0.8	3	2.3
INDONESIA	1994	T	10	..	7	..	—	..	25	..	18	..	9	..
		M	..	..	..	..	..	..	11	..	10	..	6	..
		F	10	..	7	..	—	..	14	..	8	..	3	..
JAPAN	1994	T	7,131	5.7	1,887	1.5	2,673	2.2	76,657	61.8	5,910	4.8	8,521	6.9
		M	..	..	..	..	..	..	45,463	74.7	3,348	5.5	4,725	7.8
		F	7,131	11.3	1,887	3.0	2,673	4.2	31,194	49.3	2,562	4.1	3,796	6.0
MALAYSIA	1993	T	263	1.4	122	0.6	41	0.2	1,317	6.9	299	1.6	198	1.0
		M	..	..	..	..	..	..	768	8.0	180	1.9	142	1.5
		F	263	2.8	122	1.3	41	0.4	549	5.8	119	1.3	56	0.6
PHILIPPINES	1992	T	1,722	2.6	476	0.7	962	0.7	12,377	18.9	1,570	2.4	469	0.7
		M	..	..	..	..	..	..	7,027	21.4	812	2.5	283	0.9
		F	1,722	5.3	476	1.5	962	3.0	5,350	16.4	758	2.3	186	0.6
SINGAPORE	1994	T	219	7.0	97	3.1	17	0.5	1,328	43.7	122	3.6	126	3.9
		M	..	..	..	..	..	..	847	54.9	72	4.1	66	3.8
		F	219	14.1	97	6.3	17	1.1	481	32.3	50	3.1	60	3.9
THAILAND	1994	T	446	0.8	221	0.4	526	0.9	15,396	26.2	832	1.4	290	0.5
		M	..	..	..	..	..	..	9,053	30.8	480	1.6	173	0.6
		F	446	1.5	221	0.8	526	1.8	6,343	21.6	352	1.2	117	0.4

(rate per 100,000 population)

15-17		181		180, 182, 183, 189		19		200		209		21		220	
Benign Neoplasm, Carcinoma in Situ, Other and Unspecified Neoplasms		Diabetes Mellitus		Other Endocrine and Metabolic Diseases		Nutritional Deficiencies		Anemias		Other Diseases of Blood and Blood-forming Organs		Mental Disorders		Meningitis	
Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
7	2.5	20	7.2	7	2.5	8	2.9	1	0.4	1	0.4	1	0.4	2	0.7
4	2.7	12	8.2	5	3.4	5	3.4	1	0.7	1	0.7	—	—	2	1.4
3	2.3	8	6.1	2	1.5	3	2.3	—	—	—	—	1	0.8	—	—
24	—	80	—	16	—	—	—	36	—	1	—	6	—	50	—
13	—	33	—	5	—	—	—	14	—	1	—	5	—	26	—
11	—	47	—	11	—	—	—	22	—	—	—	1	—	24	—
7,012	5.7	10,872	8.8	3,436	2.8	840	0.7	1,575	1.3	3,041	2.5	3,427	2.8	479	0.4
3,865	6.4	5,276	8.7	1,580	2.6	461	0.8	642	1.1	1,657	2.7	1,481	2.4	271	0.4
3,147	5.0	5,596	8.9	1,856	2.9	379	0.6	933	1.5	1,384	2.2	1,946	3.1	208	0.3
176	0.9	751	3.9	238	1.2	20	0.1	101	0.5	69	0.4	58	0.3	225	1.2
94	1.0	350	3.6	155	1.6	10	0.1	50	0.5	27	0.3	56	0.6	133	1.4
82	0.9	401	4.2	83	0.9	10	0.1	51	0.5	42	0.4	2	0.0	92	1.0
210	0.3	3,995	6.1	3,632	5.6	3,714	5.7	2,299	3.5	387	0.6	450	0.7	2,172	3.3
91	0.3	1,906	5.8	2,016	6.1	1,941	5.9	1,218	3.7	187	0.6	309	0.9	1,224	3.7
119	0.4	2,089	6.4	1,616	5.0	1,773	5.5	1,081	3.3	200	0.6	141	0.4	948	2.9
29	0.9	334	11.1	11	0.3	—	—	6	0.2	18	0.5	2	0.1	13	0.4
7	0.3	125	8.1	6	0.3	—	—	5	0.3	9	0.6	1	0.1	10	0.5
22	1.5	209	14.0	5	0.3	—	—	1	0.1	9	0.5	1	0.1	3	0.2
435	0.7	4,244	7.2	258	0.4	119	0.2	200	0.3	144	0.2	928	1.6	795	1.4
262	0.9	1,754	6.0	126	0.4	75	0.3	102	0.3	86	0.3	813	2.8	639	2.2
173	0.6	2,490	8.5	132	0.4	44	0.1	98	0.3	58	0.2	115	0.4	156	0.5

## 3-3 Deaths and Death Rates by Causes (ICD-9) (Contd.)

	Year	Sex	221-225 229, 23, 24		25-30		25		26		270		279	
			Other Diseases of Nervous System and Sense Organs		Diseases of Circulatory System		Rheumatic Fever and Rheumatic Heart Diseases		Hypertensive Disease		Acute Myocardial Infarction		Other Ischemic Heart Diseases	
			Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
BRUNEI	1993	T	9	3.3	228	82.5	4	1.4	25	9.0	58	21.0	18	6.5
		M	5	3.4	142	97.4	3	2.1	11	7.5	51	35.0	12	8.2
		F	4	3.1	86	65.9	1	0.8	14	10.7	7	5.4	6	4.6
INDONESIA	1994	T	111		577		47		58		58		33	
		M	62		346		24		36		36		20	
		F	49		231		23		22		22		13	
JAPAN	1994	T	7,193	5.8	296,675	239.1	1,353	1.1	7,938	6.4	39,872	32.1	18,009	14.5
		M	3,876	6.4	142,319	233.9	410	0.7	2,824	4.6	21,958	36.1	8,948	14.7
		F	3,317	5.2	154,356	244.1	943	1.5	5,114	8.1	17,914	28.3	9,061	14.3
MALAYSIA	1993	T	429	2.3	10,637	55.8	140	0.7	199	1.0	3,265	17.1	789	4.1
		M	240	2.5	6,511	67.8	50	0.5	110	1.1	2,267	23.6	477	5.0
		F	189	2.0	4,126	43.7	90	1.0	89	0.9	998	10.6	312	3.3
PHILIPPINES	1992	T	2,653	4.1	84,436	129.2	2,072	3.2	17,659	27.0	15,259	23.3	5,739	8.8
		M	1,535	4.7	48,387	147.4	902	2.7	10,326	31.4	9,954	30.3	2,880	8.8
		F	1,118	3.4	36,049	110.9	1,170	3.6	7,333	22.6	5,305	16.3	2,859	8.8
SINGAPORE	1994	T	58	1.8	5,460	174.5	50	1.5	341	11.1	1,617	51.5	1,234	40.6
		M	38	2.4	2,931	183.0	15	0.9	167	10.6	982	61.6	673	44.0
		F	20	1.2	2,529	165.7	35	2.2	174	11.6	635	41.2	561	37.2
THAILAND	1994	T	5,539	9.4	51,936	88.5	338	0.6	3,011	5.1	373	0.6	1,195	2.0
		M	3,517	12.0	32,079	109.2	150	0.5	1,707	5.8	231	0.8	747	2.5
		F	2,022	6.9	19,857	67.7	188	0.6	1,304	4.4	142	0.5	448	1.5

(rate per 100,000 population)

28		29		300		301 - 305, 309		310 - 312		320		321		322	
Other Heart Diseases		Cerebrovascular Disease		Atherosclerosis		Other Disease of Circulatory System		Acute Upper Respiratory Infection		Acute Bronchitis and Bronchiolitis		Pneumonia		Influenza	
Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
57	20.6	61	22.1	—	—	5	1.8	—	—	2	0.7	14	5.1	—	—
28	19.2	34	23.3	—	—	3	2.1	—	—	1	0.7	9	6.2	—	—
29	22.2	27	20.7	—	—	2	1.5	—	—	1	0.8	5	3.8	—	—
33	—	342	—	—	—	6	—	3	—	7	—	163	—	—	—
20	—	204	—	—	—	6	—	1	—	5	—	89	—	—	—
13	—	138	—	—	—	—	—	2	—	2	—	74	—	—	—
100,387	80.9	120,239	96.9	1,550	1.2	7,327	5.9	763	0.6	1,490	1.2	83,354	67.2	65	0.1
47,563	78.2	55,510	91.2	698	1.1	4,408	7.2	350	0.6	679	1.1	46,939	77.2	27	0.0
52,824	83.5	64,729	102.4	852	1.3	2,919	4.6	413	0.7	811	1.3	36,415	57.6	38	0.1
2,810	14.7	3,162	16.6	6	0.0	266	1.4	1	0.0	6	0.0	1,082	5.7	3	0.0
1,651	17.2	1,759	18.3	5	0.1	192	2.0	—	—	3	0.0	649	6.8	1	0.0
1,159	12.3	1,403	14.9	1	0.0	74	0.8	1	0.0	3	0.0	433	4.6	2	0.0
21,981	33.6	18,136	27.7	2,430	3.7	1,160	1.8	127	0.2	398	0.6	42,074	64.4	422	0.6
12,012	36.6	10,548	32.1	1,073	3.3	692	2.1	85	0.3	219	0.7	22,632	69.8	237	0.7
9,969	30.9	7,588	23.3	1,357	4.2	468	1.2	42	0.1	179	0.6	19,442	59.8	185	0.6
411	11.3	1,692	54.8	22	0.7	93	2.9	2	0.0	2	0.1	1,670	53.9	—	—
229	10.8	791	50.6	17	1.0	57	3.5	1	0.1	2	0.1	862	54.4	—	—
182	11.8	901	59.0	5	0.3	36	2.3	1	0.1	—	—	808	53.2	—	—
35,154	59.9	6,220	10.6	—	—	6,022	10.6	78	0.1	11	0.0	6,223	10.6	86	0.1
21,836	74.3	3,744	12.7	—	—	3,896	13.3	50	0.2	8	0.0	4,214	14.3	51	0.2
13,318	45.4	2,476	8.4	—	—	2,126	7.2	28	0.1	3	0.0	2,009	6.8	35	0.1

## 3-3 Deaths and Death Rates by Causes (ICD-9) (Contd.)

	Year	Sex	323		313-315, 319 324-327, 329		341		347		33, 340, 342-346 348, 349		350	
			Bronchitis, Chronic and Unspecified, Emphysema and Asthma		Other Diseases of Respiratory System		Ulcer of Stomach and Duodenum		Chronic Liver Disease and Cirrhosis		Other Diseases of Digestive System		Nephritis, Nephrotic Syndrome and Nephrosis	
			Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
BRUNEI	1993	T	36	13.0	37	13.4	5	1.8	3	1.1	9	3.3	28	10.1
		M	19	13.0	26	17.8	1	0.7	2	1.4	6	4.1	21	14.4
		F	17	13.0	11	8.4	4	3.1	1	0.8	3	2.3	7	5.4
INDONESIA	1994	T	48		68		2		101		123		122	
		M	26		41		2		72		73		90	
		F	22		27		—		29		50		32	
JAPAN	1994	T	16,211	13.1	17,148	13.8	3,678	3.0	16,446	13.3	19,737	15.9	18,789	15.1
		M	10,605	17.4	10,808	17.8	1,956	3.2	11,208	18.4	9,862	16.2	8,994	14.8
		F	5,606	8.9	6,340	10.0	1,722	2.7	5,238	8.3	9,875	15.6	9,795	15.5
MALAYSIA	1993	T	13	0.1	2,048	10.8	150	0.8	359	1.9	1,029	5.4	923	4.8
		M	7	0.1	1,398	14.6	99	1.0	267	2.8	680	7.1	542	5.6
		F	6	0.1	650	6.9	51	0.5	92	1.0	349	3.7	381	4.0
PHILIPPINES	1992	T	9,391	14.4	6,967	10.7	5,127	7.8	3,013	4.6	5,686	8.7	6,102	9.3
		M	6,111	18.6	3,637	11.2	3,555	10.8	2,436	7.4	4,004	12.2	3,534	10.8
		F	3,280	10.1	3,280	10.1	1,572	4.8	577	1.8	1,682	5.2	2,568	7.9
SINGAPORE	1994	T	140	4.5	750	24.4	84	2.6	154	5.0	156	4.9	211	6.8
		M	77	4.9	539	34.9	54	3.3	112	7.1	82	5.0	111	7.0
		F	63	4.2	211	13.8	30	1.9	42	2.8	74	4.9	100	6.5
THAILAND	1994	T	1,992	3.4	12,382	21.1	600	1.2	7,221	12.3	2,797	4.8	1,945	3.3
		M	1,454	4.9	8,325	28.3	425	1.4	5,098	17.4	1,858	6.3	1,201	4.1
		F	538	1.8	4,057	13.8	175	0.6	2,123	7.2	939	3.2	744	2.5

Note: a) Includes unknown sex

(rate per 100,000 population)

351 - 353, 359, 36, 37		38		39		40, 41		42		43		44		45	
Other Diseases of Genito-urinary System		Abortion		Other Direct Obstetric Causes		Indirect Obstetric Causes		Diseases of Skin and Subcutaneous Tissue		Diseases of Musculo-skeletal System and Connective Tissue		Congenital Anomalies		Certain Conditions Originating in the Perinatal Period	
Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
2	0.7	—		—		—		1	0.4	2	0.7	25	9.0	38	13.8
1	0.7	..		..		..		1	0.7	—		15	10.3	23	15.8
1	0.8	—		—		—		—		2	1.5	10	7.7	15	11.5
17		2		14		7		5		3		6		229	
10		..		..		..		2		3		4		131	
7		2		14		7		3		—		2		98	
2,603	2.1	4	0.0	65	0.1	7	0.0	766	0.6	3,555	2.6	3,287	2.6	1,573	1.3
967	1.6	..		..		..		266	0.4	963	1.5	1,710	2.8	915	1.5
1,636	2.6	4	0.0	65	0.1	7	0.0	500	0.8	2,592	3.7	1,577	2.5	658	1.0
78	0.4	11	0.1	67	0.4	—		104	0.5	92	0.5	1,091	5.7	2,738	14.4
49	0.5	..		..		..		53	0.6	13	0.1	584	6.1	1,598	16.6
29	0.3	11	0.1	67	0.7	—		51	0.5	79	0.8	507	5.4	1,140	12.1
821	1.2	109	0.2	1,285	2.0	—		462	0.7	569	0.9	2,790	4.3	14,386	22.0
438	1.0	..		..		..		226	0.7	353	1.1	1,589	4.8	8,495	25.9
383	1.2	109	0.3	1,285	4.0	—		236	0.7	216	0.7	1,201	3.7	5,891	18.1
233	7.6	—		3	0.1	—		19	0.6	45	1.4	148	4.4	68	2.3
83	5.4	..		..		..		5	0.3	4	0.2	85	5.0	36	2.2
150	9.8	—		3	0.2	—		14	0.8	41	0.7	63	3.6	32	1.9
4,393	7.5	14	0.0	90	0.2	—		104	0.2	563	1.0	1,675	2.9	1,531	2.6
2,266	7.7	..		..		..		68	0.2	443	1.5	909	3.1	902	3.1
2,127	7.3	14	0.0	90	0.3	—		36	0.1	120	0.4	766	2.6	629	2.1

## 3-3 Deaths and Death Rates by Causes (ICD-9) (Contd.)

	Year	Sex	465		460 - 464, 466, 467, 469		E47 - E56		E47		E48		E50	
			Senility without Mention of Psychosis		Signs, Symptoms and Other Ill-defined Conditions		Accidents and Adverse Effects		Transport Accidents		Accidental Poisoning		Accidental Falls	
			Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
BRUNEI	1993	T	118	42.7	112	40.5	128	46.3	61	22.1	—		5	1.8
		M	52	35.7	52	35.7	104	71.3	47	32.2	—		3	2.1
		F	66	50.6	60	46.0	24	18.4	14	10.7	—		2	1.5
INDONESIA	1994	T	1		133		106		—		6		32	
		M	—		81		82		—		5		25	
		F	1		52		24		—		1		7	
JAPAN	1993	T	23,464	18.9	8,103	6.5	60,894	49.1	14,869	12.0	497	0.4	4,690	3.8
		M	7,333	12.1	4,416	7.3	40,710	66.9	10,593	17.4	328	0.5	3,020	5.0
		F	16,131	25.5	3,687	5.8	20,184	31.9	4,276	6.8	169	0.3	1,670	2.6
MALAYSIA	1993	T	1,428	7.5	809	4.2	5,331	28.0	1,879	9.9	130	0.7	598	3.1
		M	560	5.8	511	5.3	4,166	43.4	1,537	16.0	79	0.8	489	5.1
		F	868	9.2	298	3.2	1,165	12.3	342	3.6	51	0.5	109	1.2
PHILIPPINES	1992	T	10,753	16.4	10,415	15.9	25,879	39.6	3,327	5.1	477	0.7	463	0.7
		M	4,565	13.9	6,709	20.4	21,300	64.9	2,369	7.2	330	1.0	349	1.1
		F	6,188	19.0	3,706	11.4	4,579	14.1	958	2.9	147	0.4	114	0.3
SINGAPORE	1994	T	2	0.1	55	1.5	1,122	28.3	287	7.2	14	0.3	84	2.2
		M	1	0.1	24	1.1	843	40.2	234	11.0	11	0.4	69	3.5
		F	1	0.1	31	1.9	279	16.2	53	3.3	3	0.2	15	0.8
THAILAND	1994	T	78,932	134.4	14,889	25.4	42,653	72.6	14,450	24.6	183	0.3	319	0.5
		M	35,462	120.7	8,966	30.5	33,949	115.6	11,898	40.5	110	0.4	244	0.8
		F	43,470	148.2	5,923	20.2	8,704	29.7	2,552	8.7	73	0.2	75	0.3

Note: a) Classified in all other external causes from ICD-10



(rate per 100,000 population)

E51		E521		E49, E520, E522, E529		E53		E54		E55		E56	
Accidents Caused by Fire and Flames		Accidental Drowning and Submersion		All Other Accidents Including Late Effects		Drugs, Medicaments Causing Adverse Effects in Therapeutic Use		Suicide and Self-inflicted Injury		Homicide & Injury Inflicted by Other Persons		Other Violence	
Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
—	—	24	8.7	11	4.0	2	0.7	4	1.4	1	0.4	20	7.2
—	—	22	15.1	10	6.9	1	0.7	3	2.1	1	0.7	17	11.7
—	—	2	1.5	1	0.8	1	0.8	1	0.8	—	—	3	2.3
10	—	—	—	55	—	—	—	—	—	2	—	1	—
9	—	—	—	41	—	—	—	—	—	2	—	—	—
1	—	—	—	14	—	—	—	—	—	—	—	1	—
1,348	1.1	3,868	3.1	10,683	8.6	160	0.1	20,923	16.9	789	0.7	3,067	2.5
835	1.4	2,321	3.8	6,900	11.3	85	0.1	14,058	23.1	498	0.8	2,072	3.4
513	0.8	1,547	2.4	3,783	6.0	75	0.1	6,865	10.9	291	0.5	995	1.6
142	0.7	82	0.4	405	2.1	5	0.0	33	0.2	42	0.2	2,015	10.6
73	0.8	60	0.6	322	3.4	3	0.0	21	0.2	34	0.4	1,548	16.1
69	0.7	22	0.2	83	0.9	2	0.0	12	0.1	8	0.1	467	4.9
534	0.8	1,719	2.6	4,273	6.5	499	0.8	347	0.5	515	0.8	13,725	21.0
285	0.9	1,248	3.8	3,209	9.8	431	1.3	244	0.7	484	1.5	12,351	37.6
249	0.8	471	1.4	1,064	3.3	68	0.2	103	0.3	31	0.1	1,374	4.2
—	—	18	0.5	82	1.5	—	—	347	10.8	48	0.9	242	5.0
—	—	15	0.9	67	2.1	—	—	207	12.9	37	1.2	203	8.1
—	—	3	0.1	15	0.8	—	—	140	8.7	11	0.6	39	1.8
175	0.3	3,610	6.1	17,418 <sup>a)</sup>	29.7	10	0.0	2,337	4.0	4,161	7.1	24	0.0
107	0.4	2,567	8.7	13,907	47.3	8	0.0	1,635	5.6	3,481	11.8	15	0.0
68	0.2	1,043	3.6	3,511	12.0	2	0.0	702	2.4	680	2.3	9	0.0

## **4. Child and Maternal Health**

## 4 - A A Brief Description of Trends in Infant Mortality and Maternal Mortality

### BRUNEI

The infant mortality rate is more or less stationary. Maternal mortality is a rare occurrence.

### JAPAN

#### Infant Mortality Rate:

The infant mortality rate has been decreasing every year and now stands at the lowest level in the world. In 1994, the number of infant deaths was 5,261 and the infant mortality rate was 4.2 (per 1,000 live-births).

#### Maternal Mortality Rate:

The maternal mortality rate has been gradually decreasing. The number of maternal deaths was 76 in 1994 and the maternal mortality rate was 5.9 (per 100,000 live-births).

### MALAYSIA

#### Infant Mortality Rate:

The current Infant Mortality rate of 11.4 (1993) is a level which is desirable for countries where health and social development has largely eliminated the environmental and demographic links to infant deaths. At present, perinatal mortality is probably a more appropriate and sensitive indicator for Malaysia as a measure of infant death. The persistent reduction in infant deaths may be attributed to the country's good network of maternal and child care facilities. However, a reduction in neonatal deaths may require improvement in obstetric and paediatric care as well.

#### Maternal Mortality Rate:

This is a good indicator for assessing maternal health over the years, and the decline of the maternal mortality rate has been significant. Identification of the causes of maternal deaths is an important part of the family health programme activity. At present, the three leading causes of maternal mortality are postpartum haemorrhage, obstetric pulmonary embolism and hypertensive diseases in pregnancy.

### SINGAPORE

#### Infant Mortality:

The infant mortality rate improved further from 4.7 per 1,000 live-births in 1993 to reach a new low of 4.3 per 1,000 live-births in 1994. This is very favourable by international standards.

#### Maternal Mortality:

Maternal mortality has not exceeded 7 cases per annum since 1982. In 1994, 3 maternal deaths were registered.

### THAILAND

The infant mortality rate has continuously declined since 1987 due to increased health care coverage and utilization, the improved socioeconomic status and the Extended Programme for Immunization.

## 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 <sup>(1)</sup>	1994	51	7.0	61	8.4	37	5.1	24	3.3	77	10.6
INDONESIA <sup>(2)</sup>	1994				<sup>a)</sup> 57.0						
JAPAN <sup>(3)</sup>	1994	4,048	3.3	5,261	4.2	2,889	2.3	2,372	1.9	6,134	5.0
MALAYSIA <sup>(4)</sup>		3,147	5.8	6,139	11.4	4,045	7.5	2,094	3.9	6,349	11.8
Peninsular Malaysia	1993	2,820	6.6	4,515	10.6	2,865	6.8	1,650	3.9	5,013	11.7
Sabah		187	2.9	1,168	18.4	893	14.0	275	4.3	977	15.3
Sarawak		140	2.8	456	9.3	287	5.8	169	3.4	359	7.3
PHILIPPINES <sup>(5)</sup>	1992	3,692	2.2	36,814	21.9	17,091	10.1	19,723	11.7	17,062	10.1
SINGAPORE <sup>(6)</sup>	1994	167	3.4	214	4.3	121	2.4	93	1.9	256	5.1
THAILAND <sup>(7) b)</sup>	1994	364	0.4	6,828	7.1	3,131	3.3	3,697	3.8	2,038	2.1

Source: (1) Birth & Death Registry and Economic Planning Unit  
 (2) Central Bureau of Statistics  
 (3) *Vital Statistics Japan*, Ministry of Health & Welfare  
 (4) *Vital Statistics*, 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

Note: a) Calculated by Central Bureau of Statistics based on National Census 1990  
 b) 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.

