

# **SEAMIC HEALTH STATISTICS**

## **1999**

**Southeast Asian Medical Information Center**  
**International Medical Foundation of Japan**

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**International Medical Foundation of Japan**

Yaesu-Ichigaya Bldg., 17, Ichigaya-tamachi 2-chome,  
Shinjuku-ku, Tokyo, 162-0843 Japan

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## Preface

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

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

The new items introduced in the present edition are as follows:

- A section entitled Notes on Tables and Graphs has been inserted at the beginning of Part I, providing technical explanation on the contents of each table and graph;
- Table 3 – 4 has been added showing the number and percentage of deaths medically certified and those not so certified;
- The standard deviation has been included in Tables 6 – 5 and 6 – 6;
- Table 9 – 8 has been added showing the breakdowns of three professions by sex.

The last three items mentioned above are not yet complete in terms of data availability, but it is hoped that the contents will improve in future editions.

The whole contents of this edition are also accessible through the internet home page of the SEAMIC/IMFJ (<http://www.seamic-imfj.or.jp>).

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

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

March, 2000

Kazuo Uemura, Ph.D.  
Chairman  
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SEAMIC HEALTH STATISTICS

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## Contents

### Preface

### Editorial Board

### Part I Health Statistics

Notes on Tables and Graphs .....	11
1. Population	
1 – 1 Population by Sex, Rate of Population Increase, Surface Area and Density .....	19
1 – 2 Estimates of Mid-year Population .....	20
1 – 3 Population Estimates and Projections .....	21
1 – 4 Population by Age and Sex .....	22
1 – 5 Urban and Total Population .....	26
2. General Vital Statistics and Life Tables	
2 – A A Brief Description of Population and Vital Statistics Trends .....	28
2 – 1 Crude Live-birth Rates .....	32
2 – 2 Crude Death Rates .....	34
2 – 3 Vital Statistics Rates .....	36
2 – 4 Natality, Mortality and Natural Increase .....	37
2 – 5 Deaths and Death Rates by Age .....	38
2 – 6 Expectation of Life at Specified Ages for Each Sex .....	40
2 – 7 Survivors at Specified Ages for Each Sex .....	44
3. Causes of Death	
3 – A Classification List Used for Ranking Causes of Death in Tables 3–1 and 3–2 .....	57
3 – 1 Ten Leading Causes of Death .....	58
3 – 2 Trends in the Leading Causes of Death .....	60

3-3	Deaths and Death Rates by Causes (ICD-9/ICD-10)	68
3-4	Number and Percentage of Deaths Medically Certified and not Medically Certified	81
4.	Child and Maternal Health	
4-A	A Brief Description of Trends in Infant Mortality and Maternal Mortality	84
4-1	Fetal, Infant, Neonatal, Post-neonatal and Perinatal Mortality	87
4-2	Infant Mortality by Age and Sex	88
4-3	Maternal Mortality Rates	90
4-4	Family Planning Methods Used	92
4-5	Women Receiving Prenatal Care	93
5.	Morbidity from Infectious Diseases	
5-A	List of Notifiable Infectious Diseases	97
5-B	Infectious Diseases Specified by Immunization Programme	99
5-1	Morbidity Statistics (ICD-9/ICD-10)	100
5-2	Percentage of Infants under 1 Year Who Are Fully Immunized Against Target Diseases	103
6.	Nutrition	
6-1	Per Capita Food Intake	107
6-2	Mean Length of Infants from Birth to One Year	109
6-3	Mean Weight of Infants from Birth to One Year	110
6-4	Mean Chest Circumference of Infants from Birth to One Year	111
6-5	Mean and Standard Deviation of Height by Age (1-18 years)	112
6-6	Mean and Standard Deviation of Weight by Age (1-18 years)	114
7.	Environmental Health and Socio-economic Situation	
7-1	Housing Conditions	119
7-2	Socio-economic Indicators	120
7-3	Expenditure of the Ministry of Health	121
7-4	Adult Smoking Prevalence	122

8.	Medical Establishments	
8-A	Definitions Used in Statistics on Medical Establishments	124
8-B	Comparative Table on Medical Establishments	125
8-1	Number of Hospitals	126
8-2	Number of Beds	128
8-3	Hospitals and Other Medical Establishments	130
8-4	Hospital Utilization by Category of Hospital	134
9.	Human Resources for Health	
9-A	Definitions of Medical and Allied Health Personnel	138
9-B	Comparative Table on Medical and Allied Health Personnel	141
9-1	Medical and Allied Health Personnel	143
9-2	Population/Health Personnel Ratios	147
9-3	Number of Physicians	148
9-4	Number of Dentists	150
9-5	Number of Pharmacists	151
9-6	Number of Midwives	152
9-7	Number of Nurses	153
9-8	Number of Physicians, Dentists and Pharmacists, by Sex	155
9-9	Situation of Medical Schools	156

(Figures)

Fig. 1	Population Pyramids	24-25
Fig. 2	Trends in Crude Live-birth Rates	33
Fig. 3	Trends in Crude Death Rates	35
Fig. 4	Trends in Expectation of Life at Birth	42-43
Fig. 5	Survivors at Specified Ages for Each Sex	46-53

Fig. 6 Trends in Infant Mortality Rates .....	89
Fig. 7 Trends in Maternal Mortality Rates .....	91
Fig. 8 Trends in Hospitals per 100,000 Population .....	127
Fig. 9 Trends in Beds per 100,000 Population .....	129
Fig. 10 Trends in Physicians per 100,000 Population .....	149
Fig. 11 Trends in Nurses per 100,000 Population .....	154

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

Negara Brunei Darussalam .....	159
Indonesia .....	169
Japan .....	181
Malaysia .....	205
The Philippines .....	217
Singapore .....	227
Thailand .....	243
Vietnam .....	255

## **Index**

Part I .....	263
Part II .....	271

## **Appendix**

List of Organizations Related to Health Statistics .....	276
Corrigenda for <i>SEAMIC Health Statistics 1998</i> .....	278

# **Part I**

## **Health Statistics**

## Notes on Tables and Graphs

### 1. Population

- 1 – 1: This table gives statistics obtained at the latest population census conducted in each country, together with data on the average annual increase during 1981–1990, surface area, and population density. Population censuses are undertaken every 10 years, usually in or around years ending with 0. Japan carries out its population censuses every 5 years ending with 0 and 5.
- 1 – 2: This table provides the trends in the estimated mid-year population since 1970.
- 1 – 3: This table shows population projections prepared by each country from the year 2000 onwards.
- 1 – 4 and Fig. 1: Population by age and sex is presented in the table in absolute numbers, and its percentage distribution is shown graphically as the population pyramid.
- 1 – 5: The definition of the term “urban” varies among countries. The statistics presented in this table are those as reported by each country, by applying its own definition of the term.

### 2. General Vital Statistics and Life Tables

- 2 – 1 and Fig. 2: The trends in the crude live-birth rate are presented in tabular and graphic forms. The crude live-birth rate is computed by:  
$$(\text{Number of live-births during a year}) / (\text{Population at the middle of the year}) \times 1,000$$
- 2 – 2 and Fig. 3: The trends in the crude death rate are presented in tabular and graphic forms. The crude death rate is computed by:  
$$(\text{Number of deaths during a year}) / (\text{Population at the middle of the year}) \times 1,000$$
- 2 – 3: This table shows the vital statistics rates.
- The crude marriage rate is computed by:  
$$(\text{Number of marriages during a year}) / (\text{Population at the middle of the year}) \times 1,000$$
- The crude divorce rate is computed by:  
$$(\text{Number of divorces during a year}) / (\text{Population at the middle of the year}) \times 1,000$$
- The general fertility rate is computed by:  
$$(\text{Number of live-births during a year}) / (\text{Population of women aged 15–49 years at the middle of the year}) \times 1,000$$

The infant mortality rate is computed by:

$$(\text{Number of deaths under 1 year of age during a year}) / (\text{Number of live-births during the year}) \times 1,000$$

- 2 – 4: This table shows statistics on natality and mortality by sex and the natural increase rate.

The natural increase rate is computed by:

$$(\text{Crude live-birth rate}) - (\text{Crude death rate}), \text{ which is expressed per 1,000 population.}$$

- 2 – 5: This table shows the number of deaths and the death rate by age and sex. The death rate for an age group (i.e. the age-specific death rate) is computed by:

$$(\text{Number of deaths in a specific age group during a year}) / (\text{Population in the age group at the middle of the year}) \times 100,000$$

- 2 – 6: The expectation of life is computed by each country by means of a life table method. There are certain minor differences among countries in the method applied.

Fig. 4: The trends in the expectation of life at birth since 1975 are presented separately for male and for female.

- 2 – 7 and Fig. 5: The number of survivors (per 100,000 births) at specified ages is computed by each country by means of a life table method. There are certain minor differences among countries in the method applied.

### 3. Causes of Death

- 3 – A: This list of cause-of-death group is used for the ranking of cause-of-death groups. The list has been applied to the detailed statistics presented in table 3 – 3. In establishing this list the following points were taken into consideration:

- In view of the importance of diarrheal diseases as causes of death in some of the countries, intestinal infectious diseases were taken together as a single group.
- In order to highlight the growing importance of malignant neoplasms as a leading cause of death, they were taken as a single group.
- Myocardial infarction is becoming an important cause of death, but it appears under-diagnosed in some countries in which less specific terms are used frequently in the death certificates. To achieve a greater comparability of statistics among the countries, all heart diseases were combined into a single group.
- As influenza often seems to lead to the death certificate diagnosis of pneumonia, these two conditions were combined for the purpose of ranking causes of death.
- The “remainder categories” were excluded from the ranking process.
- Senility and ill-defined conditions were excluded from the ranking process.

3 – 1 and 3 – 2: The list given in 3 – A was used to establish these tables, as indicated above. The tables also show the percentage of each cause among all deaths assigned to “specific” causes of death, namely by using

(All deaths) – (Deaths due to senility) – (Deaths assigned to ill-defined conditions)

for the denominator.

3 – 3: This table shows the number of deaths and the death rate by causes for each sex. Some of the countries have introduced ICD-10 in coding causes of death, while others are still using ICD-9. There are minor differences in the contents of some of the disease categories between the two versions of ICD, as mentioned in the footnotes to this table.

3 – 4: This table shows the percentages of deaths which are medically certified and those not certified.

#### 4. Child and Maternal Health

4 – 1: The following definitions are used for the perinatal events:

Fetal death: Fetal death after at least **22 weeks** of gestation. This is the new term used in this issue, replacing the previous term “late fetal death” which referred to gestation of 28 weeks or more.

Neonatal death: Death under four weeks.

Post-neonatal death: Death from 4 weeks to under 1 year.

Perinatal death: Fetal death and death under 1 week.

The rates corresponding to these deaths are computed per 1,000 live-births, as in the case of the infant mortality rate.

4 – 2: The columns for “– 1 day”, “2 – 6” and “7 – 27” together refer to neonatal mortality. The column “28 – 365” refers to post-neonatal mortality.

Fig. 6: This graph shows the trends in the infant mortality rate since 1975.

4 – 3 and Fig. 7: The trends in the maternal mortality rate are presented in tabular and graphic forms. Maternal mortality concerns death due to complications of pregnancy, childbirth and the puerperium (Chapter XI of ICD-9, or Chapter XV of ICD-10), and the rate is computed by

Maternal mortality rate = (Number of maternal deaths during a year) / (Number of live-births during the year) × 100,000

4 – 4: This table shows the percentage of women of childbearing age who currently use contraceptive methods. The percentages for the methods may add up to over 100, as some women use more than one method.



- 4 – 5: This table shows the percentage of women who received prenatal care at least 4 times from trained health personnel during the entire pregnancy.

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

This section concerns the incidence of infectious diseases and the coverage of immunization.

- 5 – A: The infectious diseases are listed for each country on which the reporting of incidence is required by law from the physician or the medical institution treating the patient.
- 5 – B: The target diseases of the national immunization programme are listed for each country. The age group to be immunized may differ from disease to disease and from country to country.
- 5 – 1: This table presents statistics on the number of cases of diseases which occur frequently and are notifiable in the majority of the countries.
- 5 – 2: This table presents statistics on the percentage of infants immunized against 6 diseases which are included in the programme of all the countries.

## **6. Nutrition**

Statistics included in this section were obtained from sample surveys on nutrition, food consumption or anthropometry. Most countries carry out such surveys periodically but not necessarily every year.

- 6 – 1: This table shows the intake of various kinds of nutrients per capita, obtained from food consumption surveys.
- 6 – 2, 6 – 3 and 6 – 4: These tables show the average length, weight, and chest circumference of infants, measured at birth and at 4 weeks, 3 months, 6 months, 9 months and 12 months after birth.
- 6 – 5 and 6 – 6: These tables concern the height and weight measured at each age from 1 to 18 years. Both the average and standard deviation are included.

## **7. Environmental Health and Socio-Economic Situation**

- 7 – 1: This table shows statistics on the availability of safe water and sanitary toilet, and on the types of lighting used.

Safe water means that it does not contain biological or chemical agent at concentration levels directly detrimental to health. Safe water includes treated surface water and untreated but uncontaminated water such as that from protected boreholes, springs and sanitary wells.

Sanitary toilet is a facility for the disposal of human excreta which isolates faeces from contact with people, animals, crops and water sources. Suitable facilities range from simple but protected pit latrines to flush toilets with sewage.

7 – 2: This table presents 3 socio-economic indicators which have a bearing on health.

Adult literacy relates to the ability of people aged 15 years and over who can both read and write a short simple statement on their everyday life. The rate is expressed as the percentage of adults with literacy.

The gross national product (GNP) measures the total domestic and foreign value claimed by residents of a country. The value is calculated in the national currency, but, for international comparisons, it has been converted to US dollars according to the average exchange rate for the year and further divided by the population of the country.

Labour force participation relates to people in work or available for work, i.e. the total number of people in employment plus the number unemployed. The rate is computed as the percentage of people in labour force among those aged 15 years and over.

7 – 3: This table concerns the expenditure of the Ministry of Health (or its equivalent). It does not cover health expenditures borne by other Ministries or by local governments not financed by the central Ministry of Health. On the other hand, the expenditures shown in this table may include those beyond health proper such as some social security expenditures for which the Ministry of Health may be responsible. The values in the national currency have been converted to US dollars by applying the average exchange rate for the year.

7 – 4: This table shows the percentage of adults who smoke, namely,

Adult smoking rate =  $(\text{Number of adult smokers}) / (\text{Number of adults investigated}) \times 100 (\%)$

All regular smokers are included in the numerator, regardless of the amount smoked daily. The age group investigated varies from country to country.

## 8. Medical Establishments

8 – A: This list provides the definitions of medical establishments and related statistical terms used in this section.

8 – B: This table shows which of the 11 categories of medical establishments included in the statistics of this section are formally recognized in each country.

8 – 1 and Fig. 8: The trends are shown in the number of hospitals operating in each country.

8 – 2 and Fig. 9: The trends in the number of hospital beds available in each country are shown in the table and the trends in the beds / population ratio in the graph.

8 – 3: This table provides detailed statistics on 11 categories of medical establishments in each country.

8 – 4: This table shows the utilization of hospitals. The bed occupancy rate and the average length of stay during a year are computed by the following formulae:

Bed occupancy rate = (Occupied bed-days) / (Available bed-days during the year) × 100 (%)

Average length of stay = (Number of inpatient days of care provided to discharged patients) / (Number of discharges),

where discharges include all separations through return to the patient's home, transfer to another hospital or institution, and death. Newborn babies are excluded from the computation. The day of admission is counted as 1 day but the day of discharge is not counted. Admission and discharge on the same day is counted as 1 day.

## 9. Human Resources for Health

9 – A: This list provides the definitions of the 30 health professions dealt with in this section.

9 – B: This table shows which of the 30 professions included in this section are recognized formally in each country.

9 – 1: This table gives the number of persons in each of the 30 professions considered.

9 – 2: This table gives the ratios of health personnel per population and population per health personnel, for 6 professions.

9 – 3 and Fig. 10: The table gives the trends in number of physicians, while the graph shows the trends in the physician / population ratio.

9 – 4, 9 – 5 and 9 – 6: These tables show the trends in the numbers of dentists, pharmacists and midwives, respectively.

9 – 7 and Fig. 11: The table shows the trends in the number of nurses, and the graph the trends in the nurses / population ratio.

9 – 8: This table shows the number and percentage of physicians, dentists and pharmacists by sex. It is a new table included in this issue for the first time, in view of the increasing participation of women in these professions.

9 – 9: This table gives data on the number of medical schools and the enrolment situation.

### Explanation of Symbols

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

# **1. Population**

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

	Latest Census						Annual Rate of Increase (%)	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	51
INDONESIA <sup>(2)</sup>	15 September–31 October 1990	179,322,000	89,436,285	89,885,715	99.5	4.5	1.7 <sup>b)</sup>	1,919,317 <sup>c)</sup>	105 <sup>c)</sup>
JAPAN <sup>(3) d)</sup>	1 October 1995	125,570,246	61,574,398	63,995,848	96.2	2.8	1.6 <sup>e)</sup>	377,829	337
MALAYSIA <sup>(4)</sup>	14 August 1991	18,379,655	9,327,519	9,052,136	103.0	4.8	2.6 <sup>f)</sup>	329,758	54
PHILIPPINES <sup>(5)</sup>	1 September 1995	68,616,536	34,584,170	34,032,366	101.6	5.1	2.3 <sup>f)</sup>	300,000	229
SINGAPORE <sup>(6) g)</sup>	30 June 1990	2,705,115	1,370,059	1,335,056	102.6	4.2	2.0 <sup>h)</sup>	648 <sup>i)</sup>	5,965 <sup>j)</sup>
THAILAND <sup>(7)</sup>	1 April 1990	54,548,530	27,061,733	27,486,797	98.5	4.4	2.0 <sup>k)</sup>	513,115	106
VIETNAM <sup>(8)</sup>	1 April 1994	72,509,500	35,386,400	37,123,100	106.8	4.8	1.8 <sup>l)</sup>	331,114	235 <sup>l)</sup>

Source : (1) Department of Economic Planning and Development, Ministry of Finance  
 (2) Central Bureau of Statistics  
 (3) *1995 Population Census of Japan*, Statistics Bureau, Management and Coordination Agency  
 (4) *Population and Housing Census of Malaysia, 1991*  
 (5) National Statistics Office  
 (6) *Census of Population 1990 Singapore*, and *Yearbook of Statistics, Singapore*, Department of Statistics  
 (7) *1990 Population and Housing Census*, National Statistics Office, Office of the Prime Minister.  
 (8) Ministry of Health

Note : a) 1997–1998  
 b) 1990–1995  
 c) For 1998  
 d) All residents  
 e) 1990–1995  
 f) 1980–1991  
 g) Singapore residents only  
 h) 1989–1998  
 i) Year 1998  
 j) Total population 1998  
 k) 1981–1990  
 l) Year 1998

## 1-2 Estimates of Mid-year Population

(in thousands)

	1970	1975	1980	1985	1990	1992	1993	1994	1995	1996	1997	1998
BRUNEI <sup>(1)</sup>	130	156	185	218	253	268	276	285	296	305	314	323
INDONESIA <sup>(2)</sup>	119,470	130,500	146,360	163,370	178,440	184,491	187,589	190,815	195,264	196,263	199,662 <sup>a)</sup>	204,393
JAPAN <sup>(3) b)</sup>	102,805 <sup>a)</sup>	110,311 <sup>a)</sup>	116,107 <sup>a)</sup>	120,037 <sup>a)</sup>	122,726 <sup>a)</sup>	123,358 <sup>a)</sup>	123,692 <sup>a)</sup>	123,999 <sup>a)</sup>	124,245 <sup>a)</sup>	124,615 <sup>a)</sup>	124,881 <sup>a)</sup>	125,189
MALAYSIA <sup>(4)</sup>	10,768	12,175	13,764	15,681	17,764	18,762	19,208	19,658	20,108	21,169	21,665	22,180
PHILIPPINES <sup>(5)</sup>	36,849	42,517	48,317	54,668	62,049	65,339	66,982	68,624	68,616	69,946	71,550	73,148
SINGAPORE <sup>(6) c)</sup>	2,075	2,263	2,282	2,483	2,705	2,818	2,874	2,930	2,987	3,044	3,104	3,164
THAILAND <sup>(7)</sup>	36,370	41,388	46,718	51,683	56,340	57,760	58,584	59,695	59,401	59,788	60,602	61,201
VIETNAM <sup>(8)</sup>	41,063	47,638	53,722	59,872 <sup>d)</sup>	66,233	69,405	70,982	72,509	73,959	75,355	76,715	78,059

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

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

## 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		516	560	604	648	
INDONESIA <sup>(2)</sup>	<sup>d)</sup> 210,486	<sup>d)</sup> 225,748	<sup>d)</sup> 242,115	<sup>d)</sup> 259,668	<sup>d)</sup> 278,493	<sup>d)</sup> 298,685	<sup>d)</sup> 320,339		343,564
JAPAN <sup>(3) e)</sup>	126,892	127,684	127,623	126,444	124,133	120,913	117,149	113,114	108,964
MALAYSIA <sup>(4)</sup>	23,264	25,843	28,411	31,081	33,855	31,274			
PHILIPPINES <sup>(5)</sup>	76,320	84,215	91,851	99,008	105,503	111,473	117,060	122,016	126,173
SINGAPORE <sup>(6) f)</sup>	3,268	3,539	3,798	3,967	4,118	4,248	4,348	4,421	
THAILAND <sup>(7) d)</sup>	62,405	65,034	67,230	69,076	70,503				
VIETNAM <sup>(8)</sup>	81,200	88,300	93,400						

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

(7) *Report of Working Group on Population Projections*, Office of the National Economic and Social Development Board  
 (8) Ministry of Health

Note : a) Year 2001  
 b) Year 2006  
 c) Year 2011  
 d) Revised figure(s)  
 e) Population on 1 October  
 f) Singapore residents only

## 1 - 4 Population by Age and Sex

	Year	Sex	Ages								
			All Ages	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39
BRUNEI <sup>(1)</sup>	1997	T	314.4	37.2	35.0	30.9	27.1	28.0	30.2	30.4	27.7
		M	166.6	19.2	18.2	15.8	14.0	14.5	16.1	16.5	15.2
		F	147.8	18.0	16.8	15.1	13.1	13.5	14.1	13.9	12.5
	1998	T	323.1	38.2	36.1	32.0	28.2	28.4	30.6	30.8	28.1
		M	171.3	19.8	18.8	16.5	14.7	14.6	16.2	16.6	15.3
		F	151.8	18.4	17.3	15.5	13.5	13.8	14.4	14.2	12.8
INDONESIA <sup>(2) a)</sup>	1998	T	204,393	21,091	19,549	21,781	22,836	19,547	16,890	15,812	14,808
		M	101,719	10,735	9,962	11,149	11,570	9,624	7,998	7,534	7,278
		F	102,673	10,356	9,587	10,630	11,266	9,923	8,892	8,278	7,530
JAPAN <sup>(3) b)</sup>	1998	T	125,252	5,913	6,059	6,933	7,743	9,138	9,543	8,296	7,729
		M	61,311	3,031	3,104	3,551	3,969	4,680	4,851	4,200	3,904
		F	63,941	2,883	2,955	3,382	3,774	4,457	4,692	4,095	3,825
MALAYSIA <sup>(4)</sup>	1997	T	21,666	2,552	2,516	2,408	2,175	2,044	1,849	1,709	1,528
		M	11,082	1,316	1,296	1,236	1,121	1,063	954	876	780
		F	10,584	1,236	1,219	1,171	1,054	981	895	836	748
PHILIPPINES <sup>(5)</sup>	1997	T	71,547	9,520	8,960	8,245	7,483	6,699	5,925	5,157	4,417
		M	36,049	4,899	4,602	4,192	3,774	3,360	2,964	2,585	2,220
		F	35,498	4,621	4,358	4,035	3,709	3,339	2,961	2,572	2,197
SINGAPORE <sup>(6) c)</sup>	1998	T	3,163.5	240.5	256.1	215.0	208.6	219.1	267.7	298.2	313.4
		M	1,587.9	124.3	132.3	111.2	107.7	109.1	130.9	148.2	158.9
		F	1,575.6	116.2	123.8	103.8	100.9	110.0	136.8	150.0	154.5
THAILAND <sup>(7)</sup>	1998	T	61,155	5,341	5,411	5,551	5,763	5,751	5,529	5,142	4,720
		M	30,443	2,694	2,728	2,808	2,923	2,920	2,814	2,589	2,349
		F	30,712	2,647	2,683	2,743	2,840	2,831	2,715	2,553	2,371
VIETNAM <sup>(8)</sup>	1997	T	77,734	9,319	9,785	9,474	7,998	6,678	6,135	5,979	4,970
		M	37,742	4,815	5,048	4,892	3,960	3,184	3,029	2,873	2,330
		F	39,992	4,504	4,737	4,582	4,038	3,494	3,106	3,106	2,640

Source : (1) Department of Economic Planning and Development, Ministry of Finance  
 (2) Central Bureau of Statistics  
 (3) Statistics Bureau, Management and Coordination Agency  
 (4) Department of Statistics

(5) National Statistics Office  
 (6) Department of Statistics  
 (7) *The Central Office for Civil Registration*, Ministry of Interior  
 (8) Ministry of Health

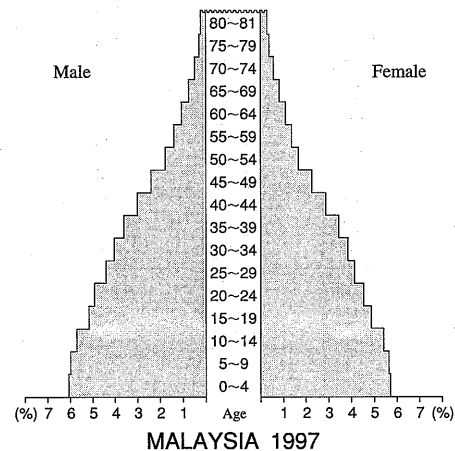
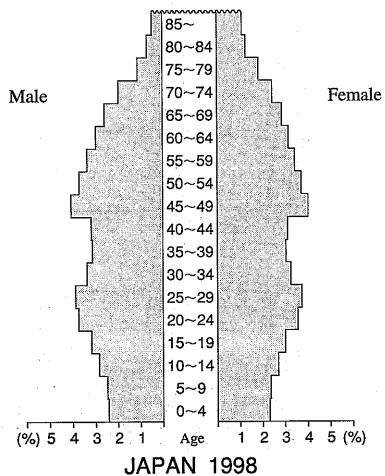
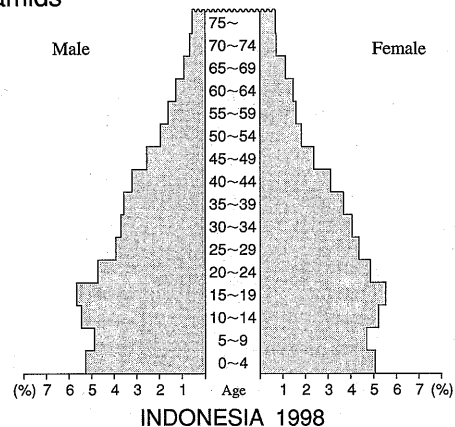
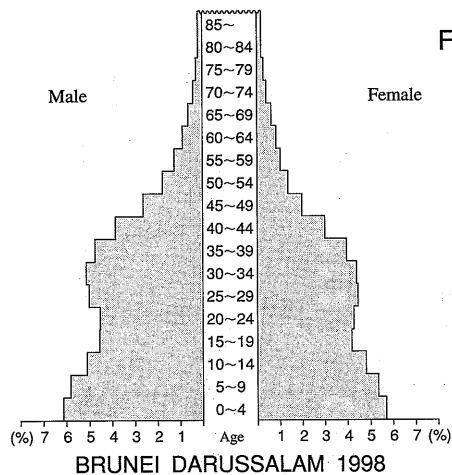


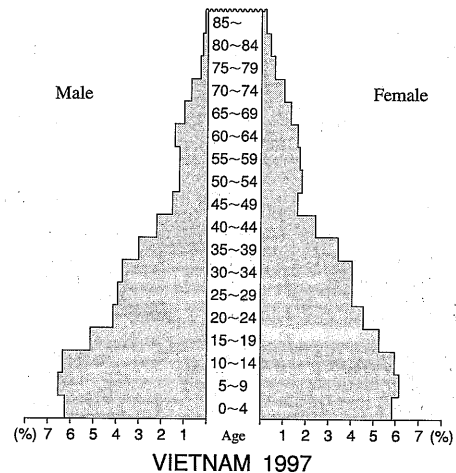
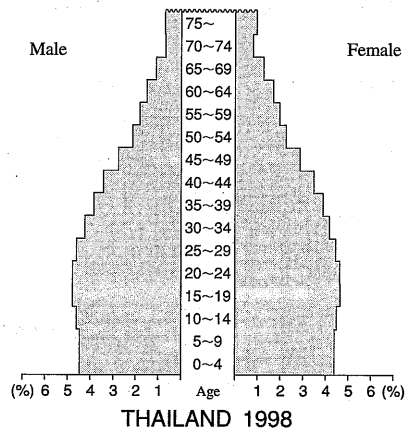
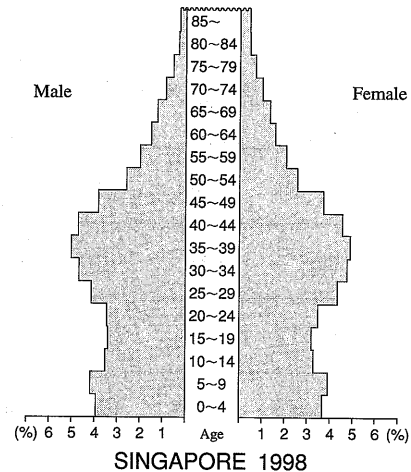
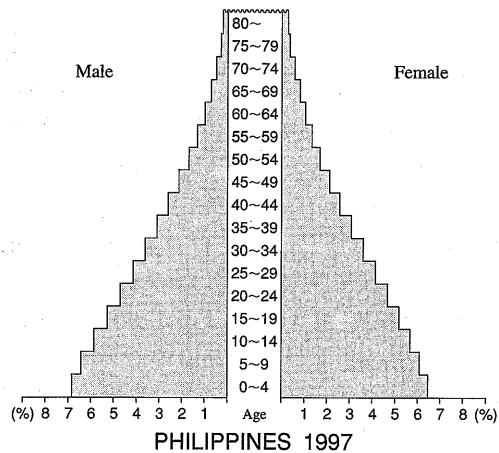
(in thousands)

Age									
40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+
21.5	14.3	9.6	6.9	5.2	3.7	2.6	1.7	1.2	1.2
12.1	8.1	5.3	3.7	2.6	1.9	1.3	0.9	0.6	0.6
9.4	6.2	4.3	3.2	2.6	1.8	1.3	0.8	0.6	0.6
22.1	14.9	10.1	7.3	5.5	4.0	2.6	1.8	1.2	1.2
12.4	8.5	5.7	4.0	2.8	2.0	1.3	0.9	0.6	0.6
9.7	6.4	4.4	3.3	2.7	2.0	1.3	0.9	0.6	0.6
12,911	10,045	7,691	6,507	5,548	4,142	2,759	2,476		
6,548	5,198	3,973	3,268	2,570	1,869	1,335	1,108		
6,363	4,847	3,717	3,239	2,978	2,273	1,424	1,368		
7,883	10,104	9,308	8,488	7,679	6,834	5,497	3,676	2,462	1,970
3,964	5,059	4,630	4,171	3,713	3,221	2,441	1,376	870	577
3,918	5,046	4,678	4,317	3,965	3,612	3,056	2,300	1,592	1,393
1,272	1,006	744	596	465	335	221	141	105	
651	517	383	301	228	158	101	60	45	
621	490	361	295	237	177	121	81	60	
3,690	3,027	2,413	1,888	1,451	1,089	767	468	348	
1,859	1,524	1,206	934	706	516	351	208	149	
1,831	1,503	1,207	954	745	573	416	260	199	
292.1	238.2	162.7	128.3	97.7	80.8	59.2	39.3	24.5	22.1
148.9	121.2	82.0	63.4	47.9	38.8	27.7	17.3	9.9	8.2
143.2	117.0	80.7	64.9	49.8	42.0	31.5	22.0	14.6	13.9
4,212	3,437	2,676	2,312	1,957	1,432	903	1,010		
2,089	1,685	1,301	1,107	925	665	415	426		
2,123	1,752	1,375	1,205	1,032	767	488	584		
3,572	2,407	2,330	2,252	2,329	1,787	1,320	699	466	233
1,708	1,165	932	932	1,087	777	544	233	155	78
1,864	1,242	1,398	1,320	1,242	1,010	777	466	311	155

Note: a) Excluding non-permanent residents (homeless people, sailors, boat people and remote area communities)  
b) Japanese nationals only, as of 1 October 1998  
c) Singapore residents only

Fig. 1 Population Pyramids





## 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	<sup>e) f)</sup> 204,393	89,186	37.1
JAPAN <sup>(3)</sup>	94,300	59,698	63.3	104,666	75,429	72.1	117,600	89,187	76.2	<sup>g)</sup> 125,570	98,009	78.1
MALAYSIA <sup>(4)</sup>	8,170	2,060	25.2	10,439	2,799	26.8	13,136	4,492	34.2	<sup>c)</sup> 17,563	8,899	50.6
PHILIPPINES <sup>(5)</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>(6)</sup>	<sup>d)</sup> 1,446	1,132	78.0	2,075	1,562	75.0	<sup>h)</sup> 2,282	2,282	100.0	<sup>e) h)</sup> 3,164	3,164	100.0
THAILAND <sup>(7)</sup>	<sup>(8)</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
VIETNAM <sup>(9)</sup>	30,172	4,727	15.7	41,063	8,787	21.4	53,722	10,300	19.2	<sup>e)</sup> 78,059	16,245	21.1

Source: (1) Department of Economic Planning and Development, Ministry of Finance

(2) *Population of Indonesia*, Central Bureau of Statistics(3) *Japan Statistical Yearbook*, Management and Coordination Agency

(4) General Report of the Population

(5) National Statistics Office

(6) *Report on the Census of Population, Singapore, Vol. 1*, Department of Statistics(7) *Population and Housing Census*, National Statistical Office, Office of the Prime Minister(8) *1960 Population Census*, Central Statistics Office, National Economic Development Board(9) *Health Statistics Yearbook*, Statistics and Informatic Division, Ministry of Health

Note: a) For 1971

b) For 1981

c) For 1991

d) For 1957

e) For 1998

f) Calculated by Centre for Health Data, Ministry of Health based on Population Projection 1990-2000 and 2000-2005

g) For 1995

h) Singapore residents only

## 2. General Vital Statistics and Life Tables

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

**BRUNEI DARUSSALAM***Population:*

The population is rising with an annual growth rate of around 2.4% during 1998–1999. The population was estimated at 330,700 in 1999. The proportion of elderly people aged 60 years and over increased from 4.1% in 1991 to 5.1% in 1999.

*Crude Birth and Death Rates:*

There were 7,411 live-births with the crude rate of 22.9 per 1,000 population in 1998, as compared with 7,633 live-births with the corresponding rate of 23.7 in 1997. The number of deaths in 1998 was 928 and the crude death rate was 2.9. It was found that the death rate remained more or less stationary in recent years.

*Trends of Causes of Deaths:*

During 1998, heart diseases were the top leading cause of death followed by malignant neoplasms, cerebrovascular diseases, bronchitis (chronic and unspecified), emphysema and asthma, diabetes mellitus, transport accidents and hypertensive diseases. The ICD-10 coding scheme was implemented on January 1996.

*Life Expectancy:*

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

*Health Care Status:*

The Ministry of Health is always on vigilance of the World Health Organization indicators for monitoring the progress of the Global Strategy for Health for All. Almost all indicators that have been appraised for Brunei Darussalam for the year 1998 were found to meet the WHO targets, which indicated a marked progress towards better health status. Brunei Darussalam is free of major communicable diseases. The long-term health policy is to provide the highest level of health care which is cost effective and a quality of life for the whole population in a clean and healthy environment.

**INDONESIA***Population:*

Indonesia has an estimated 1998 population of more than 204 million. This would make Indonesia the fourth most populous country in the world after the People's Republic of China, India, and the United States of America.

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

*Crude Death Rate:*

The crude death rate has been showing a downward trend since the early 1970s. The rate in 1997 is estimated at 7.7 per 1,000 population,

compared to 18.7, 12.5, and 9.7 in 1970, 1980, and 1990, respectively. The 1992 Household Health Survey found that cardiovascular diseases were the prime cause of death. In earlier surveys, infectious diseases were the prime cause, while cardiovascular diseases were not even among the top five causes.

#### *Life Expectancy:*

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

### **JAPAN**

#### *Population:*

The population has been growing every year, reaching 125.25 million on 1 October 1998. The proportion of people over 65 years old was 16.2% in 1998 and is growing rapidly.

#### *Crude Birth Rate:*

The number of births in 1998 was 1,203,147 and the crude birth rate was 9.6 (per 1,000 population). The rate had increased slightly.

#### *Crude Death Rate:*

The number of deaths in 1998 was 936,484 and the crude death rate was 7.5 (per 1,000 population). The rate used to decrease after World War II, but has turned increasing gradually in recent years, caused by the rising number of aged people's deaths.

#### *Trends of Causes of Death:*

In 1995, there was a significant change in the ranking of causes of death: heart diseases, which used to be the second frequent cause of death, shifted to the third cause, and cerebrovascular diseases, which used to be the third cause, moved to the second rank. This change seems to be due to the use of ICD-10 instead of ICD-9 and to a reform of death certification, consisting of the introduction of the new international certificate and the discouragement of using non-specific disease terms. The ranking of the two disease groups was reversed again in 1997, with heart diseases as the second and cerebrovascular diseases as the third most frequent causes, due to a decline in the cerebrovascular disease mortality.

#### *Life Expectancy:*

In 1998, Japanese life expectancy at birth for male was 77.16 years, which represented a decrease by 0.03 year as compared with the preceding year. Life expectancy for females was 84.01 years, also showing an increase by 0.19 year.

#### *Health Care:*

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

## **MALAYSIA**

In 1998, Malaysia had a population of 22,179,500 people, an increase of 514,000 persons or 2.3% over the population in 1997. The crude birth rate has been falling gradually since 1985.

Life expectancy among Malaysians today is comparable to many developed countries, under the favourable socio-economic conditions prevailing in the country. The life expectancy was 69.6 years for men and 74.5 years for women in 1997.

## **PHILIPPINES**

### *Population:*

The total population of the Philippines on September 1, 1995 by actual count was 68,616,536 persons, showing an increase of 7,913,330 persons or 13 percent over the 1990 census count of 60,703,206. This figure has led to the corrected projections shown in tables 1-2 and 1-3.

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

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

### *Crude Birth Rate:*

The crude birth rate stood at 27.9 in 1998.

### *Crude Death Rate:*

The crude death rate continued to decline to 6.1 in 1997, and remained the same in 1998.

### *Life Expectancy:*

Expectancy of life at birth for the average male was 62.65 years and that for the average female was 67.90 years.

## **SINGAPORE**

### *Population:*

The mid-year resident population of Singapore grew marginally by about 1.9% from 3.10 million in 1997 to 3.16 million in 1998. The majority of the population was the Chinese (77.0%), followed by the Malays (14.1%) and the Indians (7.6%). The population continued to age, with the proportion of those aged 65 years and above, increasing from 7.0% in 1997 to 7.1% in 1998. The median age of the population now stands at 32.9 years, up from 32.6 years in 1997.

The rate of natural increase dropped from 10.1 per 1,000 resident population in 1997 to 8.6 per 1,000 in 1998. There were 43,664 live births in 1998, which was a decrease of 7.8% from the 47,333 births in 1997. The total fertility rate correspondingly fell to 1.49 births per woman in 1998 as compared with 1.64 births per woman in 1997. The number of deaths increased slightly from 15,305 in 1997 to 15,657 in 1998. The crude death rate was 4.6 deaths per 1,000 resident population in 1998.



*Life Expectancy:*

The average life expectancy at birth of Singapore residents was 77.1 years in 1997. Expectancy of life at birth for the average male was 75.0 years and that for the average female was 79.2 years.