## 4-2 Infant Mortality by Age and Sex

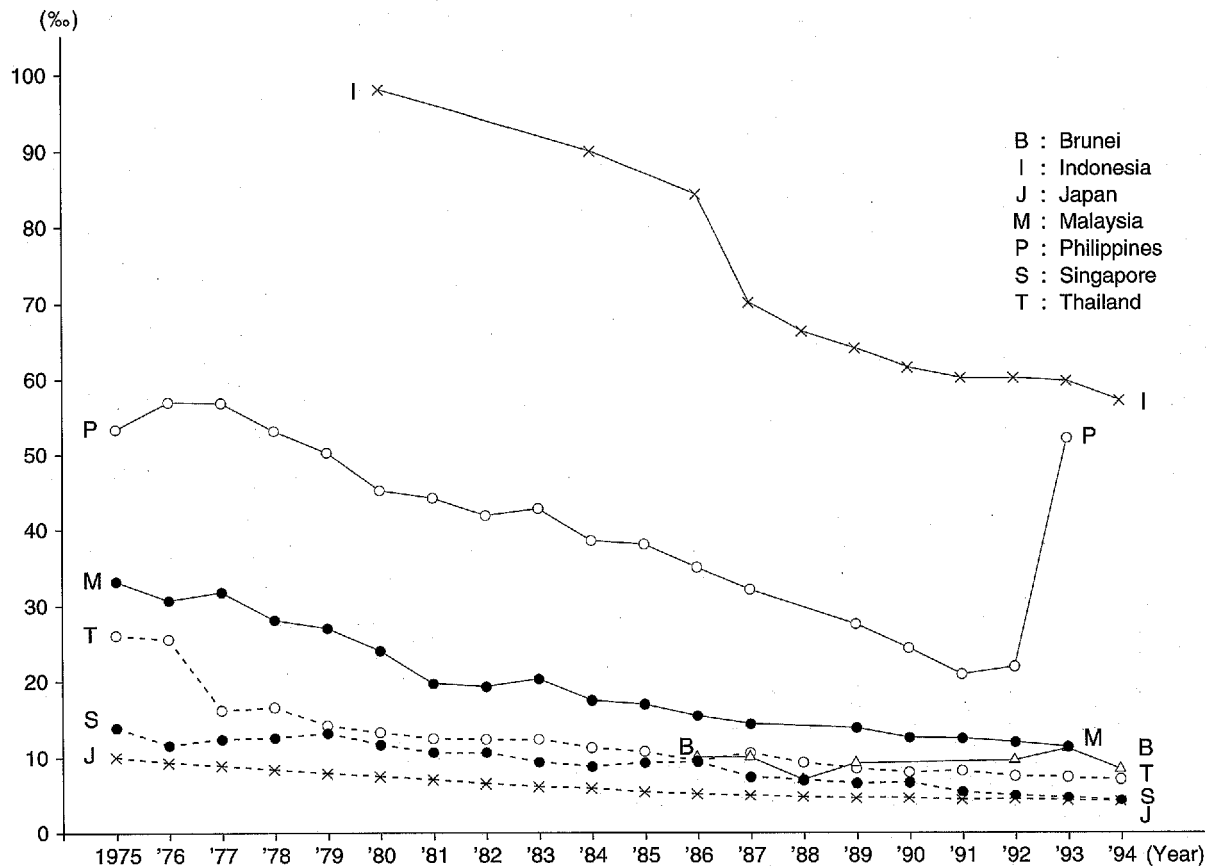
	Year	Sex	Number						Rate (per 1,000 live-births)					
			Total	1 day	2-6	7-27	28-365	Unknown	Total	1 day	2-6	7-27	28-365	Unknown
BRUNEI (1)	1993	T	82	25	19	12	26	—	11.2	3.4	2.6	1.6	3.6	—
		M	46	16	10	6	14	—	12.3	4.3	2.7	1.6	3.8	—
		F	36	9	9	6	12	—	10.1	2.5	2.5	1.7	3.4	—
INDONESIA (2)	1994	T							a) 57.0					
JAPAN (3)	1994	T	5,261	1,523	563	803	2,372	—	4.2	1.2	0.5	0.6	1.9	—
		M	2,994	870	334	459	1,331	—	4.7	1.4	0.5	0.7	2.1	—
		F	2,267	653	229	344	1,041	—	3.8	1.1	0.4	0.6	1.7	—
MALAYSIA (4)	1992	T	6,402	3,200		947	2,255	—	12.2		6.1		4.3	—
		T	4,790	2,240		732	1,818	—	11.6		5.4		4.4	—
		M	2,769	1,322		413	1,034	—	13.0		6.2		4.8	—
		F	2,021	918		319	784	—	10.1		4.6		3.9	—
		T	1,162	737		146	279	—	18.7		11.9		4.5	—
		M	645	427		73	145	—	20.0		13.2		4.5	—
		F	517	310		73	134	—	17.3		10.4		4.5	—
		T	450	223		69	158	—	9.4		4.6		3.3	—
		M	259	118		49	92	—	10.3		4.7		3.7	—
		F	191	105		20	66	—	8.3		4.6		2.9	—
PHILIPPINES (5)	1992	T	36,814	13,370		3,721	19,723	—	b) 52.0					
SINGAPORE (6)	1994	T	214	56	33	32	93	—	4.3	1.1	0.7	0.6	1.9	—
		M	114	32	18	14	50	—	4.5	1.3	0.7	0.5	2.0	—
		F	100	24	15	18	43	—	4.2	1.0	0.6	0.7	1.8	—
THAILAND (7)	1994	T	6,828	990	1,048	1,093	3,502	195	7.1	1.0	1.1	1.1	3.6	0.2
		M	3,893	555	632	613	1,974	119	7.9	1.1	1.3	1.2	4.0	0.2
		F	2,935	435	416	480	1,528	76	6.3	1.9	0.9	1.0	3.3	0.2

Source: (1) Birth & Death Registry and Economic Planning Unit  
 (2) Central Bureau of Statistics  
 (3) *Vital Statistics Japan*, Ministry of Health & 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

Note: a) Calculated by Central Bureau of Statistics based on National Census 1990  
 b) For 1993

Fig. 5 Trends in Infant Mortality Rates (per 1,000 live-births)



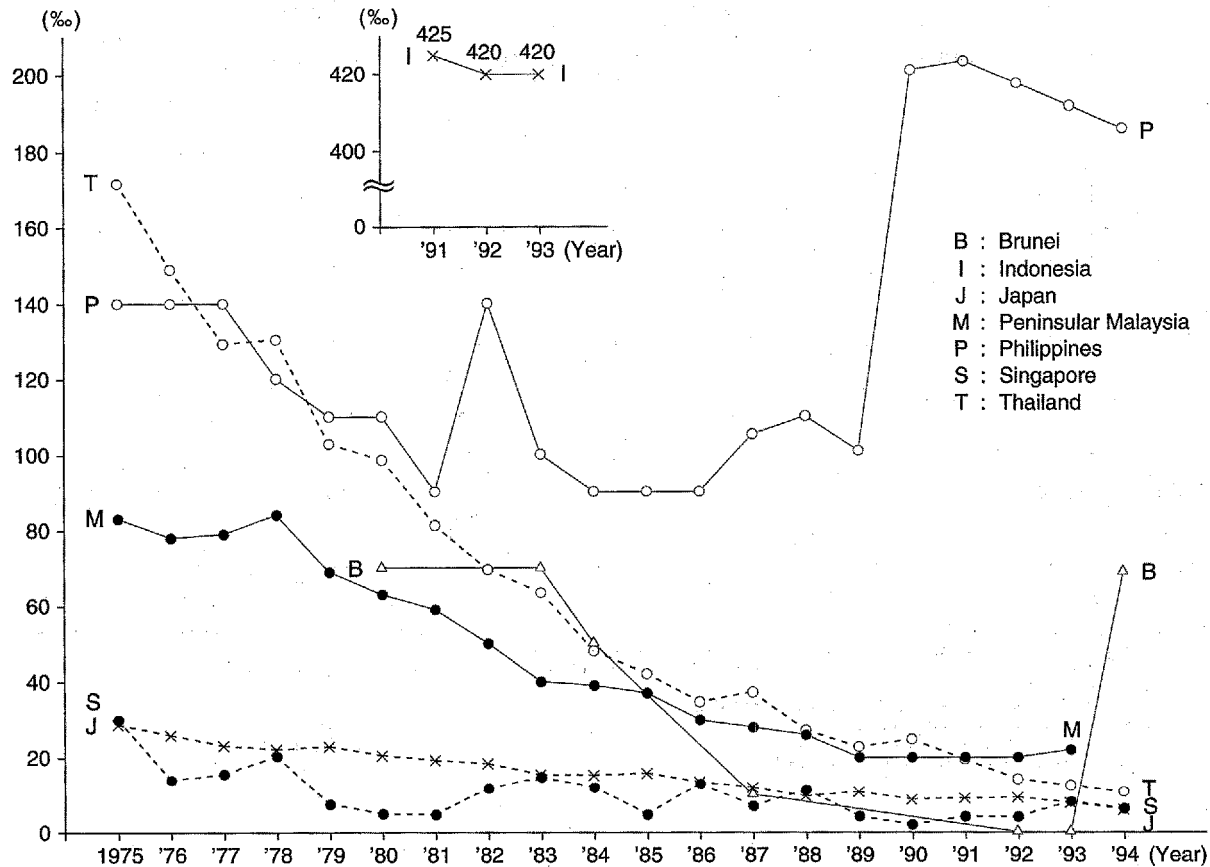
## 4-3 Maternal Mortality Rates

(per 100,000 live-births)

	1970	1975	1980	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
BRUNEI <sup>(1)</sup>			69.2	0	0	14.1	0	0	0	0	0	0	68.8
INDONESIA										425	420	420	
JAPAN <sup>(2)</sup>	50.0	28.7	20.5	15.8	13.5	12.0	9.6	10.8	8.6	9.0	9.2	7.7	5.9
MALAYSIA <sup>(3)</sup>										20	20	20	20
Peninsular Malaysia	148	83	63	37	30	28	26	20	20	20	20	22	
Sabah	11	72	107	19	10	14	19	25	19	33	10	10	
Sarawak	90	20	50	10	12	1	15	12	7	1	20	14	
PHILIPPINES <sup>(4)</sup>	190	140	110	90	90	105.3	110	100.9	200.9	203.2	197.3	191.4	185.6
SINGAPORE <sup>(5)</sup>	32.7	30.0	4.9	4.7	13.0	6.9	11.3	4.2	2.0	4.1	4.0	8.0	6.1
THAILAND <sup>(6)</sup>	226.1	171.7	98.5	42	34.7	37.2	27.2	22.8	24.8	19.4	14.2	12.5	10.8

- Source: (1) Birth & Death Registry and Economic Planning Unit  
(2) *Vital Statistics Japan*, Ministry of Health & Welfare  
(3) *Vital Statistics Peninsular Malaysia, Sabah and Sarawak* (Respective years), Department of Statistics  
(4) *Philippine Health Statistics*, Intelligence Health Service, Department of Health (1970-1989), National Statistical Coordination Board (1990-)  
(5) *Report on the Registration of Births and Deaths*, National Registration Department  
(6) Health Statistics Division, Ministry of Public Health

Fig. 6 Trends in Maternal Mortality Rates (per 100,000 live-births)





## 4 - 4 Family Planning Methods Used

(%)

	Year	Reversible				Irreversible		Natural <sup>a)</sup>	Others <sup>b)</sup>
		Oral Contraceptive	IUD	Injection	Condom	Sterilization			
BRUNEI									
INDONESIA <sup>(1)</sup>	1994	31.4	22.2	30.9	1.6	1.4			5.6
JAPAN <sup>(2) c)</sup>	1994	0.6	3.7	—	77.7	7.0		13.9	8.7
MALAYSIA <sup>(3)</sup>	1994	74.8	4.5	1.9	11.3	5.5		—	2.0
PHILIPPINES <sup>(4)</sup>	1994	58.0	15.2	0.3	14.2	<sup>d)</sup> 7.4 <sup>e)</sup> 0.1	<sup>f)</sup> 1.3		<sup>g)</sup> 3.5
SINGAPORE <sup>(5)</sup>	1992	10.7	10.1	1.0	33.4	23.6		14.5	6.7
THAILAND <sup>(6)</sup>	1993	25.6	10.4	17.8		<sup>d)</sup> 36.9 <sup>e)</sup> 7.4		—	1.9

Source : (1) Central Bureau of Statistics  
 (2) *In Search of The New Family Model, Summary of Twenty-second 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 Unit, Ministry of Health  
 (6) Department of Health, Ministry of Public Health

Note : a) Basic body temperature, cervical mucus, 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	1993	<sup>a)</sup> 6.6
INDONESIA	1994	55.8
JAPAN	1994	<sup>b)</sup> 268,762
MALAYSIA	1994	<sup>c)</sup> 72.4
PHILIPPINES	1994	<sup>d)</sup> 45.8
SINGAPORE	1994	<sup>d)</sup> 75.3
THAILAND	1993	72.3

Source: Ministry of Health of each country

Note: a) Average number of visits to trained health personnel during entire pregnancy  
 b) Number of home visits to pregnant women by trained health personnel  
 c) 1 time  
 d) 3 times

## **5. Morbidity from Infectious Diseases**

## 5 - A List of Notifiable Infectious Diseases

ICD-9 Categories	Brunei 1994	Indonesia 1994	Japan 1994	Malaysia 1993	Philippines 1993	Singapore 1994	Thailand 1994
001 Cholera	V	V	V	V	V	V	
002 Typhoid and Paratyphoid Fevers	V	V	V	V	V	V	V
003 Other Salmonella Infections	V			V	V		
004 Shigellosis	V		V				
008 Intestinal Infections due to Other Organisms			V <sup>a)</sup>				
010 - 018 Tuberculosis	V	V	V	V	V	V	V
020 Plague	V	V	V	V		V	
022 Anthrax			V				V
030 Leprosy	V	V	V	V	V	V	V
032 Diphtheria	V	V	V	V	V	V	V
033 Whooping Cough	V	V	V	V	V		V
034 Streptococcal Sore Throat and Scarlet Fever			V <sup>b)</sup>				V
036 Meningococcal Infection			V				V
037 Tetanus	V	V	V	V	V		V
045 Acute Poliomyelitis	V	V	V	V	V	V	V
050 Smallpox			V				
052 Chickenpox	V				V	V	V
055 Measles	V	V	V	V	V	V	V
060 Yellow Fever	V		V	V		V	V
061 Dengue	V	V <sup>c)</sup>		V	V	V	
062 Mosquito-borne Viral Encephalitis	V		V	V		V	V
070 Viral Hepatitis	V	V		V	V	V	V
071 Rabies		V	V	V			V

Note : a) Infectious diarrhoea only  
b) Scarlet fever only  
c) Hemorrhagic fever only

## 5 - A List of Notifiable Infectious Diseases (Contd.)

ICD-9 Categories	Brunei 1994	Indonesia 1994	Japan 1994	Malaysia 1993	Philippines 1993	Singapore 1994	Thailand 1994
072 Mumps	V					V	V
081 Other Typhus	V			V			V
084 Malaria	V	V	V	V	V	V	V
087 Relapsing Fever			V	V			
090 Congenital Syphilis	V	V	V	V	V	V	V
098 Gonococcal Infections	V	V	V	V	V	V	V
099 Other Venereal Diseases			V <sup>a)</sup>	V <sup>b)</sup>		V <sup>c)</sup>	V
100 Leptospirosis	V						V
102 Yaws							V
120 Schistosomiasis [Bilharziasis]		V	V		V		
124 Trichinosis							V
125 Filarial Infection and Dracontiasis	V		V <sup>d)</sup>				
279.5 AIDS	V	V	V	V	V	V	V
487 Influenza		V	V		V		V

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

## 5 - B Infectious Diseases Specified by Immunization Programme

	Brunei 1994	Indonesia 1994	Japan 1994	Malaysia 1993	Philippines 1993	Singapore 1994	Thailand 1994
Cholera	V	V			V		V
Diphtheria	V	V	V	V	V	V	V
Measles	V	V	V	V	V	V	V
Mosquito-borne Viral Encephalitis			V				V <sup>a)</sup>
Mumps	V					V	
Poliomyelitis	V	V	V	V	V	V	V
Rubella	V		V	V <sup>b)</sup>		V	V <sup>b)</sup>
Tetanus	V	V	V	V	V	V	V
Tuberculosis (BCG)	V	V	V	V	V	V	V
Typhoid and Paratyphoid Fever	V	V			V		V
Whooping Cough	V	V	V	V	V	V	V
Yellow Fever	V			V <sup>c)</sup>			

- Note :
- a) In restricted areas
  - b) Women only
  - c) Required under Institute for Medical Research

## 5 - 1 Morbidity Statistics (ICD-9)

	ICD Categories	001	002	004, 006	003, 005	010 - 018	030
	Year	Cholera	Typhoid and Paratyphoid Fever	Amebiasis and Bacillary Dysentery	Food Poisoning (Bacterial)	Tuberculosis of All Forms	Leprosy
BRUNEI <sup>(1)</sup>	1994	2	8	5	76	119	5
INDONESIA <sup>(2)</sup>	1994	1,698	302,332	621,517	1,715	547,419	41,668
JAPAN <sup>(3) (4) (5)</sup>	1994	90	120	1,042	29,513	181,740 <sup>a)</sup>	6,484 <sup>a)</sup>
MALAYSIA <sup>(6)</sup>							
Peninsular Malaysia	1993	995	1,442	261	1,638	12,075	336
Sabah		647	918	141	30	6,721	193
Sarawak		348	370	61	33	3,700	120
		—	154	59	1,575	1,654	23
PHILIPPINES <sup>(7)</sup>	1992	2,201	14,926	—	—	106,655	1,421
SINGAPORE <sup>(8)</sup>	1994	42	149	24	409	1,836	27
THAILAND <sup>(9)</sup>	1994	—	15,043	74,260	65,429	21,609	370

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 & Welfare  
 (6) Health Division, Ministry of Health

(7) *Philippine Health Statistics*, Health Intelligence Service,  
 Department of Health  
 (8) Ministry of the Environment and Ministry of Health  
 (9) *Annual Epidemiological Surveillance Report 1993*,  
 Ministry of Public Health

Note: a) Prevalence of registered patients

032	052	070	071	084	487	033	036	037	055
Diphtheria	Chickenpox	Viral Hepatitis (A,B,Non · A, Non · B)	Rabies	Malaria	Influenza (Grippe)	Whooping Cough	Meningococcal Infection	Tetanus	Measles
—	2,898	14		38	—	—		2	51
698		33,534	76					3,843	53,877
1	178,209 <sup>a)</sup>	2,782 <sup>a)</sup>	—	74	2,404	145	6	44	1,766
4	—	677	—	39,890	—	18	—	45	517
1	—	542	—	9,701	—	18	—	14	160
3	—	102	—	29,130	—	—	—	26	354
—	—	33	—	1,059	—	—	—	5	3
1,105	50,765	9,566	116	37,909	367,324	5,168	160	2,201	49,452
—	39,558	258	—	277		2			159
40	32,666	14,377	102	62,861	51,428	150	47	432	38,336

Note : a) Cases treated in large hospitals only



## 5 - 1 Morbidity Statistics (ICD-9) (Contd.)

		056	072	279.5	045	047 - 049 062 - 064	060, 061, 065	125	120	090 - 097	098	099
		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 <sup>(1)</sup>	1994	13	23		—			3		22	208	
INDONESIA <sup>(2)</sup>	1994			87	9	443	18,783 <sup>a)</sup>	4,581	—	5,286	30,443	
JAPAN <sup>(3) (4) (5)</sup>	1994	127,778 <sup>b)</sup>	35,883	889 <sup>c)</sup> (HIV 3,233)	1	12	—	—	2	666	1,448	4
MALAYSIA <sup>(6)</sup>				96	—	13	338 <sup>a)</sup>	—	—	1,967	1,321	14 <sup>d)</sup>
Peninsular Malaysia	1993	—	—	—	—	9	308	—	—	1,194	388	—
Sabah		—	—	—	—	2	21	—	—	158	576	—
Sarawak		—	—	—	—	2	9	—	—	615	357	14
PHILIPPINES <sup>(7)</sup>	1992			69	444		21,508	1,481	9,848	90	198	
SINGAPORE <sup>(8)</sup>	1994	299	1,636	48	—	—	1,239			842	2,329	3,870
THAILAND <sup>(9)</sup>	1994	1,780	20,738	11,978	15	714	45,066			5,154	14,230	17,997

Note : a) Refer to dengue hemorrhagic fever  
b) Cases treated in large hospitals only  
c) Number of patients and HIV carriers at end of 1993  
d) Chancroid

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

	Year	Diphtheria	Pertussis	Tetanus	Poliomyelitis	Measles	Tuberculosis
BRUNEI <sup>(1)</sup>	1994	97			97		99
INDONESIA <sup>(2)</sup>	1994	<sup>a)</sup> 98.3			92.8	91.6	
JAPAN <sup>(3)</sup>	1994	<sup>b)</sup> 95.2			<sup>c)</sup> 95.2	<sup>d)</sup> 74.5	
MALAYSIA <sup>(4)</sup>	1993	91.3			90.8	81.1	97.8
PHILIPPINES <sup>(5)</sup>	1994	85.1			86.6	85.8	87.3
SINGAPORE <sup>(6)</sup>	1994	91.0			91.0	<sup>e)</sup> 88.0	97.0
THAILAND <sup>(7)</sup>	1993	78.7			78.8	68.8	91.9

Source : (1) Ministry of Health  
 (2) Ministry of Health  
 (3) Ministry of Health and Welfare  
 (4) Ministry of Health  
 (5) Health Intelligence Service-FHSIS, Department of Health  
 (6) *Family Health Service Annual Report 1993*  
 (7) Ministry of Public Health

Note : a) For 1993  
 b) Children of 12 years old or under  
 c) 3 months to 4 years old children  
 d) 1 to 6 years old children  
 e) 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 <sup>(1)</sup>	1993	1,879	1,790	89	45.5	35.2	10.3	<sup>a)</sup> 30.5		
JAPAN <sup>(2)</sup>	1994	2,023			79.7	37.2	42.5	58.0	29.5	28.5
MALAYSIA <sup>(3)</sup>	1977	<sup>b)</sup> 2,549	<sup>b)</sup> 2,195	<sup>b)</sup> 354	57.6	35.7	21.9	45.5	29.2	16.3
PHILIPPINES <sup>(4)</sup>	1993	1,684	1,475	209	49.9	29.8	20.1	28	16	12
SINGAPORE <sup>(5)</sup>	1993	1,981			76.4			67.0		
THAILAND <sup>(6)</sup>	1986	1,766	1,412	354	50.8	27.9	22.9	42.6	13.4	29.2

Source : (1) *Welfare Indonesia*, Central Bureau of Statistics  
 (2) *National Nutrition Survey*, Health Promotion and Nutrition Division, Ministry of Health and Welfare  
 (3) *Food Balance Sheets 1975-77, Average and Per Capita Food Supplies 1961-65, Average 1967 to 1977*, FAO, 1980  
 (4) Actual Food Consumption Survey (Food Weighing Technique), Food and Nutrition Research Institute, Department of Science & Technology 1987  
 (5) *Food Consumption Study of Adults (24 hour recall) 1993*, Food and Nutrition Department, Ministry of Health  
 (6) Nutrition Division, Ministry of Public Health

Note : a) For 1992  
 b) For 1982

## 6-1 Per Capita Food Intake (Contd.)

	Year	Calcium (mg / day)	Iron (mg / day)	Vitamin A ( $\mu$ g / day)	Vitamin B <sub>1</sub> (mg / day)	Vitamin B <sub>2</sub> (mg / day)	Vitamin C (mg / day)	Carbohydrate (g / day)
BRUNEI								
INDONESIA	1986	215	10.0	1,096 <sup>a)</sup>	1.18		142	353.8 <sup>b)</sup>
JAPAN	1994	545	11.3	2,602 <sup>a)</sup>	1.21	1.35	117	282
MALAYSIA	1977	330	13.5	135	0.87	0.79	44	
PHILIPPINES	1993	390	10.1	392 <sup>c)</sup>	0.67	0.56	47	302
SINGAPORE	1993	491	14.0	578	1.59 <sup>d)</sup>	1.38 <sup>d)</sup>	76 <sup>d)</sup>	265.9
THAILAND	1986	301	11.8	4,679 <sup>a)</sup>	0.89	0.73	96	

Note : a) Unit=IU  
b) For 1990  
c) Unit=Retinol Equivalent, mcg.  
d) For 1983

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 <sup>(1)</sup>	Bogor	1978	M	49.7	53.8	60.4	66.6	70.3	73.3
			F	49.1	52.9	58.9	64.5	68.5	71.9
JAPAN <sup>(2)</sup>	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 <sup>(3)</sup>	National	1993	M	51.3	57.5	64.1	67.7	72.0	a) 77.6
			F	51.1	56.7	62.0	68.0	70.8	76.6
SINGAPORE <sup>(4)</sup>	Malays	1972	M			60.2	65.3		73.6
			F			59.5	64.0		71.5
	Chinese	1972	M			61.8	66.5	71.0	74.5
			F			60.0	65.0	69.5	73.0
THAILAND <sup>(5)</sup>	National	1987	M	50.7	53.5	57.7	66.6	69.1	73.0
			F	50.2	56.0	60.1	66.9	71.3	74.4

Source: (1) *Indonesian Nutrition*, Vol. X, No. 1, 1985

(2) Ministry of Health and Welfare

(3) Food and Nutrition Research Institute

(4) Ministry of Health

(5) *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 <sup>(1)</sup>	Bogor	1978	M F	3.2 3.0	4.2 3.9	5.9 5.5	7.5 6.9	8.4 7.7	8.9 8.5
JAPAN <sup>(2)</sup>	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 <sup>(3)</sup>	Peninsular Malaysia	1993	T	3.2					
PHILIPPINES <sup>(4)</sup>	National	1993	M F	3.5 3.4	5.3 4.8	6.6 6.1	7.4 7.2	8.1 7.8	<sup>a)</sup> 9.4 9.0
SINGAPORE <sup>(5)</sup>	Malays	1972	M F	<sup>b)</sup> 3.2		6.0 5.5	7.2 6.3	8.1 7.4	8.8 8.0
	Chinese	1972	M F	<sup>b)</sup> 3.1		6.5 6.5	8.1 8.0	8.9 8.8	9.2 8.9
THAILAND <sup>(6)</sup>	National	1987	M F	3.1 3.0	4.1 4.7	5.4 6.1	7.3 7.8	7.9 8.8	8.8 9.5

Source: (1) *Indonesian Nutrition*, Vol. X. No 1, 1985

(2) Ministry of Health and Welfare

(3) Ministry of Health

(4) Food and Nutrition Research Institute

(5) Ministry of Health

(6) *National Food and Nutrition Survey*, Department of Health, Ministry of Public Health

Note: a) For 1-1.99 years old

b) For 1994, national

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 <sup>(1)</sup>	Bogor	1976	T		36.3	40.4	43.1	44.5	45.4
JAPAN <sup>(2)</sup>	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 <sup>(3)</sup>	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 <sup>(4)</sup>	National	1987	M F		37.9 35.0	40.2 38.5	42.7 41.5	44.4 43.2	45.7 44.4

Source: (1) *Barita Ilmu Pengetahuan dan Teknologi*, LIPI, 1980

(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



## 6-5 Mean Height by Age (1-18 years)

	Population or Place	Year	Sex	Age						
				1	2	3	4	5	6	7
BRUNEI										
INDONESIA <sup>(1)</sup>	West Sumatra, Central Java and West Nusa Tenggara	1989 <sup>a)</sup> 1993 <sup>b)</sup>	M F					106.9 106.3	109.6 109.1	112.1 111.0
JAPAN <sup>(2)</sup>	National	1994	M F	79.8 79.2	90.0 88.2	97.3 95.6	103.6 102.9	110.5 107.5	116.0 116.2	121.7 121.7
MALAYSIA <sup>(3)</sup>	National	1960	M F						105.4	109.7 109.7
PHILIPPINES <sup>(4)</sup>	National	1993	M F	77.6 76.7	85.0 84.2	92.6 91.3	98.2 97.7	103.9 103.8	108.8 108.8	114.5 114.2
SINGAPORE <sup>(5)</sup>	National	1994	M F						120.2 119.2	
THAILAND <sup>(6)</sup>	National	1987	M F	73.0 74.4	82.3 85.1	92.4 92.4	98.9 101.0	105.3 106.1	111.6 111.2	116.1 115.9

Source: (1) *Report on Height and Growth of Young Man in the Area of Malnutrition in 1988/89*, Ministry of Population and Environment and Centre for Nutrition Research and Development, 1989 for a) and Centre for Nutrition Research and Development for b)

(2) *National Nutrition Survey*, Health Service Bureau, Ministry of Health and Welfare

(3) *Worldwide Variation in Human Growth*, Cambridge University Press, 1976

(4) Food and Nutrition Research Institute

(5) School Health Service, Ministry of Health

(6) *National Food and Nutrition Survey*, Department of Health, Ministry of Public Health

Note: a) 14-18 years of age

b) 5-12 years of age

(cm)

Age										
8	9	10	11	12	13	14	15	16	17	18
114.9 114.8	117.9 117.6	121.9 120.0	125.7 122.4	128.9 130.0		151.3 148.9	155.2 149.7	159.7 150.9	161.3 151.6	162.9 151.7
126.8 127.7	133.4 134.3	138.0 139.2	144.1 146.5	150.8 151.3	159.8 154.6	163.7 156.2	168.2 157.6	170.0 157.8	170.4 158.0	170.4 157.4
111.8 112.8	114.3 117.9	121.9 123.4	129.3 131.8	133.4 137.2	138.4	141.4				
119.0 119.1	124.5 124.3	128.5 130.6	131.7 135.1	137.4 141.3	143.6 145.8	150.9 148.7	156.2 150.6	159.6 150.2	160.9 151.1	162.3 151.7
			148.7 149.8				170.2 159.1			
120.9 120.5	126.2 126.0	130.9 130.9	134.8 137.7	141.4 143.8	148.7 149.4	153.8 152.3	158.9 153.8	163.5 154.3	164.5 153.9	165.9 155.1

## 6-6 Mean Weight by Age (1-18 years)

	Population or Place	Year	Sex	Age						
				1	2	3	4	5	6	7
BRUNEI										
INDONESIA <sup>(1)</sup>	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 <sup>(2)</sup>	National	1994	M F	11.0 10.2	12.9 12.3	15.0 14.5	17.3 16.2	19.1 18.3	21.5 21.6	23.6 23.4
MALAYSIA <sup>(3)</sup>	National	1960	M F						16.4	17.8 18.6
PHILIPPINES <sup>(4)</sup>	National	1993	M F	9.4 9.0	11.5 11.0	12.9 12.5	14.5 14.0	15.9 15.7	17.2 17.2	19.2 19.0
SINGAPORE <sup>(5)</sup>	National	1994	M F						22.9 22.0	
THAILAND <sup>(6)</sup>	National	1987	M F	8.8 9.5	11.4 11.9	13.4 14.6	14.9 15.2	16.6 16.5	18.6 18.0	20.2 20.2

Source : (1) Ohsawa's Laboratory, Otsuma Women's University  
 (2) *National Nutrition Survey*, Health Service Bureau, Ministry of Health and Welfare  
 (3) *Worldwide Variation in Human Growth*, Cambridge University Press, 1976  
 (4) Food and Nutrition Research Institute  
 (5) School Health Service, Ministry of Health  
 (6) *National Nutrition Survey*, Department of Health, Ministry of Public Health