*Health Care Status:*

The health of Singaporeans continued to improve with life expectancy increasing and infant mortality remaining low.

## **THAILAND**

*Population:*

Thailand had a population of around 61.2 million in 1998. The current annual population growth rate is about 1 percent, and the population is expected to reach 70 million by the year 2020. The trend of population growth indicates that the country is becoming more urbanized, with an increase in proportion of working ages and old ages, and a decrease in the dependency ratio.

*Life Expectancy:*

As a result of the success in health development, life expectancy of the Thai people has increased by the average of 0.46 year annually, in male from 60 years during 1980–1985 to 63 years during 1990–1995 (70.0 years in 1995) and in female from 66 years to 68 years between the same period of time (75.0 years in 1995).

## **VIETNAM**

Over the period from 1986 to 1997, the total population of Vietnam increased from 61.1 million to 76.7 million, with the average annual increase of 2.09%.

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

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

## 2-1 Crude Live-birth Rates

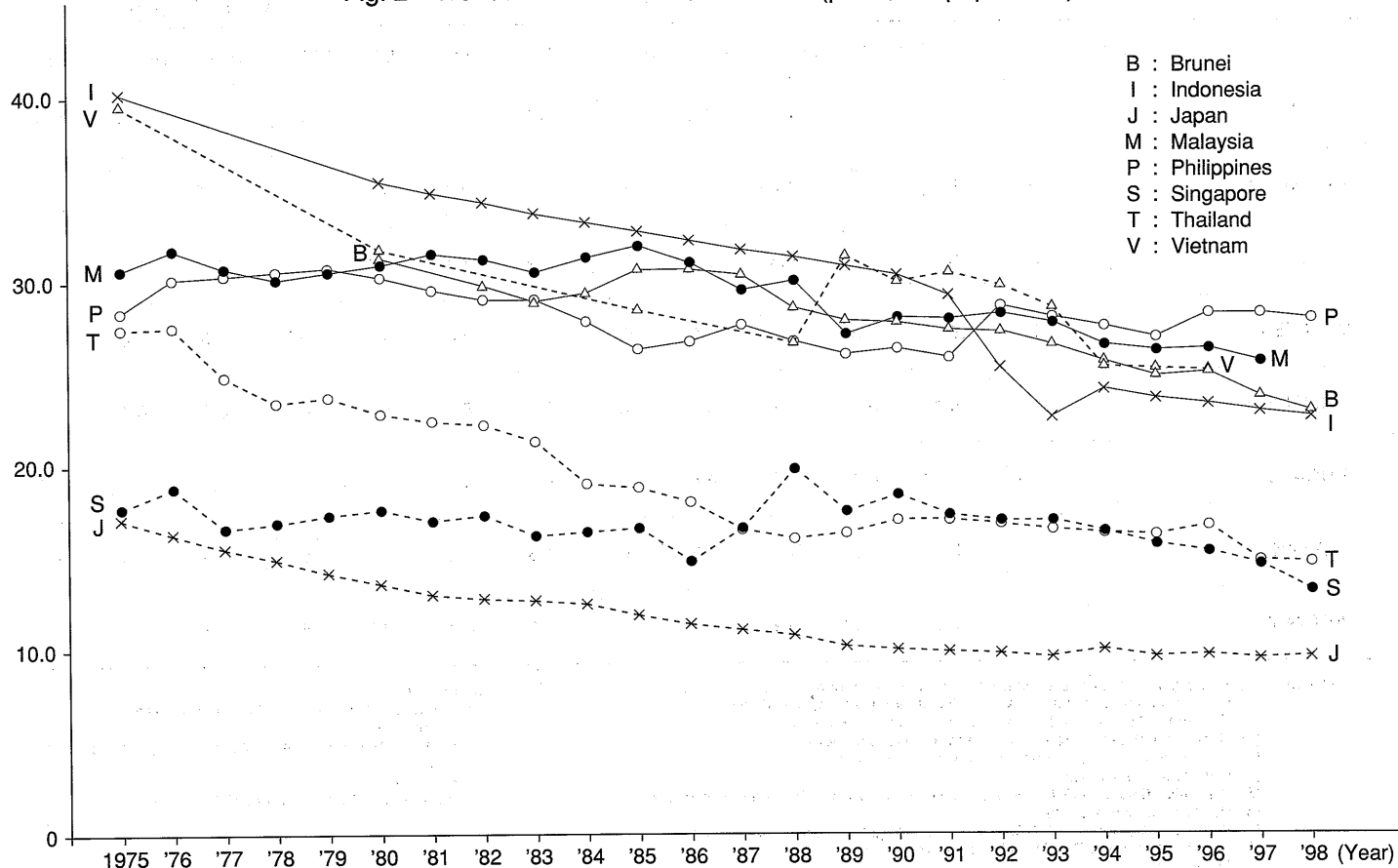
(per 1,000 population)

Year	1970	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998
BRUNEI <sup>(1)</sup>			31.2	30.6 <sup>a)</sup>	27.7 <sup>a)</sup>	27.3	27.2	26.5	25.6	24.8	25.0	23.7	22.9
INDONESIA <sup>(2)</sup>	43.8 <sup>a)</sup>	40.2	35.4 <sup>a)</sup>	32.7 <sup>a)</sup>	30.3 <sup>a)</sup>	29.2	25.3	22.6	24.1	23.6 <sup>a)</sup>	23.3	22.9 <sup>a)</sup>	22.6
JAPAN <sup>(3)</sup>	18.8	17.1	13.6	11.9	10.0	9.9	9.8	9.6	10.0	9.6	9.7	9.5	9.6
MALAYSIA <sup>(4)</sup>	32.4	30.6	30.9	31.9	28.0	27.9	28.2	27.7	26.5	26.2	26.3	25.6	
PHILIPPINES <sup>(5)</sup>	27.4	28.8	30.2	26.3	26.3	25.8	28.6	28.0	27.5	26.9	28.9	28.2 <sup>b)</sup>	27.9 <sup>(6)</sup>
SINGAPORE <sup>(7) c)</sup>	22.1	17.7	17.6	16.6	18.4	17.3	17.0	17.0	16.4	15.7	15.3	14.6	13.2
THAILAND <sup>(8)</sup>	31.5	27.4	22.8	18.8	17.0	17.0	16.8	16.5	16.3	16.3	16.7	14.8	14.7
VIETNAM <sup>(9)</sup>		39.5 <sup>d)</sup>	31.7	28.4	29.9	30.4	29.7	28.5	25.3	25.2	25.1		

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

Note : a) Revised  
 b) Based on 1995 Census National & Regional Projections  
 c) Rates from 1980 onward refer to Singapore residents only  
 d) For 1976

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



## 2-2 Crude Death Rates

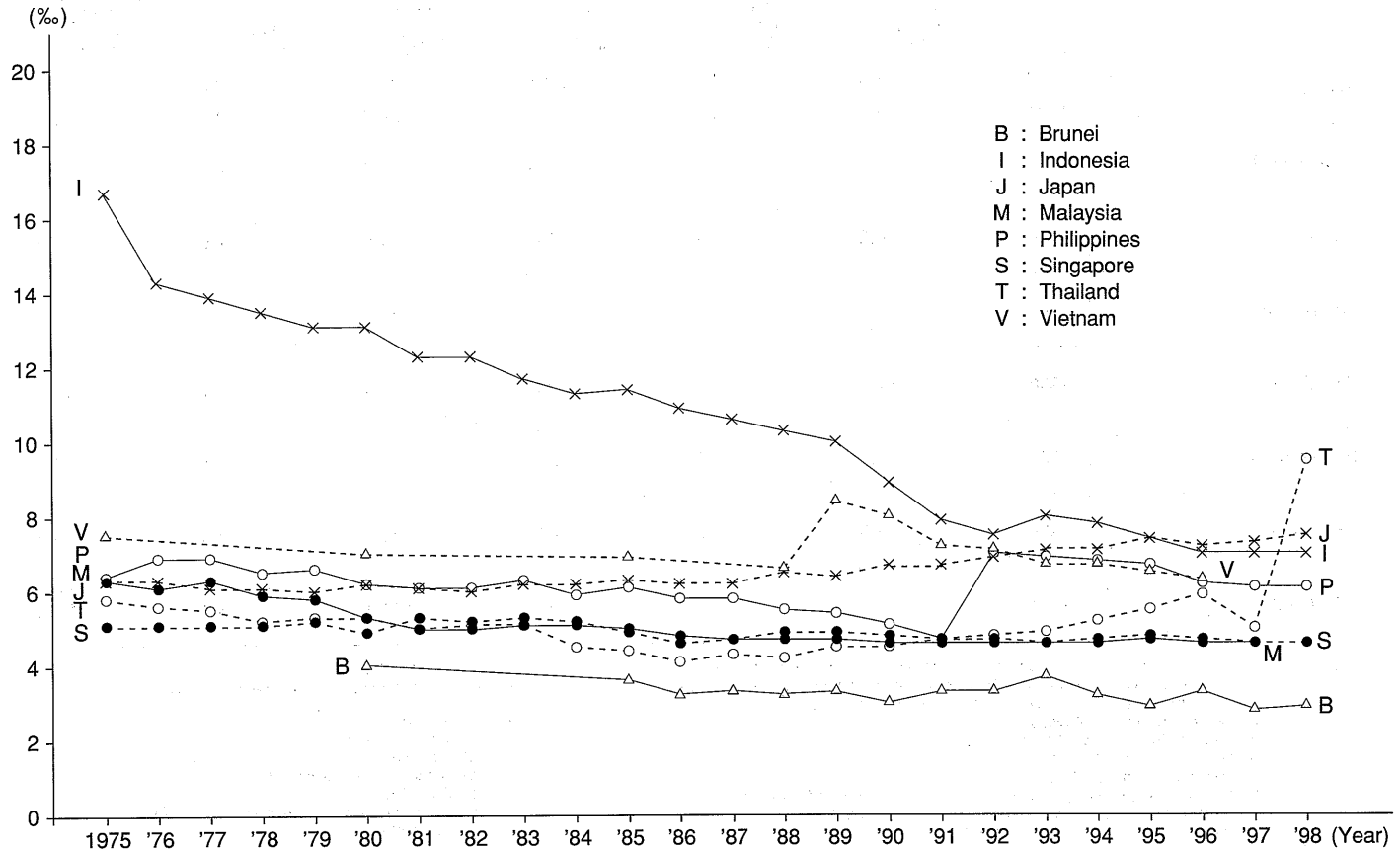
(per 1,000 population)

Year	1970	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998
BRUNEI (1)			4.0	3.6	3.0	3.3	3.3	3.7	3.2	2.9	3.3	2.8	2.9
INDONESIA (2) b)	a) 19.1	16.7	(3) 13.1	(3) 11.4	(3) 8.9	7.9	7.5	8.0	7.8		7.0	7.0	7.0
JAPAN (3)	6.9	6.3	6.2	6.3	6.7	6.7	6.9	7.1	7.1	7.4	7.2	7.3	7.5
MALAYSIA (4)	7.0	6.3	5.3	5.0	4.6	4.6	4.6	4.6	4.6	4.7	4.6	4.6	
PHILIPPINES (5)	6.7	6.4	6.2	6.1	5.1	4.7	7.0	6.9	6.8	6.7	6.2	b) 6.1	(6) b) 6.1
SINGAPORE (7) c)	5.2	5.1	4.9	4.9	4.8	4.7	4.7	4.6	4.7	4.8	4.7	4.6	4.6
THAILAND (8)	6.2	5.8	5.3	4.4	4.5	4.7	4.8	4.9	5.2	5.5	5.9	5.0	e) 9.5
VIETNAM (9)		d) 7.5	7.0	6.9	8.0	7.2	7.1	6.7	6.7	6.5	6.3		

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

Note: a) For 1971  
 b) Based on 1995 Census National and Regional Projections  
 c) Rates from 1980 onward refer to Singapore residents only  
 d) For 1976  
 e) Rate adjusted for underreporting of death

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)	1997	5.4 <sup>a)</sup>	1.0 <sup>a)</sup>	23.7	90.2	2.8	7.4
	1998	4.9 <sup>a)</sup>	1.1 <sup>a)</sup>	22.9	87.7	2.9	6.5
INDONESIA (2)	1998	8.4 <sup>a)</sup>	0.8 <sup>a)</sup>	22.6	97.0	7.0	50
JAPAN (3)	1998	6.3	1.9	9.6	40.4	7.5	3.6
MALAYSIA (4)	1997	7.3	0.7	25.6	100.9	4.6	9.5
PHILIPPINES (5)	1998	14.1	..	27.9	3.5 <sup>b)</sup>	6.1	24.1 <sup>c)</sup>
SINGAPORE (6) d)	1998	7.3	1.8	13.2	45.6	4.6	4.1
THAILAND (7) (8)	1998	5.3	5.3	14.7	90.3	9.5 <sup>f)</sup>	4.5
VIETNAM (9)	1994			25.3	100.8	6.7	37.0 <sup>(10) g)</sup>

Source: (1) Registration of Birth and Death and Adoptions, Department of Immigration and Registration of Nationals, Ministry of Home Affairs and Department of Economic Planning and Development, Ministry of Finance

(2) Central Bureau of Statistics

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

(4) Department of Statistics

(5) National Statistics Office

(6) *Report on Registration of Births and Deaths*, Registry of Births and Deaths

(7) Health Information Division, Ministry of Public Health

(8) Registration System, Ministry of Interior

(9) Ministry of Health

(10) *The State of World Population 1998*, UNFPA

Note: a) Muslims

b) Total fertility rate

c) For 1995

d) Singapore residents only

e) For 1993

f) Rate adjusted for underreporting of death

g) For 1998

## 2-4 Natality, Mortality and Natural Increase

	Year	Natality (live-born)				Mortality				Natural Increase (%)
		Number			(‰)	Number			(‰)	
		Total	Male	Female		Total	Male	Female		
(1)	1997	7,459 <sup>a)</sup>	3,899	3,560	23.7	883 <sup>a)</sup>	533	350	2.8	20.9
	1998	7,411	3,834	3,576	22.9	928	571	356	2.9	20.0
(2)	1997				22.9 <sup>b)</sup>				7.0 <sup>b)</sup>	15.9 <sup>b)</sup>
	1998				22.6				7.0	15.6
(3)	1998	1,203,147	617,414	585,733	9.6	936,484	512,128	424,356	7.5	2.1
(4)	1997	537,104	277,933	259,171	25.6	97,042	56,309	40,733	4.6	21.0
(5)	1995	1,643,707 <sup>c)</sup>	859,192	784,515	25.1	324,737	193,048	131,689	4.7	21.8
(6) d)	1998	43,664 <sup>e)</sup>	22,505	21,158	13.2	15,657 <sup>e)</sup>	8,741	6,914	4.6	8.6
(7)	1998	897,495	461,991	435,504	14.7	317,793	186,167	131,626	5.2	9.5
(8)	1994	1,834,490	1,022,768	811,722	25.3	485,813				18.6
	1995									18.7

Source : (1) Registration of Birth and Death and Adoptions, Department of Immigration and Registration of Nationals, Ministry of Home Affairs and Department of Economic Planning and Development, Ministry of Finance

(2) *Indonesia Demographic and Health Survey 1997*

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

(4) Department of Statistics

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

(6) *Report on Registration of Births and Deaths*, Registry of Births and Deaths

(7) Health Information Division, Ministry of Public Health

(8) Ministry of Health

Note : a) Including 1 intersex

b) Estimated

c) For 1994

d) Singapore residents only

e) Includes unknown sex

## 2-5 Deaths and Death Rates by Age

	Year	Sex	All ages		0-4		5-14		15-24		25-34	
			Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
BRUNEI (1)	1997	T	883	280.9	71	190.9	11	16.7	58	105.3	76	125.4
		M	533	319.9	47	244.8	7	20.6	44	154.4	55	168.7
		F	350	236.8	24	133.3	4	12.5	14	52.6	21	75.0
	1998	T	928 <sup>a)</sup>	287.2	63 <sup>a)</sup>	164.9	16	23.5	45	79.5	60	97.7
		M	571	333.3	41	207.1	13	36.8	32	109.2	40	122.0
		F	356	234.5	21	114.1	3	9.1	13	47.6	20	69.9
INDONESIA (2) b)	1992	T	5,352		292		315		443		1,008	
JAPAN (3)	1997	T	913,402	730.9	6,103	103.4	1,727	13.0	7,138	41.0	9,628	55.3
		M	497,796	813.3	3,321	109.8	1,047	13.6	5,138	57.7	6,490	73.5
		F	415,606	651.9	2,782	96.6	680	8.0	2,000	21.7	3,178	37.1
MALAYSIA (4)	1997	T	97,042	447.9	6,571	257.5	1,895	38.5	4,392	104.1	5,117	143.8
		M	56,309	508.1	3,753	285.3	1,175	46.4	3,395	155.4	3,835	209.9
		F	40,733	384.9	2,818	228.0	720	30.1	997	49.0	1,282	74.1
PHILIPPINES (5)	1996	T	344,363	492.3	46,068	485.2	12,314	72.7	15,459	111.3	21,705	201.0
		M	204,363	579.7	26,335	537.7	7,091	82.0	10,440	149.6	15,193	280.8
		F	140,000	403.4	19,733	429.2	5,223	62.9	5,019	72.7	6,512	120.9
SINGAPORE (6) c)	1998	T	15,657 <sup>d)</sup>	459.8	246 <sup>d)</sup>	92.7	75	14.2	274	36.9	501	54.8
		M	8,741	502.7	130	93.3	44	15.2	197	48.4	352	69.9
		F	6,914	416.2	115	91.2	31	13.2	77	25.1	149	40.1
THAILAND (7)	1998	T	317,793	519.6	11,101	207.8	4,546	41.5	15,907	138.1	41,068	385.5
		M	186,167	611.5	5,314	197.3	2,677	48.4	11,230	192.2	31,355	580.1
		F	131,626	428.6	5,787	218.5	1,869	34.4	4,677	82.5	9,713	185.0
VIETNAM (8)	1989	T	252,486	398.5	65,128	722.8	16,430	102.0	11,669	95.0	10,167	101.1
		M	141,070	463.3	36,091	776.8	8,791	106.2	6,880	118.9	6,263	133.9
		F	111,416	338.5	29,037	665.4	7,639	97.6	4,789	73.7	3,904	72.6

Source: (1) Registration of Birth and Death and Adoptions, Department of Immigration and Registration of Nationals, Ministry of Home Affairs and Department of Economic Planning and Development, Ministry of Finance  
 (2) Directorate General of Medical Care, Ministry of Health  
 (3) *Vital Statistics Japan*, Ministry of Health and Welfare  
 (4) Department of Statistics

(5) *Philippine Health Statistics*, Health Intelligence Service, Department of Health  
 (6) *Report on Registration of Births and Deaths*, Registry of Births and Deaths  
 (7) Health Information Division, Ministry of Public Health  
 (8) General Statistical Office



(rate per 100,000 population)

35 - 44		45 - 54		55 - 64		65 - 74		75 & over		Unknown	
Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
74	150.4	81	338.9	107	884.3	164	2,603.2	241	5,878.0		
50	183.2	57	425.4	55	873.0	92	2,875.0	126	6,000.0		
24	109.6	24	228.6	52	896.6	72	2,322.6	115	5,750.0		
90	179.3	85	340.0	122	953.1	180	2,727.3	267	6,357.1		
64	231.0	61	429.6	73	1,073.5	100	3,030.3	147	7,000.0		
26	115.6	24	222.2	49	816.7	80	2,424.2	120	5,714.3		
1,008		1,464				1,012					
17,574	111.2	55,539	284.8	108,268	678.8	194,970	1,634.1	511,802	6,597.1	653	
11,265	141.4	36,794	378.0	74,347	955.7	127,184	2,341.0	231,673	8,526.8	577	
6,309	80.5	18,745	191.9	33,921	415.1	67,786	1,043.2	280,129	5,557.0	76	
6,478	231.3	9,269	529.7	15,191	1,430.8	21,289	3,828.3	26,434	10,745.5	406	
4,423	309.1	5,972	664.1	9,314	1,760.3	11,619	4,489.6	12,530	11,933.3	293	
2,055	150.1	3,297	387.7	5,877	1,103.5	9,670	3,252.6	13,904	9,861.0	113	
27,055	344.9	33,914	648.8	46,070	1,435.9	53,648	2,998.6	87,555	11,402.2	575	
18,502	468.3	23,129	881.6	30,169	1,915.3	31,800	3,812.2	41,331	12,238.0	373	
8,553	219.7	10,785	414.2	15,901	973.5	21,848	2,287.9	46,224	10,746.0	202	
821	111.8	1,333	403.3	2,322	970.8	3,851	2,655.7	6,180	6,956.9	54 <sup>d)</sup>	
556	141.0	841	368.6	1,454	1,232.7	2,339	3,398.5	2,786	7,663.8	42	
265	81.6	492	236.2	868	716.7	1,512	1,983.7	3,394	6,461.4	11	
32,612	365.7	30,779	504.2	42,085	987.3	54,327	2,329.7	80,656	7,994.7	4,712	
23,799	536.2	19,730	660.6	24,895	1,224.4	29,807	2,755.8	34,829	8,172.6	2,531	
8,813	198.6	11,049	354.4	17,190	771.1	24,520	1,961.1	45,827	7,864.5	2,181	
9,788	180.0	14,910	384.4	28,936	819.3	38,700	1,894.3	56,758	5,559.1		
6,219	249.9	9,288	539.7	18,046	1,109.2	22,769	2,638.4	26,723	7,964.5		
3,569	121.1	5,622	260.6	10,890	571.7	15,931	1,347.8	30,035	4,530.2		

Note: a) Including 1 intersex  
b) Based on a 10-day sample of discharges from hospital for each quarter  
c) Singapore residents only  
d) Includes unknown sex

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

	Year	Sex	Age								
			0	1	2	3	4	5	10	15	20
BRUNEI (1)	1994-1996	M F	75.3 77.7	75.0 77.3				71.2 73.4	66.3 68.5	61.4 63.6	56.8 58.7
INDONESIA (2)	1998	M F	63.9 67.7	66.3 69.5				63.3 66.4	58.6 61.7	53.9 56.9	49.3 52.3
JAPAN (3)	1998	M F	77.2 84.0	76.5 83.3	75.5 82.3	74.5 81.4	73.6 80.4	72.6 79.4	67.6 74.5	62.7 69.5	57.9 64.6
MALAYSIA (4)	1997	M F	69.5 74.5	69.3 74.1				65.5 70.3	60.6 65.4	55.8 60.5	51.2 55.6
PHILIPPINES (5)	1995	M F	62.7 67.9	65.2 70.3	64.9 70.0	64.0 69.3	63.2 68.6	62.5 67.9	57.6 63.3	53.1 58.6	48.5 53.9
SINGAPORE (6)	1997	M F	75.0 79.2	74.3 78.5				70.4 74.5	65.4 69.6	60.5 64.6	55.6 59.7
THAILAND (7)	1995-1996	M F	70.0 75.0	71.1 76.1				67.5 72.4	62.9 67.7	58.2 62.9	53.7 58.4
VIETNAM (8)	1989	M F	63.0 67.5	65.0 69.5	64.4 69.2	63.8 68.7	63.1 68.0	62.3 67.3	58.0 63.2	53.5 58.7	49.0 54.1

- Source : (1) Medical and Health Statistics Unit, Research and Development Section, Ministry of Health  
 (2) Calculated by Centre for Health Data, using *Model Life Table for Developing Countries 1982*, the United Nations  
 (3) *Abridged Life Table for Japan*, Ministry of Health and Welfare  
 (4) *Abridged Life Table*, Department of Statistics  
 (5) University of the Philippines Population Institute  
 (6) *Abridged Life Table*, Ministry of Health  
 (7) National Statistics Office  
 (8) *Detailed Analysis of Sample Survey*, General Statistics Office

Age														
25	30	35	40	45	50	55	60	65	70	75	80	85	90	95
52.3 53.8	47.8 49.0	43.2 44.1	38.6 39.3	34.1 34.6	29.6 29.9	25.3 25.5	21.4 21.7	18.1 18.2	15.4 14.8	13.6 12.4	13.0 10.7	11.7 10.0		
44.9 47.7	40.4 43.2	36.0 38.6	31.5 34.2	27.2 29.8	23.1 25.5	19.2 21.4	15.7 17.6	12.5 14.0	9.7 10.8	7.2 8.0	5.3 5.9	3.7 4.1	2.6 2.8	
53.0 59.7	48.2 54.8	43.4 49.9	38.7 45.0	34.0 40.2	29.5 35.5	25.1 30.9	21.0 26.4	17.1 22.0	13.6 17.8	10.4 13.8	7.7 10.3	5.5 7.4	3.9 5.2	2.7 3.7
46.6 50.8	42.0 45.9	37.4 41.1	32.9 36.4	28.4 31.7	24.1 27.1	20.0 22.7	16.3 18.6	12.9 14.8	9.9 11.4	7.4 8.4	5.4 6.2			
44.1 49.2	39.8 44.6	35.7 40.1	31.5 35.7	27.5 31.3	23.7 27.1	20.1 23.0	16.8 19.0	13.7 15.4	10.9 12.0	8.4 9.0	6.3 6.7	4.7 4.9	3.4 3.6	2.5 2.6
50.8 54.8	46.0 49.9	41.1 45.0	36.3 40.1	31.7 35.3	27.1 30.6	22.8 26.1	18.7 21.7	15.2 17.7	12.1 14.0	9.3 10.6	6.9 7.6	4.4 4.6		
49.3 53.9	45.0 49.5	40.7 45.0	36.4 40.5	32.1 36.1	27.9 31.7	23.9 27.6	20.3 23.9	17.1 20.2	14.2 16.9	11.9 14.6	10.9 13.6			
44.6 49.6	40.0 45.0	35.5 40.4	31.2 35.8	27.0 31.4	23.1 27.0	19.3 22.9	15.6 19.0	12.5 15.3	9.6 11.9	7.3 9.0	5.8 6.4	4.2 4.4	3.1 3.0	

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

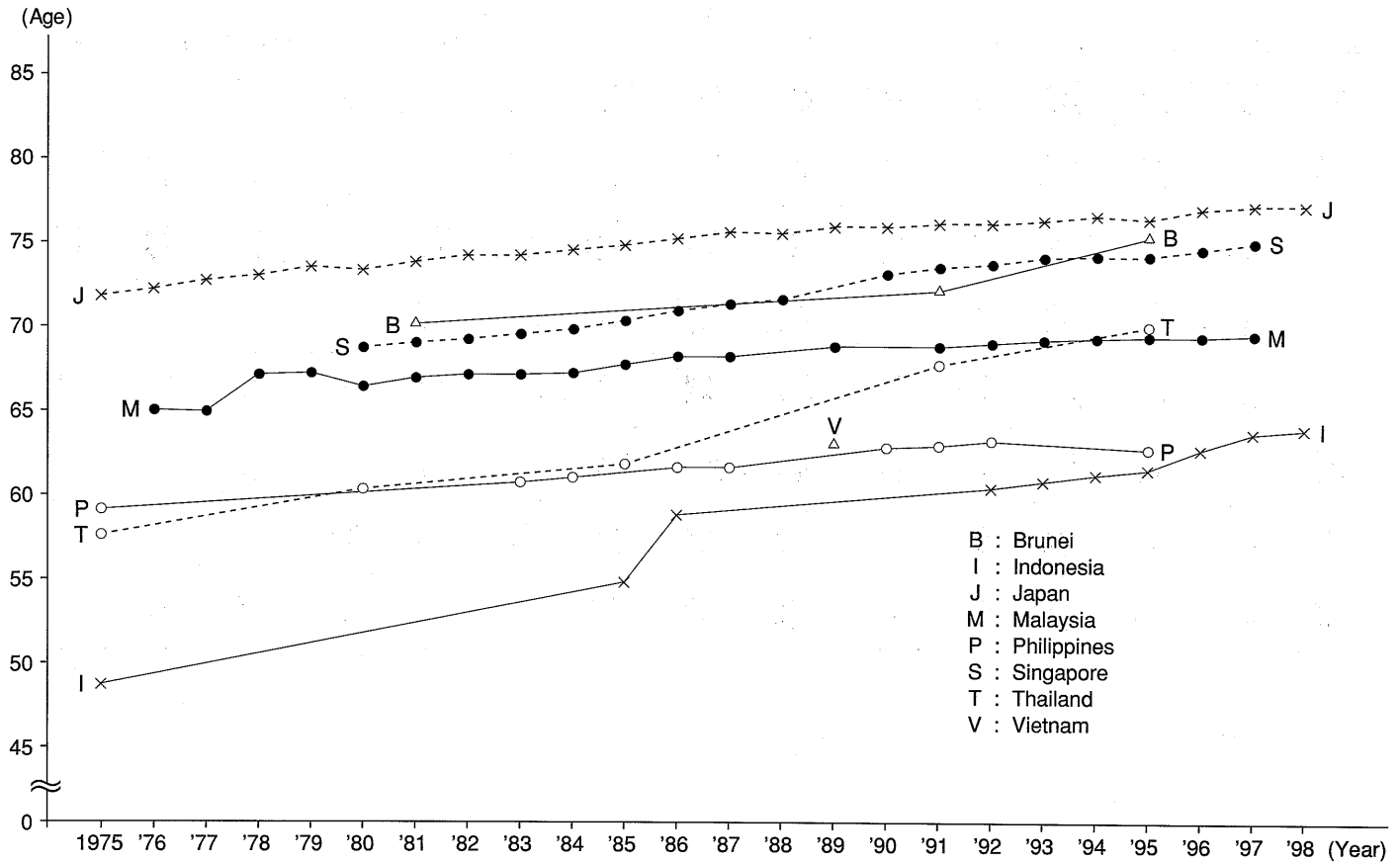
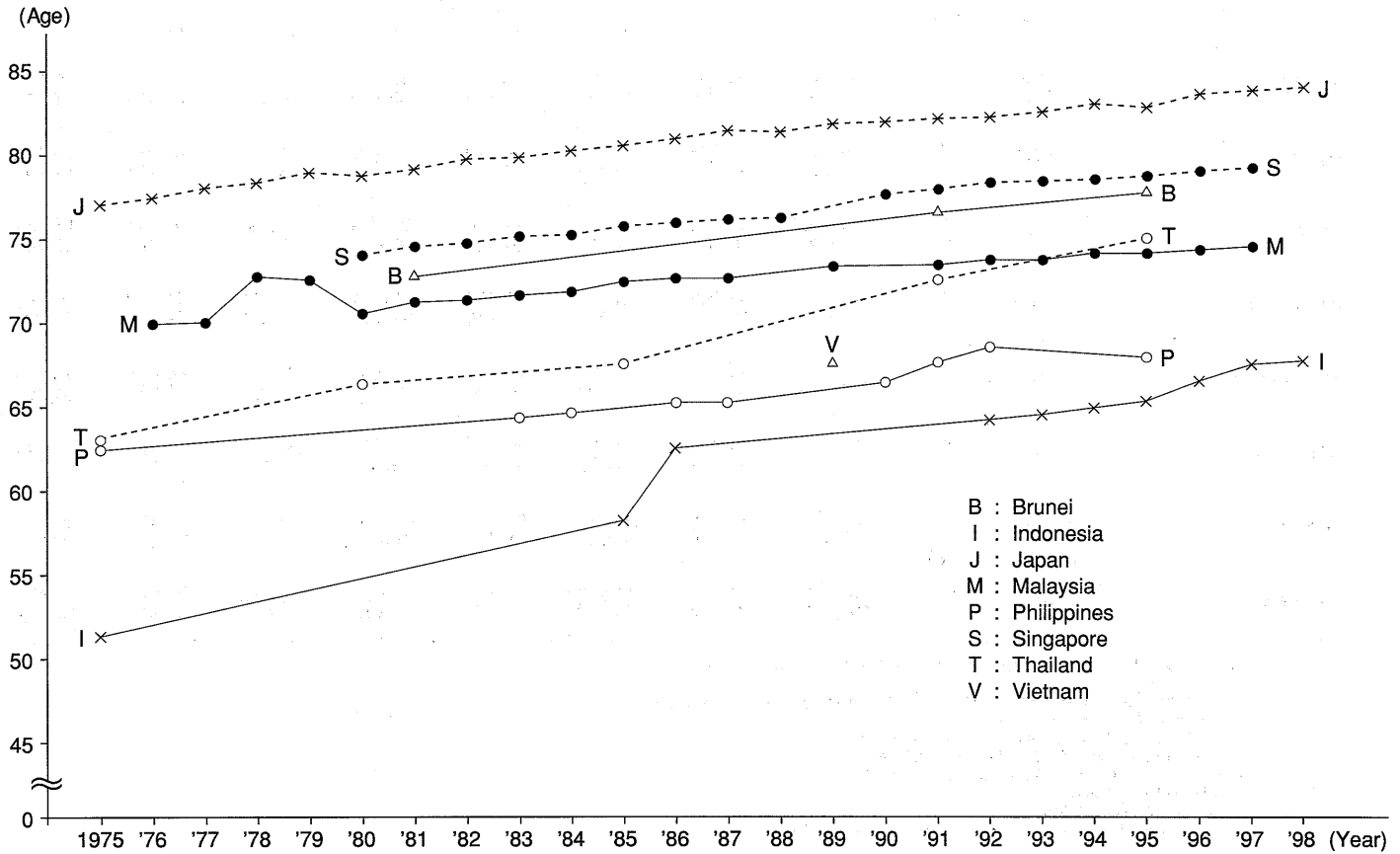


Fig. 4 Trends in Expectation of Life at Birth (Female)



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

	Year	Sex	Age							
			0	1	5	10	15	20	25	30
BRUNEI <sup>(1)</sup>	1994-1996	M F	100,000 100,000	99,141 99,235	98,901 99,065	98,759 98,943	98,525 98,838	97,922 98,675	97,021 98,451	96,097 98,164
INDONESIA <sup>(2)</sup>	1998	M F	100,000 100,000	94,876 96,026	93,511 94,836	92,929 94,370	92,478 94,008	91,705 93,431	90,625 92,637	89,522 91,699
JAPAN <sup>(3)</sup>	1998	M F	100,000 100,000	99,616 99,655	99,457 99,524	99,366 99,462	99,290 99,411	99,035 99,305	98,693 99,163	98,342 98,992
MALAYSIA <sup>(4)</sup>	1997	M F	100,000 100,000	98,965 99,155	98,656 98,902	98,464 98,749	98,215 98,601	97,536 98,368	96,652 98,097	95,761 97,767
PHILIPPINES <sup>(5)</sup>	1995	M F	100,000 100,000	94,677 95,158	92,781 93,042	92,217 92,509	91,766 92,112	91,044 91,625	89,854 90,995	88,295 90,166
SINGAPORE <sup>(6)</sup>	1997	M F	100,000 100,000	99,643 99,694	99,509 99,602	99,432 99,553	99,319 99,469	99,103 99,344	98,762 99,209	98,445 99,020
THAILAND <sup>(7)</sup>	1995-1996	M F	100,000 100,000	97,060 97,316	96,455 96,881	95,932 96,476	95,455 96,158	94,585 95,413	93,462 94,503	92,143 93,520
VIETNAM <sup>(8)</sup>	1989	M F	100,000 100,000	95,537 95,612	93,523 93,160	92,491 91,929	91,736 91,164	90,882 90,519	89,712 89,654	88,687 88,998

Source: (1) Medical and Health Statistics Unit, Research and Development Section, Ministry of Health

(2) Calculated by Centre for Health Data, using *Model Life Table for Developing Countries 1982*, United Nations

(3) *Abridged Life Table*, Ministry of Health and Welfare

(4) *Abridged Life Table*, Department of Statistics

(5) University of the Philippines Population Institute

(6) *Abridged Life Table*, Ministry of Health

(7) National Statistical Office

(8) *Detailed Analysis of Sample Survey*, General Statistics Office

Age												
35	40	45	50	55	60	65	70	75	80	85	90	95
95,185 97,834	94,257 97,297	93,111 96,672	91,653 95,692	89,160 93,557	85,076 89,147	78,082 82,530	68,188 74,832	54,397 61,714	39,092 46,350	28,894 30,579		
88,291 90,606	86,770 89,275	84,707 87,578	81,738 85,267	77,434 82,016	71,246 77,452	62,674 70,776	51,436 61,167	37,701 47,843	23,033 31,701			
97,918 98,772	97,339 98,461	96,467 97,992	95,016 97,236	92,685 96,092	89,281 94,524	84,060 92,202	76,219 88,614	65,442 82,876	50,817 73,101	32,826 57,346	15,669 36,159	4,698 15,978
94,742 97,367	93,489 96,778	91,961 95,894	89,660 94,440	85,976 92,171	80,289 88,361	71,857 82,300	60,147 72,900	45,070 59,190	27,478 40,021			
86,429 89,134	84,214 87,807	81,392 86,167	77,620 84,012	72,854 81,010	66,542 76,933	58,682 71,135	48,983 63,189	37,600 51,728	25,278 36,767	13,364 20,652	5,213 8,652	1,236 2,241
98,041 98,790	97,489 98,457	96,586 97,923	95,220 97,052	92,691 95,468	88,411 92,939	81,139 88,595	70,560 81,629	57,161 71,470	41,745 57,416	26,294 41,012		
90,643 92,431	89,067 91,293	87,194 89,907	84,805 88,340	81,704 85,699	76,630 81,567	69,399 76,853	60,945 70,157	49,507 59,025	34,625 44,350			
87,519 88,187	85,637 87,240	83,452 85,704	79,779 83,813	75,554 80,825	69,953 76,573	61,123 70,910	50,508 63,335	36,169 51,350	21,287 37,386	10,624 21,343		