(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
26.3 27.2	31.4 30.8	34.4 34.0	37.9 38.8	44.2 42.4	49.6 46.3	54.0 48.0	57.8 51.8	60.2 51.8	61.3 51.7	62.2 50.4
19.5 18.7	20.7 21.8	24.2 24.0	27 28.5	29.5 30.0	32.5	35.5				
20.7 20.9	23.5 23.3	25.7 26.6	27.6 29.1	31.0 33.4	34.7 37.9	39.8 40.8	44.4 44.6	49.0 46.8	52.0 46.5	54.0 46.0
			41.6 41.5				59.4 50.7			
22.0 21.7	24.3 24.2	27.1 26.8	29.3 30.7	33.3 35.4	38.9 40.4	41.7 43.6	45.9 45.9	50.8 46.4	52.2 47.4	52.7 48.8

## **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 <sup>(1)</sup>	1991	Total	<sup>a)</sup> 96.0	<sup>a)</sup> 79.0	97.5			2.0	0.5
INDONESIA <sup>(2)</sup>	1994	Total	16.2 <sup>b)</sup>	22.0 <sup>c)</sup>	57.4	3.6	28.1	10.9	
		Urban	36.5	46.5	90.4	1.4	5.0	3.3	
		Rural	5.9	9.6	40.7	4.7	39.8	14.8	
JAPAN <sup>(3)</sup>	1993	Total	95.3	<sup>d)</sup> 96.3	99.9				
MALAYSIA <sup>(4)</sup>	1994	Total	91.0	94.7	<sup>e)</sup> 91	<sup>e)</sup> 2	<sup>e)</sup> 7	<sup>e)</sup> —	<sup>e)</sup> 1
PHILIPPINES <sup>(5)</sup>	1992	Total	83.0	77.0	<sup>f)</sup> 55.1	<sup>f)</sup> 1.7	<sup>f)</sup> 0.1	<sup>f)</sup> 49.6	<sup>f)</sup> 0.5
					79.2	1.2	0.1	19.3	0.2
					31.9	2.1	0.2	65.1	0.7
SINGAPORE <sup>(6)</sup>	1994	Total	99.5	100.0	95.9	4.1			
THAILAND <sup>(7)</sup>	1995	Total	92.1	96.2	<sup>(8) f)</sup> 87.3	<sup>(8) f)</sup> 0.4	<sup>(8) f)</sup> —	<sup>(8) f)</sup> 11.5	<sup>(8) f)</sup> 0.6

Source: (1) Ministry of Health  
 (2) *Welfare Statistics, 1994*, Central Bureau of Statistics  
 (3) Water Supply and Environmental Sanitation Department, Ministry of Health and Welfare  
 (4) Ministry of Health  
 (5) *Census of Population and Housing*, National Statistics Office  
 (6) Public Utilities Board and Ministry of the Environment  
 (7) Sanitation Division, Ministry of Public Health  
 (8) *1990 Population & Housing Census, Whole Kingdom*, National Statistical Office

Note: a) Percentage of households  
 b) Percentage of households with piped water  
 c) Percentage of households with flush toilet  
 d) For 1992  
 e) For 1991  
 f) For 1990

## 7-2 Socio-economic Indicators

	Year	Literacy Rate (%)	Year	Per Capita GNP <sup>a)</sup> (in US \$)	Year	Labour Force Participation Rate (%)
BRUNEI	1991	<sup>b)</sup> 89.0	1993	<sup>c)</sup> 14,482	1991	<sup>d)</sup> 65.6
INDONESIA	1993	<sup>e)</sup> 85.7	1994	778	1994	58.0
JAPAN	1994	<sup>f)</sup> 99.99	1994	38,089	1994	<sup>(1)</sup> 63.6
MALAYSIA <sup>(2)</sup>	1991	85.0	1994	<sup>(3)</sup> 3,836	1994	<sup>(3)</sup> 66.9
PHILIPPINES	1992	89.8 <sup>(4)</sup>	1992	<sup>(4)</sup> 838	1993	<sup>(5)</sup> 65.5
	1993	92.8				
SINGAPORE <sup>(6)</sup>	1994	<sup>g)</sup> 91.3	1993	16,336	1994	<sup>h)</sup> 64.9
THAILAND <sup>(7)</sup>	1984	<sup>i)</sup> 87.7	1995	2,040	1988	74.4

Source : (1) *Labour Force Survey*, Statistics Bureau, Management and Coordination Agency

(2) *General Report of the Population Census, Vol. 1*

(3) Department of Statistics Malaysia

(4) National Statistics Office

(5) *Philippine Statistical Yearbook*, National Statistical Coordinating Board

(6) *Year Book of Statistics, Singapore 1994*, Department of Statistics

(7) Office of the National Economic and Social Development Board

Note : a) Figures for each country except Indonesia, Philippines and Thailand converted into US \$ by SEAMIC / IMFJ, using yearly average exchange rates shown in *IMF International Financial Statistics*

b) Age 9 years and over

c) GDP

d) Age 15 years and over

e) Age 10 years and over

f) Children enrolled

g) Per 100 resident population aged 15 years and over

h) Per 100 population aged 15 years and over

i) 7 years old

## 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	1994	119,615,032	5.4	420	102,265,287	57,876,129	36,270,787	8,118,371
INDONESIA	1991	480,167,150	1.9	1.7				
JAPAN <sup>a)</sup>	1994	133,166,030,721	18.6	1,073.3				
MALAYSIA	1994	938,247,733	5.2	48.1	951,833,591	820,249,981		131,583,610
PHILIPPINES <sup>b)</sup>	1994	280,812,848	2.3	4.1	280,812,848	87,591,097	141,045,312	52,176,439
SINGAPORE	1994	656,321		210.2	571,729	145,600	286,975	139,154
THAILAND	1994	1,563,367,396	6.3	26.2				

Source : Ministry of Health in each country

Note : Figures for each country except Indonesia converted into US \$ by SEAMIC / IMFJ, using yearly average exchange rates shown in *IMF International Financial Statistics*

a) Including budget for social welfare

b) Including attached agencies



## **8. Medical Establishments**

## 8 - A Definitions Used in Hospital Statistics (WHO)

	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 (principal)	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, specialized 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. Medical and Maternity Centre with Beds	A small unit, also known as rural health centre, bedded dispensary, a rural maternity home, etc., not permanently staffed by a physician (but by a medical assistant, nurse, midwife, etc.), which offers inpatient accommodation and provides a limited range of medical and nursing care.
5. Specialized Hospital	A hospital providing medical and nursing care primarily for only one discipline. 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.
6. Government Hospital	Any hospital administered by a government authority at any level, whether central, intermediate, or local.

	Definition
7. Private Non-profit-making Hospital	Any hospital, whether subsidized by the government or not, operated on a non-profit-making basis by a non-government body, such as a religious mission, an industrial enterprise, a trust, or a philanthropic institution.
8. Private Profit-making Hospital	Any private hospital (or medical establishment with beds) operated on a profit-making basis.
9. Bed	A hospital bed is one regularly maintained and staffed for the accommodation and fulltime 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.
10. 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.
11. Discharges (including deaths)	The number of persons, living or dead, whose stay has terminated and whose departure has been officially recorded.
12. 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 (1994)	Indonesia (1994)	Japan (1994)	Malaysia (1994)			Philippines (1993)	Singapore (1994)	Thailand (1994)
				Peninsular Malaysia	Sabah	Sarawak			
1 General Hospital	V	V	V	V	V	V	V	V	V
2 Local or Rural Hospital		V		V <sup>a)</sup>	V <sup>a)</sup>	V <sup>a)</sup>	V	V	V
3 Medical Center							V		
4 Maternity Hospital		V					V	V	V
5 Infectious Diseases Hospital		V	V				V	V	V
6 Chronic Diseases Hospital								V	
7 Leprosy Hospital		V	V	V		V	V		V
8 Tuberculosis Hospital		V	V	V			V		V
9 Pediatrics Hospital							V		V
10 Ophthalmology Hospital		V						V <sup>b)</sup>	V
11 Orthopedics Hospital		V					V		
12 Mental Hospital		V	V	V	V	V	V	V	V
13 Estab. for Drug Addicts		V					V		V
14 Other Specialized Hospital		V					V	V <sup>c)</sup>	V

Note : a) District & Divisional Hospitals  
b) Singapore National Eye Centre is an ophthalmology hospital only and provides only ambulatory care.  
c) National Skin Center is a dermatology hospital only and provides only ambulatory care. STD cases requiring inpatient treatment are admitted into an annexe of one of the acute hospitals.

## 8-1 Number of Hospitals

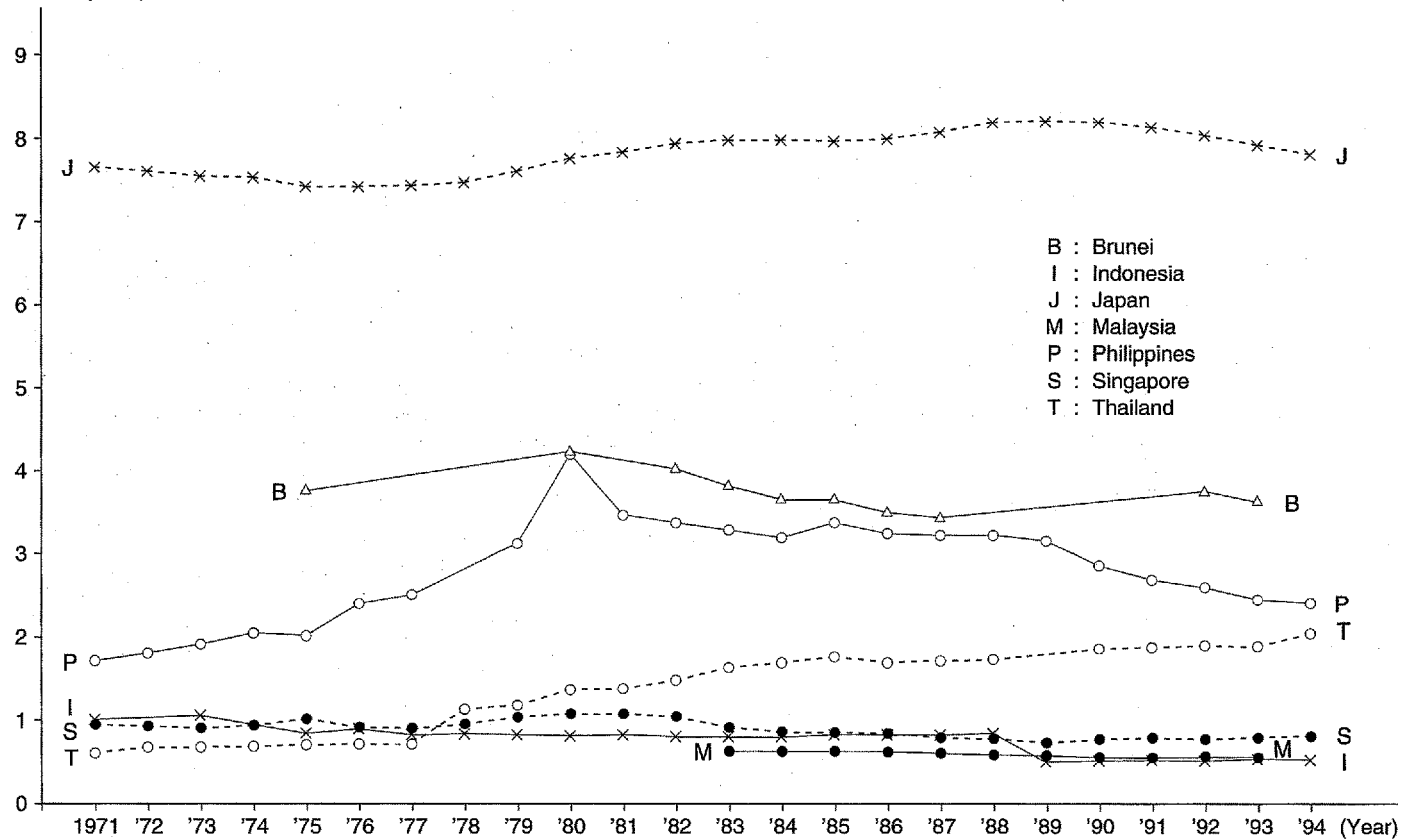
		1970	1975	1980	1985	1987	1988	1989	1990	1991	1992	1993	1994
BRUNEI	Total		6	8	8	8					10	10	10
INDONESIA		1,164	1,115	1,208	1,367	1,436	1,500	a) 924	a) 950	a) 982	a) 994	a) 1,026	a) 1,039
JAPAN	Total	7,974	8,294	9,055	9,608	9,841	10,034	10,081	10,096	10,066	9,963	9,844	9,731
MALAYSIA					101	102	102	102	102	104	107	108	112
Peninsular		64			68	69	69	69	69	70	72	73	75
Malaysia													
Sabah			15		16	16	16	16	16	16	16	16	17
Sarawak		14	14		17	17	17	17	17	18	19	19	20
PHILIPPINES	Total	650	927	2,020	1,846	1,846	1,805	1,805	1,726	1,663	1,691	1,723	1,648
	Public	220	316	413	612	a) 617	619	619	b) 594	b) 562	582	c) 628	c) 553
	Private	430	611	1,607	1,229	1,229	1,186	1,186	1,132	1,101	1,109	1,095	1,095
SINGAPORE	Total	17	23	26	22	21	21	20	21	22	22	23	24
	Public	11	13	13	11	10	10	10	11	11	12	13	13
	Private	6	10	13	11	11	11	10	10	11	10	10	11
THAILAND	Total	98	281	636	910	910	941		1,043	1,064	1,097	1,105	1,215

Source: Ministry of Health in each country

Note: a) Excluding maternity hospitals  
b) Licensed only  
c) Retained and devolved hospitals

Fig. 7 Trends in Number of Hospitals (per 100,000 population)

(Number of Hospitals)



## 8-2 Number of Beds

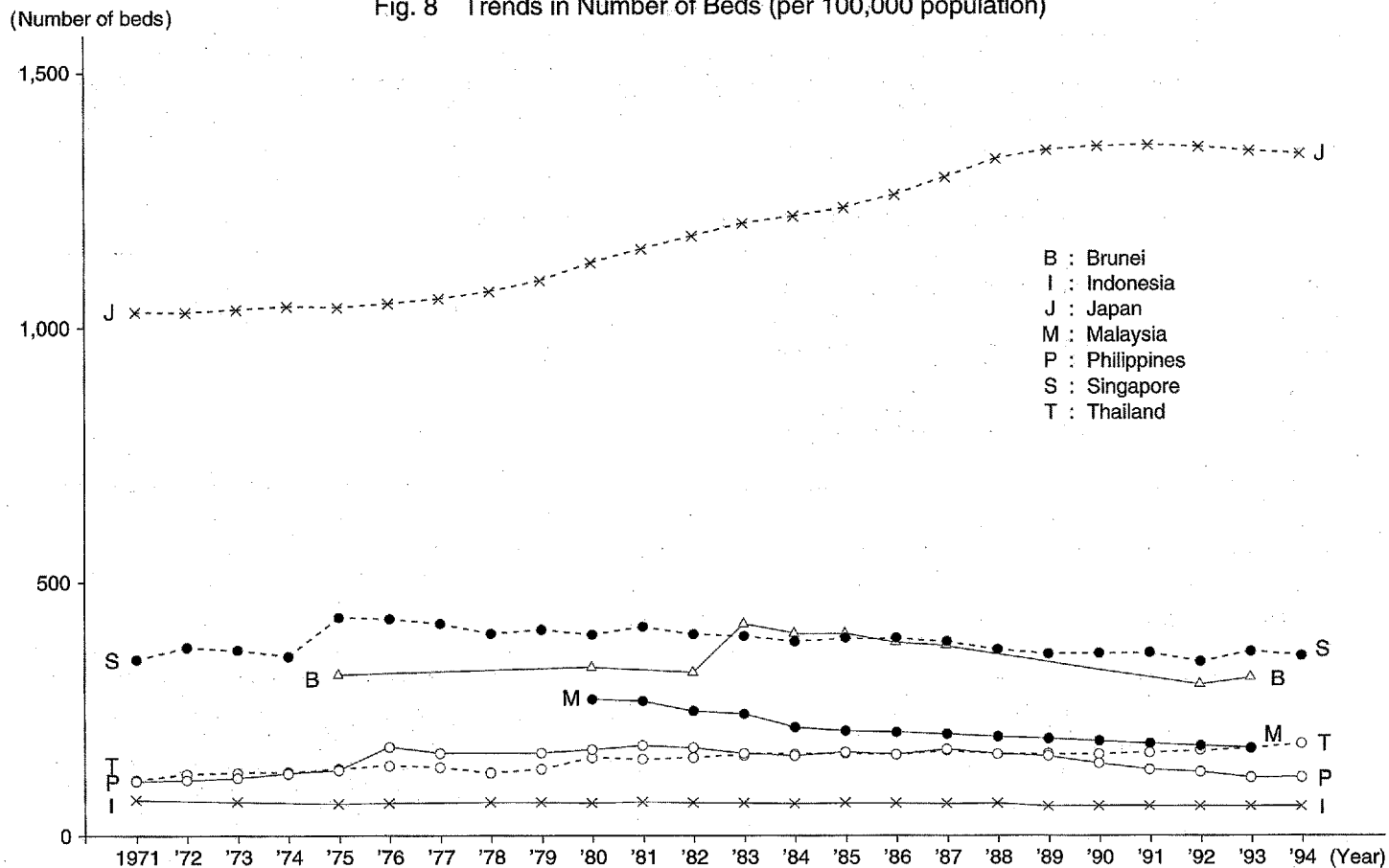
		1970	1975	1980	1985	1987	1988	1989	1990	1991	1992	1993	1994
BRUNEI	Total		506	630	876	876					797	863	789
INDONESIA		86,022	83,696	98,543	110,361	112,328	116,847	107,112	119,387	111,127	112,779	114,474	116,847
JAPAN	Total	1,062,553	1,164,098	1,319,406	1,495,328	1,582,393	1,634,309	1,661,952	1,676,803	1,685,589	1,686,696	1,680,952	1,677,041
MALAYSIA				35,291	32,495	33,161	33,067	33,341	33,400	33,432	33,261	33,201	33,246
Peninsular		27,927		29,792	26,491	27,272	27,174	27,445	27,504	27,462	27,206	27,152	27,164
Malaysia			2,233	2,670	2,809	2,799	2,803	2,799	2,803	2,803	2,812	2,812	2,878
Sabah		2,000	2,358	2,829	3,195	3,090	3,090	3,097	3,093	3,167	3,243	3,237	3,204
Sarawak													
PHILIPPINES	Total	40,289	55,323	81,976	90,279	97,735	90,414	90,414	86,948	81,647	83,113	77,734	80,580
	Public	19,725	27,075	39,625	47,861	57,470	50,703	50,703	48,602	46,338	45,971 <sup>a)</sup>	41,498 <sup>a)</sup>	44,344
	Private	20,564	28,248	42,351	42,418	40,265	39,711	39,711	38,346	35,309	37,142	36,236	36,236
SINGAPORE	Total	7,760	9,311	9,585	10,000	10,027	9,730	9,644	9,759	9,801	9,726	10,469	10,446
	Public	6,891	8,211	8,078	8,329	8,191	7,893	7,852	7,922	7,892	7,833	8,640	8,346
	Private	869	1,100	1,507	1,671	1,836	1,837	1,792	1,837	1,909	1,893	1,829	2,100
THAILAND <sup>b)</sup>	Total	25,619	52,652	71,718	84,045	89,633	88,009	89,982	90,740	93,852	97,856	101,166	108,747

Source: Ministry of Health in each country

Note: a) Retained and devolved hospitals

b) From 1985 onwards, including private maternity centres

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



## 8-3 Hospitals and Other Medical Establishments with Beds

	Year	1 General Hospitals				2 Local or Rural Hospitals				3 Medical Centres			
		Establishments	Beds	Admissions or Discharges	Patient-Days	Establishments	Beds	Admissions or Discharges	Patient-Days	Establishments	Beds	Admissions or Discharges	Patient-Days
BRUNEI	1994	10	<sup>a)</sup> 789	<sup>a)</sup> 32,015	<sup>a)</sup> 160,419	..				..			
INDONESIA <sup>(1)</sup>	1994	262	57,239	2,099,160	11,990,976	573	41,713	1,512,581	7,984,637	..			
JAPAN	1994	8,641	1,402,325	11,006,420	413,897,670	..				..			
MALAYSIA <sup>(2)</sup>	1994	<sup>b)</sup> 105	<sup>b)</sup> 26,534	<sup>b)</sup> 1,382,235	<sup>b)</sup> 5,690,549	<sup>b)</sup>				..			
Peninsular Malaysia		71	21,132	1,106,376	4,530,727								
Sabah		16	2,576	140,431	578,482								
Sarawak		18	2,826	135,428	581,340								
PHILIPPINES <sup>(3) c)</sup>	1994	47	20,830	552,992	84,033					16	5,400	192,441	1,039,979
SINGAPORE	1994	12	5,759	293,104	1,536,499	3	290	3,165	51,104	..			
THAILAND <sup>(4)</sup>	1994	457	76,055			<sup>d)</sup> 670	<sup>d)</sup> 17,485			..			

Source: Ministry of Health in each country

(1) Directorate of Medical Care, Ministry of Health

(2) Information and Documentation System Unit

(3) Hospital Operation &amp; Management Services, and Bureau of Licensing &amp; Regulation, Department of Health

(4) Health Statistics Division, Ministry of Public Health

Note: a) Based on 4 government hospitals and 1 private hospital

b) Hospitals. The previous categorization into general hospitals and local or rural hospitals does no longer apply.

c) Including community hospitals which are outside of municipal areas and a pediatric hospital in rural area.

d) Community hospitals



4 Maternity Hospitals				5 Infectious Diseases Hospitals				6 Chronic Diseases 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
..				..				..			
51	2,296	88,406	333,562	1	103	2,995	14,880	..			
..				6	297	96	4,793	..			
..				..				..			
1	700	50,629	207,120	3	975	25,506	155,836	..			
1	514	38,683	137,441	1	220	2,033	19,865	2	566	153	124,089
8	929			3	1,200			..			

## 8-3 Hospitals and Other Medical Establishments with Beds (Contd.)

	Year	7 Leprosy Hospitals				8 Tuberculosis Hospitals				9 Pediatric 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	1994	..				..				..			
INDONESIA <sup>(1)</sup>	1994	24	2,754	3,451	500,443	10	747	9,420	125,508	..			
JAPAN	1994	15	8,718	80	2,166,729	9	609	758	168,058	..			
MALAYSIA <sup>(2)</sup> Peninsular Malaysia Sabah Sarawak	1994	2	876	2,673	100,206	1	116	2,510	17,728	..			
		1	836	2,662	91,638	1	116	2,510	17,728				
		—	40	11	8,568	—	—	—	—				
PHILIPPINES <sup>(3)</sup>	1994	8	4,420	8,232	543,721					2	450	15,753	100,231
SINGAPORE	1994	..				..				..			
THAILAND <sup>(4)</sup>	1994	3	1,476			2	3			1	538		

10 Ophtalmology Hospitals				11 Orthopedics Hospitals				12 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
..				..				..			
10	660	12,529	88,087	1	200	1,763	41,724	47	8,272	39,522	2,238,059
..				..				1,060	265,092	174,336	92,619,738
..				..				4	5,720	9,767	1,513,363
..				..				2	5,080	7,744	1,338,747
..				..				1	302	1,249	59,022
..				..				1	338	774	115,594
..				1	700	8,591	193,117	1	4,200	7,724	736,376
a) 1				..				3	3,097	6,989	943,497
4	87			..				12	7,684		

Note : a) Singapore National Eye Centre provides only ambulatory care

## 8-3 Hospitals and Other Medical Establishments with Beds (Contd.)

	Year	13 Establ. for Drug Addicts				14 Other Specialized Hospitals				15 Total			
		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	1994	..				..				10	789 <sup>a)</sup>	32,015 <sup>a)</sup>	160,419 <sup>a)</sup>
INDONESIA <sup>(1)</sup>	1994	1	22	350	2,989	57	2,841	85,893	411,999	1,037	116,847	3,856,070	23,732,864
JAPAN	1994	..				..				9,731	1,677,041	11,181,690	508,856,988
MALAYSIA <sup>(2)</sup> Peninsular Malaysia Sabah Sarawak	1994	..				..				112	33,246	1,397,185	7,321,846
										75	27,164	1,119,292	5,978,840
										17 20	2,878 3,204	141,680 136,213	637,504 705,502
PHILIPPINES	1994					4	985	36,477	264,415	83	38,660	898,345	7,490,630
SINGAPORE	1994	..				b) 1				24	10,446	344,127	2,812,495
THAILAND <sup>(4)</sup>	1993	2	810			8	1,880			1,215	108,747	5,690,607	28,181,635

Note : a) Based on 4 government hospitals and 1 private Hospital

b) National Skin Center is a dermatology hospital only and provides only ambulatory care. Sexually transmitted diseases cases requiring inpatient treatment are admitted into an annexe of one of the acute hospitals.

## 8-4 Hospital Utilization by Category of Hospital

	Year	All Hospitals					General Hospitals					
		Type	Population per Bed	Bed per 10,000 Population	Admissions per 10,000 Population	Bed Occupancy Rate (%)	Type	Bed per 10,000 Population	Admissions		Bed Occupancy Rate (%)	Average Length of Stay (Days)
									per 10,000 Population	per Bed		
BRUNEI	1994	T	361	28	1,125	56	T	28	1,125	41	56	5.1
INDONESIA <sup>(1)</sup>	1993	G	1,662	6.0	185.9	54.6	G	3.0	104.7	35.1	56.6	6.0
JAPAN	1994	T	74.6	134.1	894.3	83.1	T	112.2	880.3	7.8	80.8	37.6
MALAYSIA <sup>(2)</sup>	1994	G	586.2	17.1	716.9	60.6	G					
Peninsular Malaysia			586.8	17.0	702.2	58.9						
Sabah			596.0	16.8	825.9	61.5						
Sarawak			572.8	17.5	742.3	57.7						
PHILIPPINES <sup>(3) a)</sup>	1994	T	1,775	5.6	130.9	84.9	T					
SINGAPORE <sup>b)</sup>	1994	T	281	35.6	1,020.6	79.2	T	19.7	869.2	50.9	77.5	5.2
THAILAND <sup>(4)</sup>	1994	T	536	18.2	969.2	72.0	T	15.9	938.5	58.9	72.0	4.5

Source: Ministry of Health in each country

(1) Directorate of Medical Care, Ministry of Health

(2) Information and Documentation System Unit

(3) Hospital Operation &amp; Management Services

(4) Health Statistics Division

Note: Type of hospitals

T = Total

G = Government hospital establishments

a) Refer to data from 36 DOH retained tertiary hospitals

b) Refer to Singapore residents population only

## 8-4 Hospital Utilization by Category of Hospital (Contd.)

	Year	District Hospitals						Tuberculosis Hospitals					
		Type	Bed per 10,000 Population	Admissions		Bed Occupancy Rate (%)	Average Length of Stay (Days)	Type	Bed 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	1994				..						..		
INDONESIA <sup>(1)</sup>	1993	G	2.1	70.8	33.3	48.5	5.0	G	0.0	0.4	11.3	51.1	16.0
JAPAN	1994				..			T	0.0	0.1	1.2	75.6	222.4
MALAYSIA <sup>(2)</sup>													
Peninsular									0.1	1.3	21.6	41.9	7.0
Malaysia								G	0.1	1.6	21.6	41.9	7.0
Sabah									—	—	—	—	—
Sarawak									—	—	—	—	—
PHILIPPINES <sup>(3)</sup>	1994				..								
SINGAPORE	1994				..						..		
THAILAND <sup>(4)</sup>	1994	G	3.0					T	0.1				

Mental Hospitals						Maternity Hospitals					
Type	Bed per 10,000 Population	Admissions		Bed Occupancy Rate (%)	Average Length of Stay (Days)	Type	Bed 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	0.4	1.7	3.9	79.7	79.0	G	0.1	4.5	34.2	38.7	4.0
T	21.2	13.9	0.7	95.8	529.3	..					
G	2.9	5.0	1.7	72.5	160.0	..					
	3.2	4.9	1.5	72.2	174.5						
	1.8	7.3	4.1	53.5	53.9						
	1.8	4.2	2.3	93.7	161.2						
Special	0.4	0.7	1.6	59.9	95.4	Tertiary	0.4	4.1	58.3	97.8	3.9
T	<sup>a)</sup> 10.6	<sup>a)</sup> 20.7	2.3	86.3	128.9	T	<sup>a)</sup> 1.8	<sup>a)</sup> 114.7	75.3	73.3	3.6
T	1.4					T	0.2				

Note : a) Refer to Singapore residents population only

## **9. Human Resources for Health**



## 9 - A Definition of Medical Personnel (WHO)

	Definition
1. Physicians High (university) level	All graduates of a medical school or faculty actually working in your country in any medical field (practice, teaching, administration, research, laboratory, etc).
2. Medical Assistants Middle level	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. Multipurpose Health Auxiliaries Basic level	Personnel who may have no more than elementary general education and a few months of inservice training and who provide basic health services at the village level.
4. 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 your country in any dental field. (b) Personnel qualified from a dental school of non-university level and licensed to practice dentistry in your country.
5. Dental Operating Auxiliaries	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.
6. Dental Non-operating Auxiliaries (a) Dental laboratory technicians (b) Dental chairside assistants	Dental non-operating auxiliaries who assist dentists and dental operating auxiliaries 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.

	Definition
7. Pharmacists / Chemists, High (university) level	All graduates of a faculty or school of pharmacy actually working in your country in pharmacies, hospitals, laboratories, industry, etc.
8. Pharmaceutical Assistants Middle level	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 High (university) level	All graduates of a faculty or school of veterinary medicine actually working in your country in any field of veterinary activity, including teaching and public health.
10. Animal Health Assistants Middle level	Personnel carrying out limited diagnostic, preventive, and curative veterinary services. These personnel have no veterinary education of university level.
11. Professional Midwives, High level (a) Non-nurse midwives (b) Nurse-midwives	All graduates of a midwifery school actually working in your country in any field of midwifery (practice in institutions and community health services, teaching, administration, private practice, etc.)
12. Assistant Midwives / Auxiliary Midwives Middle level	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. Auxiliary Nurse-midwives Middle level	Personnel performing certain nursing duties and midwifery duties in normal obstetrics, in principle under the supervision of a professional nurse or midwife. These personnel have simpler education and training in nursing and midwifery than that the professional nurse-midwife.

	Definition
14. Professional Nurse High level	All graduates of a nursing school working in your country in any nursing field (general nursing, specialized clinical nursing services in mental health, pediatrics, cardiovascular diseases, etc.—public health or occupational health, teaching, administration, research, etc.). These personnel are qualified and authorized to provide the most responsible and competent professional nursing service.
15. Assistant Nurses / Auxiliary Nurses Middle level	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.
16. Nursing and Midwifery Aids Basic level	Personnel performing specified non-technical tasks in institutions or community health services under nursing supervision. These personnel usually have on-the-job or short training.
17. Physiotherapists / Physical therapists	Professional personnel treating patients by exercise, physical means, and massage, usually as prescribed by a physician.
18. Medical Laboratory Technicians High level	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.
19. Assistant Medical Laboratory Technicians Middle level	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.

	Definition
20. Medical Physicists High (university) level	All graduates of a university or faculty of natural science with qualification in physics and mathematics and special education and training in the field of medical physics.
21. Medical Radiological Technicians High level technicians	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. If possible, indicate the distribution of medical activity: (a) MRT (General) (b) MRT (Diagnosis) (c) MRT (Therapy)
22. Assistant Medical Radiological Technicians Middle level technicians	Auxiliary medical radiological personnel working under the direct supervision of a medical radiological technician or under a specialist or physician. 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.
23. Sanitary engineers High (university) level	
24. Sanitarians High level technicians	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.
25. Auxiliary Sanitarians Middle level technicians	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.

	Definition
26. Other Scientific or Professional Personnel examples: Biochemists Biologists Entomologists Psychologists Nutritionists Dietitians Occupational therapists Speech therapists Other special therapists Health educators Health statisticians, Medical record librarians	Scientific (university) or professional personnel working in the health field, but not classifiable under previous items (e.g., excluding physicians).
27. Other Technical Personnel examples: Cardiology technicians Encephalographers Opticians Orthopedic technicians Hearing aid technicians Health statistical technicians Medical records technicians	Technical personnel in the health field not classifiable under previous items.

	Definition
28. Other Health Auxiliaries and Aides examples: Microscopist Laboratory aides Darkroom assistants	Health auxiliaries not classifiable under previous items, who generally have not more than primary general education and an elementary technical training by apprenticeship or in-service training.
29. Practitioners of Traditional Medicine / Midwifery examples: Herb doctors Ayurvedic doctors Lay medical practitioners Medicine men Acupuncturists Traditional birth attendants	

9 - B Comparative Table on Medical Personnel

	Brunei (1993)	Indonesia (1994)	Japan (1994)	Malaysia (1994)			Philippines (1993)	Singapore (1994)	Thailand (1994)
				Peninsular Malaysia	Sabah	Sarawak			
1 Physicians	V	V	V	V	V	V	V	V	V
2 Medical assistants	V			V	V	V			V
3 Multipurpose health auxiliaries							V		
4 Dentists / Dental surgeons	V	V	V	V	V	V	V	V	V
5 Dental operating auxiliaries	V	V	V				V	V	V
6 Dental non-operating auxiliaries		V						V	V
7 Pharmacists / Chemists	V	V	V	V	V	V	V	V	V
8 Pharmaceutical assistants	V	V		V	V	V		V	V
9 Veterinarians / Veterinary surgeons	V		V				V	V	V
10 Animal health assistants								V	V
11 Professional midwives	V	V	V	V	V	V	V	V	V
12 Assistant midwives / Auxiliary midwives	V								
13 Auxiliary nurse-midwives	V								V
14 Professional nurses	V	V	V	V	V	V	V	V	V
15 Assistant nurses / Auxiliary nurses	V		V	V	V	V		V	V
16 Nursing and midwifery aids		V					V		
17 Physiotherapists / Physical therapists	V	V	V	V	V	V	V	V	V
18 Medical laboratory technicians	V	V	V	V	V	V	V	V	V
19 Assistant medical laboratory technicians	V	V	V	V	V	V		V	V
20 Medical physicists	V						V		
21 Medical radiological technicians	V	V	V				V	V	V
22 Assistant medical radiological technicians	V		V						V
23 Sanitary engineers		V		V	V	V	V	V	V
24 Sanitarians	V	V					V	V	V
25 Auxiliary sanitarians	V							V	

## 9 – B Comparative Table on Medical Personnel. (Contd.)

	Brunei (1993)	Indonesia (1994)	Japan (1994)	Peninsular Malaysia	Malaysia (1994) Sabah	Sarawak	Philippines (1993)	Singapore (1994)	Thailand (1994)
26 Other scientific or professional personnel	V							V	V
27 Other technical personnel								V	
28 Other health auxiliaries and aides								V	V
29 Practitioners of traditional medicine/midwifery									V
30 Dental nurses		V		V	V	V		V	
31 Nurses including nurse-midwives		V						V	V
32 Orthopedic technicians		V							
33 Malaria field officers							V		V
34 Health statistics technicians	V			V					V
35 Medical statisticians	V			V					V
36 Dental hygienists		V	V				V		V
37 Trained or rural midwives							V		
38 Traditional birth attendants							V		
39 Laboratory aids							V		V
40 Sanitary inspectors		V					V		
41 Medical social workers	V		V	V	V	V	V	V	V
42 Dental practitioners								V	
43 Veterinary assistants								V	V
44 Nurse-midwives		V							V
45 Dental technicians				V	V	V		V	
46 Dispensers		V						V	
47 Assistant nurse-midwives		V							
48 Nurses		V	V	V	V	V	V	V	V
49 Occupational therapists	V	V	V	V	V	V	V	V	V

	Malaysia (1994)								
	Brunei (1993)	Indonesia (1994)	Japan (1994)	Peninsular Malaysia	Sabah	Sarawak	Philippines (1993)	Singapore (1994)	Thailand (1994)
50 Dietitians	V	V					V	V	V
51 Radiographers	V	V		V	V	V		V	
52 X-ray assistant technicians	V								
53 Health inspectors	V	V		V	V	V		V	
54 Assistant health inspectors		V		V	V	V		V	
55 Biochemists	V								V
56 Health educators	V	V					V	V	V
57 Midwives		V	V	V	V	V	V	V	
58 Microscopists	V								V
59 Health assistants	V								
60 Entomologists	V						V		V
61 Dental surgery assistants				V	V	V			
62 Nutritionists		V	V	V	V	V	V		V
63 Darkroom assistants	V								

## 9-1 Medical and Allied Health Personnel

	Year	1. Physicians	2. Medical Assistants	3. Multi-purpose Health Auxiliaries	4. Dentists / Dental Surgeons	5. Dental Operating Auxiliaries	6. Dental Non-operating Auxiliaries	7. Pharmacists / Chemists
BRUNEI	1993	226	118	..	31	28	..	13
INDONESIA <sup>(1)</sup>	1994	31,410	..	..	7,836	<sup>a)</sup> 5,117		<sup>a)</sup> 6,011
JAPAN	1994	230,519	..	..	81,055	34,543	..	176,871
MALAYSIA <sup>(3)</sup>		8,831	3,968	..	1,712	..	..	1,510
Peninsular Malaysia	1994	8,060	2,799	..	1,568	..	..	1,376
Sabah		351	582	..	67	..	..	47
Sarawak		420	587	..	77	..	..	87
PHILIPPINES	1993	<sup>e)</sup> 79,936	..	174,195	<sup>e)</sup> 33,302	..	..	<sup>e)</sup> 40,485
SINGAPORE	1994	4,301	..	..	859	<sup>d)</sup> 241	<sup>d)</sup> 29	<sup>g)</sup> 773
THAILAND <sup>(4)</sup>	1994	14,098	428	..	2,984	1,607	2,592	5,575

Source: Ministry of Health in each country

(1) Personnel Bureau

(2) Livestock Industry Bureau, Ministry of Agriculture, Forestry and Fisheries

(3) *Establishment Book*, Information and Documentation System Unit(4) *Health Resources Report*, Health Information Division

Note: a) For 1993

b) For 1990

c) As of December 31, 1994

d) Government only

e) Cumulative total (Professional Regulation Commission)

f) DOH only

g) Pharmacists only

h) Entry used for calculation of population/nursing and midwifery personnel ratios

8. Pharmaceutical Assistants	9. Veterinarians / Veterinary Surgeons	10. Animal Health Assistants	11. Professional Midwives	12. Assistant Midwives / Auxiliary Midwives	13. Auxiliary Nurse-midwives	14. Professional Nurses	15. Assistant Nurses / Auxiliary Nurses	16. Nursing & Midwifery Aids
15	5	..	63	132	269	743	243	..
8,014 <sup>a)</sup>	..	..	51,067	..	..	96,427	..	38,770 <sup>b)</sup>
..	(2) c) 28,745	..	23,048	..	..	492,352	369,661	..
d) 1,682 1,410 138 134	..	..	d) 5,500 3,753 540 1,207	..	..	d) 13,224 11,034 1,185 1,005	d) 10,886 9,232 1,351 303	..
..	e) 3,769	..	e) 94,853	..	..	230,184	..	f) 5,178
177	d) 21	d) 131	507	..	..	h) 9,148	h) 2,575	..
2,642	762	1,682	10,342	..	13,165	51,058	29,880	..



## 9-1 Medical and Allied Health Personnel (Contd.)

	Year	17. Physiotherapists / Physical Therapists	18. Medical Laboratory Technicians	19. Assistant Medical Laboratory Technicians	20. Medical Physicists	21. Medical Radiological Technicians	22. Assistant Medical Radiological Technicians	23. Sanitary Engineers
BRUNEI	1993	9	59	36	76	4	14	..
INDONESIA <sup>(1)</sup>	1994	996	<sup>a)</sup> 284	6,303	..	615	..	4,568
JAPAN	1994	<sup>b)</sup> 11,402	<sup>b)</sup> 43,753	<sup>b)</sup> 3,152	..	<sup>b)</sup> 27,271	<sup>b)</sup> 1,125	..
MALAYSIA <sup>(2)</sup>		<sup>c)</sup> 207	<sup>c)</sup> 1,538	<sup>c)</sup> 1,173				<sup>c)</sup> 96
Peninsular Malaysia	1994	173	1,220	1,007	..	..	..	88
Sabah		16	144	53				4
Sarawak		18	174	113				4
PHILIPPINES	1993	2,621	2,771	..	<sup>e)</sup> 25	<sup>f)</sup> 927	..	<sup>g)</sup> 1,795
SINGAPORE	1994	<sup>c)</sup> 6	<sup>c)</sup> 123	<sup>c)</sup> 9	..	<sup>c)</sup> 21	..	<sup>c)</sup> 227
THAILAND <sup>(3)</sup>	1994	639	1,586	3,576	..	308	282	56

Source: Ministry of Health in each country

(1) Center for Manpower Education

(2) *Establishment Book*, Information and Documentation System Unit(3) *Health Resources Report*, Health Statistics Division

Note: a) For 1990

b) Hospitals only

c) Government only

d) Cumulative total (Professional Regulation Commission)

e) Health physicist only

f) Licensed as of 1990 of Department of Health

g) Department of Health only

24. Sanitarians	25. Auxiliary Sanitarians	26. Other Scientific or Professional Personnel	27. Other Technical Personnel	28. Other Health Auxiliaries and Aids	29. Practitioners of Traditional Medicine / Midwifery	30. Dental Nurses	31. Nurses including Nurse midwives	32. Orthopedic Technicians
23	18		..	..	..	..	..	..
3,652	..	..	..	..	..	6,329	119,598	a) 34
..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	e) 1,165 859 119 187	..	..
d) 2,362	..	..	..	..	..	..	..	..
e) 291	c) 315	e) 48	e) 13	e) 19	..	e) 310	11,723	..
661	..	..	..	..		..	..	..

## 9-1 Medical and Allied Health Personnel (Contd.)

	Year	33. Malaria Field Officers	34. Health Statistics Technicians	35. Medical Statisticians	36. Dental Hygienists	37. Trained or Rural Midwives	38. Traditional Birth Attendants	39. Laboratory Aids
BRUNEI	1993	..	3	1	..	..	..	..
INDONESIA <sup>(1)</sup>	1994	..	..	..	6,391	..	..	..
JAPAN	1994	..	..	..	48,659	..	..	..
MALAYSIA <sup>(2)</sup>			<sup>c)</sup> 9	<sup>c)</sup> 3				..
Peninsular Malaysia	1994	..	9	3	..	..	..	..
Sabah			..	..				..
Sarawak			..	..				..
PHILIPPINES	1993	<sup>d)</sup> 680	..	..	<sup>d)</sup> 6	<sup>e)</sup> 94,853	<sup>f)</sup> 35,543	<sup>g)</sup> 465
SINGAPORE	1994	..	..	..	..	..	..	..
THAILAND <sup>(3)</sup>	1994	<sup>a)</sup> 20,636	331	949	1,607	..	..	1,064

Source: Ministry of Health in each country

(1) Center for Manpower Education

(2) *Establishment Book*, Information and Documentation System Unit(3) *Health Resources Report*, Health Statistics Division

Note: a) For 1993

b) Hospitals only

c) Government only

d) Department of Health only

e) Cumulative total (Professional Regulation Commission)

f) As of June 1994

g) Excluding devolved

40. Sanitary Inspectors	41. Medical Social Workers	42. Dental Practitioners	43. Veterinary Assistants	44. Nurse-midwives	45. Dental Technicians	46. Dispensers	47. Assistant Nurse-midwives	48. Nurses
..	3	..	..	..	..	..	..	..
5,422	..	..	..	65,558	70	18,633	22,679 <sup>a)</sup>	93,849 <sup>a)</sup>
..	5,834 <sup>b)</sup>	..	..	..	..	..	..	862,013
..		..	..	..	357	..	..	13,224 <sup>c)</sup>
..		..	..	..	297	..	..	11,034
..		..	..	..	24	..	..	1,185
..		..	..	..	36	..	..	1,005
42 <sup>g)</sup>	171 <sup>g)</sup>	..	..	..	..	..	..	230,184 <sup>e)</sup>
..	23 <sup>c)</sup>	859	6 <sup>c)</sup>	..	29 <sup>c)</sup>	134 <sup>c)</sup>	..	11,723
..	744	..	1,682	3,263	..	..	..	80,938

## 9-1 Medical and Allied Health Personnel (Contd.)

	Year	49. Occupational Therapists	50. Dietitians	51. Radiographers	52. X-ray Assistant Technicians	53. Health Inspectors	54. Assistant Health Inspectors	55. Biochemists
BRUNEI	1993	8	8	6	18	23	..	14
INDONESIA <sup>(1)</sup>	1994	a) 667	8,564	908	..	5,407	7,268	..
JAPAN	1994	c) 4,808	..	..	..	..	..	..
MALAYSIA <sup>(2)</sup>		d) 80	..	d) 411	..	d) 1,164	d) 2,283	..
Peninsular Malaysia	1994	71	..	340	..	928	1,650	..
Sabah		5	..	22	..	126	304	..
Sarawak		4	..	49	..	110	329	..
PHILIPPINES	1993	239	e) f) 8,151	..	..	..	..	..
SINGAPORE	1994	d) 5	d) 6	d) 21	..	d) 291	d) 315	..
THAILAND <sup>(3)</sup>	1994	206	343	..	..	..	..	128

Source: Ministry of Health in each country

(1) Center for Manpower Education

(2) *Establishment Book*, Information and Documentation System Unit(3) *Health Resources Report*, Health Statistics Division

Note: a) For 1991

b) For 1990

c) Hospitals only

d) Government only

e) For 1992

f) Cumulative total (Professional Regulation Commission)

g) Department of Health only

56. Health Educators	57. Midwives	58. Microscopists	59. Health Assistants	60. Entomologists	61. Dental Surgery Assistants	62. Nutritionists	63. Darkroom Assistants
4	..	6	18	1	..	..	9
b) 78	39,637	..	..	..	..	4,008	..
..	23,048	..	..	..	..	c) 23,840	..
..	d) 5,500	..	..	..	d) 909	15	..
..	3,753	..	..	..	787	13	..
..	540	..	..	..	56	1	..
..	1,207	..	..	..	66	1	..
g) 80	94,853	..	..	g) 11	..	f) 8,151	..
d) 4	507	..	..	..	..	..	..
516	10,342	171	..	30	..	695	..

## 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	1993	8	1,223	1	8,913	1	21,254	4	2,342	36	280	53	191
INDONESIA	1994	1.6	6,121	0.4	24,530	0.3	32,116	..	..	5.0	1,993	7.7	1,291
JAPAN	1994	18.4	542	6.5	1,543	14.1	707	..	..	68.9	145	70.8	141
MALAYSIA Peninsular Malaysia Sabah Sarawak	1994	4.5	2,207	0.9	11,384	0.8	12,907	2.0	4,912	6.8	1,474	9.6	1,041
		5.1	1,978	1.0	10,165	0.9	11,584	1.8	5,695	6.9	1,445	9.3	1,078
		2.0	4,887	0.4	25,603	0.3	36,498	3.4	2,947	6.9	1,448	10.1	994
		2.3	2,207	0.4	23,832	0.5	21,093	3.2	3,126	5.5	1,826	12.1	830
PHILIPPINES <sup>(1)</sup>	1994	12.0	831	5.0	1,996	6.2	1,627	..	..	37.8	264	53	189
SINGAPORE <sup>a)</sup>	1994	14.7	681	2.9	3,411	2.6	3,791	..	..	40.0	250	41.7	240
THAILAND	1994	2.4	4,165	0.5	19,677	1.0	10,532	0.1	137,186	13.8	725	..	..

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

Note: a) Refer to residents population only

## 9-3 Number of Physicians

Year	1970	1975	1980	1985	1987	1988	1989	1990	1991	1992	1993	1994
BRUNEI					171				197		226	
INDONESIA <sup>(1)</sup>	3,578	8,279	12,931	19,875 <sup>(2)</sup>	22,053 <sup>(2)</sup>	23,367 <sup>(3)</sup>	24,823	25,752	25,754	27,652	29,450	31,410
JAPAN	118,990	132,479	156,235	NA	NA	201,658	NA	211,797	NA	219,704	NA	230,519
MALAYSIA <sup>(4)</sup>		2,757	3,858	4,939	5,794	6,274	6,577	7,012	7,198	7,719	8,279	8,831
Peninsular Malaysia	2,370	2,511	3,518	4,541	5,300	5,737	5,981	6,327	6,544	7,007	7,512	8,060
Sabah		104	141	174	225	252	277	291	298	331	352	351
Sarawak	80	142	199	224	269	285	319	349	356	381	415	420
PHILIPPINES <sup>(5)</sup>	31,515	37,276	50,848	58,015	63,340	65,893	68,682	72,593	74,008	77,127	79,936	82,494
SINGAPORE <sup>(6)</sup>	1,363	1,622	1,976	2,631	2,939	3,162	3,397	3,573	3,779	3,962	4,146	4,301
THAILAND <sup>(7)</sup>	5,407	5,005	6,867	8,650	9,580	11,260	12,713	12,520	12,803	13,398	13,634	14,098

Source: Ministry of Health in each country

(1) *The Health Situation of Indonesia*, Ministry of Health

(2) Personnel Bureau 1987

(3) Personnel Bureau 1989

(4) Medical Council, Ministry of Health

(5) Professional Regulation Commissioner, Registered

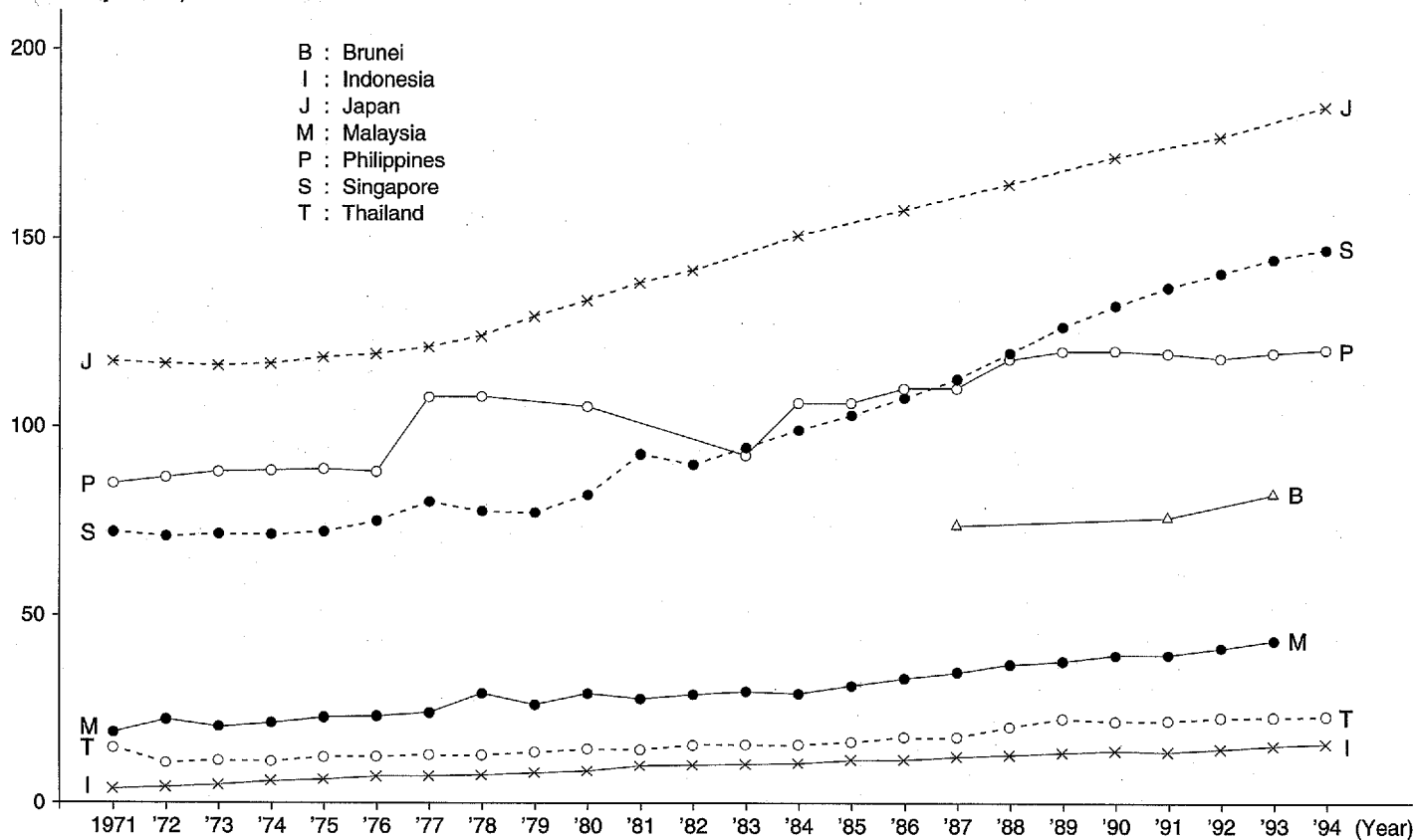
(6) *Yearbook of Statistics, Singapore 1994*

(7) Health Statistics Division, Ministry of Public Health



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

(Number of Physicians)



## 9-4 Number of Dentists

Year	1970	1975	1980	1985	1987	1988	1989	1990	1991	1992	1993	1994
BRUNEI					31				27		31	
INDONESIA <sup>(1)</sup>	452		1,681	4,237 <sup>(2)</sup>	4,583 <sup>(2)</sup>	4,907	5,290	5,545	6,176	6,753	7,231	7,836
JAPAN	37,859	43,586	53,602	NA	NA	70,572	NA	74,028	NA	77,416	NA	81,055
MALAYSIA <sup>(3) a)</sup>		433	691	1,041	1,220	1,288	1,401	1,471	1,501	1,562	1,606	1,712
Peninsular Malaysia	15	9	630	949	1,106	1,183	1,289	1,343	1,359	1,424	1,463	1,568
Sabah			25	36	51	47	49	56	63	59	63	67
Sarawak			36	56	63	58	83	72	79	79	80	77
PHILIPPINES <sup>(4)</sup>	12,174	13,096	15,158	21,148	23,724	24,814	26,937	28,204	30,354	32,093	33,302	34,379
SINGAPORE <sup>(5)</sup>	398	419	485	604	654	688	740	776	784	806	839	859
THAILAND	683	652	1,169	1,451	1,468	1,670	2,107	2,285	2,408	2,669	2,786	2,984

Source : Ministry of Health in each country

Note : a) As of December 31

(1) *The Health Situation of Indonesia*, Ministry of Health

(2) Personnel Bureau, 1987

(3) Dental Council

(4) Professional Regulation Commissioner, Registered (cumulative)