Fig. 5 Survivors at Specified Ages for Each Sex (1) Brunei, 1994~1996

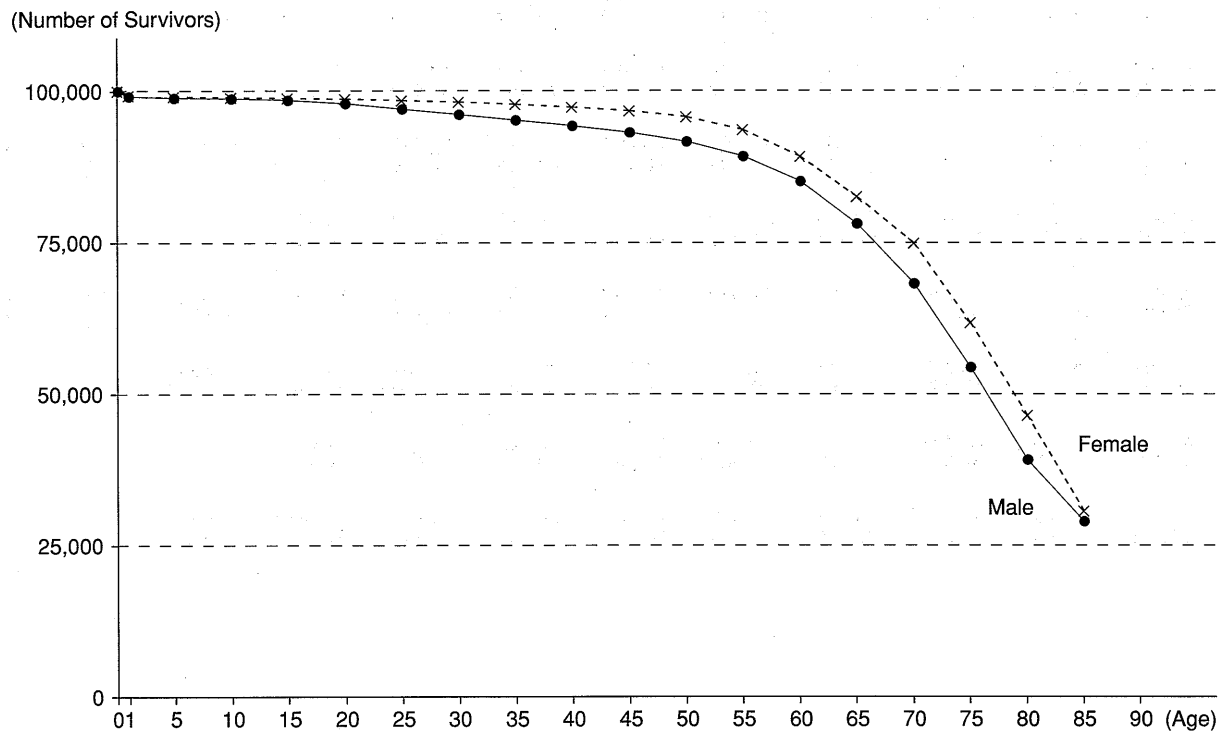




Fig. 5 Survivors at Specified Ages for Each Sex (2) Indonesia, 1998

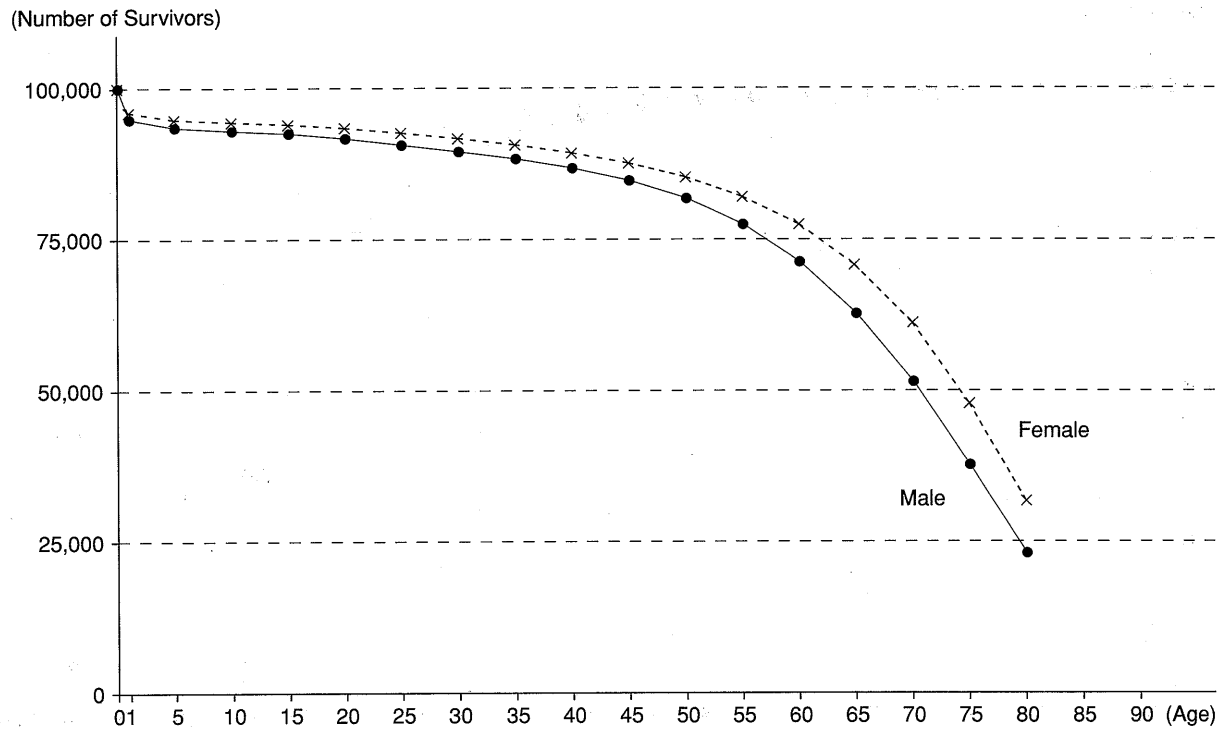


Fig. 5: Survivors at Specified Ages for Each Sex (3) Japan, 1998

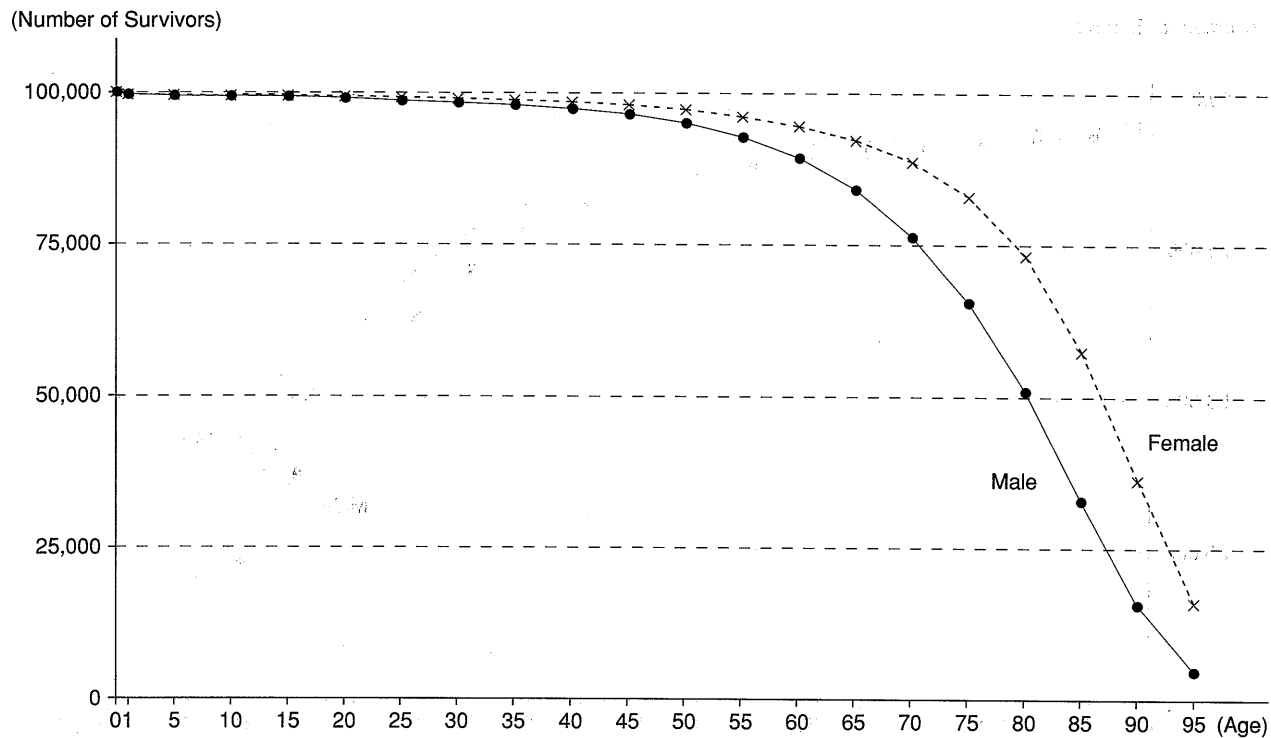


Fig. 5 Survivors at Specified Ages for Each Sex (4) Malaysia, 1997

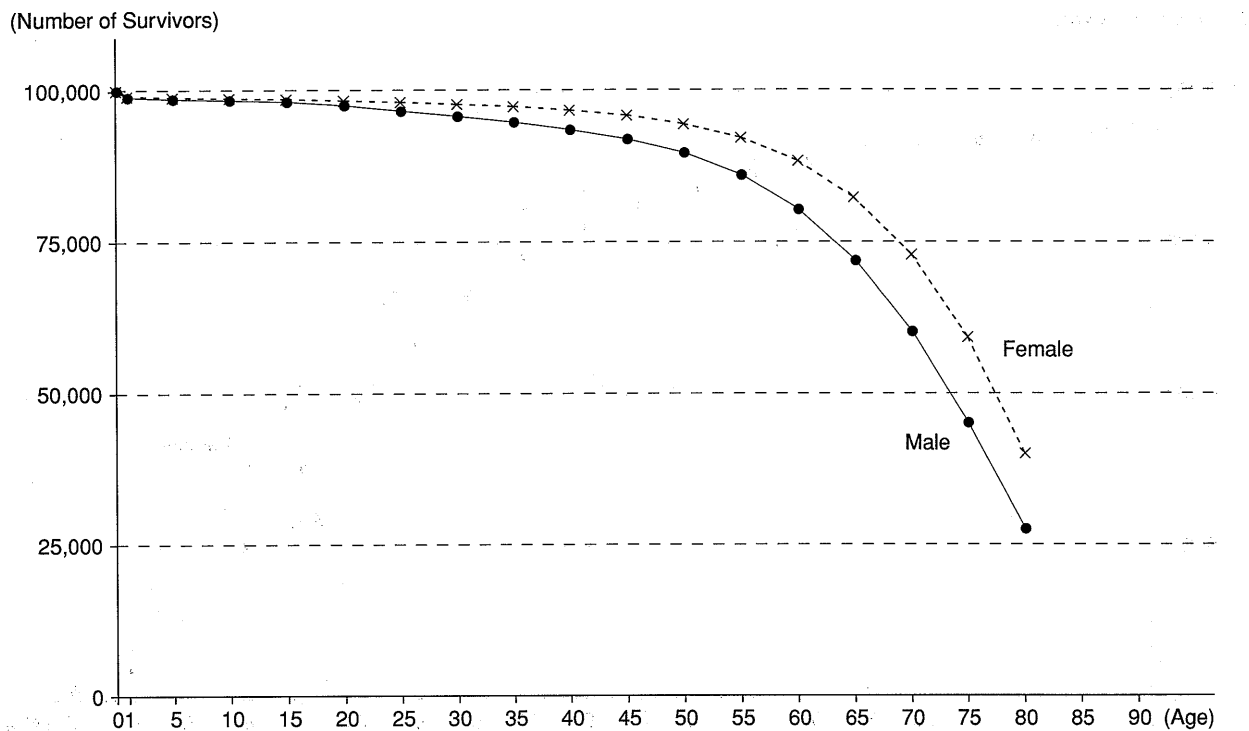


Fig. 5 Survivors at Specified Ages for Each Sex (5) Philippines, 1995

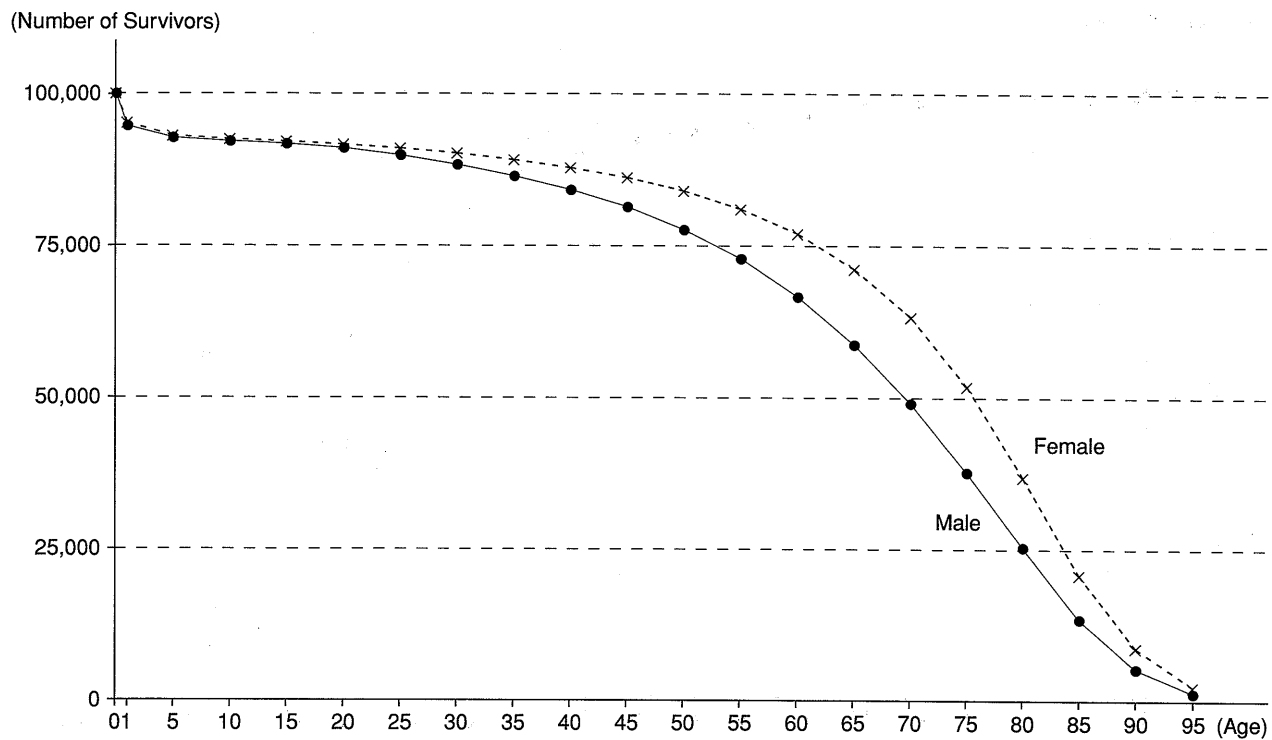


Fig. 5 (Survivors at Specified Ages for Each Sex (6) Singapore, 1997

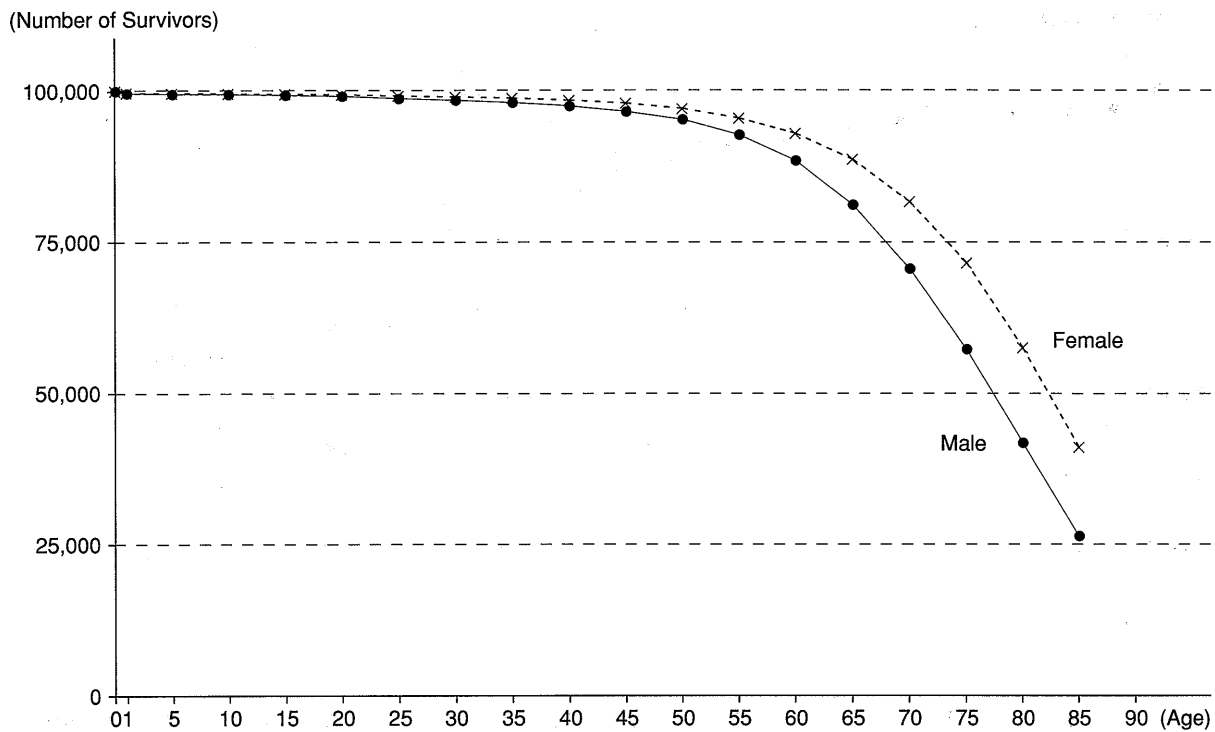


Fig. 5 Survivors at Specified Ages for Each Sex (7). Thailand, 1995~1996

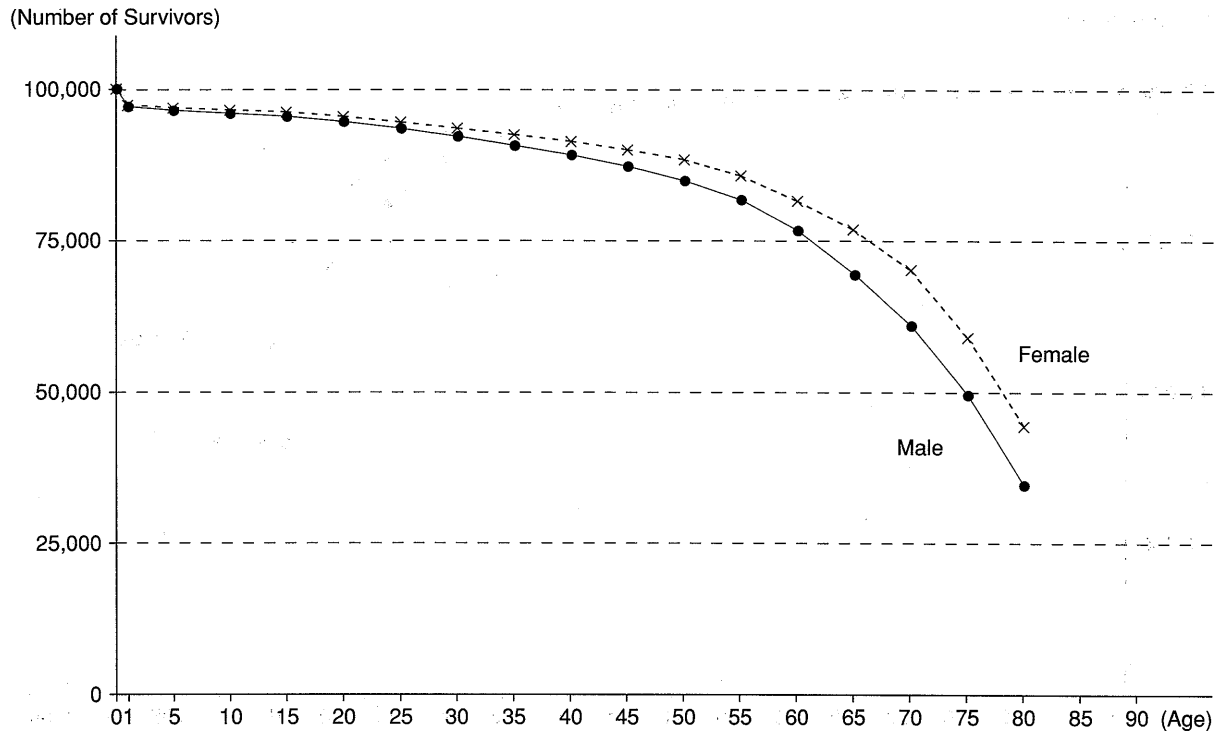
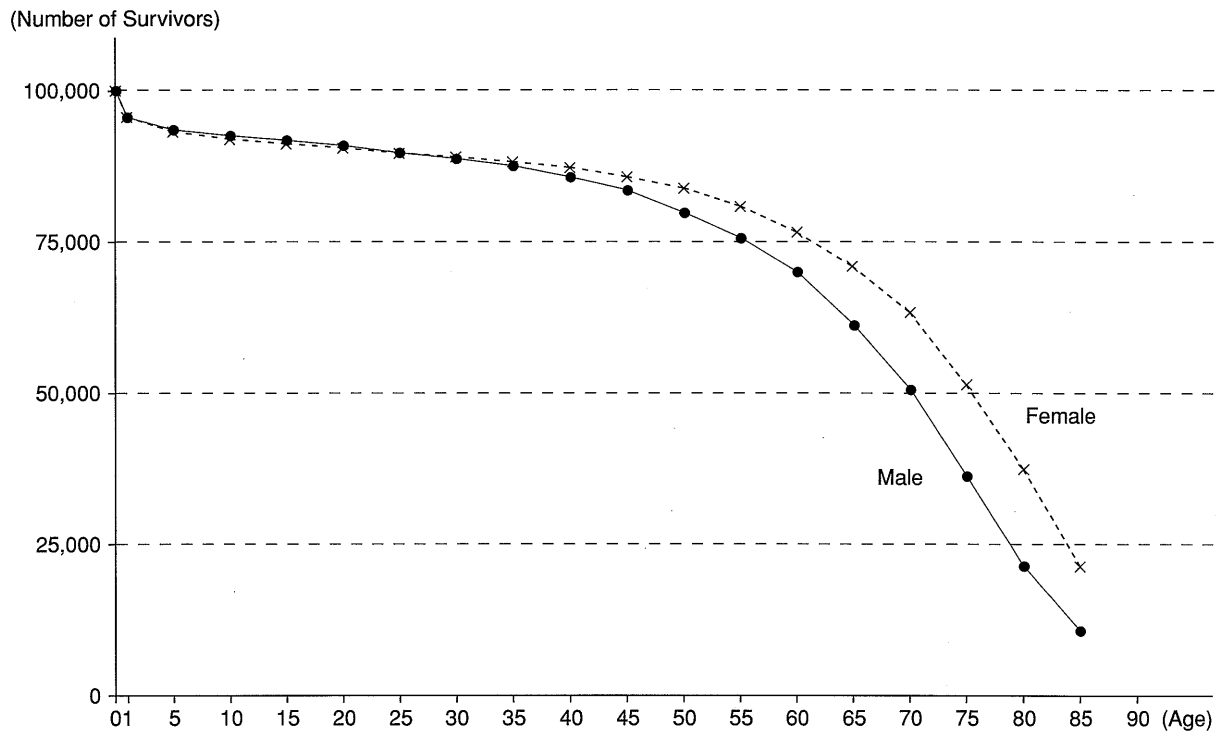


Fig. 5 Survivors at Specified Ages for Each Sex (8) Vietnam, 1989



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



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

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

\* Categories of the Basic Tabulation List

\*\* 4-digit category

\*\*\* 3-digit category

† 3-character codes

3 - 1 Ten Leading Causes of Death (Percentage of All Deaths with Specific Diagnosis)

	Year	1	2	3	4	5
BRUNEI <sup>(1)</sup>	1997	Malignant Neoplasms (17.4%)	Heart Diseases (16.6%)	Cerebrovascular Diseases (9.0%)	Transport Accidents (7.8%)	Bronchitis, Emphysema & Asthma (7.2%)
	1998	Heart Diseases (19.6%)	Malignant Neoplasms (16.7%)	Cerebrovascular Diseases (9.6%)	Bronchitis, Emphysema & Asthma (9.2%)	Diabetes Mellitus (7.1%)
INDONESIA <sup>(2)</sup>	1996	Certain Conditions Originating in the Perinatal Period (13.6%)	Heart Diseases (10.1%)	Cerebrovascular Diseases (9.2%)	Influenza and Pneumonia (5.5%)	Tuberculosis (5.0%)
JAPAN <sup>(3)</sup>	1997	Malignant Neoplasms (31.0%)	Heart Diseases (15.7%)	Cerebrovascular Diseases (15.6%)	Influenza and Pneumonia (9.0%)	Suicide and Self- inflicted Injury (2.6%)
MALAYSIA <sup>(4) b)</sup>	1997	Heart Diseases (19.5%)	Malignant Neoplasms (10.6%)	Cerebrovascular Diseases (8.1%)	Transport Accidents (7.4%)	Septicemia (6.6%)
PHILIPPINES <sup>(5)</sup>	1995	Heart Diseases (14.8%)	Influenza and Pneumonia (11.1%)	Malignant Neoplasms (9.2%)	Tuberculosis (8.8%)	Hypertensive Diseases (6.9%)
SINGAPORE <sup>(6)</sup>	1998	Malignant Neoplasms (26.0%)	Heart Diseases (23.6%)	Influenza and Pneumonia (11.4%)	Cerebrovascular Diseases (10.5%)	Suicide and Self- inflicted Injury (2.4%)
THAILAND <sup>(7)</sup>	1998	Heart Diseases (22.3%)	Malignant Neoplasms (16.7%)	Transport Accidents (4.6%)	Septicemia (3.31%)	Influenza and Pneumonia (3.29%)
VIETNAM <sup>(8) b)</sup>	1996	Certain Conditions Originating in the Perinatal Period (11.3%)	Heart Diseases (7.7%)	Tuberculosis (5.8%)	Influenza and Pneumonia (5.8%)	Transport Accidents (3.4%)

Source : (1) Registration of Birth and Death and Adoptions, Department of Immigration and Registration of Nationals, Ministry of Home Affairs  
 (2) Directorate General of Medical Care, Ministry of Health  
 (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) Registry of Births and Deaths

(7) Health Information Division, Bureau of Health Policy and Plan, Ministry of Public Health  
 (8) *Health Statistics Yearbook*, Statistics and Informatic Division, Ministry of Health

6	7	8	9	10	Conditions excluded from the denominator <sup>a)</sup> (% of all deaths)
Diabetes Mellitus (6.7%)	Certain Conditions Originating in the Perinatal Period (3.1%)	Congenital Anomalies (2.8%)	Influenza and Pneumonia (2.7%)	Hypertensive Diseases (2.6%)	8.2
Transport Accidents (5.6%)	Hypertensive Diseases (3.2%)	8-1 Influenza and Pneumonia (2.6%)	8-2 Congenital Anomalies (2.6%)	Certain Conditions Originating in the Perinatal Period (2.3%)	4.4
Transport Accidents (5.0%)	Nephritis, Nephrotic Syndrome & Nephrosis (4.9%)	Chronic Liver Diseases & Cirrhosis of Liver (4.5%)	Diabetes Mellitus (3.5%)	Intestinal Infectious Diseases (3.4%)	4.9
Nephritis, Nephrotic Syndrome & Nephrosis (2.2%)	Bronchitis, Emphysema & Asthma (2.1%)	Transport Accidents (1.6%)	Diabetes Mellitus (1.4%)	Chronic Liver Diseases & Cirrhosis of Liver (1.3%)	2.8
Certain Conditions Originating in the Perinatal Period (5.7%)	Influenza and Pneumonia (4.0%)	Nephritis, Nephrotic Syndrome & Nephrosis (2.8%)	Congenital Anomalies (2.7%)	Diabetes Mellitus (2.0%)	6.2
Cerebrovascular Diseases (6.3%)	Certain Conditions Originating in the Perinatal Period (4.6%)	Homicide and Injuries Inflicted by Other Person (3.8%)	Bronchitis, Emphysema and Asthma (3.7%)	Nephritis, Nephrotic Syndrome & Nephrosis (2.3%)	5.7
Diabetes Mellitus (2.0%)	Hypertensive Diseases (1.7%)	Transport Accidents (1.5%)	Nephritis, Nephrotic Syndrome & Nephrosis (1.2%)	Septicemia (1.0%)	0.3
Nephritis, Nephrotic Syndrome & Nephrosis (3.2%)	Suicide and Self-inflicted Injuries (2.8%)	Diabetes Mellitus (2.73%)	HIV Infection (2.70%)	Cerebrovascular Diseases (2.5%)	43.7
Intestinal Infectious Diseases (3.3%)	Hypertensive Diseases (3.2%)	Malignant Neoplasms (2.5%)	Chronic Liver Diseases & Cirrhosis of Liver (2.1%)	Homicide and Injuries Inflicted by Other Person (1.5%)	2.6

Note : a) 465 (ICD-9) / R54 (ICD-10): Senility without Mention of Psychosis and 460-464, 466, 467, 469 (ICD-9) / Rest of R00-R99 (ICD-10): Signs, Symptoms and Other Ill-defined Conditions  
b) Provincial hospital-based figures

3 – 2 (B)

[Brunei Darussalam]

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

Year		1988	1989	1992	1993	1995	1996	1997	1998
Order									
No. 1	Cause of Death	Malignant Neoplasms	Heart Diseases					Malignant Neoplasms	Heart Diseases
	Percentage of All Deaths	19.5	19.0	22.5	17.4	16.0	18.0	17.4	19.6
No. 2	Cause of Death	Heart Diseases	Malignant Neoplasms					Heart Diseases	Malignant Neoplasms
	Percentage of All Deaths	16.2	12.8	15.4	15.6	15.9	14.7	16.6	16.7
No. 3	Cause of Death	Cerebrovascular Diseases							
	Percentage of All Deaths	8.1	5.0	7.9	7.7	10.5	10.4	9.0	9.6
No. 4	Cause of Death	Transport Accidents							Bronchitis, Emphysema & Asthma
	Percentage of All Deaths	6.6	4.8	5.7	7.7	8.1	9.0	7.8	9.2
No. 5	Cause of Death	Diabetes Mellitus	Influenza and Pneumonia	Certain Conditions Originating in the Perinatal Period	Diabetes Mellitus	Bronchitis, Emphysema & Asthma	Diabetes Mellitus		
	Percentage of All Deaths	5.6	3.7	5.1	4.8	5.8	7.7	7.2	7.1

Source : Registration of Birth and Death and Adoptions, Department of Immigration and Registration of Nationals, Ministry of Home Affairs

[Indonesia]

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

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

Source : Ministry of Health

3-2 (J)

[Japan]

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

Year		1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Order											
No. 1	Cause of Death	Malignant Neoplasms									
	Percentage of All Deaths	27.0	28.0	27.5	28.8	28.1	27.8	28.9	29.3	31.1	31.0
No. 2	Cause of Death	Heart Diseases							Cerebrovascular Diseases		Heart Diseases
	Percentage of All Deaths	20.7	20.7	20.9	21.0	21.3	21.3	18.9	16.3	16.1	15.7
No. 3	Cause of Death	Cerebrovascular Diseases							Heart Diseases		Cerebrovascular Diseases
	Percentage of All Deaths	16.9	15.9	15.4	14.8	14.3	14.0	14.2	15.5	15.8	15.6
No. 4	Cause of Death	Influenza and Pneumonia									
	Percentage of All Deaths	7.5	7.8	8.7	8.8	9.0	9.6	9.9	9.0	8.2	9.0
No. 5	Cause of Death	Suicide and Self-inflicted Injuries									
	Percentage of All Deaths	3.0	2.8	2.5	2.5	2.5	2.4	2.5	2.4	2.5	2.6

Source : Ministry of Health and Welfare

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

Year		1988	1989	1990	1991 <sup>a)</sup>	1992	1993	1994	1995	1996	1997
Order											
No. 1	Cause of Death	Heart Diseases									
	Percentage of All Deaths	12.7	23.1	20.1	22.0	20.3	20.2	20.0	19.9	19.4	19.5
No. 2	Cause of Death	Certain Conditions Originating in the Perinatal Period	Malignant Neoplasms								
	Percentage of All Deaths	9.0	12.3	10.1	12.5	11.8	11.4	10.9	11.6	10.7	10.6
No. 3	Cause of Death	Intestinal Infectious Diseases	Certain Conditions Originating in the Perinatal Period	Cerebrovascular Diseases							
	Percentage of All Deaths	7.5	11.8	9.3	9.1	9.1	9.1	8.7	8.6	8.4	8.1
No. 4	Cause of Death	Cerebrovascular Diseases		Certain Conditions Originating in the Perinatal Period						Transport Accidents	
	Percentage of All Deaths	7.1	9.7	8.4	6.8	7.9	7.9	7.2	6.7	7.1	7.4
No. 5	Cause of Death	Malignant Neoplasms	Septicemia	Transport Accidents			Septicemia	Transport Accidents	Septicemia		
	Percentage of All Deaths	6.3	4.9	4.3	5.9	5.7	5.5	5.8	6.1	6.7	6.6

Source : Ministry of Health

Note : a) Peninsular Malaysia only

3-2 (P)

[Philippines]

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

Year		1988	1989	1990	1991	1992	1993	1994	1995
Order									
No. 1	Cause of Death	Influenza and Pneumonia		Heart Diseases					
	Percentage of All Deaths	16.4	15.7	15.4	15.6	15.1	15.1	14.6	14.8
No. 2	Cause of Death	Heart Diseases		Influenza and Pneumonia				Malignant Neoplasms	Influenza and Pneumonia
	Percentage of All Deaths	13.0	14.0	14.9	13.4	14.2	14.2	10.4	11.1
No. 3	Cause of Death	Tuberculosis				Malignant Neoplasms	Tuberculosis	Influenza and Pneumonia	Malignant Neoplasms
	Percentage of All Deaths	12.5	8.8	8.6	8.2	8.0	8.5	9.3	9.2
No. 4	Cause of Death	Malignant Neoplasms				Tuberculosis	Malignant Neoplasms	Tuberculosis	
	Percentage of All Deaths	7.2	7.3	7.8	8.1	7.8	7.0	8.9	8.8
No. 5	Cause of Death	Certain Conditions Originating in the Perinatal Period	Cerebrovascular Diseases				Hypertensive Diseases		
	Percentage of All Deaths	5.7	5.9	6.2	6.1	6.1	6.6	7.4	6.9

Source : Department of Health



[Singapore]

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

Order	Year	1988	1990	1991	1992	1993	1994	1995	1996	1997	1998
No. 1	Cause of Death	Malignant Neoplasms									
	Percentage of All Deaths	23.7	23.9	24.4	24.2	24.5	25.2	25.1	25.6	27.0	26.0
No. 2	Cause of Death	Heart Diseases									
	Percentage of All Deaths	22.1	23.2	21.6	22.3	22.6	22.2	21.8	23.3	23.9	23.6
No. 3	Cause of Death	Cerebrovascular Diseases						Influenza and Pneumonia	Cerebrovascular Diseases		Influenza and Pneumonia
	Percentage of All Deaths	7.8	8.7	9.3	10.0	11.1	11.2	13.1	11.6	10.8	11.4
No. 4	Cause of Death	Influenza and Pneumonia						Cerebro-vascular Diseases	Influenza and Pneumonia		Cerebro-vascular Diseases
	Percentage of All Deaths	7.8	8.7	9.3	10.0	11.1	11.2	11.0	10.9	10.2	10.5
No. 5	Cause of Death	Diabetes Mellitus	Suicide and Self-inflicted Injuries	Diabetes Mellitus	Suicide and Self-inflicted Injuries	Transport Accidents	Suicide and Self-inflicted Injuries		Hypertensive Diseases		Suicide and Self-inflicted Injuries
	Percentage of All Deaths	3.7	2.6	2.3	2.1	2.2	2.3	2.6	2.3	2.29	2.4

Source : Ministry of Health

3-2 (T)

[Thailand]

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

Year		1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Order												
No. 1	Cause of Death	Heart Diseases										
	Percentage of All Deaths	19.0	20.1	20.2	20.6	20.3	20.2	17.5	19.5	20.9	21.8	22.3
No. 2	Cause of Death	Malignant Neoplasms										
	Percentage of All Deaths	14.3	14.9	15.5	15.5	15.8	15.6	13.3	14.2	13.3	13.2	16.7
No. 3	Cause of Death	Transport Accidents										
	Percentage of All Deaths	4.4	5.0	6.0	6.9	7.3	7.5	6.8	8.0	7.7	6.6	4.6
No. 4	Cause of Death	Homicides & Injuries Inflicted by Other Persons	Cerebrovascular Diseases				Chronic Liver Diseases & Cirrhosis	Septicemia	Influenza and Pneumonia	Septicemia	Septicemia	
	Percentage of All Deaths	4.3	4.2	4.1	4.2	4.3	3.9	3.4	3.13	3.2	3.1	3.31
No. 5	Cause of Death	Cerebro-vascular Diseases	Homicides & Injuries Inflicted by Other Persons	Chronic Liver Diseases & Cirrhosis		Nephritis, Nephrotic Syndrome & Nephrosis		Influenza and Pneumonia		Septicemia	Cerebro-vascular Diseases	Influenza and Pneumonia
	Percentage of All Deaths	4.1	3.8	3.6	3.6	3.5	3.4	3.0	3.12	3.0	2.9	3.29

Source : Ministry of Public Health

[Vietnam]

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

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

Source : Ministry of Health

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

	Basic Tabulation List ICD-9 <sup>a)</sup> 3-Char. Categories ICD-10				01-07 A00-B99		010 A00		011 A01		012, 014 A03, A06	
	Year	Sex	All Causes		Infectious and Parasitic Diseases		Cholera		Typhoid and Paratyphoid Fever		Dysentery (Amebiasis and Bacillary)	
			Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
BRUNEI <sup>(1)</sup>	1997	T	883	280.9	28	8.9	—	—	—	—	—	—
		M	533	319.9	19	11.4	—	—	—	—	—	—
		F	350	236.8	9	6.1	—	—	—	—	—	—
	1998	T	928 <sup>b)</sup>	286.8	13	4.0	—	—	—	—	—	—
		M	571	232.6	10	5.8	—	—	—	—	—	—
		F	356	234.4	3	2.0	—	—	—	—	—	—
INDONESIA <sup>(2)</sup>	1996	T	1,688		229				23			
		M	923		131				11			
		F	765		90				12			
JAPAN <sup>(3)</sup>	1997	T	913,402	730.9	18,226	14.6	—	—	—	—	3	0.0
		M	497,796	813.3	10,238	16.7	—	—	—	—	3	0.0
		F	415,606	651.9	7,988	12.5	—	—	—	—	—	—
MALAYSIA <sup>(4) c)</sup>	1997	T	44,013	203.1	3,822	17.6	14	0.1	8	0.0	6	0.0
		M	28,290	258.0	2,384	21.5	12	0.1	6	0.1	6	0.1
		F	15,723	148.6	1,438	13.6	2	0.0	2	0.0	—	—
PHILIPPINES <sup>(5)</sup>	1995	T	324,737	473.3	43,758	63.8	95	0.1	1,039	1.5	306	0.4
		M	193,048	558.2	27,879	80.6	56	0.2	591	1.7	181	0.5
		F	131,689	387.0	15,879	46.7	39	0.1	448	1.3	125	0.4
SINGAPORE <sup>(6) d)</sup>	1998	T	15,657 <sup>e)</sup>	459.8	361	10.6	2	0.1	—	—	—	—
		M	8,741	502.7	200	11.5	—	—	—	—	—	—
		F	6,914	416.2	161	9.7	2	0.1	—	—	—	—
THAILAND <sup>(7)</sup>	1998	T	317,793	519.6	18,959	31.0	—	—	135	0.2	10	0.0
		M	186,167	304.4	12,742	41.9	—	—	92	0.2	8	0.0
		F	131,626	215.2	6,217	20.2	—	—	43	0.1	2	0.0
VIETNAM <sup>(8) f)</sup>	1996	T	21,320		3,794		1		38		45	

Source: (1) Registration of Birth and Death and Adoptions, Department of Immigration and Registration of Nationals, Ministry of Home Affairs  
 (2) Directorate General of Medical Care, Ministry of Health  
 Based on 10-day sample of discharges from hospital for each quarter  
 (3) *Vital Statistics Japan*, Ministry of Health and Welfare

(4) Department of Statistics  
 (5) *Philippine Health Statistics*, Department of Health  
 (6) *Report on Registration of Birth and Deaths*, Registry of Births and Deaths  
 (7) Ministry of Public Health (official data)  
 (8) Ministry of Health

(rate per 100,000 population)

013, 015, 016, 019 Rest of A00 – A09		020 – 021 A15, A16		022 – 025, 029 A17 – A19		033 A36		034 A37		036 A39		037, 771.3 <sup>g)</sup> A33 – A35		038 A40, A41	
Other Intestinal Infectious Diseases		Tuberculosis of Respiratory System		Tuberculosis of Other Forms		Diphtheria		Whooping Cough		Meningococcal Infection		Tetanus		Septicemia	
Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
—		10	3.2	4	1.3	—		—		—		—		10	3.2
—		7	4.2	4	2.4	—		—		—		—		6	3.6
—		3	2.0	—		—		—		—		—		4	2.7
2	0.6	2	0.6	2	0.6	—		—		—		—		2	0.6
1	0.6	—		2	1.2	—		—		—		—		2	1.2
1	0.7	2	1.3	—		—		—		—		—		—	
32		77		3								23		24	
21		50		1								18		14	
11		27		2								5		10	
980	0.8	2,525	2.0	217	0.2	—		2	0.0	—		16	0.0	5,318	4.3
429	0.7	1,854	3.0	101	0.2	—		2	0.0	—		8	0.0	2,497	4.1
551	0.9	671	1.1	116	0.2	—		—		—		8	0.0	2,821	4.4
70	0.3	478	2.2	88	0.4	—		1	0.0	5	0.0	6	0.0	2,733	12.6
42	0.4	385	3.5	59	0.5	—		1	0.0	1	0.0	3	0.0	1,587	14.3
28	0.3	93	0.9	29	0.3	—		—		4	0.0	3	0.0	1,146	10.8
4,112	6.0	26,118	38.1	935	1.4	40	0.1	12	0.0	159	0.2	803	1.2	4,455	6.5
2,402	6.9	17,400	50.3	527	1.5	21	0.1	9	0.0	98	0.3	594	1.7	2,425	7.0
1,710	5.0	8,718	25.6	408	1.2	19	0.1	3	0.0	61	0.2	209	0.6	2,030	6.0
18	0.6	118	3.6	10	0.3	—		—		—		—		161	4.8
10	0.6	87	5.3	6	0.3	—		—		—		—		61	3.5
8	0.5	31	2.0	4	0.2	—		—		—		—		100	6.2
1,017	1.7	3,270	5.3	1,118	1.8	13	0.0	2	0.0	2	0.0	81	0.1	5,916	9.7
635	2.1	2,439	8.0	797	2.6	7	0.0	2	0.0	1	0.0	52	0.2	3,249	10.7
382	1.2	831	2.7	321	1.0	6	0.0	—		1	0.0	29	0.1	2,667	8.7
601		1,146		83		23		3				280 <sup>h)</sup>			