(5) Ministry of Health

## 9-5 Number of Pharmacists

Year	1970	1975	1980	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
BRUNEI						9				10		13	
INDONESIA <sup>(1)</sup>	1,486	1,847	3,013	4,268 <sup>(2)</sup>	4,513	4,814 <sup>(2)</sup>	5,085 <sup>(2)</sup>	5,207	5,399	5,345	5,592	5,762	5,985
JAPAN	79,393	94,362	116,056	NA	135,990	NA	143,429	NA	150,627	NA	162,021	NA	176,871
MALAYSIA		258	488	843 <sup>(3)</sup>	963	1,050 <sup>(3)</sup>	1,084	1,170	1,239	1,214	1,351	1,324	1,510
Peninsular Malaysia				732	828	929	956	1,018	1,125	1,079	1,221	1,184	1,376
Sabah			17 <sup>(4)</sup>	64	84	64	70	80	45	50	42	52	47
Sarawak				47	51	57	58	72	69	85	88	85	87
PHILIPPINES <sup>(5)</sup>	19,076	20,838	23,225	26,440	25,088	27,493	27,732	28,764	29,612	30,971	32,126	33,233	34,854
SINGAPORE <sup>(6)</sup>	245	288	368	436	454	487	526	557	587	629	677	720	773
THAILAND <sup>(7)</sup>	1,407	1,913	2,650	3,376	2,990	3,622	3,681	3,825	4,163	4,333	4,609	4,721	5,575

Source: Ministry of Health in each country

(1) *The Health Situation of Indonesia*, Ministry of Health

(2) Directorate General, Food & Drugs Control, Ministry of Health

(3) Pharmacy Board, Ministry of Health

(4) *Annual Report, Medical Department, Sabah, 1982*

(5) Professional Regulation Commissioner, Registered (cumulative)

(6) *Yearbook of Statistics, Singapore 1994*

(7) Health Information Division, Ministry of Public Health

## 9-6 Number of Midwives

Year	1970	1975	1980	1985	1987	1988	1989	1990	1991	1992	1993	1994
BRUNEI					185				407		464	
INDONESIA <sup>(1)</sup>	3,752	10,720	16,472			15,393	18,439 <sup>(2)</sup>	22,405 <sup>(3)</sup>	29,869	36,187	42,518	52,430
JAPAN	28,087	26,742	25,867	NA	NA	23,320	NA	22,918	NA	22,690	NA	23,048
MALAYSIA <sup>(4)</sup>					<sup>(5) a)</sup> 5,256	5,389	5,509	5,492	5,543	5,476	5,508	5,500
Peninsular Malaysia		3,767	5,002 <sup>(4)</sup>	5,673	3,819	3,883	3,913	3,921	3,970	3,853	3,836	3,753
Sabah					444	472	499	793	511	521	536	540
Sarawak				970	993	1,034	1,089	1,078	1,062	1,102	1,136	1,207
PHILIPPINES <sup>(6)</sup>	16,082	18,528	42,114	55,841	60,169	63,094	66,621	71,092	77,773	85,172	94,849	102,875
SINGAPORE <sup>(7)</sup>	1,058	930	779	623	588	569	550	543	529	530	522	507
THAILAND <sup>(8)</sup>	4,203	6,335	8,669	7,716	8,934	11,122	11,354	10,796	10,582	10,492	10,525	10,342

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 Kepegawalan, Data Jumlah yang bekerja di Depkes

(4) Nursing Board, Ministry of Health

(5) Division II, Midwives &amp; Jururawat Desa

(6) Professional Regulation Commissioner, Registered (cumulative)

(7) *Yearbook of Statistics, Singapore 1994*

(8) Health Information Division, Ministry of Public Health

Note: a) Government only

## 9-7 Number of Nurses

Year	1970	1975	1980	1985	1987	1988	1989	1990	1991	1992	1993	1994
BRUNEI					779				739		743	
INDONESIA <sup>(1)</sup>		9,856	20,201		20,340	32,977	42,024	50,350	53,308	65,805	78,290	96,427
JAPAN	273,572	361,604	487,169	NA	NA	694,999	NA	745,301	NA	795,810	NA	862,013
MALAYSIA <sup>(2)</sup>				21,036					23,753	12,789	11,961	13,224
Peninsular Malaysia			15,392	19,479	21,340	22,020	22,752	23,308		10,874	9,985	11,034
Sabah				779						1,039	1,047	1,185
Sarawak				778						876	929	1,005
PHILIPPINES <sup>(3)</sup>	38,918	64,165	114,657	148,514	155,747	160,657	165,012	174,112	183,277	199,263	230,187	259,629
SINGAPORE <sup>(4)</sup>	4,304	5,767	7,545	8,393	8,723	8,957	9,237	9,695	10,233	10,633	11,127	11,723
THAILAND <sup>(5)</sup>	15,387	18,993	18,483	38,683	45,038	51,091	36,652	60,672	63,974	73,319	73,684	80,938

Source : Ministry of Health each country

(1) Personal Bureau, Ministry of Health

(2) Nursing Board, Ministry of Health

(3) Professional Regulation Commissioner, Registered (cumulative)

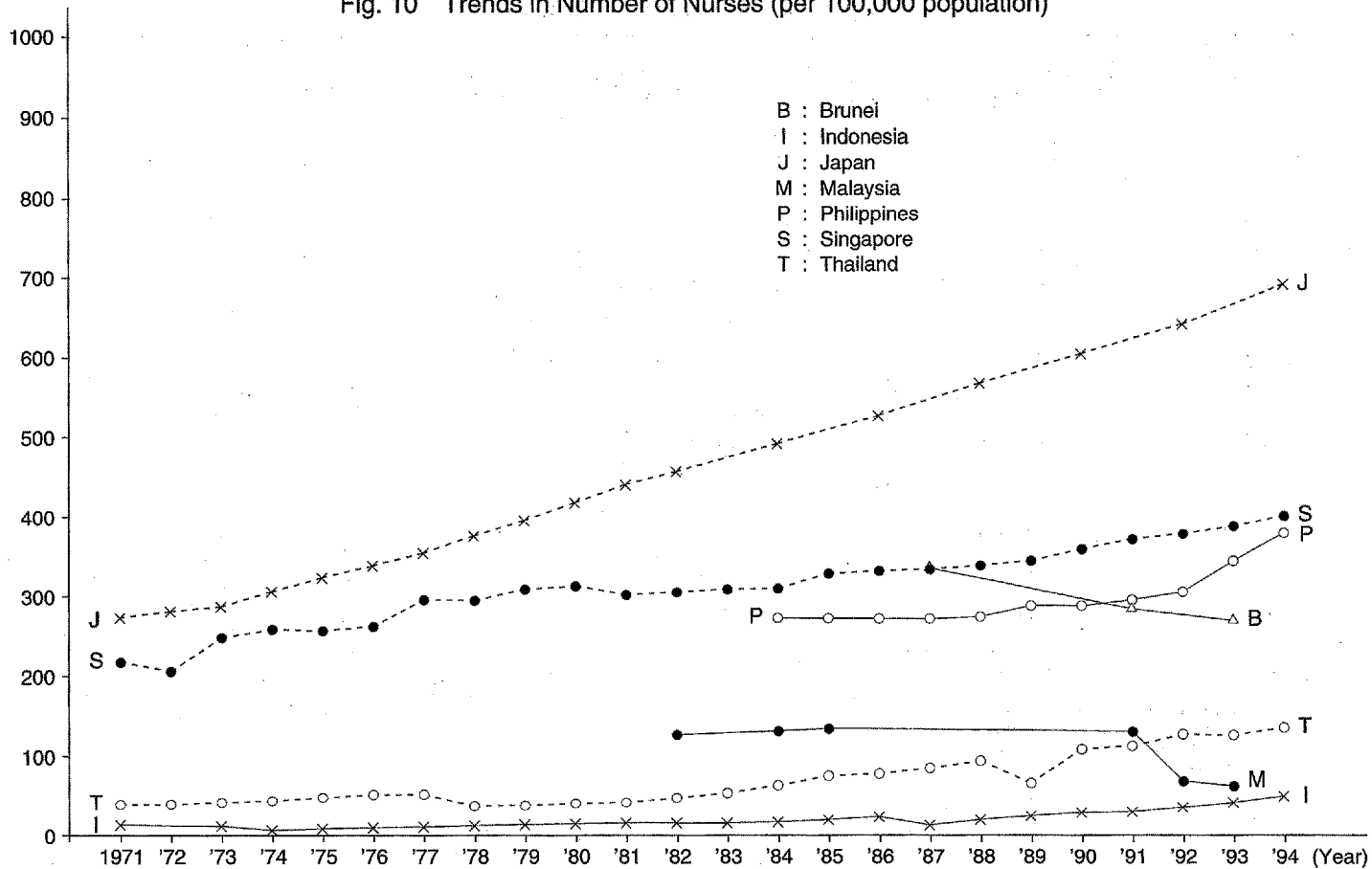
(4) *Yearbook of Statistics, Singapore 1994*

(5) Health Information Division, Ministry of Public Health

(Number of Nurses)

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

B : Brunei  
I : Indonesia  
J : Japan  
M : Malaysia  
P : Philippines  
S : Singapore  
T : Thailand



## 9-8 Situation of Medical Schools

	Academic Year	Number of Medical Schools	Duration of Studies	Total Enrolment	Admissions	Graduates
BRUNEI		—				
INDONESIA <sup>(1)</sup>	1994	30	6 years			1,960
JAPAN <sup>(2) a)</sup>	1994	80	6 Years	48,728	7,579	8,186
MALAYSIA <sup>(3)</sup>	1993 / 1994	3	5 Years	2,094		
PHILIPPINES <sup>(4)</sup>	1992 / 1993	28	Pre-Med-4 Years Proper-4 Years Intern-1 Years	9,722	3,178	2,300
SINGAPORE <sup>(5)</sup>	1994 / 1995	1	5 Years	b) 715 c) 37	b) 138 c) 12	b) 132 c) 9
THAILAND <sup>(6)</sup>	1993	9	7 Years			841

Source : (1) Consortium Medical Service  
 (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

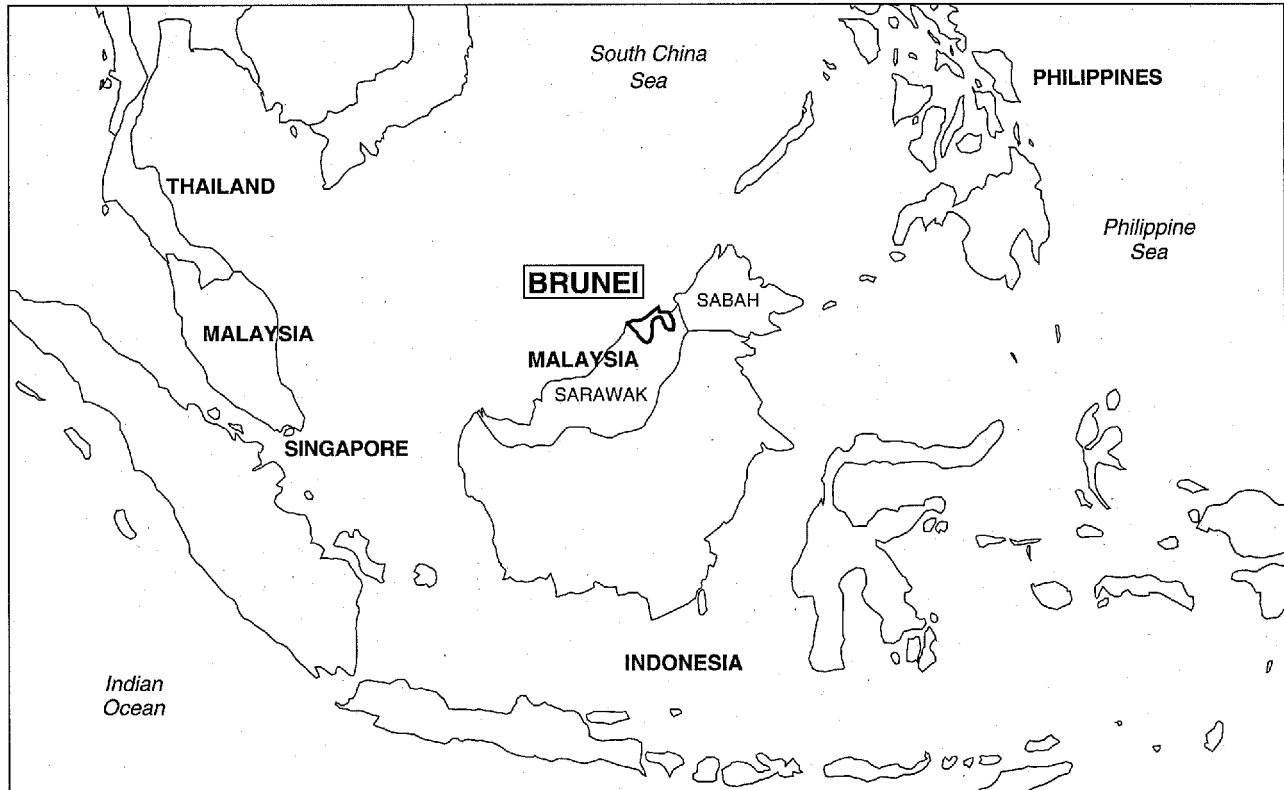
Note : a) Data on May 1, 1993  
 b) Singaporeans  
 c) Non-Singaporeans

## **Part II**

# **An Outline of Health Statistics in SEAMIC Countries**



# Negara Brunei Darussalam



# Negara Brunei Darussalam

## 1. Population and Vital Statistics

### (1) *Background Information*

The main sources of information on population and vital statistics of Brunei are censuses and compulsory vital registration of births and deaths. The first census took place in 1911 and the last decennial census was conducted in 1991. Midyear population estimates are made for the intercensal years based on the 1991 census figures.

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) *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 es-

sential 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.

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

#### *Births*

- (a) Number, sex, race, urban/rural, month and rate;

- (b) Number and district/registration area;
- (c) Crude birth rate.

#### *Deaths*

- (a) All deaths: Number, age, sex, race, nationality, month, rate and causes;
- (b) Number and district/registration area;
- (c) Infant deaths: Number, age, sex, district/registration area, rate and causes;
- (d) Neonatal deaths: Number, sex, district/registration area, rate and causes;
- (e) Early neonatal deaths: Number, sex, district, rate and cause;
- (f) Stillbirths: Number, sex, rate and district/registration area;
- (g) Perinatal deaths: Number, sex, rate and district/registration area;
- (h) Maternal deaths: Number, rate and district/registration area;
- (i) Crude death rate;
- (j) Causes of death by age and sex (coding based on ICD-9).

#### *(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.

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.

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

## 2. 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 diseases 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 sources 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.

## 3. 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 con-

trol and vector control), port health, diseases 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.

#### **4. 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.

#### **5. 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 in April 1991 and was put into operation by the Ministry of Health. Regular meetings have been held ever since, at which the performance of the programme activities is monitored.

## 6. 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.

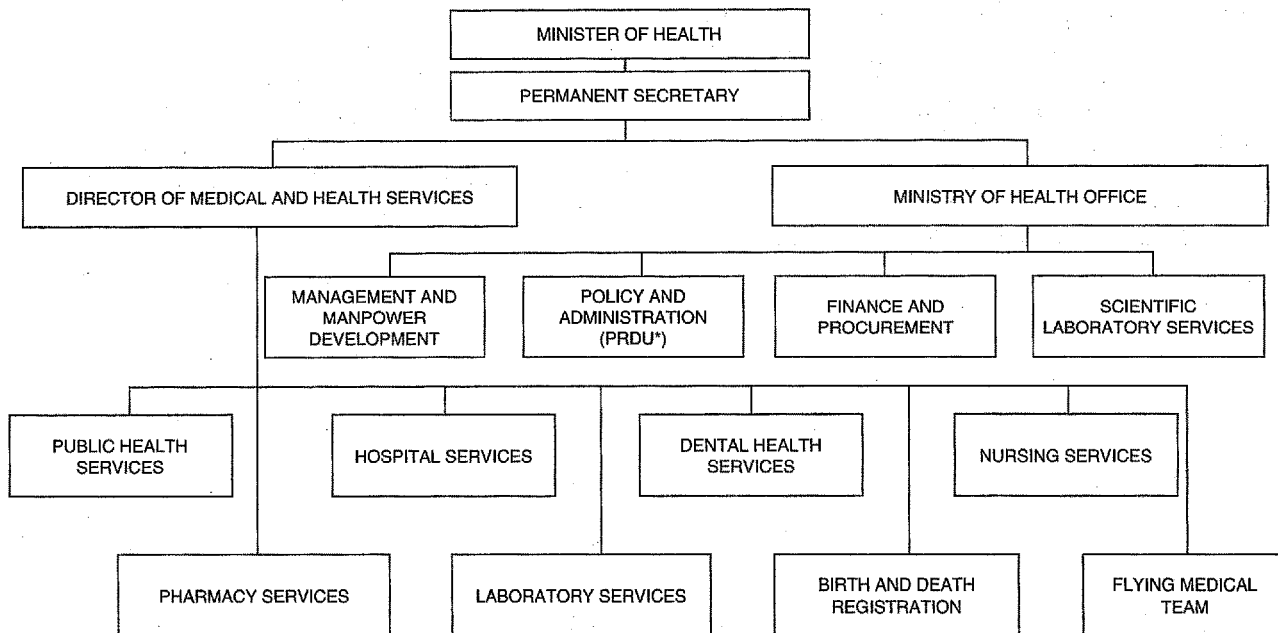
### *(3) Coverage*

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

### *(4) The Plan*

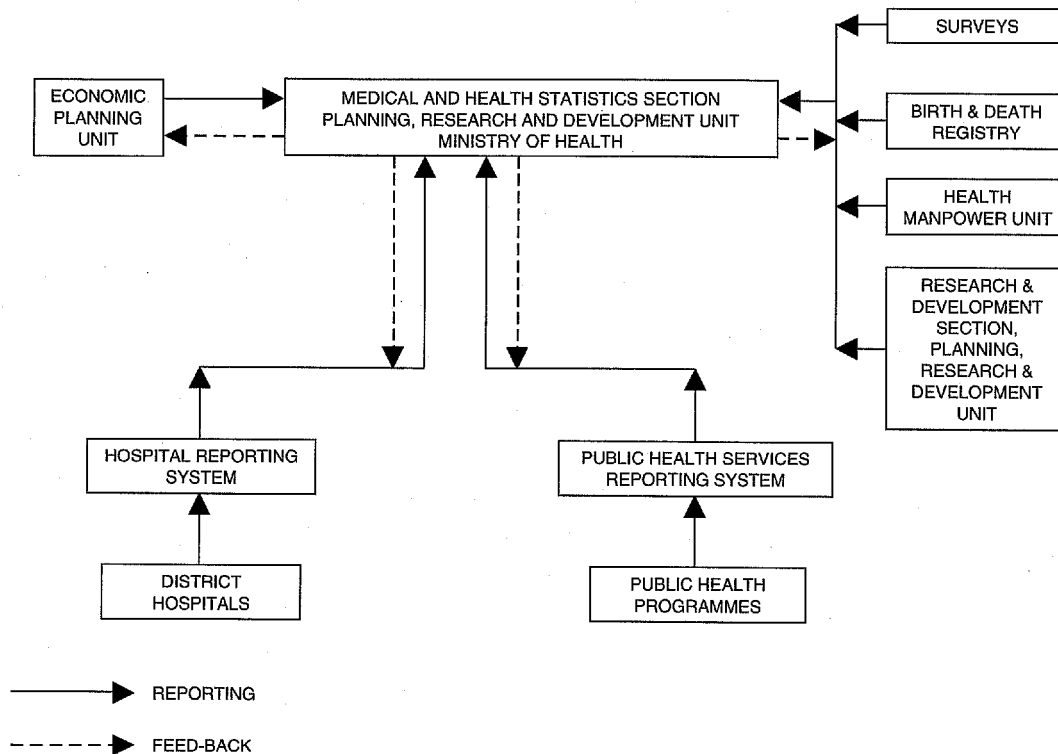
The Manpower Development and Management Unit and the Research and Development Section, PRDU are planning to develop a comprehensive health manpower information system.

**Ministry of Health  
Negara Brunei Darussalam**



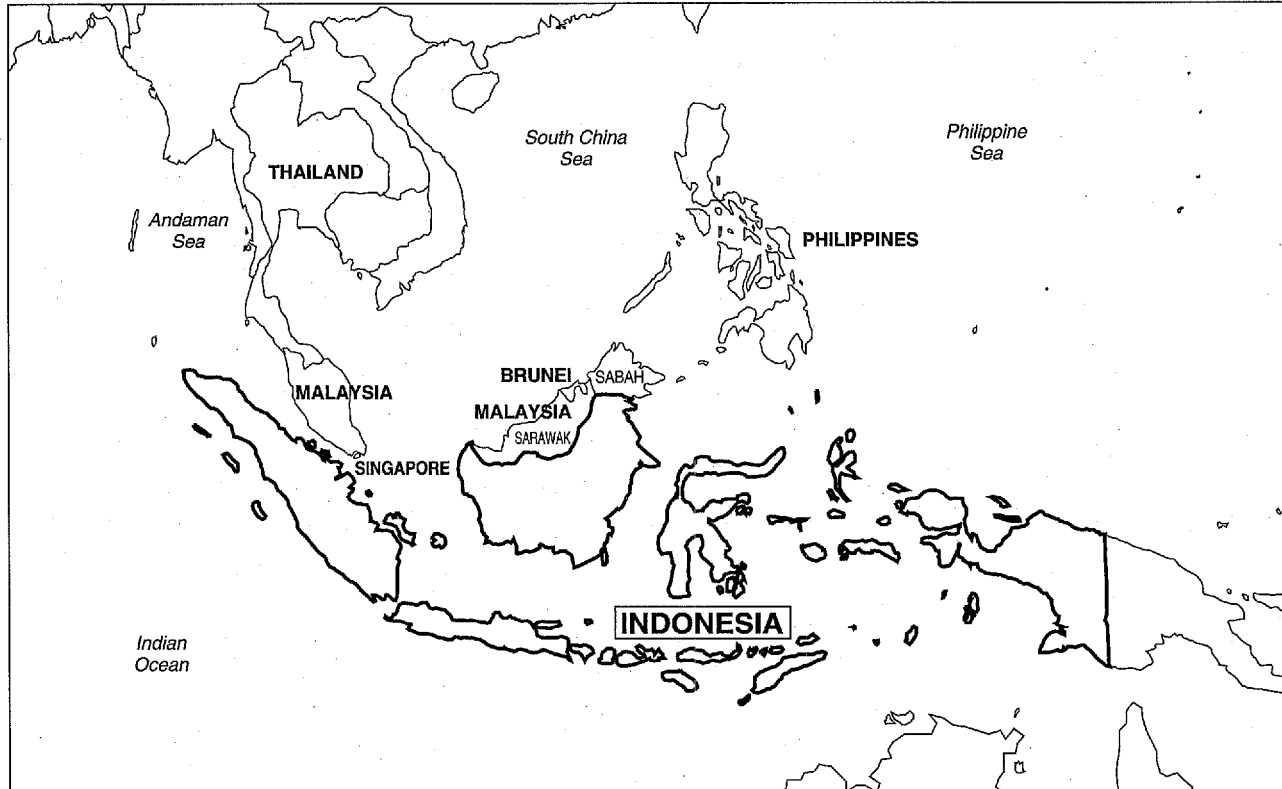
\*PRDU = Medical & Health Statistics Section, Planning, Research & Development Unit

### Existing Flow of Health Information





# Indonesia



# 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 census 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 already 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 ad-

ministrative 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 sub-district levels, respectively.

## 4. 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.

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.

## **5. 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 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.

## **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 Health Data Centre 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 hos-

pitals, 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.

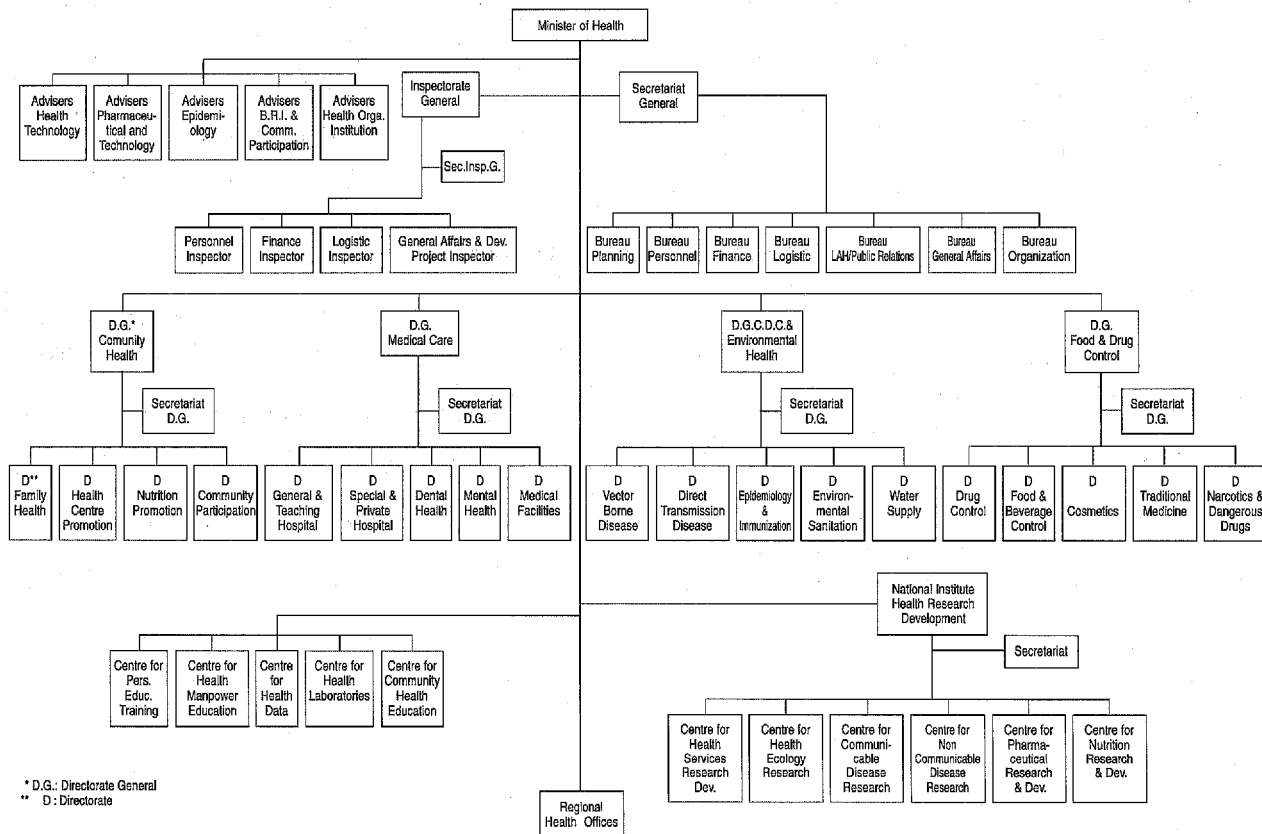
Every medical school should report the number of students in every class and also the number of graduates every year.

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

*(Data Centre, Ministry of Health)*

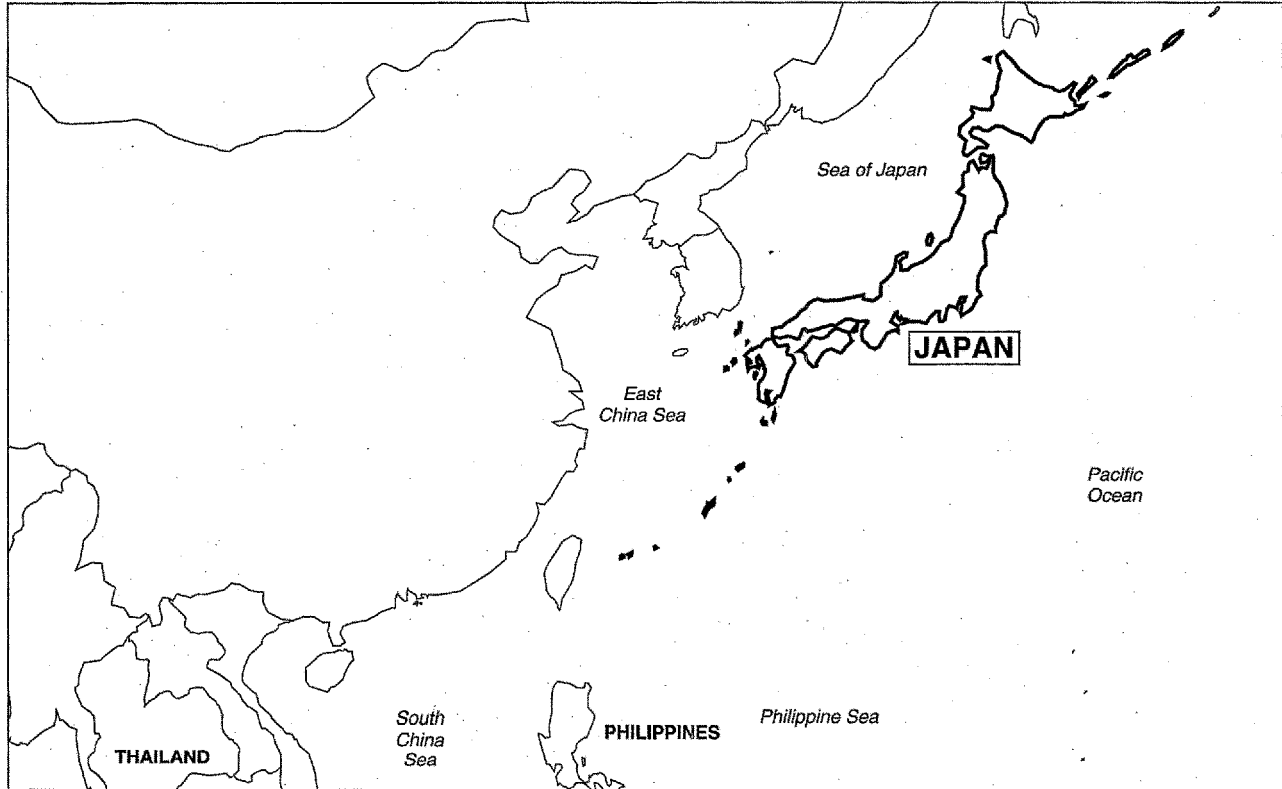


## Organization Structure Ministry of Health, Indonesia



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

# Japan



# 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.

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

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 1995 Population Census was taken as a simplified census.

### (2) *Purpose*

To provide data on the present 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 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 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 kinds of publication:

#### 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.

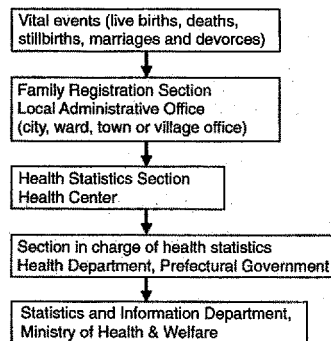
b. Monthly Report on Vital Statistics

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

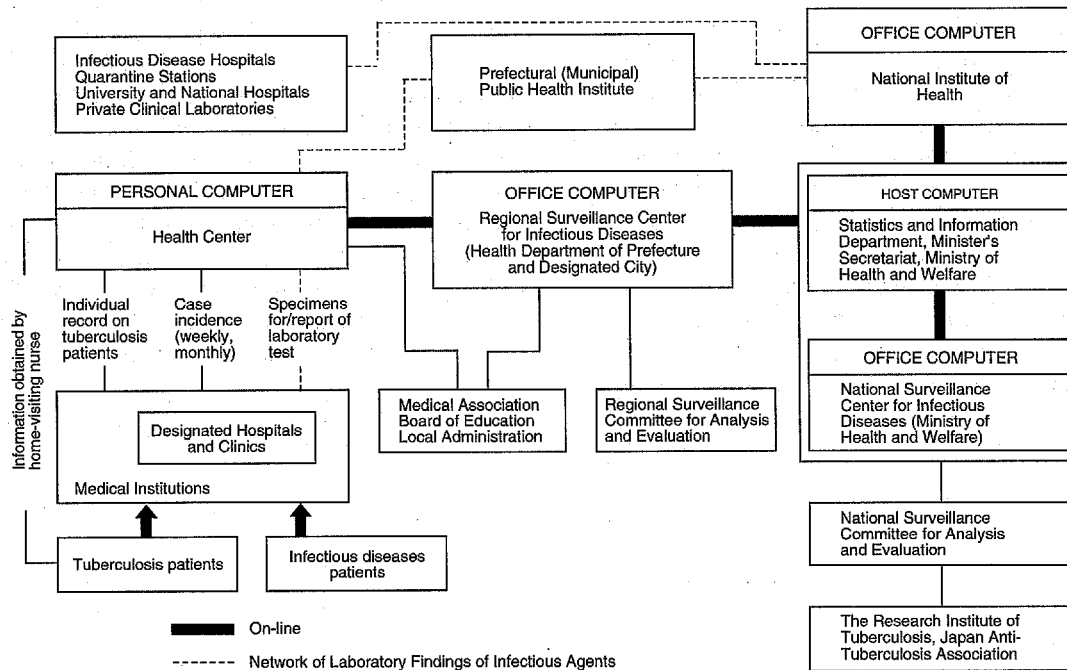
1. Reporting.
2. Report accepted after scrutiny.
3. Vital statistics schedules prepared.
4. The schedules forwarded to the Health Centers immediately.
5. Entire schedules examined.
6. The schedules submitted to the Prefectural Government before the 25th of every month.
7. The schedules examined.
8. The 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 as well as 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 (A, B, non-A, non-B), 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 1993 survey, about 7,000 hospitals, 6,000 general clinics and 1,000 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

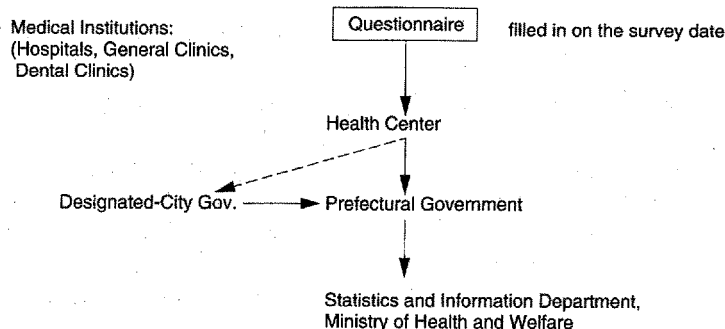
### (6) Data Collection Procedure

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.

## Patient Survey



## 5. 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**

Prefectural Government  
or  
Designated-City Government

Reporting forms

filled in monthly, quarterly or annually



Statistics and Information Department,  
Ministry of Health and Welfare

## 6. 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

In a detailed survey which is conducted every 3 years, 5,240 census enumeration districts are randomly sampled after stratification, and all households and household members in those districts are surveyed. The sample comprises approximately 260,000 households and 800,000 household members. A brief survey is conducted in each intermediate year 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 (the 1994 survey which was a detailed one)

#### (i) Questionnaire on Household

- a. Number of household members
- b. Sex
- c. Date of birth
- d. Condition of disabled person(s)
- e. Occupational status
- f. Social insurance, pension system

#### (ii) Questionnaire on Health

- a. Activities of daily living (ADL)
- b. Symptoms
- c. Daily activities for health
- d. Medical consultation

#### (iii) Questionnaire on Income

- a. Status of income
- b. Tax and social welfare

#### (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 Statis-

tics 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.

## **7. Census on Medical Care Institutions**

### *(1) History*

Before the formal establishment of the Survey on 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 survey on medical care institutions was conducted in 1948, some improvements in the survey method and data collection procedure were made and they resulted in the establishment of the Survey on Medical Care Institutions, which has been conducted on a regular basis since 1953.

In 1973, a major modification in the structural arrangement and procedure was made, dividing the survey 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 is only for 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 or suspension)
- e. Number of beds, by type of disease
- f. Specialty
- g. Others

(6) *Data Collection Procedure*

The questionnaire filled in by a 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 on Medical Care Institutions

### A. Main Detailed Survey

Manager of hospital or clinic:  
(Physician or Dentist)

Questionnaire

filled in as of the 1st day of October\*  
every three years

Health Center

Designated-City Gov.

Prefectural Government

Statistics and Information Department,  
Ministry of Health and Welfare

\* 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

Owner establishing hospital or clinic:

A reporting form and an application for a license

filled in

Prefectural Government:  
(Governor)

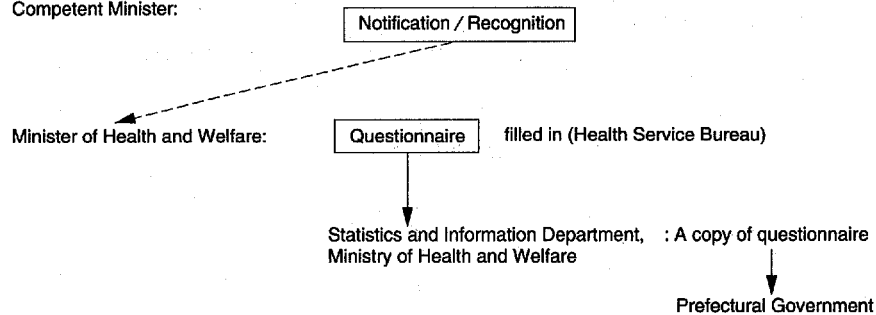
Questionnaire

filled in

Statistics and Information Department,  
Ministry of Health and Welfare

B-2. Medical Institutions established by the central government

Competent Minister:





## 8. 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 of 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.

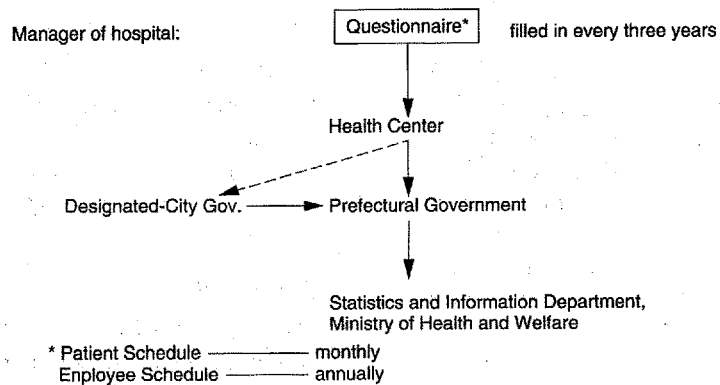
### (5) Data Collection Procedure

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



## 9. 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

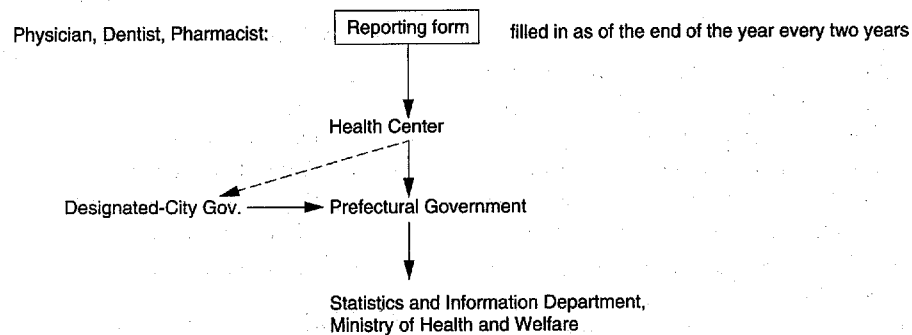
The report form filled in by each professional is submitted to the health center. At the health center, editing work is done and the report is sent to the Statistics and Information Department via the prefectural government.

### (7) Tabulation and Publication

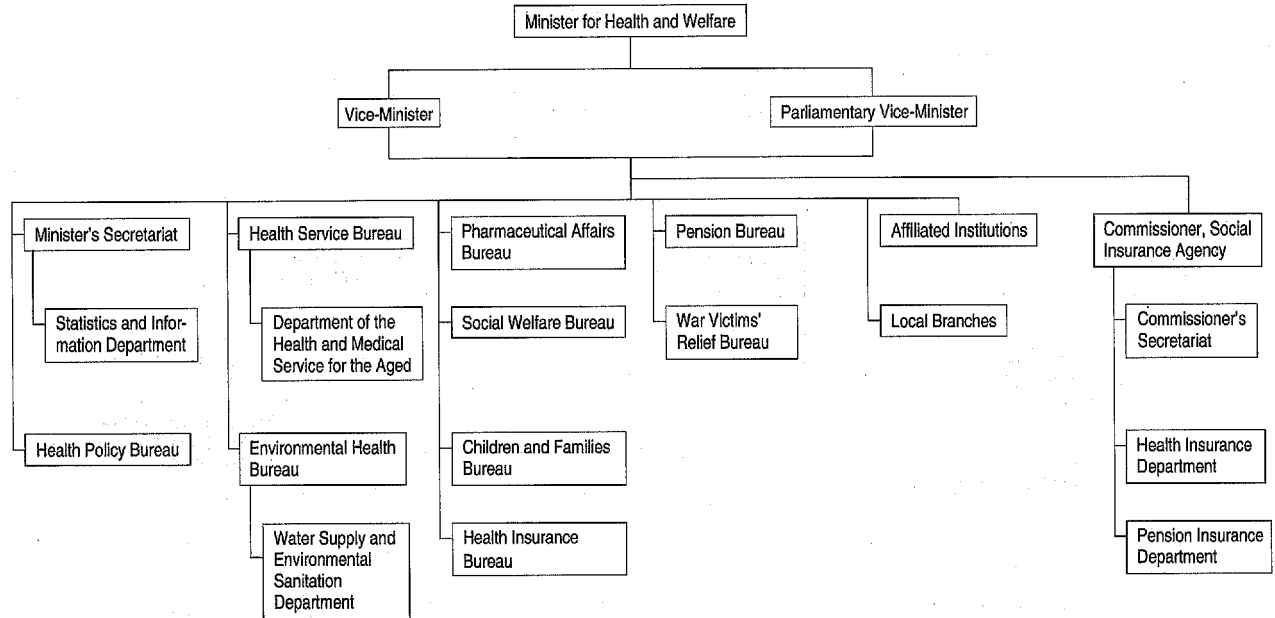
The Statistics and Information Department takes charge of the tabulation and releases the results through publications.

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

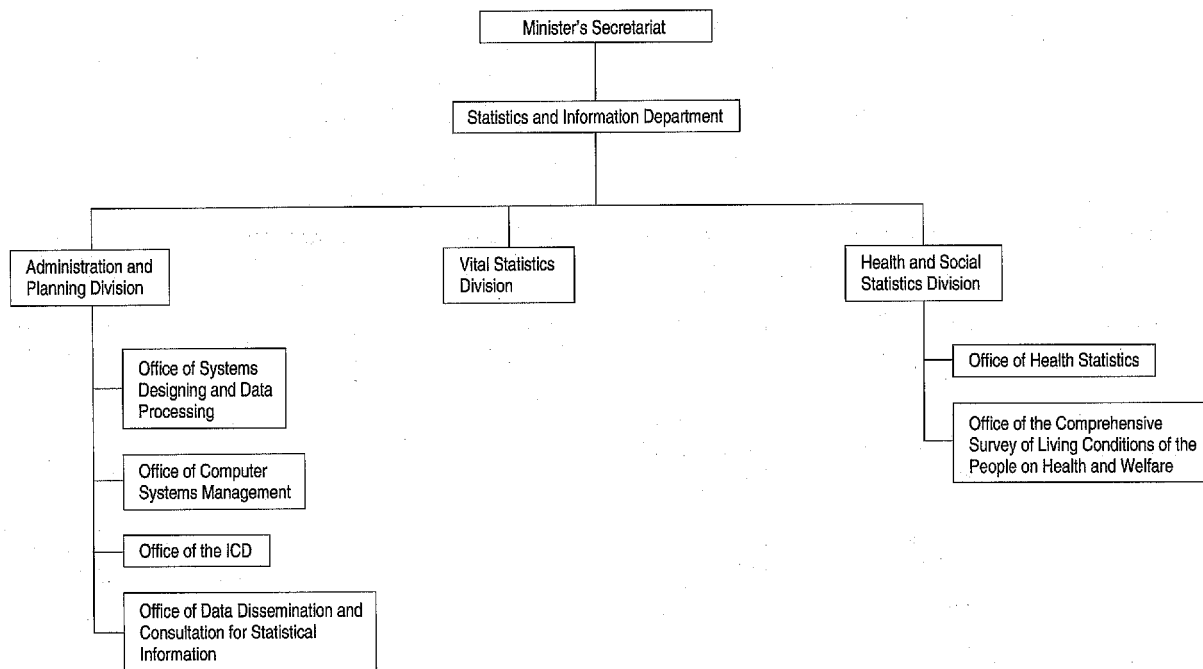
## Survey on Physicians, Dentists, and Pharmacists



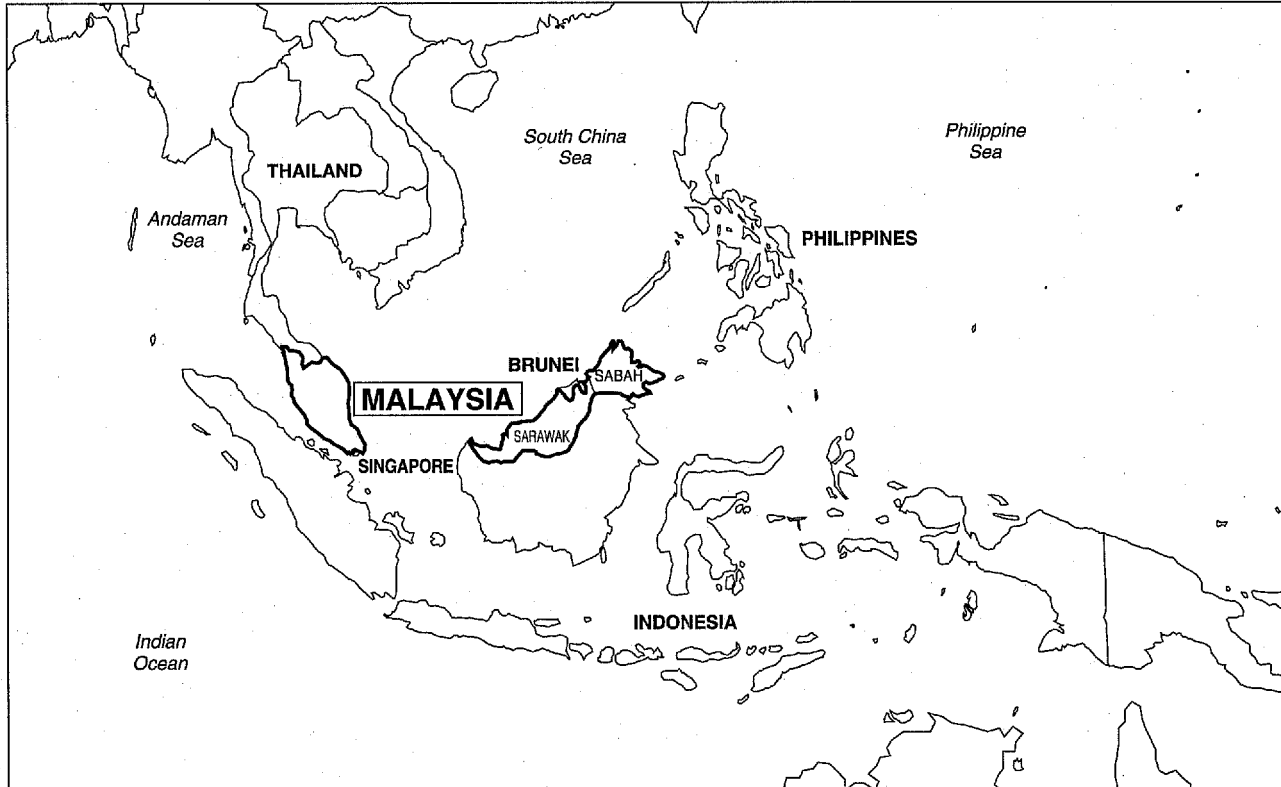
## Annex I. Organization Chart of the Ministry of Health and Welfare, Japan



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



# Malaysia



# Malaysia

## 1. Population and Vital Statistics

### *(1) Background Information*

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

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.

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 while the Department of Statistics is 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.

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 in 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 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 socioeconomic characteristics.

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

(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 is done wholly by the Department of Statistics.

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*

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

Census information is published in the Census Report, while information pertaining to current demographic changes is published in the annual Vital Statistics publication and the Year Book of Statistics.

## 2. 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 activities
- Health resources.

## (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 occur-

rence 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 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 Sixth Malaysia Plan (1991-95), 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 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.

### 3. 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 constraints 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.

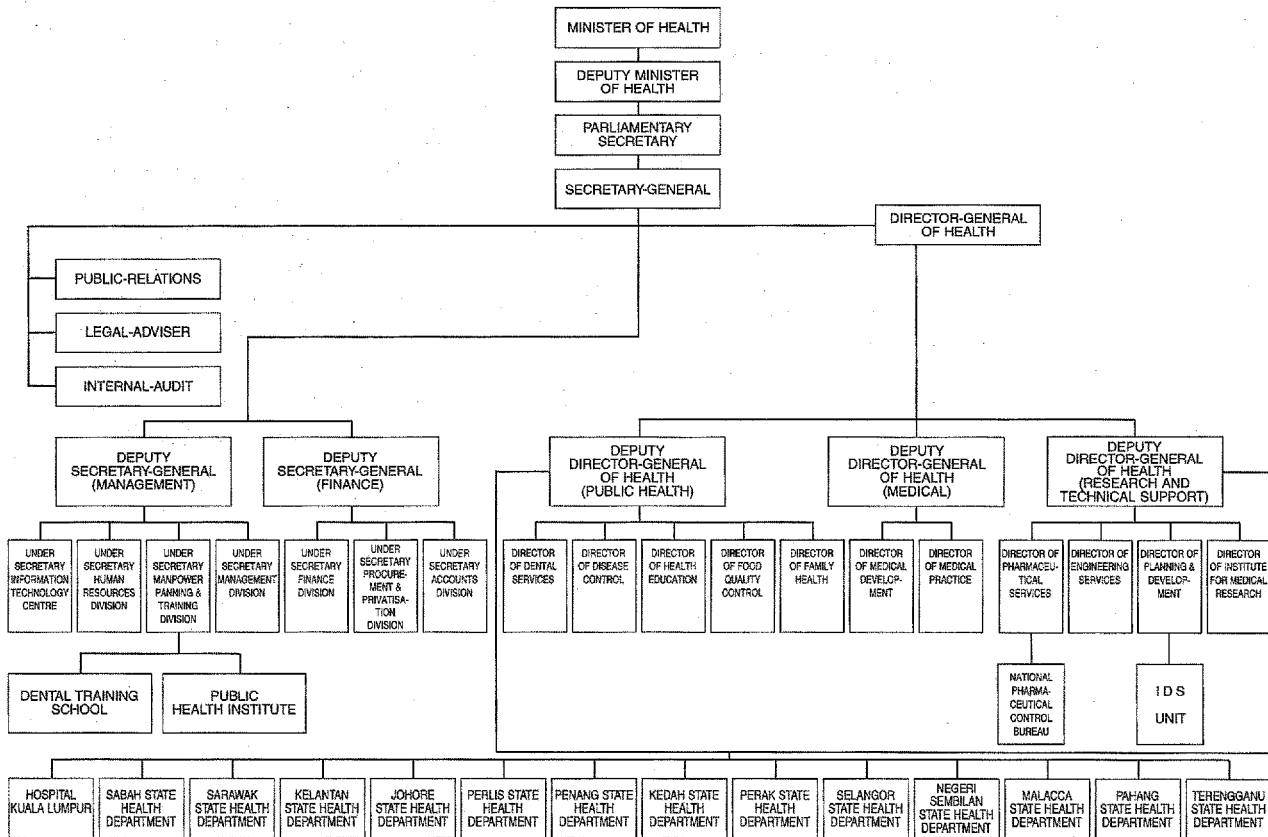
All the above projects have either been implemented fully (and continually upgraded) or in various stages of implementation.

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

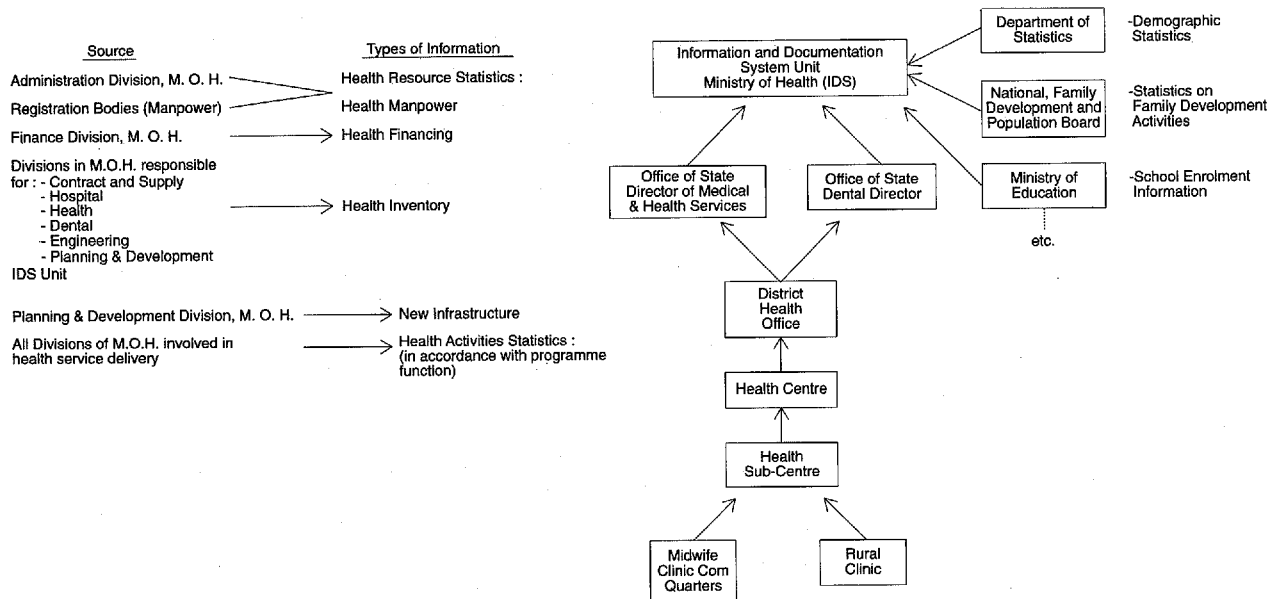
In response to the growing number of users of computerized information within the Ministry itself coupled with the availability of more sophisticated micros at lower costs, the Ministry is encouraging the use of a microcomputer system at local levels. Information sharing is one of the ultimate aims in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

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

# Organization Chart of the Ministry of Health, Malaysia

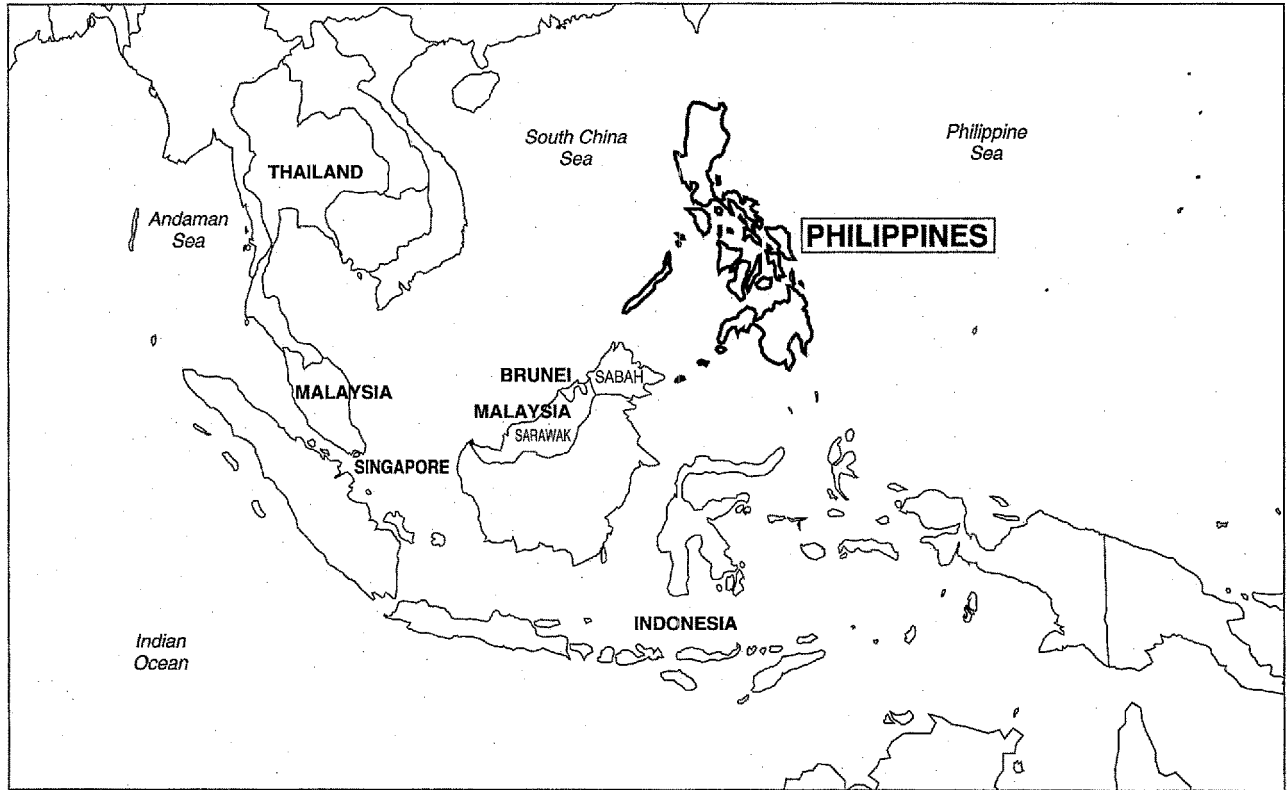


# Flow of Health and Health-Related Information, Malaysia





# The Philippines



# The Philippines

## 1. Population Statistics

### *(1) History*

The first complete returns of the population of the archipelago were made in 1903. The census of 1903 was followed by others carried out in 1918, 1939, 1948, 1960, 1970, 1975, 1980 and 1990. The 1990 census was the latest. The National Statistics Office conducted the 1990 Census of Population and Housing in May 1990. In May 1970 and 1980, this type of census was also undertaken. An Integrated Census of the Population and its Economic Activities was done in May 1975. The objective was to obtain data on the size, distribution, structure, change and socio-economic characteristics of the population including inventory of the housing accommodation, their geographic location, structural characteristics and available facilities, among others.