Note: a) ICD – 10: Brunei, Japan, Thailand and Vietnam

b) Including 1 intersex

c) Medically certified deaths only

d) The number of deaths includes non-residents.  
Death rates are computed based on the number  
of resident deaths over resident population.

e) Includes unknown sex

f) Provincial Hospital-based figures

g) Four-digit subcategory

h) Age under 5 years

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

	Year	Sex	030 – 032, 035, 039 Rest of A20 – A49		040 A80		042 B05		046 B15 – B19		047 A82	
			Other Bacterial Diseases		Acute Poliomyelitis		Measles		Viral Hepatitis		Rabies	
			Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
BRUNEI	1997	T			—		—		1	0.3	—	
		M			—		—		1	0.6	—	
		F			—		—		—		—	
	1998	T			—		—		1	0.3	—	
		M			—		—		1	0.6	—	
		F			—		—		—		—	
INDONESIA	1996	T	4									
		M	3									
		F	1									
JAPAN	1997	T	748	0.6	—		18	0.0	4,843	3.9	—	
		M	348	0.6	—		16	0.0	2,745	4.5	—	
		F	400	0.6	—		2	0.0	2,098	3.3	—	
MALAYSIA	1997	T	44	0.2	—		1	0.0	24	0.1	1	0.0
		M	33	0.3	—		—		16	0.1	1	0.0
		F	11	0.1	—		1	0.0	8	0.1	—	
PHILIPPINES	1995	T	208	0.3	18	0.0	1,121	1.6	1,152	1.7	591	0.9
		M	115	0.3	16	0.0	617	1.8	798	2.3	435	1.3
		F	93	0.3	2	0.0	504	1.5	354	1.0	156	0.5
SINGAPORE	1998	T	7	0.2	1	0.0	—		17	0.4	—	
		M	6	0.3	—		—		13	0.7	—	
		F	1	0.1	1	0.1	—		4	0.2	—	
THAILAND	1998	T	77	0.1	46	0.1	12	0.0	155	0.3	27	0.0
		M	53	0.1	32	0.1	7	0.0	121	0.4	16	0.1
		F	24	0.0	14	0.0	5	0.0	34	0.1	11	0.0
VIETNAM	1996	T			52 <sup>a)</sup>		9 <sup>a)</sup>		61		92	

Note: a) Age under 5 years

(rate per 100,000 population)

279.5 <sup>a)</sup> B20 – B24		061 <sup>a)</sup> A90		065.4 <sup>a)</sup> A91		044, 045 ..		041, 043, 048, 049 Rest of A80 – B34		052 B50 – B54		06 A50 – A64		Rest of 01 – 07 Rest of A00 – B99	
AIDS (HIV)		Dengue		Dengue Hemorrhagic Fever		Other Arthropod-borne Viral Diseases		Other Viral Diseases		Malaria		Venereal Diseases		Other Infectious and Parasitic Diseases	
Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1	0.3	—	—	—	—	..	—	—	—	—	—	—	—	2	0.6
1	0.6	—	—	—	—	..	—	—	—	—	—	—	—	2	1.4
—	—	—	—	—	—	..	—	—	—	—	—	—	—	4	1.2
—	—	—	—	—	—	..	—	—	—	—	—	—	—	4	2.6
599 <sup>b)</sup>	—	—	—	—	—	—	—	26	—	14	—	—	—	3	—
387	—	—	—	—	—	—	—	12	—	8	—	—	—	1	—
191	—	—	—	—	—	—	—	14	—	6	—	—	—	2	—
75 <sup>c)</sup>	0.1	—	—	—	—	..	—	376	0.3	1	0.0	25	0.0	3,079	2.5
72	0.1	—	—	—	—	..	—	191	0.3	1	0.0	23	0.0	1,948	3.2
3	0.0	—	—	—	—	..	—	185	0.3	—	—	2	0.0	1,131	1.8
—	—	45	0.2	—	—	2	0.0	131	0.6	37	0.2	5	0.0	123	0.6
—	—	25	0.2	—	—	2	0.0	92	0.8	24	0.2	4	0.0	85	0.8
—	—	20	0.2	—	—	—	—	39	0.4	13	0.1	1	0.0	38	0.3
22	0.0	566	0.8	—	—	92	0.1	415	0.6	643	0.9	13	0.0	843	1.2
14	0.0	274	0.8	—	—	63	0.2	253	0.7	425	1.2	8	0.0	557	1.6
8	0.0	292	0.9	—	—	29	0.1	162	0.5	218	0.6	5	0.0	286	0.8
61	1.8	—	—	2	0.0	—	—	10	0.3	7	0.1	—	—	8	0.2
61	3.6	—	—	1	0.0	—	—	7	0.3	4	0.2	—	—	5	0.3
—	—	—	—	1	0.1	—	—	3	0.2	3	0.1	—	—	3	0.1
4,825	7.9	—	—	—	—	..	—	155	0.3	608	1.0	9	0.0	1,481	2.4
3,664	12.0	—	—	—	—	..	—	109	0.4	462	1.5	6	0.0	990	3.3
1,161	3.8	—	—	—	—	..	—	46	0.1	146	0.5	3	0.0	491	1.6
225 <sup>d)</sup>	—	268		..		66		158		325		—		—	

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

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

	Year	Sex	08 - 14 C00 - C97		091 C16		093 C18		094 C19 - C20		095 C22		101 C33, C34	
			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
BRUNEI	1997	T	141	44.8	16	5.1	4	1.3	7	2.2	12	3.8	22	7.0
		M	67	40.2	10	6.0	4	2.4	2	1.2	6	3.6	10	6.0
		F	74	50.1	6	4.1	—	—	5	3.4	6	4.1	12	8.1
	1998	T	148	45.7	13	4.0	5	1.5	6	1.9	13	4.0	28	8.7
		M	86	50.1	7	4.1	4	2.3	5	2.9	10	5.8	17	9.9
		F	62	40.8	6	3.9	1	0.7	1	0.7	3	2.0	11	7.2
INDONESIA	1996	T	20		1		3		3		16		8	
		M	11		1		2		2		9		6	
		F	9		—		1		1		7		2	
JAPAN	1997	T	275,413	220.4	49,739	39.8	21,700	17.4	11,494	9.2	32,359	25.9	48,994	39.2
		M	167,076	273.0	32,218	52.6	11,162	18.2	7,193	11.8	22,937	37.5	35,700	58.3
		F	108,337	170.0	17,521	27.5	10,538	16.5	4,301	6.7	9,422	14.8	13,294	20.9
MALAYSIA	1997	T	4,360	20.1	265	1.2	235	1.1	138	0.6	414	1.9	906	4.2
		M	2,512	22.7	186	1.7	131	1.2	88	0.8	298	2.7	653	5.9
		F	1,848	17.5	79	0.7	104	1.0	50	0.5	116	1.1	253	2.4
PHILIPPINES	1995	T	28,242	41.2	1,336	1.9	1,016	1.5	381	0.6			4,782	7.0
		M	15,207	44.0	782	2.3	564	1.6	204	0.6			3,590	10.4
		F	13,035	38.3	554	1.6	452	1.3	177	0.5			1,192	3.5
SINGAPORE	1998	T	4,050	122.5	357	10.9	405	12.4	152	4.7	162	4.7	994	30.2
		M	2,333	140.7	205	12.5	202	12.2	77	4.8	124	7.1	684	41.2
		F	1,717	104.2	152	9.3	203	12.5	75	4.7	38	2.2	310	19.1
THAILAND	1998	T	29,937	49.0	368	0.6	1,830	3.0	—		7,400	12.1	3,534	5.8
		M	17,847	58.6	222	0.7	1,102	3.6	—		5,247	17.2	2,510	8.2
		F	12,090	39.4	146	0.5	728	2.4	—		2,153	7.0	1,024	3.3
VIETNAM	1996	T	524		63		22				69		89	



(rate per 100,000 population)

113 C50 <sup>a)</sup>	120 C53	122 C54, C55	141 C91 - C95	140, 149 Rest of C81 - C96	Rest of 8-13 Rest of C00 - C80, C97	15 - 17 D00 - D48	181 E10 - E14
Malignant Neoplasm of Female Breast	Malignant Neoplasm of Cervix Uteri	Malignant Neoplasm of Uterus, Other and Unspecified	Leukemia	Other Malignant Neoplasm of Lymphatic and Hemopoietic Tissue	Malignant Neoplasm of Other Sites	Benign Neoplasm, Carcinoma in Situ, Other and Unspecified Neoplasmas	Diabetes Mellitus
Number Rate	Number Rate	Number Rate	Number Rate	Number Rate	Number Rate	Number Rate	Number Rate
13 4.1	5 1.6	2 0.6	4 1.3	7 2.2	49 15.6	2 0.6	54 17.2
—	..	..	1 0.6	7 4.2	27 16.2	—	26 15.6
13 8.8	5 3.4	2 1.4	3 2.0	—	22 14.9	2 1.4	28 18.9
11 3.4	—	—	10 3.1	7 2.2	55 17.0	3 0.9	63 19.5
—	..	..	6 3.5	3 1.8	34 19.8	3 1.7	35 20.4
11 7.2	—	—	4 2.6	4 2.6	21 13.8	—	28 18.4
8	5	—	9	7	9	16 <sup>(1)</sup>	57
..	..	..	5	5	6	9	17
8	5	—	4	2	3	7	40
8,466 6.8	2,241 1.8	2,767 2.2	6,356 5.1	9,982 8.0	81,315 65.1	8,103 6.5	12,370 9.9
73 0.1	..	..	3,649 6.0	5,527 9.0	48,617 79.4	4,400 7.2	6,295 10.3
8,393 13.2	2,241 3.5	2,767 4.3	2,707 4.2	4,455 7.0	32,698 51.3	3,703 5.8	6,075 9.5
339 1.6	127 0.6	18 0.1	315 1.5	226 1.0	1,377 6.4	214 1.0	805 3.7
..	..	..	185 1.7	154 1.4	817 7.4	111 1.0	371 3.3
339 3.2	127 1.2	18 0.2	130 1.2	72 0.7	560 4.6	103 1.0	434 4.1
2,386 3.5	571 0.8	1,009 1.5	1,715 2.5	675 1.0	14,371 20.9	345 0.5	6,724 9.8
..	..	..	932 2.7	395 1.1	8,740 25.3	194 0.6	3,236 9.4
2,386 7.0	571 1.7	1,009 3.0	783 2.3	280 0.8	5,631 16.5	151 0.4	3,488 10.2
236 7.1	74 2.2	28 0.9	114 3.3	152 4.6	1,376 41.6	41 1.2	308 9.4
..	..	..	60 3.5	98 6.0	883 53.3	16 0.9	112 6.9
236 14.2	74 4.5	28 1.7	54 3.0	54 3.1	493 29.8	25 1.5	196 12.0
530 0.9	413 0.7	559 0.9	969 1.6	152 0.2	14,182 23.2	184 0.3	4,885 8.0
6 0.0	..	..	513 1.7	93 0.2	8,154 26.8	95 0.3	1,886 6.2
524 1.7	413 1.3	559 1.8	456 1.5	59 0.1	6,028 19.6	89 0.3	2,999 9.8
13	29		52	3	174	13	120

Source : (1) Directorate of Medical Care

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

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

	Year	Sex	180, 182, 183, 189 Rest of E00 – E90		19 E40 – E64		200 D50 – D64		209 D65 – D89 <sup>a)</sup>		21 F00 – F99		220 G00 – G09	
			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
BRUNEI	1997	T	1		0.3	4	1.3	3	1.0	1	0.3	2	0.6	
		M	1		0.6	2	1.2	—	—	1	0.6	2	1.2	
		F	—		—	2	1.4	3	2.0	—	—	—	—	
	1998	T	3		0.9	2	0.6	3	0.9	3	0.9	5	1.5	
		M	2		1.2	1	0.6	3	1.7	3	1.7	3	1.7	
		F	1		0.7	1	0.7	—	—	—	—	2	1.3	
INDONESIA	1996	T	6		3	16	1	2	28					
		M	3		3	3	—	1	15					
		F	3		—	13	1	1	13					
JAPAN	1997	T	3,386	2.7	936	1,808	1.4	2,294	1.8	3,220	2.6	887	0.7	
		M	1,507	2.5	509	726	1.2	1,108	1.8	1,369	2.2	496	0.8	
		F	1,879	2.9	427	1,082	1.7	1,186	1.9	1,851	2.9	391	0.6	
MALAYSIA	1997	T	513	2.4	16	91	0.4	89	0.4	137	0.6	206	1.0	
		M	424	3.8	12	49	0.4	48	0.4	132	1.2	145	1.3	
		F	89	0.8	4	42	0.4	41	0.4	5	0.0	61	0.6	
PHILIPPINES	1995	T	1,906	2.8	2,900	2,128	3.1	528	0.8	810	1.2	1,932	2.8	
		M	955	2.8	1,452	1,112	3.2	281	0.8	599	1.7	1,084	3.1	
		F	951	2.8	1,448	1,016	3.0	247	0.7	211	0.6	848	2.5	
SINGAPORE	1998	T	32	0.9	—	16	0.4	19	0.5	15	0.4	17	0.5	
		M	13	0.7	—	5	0.3	12	0.7	6	0.4	11	0.6	
		F	19	1.1	—	11	0.6	7	0.4	9	0.5	6	0.4	
THAILAND	1998	T	285	0.5	125	230	0.4	7,937	13.0	776	1.3	1,581	2.6	
		M	115	0.4	75	116	0.4	5,750	18.9	678	2.2	1,184	3.9	
		F	170	0.6	50	114	0.4	2,187	7.1	98	0.3	397	1.3	
VIETNAM	1996	T	246		105	387	80	30	b)					

Note : a) Includes D80 – D89: Certain Disorders Involving the Immune Mechanism

b) See Note a) on page 75

(rate per 100,000 population)

221-225, 229, 23,24 G10-H95	25-30 100-199		25 100-109		26 110-115		270 121-123		279 120, 124, 125		28 130-152		29 160-169	
Other Diseases of Nervous System and Sense Organs	Diseases of Circulatory System		Rheumatic Fever and Rheumatic Heart Diseases		Hypertensive Diseases		Acute Myocardial Infarction		Other Ischemic Heart Diseases		Other Heart Diseases		Cerebrovascular Diseases	
Number Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
8 2.5	233	74.1	—		21 6.7		59 18.8		19 6.0		57 18.1		73 23.2	
5 3.0	141	84.6	—		8 4.8		37 22.2		15 9.0		39 23.4		40 24.0	
3 2.0	92	62.2	—		13 8.8		22 14.9		4 2.7		18 12.2		33 22.3	
7 2.2	290	89.6	8 2.5		28 8.7		44 13.6		36 11.1		86 26.6		85 26.3	
3 1.7	178	103.7	4 2.3		16 9.3		32 18.6		28 16.3		44 25.6		51 29.7	
4 2.6	112	73.7	4 2.6		12 7.9		12 7.9		8 5.3		42 27.6		34 22.4	
74	339		4		29		32		24		103		147	
37	183		3		18		22		14		51		75	
37	156		1		11		10		10		52		72	
7,834 6.3	297,005	237.7	2,488 2.0		6,884 5.5		49,231 39.4		22,486 18.0		65,521 52.4		138,697 111.0	
4,097 6.7	144,502	236.1	800 1.3		2,537 4.1		26,772 43.7		11,633 19.0		30,362 49.6		65,790 107.5	
3,737 5.9	152,553	196.9	1,688 2.6		4,347 6.8		22,459 35.2		10,853 17.0		35,159 55.1		72,907 114.4	
461 2.1	12,250	56.5	111 0.5		529 2.4		3,420 15.8		1,037 4.8		3,462 16.0		3,335 15.4	
286 2.6	7,590	68.5	53 0.5		313 2.8		2,382 21.5		700 6.3		1,971 17.8		1,923 17.4	
175 1.7	4,660	44.0	58 0.5		216 2.0		1,038 9.8		337 3.2		1,491 14.1		1,412 13.3	
2,588 3.8	88,844	129.5	2,217 3.2		21,052 30.7		18,789 27.4		8,929 13.0		15,327 22.3		19,273 28.1	
1,507 4.4	50,550	146.2	1,000 2.9		12,182 35.2		12,225 35.3		4,367 12.6		8,047 23.3		11,094 32.1	
1,081 3.2	38,294	112.5	1,217 3.6		8,870 26.1		6,564 19.3		4,562 13.4		7,280 21.4		8,179 24.0	
93 2.8	5,711	169.0	35 1.0		273 8.4		1,710 50.0		1,502 45.4		430 11.4		1,633 49.2	
51 3.0	3,130	181.6	11 0.6		138 8.4		1,036 59.6		835 50.7		235 11.3		788 46.5	
42 2.6	2,581	156.2	24 1.4		135 8.5		674 40.4		667 40.1		195 11.6		845 51.9	
7,719 12.6	54,207	88.6	274 0.4		2,070 3.4		532 0.9		1,734 2.8		37,445 61.2		4,427 7.2	
4,821 15.8	33,201	109.1	125 0.4		1,090 3.6		337 1.1		1,101 3.6		22,994 75.5		2,687 8.8	
2,898 9.4	21,006	68.4	149 0.5		980 3.2		195 0.6		633 2.1		14,451 47.0		1,740 5.7	
424 <sup>a)</sup>	3,994		223		683		442		143		812		252	

Note: a) Includes meningitis

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

	Year	Sex	300 I70		301-305, 309 Rest of I00-I99		310-312 J00-J06		320 J20, J21		321 J12-J18		322 J10, J11	
			Atherosclerosis		Other Diseases 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
BRUNEI	1997	T	—	—	4	1.3	—	—	2	0.6	22	7.0	—	—
		M	—	—	2	1.2	—	—	1	0.6	18	10.8	—	—
		F	—	—	2	1.4	—	—	1	0.7	4	2.7	—	—
	1998	T	—	—	3	0.9	—	—	—	—	23	7.1	—	—
		M	—	—	3	1.7	—	—	—	—	13	7.6	—	—
		F	—	—	—	—	—	—	—	—	10	6.6	—	—
INDONESIA	1996	T	—	—	1	—	3	—	4	—	89	—	—	—
		M	—	—	—	—	1	—	2	—	51	—	—	—
		F	—	—	1	—	2	—	2	—	38	—	—	—
JAPAN	1997	T	1,085	0.9	10,663	8.5	705	0.6	1,776	1.4	78,904	63.1	815	0.7
		M	492	0.8	6,116	10.0	332	0.5	799	1.3	42,314	69.1	363	0.6
		F	593	0.9	4,547	7.1	373	0.6	977	1.5	36,590	57.4	452	0.7
MALAYSIA	1997	T	1	0.0	355	1.6	7	0.0	6	0.0	1,669	7.7	2	0.0
		M	—	—	248	2.2	5	0.0	3	0.0	1,038	9.4	2	0.0
		F	1	0.0	107	1.0	2	0.0	3	0.0	631	6.0	—	—
PHILIPPINES	1995	T	2,362	3.4	895	1.3	136	0.2	171	0.2	33,637	49.0	313	0.5
		M	1,066	3.1	569	1.6	82	0.2	90	0.3	17,736	51.3	155	0.4
		F	1,296	3.8	326	1.0	54	0.2	81	0.2	15,901	46.7	158	0.5
SINGAPORE	1998	T	2	0.1	126	3.5	2	0.1	—	—	1,780	53.2	—	—
		M	2	0.1	85	4.5	—	—	—	—	854	50.1	—	—
		F	—	—	41	2.4	2	0.1	—	—	926	56.4	—	—
THAILAND	1998	T	3	0.0	7,722	12.6	202	0.3	7	0.0	5,746	9.4	148	0.2
		M	1	0.0	4,866	16.0	111	0.4	6	0.0	3,766	12.4	99	0.3
		F	2	0.0	2,856	9.3	91	0.3	1	0.0	1,980	6.4	49	0.2
VIETNAM	1996	T	—	—	605	—	56	—	296	—	1,227	—	—	—

(rate per 100,000 population)

323 J40-J46	313-315, 319, 324-327, 329 Rest of J00-J99	341 K25-K27	347 K73, K74	33, 340, 342-346, 348, 349 Rest of K00-K93	350 N00-N19	351-353, 359, 36, 37 N20-N99	38 O00-O08
Bronchitis, Chronic and Unspecified, Emphysema and Asthma	Other Diseases of Respiratory System	Ulcer of Stomach and Duodenum	Chronic Liver Diseases and Cirrhosis	Other Diseases of Digestive System	Nephritis, Nephrotic Syndrome and Nephrosis	Other Diseases of Genito-urinary System	Abortion
Number Rate	Number Rate	Number Rate	Number Rate	Number Rate	Number Rate	Number Rate	Number Rate
58 18.4	10 3.2	6 1.9	7 2.2	7 2.2	37 11.8	—	—
33 19.8	8 4.8	5 3.0	3 1.8	4 2.4	22 13.2	..	..
25 16.9	2 1.4	1 0.7	4 2.7	3 2.0	15 10.1	—	—
82 25.3	9 2.8	6 1.9	9 2.8	9 2.8	54 16.7	—	—
47 27.4	7 4.1	4 2.3	5 2.9	6 3.5	33 19.2	..	..
35 23.0	2 1.3	2 1.3	4 2.6	3 2.0	21 13.8	—	—
33	57	6	72	81	78	17	2
18	37	5	54	45	48	8	..
15	20	1	18	36	30	9	2
18,746 15.0	22,202 17.8	3,876 3.1	11,315 9.1	22,272 17.8	19,324 15.5	1,956 1.6	3 0.0
12,231 20.0	12,972 21.2	2,127 3.5	7,400 12.1	11,980 19.6	8,788 14.4	820 1.4	..
6,515 10.2	9,230 14.5	1,749 2.7	3,915 6.1	10,292 16.1	10,536 16.5	1,136 1.8	3 0.0
416 1.9	2,307 10.6	165 0.8	366 1.7	1,264 5.8	1,169 5.4	96 0.4	9 0.0
238 2.1	1,591 14.4	115 1.0	293 2.6	851 7.7	632 5.7	45 0.4	—
178 1.7	716 6.8	50 0.5	73 0.7	413 3.9	537 5.1	51 0.5	9 0.1
11,309 16.5	6,747 9.8	5,455 7.9	3,511 5.1	5,716 8.3	7,093 10.3	1,321 1.9	164 0.2
7,346 21.2	3,390 9.8	3,785 10.9	2,853 8.2	4,196 12.1	4,179 12.1	723 2.1	..
3,963 11.6	3,357 9.9	1,670 4.9	658 1.9	1,520 4.5	2,914 8.6	598 1.8	164 0.5
140 4.1	657 20.2	75 2.2	140 4.2	203 6.0	181 5.5	313 9.7	1 0.0
86 5.0	471 28.7	46 2.7	93 5.7	101 5.8	89 5.3	96 6.0	..
54 3.2	186 11.7	29 1.8	47 2.7	102 6.2	92 5.6	217 13.5	1 0.1
2,112 3.5	—	244 0.4	3,208 5.2	—	5,787 9.5	418 0.7	10 0.0
1,473 4.8	—	165 0.5	2,399 7.9	—	3,041 10.0	215 0.7	..
639 2.1	—	79 0.3	809 2.6	—	2,746 8.9	203 0.7	10 0.0
184	680	153	452	734	225	87	5

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

	Year	Sex	39 O10 - O75, O81 - O97		40, 41 O80, O98 - O99		42 L00 - L99		43 M00 - M99		44 Q00 - Q99		45 P00 - P96	
			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
BRUNEI	1997	T	1	0.3	1	0.3	—	—	4	1.3	23	7.3	25	8.0
		M	..	..	..	..	—	—	1	0.6	15	9.0	15	9.0
		F	1	0.7	1	0.7	—	—	3	2.0	8	5.4	10	6.8
	1998	T	3	0.9	—	—	—	—	3	0.9	23 <sup>a)</sup>	7.1	20	6.2
		M	—	—	—	—	—	—	1	0.6	13	7.6	15	8.7
		F	3	2.0	—	—	—	—	2	1.3	9	5.9	5	3.3
INDONESIA	1996	T	13	..	21	..	9	..	3	..	12	..	218	..
		M	..	..	..	..	3	..	2	..	9	..	127	..
		F	13	..	21	..	6	..	1	..	3	..	91	..
JAPAN	1997	T	49	0.0	29	0.0	824	0.7	4,095	3.3	2,785	2.2	1,288	1.0
		M	..	..	..	..	259	0.4	1,318	2.2	1,386	2.3	713	1.2
		F	49	0.1	29	0.0	565	0.9	2,777	4.4	1,399	2.2	575	0.9
MALAYSIA	1997	T	66	0.3	1	0.0	92	0.4	90	0.4	1,095	5.1	2,343	10.8
		M	..	..	..	..	56	0.5	17	0.2	610	5.5	1,376	12.4
		F	66	0.6	1	0.0	36	0.3	73	0.7	485	4.6	967	9.1
PHILIPPINES	1995	T	1,324	1.9	—	..	793	1.2	744	1.1	4,002	5.8	14,026	20.4
		M	..	..	..	..	360	1.0	437	1.3	2,311	6.7	8,346	24.1
		F	1,324	1.9	—	..	433	1.3	307	0.9	1,691	5.0	5,680	16.7
SINGAPORE	1998	T	4	0.1	1	0.0	47	1.3	54	1.6	112 <sup>b)</sup>	3.1	62	1.9
		M	..	..	..	..	15	0.8	11	0.6	62	3.3	28	1.7
		F	4	0.2	1	0.1	32	1.8	43	2.6	49	2.7	34	2.0
THAILAND	1998	T	58	0.1	—	..	461	0.8	315	0.5	1,652	2.7	601	1.0
		M	..	..	..	..	267	0.9	190	0.6	895	2.9	347	1.1
		F	58	0.2	—	..	194	0.6	125	0.4	757	2.5	254	0.8
VIETNAM	1996	T	120	..	16	..	43	..	33	..	257	..	2,371	..

Note: a) Including 1 intersex  
b) Includes unknown sex

(rate per 100,000 population)

465 R54		460-464, 466, 467, 469 Rest of R00-R99		E47-E56 V01-Y98		E47 V01-V99		E48 X40-X49		E50 W00-W19		E51 X00-X09		E521 W65-W74	
Senility without Mention of Psychosis		Signs, Symptoms and Other Ill- defined Conditions		Accidents and Adverse Effects		Transport Accidents		Accidental Poisoning		Accidental Falls		Accidents Caused by Fire and Flames		Accidental Drowning and Submersion	
Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
57	18.1	15	4.8	131	41.7	63	20.0	5	1.6	19	6.0	5	1.6	11	3.5
26	15.6	10	6.0	108	64.8	50	30.0	3	1.8	19	11.4	4	2.4	9	5.4
31	21.0	5	3.4	23	15.6	13	8.8	2	1.4	—	—	1	0.7	2	1.4
26	8.0	15	4.6	106	32.8	50	15.5	6	1.9	6	1.9	8	2.5	18	5.6
8	4.7	10	5.8	82	47.8	34	19.8	5	2.9	6	3.5	5	2.9	14	8.2
18	11.8	5	3.3	24	15.8	16	10.5	1	0.7	—	—	3	2.0	4	2.6
—	—	82	—	188	—	82	—	3	—	17	—	3	—	—	—
—	—	47	—	127	—	59	—	1	—	11	—	2	—	—	—
—	—	35	—	61	—	23	—	2	—	6	—	1	—	—	—
21,434	17.2	3,935	3.1	65,537	52.4	13,981	11.2	608	0.5	5,872	4.7	1,444	1.2	5,659	4.5
6,384	10.4	2,262	3.7	43,025	70.3	9,824	16.0	389	0.6	3,762	6.1	914	1.5	3,218	5.3
15,050	23.6	1,673	2.6	22,512	35.3	4,157	6.5	219	0.3	2,111	3.3	530	0.8	2,441	3.8
1,210	5.6	1,538	7.1	7,138	32.9	3,062	14.1	138	0.6	437	2.0	158	0.7	313	1.4
509	4.6	997	9.0	5,848	52.8	2,601	23.5	92	0.8	356	3.2	96	0.9	241	2.2
701	6.6	541	5.1	1,290	12.2	461	4.4	46	0.4	81	0.8	62	0.6	72	0.7
7,374	10.7	11,198	16.3	28,998	42.3	4,475	6.5	396	0.6	957	1.4	615	0.9	3,244	4.7
3,142	9.1	6,579	19.0	23,282	67.3	3,188	9.2	264	0.8	707	2.0	345	1.0	2,296	6.6
4,232	12.4	4,619	13.6	5,716	16.8	1,287	3.8	132	0.4	250	0.7	270	0.8	948	2.8
6	0.2	45	1.0	1,110 <sup>a)</sup>	25.1	241	5.4	12	0.3	119	2.2	6	0.1	18	0.3
1	0.1	28	1.1	810	35.0	193	8.3	11	0.4	90	3.1	5	0.1	16	0.6
5	0.3	17	1.0	299	15.2	48	2.5	1	0.1	29	1.1	1	0.1	2	0.1
85,918	140.5	52,879	86.5	31,202	51.0	8,165	13.4	179	0.3	534	4.9	147	0.2	3,002	4.9
37,352	122.7	32,486	106.7	24,845	81.6	6,605	21.7	110	0.4	393	1.3	99	0.3	2,159	7.1
48,566	158.1	20,393	66.4	6,357	20.7	1,560	5.1	69	0.2	141	0.5	48	0.2	843	2.7
558				4,408		714		461 <sup>b)</sup>				—			

Note: a) Includes unknown sex  
b) Includes X20-X29 (ICD-10): Contact With  
Venomous Animals and Plants

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

	Year	Sex	E49, E520, E522, E529 Rest of W00 - X59		E53 Y40 - Y84		E54 X60 - X84		E55 X85 - Y09		E56 Y10 - Y36, Y85 - Y98	
			All Other Accidents Including Late Effects		Drugs, Medicaments Causing Adverse Effects in Therapeutic Use		Suicide and Self-inflicted Injuries		Homicide & Injuries Inflicted by Other Persons		Other Violence	
			Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
BRUNEI	1997	T			—		11	3.5	8	2.5	9	2.9
		M			—		9	5.4	6	3.6	8	4.8
		F			—		2	1.4	2	1.4	1	0.7
	1998	T			—		8	2.5	4	1.2	6	1.9
		M			—		8	4.7	4	2.3	6	3.5
		F			—		—		—		—	
INDONESIA	1996	T	36		—		—		1		—	
		M	28		—		—		1		—	
		F	8		—		—		—		—	
JAPAN	1997	T	11,322	8.9	152	0.1	23,494	18.8	718	0.6	2,287	1.8
		M	7,051	11.5	84	0.1	15,901	26.0	434	0.7	1,449	2.4
		F	4,271	6.7	68	0.1	7,593	11.9	284	0.4	838	1.3
MALAYSIA	1997	T	440	2.0	9	0.0	176	0.8	117	0.5	2,288	10.6
		M	353	3.2	6	0.1	130	1.2	95	0.9	1,878	16.9
		F	87	0.8	3	0.0	46	0.4	22	0.2	410	3.9
PHILIPPINES	1995	T	5,000	7.3	1,099	1.6	723	1.1	11,597	16.9	892	1.3
		M	3,615	10.5	924	2.7	511	1.5	10,786	31.2	646	1.9
		F	1,385	4.1	175	0.5	212	0.6	811	2.4	246	0.7
SINGAPORE	1998	T	72	1.0	4	0.1	371	10.4	45	0.8	222 <sup>a)</sup>	4.6
		M	63	1.5	3	0.2	221	12.6	29	0.9	179	7.2
		F	9	0.4	1	0.1	150	8.1	16	0.6	42	2.0
THAILAND	1998	T	5,472	8.9	105	0.2	5,096	8.3	3,734	6.1	4,768	7.8
		M	4,413	14.5	79	0.3	3,936	12.9	3,191	10.5	3,860	12.7
		F	1,059	3.4	26	0.1	1,160	3.8	543	1.8	908	3.0
VIETNAM	1996	T					321					

Note : a) Includes unknown sex



## 3 – 4 Number and Percentage of Deaths Medically Certified and not Medically Certified

	Year	Deaths Medically Certified		Deaths not Medically Certified		Total
		Number	Percentage (%)	Number	Percentage (%)	Number
BRUNEI						
INDONESIA						
JAPAN <sup>(1)</sup>	1997	913,402	100.0	—	—	913,402
MALAYSIA <sup>(2)</sup>	1997	44,013	45.4	53,029	54.6	97,042
PHILIPPINES						
SINGAPORE <sup>(3)</sup>	1998	15,100	96.4	557	3.6	15,657
THAILAND	1998	49,737	15.7	268,056	84.3	317,793
VIETNAM						

Source : (1) Ministry of Health and Welfare

(2) *Vital Statistics Malaysia*, Department of Statistics(3) *Report on Registration of Births and Deaths*, Registry of Births and Deaths

## 4. Child and Maternal Health

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

**BRUNEI DARUSSALAM***Infant Mortality:*

The infant mortality rate which stood at 38.4 per 1,000 live-births in 1971 significantly dropped to 6.5 in 1998. The drop was as high as 83%.

*Maternal Mortality:*

The maternal mortality ratio stood at 80 per 100,000 live-births in 1971. It dropped by 50% in 1998.

**INDONESIA***Infant Mortality:*

Since the late 1960s, the estimated infant mortality rate in Indonesia declined from 145 to 52 deaths per 1,000 live-births in 1997. The 1992 Household Health Survey found that infant mortality was mainly caused by acute upper respiratory tract infection (36%), diarrheal diseases (11%), and neonatal tetanus (9.8%). Income and nutritional gains, along with the fertility decline probably also account for much of the decline of the rate. The 1994 Demographic and Health Survey found that infant mortality was the lowest for children of mothers who received both antenatal care and assistance at delivery from medical professionals, and the highest for children whose mothers had neither antenatal care nor medical assistance at delivery (39 and 107 deaths per 1,000 live-births, respectively).

*Child (under five years) Mortality:*

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

*Maternal Mortality:*

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

**JAPAN***Infant Mortality:*

The infant mortality rate has been among the lowest in the world. In 1998, the number of infant deaths was 4,380 and the infant mortality rate was 3.6 (per 1,000 live-births).

*Maternal Mortality:*

The maternal mortality rate has been gradually decreasing. In 1998, the number of maternal deaths was 86 and the maternal mortality rate was 6.9 (per 100,000 live-births).

## **MALAYSIA**

### *Infant and Child Mortality:*

The perinatal and neonatal mortality rates which reflect the level of health of expectant mothers as well as the level of antenatal care of the mother have improved over the years. In 1991, the perinatal mortality rate was 12.3 per 1,000 live-births and stillbirths but in 1997 it dropped to 9.1. Likewise, the neonatal mortality rate dipped from 8.2 per 1,000 live-births to 6.1.

The infant mortality rate has improved, which reflects, not only the magnitude of the health problems directly responsible for the death of infants such as diarrhoeal diseases, respiratory infections and malnutrition, but also the level of living in general. Malaysia's infant mortality rate is now among the lowest in the Asian region: in 1991 it was 12.5 per 1,000 live-births, and by 1997 it was down to 9.5.

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

### *Maternal Mortality:*

The maternal mortality rate reflects the risks to mothers during pregnancy and at childbirth. The percentage of safe deliveries, that is, deliveries attended by trained personnel was 95.2% in 1996. Hence, the maternal mortality rate in 1997 was extremely low at 0.2 per 1,000 livebirths.

## **PHILIPPINES**

### *Infant Mortality:*

There were 31,003 infant deaths in 1994 out of 1,285,863 live-births, with an infant mortality rate of 18.9 per thousand, as reported by the field health units nationwide. The official projections were 50.48/1000 and 48.93/1000 for 1994 and 1995, respectively.

## **SINGAPORE**

### *Infant Mortality:*

Singapore's infant mortality continued to remain low at 4.1 per 1,000 resident live-births in 1998. This is very favourable by international standards.

### *Maternal Mortality:*

In 1998, only six maternal deaths were registered.

## **THAILAND**

### *Infant Mortality:*

The infant mortality rate has continuously declined due to the increased health care coverage and utilization, the improved socioeconomic status and the Extended Programme on Immunization. The rate estimated for 1995–1996 was 26.1 per 1,000 live-births.

*Maternal Mortality:*

The maternal mortality rate has also decreased rapidly. The rate was 7.6 per 100,000 live-births in 1998.

**VIETNAM**

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

*Infant Mortality:*

The infant mortality rate stood at 45.1 per 1,000 live-births in 1994, and according to the survey conducted by UNFPA decreased to 37.0 per 1,000 live-births in 1998.

*Maternal Mortality:*

The maternal mortality rate was 1.1 per 1,000 live-births in 1996, and decreased to 1.0 per 1,000 live-births in 1997.