### *(2) Purpose*

The purpose of the Census of Population and Housing is to provide data on the present situation of

population in the Philippines.

### *(3) Coverage*

Nationwide.

### *(4) Contents of Reporting Form*

The population of the barangays, municipalities, cities, provinces, regions and the total Philippine population are tabulated by age, sex, and other demographic characteristics such as occupation, educational attainment, income, rural or urban. These tabulations are published by the National Statistics Office (NSO).

### *(5) Data Collection Procedure*

The population censuses are conducted in the Philippines every ten or five years using the enumerator or interview method.

Under Commonwealth Act No. 891, the National Census and Statistics Office (renamed the National Statistics Office) is authorized "to prepare and under-

take all censuses of population, agriculture, industry and commerce.”

In February 1980, Parliamentary Bill No. 909 was presented at the Batasang Pambansa, providing for the taking of an integrated census every ten years beginning 1980, with May 1 of every intercensal year as the reference year.

### *(6) Consolidation, Analysis and Presentation*

The total population by age, sex, citizenship, date of birth, marital status, educational characteristics and language is released by the National Statistics Office

with their summary of the population projections by region and province. The latest projections are for 1981-2030.

Projections at the national, regional and provincial levels follow the most common demographic procedure of forecasting population by age and sex, namely, by the cohort-component method.

To project population of cities and municipalities, the ratio method, rather than the cohort-component method was utilized because of the unavailability of data on fertility, mortality and migration at the city and municipality level.

## **2. Natality Statistics**

### *(1) History*

As provided for by the Civil Registry Law (Act No. 3753), all livebirths shall be registered within thirty days from the date of birth at the Local Civil Registrar of the place of birth.

### *(2) Purpose*

The purpose of these statistics is to determine the number of livebirths in the Philippines and, in addition, to obtain the fertility rates among Filipinos and

statistical indices computed to be used in the appraisal of the nation's state of health.

### *(3) Coverage*

Nationwide.

### *(4) Contents of Reporting Form*

Natality statistics are consolidated using FHSIS Form / M-2 (Monthly Natality Report) and are tabulated by sex, place of birth, attendance and age of mother.

### *(5) Data Collection Procedure*

All cities and provinces submit their monthly natality reports to their respective Regional Health Office and to the Health Intelligence Service (HIS), Department of Health.

### *(6) Consolidation, Analysis and Presentation*

Appropriate and practical graphical diagrammatic presentations are made at each level as released by the HIS in its annual Philippine Health Statistics. These data present the annual trends, sex ratios, attendance at birth, and births by location.

## **3. Mortality Statistics**

### *(1) History*

Deaths are registered in accordance with the Civil Registry Law (Act No. 3753) - an Act to establish a civil register. Deaths shall be registered within thirty days from the time of death in the Office of the Local Civil Registrar of the place of occurrence. When death occurred in transit or where the place of death could not be determined, registration shall be made in the Office of the Local Civil Registrar of the place of the burial in the Philippines.

### *(2) Purpose*

These statistics are used for medical and legal purposes:

- a. Medical - to gather information on the causes of death for specific groups of

people for purposes of prevention and control;

- b. Legal - so that the deceased person will be relieved from social, legal and official obligations.

### *(3) Coverage*

Nationwide.

### *(4) Contents of Reporting Form*

The reports are based on the data compiled from the death certificates of the Office of the Local Civil Registrar and are submitted to the HIS, Department of Health, using the FHSIS Form / M-3 (Monthly Mortality Report). These data are tabulated by place of occurrence, cause, age, sex, and medical attendance.

*(5) Data Collection Procedure*

Data are gathered by field health personnel of each City and Provincial Health Office and are submitted to the Regional Health Office and the HIS, Department of Health, every month.

*(6) Consolidation, Analysis and Presentation*

The HIS and the Regional Health Offices consoli-

date monthly reports from City Health and Provincial Health Offices and make the final analysis of the annual data. These are presented by frequencies, trends and distribution of total mortality, infant mortality, maternal mortality and fetal mortality in the different regions through the Regional Annual Reports and throughout the Philippines in the annual Philippine Health Statistics.

## **4. Morbidity Statistics**

*(1) History*

Data on notifiable diseases are based on information gathered by field health personnel as provided for in the Law on Reporting of Communicable Diseases (Act No. 3573) - an Act providing for the prevention and suppression of dangerous communicable diseases and for other purposes. This Act was passed on 26 November 1929.

*(2) Purpose*

The purpose of these statistics is to obtain information on the trend of occurrence of major communicable diseases and their epidemiological features for surveillance and immediate institution of appropriate

preventive and control measures.

*(3) Coverage*

Nationwide.

*(4) Contents of Reporting Forms*

Weekly number of cases and deaths of notifiable diseases by age and sex and by place of occurrence.

*(5) Data Collection Procedure*

The weekly FHSIS/W-1B reports are submitted simultaneously to the Regional Health Office and the Health Intelligence Service by the City Health Office and Provincial Health Office comprising such regions.

(6) *Consolidation, Analysis and Presentation*

These reports are consolidated for the regions and the whole country. The ten leading causes are listed, and the annual morbidity rates and expected limits are computed.

The Health Intelligence Service takes charge of the tabulation. The results are released through the fol-

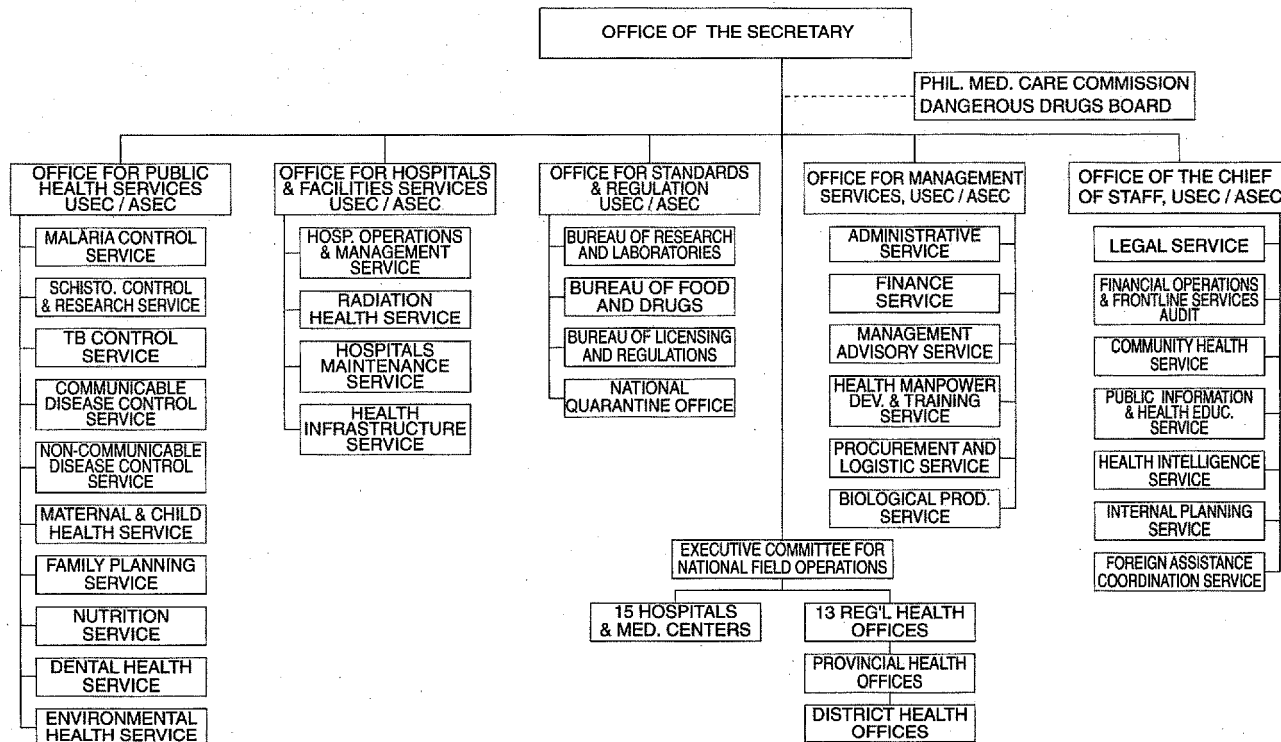
lowing regular publications:

- a. HIS Bulletin (weekly);
- b. Weekly Health Intelligence (weekly);
- c. Philippine Health Statistics (annual);
- d. State of Health (annual and every three years).

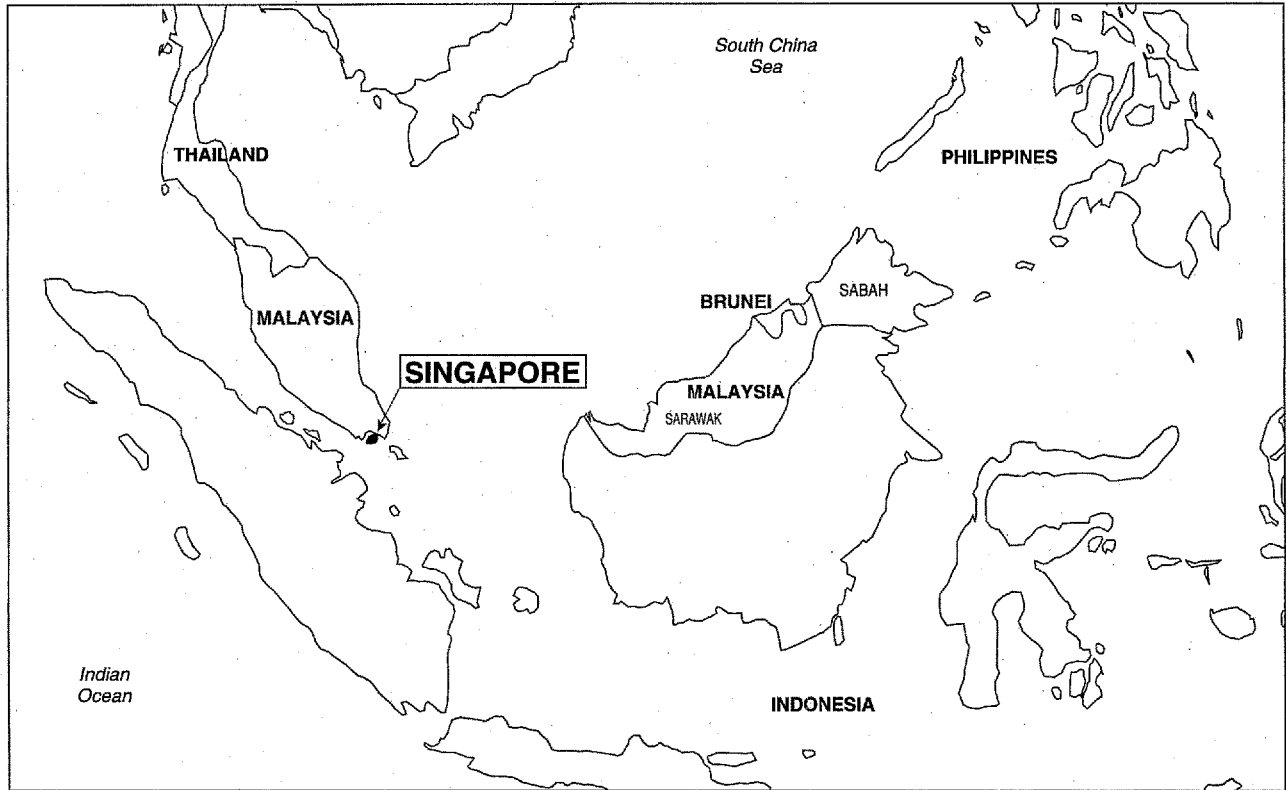
*(Health Intelligence Service, Department of Health)*

# Department of Health, Philippines

Reorganized Structure  
Executive Order 119 (1988)



# Singapore





# Singapore

## 1. Population and Vital Statistics

### *(1) Background Information*

The main sources of information on population and vital statistics of Singapore are censuses and compulsory vital registration of births and deaths.

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.

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*

The main purpose of conducting censuses is to obtain updated information on the population situation in the country. 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. 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 clas-

sified 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.

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*

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 pre-printed 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 intra- and inter-record errors and inconsistencies.

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*

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.

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

## **2. 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".

### 3. 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 submitted to the Ministry of Health for the compilation of medical statistics.

To supplement the morbidity data collected on inpatients, special censuses and studies have also been conducted on long-staying patients, particularly those in the mental institutions. Mainly because the available morbidity data collected are inadvertently biased towards certain groups of people who seek medical attention from hospitals and clinics, ad hoc morbidity and other health examination surveys have also been carried out from time to time to obtain additional information which would provide a better understanding of the disease pattern prevailing in the community.

#### *(2) Purpose*

The main purpose of collecting the data is to study the morbidity patterns of patients and to analyse the epidemiological profile of patients with different disease conditions. This is to help 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 Research and Evaluation Department, Ministry of Health is responsible for co-ordinating and ensuring that individual hospitals are up-to-date in their submissions of the returns. The statistics are processed annually and given to each individual hospital for their reference and retention.

## **4. 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.

## 5. 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 (HMIS) for both administrative and planning purposes, the overall system of data collection was revamped in 1976. The task of developing and maintaining the HMIS was put under the charge of the then Research and Evaluation Section (now Research and Evaluation Department) of the Ministry of Health. The HMIS 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 the private hospitals. However, information on activities of private clinics is not monitored routinely and is obtained from ad hoc surveys conducted by the Department of Statistics.

### *(2) Purpose*

One of the prime objectives is to monitor and make 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 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 and emergency 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. Use of drugs;
- f. Home nursing service;
- g. Health screening and immunization;
- h. Health service for the elderly;

- i. Government health manpower and workload indicators;
- j. Government health expenditure, revenue and costing.

#### (5) *Data Collection Procedure*

The statistical returns are submitted on prescribed forms on a monthly basis by the various service centres to the Research and Evaluation Department of the 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.

## 6. Statistics on Preventive Health Care Service

### I. Immunization

#### (1) *Background Information*

Immunization of pre-school children is the responsibility of the Maternal and Child Health Services (MCHS) who, with follow-up home visits by staff nurses of MCHS and public health inspectors of the

Ministry of the Environment, cover missed cases or defaulters of the programme.

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

Immunization against cholera and yellow fever is

provided by the Government Vaccination Centre 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 Maternal and Child Health Clinics and from vaccination records kept by the SHS 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 is 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 Maternal and Child Health Services Annual Report and the School Health Services Annual Report.

# **II. Contraception, Sterilization and Legalized Abortion**

## *(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 contraceptive methods used started in 1966/67 while statistics on sterilizations and legalized abortions were collected as from 1970.

## *(2) Purpose*

The purpose of collecting the data is to monitor the progress of the family planning programme activities and to provide the necessary information for policy formulation and programme planning.

## *(3) Coverage*

All persons who seek advice on family planning at the government clinics and those who have undergone sterilization or abortion.

## *(4) Contents*

The statistical data collected include:

- a) Attendances by government clinic and contraceptive methods according to new cases or revisits;
- b) Profile of family planning new acceptors;
- c) Number of sterilizations and profile of persons who have undergone sterilization;
- d) Number of legalized abortions performed and profile of persons who have had their pregnancies terminated.

## *(5) Data Collection Procedure*

Monthly returns on family planning acceptors from government clinics and sterilization and abortion returns from all clinics/institutions are submitted to the Research and Evaluation Department of the Ministry of Health for data processing.

## *(6) Tabulation and Publication*

The Research and Evaluation Department of the Ministry of Health is responsible for statistical tabulation and data analyses. The information is published annually.

## 7. 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 Registration of Dentists Act, the Registration of Pharmacists Act, the Nurses Registration Act and the Midwives Act.

Special manpower registers for these groups of personnel are kept and updated periodically for them to be kept 'live'. To facilitate records maintenance and retrieval of statistical information, these registers have been computerized.

### *(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*

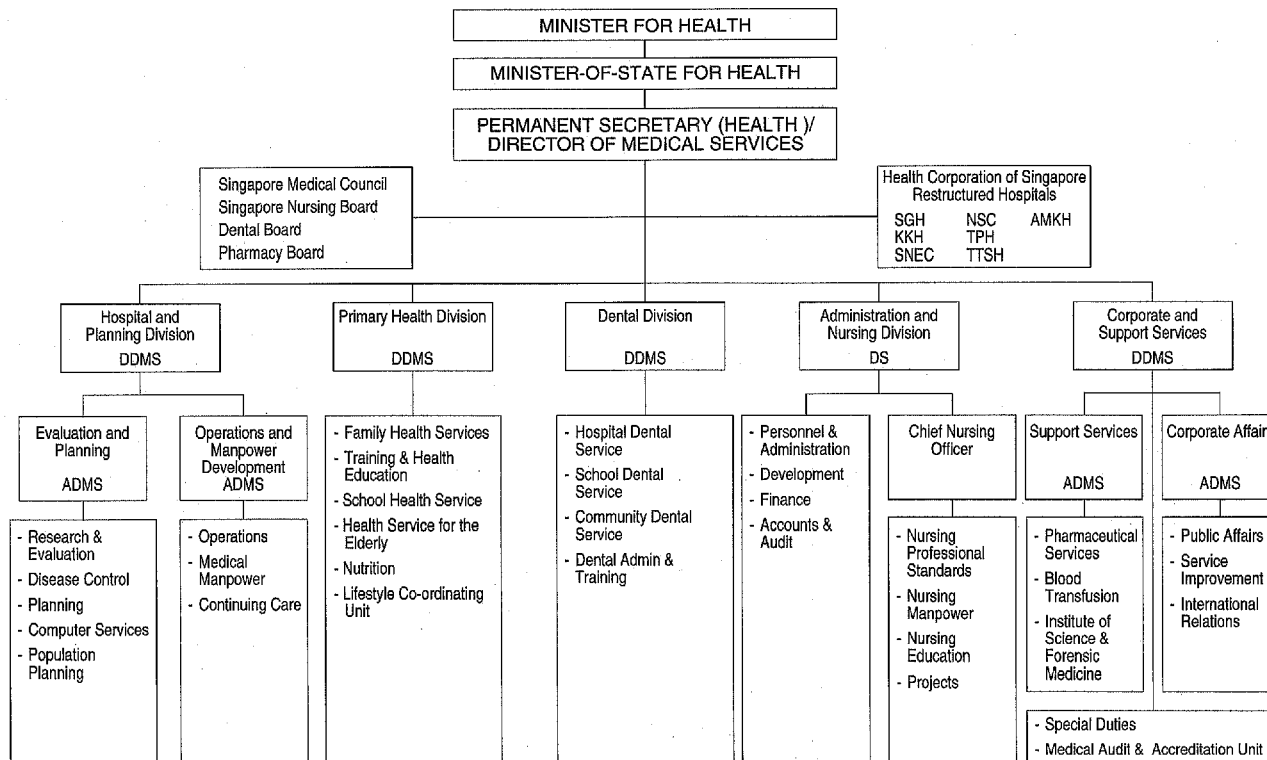
The information is obtained from the registration forms completed by the doctors, dentists, pharmacists, nurses and midwives. The manpower registers are updated annually.

### *(6) Tabulation and Publication*

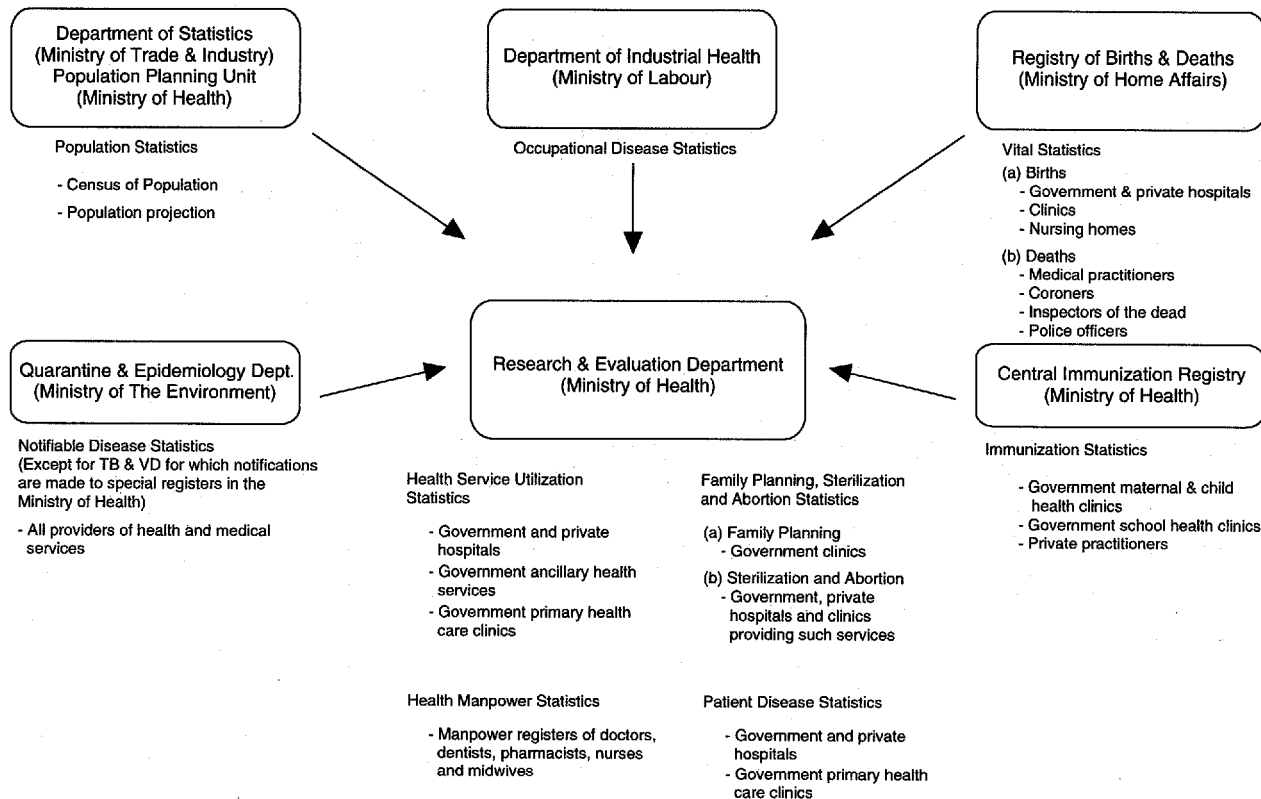
The Research and Evaluation Department, Ministry of Health is responsible for the tabulation and analysis of the statistical data. Reports on these key health personnel are published annually.