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

	Year	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>	1997	39	5.2	55	7.4	35	4.7	20	2.7	67	9.0
	1998	46	6.2	48	6.5	35	4.7	13	1.8	67	9.0
INDONESIA <sup>(2)</sup>	1997				52						
	1998				50						
JAPAN <sup>(3)</sup>	1998	5,804	4.8	4,380	3.6	2,353	2.0	2,027	1.7	7,447	6.2
MALAYSIA <sup>(4)</sup>	1997	2,378	4.4	5,084	9.5	3,262	6.1	1,822	3.4	4,907	9.1
PHILIPPINES <sup>(5)</sup>	1994	<sup>(6)</sup> 3,596	2.4	31,073	18.9	16,350	9.9	14,723	9.0	<sup>(6)</sup> 11,762	7.2
SINGAPORE <sup>(7)</sup>	1998	133	3.0	183	4.1	106	2.4	77	1.8	213	4.9
THAILAND <sup>(8) a)</sup>	1997	<sup>b)</sup> 327	<sup>b)</sup> 0.3		<sup>(9) c)</sup> 26.1	2,299	2.6	2,873	3.2	2,437	2.5
VIETNAM <sup>(2)</sup>	1993	<sup>d)</sup> 5,916	3.3		<sup>(10) e)</sup> 37.0	43,560	24.2	27,000	15.0		

Source : (1) Registration of Birth and Death and Adoptions, Department of Immigration and Registration of Nationals, Ministry of Home Affairs and Department of Economic Planning and Development, Ministry of Finance

(2) Ministry of Health

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

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

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

(6) Field Health Service Information System (FHSIS)

(7) *Report on Registration of Births and Deaths*, Registry of Births and Deaths

(8) Ministry of Public Health

(9) *The 1995-1996 Survey of Population Change*, National Statistical Office

(10) Based on the survey conducted by UNFPA

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

b) For 1995

c) For 1995-1996

d) For 1996

e) For 1998

## 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)	T	55	18	10	7	20	—	7.4	2.4	1.3	0.9	2.7	—	
		M	35	13	5	5	12	—	9.0	3.3	1.3	1.3	3.1	—	
		F	20	5	5	2	8	—	5.6	1.4	1.4	0.6	2.2	—	
	1998	T	a) 48	a) 15	6	14	13	—	6.5	2.0	0.8	1.9	1.8	—	
		M	31	12	5	8	6	—	8.1	3.1	1.3	2.1	1.6	—	
		F	16	2	1	6	7	—	4.5	0.6	0.3	1.7	2.0	—	
INDONESIA	(2)	1998	T						b) 45						
JAPAN	(3)	T	4,380	1,223	420	710	2,027	—	3.6	1.0	0.4	0.6	1.7	—	
		M	2,364	667	232	387	1,078	—	3.8	1.1	0.4	0.6	1.7	—	
		F	2,016	556	188	323	949	—	3.4	0.9	0.3	0.6	1.6	—	
MALAYSIA	(4)	T	5,084	2,529		733	1,822	—	9.5	4.7		1.3	3.3	—	
		M	2,942	1,480		423	1,039	—	10.6	5.3		1.5	3.7	—	
		F	2,142	1,049		310	783	—	8.3	4.0		1.2	3.0	—	
PHILIPPINES	(5)	1994	T	31,073	12,801		3,549	14,723	—	18.9	7.8		2.2	9.0	
SINGAPORE	(6)	T	c) 183	c) 54	26	26	77	—	4.1	1.3	0.6	0.6	1.7	—	
		M	95	26	13	13	43	—	4.1	1.2	0.6	0.5	1.8	—	
		F	87	27	13	13	34	—	4.1	1.3	0.5	0.6	1.5	—	
THAILAND	(7)	T	4,062	409	424	608	2,618	3	4.5	0.5	0.5	0.7	2.9	0.0	
		M	2,262	214	251	331	1,465	1	4.8	0.5	0.5	0.4	3.2	0.0	
		F	1,800	195	173	277	1,153	2	4.1	0.5	0.4	0.6	2.6	0.0	
VIETNAM	(8)	1998	T						37.0						

Source: (1) Registration of Birth and Death and Adoptions, Department of Immigration and Registration of Nationals, Ministry of Home Affairs and Department of Economic Planning and Development, Ministry of Finance

(2) Ministry of Health

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

(4) *Vital Statistics Peninsular Malaysia, Sabah and Sarawak*, Department of Statistics

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

(6) *Report on Registration of Births and Deaths*, Registry of Births and Deaths

(7) Health Information Division, Ministry of Public Health

(8) Ministry of Health

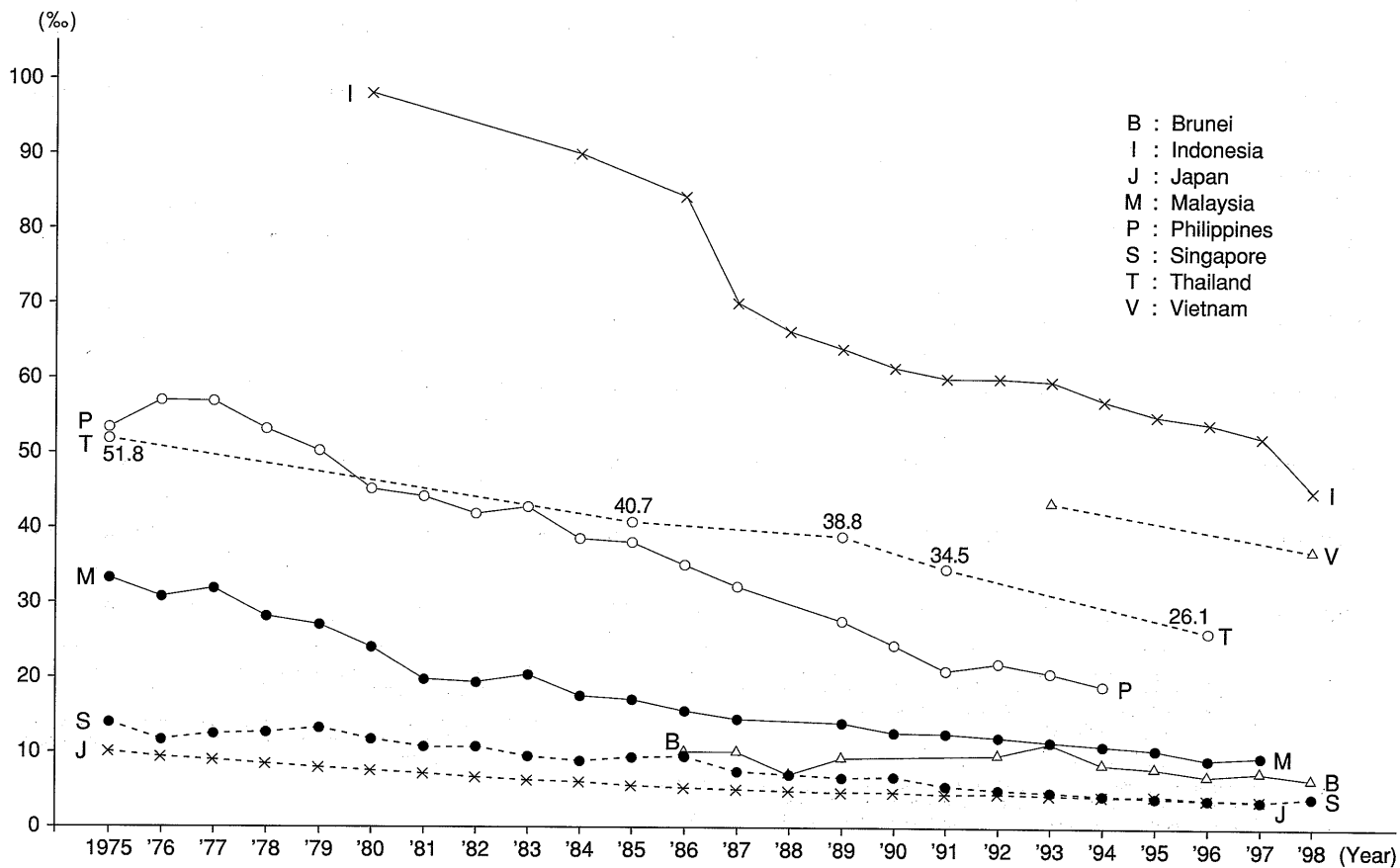
(9) Based on the survey conducted by UNFPA

Note: a) Includes 1 intersex

b) Estimated

c) Includes unknown sex

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





## 4-3 Maternal Mortality Rates

(per 100,000 live-births)

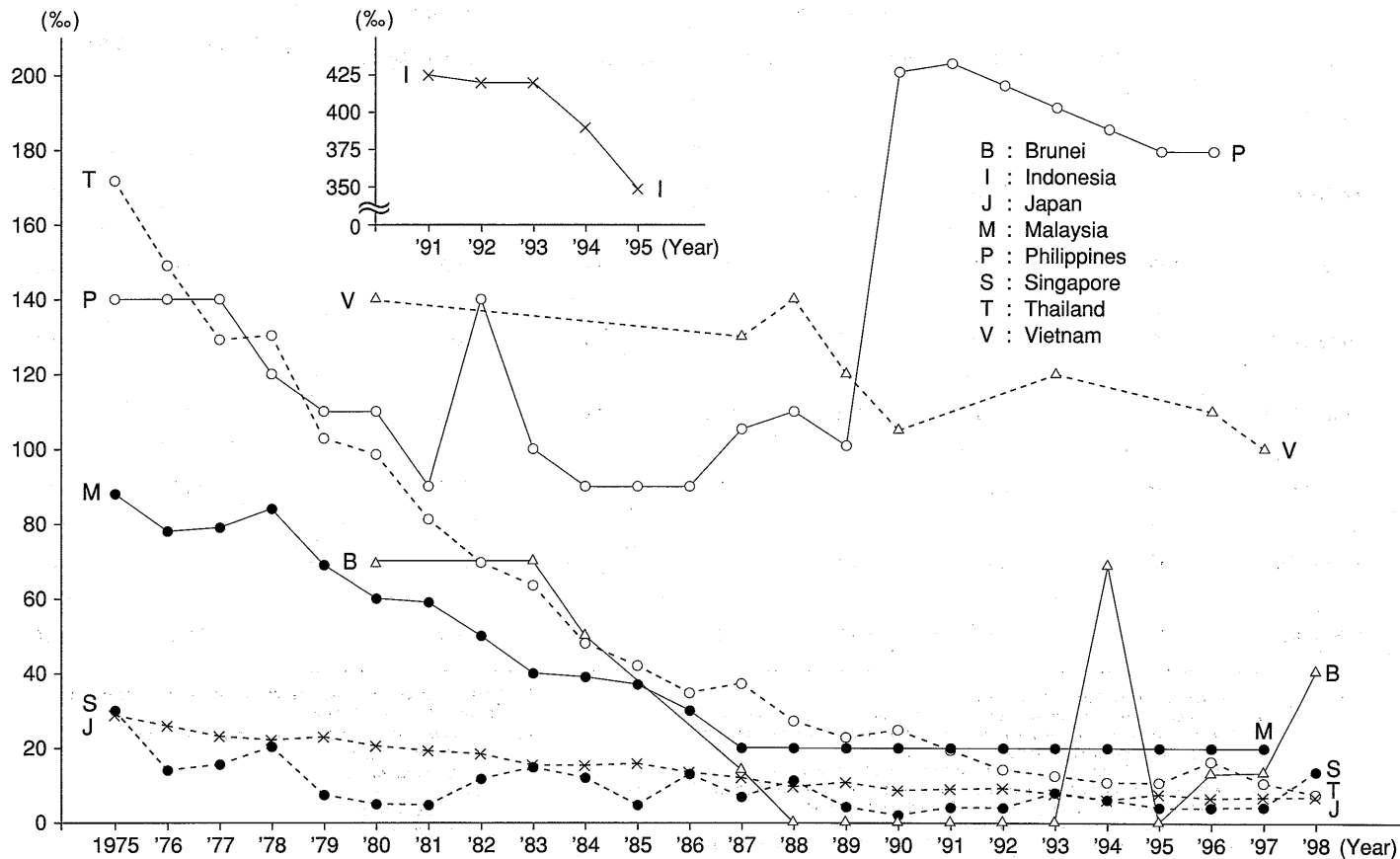
	1970	1975	1980	1985	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
BRUNEI <sup>(1)</sup>			69.2	—	—	—	—	—	—	—	68.8	—	13.1	13.4	40.5
INDONESIA <sup>(2)</sup>								425	420	420	390	312-385 <sup>a)</sup>			
JAPAN <sup>(3)</sup>	50.0	28.7	20.5	15.8	9.6	10.8	8.6	9.0	9.2	7.7	6.1	7.6	6.6	6.8	6.9
MALAYSIA <sup>(4)</sup>	160	88	60	37	20	20	20	20	20	20	20	20	20	20	
PHILIPPINES <sup>(5)</sup>	190.0	140.0	110.0	90.0	110.0	100.9	200.9	203.2	197.3	191.4	185.6	179.7	179.7		
SINGAPORE <sup>(6)</sup>	32.7	30.0	4.9	4.7	11.3	4.2	2.0	4.1	4.0	8.0	6.1	4.1	4.1	4.2	13.7
THAILAND <sup>(7)</sup>	226.1	171.7	98.5	42.0	27.2	22.8	24.8	19.4	14.2	12.5	10.8	10.7	16.4	10.6	7.6
VIETNAM <sup>(8)</sup>			140		140	120	105			120			110	100	

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

(7) Health Information Division, Ministry of Public Health  
 (8) Ministry of Health

Note : a) The figure of 312 is based on reports from midwives and that of 385 has been estimated from the Household Survey

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



## 4 - 4 Family Planning Methods Used

(%)

	Year	Reversible				Irreversible		Natural <sup>a)</sup>	Others <sup>b)</sup>
		Oral Contraceptive	IUD	Injection	Condom	Sterilization			
BRUNEI									
INDONESIA <sup>(1)</sup>	1997	32.3	13.4	42.4	1.2	1.0			11.1
JAPAN <sup>(2) c)</sup>	1998	1.1	3.1	—	77.8	5.8		16.6	9.3
MALAYSIA <sup>(3)</sup>	1997	74.6	4.0	2.7	10.2	6.1		—	2.4
PHILIPPINES <sup>(4)</sup>	1996	51.2	5.6	18.2	13.4	<sup>d)</sup> 1.2 <sup>e)</sup> 0.1		<sup>f)</sup> 6.2	
SINGAPORE <sup>(5) c)</sup>	1997	15.7	8.7	1.1	35.7	25.5		26.5	2.2
THAILAND <sup>(6)</sup>	1996	54.7	3.5	14.3	0.3	<sup>d)</sup> 23.9 <sup>e)</sup> 1.9		—	1.4
VIETNAM <sup>(7)</sup>	1996	5.3	55.8	0.4	7.1	8.7		21.3	1.4

Source : (1) Family Planning Coordination Board

(2) *The Future of the Family: Beyond Gender, Summary of Twenty-fourth National Survey on Family Planning*, The Population Problems Research Council, The Mainichi Shimbun, Tokyo, Japan

(3) National Population and Family Development Board Malaysia

(4) Field Health Service Information System, Health Intelligence Service, Department of Health, Family Planning Service, Department of Health

(5) Population Planning Section, Ministry of Health

(6) *Report on Population Characteristics, the 1995-1996*, Survey of Population Change, National Statistical Office(7) *Health Statistics Yearbook*, Health Statistics and Informatic Division, Ministry of HealthNote : a) Basic body temperature, cervical mucus, rhythm method  
b) Diaphragm, etc.  
c) Plural choice  
d) Tubal ligation  
e) Vasectomy  
f) Excluding Rhythm

## 4 – 5 Women Receiving Prenatal Care

	Year	Percentage of Pregnant Women Receiving Prenatal Care at least 4 Times from Trained Health Personnel during Entire Pregnancy
BRUNEI	a) 1996	84
	1997	82
	1998	81
INDONESIA	b) 1997	69.1
	1998	69.8
JAPAN	1996	c) 401,000
MALAYSIA	1997	d) 72.8
PHILIPPINES	(1) 1997	e) 62
SINGAPORE	1998	100
THAILAND	(2) 1996	85.9
VIETNAM	1995	54.9

Source : Ministry of Health of each country  
 (1) Field Health Service Information System, Health Intelligence Service, Department of Health  
 (2) Provincial Health Survey 1996, Bureau of Health Policy and Planning, Ministry of Public Health

Note : a) Coverage of average number of mothers (1st visits) by Public Health Facilities  
 b) Revised  
 c) Number of pregnant women reported in the National Patient Survey  
 d) 1 time  
 e) 3 or more visits

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

## 5 – A List of Notifiable Infectious Diseases

ICD-9/ICD-10 Categories	Brunei 1997/1998	Indonesia 1997	Japan 1998	Malaysia 1998	Philippines 1996	Singapore 1998	Thailand 1998	Vietnam 1998
001/A00 Cholera	✓	✓	✓	✓	✓	✓	✓	✓
002/A01 Typhoid and Paratyphoid Fevers	✓	✓	✓	✓	✓	✓	✓	✓
003/A02 Other Salmonella Infections	✓			✓	✓		✓	
004, 006/A03, A06 Shigellosis	✓		✓					
008/A04 – A09 Intestinal Infections due to Other Organisms	✓		✓ <sup>a)</sup>					
010 – 018/A5 – A19 Tuberculosis	✓	✓	✓	✓	✓	✓	✓	✓
020/A20 Plague	✓	✓	✓	✓		✓		✓
022/A22 Anthrax		✓	✓				✓	
030/A30 Leprosy	✓	✓		✓	✓	✓	✓	✓
032/A36 Diphtheria	✓	✓	✓	✓	✓	✓	✓	✓
033/A37 Whooping Cough	✓	✓	✓	✓	✓		✓	✓
034/A38, J02.0 Streptococcal Sore Throat and Scarlet Fever			✓ <sup>b)</sup>				✓	
036/A39 Meningococcal Infection			✓				✓	
037, 771.3 <sup>c)</sup> /A33 – A35 Tetanus	✓	✓	✓	✓	✓		✓	✓ <sup>d)</sup>
045/A80 Acute Poliomyelitis	✓	✓	✓	✓	✓	✓		✓
052/B01 Chickenpox	✓				✓	✓	✓	
055/B05 Measles	✓	✓	✓	✓	✓	✓	✓	✓
060/A95 Yellow Fever	✓		✓	✓		✓		
061/A90 Dengue	✓	✓		✓	✓	✓	✓	✓
062/A83 Mosquito-borne Viral Encephalitis	✓		✓	✓		✓	✓	✓
070/B15 – B19 Viral Hepatitis	✓	✓		✓	✓	✓	✓	✓
071/A82 Rabies		✓	✓	✓			✓	✓

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

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

ICD-9/ICD-10 Categories	Brunei 1997/1998	Indonesia 1997	Japan 1998	Malaysia 1998	Philippines 1996	Singapore 1998	Thailand 1998	Vietnam 1998
072/B26 Mumps	✓					✓	✓	
081/A75.1 – A75.9 Other Typhus	✓			✓			✓	
084/B50 – B54 Malaria	✓	✓	✓	✓	✓	✓	✓	✓
087/A68 Relapsing Fever			✓	✓				
090/A50 Congenital Syphilis	✓	✓	✓	✓	✓	✓	✓	
098/A54 Gonococcal Infections	✓	✓	✓	✓	✓	✓	✓	✓
099/A55 – A64 Other Venereal Diseases	✓		✓ <sup>a)</sup>	✓ <sup>b)</sup>		✓ <sup>c)</sup>	✓	✓
100/A27 Leptospirosis	✓						✓	
102/A66 Yaws							✓	
120/B65 Schistosomiasis [Bilharziasis]		✓			✓			
124/B75 Trichinosis							✓	
125/B72, B74 Filarial Infection and Dracontiasis	✓		✓ <sup>d)</sup>					
279.5/B20 – B24 AIDS (HIV Infections)	✓	✓	✓	✓	✓	✓	✓	✓
487/J10, J11 Influenza		✓	✓		✓		✓	

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

## 5 – B Infectious Diseases Specified by Immunization Programme

	Brunei 1997/1998	Indonesia 1997	Japan 1998	Malaysia 1998	Philippines 1996	Singapore 1998	Thailand 1998	Vietnam 1998
Cholera	✓	✓			✓		✓	✓
Diphtheria	✓	✓	✓	✓	✓	✓	✓	✓
Measles	✓	✓	✓	✓	✓	✓	✓	✓
Mosquito-borne Viral Encephalitis			✓				✓	
Mumps	✓					✓	✓	
Poliomyelitis	✓	✓	✓	✓	✓	✓	✓	✓
Rubella	✓		✓	✓ <sup>a)</sup>		✓	✓	
Tetanus	✓	✓	✓	✓	✓	✓	✓	✓
Tuberculosis (BCG)	✓	✓	✓	✓	✓	✓	✓	✓
Typhoid and Paratyphoid Fever	✓	✓			✓		✓	✓
Whooping Cough	✓	✓	✓	✓	✓	✓	✓	✓

Note: a) Women only



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

	ICD - 9 ICD - 10 <sup>a)</sup>	001 A00	002 A01	004, 006 A03, A06	003, 005 A02, A04, A05	010 - 018 A15 - A19	030 A30
	Year	Cholera	Typhoid and Paratyphoid Fever	Amebiasis and Bacillary Dysentery	Food Poisoning (Bacterial)	Tuberculosis of All Forms	Leprosy
BRUNEI <sup>(1)</sup>	1997 1998		13 7	15 2	52 60	149 198	1 1
INDONESIA <sup>(2)</sup>	1998				1,078	156,352	28,088
JAPAN <sup>(3) (4) (5)</sup>	1998	61	115	1,749	36,802	44,016	
MALAYSIA <sup>(6)</sup>	1998	1,304	782	86	6,976	14,115	1,125
PHILIPPINES <sup>(7)</sup>	1996	709	12,818		771	166,366	1,788
SINGAPORE <sup>(8)</sup>	1998	31	80	25	986	2,747	19
THAILAND <sup>(9)</sup>	1998	—	7,391	3,467	115,142	28,600	485
VIETNAM <sup>(10)</sup>	1998	13	20,881	93,442		70,349 <sup>d)</sup>	21,845 <sup>e)</sup>

Source : (1) Disease Control Unit, Health Department, Ministry of Health  
 (2) Directorate General of CDC, Ministry of Health  
 (3) *Statistics on Communicable Diseases*, Ministry of Health and Welfare  
 (4) *Statistics of Food Poisoning*, Ministry of Health and Welfare  
 (5) *Annual Report of Surveillance of Tuberculosis and Infectious Diseases*,  
 Ministry of Health and Welfare

(6) Information and Documentation System Unit, Ministry of Health  
 (7) Field Health Service Information System, Health Intelligence  
 Service, Department of Health  
 (8) Ministry of the Environment and Ministry of Health  
 (9) Health Information Division, Ministry of Public Health  
 (10) Ministry of Health

032 A36	052 B01	070 B15 - B19	071 A82	084 B50 - B54	487 J10, J11	033 A37	036 A39	037, 771.3 <sup>b)</sup> A33 - A35	055 B05
Diphtheria	Chickenpox	Viral Hepatitis	Rabies	Malaria	Influenza (Grippe)	Whooping Cough	Meningococcal Infection	Tetanus	Measles
	1,436 1,599	2 2		33 15		3		1	13 12
1,883		37,755	14,348					3,895	28,863
3	<sup>c)</sup> 161,923	<sup>(11) d)</sup> 81,400	—	79	14,778	43	6	47	761
5	—	5,569	1	13,491		6		19	483
108	33,924	6,689	3,741	68,055	557,879	2,554	1,788	1,011	35,389
—	27,183	367	—	405		—			114
46	24,316	7,382	57	67,077	51,230	108	63	313	12,553
99	2,648	12,924	119	<sup>d)</sup> 532,860	<sup>e) f)</sup> 1,200,491	1,232	1,394	756	12,580

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

Note : a) ICD-10: Brunei, Japan, Thailand and Vietnam  
 b) Four-digit category  
 c) Cases treated in large hospitals only  
 d) For 1996  
 e) Data on the end of 1998  
 f) Influenza Syndrome

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

		056 B06	072 B26	279.5 <sup>a)</sup> B20 - B24	045 A80	047-049, 062-064 A83-A89	060, 061, 065 A90, A91	125 B74	120 B65	090-097 A50-A53	098 A54	099 A55-A64
		Rubella	Mumps	AIDS (HIV)	Acute Polio- myelitis	Viral Meningitis and Encephalitis	Viral Hemor- rhagic Fever	Filariasis	Schisto- somiasis	Syphilis	Gonococcal Infections	Other Venereal Diseases
BRUNEI	(1) 1997	2	20	8 (6)			1			6	70	5
	1998		19	1			3			9	53	4
INDONESIA	(2) 1998			207 (537)						2,698	20,420	
JAPAN	(3) (4) (5) 1998	22,114 <sup>b)</sup>	136,672 <sup>b)</sup>	231 (653)	—	4		1		553	3,096	5
MALAYSIA	(6) 1998			875	—	91	1,133 <sup>c)</sup>	—	—	2,460	1,307	37
PHILIPPINES	(7) 1996			156	8			401	9,069	271	2,444	
SINGAPORE	(8) 1998	179	1,183	125 <sup>d)</sup>	—	1	5,258			1,272	1,800	3,187
THAILAND	(9) 1998	846	18,853	25,524	—	2,281	129,954	874 <sup>e)</sup>	—	2,019	3,556	11,942
VIETNAM	1998		23,648	1,089 <sup>e)</sup>	0	3,668	234,920 <sup>f)</sup>			3,088	6,859	108,152

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

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

	Year	Diphtheria	Pertussis	Tetanus	Poliomyelitis	Measles	Tuberculosis
BRUNEI	(1) 1996		96.0		96.3	97.0	98.0
	1997		98.3		98.0	99.9	99.9
	1998		97.4		97.8	100.0	96.2
INDONESIA	(2) 1998		95.1		88.4	86.8	93.1
JAPAN	(3) 1996		a) 94.4		b) 96.4	c) 91.7	
MALAYSIA	(4) 1997		95.4		93.7	86.4	100
PHILIPPINES	(5) 1996		89.8		89.8	89.8	89.8
SINGAPORE	(6) 1998		96		96	d) 94	98
THAILAND	(7) 1998		95.9		95.8	87.2	96.5
VIETNAM	(8) 1995		93.4		93.6	98.5	95.7

Source : (1) Ministry of Health  
 (2) Directorate General of Communicable Disease Control and Environmental Health, Ministry of Health  
 (3) Ministry of Health and Welfare  
 (4) Ministry of Health  
 (5) Field Health Services Information System, Health Intelligence Service, Department of Health  
 (6) Family Health Service, Ministry of Health

(7) National Immunization Coverage Survey in 1996, Department of Communicable Diseases Control, Ministry of Public Health  
 (8) Ministry of Health

Note : a) Including children aged over 1 year. The denominator is population under 1 year.  
 b) 3 months to 1.5 years old children  
 c) 1 to 2 years old children  
 d) 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>	1996	2,020	1,682	338	54.5	42.4	12.3	30.5 <sup>a)</sup>		
JAPAN <sup>(2)</sup>	1997	2,007			80.5	36.6	43.9	59.3	29.6	29.7
MALAYSIA										
PHILIPPINES <sup>(3)</sup>	1993	1,684	1,456	228	49.9	29.8	20.1	28.0	16.0	12.0
SINGAPORE <sup>(4)</sup>	1993	1,981			76.4			67.0		
THAILAND <sup>(5)</sup>	1995	1,751			51.1	21.4	29.7	45.6		
VIETNAM <sup>(6)</sup>	1996	1,900	1,662	238	50	35.4	14.6	25.7	11.8	

Source : (1) *Welfare Indonesia*, Central Bureau of Statistics  
 (2) *National Nutrition Survey*, Health Promotion and Nutrition Division, Ministry of Health and Welfare  
 (3) 1993 National Nutrition Survey, Food and Nutrition Research Institute, Department of Science and Technology  
 (4) *Food Consumption Study of Adults (24 hour recall) 1993*, Food and Nutrition Department, Ministry of Health

(5) The 4th National Nutrition Survey 1995, Nutrition Division, Ministry of Public Health  
 (6) Ministry of Health

Note : a) For 1993

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

	Year	Calcium (mg / day)	Iron (mg / day)	Vitamin A ( $\mu$ 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	1997	579	11.6	2,832 <sup>a)</sup>	1.19	1.43	135	273
MALAYSIA								
PHILIPPINES	1993	39.0	10.1	392 <sup>c)</sup>	0.67	0.56	47	302
SINGAPORE	1993	491	14.0	578				265.9
THAILAND	1995	344	18.1	677 <sup>c)</sup>	0.9	1.1	95	276.9
VIETNAM								

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

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

(cm)

	Population or Place	Year	Sex	Age					
				Birth	4 weeks	3 months	6 months	9 months	12 months
BRUNEI			M F						
INDONESIA <sup>(1)</sup>	National	1994	M F	49.4 48.9					
JAPAN <sup>(2)</sup>	National	1990	M F	49.6 48.9	56.7 55.6	63.2 61.5	68.5 66.8	72.0 70.6	75.4 74.2
MALAYSIA			M F						
PHILIPPINES <sup>(3)</sup>	National	1993	M F	51.3 51.1	57.5 56.7	64.1 62.0	67.7 68.0	72.0 70.8	77.6 76.6 <sup>a)</sup>
SINGAPORE			M F						
THAILAND <sup>(4)</sup>	National	1995 <sup>b)</sup>	M F	53.3 50.9	54.0 53.4	60.8 59.2	66.0 64.8	71.4 69.5	74.2 73.4
VIETNAM	National	1984	M F			59.0 57.3	63.5 63.6	68.1 66.1	70.9 68.8

Source : (1) Ministry of Health  
 (2) Ministry of Health and Welfare  
 (3) 1993 National Nutrition Survey, Food and Nutrition Research Institute, Department of Science and Technology  
 (4) *National Food and Nutrition Survey*, Department of Health, Ministry of Public Health

Note : a) For 1-1.99 years old  
 b) Revised figures



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

(kg)

	Population or Place	Year	Sex	Age					
				Birth	4 weeks	3 months	6 months	9 months	12 months
BRUNEI			M F						
INDONESIA <sup>(1)</sup>	National	1994	M F	3.1 3.0					
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	1997	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>(1)</sup>	National	1998	M F	3.2 3.1					
THAILAND <sup>(5)</sup>	National	<sup>b)</sup> 1995	M F	3.9 3.7	4.5 4.4	6.7 5.7	7.4 7.1	8.3 7.7	9.2 8.6
VIETNAM			M F						

Source: (1) Ministry of Health  
 (2) Ministry of Health and Welfare  
 (3) Department of Statistics  
 (4) 1993 National Nutrition Survey, Food and Nutrition Research Institute, Department of Science and Technology  
 (5) *The 4th National Nutrition Survey 1995*, Department of Health, Ministry of Public Health

Note: a) For 1-1.99 years old  
 b) Revised figures

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

(cm)

	Population or Place	Year	Sex	Age					
				Birth	4 weeks	3 months	6 months	9 months	12 months
BRUNEI			M F						
INDONESIA <sup>(1)</sup>	National	1994	M F	32.5 32.4					
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			M F						
PHILIPPINES <sup>(3)</sup>	National	1988	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			M F						
THAILAND <sup>(4)</sup>	National	1995 <sup>a)</sup>	Total		36.3	40.8	42.5	43.8	45.8
VIETNAM			M F						

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

Note : a) Revised figures

6-5 Mean and Standard Deviation<sup>a)</sup> of Height by Age (1-18 years)

	Population or Place	Year	Sex	Age						
				1	2	3	4	5	6	7
BRUNEI			M F							
INDONESIA <sup>(1)</sup>	National	1994	M F					107.1 106.1	109.7 108.7	112.2 111.3
JAPAN <sup>(2) b)</sup>	National	1997	M F	80.3 <sup>(3) c)</sup> 77.4 (3.8)	87.8 (6.2) 87.9 (4.2)	95.8 <sup>(3) c)</sup> 94.9 (4.9)	102.7 <sup>(3) c)</sup> 102.7 (4.5)	110.8 (4.7) 110.0 (4.7)	116.7 (4.9) 115.9 (4.8)	122.6 (5.2) 121.7 (5.2)
MALAYSIA			M F							
PHILIPPINES <sup>(3)</sup>	National	1996	M F	77.3 76.3	85.3 83.9	91.9 91.3	98.5 98.0	104.1 103.5	109.4 109.2	114.5 114.6
SINGAPORE <sup>(4)</sup>	National	1998	M F						119.8 118.8	
THAILAND <sup>(5)</sup>	National	1995 <sup>d)</sup>	M F		87.6 86.6	94.8 93.5	100.7 100.1	105.5 105.4	112.2 111.7	115.4 116.3
VIETNAM	National	1984	M F		77.7 (4.2) 76.7 (5.4)	86.6 (6.1) 84.8 (6.0)	92.2 (8.5) 91.8 (7.7)	97.6 <sup>e)</sup> (7.2) 97.3 (5.7)		

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

Note : a) Standard deviation: in brackets  
 b) As of April 1, 1997  
 c) As of one designated day of November, 1997  
 d) Revised figures  
 e) 59 months old

(cm)

Age										
8	9	10	11	12	13	14	15	16	17	18
115.0	117.9	121.3	123.7	a) b)		151.3	b) c)	b) c)	b) c)	b) c)
114.0	117.0	120.1	122.9	128.9		148.9	155.2	159.7	161.3	162.9
				130.0			149.7	150.9	151.6	151.7
128.3 (5.4)	133.5 (5.7)	139.0 (6.1)	145.0 (7.0)	152.3 (8.0)	159.7 (7.7)	165.3 (6.6)	168.5 (5.9)	170.0 (5.7)	170.9 (5.8)	(3) d)
127.6 (5.6)	133.6 (6.2)	140.3 (6.7)	147.0 (6.6)	152.1 (5.9)	155.1 (5.4)	156.8 (5.2)	157.4 (5.2)	157.9 (5.2)	158.0 (5.3)	172.1 (5.5)
										157.1 (5.4)
119.6	123.9	128.0	a)	a)	a)	a)	a)	a)	a)	a)
119.5	124.7	129.7	131.7	137.4	143.6	150.9	156.2	159.6	160.9	162.3
			135.1	141.3	145.8	148.7	150.6	150.2	151.1	151.7
			148.3				170.1			
			149.6				159.1			
121.4		130.0	135.5	138.7	145.3	150.9	153.5	159.1	160.3	165.3
120.9	126.9	131.7	137.9	145.1	149.4	151.7	153.0	155.1	153.0	152.3
e)	e)	e)	e)	e)	e)	e)			f)	f)
119.3 (5.2)	124.2 (4.6)	128.3 (5.2)	132.4 (5.5)	138.2 (7.2)	141.0 (6.7)	149.0 (7.7)			163.4 (5.0)	163.6 (5.1)
119.6 (4.7)	124.7 (4.4)	129.6 (5.0)	134.7 (12.6)	141.1 (6.2)	147.0 (6.0)	150.8 (6.9)			154.9 (4.3)	153.2 (4.6)

Note : a) For 1993  
 b) West Sumatra, Central Java and West Nusa Tenggara  
 c) For 1989  
 d) As of one designated day of November, 1997  
 e) For 1994. Thái Bình Province  
 f) For 1995. Students at four universities in North Vietnam

6-6 Mean and Standard Deviation<sup>a)</sup> of Weight by Age (1-18 years)

	Population or Place	Year	Sex	Age						
				1	2	3	4	5	6	7
BRUNEI			M F							
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) b)</sup>	National	1997	M F	<sup>(3) c)</sup> 10.8 (1.1) 9.8 (0.8)	<sup>(3) c)</sup> 12.7 (1.3) 12.5 (1.5)	<sup>(3) c)</sup> 14.3 (1.8) 14.3 (1.6)	<sup>(3) c)</sup> 16.7 (1.8) 16.0 (1.8)	19.3 (2.9) 18.9 (2.7)	21.7 (3.7) 21.2 (3.5)	24.5 (4.5) 23.8 (4.2)
MALAYSIA			M F							
PHILIPPINES <sup>(3)</sup>	National	1993	M F	9.4 8.9	11.5 10.8	13.0 12.6	14.6 14.1	16.0 15.6	17.5 17.2	19.2 19.1
SINGAPORE <sup>(4)</sup>	National	1998	M F						22.5 21.4	
THAILAND <sup>(5)</sup>	National	<sup>d)</sup> 1995	M F		12.0 11.8	13.7 13.1	15.1 14.8	16.3 16.8	19.1 20.0	21.0 19.1
VIETNAM	Thái Binh Province	1994	M F							

Source : (1) Ohsawa's Laboratory, Otsu Women's University  
 (2) *School Health Examination Survey*, Ministry of Education, Science, Sports and Culture  
 (3) *National Nutrition Survey*, Health Service Bureau, Ministry of Health and Welfare  
 (4) 1993 National Nutrition Survey, Food and Nutrition Research Institute, Department of Science and Technology  
 (5) School Health Service, Ministry of Health  
 (6) *The 4th National Nutrition Survey 1995*, Department of Health, Ministry of Public Health

Note: a) Standard deviation: in brackets  
 b) As of April 1, 1997  
 c) As of one designated day of November, 1997  
 d) Revised figures  
 e) For 1995. Students at four universities in North Vietnam

(kg)

Age										
8	9	10	11	12	13	14	15	16	17	18
19.9 19.2	21.3 21.0	23.3 23.4	25.7 26.3	27.3 30.3	31.8 33.4	37.1 37.6	40.9 40.4	44.7 43.2	46.9 44.6	48.7 45.9
27.7 (5.5) 27.0 (5.2)	31.2 (6.7) 30.5 (6.2)	34.9 (7.8) 34.8 (7.4)	39.1 (8.8) 39.8 (8.1)	44.6 (9.9) 44.7 (8.4)	49.9 (10.4) 47.9 (8.0)	54.9 (10.1) 50.4 (7.8)	59.7 (10.9) 52.0 (8.0)	61.5 (10.3) 53.0 (7.7)	62.9 (10.2) 52.9 (7.6)	<sup>(3) c)</sup> 62.2 (9.4) 52.5 (7.6)
21.3 21.0	23.4 23.5	25.2 26.0	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
			41.5 41.2				59.4 50.7			
21.8 21.7	25.0 24.4	27.0 27.4	28.9 30.5	32.8 35.8	34.9 39.0	43.1 41.4	43.1 45.1	47.7 47.5	47.1 50.2	53.4 51.9
20.9 (2.0) 20.3 (2.2)	22.1 (2.1) 22.0 (2.2)	23.9 (3.1) 23.7 (2.1)	26.0 (2.9) 25.1 (3.2)	28.6 (4.0) 28.8 (3.8)	30.6 (4.9) 33.1 (4.8)	36.0 (5.0) 37.7 (5.0)			<sup>e)</sup> 49.5 (5.3) 44.9 (3.9)	<sup>e)</sup> 49.1 (5.3) 44.0 (4.6)

## **7. Environmental Health and Socio-economic Situation**

## 7 - 1. Housing Conditions

(%)

	Year		Percentage of Population Served with Safe Water	Percentage of Population with Sanitary Toilet	Lighting				
					Electricity	Pressure / Gas Lamp	Oil Lamp	Kerosene	Other
BRUNEI <sup>(1)</sup>	1991	Total	a) 96.0	a) 79.0	97.5			2.0	0.5
INDONESIA <sup>(2)</sup>	1998	Total	a) b) 19.1	a) c) 46.8	77.9	4.2	14.0		1.1
		Urban	37.9	49.4	96.0	1.0	1.8		0.3
		Rural	8.0	45.3	67.2	6.1	21.2		1.6
JAPAN <sup>(3)</sup>	1998	Total	d) 96.1	e) 97.5	100.0				
MALAYSIA <sup>(4) (5)</sup>	1997	Total	91.1	97.6	f) 91	f) 2	f) 7	f) —	f) 1
PHILIPPINES <sup>(6)</sup>	1996	Total	83.0	77.0	g) 55.1	g) 1.7	g) 0.1	g) 49.6	g) 0.5
		Urban	91.0	88.0	79.2	1.2	0.1	19.3	0.2
		Rural	81.0	64.0	31.9	2.1	0.2	65.1	0.7
SINGAPORE <sup>(7)</sup>	1998	Total	100.0	100.0	100.0				
THAILAND <sup>(8)</sup>	1996	Total	93.4	98.1	97.7				
VIETNAM <sup>(9)</sup>	1997-1998	Total	14.4	65.4	78.1	20.9			1.0

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

Note : a) Percentage of households  
 b) Piped water and public tap  
 c) Private toilet  
 d) As of March 31, 1998  
 e) For 1995  
 f) For 1991  
 g) For 1990



## 7-2 Socio-economic Indicators

	Year	Adult Literacy Rate (%)	Year	Per Capita GNP <sup>a)</sup> (in US \$)	Year	Labour Force Participation Rate (%)
BRUNEI	1995	<sup>(1)</sup> 88.2	1998	<sup>b)</sup> 14,998	1995	<sup>c)</sup> 66.5
INDONESIA	1998	<sup>(2)</sup> 89.4	1998	<sup>(3) b)</sup> 483	1998	<sup>(2)</sup> 66.6
JAPAN	1995	<sup>(1)</sup> 99.0	1998	<sup>(3) b)</sup> 29,925	1998	<sup>(4) c)</sup> 63.3
MALAYSIA	1995	<sup>(1)</sup> 83.5	1998	<sup>(5)</sup> 3,210	1997	<sup>(5)</sup> 67.0
PHILIPPINES	1996	<sup>(6)</sup> 93.9	1994	<sup>(7)</sup> 958	1996	<sup>(8)</sup> 66.7
SINGAPORE <sup>(9)</sup>	1996	<sup>d)</sup> 91.1	1998	22,807	1998	<sup>c)</sup> 63.9
THAILAND	1995	<sup>(1)</sup> 93.8	1998	<sup>(2) b)</sup> 1,819	1997	<sup>(10)</sup> 55.3
VIETNAM	1995	<sup>(1)</sup> 93.7	1995	<sup>(11)</sup> 279		

- Source : (1) *Human Development Report 1998*, the United Nations Development Programme  
 (2) *Statistical Year Book of Indonesia*, Central Bureau of Statistics  
 (3) *Comparative Economic and Financial Statistics, Japan and Other Major Countries 1998*, Bank of Japan  
 (4) *Annual Report on the Labour Force Survey*, Statistics Bureau, Management and Coordination Agency  
 (5) *Yearbook of Statistics, Malaysia*  
 (6) *Facts and Figures on Philippine Education*, February 1997  
 (7) *Philippine Statistical Yearbook*, National Statistical Coordinating Board  
 (8) *Current Labor Statistics*, Department of Labor and Employment  
 (9) *Year Book of Statistics, Singapore*, Department of Statistics

- (10) Office of the National Economic and Social Development Board  
 (11) *Health Statistics Yearbook*, Health Statistics and Informatic Division, Ministry of Health

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

b) GDP

c) Age 15 years and over

d) Refer to resident population aged 15 years and over

## 7-3 Expenditure of the Ministry of Health

	Fiscal Year	Total Health Budget (in US \$)	Health Budget as % of National Budget	Per Capita Health Budget (in US \$)	Health Expenditure (in US \$)			
					Total	Personal Services	Maintenance and Other	Capital Outlay (Development Expenditure)
BRUNEI	1997	139,331,897	6.4	443.2	119,753,502	62,378,772	45,871,498	11,503,233
INDONESIA	1998	162,808,026						
JAPAN <sup>a)</sup>	1998	124,114,276,984	19.8	990.9				
MALAYSIA	1998	1,079,900,112	6.6	49.9	1,026,934,105	844,427,381		182,506,724
PHILIPPINES <sup>b)</sup>	1998	340,476,575	2.4	4.7	340,476,575	130,684,809	142,994,949	66,796,817
SINGAPORE	1998	754,872	1.8	195.3	742,116	120,260	472,111	149,745
THAILAND	1998	1,514,183,128	7.5	24.8	1,514,183,128	591,358,592	501,934,283	420,890,253
VIETNAM	1995	201,743,419 <sup>c)</sup>	3.5	2.7				

Source : Ministry of Health in each country

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

a) Including budget for social welfare

b) Including attached agencies

c) Including foreign aids

## 7-4 Adult Smoking Prevalence

(%)

	Year	Total	Male	Female
BRUNEI <sup>(1) a)</sup>	1997	18	33	6
INDONESIA				
JAPAN <sup>(2) b)</sup>	1997	28.7	52.7	11.6
MALAYSIA				
PHILIPPINES				
SINGAPORE <sup>(1) c)</sup>	1998	15.0	26.9	3.1
THAILAND <sup>(3)</sup>	1999	24.0	45.4	3.0
VIETNAM				

Source: (1) National Nutrition Survey (1997),  
Ministry of Health  
(2) Ministry of Health and Welfare  
(3) National Statistical Office

Note: a) 15 years old and over  
b) 20 years old and over  
c) Age 18 - 64 years

## 8. Medical Establishments

## 8 - A Definitions Used in Statistics on Medical Establishments

	Definition
1. Hospital	Any establishment permanently staffed by at least one physician that can offer inpatient accommodation and provide active medical and nursing care. Establishments providing principally custodial care should not be included.
2. General Hospital	A hospital other than local or rural hospitals providing medical and nursing care for more than one category of medical discipline (e.g., general medicine, specialized medicine, general surgery, obstetrics, etc.)
3. Local or Rural Hospital	A hospital, usually in rural areas, permanently staffed by one or more physicians, which in respect of their functions is also a general hospital, but provides medical and nursing care of a more limited range than that provided by principal general hospitals.
4. Specialized Hospital	A hospital providing medical and nursing care primarily for only one discipline, such as for mental disorders, maternity, infectious diseases, leprosy and tuberculosis. This category does not include the specialized department administratively attached to a principal general hospital and sometimes located in an annex or separate building; their beds (and the related data) are included with the principal general hospital.
5. Primary Health Care Facility	An establishment serving as the first-level contact point in the country's health system and providing outpatient medical and nursing care under a physician's supervision, though the physician may or may not be its permanent staff. This category includes general practitioners' offices, peripheral health stations, etc.

	Definition
6. Bed	A hospital bed is one regularly maintained and staffed for the accommodation and full-time care of a succession of inpatients and is situated in wards or a part of the hospital where continuous medical care for inpatients is provided. The total of such beds constitutes the normally available bed complement of the hospital. Cribs and bassinets maintained for use by healthy newborn infants who do not require special care should not be included.
7. Admission	An inpatient admission is the formal admission by a hospital of an inpatient and always involves the allocation of a hospital bed. Healthy babies born in the hospital should not be counted if they do not require special care.
8. 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 (1997/1998)	Indonesia (1997)	Japan (1997)	Malaysia (1996)	Philippines (1996)	Singapore (1998)	Thailand (1998)	Vietnam (1998)
1 General Hospital	✓	✓	✓	✓ <sup>a)</sup>	✓	✓	✓	✓
2 Local or Rural Hospital		✓			✓	✓	✓	
3 Mental Hospital		✓	✓	✓	✓	✓	✓	✓
4 Maternity Hospitals		✓			✓	✓	✓	✓
5 Infectious Diseases Hospitals		✓	✓		✓		✓	
6 Leprosy Hospitals		✓		✓	✓		✓	✓
7 Tuberculosis Hospitals		✓	✓	✓	✓		✓	✓
8 Other Specialized Hospitals		✓			✓	✓ <sup>b)</sup>	✓	✓ <sup>c)</sup>
9 PHC <sup>d)</sup> Facilities with Beds, Staffed with Physician(s)			✓	✓			✓	✓
10 PHC <sup>d)</sup> Facilities without Beds, Permanently Staffed with Physician(s)	✓	✓	✓	✓	✓	✓	✓	✓
11 PHC <sup>d)</sup> Facilities without Beds and without Permanently Staffed Physician		✓		✓	✓		✓	✓

Note : a) Hospitals. The previous categorization into general hospital and local or rural hospitals does no longer apply.

b) Ophthalmological, dermatological, community & extended care hospitals

c) Pediatric hospitals, ophthalmological hospitals, cancer hospitals, surgical hospitals, Cardiological Institute, dermatological hospitals, oto-rhino-laryngological hospitals, dental-naso-facial hospitals, Traditional Medical Institute, Acupuncture Institute

d) Primary health care

## 8-1 Number of Hospitals

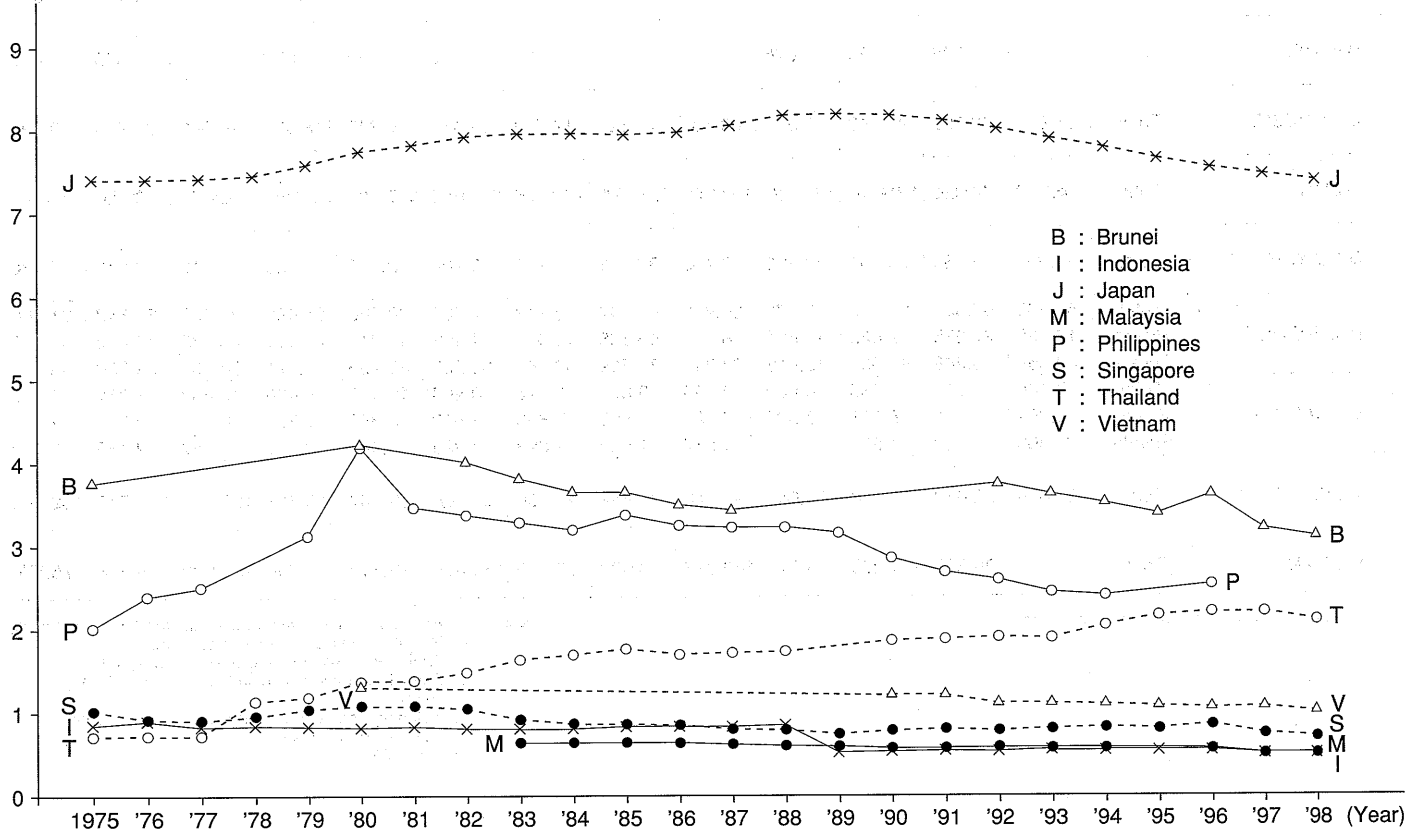
		1970	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998
BRUNEI	Total		6	8	8			10	10	10	10	11	10	10
INDONESIA	Total	1,164	1,115	1,208	1,367	a) 950	a) 982	994	1,026	1,039	1,062	1,074	1,090	1,112
JAPAN <sup>b)</sup>	Total	7,974	8,294	9,055	9,608	10,096	10,066	9,963	9,844	9,731	9,606	9,490	9,413	9,333
MALAYSIA	Total	86	90	96	101	102	104	107	108	112	118	118	118	118
PHILIPPINES	Total	650	927	2,020	1,846	1,726	1,663	1,691	1,723	1,648	1,702	1,738	1,817	1,713
	Public	220	316	413	612	c) 594	c) 562	c) 582	c) 628	c) 553	c) 607	c) 600	c) 645	c) 616
	Private	430	611	1,607	1,229	1,132	1,101	1,109	1,095	1,095	1,095	1,138	1,172	1,097
SINGAPORE	Total	17	23	26	22	21	22	22	24	25	24	26	23	23
	Public	11	13	13	11	11	11	12	13	13	12	12	10	10
	Private	6	10	13	11	10	11	10	11	12	12	14	13	13
THAILAND	Total	98	281	636	910	1,043	1,064	1,097	1,105	1,215	1,280	1,293	1,301	d) 1,302
VIETNAM	Total		e) 550	685	738	782	785	792	793	792	796	794	817	f) 810

Source: Ministry of Health in each country

Note: a) Excluding maternity hospitals  
b) Hospitals (with 20 or more beds) only  
c) Licensed retained and licensed devolved hospitals only  
d) Hospitals except rural hospitals  
e) For 1976  
f) Hospitals and institutes

Fig. 8 Trends in Hospitals per 100,000 Population

Number of Hospitals)





## 8-2 Number of Beds

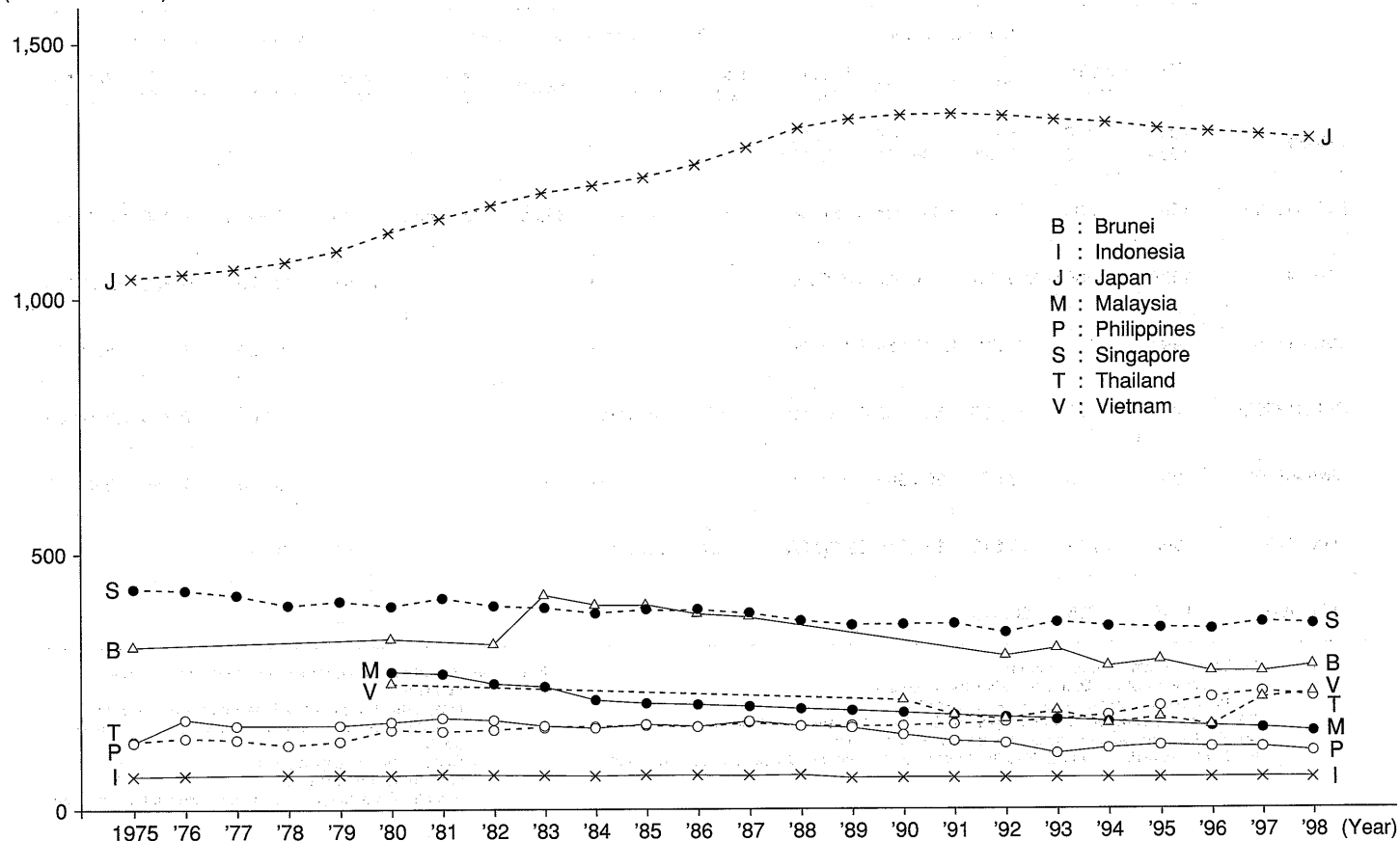
		1970	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998
BRUNEI	Total		506	630	876			797	772	789	856	<sup>a)</sup> 813	<sup>a)</sup> 835	<sup>a)</sup> 899
INDONESIA	Total	86,022	83,696	98,543	110,361	109,387	111,127	112,779	114,474	116,847	118,306	120,083	121,990	123,186
JAPAN <sup>b)</sup>	Total	1,062,553	1,164,098	1,319,406	1,495,328	1,676,803	1,685,589	1,686,696	1,680,952	1,677,041	1,669,951	1,664,629	1,660,784	1,656,415
MALAYSIA	Total	30,900	32,164	35,291	32,495	33,400	33,432	33,261	33,201	33,246	33,588	33,818	33,918	33,338
PHILIPPINES <sup>c)</sup>	Total	40,289	55,323	81,976	90,279	86,948	81,647	83,113	77,734	80,580	84,482	81,789	84,648	81,200
	Public	19,725	27,075	39,625	47,861	48,602	46,338	45,971	41,498	44,344	46,911	43,582	44,818	42,877
	Private	20,564	28,248	42,351	42,418	38,346	35,309	37,142	36,236	36,236	37,571	38,207	39,830	38,323
SINGAPORE	Total	7,760	9,311	9,585	10,000	9,759	9,801	9,726	10,469	10,407	10,498	10,668	11,276	11,389
	Public	6,891	8,211	8,078	8,329	7,922	7,892	7,833	8,640	8,346	8,326	8,511	9,091	9,277
	Private	869	1,100	1,507	1,671	1,837	1,909	1,893	1,829	2,061	2,172	2,157	2,185	2,112
THAILAND <sup>d)</sup>	Total	25,619	52,652	71,718	84,045	90,740	93,852	97,856	101,166	108,747	118,417	129,387	137,715	132,405
VIETNAM <sup>e)</sup>	Total		<sup>f)</sup> 98,362	131,265	143,771	140,076	123,602	120,710	134,635	119,519	130,760	121,808	166,628	175,570

Source: Ministry of Health in each country

Note: a) Based on 4 government hospitals and 1 private hospital  
b) Hospitals (with 20 or more beds) only  
c) From 1993, retained and devolved hospitals  
d) From 1985 onwards, including private maternity centres  
e) Including beds of polyclinics and specialized clinics and maternity houses  
f) For 1976

Fig. 9 Trends in Beds per 100,000 Population

(Number of beds)



## 8-3 Hospitals and Other Medical Establishments

	Year	1 General Hospitals				2 Local or Rural Hospitals				3 Mental Hospitals			
		Establish-ments	Beds	Admissions	Patient-days	Establish-ments	Beds	Admissions	Patient-days	Establish-ments	Beds	Admissions	Patient-days
BRUNEI	1997 1998	10 10	<sup>a)</sup> 835 <sup>a)</sup> 899	<sup>a)</sup> 35,829 <sup>a)</sup> 36,306	<sup>a)</sup> 168,127 <sup>a)</sup> 178,731	..				..			
INDONESIA <sup>(1)</sup>	1998	335	62,732	2,605,036	12,814,854	553	42,560	1,734,886	7,733,648	49	7,891	34,480	1,816,254
JAPAN	1998	8,266	1,395,237	12,262,408	418,376,391	..				1,057	260,576	191,833	90,008,096
MALAYSIA <sup>(2)</sup>	1997	<sup>b)</sup> 111	<sup>b)</sup> 27,226	<sup>b)</sup> 1,540,934	<sup>b)</sup> 6,018,492	..				4	5,720	9,969	1,562,373
PHILIPPINES <sup>(3) c)</sup>	1997	53	21,030	623,357	6,087,735	272	10,110			1	4,200	8,324	1,216,029
SINGAPORE	1998	13	6,653	295,904	1,611,576	..				2	3,170	7,149	933,373
THAILAND <sup>(4)</sup>	1998	1,212	115,610	7,196,055	29,490,622	<sup>d)</sup> 704	25,130			19	8,164		
VIETNAM <sup>(5)</sup>	1998	685	86,513			..				<sup>e)</sup> 20			

Source: Ministry of Health in each country

(1) Directorate of Medical Care, Ministry of Health

(2) Information and Documentation System Unit

(3) Hospital Operation and Management Services, Department of Health

(4) Health Information Division, Ministry of Public Health

(5) *Health Statistics Yearbook*, Health Statistics and Informatic Division, Ministry of Health

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

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

c) DOH-retained hospitals only.

d) Government hospital only

e) 2 central-level hospitals and 18 provincial level hospitals

4 Maternity Hospitals				5 Infectious Diseases Hospitals				6 Leprosy Hospitals			
Establish-ments	Beds	Admissions	Patient-days	Establish-ments	Beds	Admissions	Patient-days	Establish-ments	Beds	Admissions	Patient-days
..				..				..			
51	2,279	77,141	278,338	1	103	4,238	20,425	24	2,643	6,193	514,741
..				5	274	131	3,460	..			
..				..				2	856	5,665	87,240
1	700	52,435	200,335	3	975	38,469	216,669	8	4,430	3,146	1,486,684
a) 1	898	63,813	220,631	..				..			
8	939			2	1,190			1	1,320		
b) 48	b) 995			..				c) 18	1,529		

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

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

	Year	7 Tuberculosis Hospitals				8 Other Specialized Hospitals				9 PHC <sup>a)</sup> Facilities with Beds, Staffed with Physician(s)			
		Establish-ments	Beds	Admissions	Patient-days	Establish-ments	Beds	Admissions	Patient-days	Establish-ments	Beds	Admissions	Patient-days
BRUNEI	1997 1998	..				..							
INDONESIA	1998	10	748	12,008	116,442	89	4,230	132,539	587,156				
JAPAN	1998	5	420	448	82,416	..				19,397	235,530		
MALAYSIA	1997	1	116	2,712	18,026								
PHILIPPINES	1997					4	985	36,577	242,312				
SINGAPORE	1998	..				b) 7	668	3,011	182,173				
THAILAND	1997	1	600	7,883	109,437	59	4,582						
VIETNAM	1996	c) 71	11,970			d) 115	19,459			e) 953 f) 9,920	e) 9,999 f) 42,380		

- Note : a) Primary health care  
b) Ophthalmological, dermatological, community and extended care hospitals  
c) Sanatoria  
d) Pediatric hospitals, ophthalmological hospitals, cancer hospitals, surgical hospitals, Cardiological Institute, dermatological hospitals, oto-rhino-laryngological hospitals, dental-naso-facial hospitals, Traditional Medical Institute, Acupuncture Institute, Rehabilitation hospitals  
e) Polyclinics: PHC staffed with physicians  
f) Communal Health Stations (CHS), 40% of CHSs are staffed with physicians

10 PHC <sup>a)</sup> Facilities without Beds, Permanently Staffed with Physician(s)	11 PHC <sup>a)</sup> Facilities without Beds and without Permanently Staffed Physician	12 Total			
Establishments	Establishments	Establish- ments	Beds	Admissions	Patient- days
		10 10	<sup>b)</sup> 835 <sup>b)</sup> 899	<sup>b)</sup> 35,829 <sup>b)</sup> 36,306	<sup>b)</sup> 168,127 <sup>b)</sup> 178,731
		6,358	123,186	4,606,521	23,882,019
71,159	..	99,889	1,900,555	12,454,820 <sup>c)</sup>	508,470,363 <sup>c)</sup>
772	1,989	2,879	33,918	1,559,280	7,686,131
		342	42,430	762,308	9,449,764
<sup>d)</sup> 18	..	41	11,389	369,877	2,947,753
3	<sup>e)</sup> 9,472	<sup>f)</sup> 11,422	<sup>f)</sup> 157,535		
..	<sup>g)</sup> 1,120	12,556	172,642	5,132,237	33,359,485

Note : a) Primary health care  
b) Based on 4 government hospitals and 1 private hospital  
c) Excluding PHC facilities  
d) Government only, excludes general practitioner's offices  
e) Health Centres  
f) Excluding rural hospitals  
g) Health stations at other ministries

## 8-4 Hospital Utilization by Category of Hospital

	Year	All Hospitals					General Hospitals					
		Type	Population per Bed	Beds per 100,000 Population	Admissions per 100,000 Population	Bed Occupancy Rate (%)	Type	Beds per 100,000 Population	Admissions		Bed Occupancy Rate (%)	Average Length of Stay (Days)
									per 100,000 Population	per Bed		
BRUNEI <sup>a)</sup>	1997	T	377	265.6	11,396.0	55	T	265.6	11,396.0	43	55	4.8
	1998		359	278.2	11,236.8	54		278.2	11,236.8	40	54	5.0
INDONESIA <sup>(1)</sup>	1998	G	1,659	60.3	2,253.8	53.1	G	30.7	1,274.5	41.5	56.7	5.0
JAPAN	1998	T	67	1,309.6	9,846.8	84.0	T	1,103.1	9,694.7	8.8	<sup>b)</sup> 82.8	34.1
MALAYSIA <sup>(2)</sup>	1997	G	639	157	7,197	55.1	G	<sup>c)</sup> 125.7	<sup>c)</sup> 7,112.4	<sup>c)</sup> 57.0	<sup>c)</sup> 52.3	<sup>c)</sup> 3.8
PHILIPPINES <sup>(3) d)</sup>	1997	T	1,574	29.4	871.2	81.4						
SINGAPORE <sup>e)</sup>	1998	T	339	294.6	9,568.4	77.5	T	172.1	7,654.8	44.5	73.6	5.4
THAILAND <sup>(4)</sup>	1998	T	462	216.5	12,279.7	68.8	T	189	11,766.7	62.2	69.7	
VIETNAM	1997	G	460	127.9		81.1						
	1998		438	137.6		91.5						

Source : Ministry of Health in each country

- (1) Directorate of Medical Care, Ministry of Health
- (2) Information and Documentation System Unit
- (3) Hospital Operation and Management Services
- (4) Health Information Division

Note : Type of hospitals

T = Total

G = Government hospital establishments

a) 4 government hospitals and 1 private hospital

b) Excluding beds for the patients suffering from communicable diseases, tuberculosis and mental diseases

c) Hospitals. The previous categorization into general hospitals and district hospitals does no longer apply.

d) Refer to data from 36 retained tertiary hospitals by Department of Health

e) Based on total population

Local or Rural Hospitals						Tuberculosis Hospitals					
Type	Beds per 100,000 Population	Admissions		Bed Occupancy Rate (%)	Average Length of Stay (Days)	Type	Beds per 100,000 Population	Admissions		Bed Occupancy Rate (%)	Average Length of Stay (Days)
		per 100,000 Population	per Bed					per 100,000 Population	per Bed		
..						..					
G	20.8	848.8	40.8	50.9	5	G	0.4	5.9	16.1	42.6	10
..						T	0.0	0.4	1.1	43.5 <sup>a)</sup>	189.7
..						G	0.5	12.5	23.0	42.5	6.6
..						..					
G	45.3					T	1.0	12.9	13.1		
G	55.3			87.1	6.5						

Note: a) Including beds for patients suffering from tuberculosis in general hospitals



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

	Year	Mental Hospitals						Maternity Hospitals					
		Type	Beds per 100,000 Population	Admissions		Bed Occupancy Rate (%)	Average Length of Stay (Days)	Type	Beds per 100,000 Population	Admissions		Bed Occupancy Rate (%)	Average Length of Stay (Days)
				per 100,000 Population	per Bed					per 100,000 Population	per Bed		
BRUNEI	1997 1998	..						..					
INDONESIA <sup>(1)</sup>	1998	G	3.4	16.9	4.4	63.6	61	G	1.1	37.7	33.8	33.5	3
JAPAN	1998	T	206.1	151.7	0.8	<sup>a)</sup> 93.5	468.3	..					
MALAYSIA <sup>(2)</sup>	1997	G	26.4	46.0	2.0	75.7	160.0	..					
PHILIPPINES <sup>(3)</sup>	1997	Special	5.8	11.6	2.0	79.3	157.4	Tertiary	1.0	73.3	74.9	78.4	3.8
SINGAPORE <sup>b)</sup>	1998	T	82.0	184.9	2.3	83.1	102.5	<sup>c)</sup> T	23.2	1,650.8	71.1	77.1	3.5
THAILAND <sup>(4)</sup>	1996	T	13.1	83.6	6.4	116.3	216.5	T	1.5				
VIETNAM	1998								1.29				

Source: Ministry of Health in each country

(1) Directorate of Medical Care, Ministry of Health

(2) Information and Documentation System Unit

(3) Hospital Operation and Management Services

(4) Health Information Division

Note: a) Including beds for the patients suffering from mental diseases in general hospitals

b) Based on total population

c) Women's and Children's Hospital

## 9. Human Resources for Health

## 9 – A Definitions of Medical and Allied Health Personnel

	Definition
1. Physicians	All graduates of a medical school or faculty actually working in any medical field (practice, teaching, administration, research, laboratory, etc).
2. Medical Assistants	Personnel performing duties ranging from simple curative procedures for common diseases to wider medical care that may include a variety of diagnostic, curative and preventive practices. These personnel have no medical education of university level or equivalent.
3. Dentists / Dental Surgeons (a) High (university) level (b) Middle (non-university) level	(a) All graduates of a dental school (or faculty of odontology or stomatology) actually working in any dental field. (b) Personnel qualified from a dental school of non-university level and licensed to practice dentistry.
4. Dental Nurses	Personnel performing a limited range of diagnostic, preventive, and curative services in dentistry. These personnel usually do not have complete dental education of university level or equivalent.
5. Dental Assistants / Dental Auxiliaries	Dental non-operating auxiliaries who assist dentists and dental nurses in their clinical work but do not carry out any independent intra-oral procedures. These dental personnel usually have technical training either in formal courses or by apprenticeship.
6. Dental Technicians	Personnel who make dentures, bridges, etc. as specified by dentists for their patients. These personnel usually have technical training in formal courses, e.g. at a specialized educational institution.
7. Pharmacists	All graduates of a faculty or school of pharmacy actually working in pharmacies, hospitals, laboratories, industry, etc.

	Definition
8. Pharmaceutical Assistants / Dispensers	Personnel assisting in pharmacies, hospitals, or dispensaries to make and dispense medicaments, under the supervision of a pharmacist. These personnel do not have pharmaceutical education of university level or equivalent.
9. Veterinarians / Veterinary Surgeons	All graduates of a faculty or school of veterinary medicine actually working in any field of veterinary activity, including teaching and public health.
10. Veterinary Assistants	Personnel providing limited diagnostic, preventive, and curative veterinary services. These personnel have no veterinary education of university level.
11. Professional Midwives	All graduates of a midwifery school actually working in any field of midwifery (practice in institutions and community health services, teaching, administration, private practice, etc.)
12. Assistant Midwives / Auxiliary Midwives	Personnel carrying out midwifery duties in normal obstetrics, in institutions and other health services, in principle under the supervision of a professional midwife. These personnel do not have the full education and training of a professional midwife.
13. Trained Traditional Birth Attendants	Personnel who practice traditional care of pregnant women and assist in the delivery, as accepted by the culture of a specific community, and who have later received some training in midwifery work.
14. Untrained Traditional Birth Attendants	Personnel without formal training in midwifery work who practice traditional care of pregnant women and assist in the delivery, as accepted by the culture of a specific community.
15. Voluntary Health Workers	Personnel performing voluntarily various types of health-related work, usually at the community level. They may have received some training in the work involved, either in formal courses or by apprenticeship.

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

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

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

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

9 – B Comparative Table on Medical and Allied Health Personnel

	Brunei (1997/1998)	Indonesia (1997)	Japan (1996)	Malaysia (1998)	Philippines (1996)	Singapore (1998)	Thailand (1997)	Vietnam (1998)
1 Physicians	✓	✓	✓	✓	✓	✓	✓	✓
2 Medical Assistants				✓			✓	✓
3 Dentists / Dental Surgeons	✓	✓	✓	✓	✓	✓	✓	✓
4 Dental Nurses	✓	✓		✓		✓		
5 Dental Assistants / Dental Auxiliaries	✓	✓	✓	✓		✓	✓	
6 Dental Technicians	✓	✓	✓	✓		✓		
7 Pharmacists	✓	✓	✓	✓	✓	✓	✓	✓
8 Pharmaceutical Assistants / Dispensers	✓	✓		✓		✓	✓	✓
9 Veterinarians / Veterinary Surgeons			✓	✓	✓	✓	✓	
10 Veterinary Assistants						✓	✓	
11 Professional Midwives	✓	✓	✓	✓	✓	✓	✓	✓
12 Assistant Midwives / Auxiliary Midwives	✓							✓
13 Trained Traditional Birth Attendants					✓			
14 Untrained Traditional Birth Attendants					✓			
15 Voluntary Health Workers					✓		✓	
16 Professional Nurses	✓	✓	✓	✓	✓	✓	✓	✓
17 Assistant Nurses / Auxiliary Nurses	✓		✓	✓		✓	✓	✓
18 Physiotherapists / Physical Therapists	✓	✓	✓	✓	✓	✓	✓	
19 Occupational Therapists	✓	✓	✓	✓	✓	✓	✓	
20 Dietitians / Nutritionists	✓	✓	✓	✓	✓	✓	✓	
21 Medical Social Workers	✓		✓	✓	✓	✓	✓	
22 Medical Laboratory Technicians	✓	✓	✓	✓	✓	✓	✓	✓
23 Assistant Medical Laboratory Technicians	✓	✓		✓	✓	✓	✓	
24 Radiographers	✓	✓	✓	✓	✓	✓	✓	
25 Assistant Radiographers	✓							

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

	Brunei (1997/1998)	Indonesia (1997)	Japan (1996)	Malaysia (1998)	Philippines (1996)	Singapore (1998)	Thailand (1997)	Vietnam (1998)
26 Sanitary Engineers		✓		✓	✓	✓	✓	
27 Sanitarian / Assistant Sanitarian	✓	✓			✓	✓	✓	
28 Malaria Field Officers	✓	✓		✓	✓		✓	
29 Entomologists	✓			✓	✓		✓	
30 Health Educators	✓	✓		✓	✓	✓	✓	

## 9 - 1 Medical and Allied Health Personnel

	Year	1. Physicians	2. Medical Assistants	3. Dentists / Dental Surgeons	4. Dental Nurses	5. Dental Assistants / Dental Auxiliaries	6. Dental Technicians	7. Pharmacists
BRUNEI	1997 1998	324 344	..	46 50	84 82	38 40	18 18	24 23
INDONESIA	1997	a) 16,689	..	a) 5,794	b) 7,184	c) 11,508	b) 95	a) 7,768
JAPAN	1998	248,611	..	88,061	..	61,331	d) 85,669	205,953
MALAYSIA (1)	1998	15,016	5,536	2,104	1,467	1,132	442	2,129
PHILIPPINES (2)	1997	88,754	..	38,278	..	..	..	39,095
SINGAPORE	1998	5,148	..	981	e) 269	e) 21	e) 2	998
THAILAND (3)	1997	16,569	b) 709	3,414	1,749	b) 2,649	29,865	5,941
VIETNAM	1997 1998	f) 34,001 f) 37,458	g) 48,459 g) 50,201					5,406 5,611

Source : Ministry of Health in each country

(1) Information and Documentation System Unit

(2) Professional Regulation Commission (Cumulative)

(3) *Health Resources Report*, Health Information Division(4) *Health Statistics Yearbook*, Health Statistics and Informatic Division, Ministry of Health

Note : a) 1996

b) 1995

c) 1994

d) Licensees at the end of 1998

e) Government only

f) Including dentists

g) Assistant doctors



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

	Year	8. Pharmaceutical Assistants / Dispensers	9. Veterinarians / Veterinary surgeons	10. Veterinary Assistants	11. Professional Midwives	12. Assistant Midwives / Auxiliary Midwives	13. Trained Traditional Birth Attendants	14. Untrained Traditional Birth Attendants
BRUNEI	1997 1998	32 37	..	..	68 66	a) 166 a) 165	..	..
INDONESIA	1997	b) 15,407	..	..	58,656	..	..	..
JAPAN	1998	..	(1) b) 29,643	..	24,202	..	..	..
MALAYSIA	1998	2,047			6,620	..		..
PHILIPPINES	1997	..	4,873	..	122,013	..	(2) c) 33,509	(2) c) 5,834
SINGAPORE	1998	d) 153	d) 25	d) 112	456	..	..	..
THAILAND	1997	e) 2,896	e) 798	e) 1,716	2,677			
VIETNAM	1997 1998	f) 16,207 f) 17,006			g) 8,563 g) 9,553	h) 4,479 h) 4,173		

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

Note: a) Midwife only  
b) As of December 31, 1998  
c) As of 1996  
d) Government only  
e) For 1995  
f) Assistant pharmacists, 2nd degree pharmaceutical technicians and elementary pharmacists  
g) 2nd degree midwives  
h) Elementary midwives

15. Voluntary Health Workers	16. Professional Nurses	17. Assistant Nurses / Auxiliary Nurses	18. Physiotherapists / Physical Therapists	19. Occupational Therapists	20. Dietitians / Nutritionists	21. Medical Social Workers	22. Medical Laboratory Technicians	23. Assistant Medical Laboratory Technicians	24. Radiographers
..	683 756	423 424	12 14	11 12	11 11	2 2	58 54	39 40	9 10
	110,504 <sup>a)</sup>	..	1,179 <sup>a)</sup>	667 <sup>b)</sup>	9,504 / 4,948 <sup>a) a)</sup>	..	284 <sup>b)</sup>	7,832 <sup>a)</sup>	1,739 <sup>a)</sup>
..	594,447	391,374	21,330 <sup>c)</sup>	11,039 <sup>c)</sup>	661,720 <sup>d) e)</sup>	6,321 <sup>a) f)</sup>	135,147 <sup>c)</sup>	..	46,354 <sup>c)</sup>
..	18,134	8,058	258	231	78	47	2,009	1,047	551
174,569 <sup>(1)</sup>	314,295	..	5,555	469	9,772	1,048 <sup>g)</sup>	35,683	476	3,028
	11,491	3,621	11 <sup>h)</sup>	22 <sup>h)</sup>	17 <sup>h)</sup>	26 <sup>h)</sup>	127 <sup>h)</sup>	16 <sup>h)</sup>	11 <sup>h)</sup>
673,990	54,207	31,280 <sup>a)</sup>	681 <sup>a)</sup>	212 <sup>a)</sup>	1,193 <sup>a)</sup>	751 <sup>a)</sup>	1,721 <sup>a)</sup>	3,753 <sup>a)</sup>	463
	22,672 <sup>i)</sup> 24,323 <sup>j)</sup>	20,768 <sup>k)</sup> 19,399 <sup>k)</sup>					1,760 2,278		

Source : (1) Community Health Service

Note: a) For 1995  
b) For 1991  
c) Licensees at the end of 1998  
d) Licensees at the end of 1997  
e) Cumulative  
f) Hospitals only  
g) Social workers  
h) Government only  
i) 2nd degree nurses  
j) High degree nurses and 2nd degree nurses  
k) Elementary nurses

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

	Year	25. Assistant Radiographers	26. Sanitary Engineers	27. Sanitarians / Assistant Sanitarians	28. Malaria Field Officers	29. Entomologists	30. Health Educators
BRUNEI	1997 1998	34 34	..	49 48	13 13	1 1	3 3
INDONESIA <sup>(1)</sup>	1997		a) 4,568	b) 4,131	3,685	..	c) 78
JAPAN	1996	..	..	..	..	..	..
MALAYSIA	1998	..	89	..		27	87
PHILIPPINES	1997	..	2,005	d) 3,460	d) 760	d) 20	d) 80
SINGAPORE	1998	..	e) 258	e) 590			e) 20
THAILAND	1997		b) 54	b) 745	b) 16,289	b) 28	b) 565
VIETNAM	1996						

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

## 9-2 Population / Health Personnel Ratios

	Year	Physicians per 100,000 Population	Population per Physician	Dentists per 100,000 Population	Population per Dentist	Pharmacists per 100,000 Population	Population per Pharmacist	Medical Assistants per 100,000 Population	Population per Medical Assistant	Nursing Personnel per 100,000 Population	Population per Nursing Personnel	Nursing & Midwifery Personnel per 100,000 Population	Population per Nursing & Midwifery Personnel
BRUNEI	1997	103.2	970	14.6	6,835	7.6	13,100	..	..	378.5	264	452.9	220.8
	1998	106.5	939	15.5	6,462	7.1	14,048	..	..	390.6	256	462.1	216.4
INDONESIA	1998	8.2	12,247	2.8	35,277	3.8	26,312	..	..	50.2 <sup>a)</sup>	1,993 <sup>a)</sup>	77.4 <sup>a)</sup>	1,291 <sup>a)</sup>
JAPAN	1998	196.6	509	69.6	1,436	162.8	614.1	..	..	779.4	207	798.5	125
MALAYSIA	1998	67.7	1,477	9.5	10,542	9.6	10,417	24.9	4,006	81.7	1,223	147.9	676
PHILIPPINES <sup>(1)</sup>	1997	124.0	806	53.5	1,869	54.6	1,830	..	..	439.3	228	609.8	164
SINGAPORE <sup>b)</sup>	1998	133.2	751	25.4	3,940	25.8	3,873	..	..	390.9	256	402.7	248
THAILAND	1997	26.5	3,691	5.6	17,751	9.7	10,294			88.6	1,128	146.7 <sup>c)</sup>	681.6 <sup>c)</sup>
VIETNAM	1996	44.4	2,251			7.0	14,256	<sup>d)</sup> 64.0	<sup>d)</sup> 1,562	57.6	1,735	74.7	1,346
	1997	44.3	2,256			7.0	14,191	63.2	1,583	56.6	1,766	73.6	1,358
	1998	47.8	2,084			7.2	13,912	64.3	1,555	56.0	1,717	73.6	1,359