*(Research and Evaluation Department,  
Ministry of Health)*

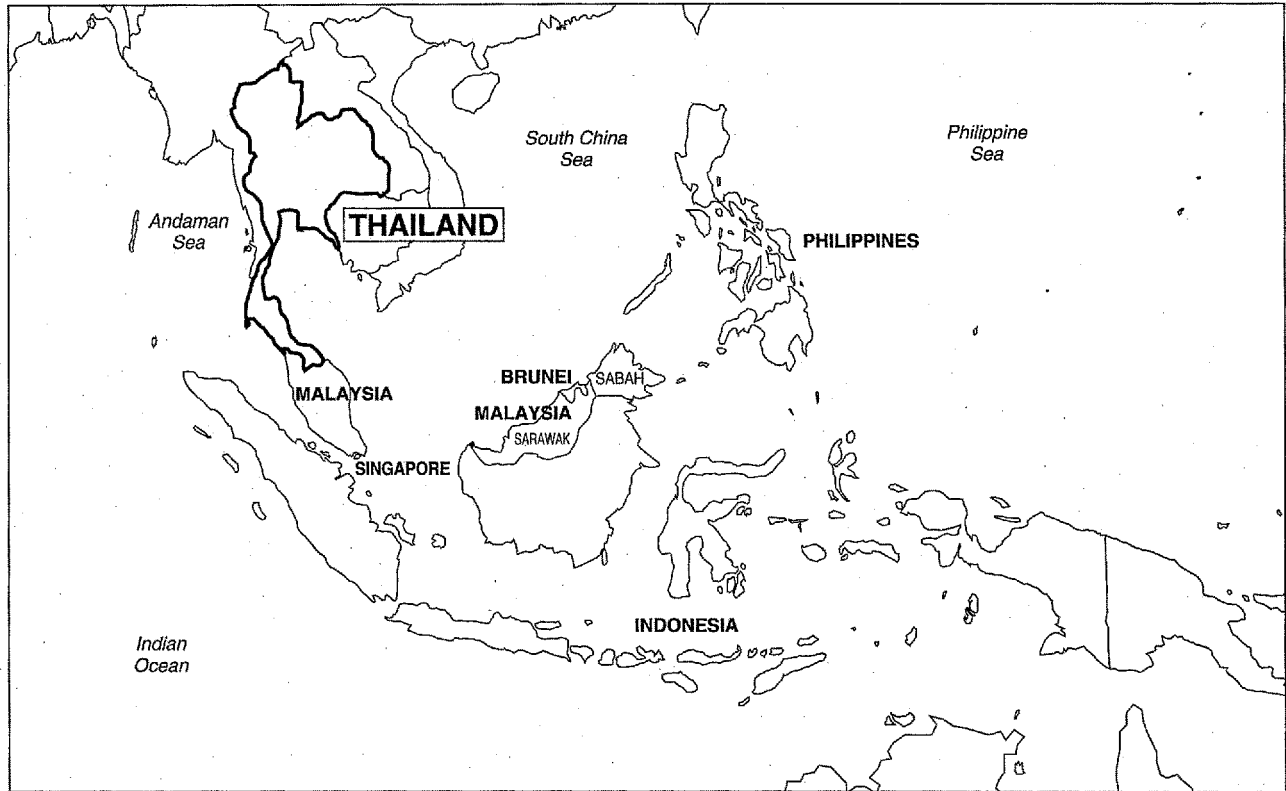
## Organization Chart, Singapore



## Ministry of Health, Singapore Flowchart of Data Collection



# Thailand



# 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. 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.

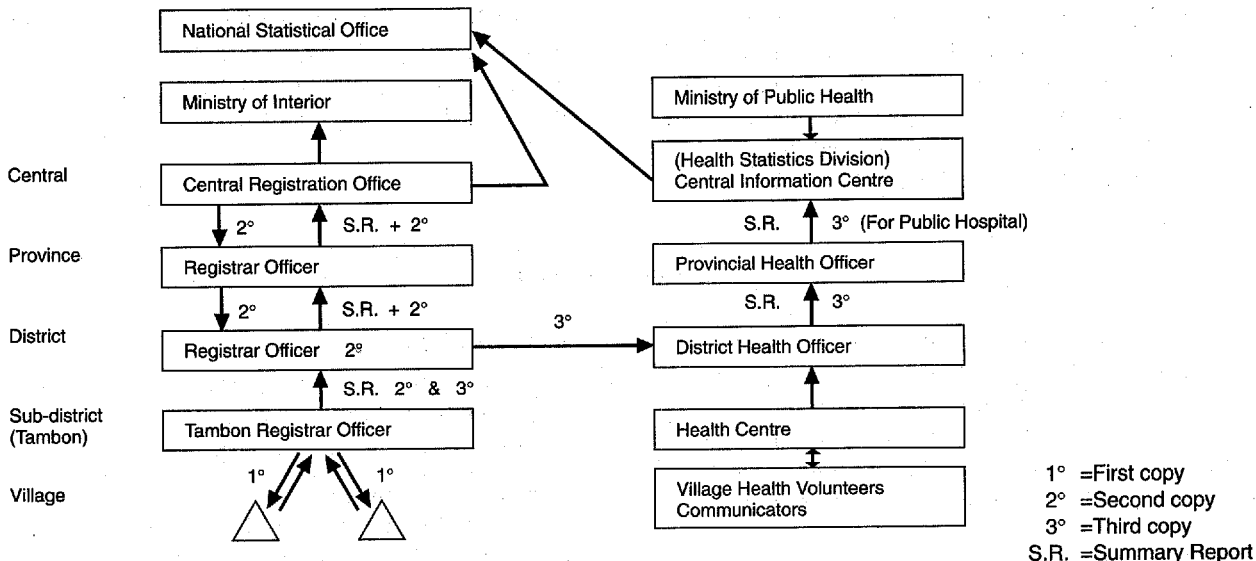
### *(2) Channel of Data Collection*

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 allied 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. In this connection, at the provincial level, the summation of the total number of births and deaths is computed and sent to the central level of the Ministry of Public Health in terms of the summary report. At the same time, birth and death certificates from public hospitals are selected 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.

### 3. Health Statistics

Other health statistics can be obtained within the system of the Ministry of Public Health. In the diagram shown below, the flow of information can be illustrated 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 prompt information on the occurrence of disease or unfavourable conditions of the population con-

cerning 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 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 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 Sur-

veillance 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 Provin-

cial 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

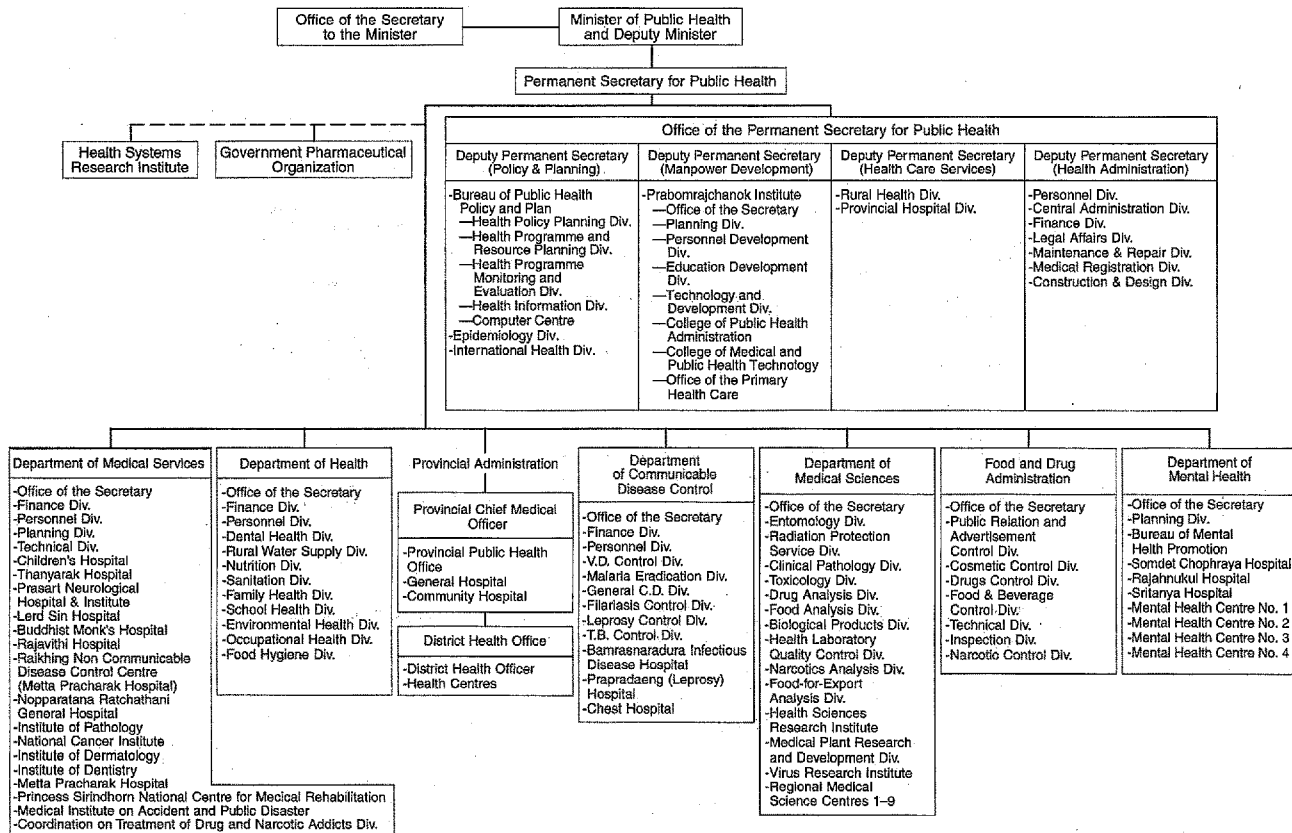
The data are collected in the prescribed health resources report form on a yearly basis by the various health service centres to the Central Health Information Centre.

(v) Tabulation and Publication

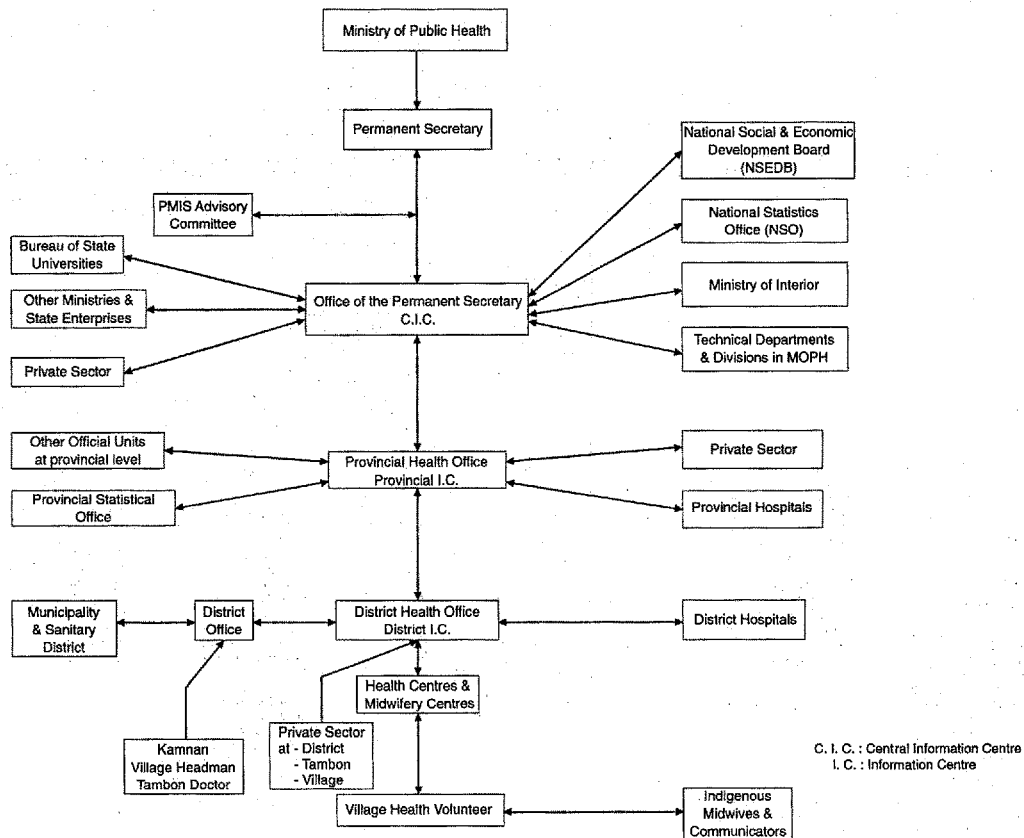
The data are collected and published annually in summary in the Public Health Statistics and in more details in the Report on Health Resources.

*(Health Information Division,  
Ministry of Public Health)*

# Organization Chart, Thailand



# Thailand National Health Information System Network



# INDEX

## Part I

### [ a ]

abortion .....	65
accident .....	46, 47, 48, 50, 51, 53, 54, 66
— caused by fire and flames .....	67
—, other, including late effect .....	54, 67
—, transport/traffic .....	25, 54, 66
accidental .....	
— drowning and submersion .....	67
— fall .....	66
— poisoning .....	66
adverse effect .....	66
— — of the medicaments in therapeutic use .....	67
AIDS .....	58, 82, 86
amebiasis .....	55
anemia .....	61
animal health assistant .....	124, 127, 131
anthrax .....	81
anus .....	59
asthma .....	47, 48, 64
atherosclerosis .....	63

### [ b ]

bacillary .....	55
-----------------	----

bacterial disease .....	57
beds, number of .....	112
beri-beri .....	52
bilharziasis → schistosomiasis .....	82
biochemist .....	126, 129, 136
biologist .....	126
birth(s), number of .....	31
birth rate .....	23, 24, 25, 26, 27, 30
blood and blood forming organ .....	61
breast, female .....	60
bronchitis .....	46, 47, 48, 50, 52, 63, 64
bronchiolitis .....	63
bronchus .....	59

### [ c ]

calcium .....	92
carbohydrate .....	92
cardiovascular disease .....	49
cause of death → death, cause of .....	
census, latest .....	13
cerebrovascular disease .....	46, 47, 48, 50
	51, 53, 63
cervix uteri .....	60



chemist ..... 127, 130  
 chest circumference ..... 95  
 chickenpox ..... 81, 85  
 cholera ..... 55, 81, 83, 84  
 circulatory system disease ..... 46, 49, 62, 63  
 colitis ..... 52  
 colon ..... 59  
 connective tissue disease ..... 65  
 congenital anomaly ..... 47, 65  
 convulsion, infantile ..... 53  
 cough ..... 49

## [ d ]

darkroom assistant ..... 126, 129, 137  
 death(s) ..... 32 (Also → mortality)  
   —, cause of ..... 45 ~ 67  
   —, late fetal ..... 23  
   —, infant ..... 23, 70  
   —, maternal ..... 70  
   —, neonatal ..... 23  
   —, number of ..... 24, 25  
   —, post-neonatal ..... 23  
   —, perinatal ..... 23  
   —, direct obstetric ..... 23  
 death rate ..... 25, 32  
   —, crude ..... 23, 24, 25, 28, 30  
 dengue ..... 58, 81

  — hemorrhagic fever ..... 58  
 density ..... 13  
 dental  
   — hygienist ..... 128, 134  
   — non-operating auxiliary ..... 124, 127, 130  
   — nurse ..... 128, 133  
   — operating auxiliary ..... 124, 127, 130  
   — practitioner ..... 128, 135  
   — surgeon ..... 124, 127, 130  
   — surgery assistant ..... 129, 137  
   — technician ..... 128, 135  
 dentist(s) ..... 124, 127, 130  
   —, number of ..... 141  
   — per 10,000 population ..... 138  
 diabetes mellitus ..... 47, 48, 61  
 diarrheal disease ..... 47  
 diarrhea ..... 46, 49, 52, 54  
 dietitian ..... 126, 129, 136  
 digestive system disease ..... 54, 64  
 diphtheria ..... 49, 56, 81, 83, 85, 87  
 dispenser ..... 128, 135  
 divorce rate, crude ..... 23, 30  
 dracontiasis ..... 82  
 drug addicts, establishment for ..... 109, 119  
 dysentery ..... 54  
   —, amebiasis and bacillary ..... 55, 84

**[ e ]**

- early infancy, disease of ..... 51, 53
- emphysema ..... 47, 48
  - , chronic and unspecified ..... 64
- encephalitis ..... 86
  - , mosquito-borne viral ..... 81, 83
- encephalographer ..... 126
- endocrine disease ..... 61
- energy ..... 91
- entomologist ..... 126, 129, 137
- expectation of life → life expectancy

**[ f ]**

- family planning ..... 76
- fat ..... 91
- fertility rate
  - —, general ..... 23, 30
  - —, total ..... 25
- filarial infection ..... 82
- filariasis ..... 86
- food
  - intake ..... 91, 92
  - poisoning ..... 84

**[ g ]**

- gastroenteritis ..... 47, 50, 52, 53, 54
- genito-urinary system disease ..... 65

- GNP, per capita ..... 104
- gonococcal infection ..... 82, 86

**[ h ]**

- health
  - assistant ..... 129, 137
  - auxiliaries and aides, other ..... 128, 133
  - auxiliary, multipurpose ..... 124, 127, 130
  - budget ..... 105
  - care ..... 24, 25
  - educator ..... 126, 129, 137
  - expenditure ..... 105
  - inspector ..... 129, 136
  - —, assistant ..... 129
  - manpower → (specific types of manpower)
  - statistics technician ..... 128, 134
- hearing aid technician ..... 126
- heart disease ..... 25, 46, 48, 50, 51, 52, 53, 54, 63
- height ..... 93, 96
- hemopoietic tissue ..... 60
- hemorrhagic fever, viral ..... 86
- hepatitis, viral ..... 57, 81, 85
- HIV → AIDS
- homicide ..... 47, 54, 67
- hospital(s) ..... 108
  - , chronic disease ..... 109, 115
  - , district ..... 120

—, general .....	108, 109, 114, 119
—, government .....	108
—, infectious disease .....	109, 115
—, leprosy .....	109, 116
—, local or rural .....	108, 109, 114
—, maternity .....	109, 115, 121
—, mental .....	109, 117, 121
—, number of .....	110, 111
—, ophthalmology .....	109, 117
—, orthopedics .....	109, 117
—, other specialized .....	109, 118
—, pediatrics .....	109, 116
—, tuberculosis .....	109, 116, 120
— utilization .....	119~121
housing condition .....	103
hypertensive disease .....	25, 46, 47, 48, 54, 62

## [ i ]

ill-defined condition .....	47, 66
immunization programme, diseases specified by .....	83
immunized against target diseases, percentage of infants .....	87
infection	
—, intestinal .....	81
—, lower respiratory tract .....	49
—, respiratory .....	46
—, upper respiratory .....	63

infectious disease .....	47, 55, 59
influenza .....	63, 82
— (grippe) .....	85
injury	
—, other .....	47, 54
—, self-inflicted .....	67
— inflicted by other persons .....	67
iron .....	92
intestinal infectious disease .....	56
ischemic heart disease .....	62

## [ l ]

laboratory aid .....	126, 128, 134
labour force participation rate .....	104
leukemia .....	60
leprosy .....	81, 84
leptospirosis .....	82
life, expectation of → life expectancy	
life expectancy .....	24, 25, 34
lighting .....	103
literacy rate .....	104
live-birth → birth	
live-birth rate → birth rate	
liver .....	59
— cirrhosis .....	47, 64
— disease .....	54
— —, chronic .....	47, 64

lung ..... 59  
 lymphatic tissue ..... 60

## [ m ]

malaria ..... 49, 54, 58, 82, 85  
 malaria field officer ..... 128, 134  
 malignant neoplasm ... 46, 47, 48, 50, 51, 52, 53, 54, 59  
     (Also → specific sites)  
     — —, other sites ..... 60  
 marriage rate, crude ..... 23, 30  
 measles ..... 49, 57, 81, 83, 85, 87  
 medical assistant(s) ..... 124, 127, 130  
     — — per 10,000 population ..... 138  
 medical centre ..... 109, 114  
 medical establishments, comparative table on ..... 109  
 medical laboratory technician ..... 125, 127, 132  
     — — —, assistant ..... 125, 127, 132  
 medical personnel  
     — —, comparative table on ..... 127~129  
     — —, definition of ..... 124~126  
 medical physicist ..... 125, 127, 132  
 medical radiological technician ..... 125, 127, 132  
     — — —, assistant ..... 125, 127, 132  
 medical school ..... 146  
 medical statistician ..... 128, 134  
 meningococcal infection ..... 57, 81, 85  
 meningitis ..... 61

—, viral ..... 86  
 mental disorder ..... 61  
 metabolic disease ..... 61  
 microscopist ..... 126, 129, 137  
 midwife(ves) ..... 129, 138  
     —, assistant ..... 124, 127, 131  
     —, auxiliary ..... 124, 127, 131  
     —, number of ..... 143  
     —, professional ..... 124, 127, 131  
     —, trained or rural ..... 128, 134  
 mortality (Also → death; death rate)  
     —, general ..... 31  
     —, infant ..... 24, 70, 71, 72  
     —, late fetal ..... 71  
     —, maternal ..... 24, 70  
     —, neonatal ..... 71  
     —, perinatal ..... 71  
     —, post-neonatal ..... 71  
 mortality rate ..... 24  
     — —, infant ..... 23, 24, 25, 30, 70  
     — —, maternal ..... 23, 70, 74  
 mumps ..... 82, 83, 86  
 musculoskeletal system disease ..... 65  
 myocardial infarction, acute ..... 62

## [ n ]

natality ..... 31 (Also → live-birth; live-birth rate)

natural increase .....	25, 31
neoplasm .....	47
nephritis .....	47, 64
nephrosis .....	47, 64
nephrotic syndrome .....	47, 64
nervous system disease .....	49
notifiable diseases, list of .....	82
nurse(s) .....	128, 135
—, assistant .....	125, 127, 131
—, auxiliary .....	125, 127, 131
—, number of .....	144
—, professional .....	125, 127, 131
nurse-midwife .....	128, 135
— —, assistant .....	128, 135
— —, auxiliary .....	124, 127, 131
nursing and midwifery aid .....	125, 127, 131
nursing and midwifery personnel	
per 10,000 population .....	138
nursing personnel per 10,000 population .....	138
nutritional deficiency .....	61
nutritionist .....	126, 129, 137

## [ o ]

obstetric cause	
— —, direct .....	65
— —, indirect .....	65
occupational therapist .....	126, 128, 136

orthop(a)edic technician .....	128, 133
--------------------------------	----------

## [ p ]

pancreas disease .....	54
paralysis .....	47
parasitic disease .....	55, 59
paratyphoid fever .....	55, 81, 83, 84
perinatal	
— disease .....	49
— period .....	46, 47, 51, 65
pertussis .....	87
pharmaceutical assistant .....	124, 127, 131
pharmacist(s) .....	124, 127, 130
— per 10,000 population .....	138
—, number of .....	142
physical therapist .....	125, 127, 132
physician(s) .....	124, 127, 130
—, number of .....	139
— per 10,000 population .....	138
physiotherapist .....	125, 127, 132
plague .....	81
pneumonia .....	46, 47, 48, 50, 52, 53, 54, 63
poisoning .....	46, 47, 48, 50, 54
poliomyelitis .....	83, 87
—, acute .....	57, 81, 86
population .....	13, 24, 25
— increase .....	13

—, mid-year .....	14
—, urban .....	20
— projection .....	15
population by age and sex .....	16
population per	
— — dentist .....	138
— — medical assistant .....	138
— — nursing personnel .....	138
— — nursing & midwifery personnel .....	138
— — pharmacist .....	138
— — physician .....	138
prenatal care, women receiving .....	77
protein .....	91
pulmonary circulation disease .....	46, 51, 54

## [ r ]

rabies .....	57, 81, 85
radiographer .....	129, 136
rectosigmoid junction .....	59
rectum .....	59
relapsing fever .....	82
respiratory infection .....	46, 54
— —, lower .....	49
— —, upper .....	63
respiratory system disease .....	64
rheumatic	
— fever .....	62

— heart disease .....	62
rubella .....	83, 86

## [ s ]

safe water .....	103
salmonella infection .....	81
sanitarian .....	125, 127, 133
—, auxiliary .....	125, 127, 133
sanitary	
— engineer .....	125, 127, 132
— inspector .....	128, 135
— toilet .....	103
scarlet fever .....	81
scientific or professional personnel, other .....	128, 133
schistosomiasis .....	82, 86
senility .....	50, 66
sense organs, disease of .....	62
septicemia .....	46, 47, 51, 57
shigellosis .....	81
skin and subcutaneous disease .....	65
social worker, medical .....	128, 135
stomach .....	59
streptococcal sore throat .....	81
suicide .....	47, 54, 67
surface area .....	13
survivor .....	36
syphilis .....	86

—, congenital ..... 82

### [ t ]

technical personnel, other ..... 128, 133

tetanus ..... 49, 57, 81, 83, 85, 87

trachea ..... 59

traditional birth attendant ..... 128, 134

traditional

    medicine/midwifery, practitioner of ..... 128, 133

trauma ..... 47

trichinosis ..... 82

tuberculosis ... 46, 47, 49, 50, 52, 53, 54, 81, 83, 84, 87

    —, other forms ..... 56

    —, respiratory system ..... 56

typhoid fever ..... 55, 81, 83, 84

typhus, other ..... 82

### [ u ]

ulcer, stomach and duodenum ..... 64

uterus ..... 60

### [ v ]

vascular system disease ..... 46, 52

venereal disease ..... 59, 82, 86

veterinarian ..... 124, 127, 131

veterinary

    — assistant ..... 128, 135

    — surgeons ..... 124, 127, 131

violence ..... 46, 47, 48, 50, 67

viral disease ..... 58

vitamin A, B<sub>1</sub>, B<sub>2</sub>, C ..... 92

vital statistics, trend of ..... 24

### [ w ]

weight ..... 94, 98

whooping cough ..... 56, 81, 83, 85

### [ x ]

x-ray assistant technician ..... 129, 136

### [ y ]

yaws ..... 82

yellow fever ..... 81, 83

## Part II

## [ b ]

birth registration → vital registration

## [ c ]

civil registration → vital registration

consortium of health sciences in Indonesia ..... 167

## [ d ]

death registration → vital registration

## [ e ]

epidemic and communicable diseases

(Also → notifiable disease statistics)

—— report in Indonesia ..... 162ff

epidemiological surveillance

(Also → notifiable disease statistics)

—— scheme in Thailand ..... 232

## [ f ]

family registration system in Japan ..... 173ff

family planning statistics in Singapore ..... 222

food balance sheet for Indonesia ..... 164ff

## [ h ]

health activities statistics

—— Brunei Darussalam ..... 153

—— Japan ..... 178ff

—— Malaysia ..... 197ff

—— Singapore ..... 221ff

—— Thailand ..... 233ff

health care institutions statistics on

(Also → hospital statistics)

—— Japan ..... 181ff

—— Malaysia ..... 194ff

—— Singapore ..... 220ff

—— Thailand ..... 234

health manpower statistics

—— Brunei Darussalam ..... 155

—— Indonesia ..... 166ff

—— Japan ..... 187ff

—— Malaysia ..... 196ff

—— Singapore ..... 224ff

—— Thailand ..... 234

health personnel statistics → health manpower statistics

health programme performance

monitoring in Malaysia ..... 197ff

health resources → health manpower;

health care institutions



## health service utilization statistics

(Also → health care institutions; hospital statistics)

—— Singapore ..... 220ff

health survey in Indonesia ..... 163ff

## hospital (performance) statistics

—— Brunei Darussalam ..... 154

—— Indonesia ..... 166

—— Japan ..... 181 ~ 186

—— Malaysia ..... 194ff

—— Singapore ..... 220ff

—— Thailand ..... 234

## housing statistics

—— Brunei Darussalam ..... 151ff

—— Indonesia ..... 161

—— Japan ..... 172

—— Philippines ..... 205

—— Singapore ..... 213ff

## [ i ]

infectious disease surveillance → notifiable disease  
statistics

## [ i ]

living conditions survey in Japan ..... 180ff

## [ m ]

medical care institutions → health care institutions

monitoring system in Brunei Darussalam ..... 154

## morbidity statistics

—— Brunei Darussalam ..... 153

—— Indonesia ..... 162ff

—— Japan ..... 175 ~ 178

—— Malaysia ..... 195ff

—— Philippines ..... 208ff

—— Singapore ..... 217ff

—— Thailand ..... 232

mortality statistics → vital registration

## [ n ]

## notifiable disease statistics

—— Brunei Darussalam ..... 153ff

—— Indonesia ..... 162ff

—— Japan ..... 175ff

—— Malaysia ..... 197ff

—— Philippines ..... 208ff

—— Singapore ..... 215ff

—— Thailand ..... 233

## [ o ]

occupational diseases statistics in Singapore ..... 218ff

## [ p ]

patient survey in Japan ..... 177ff

## population census

—— Brunei Darussalam .....	151ff
—— Indonesia .....	161
—— Japan .....	171ff
—— Malaysia .....	193ff
—— Philippines .....	205ff
—— Singapore .....	213ff

population survey in Indonesia, intercensal ..... 161ff

## preventive health care service statistics

in Singapore .....	221ff
--------------------	-------

public health statistics in Brunei Darussalam ..... 153ff

## public health administration services, Japan

statistical report on .....	178ff
-----------------------------	-------

## [ s ]

socio-economic survey in Indonesia .....	165
--	-----

## [ v ]

## vital registration

—— Brunei Darussalam .....	151ff
—— Indonesia .....	161
—— Japan .....	173ff
—— Malaysia .....	193ff
—— Philippines .....	206ff
—— Singapore .....	213ff
—— Thailand .....	230ff

vital statistics → vital registration