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

Note : a) For 1994  
b) Based on total population  
c) Nurses and professional midwives  
d) Assistant doctor

## 9-3 Number of Physicians

Year	1970	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998
BRUNEI						197		226		251	251	324	344
INDONESIA <sup>(1)</sup>	3,578	8,279	12,931	19,875 <sup>(2)</sup>	25,752	25,754	27,652	29,450	31,400	34,440 <sup>(3)</sup>	36,688 <sup>(4)</sup>		16,689
JAPAN <sup>a)</sup>	118,990	132,479	156,235	NA	211,797	NA	219,704	NA	230,519	NA	240,908	NA	248,611
MALAYSIA <sup>(5)</sup>	2,543	2,757	3,858	4,939	7,012	7,198	7,719	8,279	8,831	9,608	10,196	14,248	15,016
PHILIPPINES <sup>(6)</sup>	31,515	37,276	50,848	58,015	72,593	74,008	77,127	79,936	82,494	84,671	86,878	88,754	
SINGAPORE	1,363	1,622	1,976	2,631	3,573	3,779	3,962	4,146	4,301	4,495	4,661	4,912	5,148
THAILAND <sup>(7)</sup>	5,407	5,005	6,867	8,650	12,520	12,803	13,398	13,634	14,098	14,181	16,209	16,569	
VIETNAM <sup>(8) b)</sup>		9,108 <sup>c)</sup>		19,804 <sup>d)</sup>	26,821	27,413	27,953	28,884	30,017	31,122	33,470	34,001	37,458

Source: Ministry of Health in each country

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

(2) Personnel Bureau 1987

(3) Indonesia Health Profile 1996

(4) Indonesian Five Year's Planning

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

(6) Professional Regulation Commission, Registered

(7) Health Information Division, Ministry of Public Health

(8) *Health Statistics Yearbook*, Health Statistics and Informatic Division, Ministry of Health

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

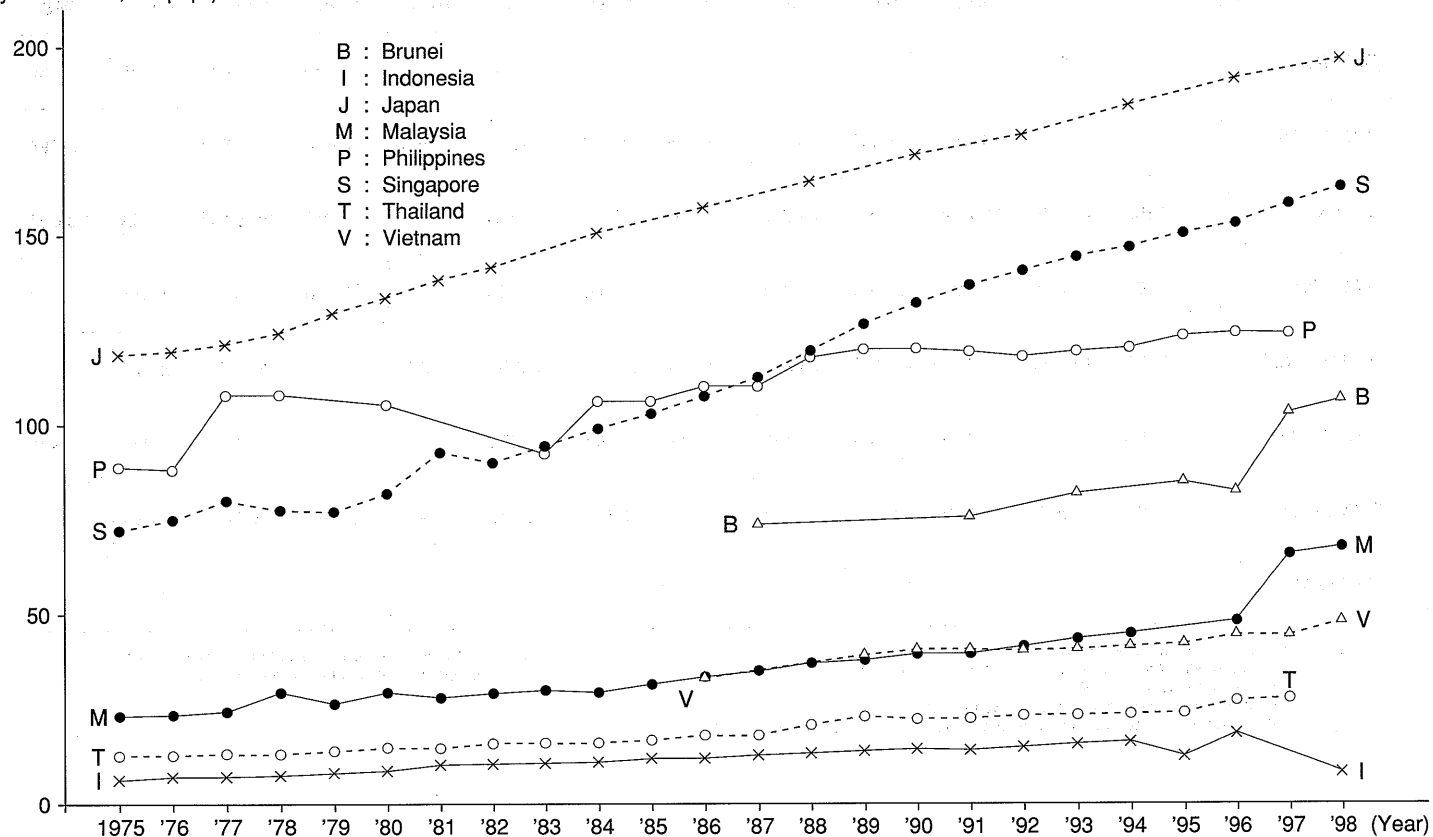
b) Including dentists

c) 1976

d) 1986

Fig. 10 Trends in Physicians per 100,000 Population

(Physicians/100,000 pop.)



## 9 - 4 Number of Dentists

Year	1970	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998
BRUNEI						27		31		38	24	46	50
INDONESIA <sup>(1)</sup>	452		1,681	4,237 <sup>(2)</sup>	5,545	6,176	6,753	7,231	7,836	7,836	5,962		5,794
JAPAN <sup>a)</sup>	37,859	43,586	53,602	NA	74,028	NA	77,416	NA	81,055	NA	85,518	NA	88,061
MALAYSIA <sup>(3)</sup>	301	504	691	1,041	1,471	1,501	1,562	1,606	1,712	1,750	1,800	1,865	2,104
PHILIPPINES <sup>(4)</sup>	12,174	13,096	15,158	21,148	28,204	30,354	32,093	33,302	34,379	35,483	36,707	38,278	
SINGAPORE	398	419	485	604	776	784	806	839	859	875	913	952	981
THAILAND	683	652	1,169	1,451	2,285	2,408	2,669	2,786	2,984	2,290	3,415	3,414	
VIETNAM <sup>b)</sup>													

Source : Ministry of Health in each country

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

(2) Personnel Bureau, 1987

(3) Information and Documentation System Unit

(4) Professional Regulation Commission, Registered (cumulative)

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

b) Included in number of physicians

## 9-5 Number of Pharmacists

Year	1970	1975	1980	1985	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
BRUNEI								10		13		13	20	24	23
INDONESIA <sup>(1)</sup>	1,486	1,847	3,013	4,268 <sup>(2)</sup>	5,085	5,207	5,399	5,345	5,592	5,762	6,559	6,971	6,993	6,572	7,768
JAPAN <sup>a)</sup>	79,393	94,362	116,056	NA	143,429	NA	150,627	NA	162,021	NA	176,871	NA	194,300	NA	205,953
MALAYSIA <sup>(3)</sup>		258	488	843	1,084	1,170	1,239	1,214	1,351	1,324	1,510	1,537	1,715	1,746	2,129
PHILIPPINES <sup>(4)</sup>	19,076	20,838	23,225	26,440	27,732	28,764	29,612	30,971	32,126	33,233	34,854	36,352	37,650	39,095	
SINGAPORE	245	288	368	436	526	557	587	629	677	720	773	815	858	944	998
THAILAND <sup>(5)</sup>	1,407	1,913	2,650	3,376	3,681	3,825	4,163	4,333	4,609	4,721	5,575	5,867	5,640	5,941	
VIETNAM		3,089 <sup>b)</sup>		5,700 <sup>c)</sup>							5,757	4,941	5,286	5,406 <sup>d)</sup>	5,611

Source: Ministry of Health in each country

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

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

b) 1976

c) 1986

d) Revised figures



## 9-6 Number of Midwives

Year	1970	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998
BRUNEI						407		464		452	341	234	231
INDONESIA <sup>(1)</sup>	3,752	10,720	16,472		22,405 <sup>(2)</sup>	29,869 <sup>(3)</sup>	36,187	42,518	51,067		58,656		
JAPAN <sup>a)</sup>	28,087	26,742	25,867	NA	22,918	NA	22,690	NA	23,048	NA	23,615	NA	24,202
MALAYSIA <sup>(4)</sup>		1,995 <sup>b)</sup>	4,355 <sup>b)</sup>	5,047	5,492	5,543	5,476	5,508	5,500	5,495	5,746	5,827	6,620
PHILIPPINES <sup>(5)</sup>	16,082	18,528	42,114	55,841	71,092	77,773	85,172	94,849	102,875	111,700	117,995	122,013	
SINGAPORE	1,058	930	779	623	543	529	530	522	507	499	487	473	456
THAILAND <sup>(6)</sup>	4,203	6,335	8,669	7,716	10,796	10,582	10,492	10,525	10,342	9,713	2,731 <sup>c)</sup>	2,677 <sup>c)</sup>	
VIETNAM		647 <sup>d)</sup>		4,480 <sup>e)</sup>	5,025		5,835	5,986	6,625	7,145	8,101	8,563	9,553

Source : Ministry of Health in each country

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

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

b) Peninsular Malaysia only

c) Professional midwives only

d) 1976

e) 1986

## 9-7 Number of Nurses

Year	1970	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998
BRUNEI						739		743		876	1,035	1,190	1,262
INDONESIA <sup>(1)</sup>		9,856	20,201		50,350	53,308	65,805	78,290	96,427				
JAPAN <sup>a) b)</sup>	273,572	361,604	487,169	NA	745,301	NA	795,810	NA	862,013	NA	928,896	NA	985,821
MALAYSIA <sup>(2)</sup>	5,617	4,207	7,649 <sup>c)</sup>	10,311	11,569	11,604	12,789	11,961	13,224	13,647	14,614	16,068	18,134
PHILIPPINES <sup>(3)</sup>	38,918	64,165	114,657	148,514	174,112	183,277	199,263	230,187	259,629	286,901	289,473	314,295	
SINGAPORE <sup>a)</sup>	4,304	5,767	7,545	8,393	9,695	10,233	10,633	11,127	11,723	12,298	13,193	14,232	15,112
THAILAND <sup>(4)</sup>	15,387	18,993	18,483	38,683	60,672	63,974	73,319	73,684	80,938	85,542	82,815	86,231	
VIETNAM <sup>(5)</sup>		63,458 <sup>d)</sup>		83,222 <sup>e)</sup>	58,674			47,125	45,279	45,561	43,422	43,440	43,722

Source: Ministry of Health each country

(1) Personal Bureau, Ministry of Health

(2) Nursing Board, Ministry of Health

(3) Professional Regulation Commissioner, Registered (cumulative)

(4) Health Information Division, Ministry of Public Health

(5) *Health Statistics Yearbook*, Health Statistics and Informatic Division, Ministry of Health

Note: a) Professional nurses and assistant nurses

b) Since 1982, date collection every other year

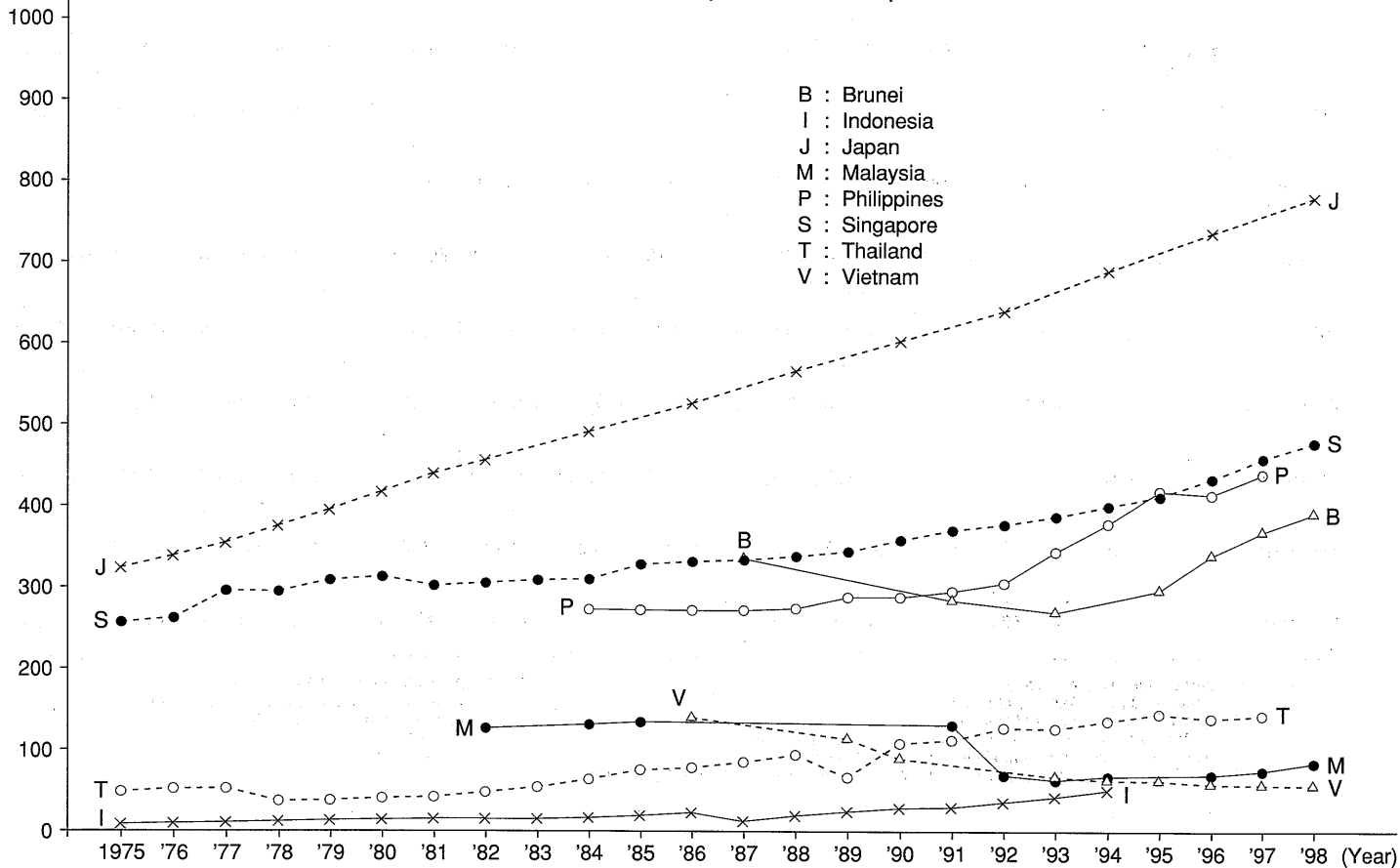
c) Peninsular Malaysia only

d) 1976

e) 1986

(Nurses/100,000 pop.)

Fig. 11 Trends in Nurses per 100,000 Population



9-8 Number of Physicians, Dentists and Pharmacists, by Sex

	Year	Physicians				Dentists				Pharmacists			
		Male		Female		Male		Female		Male		Female	
		number	%	number	%	number	%	number	%	number	%	number	%
BRUNEI													
INDONESIA													
JAPAN	1998	213,603	85.9	35,008	14.1	73,669	83.7	14,392	16.3	82,950	40.3	123,003	59.7
MALAYSIA													
PHILIPPINES													
SINGAPORE	1998	3,562	69.2	1,586	30.8	623	63.5	358	36.5	334	33.5	664	66.5
THAILAND													
VIETNAM													

Source: Ministry of Health

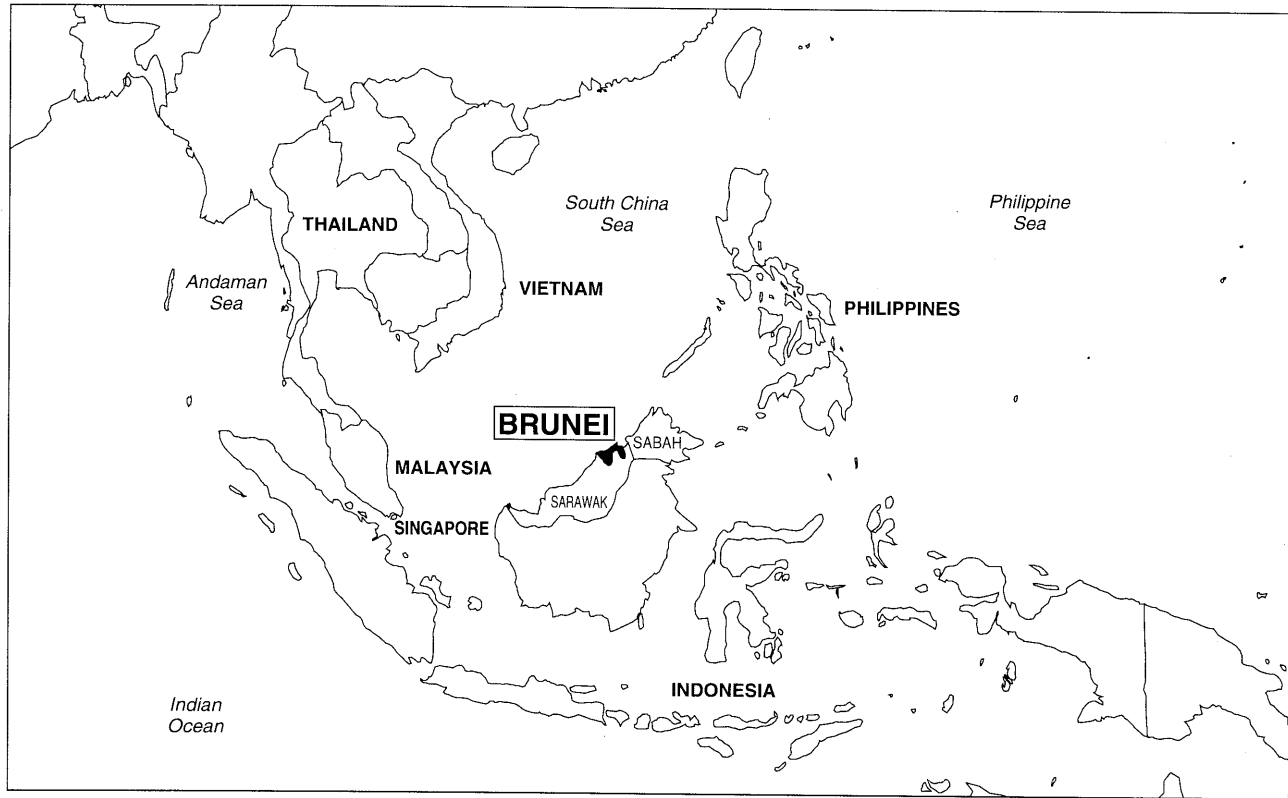
## 9-9 Situation of Medical Schools

	Academic Year	Number of Medical Schools	Duration of Studies	Total Enrolment	Admissions	Graduates
BRUNEI	..					
INDONESIA <sup>(1)</sup>	1997 1998	32	6 years			2,545 2,196
JAPAN <sup>(2) a)</sup>	1998	80	6 Years	47,725	7,530	7,580
MALAYSIA <sup>(3)</sup>	1998 / 1999	5	5 - 6 Years	2,481		
PHILIPPINES <sup>(4) b)</sup>	1997	30	Pre-Med-4 Years Proper-4 Years Intern-1 Years	12,000	3,800	2,500
SINGAPORE <sup>(5)</sup>	1998 / 1999	1	5 Years	c) 774 d) 60	c) 182 d) 18	c) 136 d) 9
THAILAND <sup>(6)</sup>	1996	11	7 Years	866	21,913	819
VIETNAM <sup>(7)</sup>	1996	e) 9	6 Years	13,382	2,950	1,797

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

Note: a) Data on 1 May, 1998  
 b) Estimated  
 c) Singaporeans  
 d) Non-Singaporeans  
 e) 5 medical colleges belong to Ministry of Health and  
 4 medical departments of universities belong to Ministry  
 of Education

# Negara Brunei Darussalam



## **Part II**

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

# Negara Brunei Darussalam

## 1. Population Statistics

### *(1) Background Information*

The main sources of information on population are censuses. The first census took place in 1911 and the last decennial census was conducted in 1991. The population projections are made based on an analysis of trends in the components of population change, i.e., fertility, mortality and migration for the period 1981 to 1991.

### *(2) Purpose*

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

### *(3) Coverage*

Nationwide

### *(4) Contents*

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

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

### *(5) Data Collection Procedures*

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



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

(6) *Tabulation and Publication*

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

## 2. Vital Statistics

(1) *Background Information*

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

(2) *Coverage*

Nationwide

(3) *Contents*

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

*Births*

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

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

*Deaths*

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

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

#### *(4) Data Collection Procedures*

The vital registration system is operating in 25 registration areas under the supervision of six Deputy Registrars. The responsible agency is the Registration

of Birth and Death and Adoptions, under the Department of Immigration and Registration of Nationals, Ministry of Home Affairs. The vital events information is now processed by the Registration of Birth and Death and Adoptions.

#### *(5) Tabulation and Publication*

The vital events information is presented in the *Public Health Services Annual Report*, and *Annual Vital Statistics*, a publication issued by the Statistics Division, Department of Economic Planning and Development, Ministry of Finance, Brunei Darussalam.

### **3. Morbidity Statistics**

#### *(1) Background Information*

Hospital outpatient as well as inpatient information is being collected. Notifiable and infectious disease statistics are also collected from hospitals, health centres and general practitioners.

#### *(2) Purpose*

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

#### *(3) Coverage*

All inpatients and outpatients.

#### *(4) Contents*

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

#### *(5) Data Collection Procedures*

The notifiable disease statistics are collected

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

#### *(6) Tabulation and Publication*

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

### **4. Public Health Statistics**

Statistics are collected on maternal and child health services, primary health care training, school health services, expanded programme of immunization, environmental health (food safety, pollution control and vector control), port health, disease control,

nutrition, psychology, building and development, and health education programmes. Monitoring and evaluation indicators have accordingly been developed and are used for the assessment of these programmes.

### **5. Hospital Performance Statistics**

The Medical and Health Statistics Unit, Research and Development Section, 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 col-

lected 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, results of care, and information on beds.

## 6. Monitoring System

At the early part of 1991 Ministry of Health introduced a planning instrument called PIP (Performance Improvement Programming). The PIP concept is nothing but a planning process applied in Health Programming for Improved Performance. This approach is similar to the Country Health Programming Instrument used in some WHO member countries. Based on

this PIP, the monitoring system for Medical Care and Public Health Programmes was developed and put into operation by the Ministry of Health in April 1991. Regular meetings have been held ever since, at which the performance of the programme activities is monitored.

## 7. Health Manpower Statistics

### *(1) Background Information*

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

### *(2) Purpose*

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

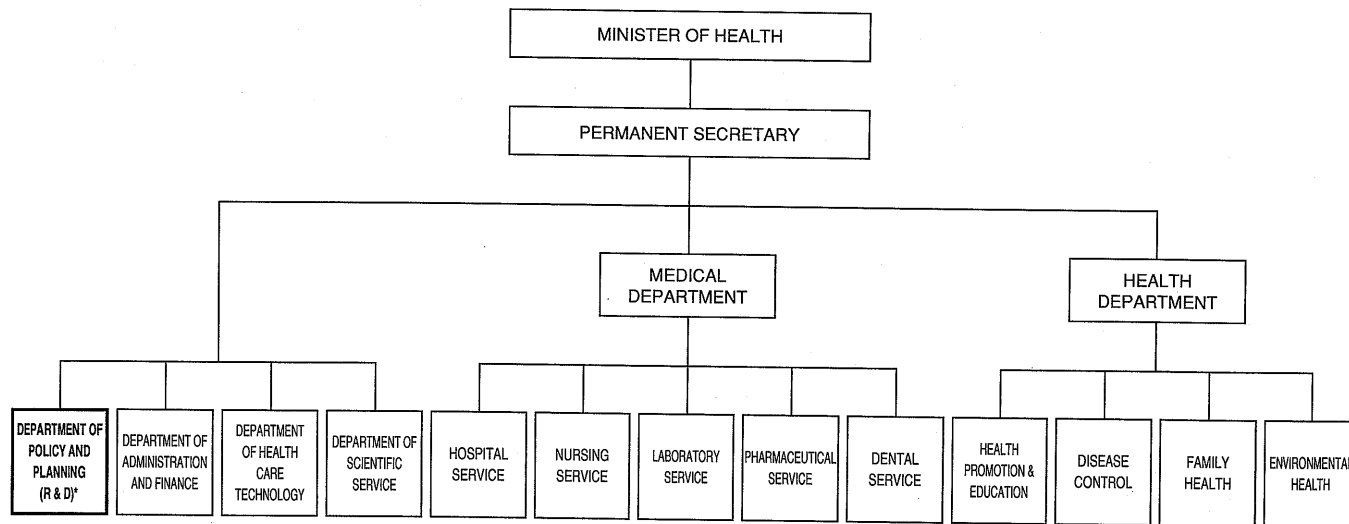
### *(3) Coverage*

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

### *(4) The Plan*

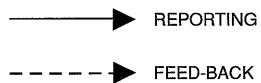
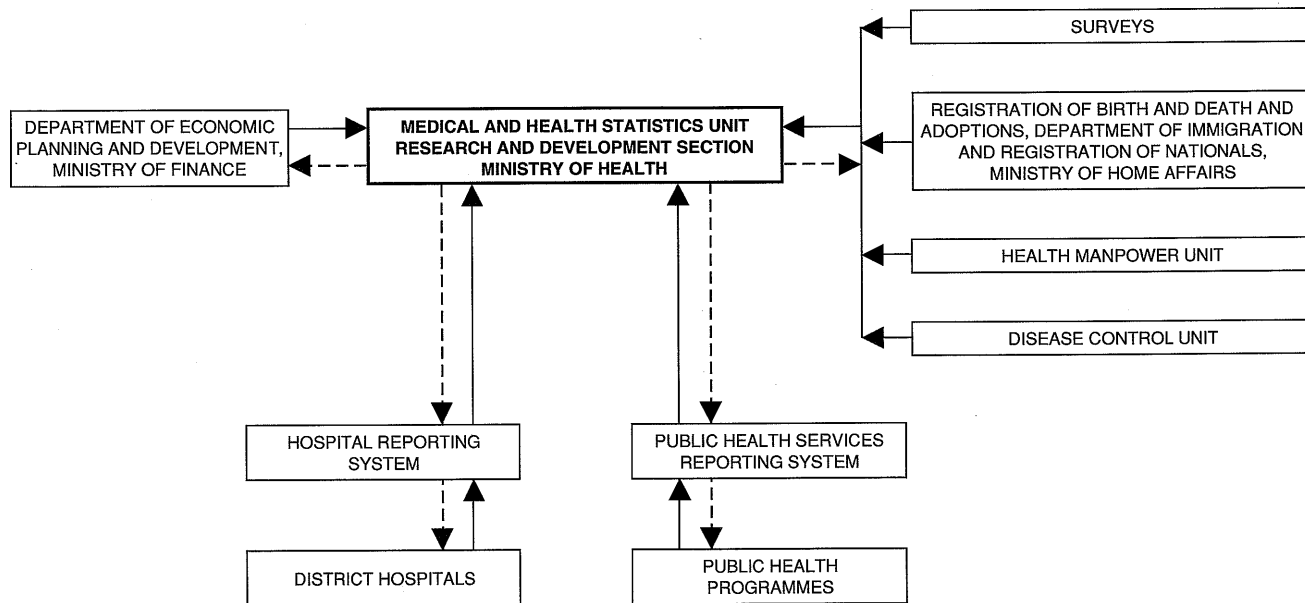
The Manpower Development and Management Unit and the Research and Development Section, are planning to develop a comprehensive health manpower information system.

# Ministry of Health Brunei Darussalam

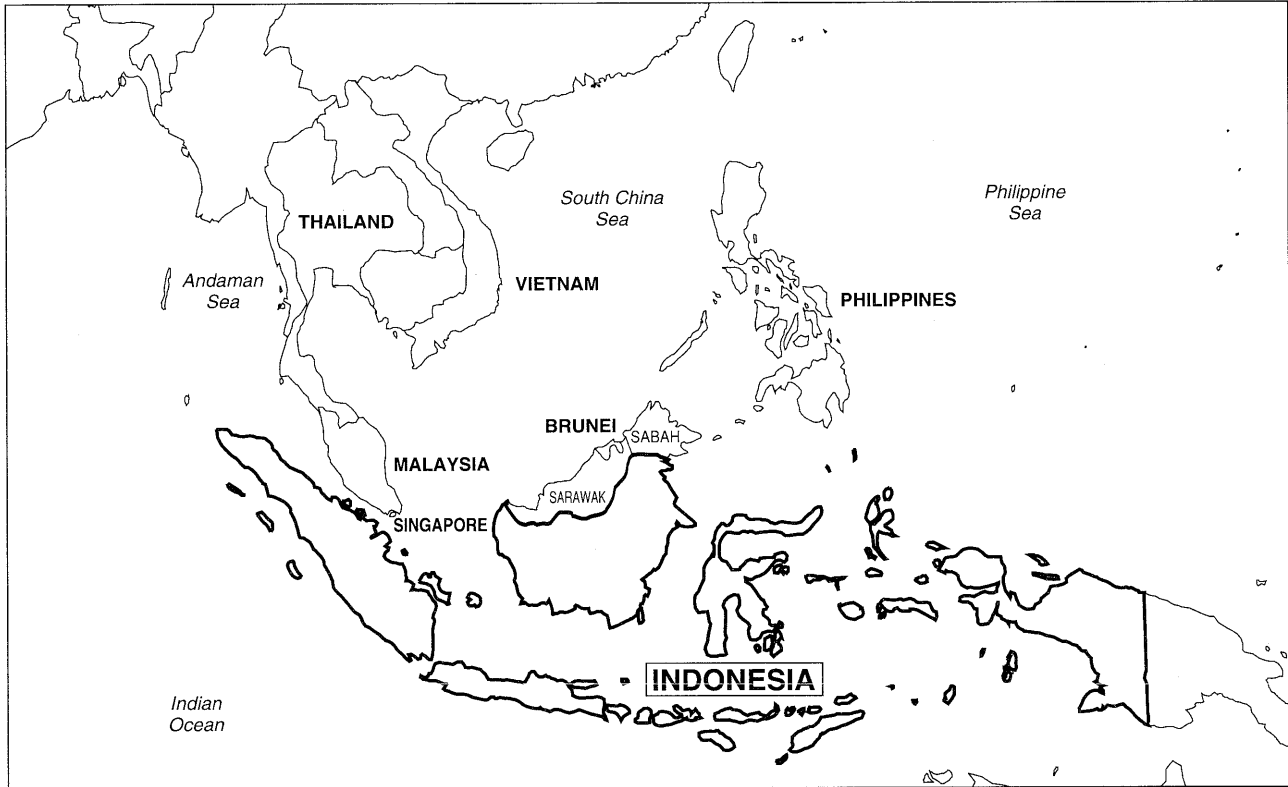


\*R & D = Medical and Health Statistics Unit, Research and Development Section

### 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 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. Food Balance Sheets

### (1) Purpose

The objectives of composing Food Balance Sheets are:

- a. to present the food consumption pattern in

general, namely, composition of food commodities, total consumption of calories and protein and fats, for monitoring and evaluating nutrition programmes;

- b. to describe the distribution of the food supply

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

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

## *(2) Methodology*

The Food Balance Sheets cover all information dealing with the food consumption pattern and its nutrients, distribution of food supply for export, indus-

trial use and domestic consumption and its quality.

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

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

# **5. National Household Health Survey**

## *(1) Purpose*

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

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

## *(2) Methodology*

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

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

Six types of questionnaire are used to ask data on

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

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

From each cluster one province is chosen whose characteristics are considered to approximately corre-

spond to the median of the values. In each province chosen, random sampling of districts and subdistricts is done to select three districts, and two or three subdistricts in each district. Approximately 889 households are selected in each subdistrict or about 4,445 population.

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

## 6. National Socio-Economic Survey

### (1) *Purpose*

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

### (2) *Methodology*

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

The samples are drawn from both urban and rural areas. In the rural areas, the samples are collected in four stages. The first two stages are meant for the selection of subdistricts and villages, respectively, which is conducted using the probability sampling proportional to the total population. In the third stage, census

blocks are selected using a random sampling procedure, and in the last stage, nine households are selected from each census block systematically. In the urban areas, the samples are drawn systematically in two stages: selection of clusters and households. A cluster is part of a village which consists of 50 households or 250 population living close to each other and which has a clear boundary. From each cluster nine households are selected.

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

The Central Bureau of Statistics organizes the activities.

## 7. Hospital Recording System

### (1) *Purpose*

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

### (2) *Methodology*

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

- a. the morbidity and mortality rates resulted from the hospital records do not cover all population in the district area;

- b. data on hospital service comprise hospital outpatient visits and inpatient care.

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

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

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

## 8. Health Manpower Recording and Reporting System

### (1) *Purpose*

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

### (2) *Methodology*

The activity covers all health personnel who work in health offices, government health centres, and 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.

## 10. Recent Developments in the Health Information System

Since 1988, the Centre for Health Data, Ministry of Health initiated the preparation of the National Profile and Provincial and District Annual Health Profiles

to be used among others as supportive information for policy formulation and decision-making at each government level. Furthermore in 1994, the Ministry of

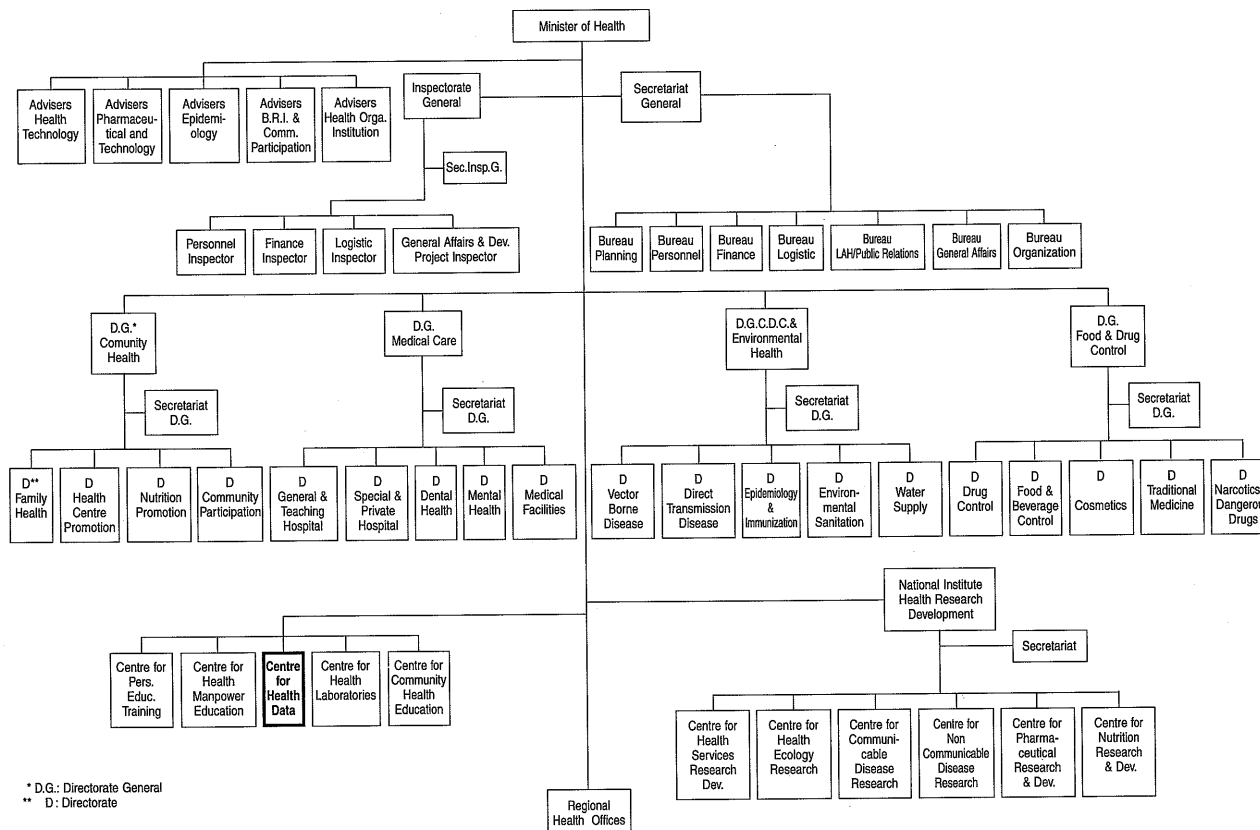
Health developed monthly and trimonthly executive reporting from each Provincial Health Office to the Health Minister.

Recent technological advances in computing and informatics offer almost unlimited opportunities for the improvement of the information system. To sup-

port the executive functions at national level, the local area network (intranet) and the wide area network (internet) have been developed.

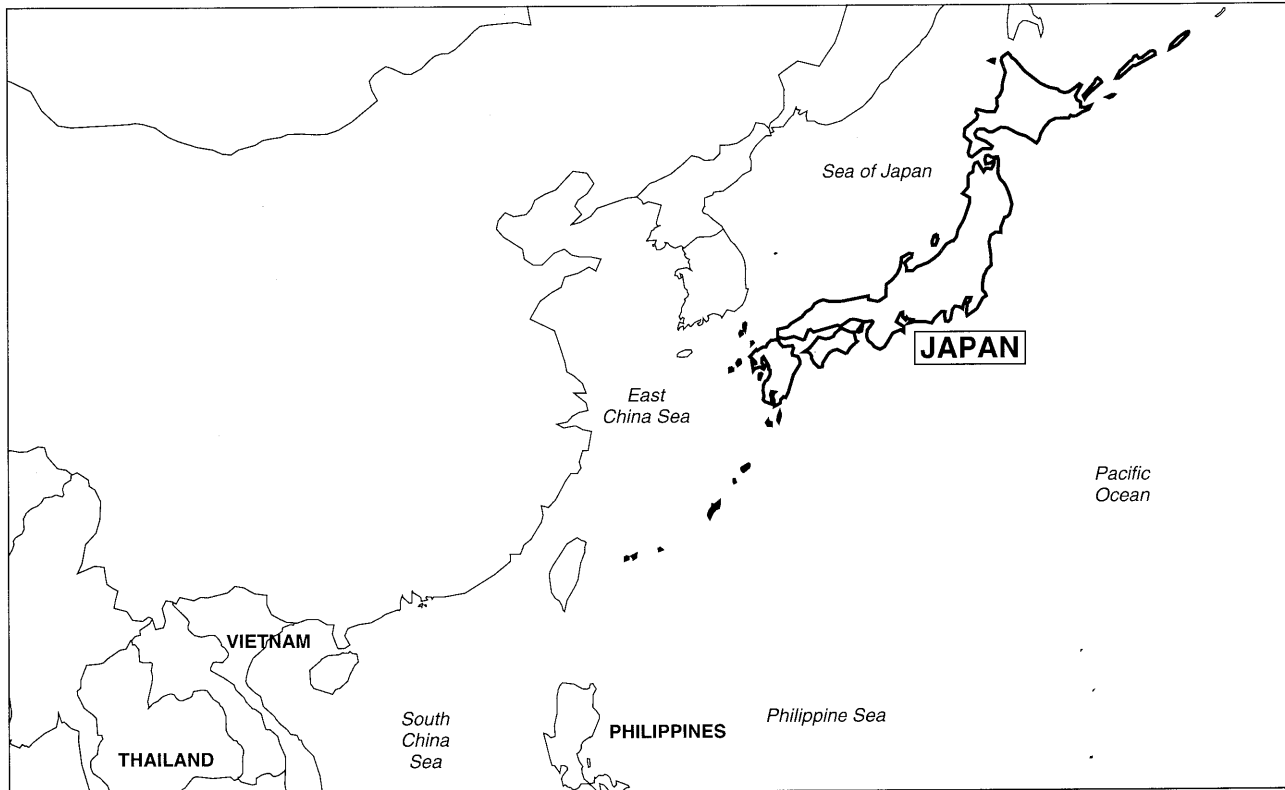
*(Centre for Health Data, Ministry of Health)*

## Organization Structure Ministry of Health, Indonesia





# 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.

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

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

economic characteristics such as occupation and industry in addition to the basic characteristics of population. The 1995 Population Census was taken as a simplified census.

### (2) *Purpose*

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

### (3) *Coverage*

The whole population in Japan.

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

### (4) *Date*

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

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

(i) For each household member

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

(ii) For the household

- a. Type of household (extended/nuclear family, etc.)

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

(6) *Data Collection Procedure*

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

(7) *Tabulation and Publication*

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

## 2. Vital Statistics

### (1) History

The Family Registration System was established and came to function as a permanent source of vital statistics in 1872. A modern system for compiling vital statistics was introduced in 1899 through central processing of individual reporting forms on vital events. The jurisdiction of vital statistics system was transferred from the Statistics Bureau, Prime Minister's Office to the Ministry of Health and Welfare in 1947, with a view to making full use of the collected data mainly for public health activities.

### (2) Method of Collecting Data

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

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

A birth report has to be accompanied with a birth

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

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

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

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

### (3) Publications on Vital Statistics

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

a. *Monthly Brief Report on Vital Statistics*

The Monthly Brief Report covers total figures of live births, deaths, stillbirths, marriages and divorces by prefecture. 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. The Brief Report is published 2 months later.

b. *Monthly Report on Vital Statistics*

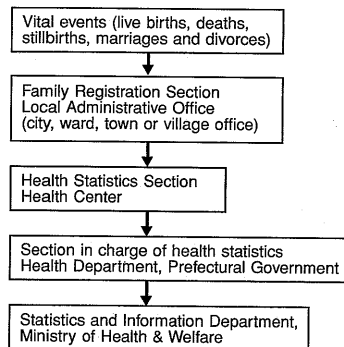
The Monthly Report containing the figures

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 than the Brief Report referred to above.

c. *Annual Report on Vital Statistics*

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

### Channel of collecting vital statistics data



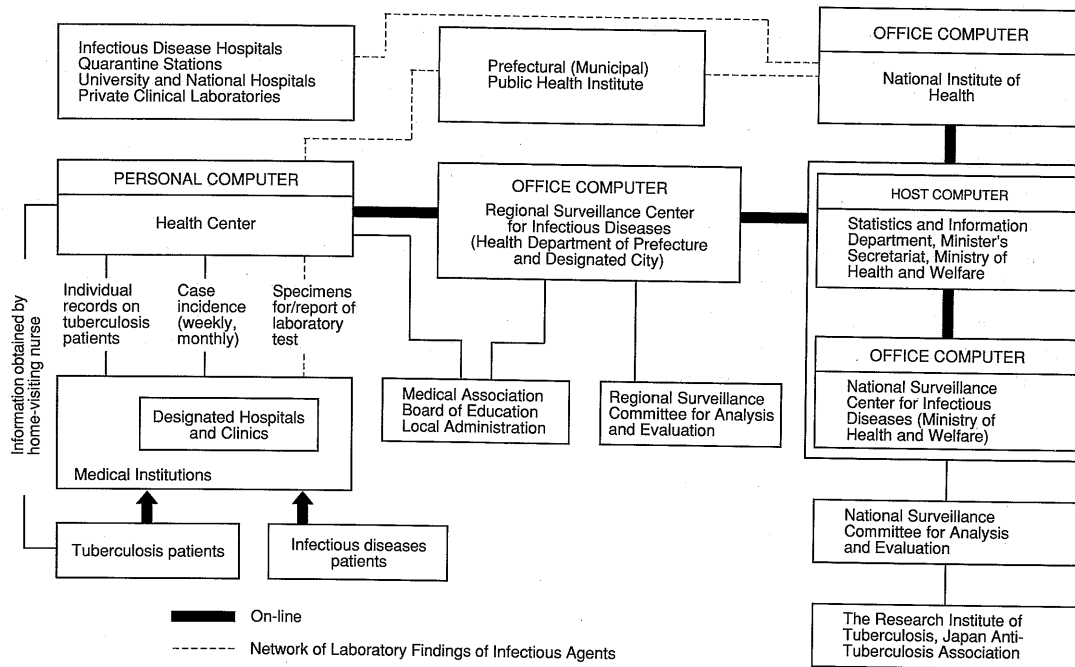
1. Reporting.
2. Report accepted after scrutiny.
3. Vital statistics schedules prepared.
4. The schedules forwarded to the Health Centers immediately.
5. All schedules examined.
6. The schedules submitted to the Prefectural Government before the 25th of every month.
7. The schedules examined.
8. The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

### 3. Infectious Disease Surveillance System

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

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

# Infectious Disease Surveillance System



## 4. Patient Survey

### (1) History

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

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

### (2) Purpose

To obtain fundamental information about patients treated in medical institutions.

### (3) Coverage

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

### (4) Date

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

### (5) Contents of Reporting Forms

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

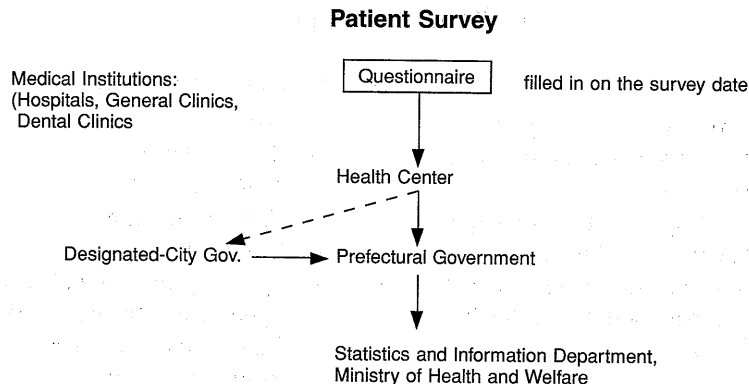
### (6) Data Collection Procedure

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

### (7) Tabulation and Publication

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





## 5. National Nutrition Survey

### (1) History

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

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

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

## (2) *Purpose*

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

## (3) *Coverage*

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

## (4) *Date*

Three days in November 1997.

## (5) *Contents of Reporting Form*

### a) Physical check for individual persons

- 1) Anthropometry: height and body weight [aged one year or over]
- 2) Blood pressure measurement (sitting position) [aged 15 years or over]

- 3) Blood tests: RBC, hemoglobin, total cholesterol, HDL-cholesterol, triglyceride, total protein, blood sugar [aged 20 years or over]

- 4) Physical activity: number of steps in a day measured by pedometer [aged 15 years or over]

- 5) Interview on smoking and drinking habits and physical exercise [aged 20 years or over]

### b) Dietary study for households

- 1) Members who compose the household: age, sex, birth date, profession, pregnancy or lactation

- 2) Food intake (weighed food record during 3 consecutive days with additional information regarding the proportion of food shared by each family member, to compute the nutrient intake of individual members), foods taken outside, meals not taken

### c) Dietary habits [aged 20 years or over]

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

the evening meal is taken.

*(6) Data Collection Procedure*

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

The actual data collection is done by regional health centers under the supervision of the Health Promotion and Nutrition Division, and the prefecture or

major city (the designated city) authorities. The survey team consists of physicians, public health nurses, dietitians, nurses, medical laboratory technicians, and assistant medical laboratory technicians.

*(7) Tabulation and publication*

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

## **6. Statistical Report on Public Health Administration Services**

*(1) History*

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

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

The jurisdiction of the Report was transferred from the General Affairs Division of the Minister's Secretariat to the Statistics and Information Depart-

ment 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

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

### (1) History

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

### (2) Purpose

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

### (3) Coverage

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

### (4) Date

A designated day in June or July

Detailed survey: every 3 years

Brief survey: annually

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

#### (i) Questionnaire on Household

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

#### (ii) Questionnaire on Health

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

#### (iii) Questionnaire on Income

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

#### (iv) Questionnaire on Saving

- a. Status of saving

#### *(6) Data Collection Procedure*

The interviewer-administered questionnaires on household and on income and the self-administered questionnaires on health and on savings are used in the Survey. The questionnaires on household and on health are submitted to the Health Center, while the questionnaire on income and savings collected by the investigator are submitted to the Welfare Office. All the collected questionnaires are then sent to the 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.

## **8. Census of Medical Care Institutions**

#### *(1) History*

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

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

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

#### *(2) Purpose*

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

#### *(3) Coverage*

All hospitals and clinics in Japan.

(4) *Date*

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

(5) *Contents of Questionnaire*

(i) Main Detailed Survey

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

(ii) Brief Monthly Survey

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

- a. Name of medical care institution
- b. Address

- c. Type of ownership
- d. Type of registration (establishment/abolition/suspension)
- e. Number of beds, by type of disease
- f. Specialty
- g. Others

(6) *Data Collection Procedure*

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

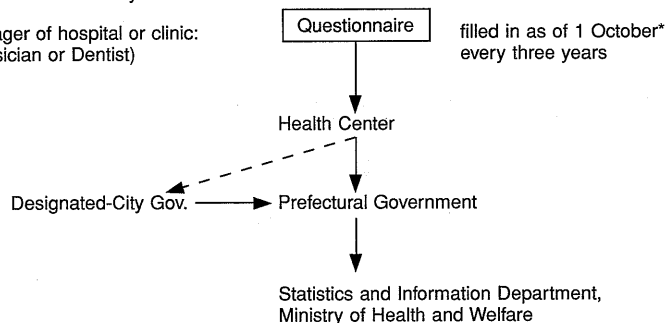
(7) *Tabulation and Publication*

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

## Census of Medical Care Institutions

### A. Main Detailed Survey

Manager of hospital or clinic:  
(Physician or Dentist)

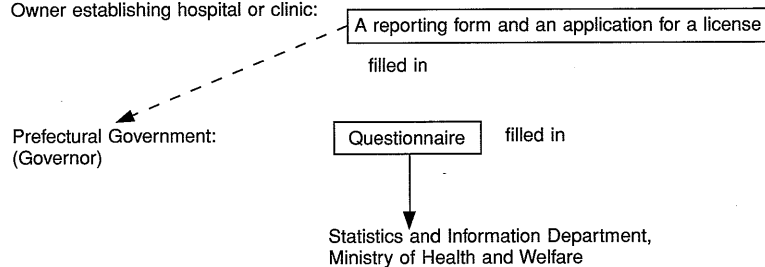


\* Questionnaire had been filled in as of the last day of the year up to 1981.

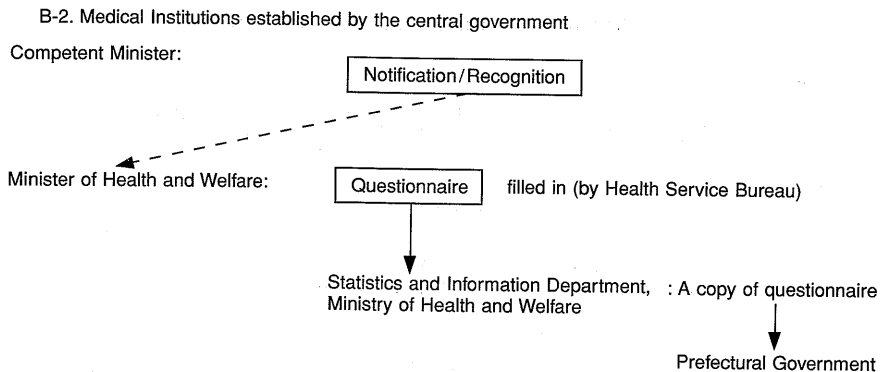
### B. Brief Monthly Survey

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

Owner establishing hospital or clinic:







## 9. Hospital Report

### (1) *History*

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

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

### (2) *Purpose*

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

### (3) *Coverage*

All hospitals in Japan.

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

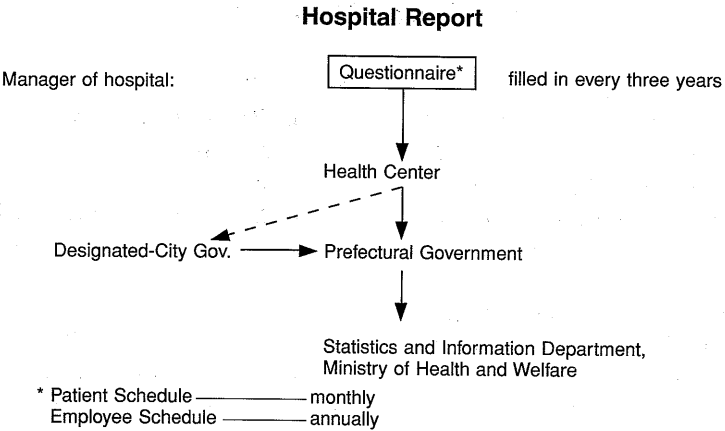
- a. Patient form (monthly)  
Number of inpatients, outpatients, newborns, etc.
- b. Employee form (annual)  
Number of physicians, pharmacists, nurses, etc.

### (5) *Data Collection Procedure*

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

### (6) *Tabulation and Publication*

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



## 10. Survey on Physicians, Dentists and Pharmacists

### (1) History

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

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

### (2) Purpose

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

### (3) Coverage

All physicians, dentists, and pharmacists registered in Japan.

### (4) Date

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

### (5) Contents of Reporting Forms

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

### (6) Data Collection Procedure

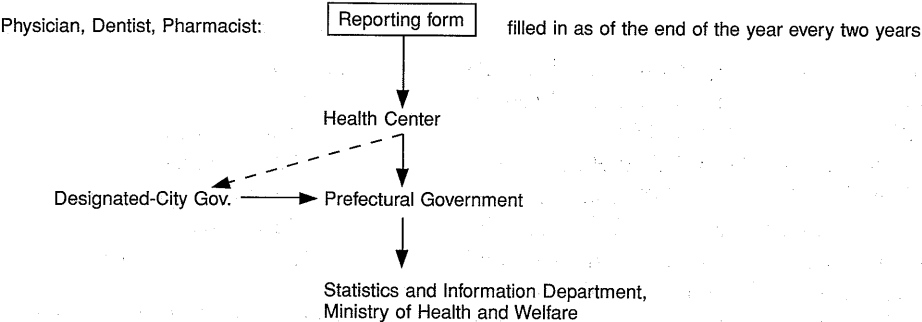
The report form filled in by each professional is submitted to the health center. At the health center, editing work is done and the report is sent to the Statistics and Information Department via the prefectural government.

### (7) Tabulation and Publication

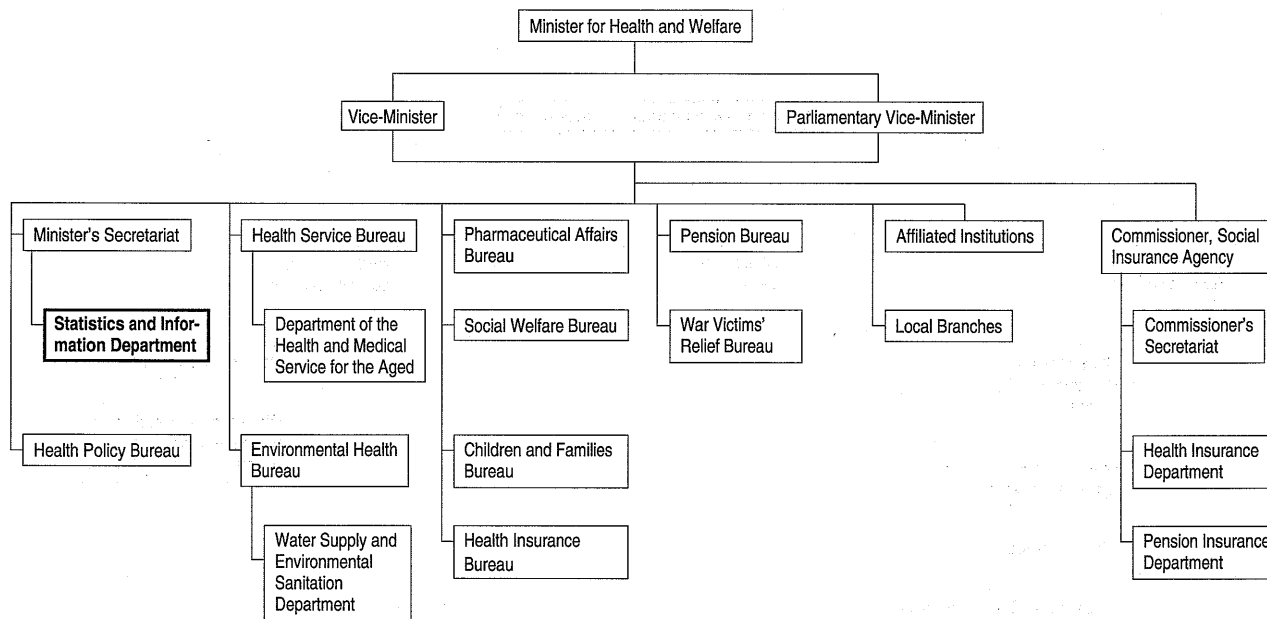
The Statistics and Information Department takes charge of the tabulation and releases the results through publications.

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

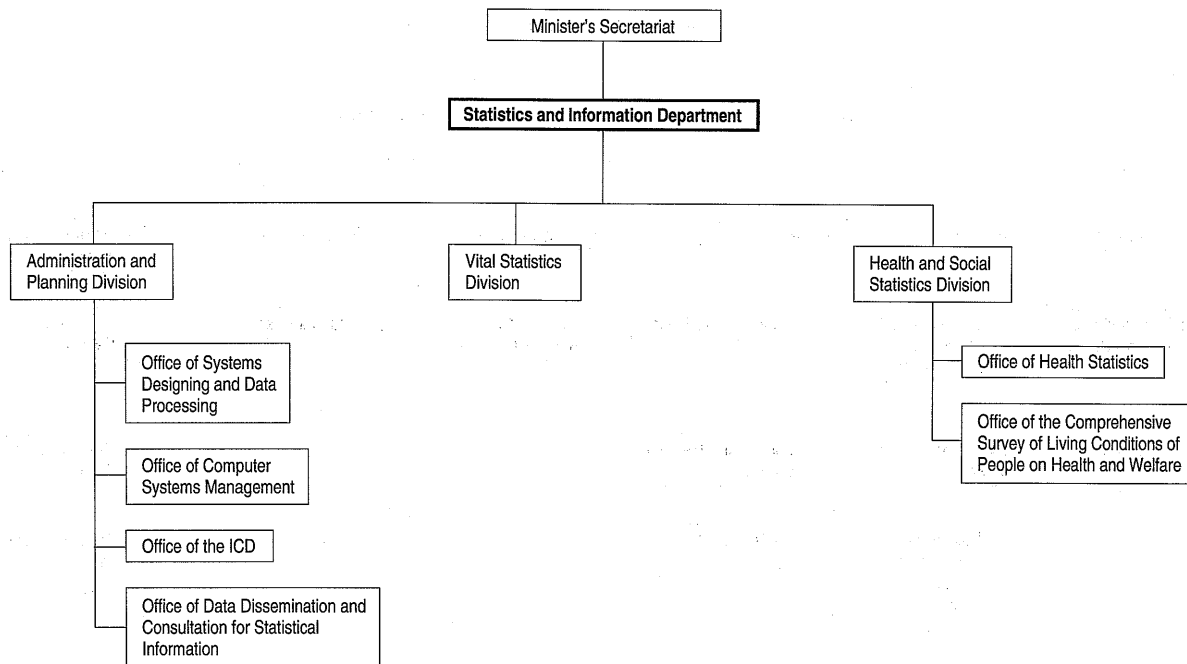
Survey on Physicians, Dentists, and Pharmacists



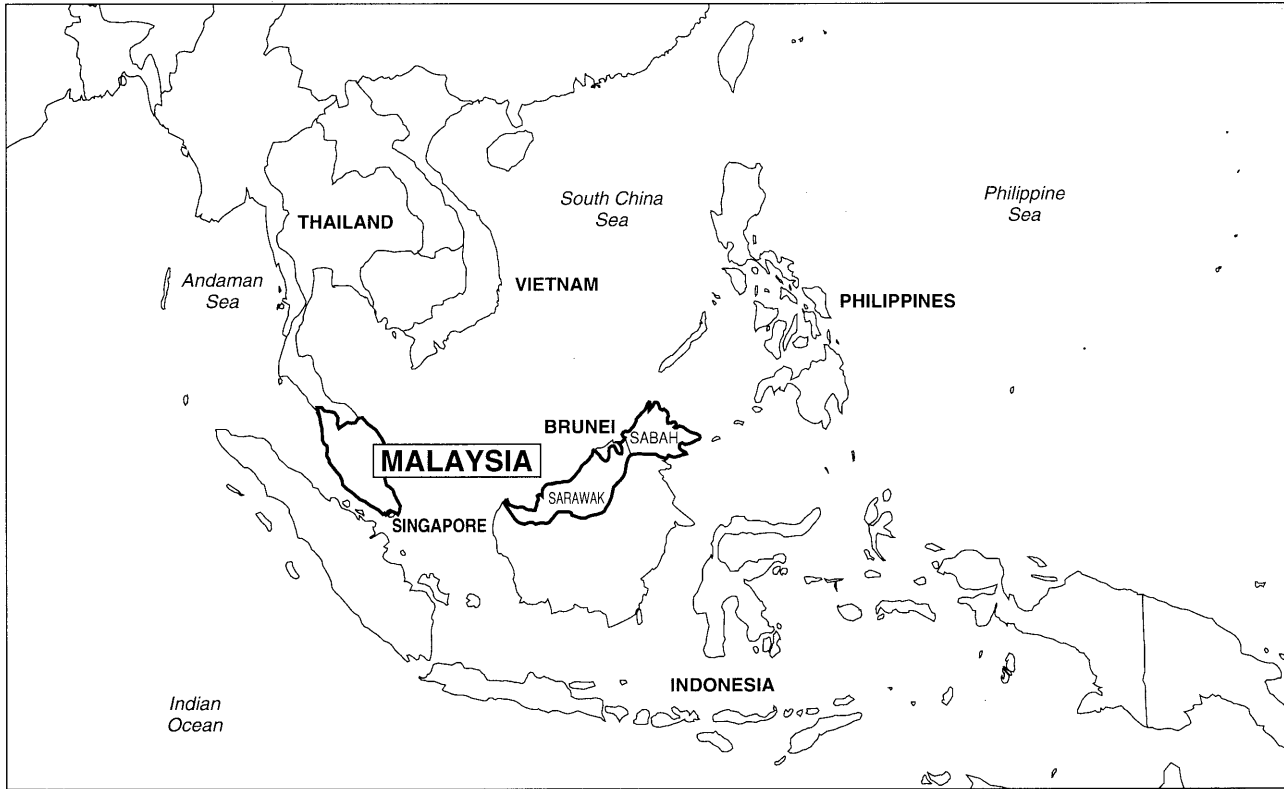
# Annex I. Organization Chart of the Ministry of Health and Welfare, Japan



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



# Malaysia





# Malaysia

## 1. Population Statistics

### *(1) Background Information*

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

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

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

### *(2) Purpose*

The main purpose of conducting these censuses is to obtain updated information on the population in the country, with each subsequent census covering an increasing number of items of socio-economic information in addition to the basic enumeration. The census

information is used in sectoral planning by the Government as well as by the private sector and by researchers.

### *(3) Coverage*

Nationwide.

### *(4) Contents*

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

### *(5) Data Collection Procedure*

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

(6) *Tabulation and Publications*

The Department of Statistics is responsible for the tabulation and release of census results and for the

annual publication on current population estimates.

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

## 2. Vital Statistics

(1) *Background Information*

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

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

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

(2) *Purpose*

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

national basis.

(3) *Coverage*

Nationwide

(4) *Contents*

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

(5) *Data Collection Procedure*

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

(6) *Tabulation and Publications*

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

### 3. Health Statistics

#### (1) *Background Information*

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

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

- Health status
- Health resources
- Health activities.

#### (2) *Health Status*

Information on 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 col-

lected by the Ministry itself.

##### a. Purpose

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

##### b. Coverage

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

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

##### c. Data Collection Procedure

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

the Department of Statistics.

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

d. Tabulation and Publication

Annual data are published in the *HMIS Report*, the *Indicators for Monitoring and Evaluation of the Strategy for Health for All*, 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.

Data on the employment status of specific categories of personnel in the Ministry of Health (including non-medical professionals, sub-professionals, and also contract foreign medical personnel) are 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 Malaysia Plan (2001-2005), the health information system continues to receive emphasis from health management as a decision support system. Among the various programmes, some of the information systems were reviewed and further strengthened to accommodate the changing information needs of the health programmes.

The emphasis in health care delivery is gradually changing from adequacy of care to quality of care, and

this has prompted the need to upgrade the analytical skills of health personnel at all levels in using information as a management tool.

#### a. Purpose

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

#### b. Coverage

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

#### c. Contents

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

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

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

d. Data Collection Procedures

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

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

## 4. Computerization of Health Information

### (1) Background Information

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

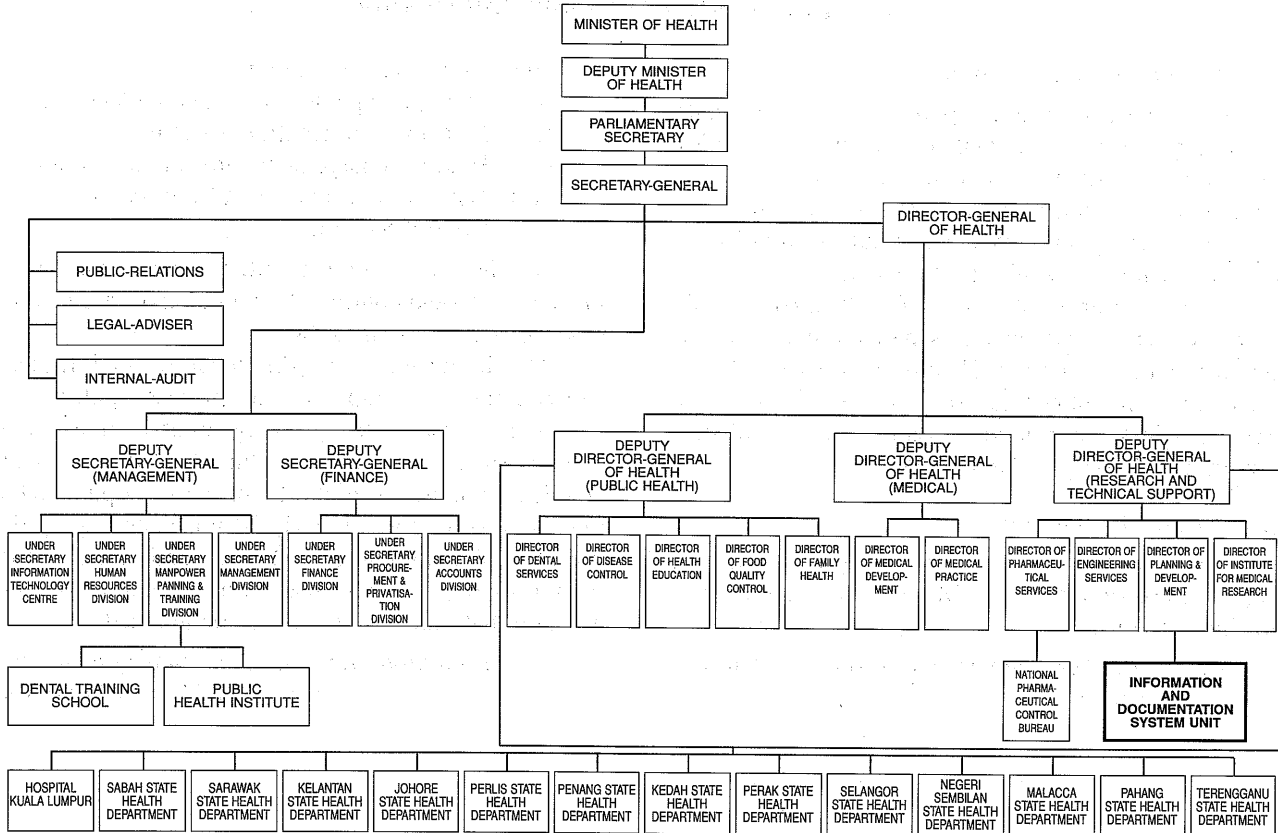
All the above projects either have been implemented fully (and continually upgraded) or are in various stages of implementation.

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

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

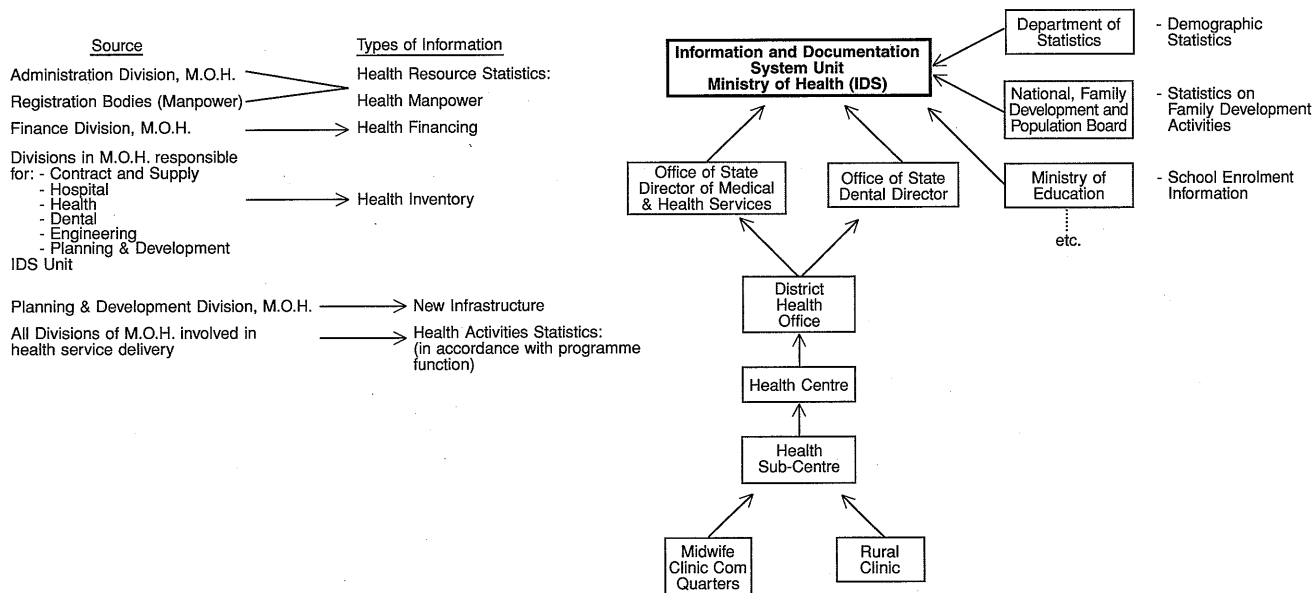
*(Information and Documentation System Unit,  
Ministry of Health Malaysia)*

## Organization Chart of the Ministry of Health, Malaysia

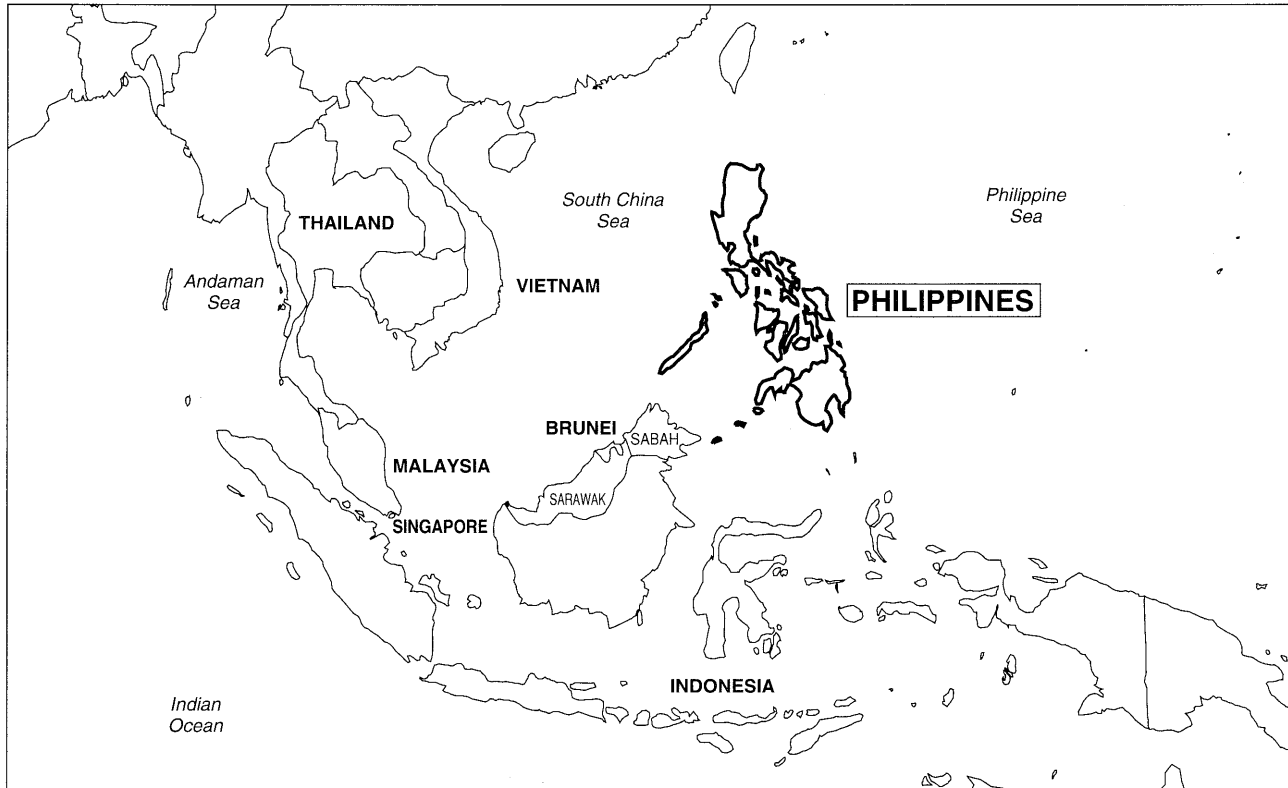




## Flow of Health and Health-Related Information, Malaysia



# The Philippines



# The Philippines

## 1. Population Statistics

### *(1) History*

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

### *(2) Purpose*

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

census.

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

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

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

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

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

(4) *Projections in the years between censuses*

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

## 2. Vital Statistics

### I. *Natality Statistics*

#### (1) *History and Operation*

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

#### (2) *Field Health Natality Reports*

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

## II. Mortality Statistics

### (1) History and Operation

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

### (2) Field Health Mortality Reports

Mortality statistics are collected by field health

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

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

## 3. Morbidity Statistics

### (1) History and Operation

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

vice.

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

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

At the end of the year, the field health offices consolidate their monthly reports into the MFHSIS Annual Form No. 2 - Notifiable Diseases Report which is submitted every January to the DOH. The report lists

the notifiable diseases occurring in their area by age and gender.

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

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

#### 4. Health Resources Statistics

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

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

1. The Bureau of Licensing and Regulation (BLR) and the Hospital Operations and Management Services (HOMS) provide data on the total number of licensed government and

private hospitals as well as the total bed capacity of each hospital.

2. The MFHSIS Annual Demographic Report - Information on the total number of Rural/Main Health Centers and Barangay Health Stations (PHCs) throughout the country are reported through the MFHSIS A-1.
3. The Professional Regulation Commission (PRC) - This agency is the source of all licensed/registered manpower in a given year

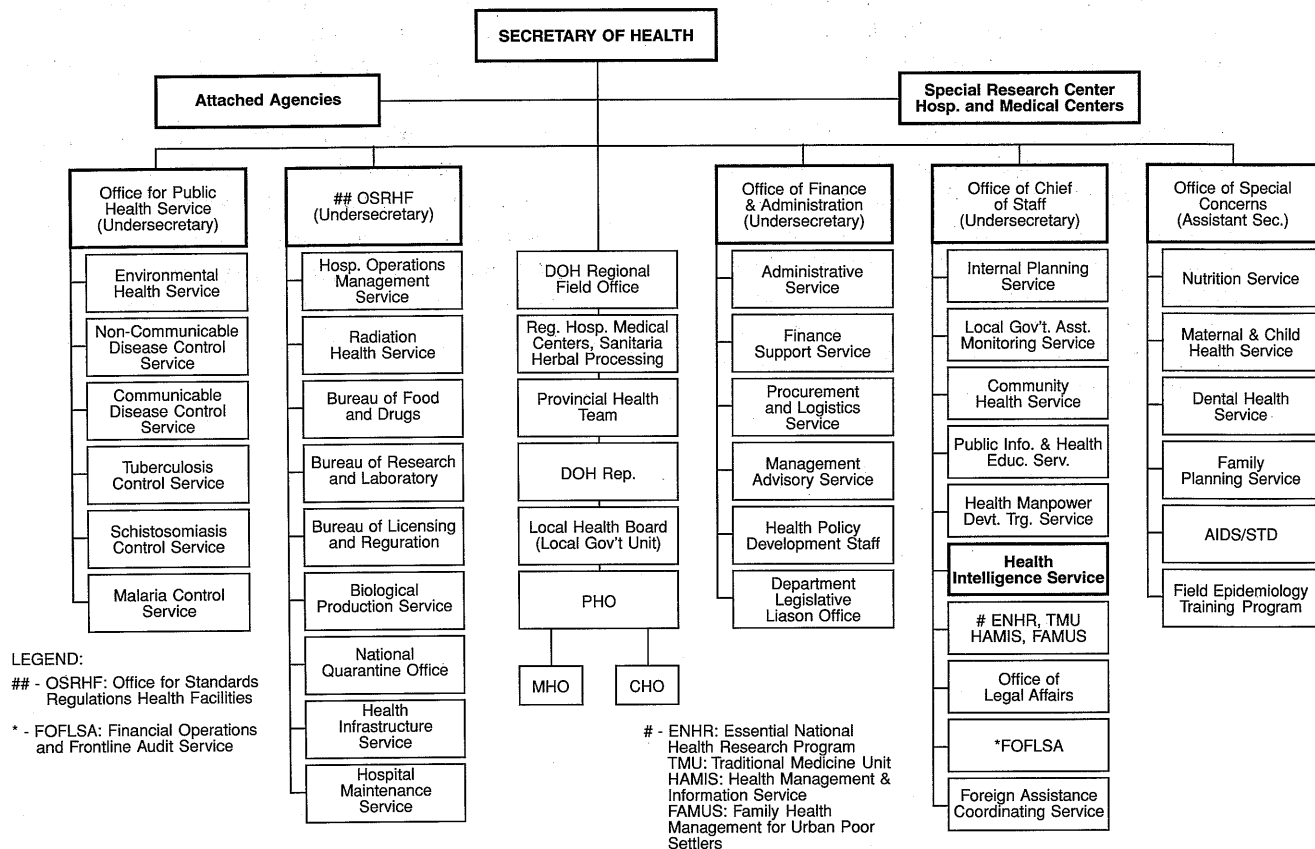
who passed different Board/Bar examinations given by the government. The data are on an annual basis with the cumulative total for each category.

4. The Administrative Division of the DOH - The Central Office and the different Regional Field Offices provide the total number of health manpower who are retained by the Department of Health. For those devolved to the local government units (LGUs), the total number of the existing health manpower is submitted through the MFHSIS on an annual basis by all Regional Field Health Offices.

5. The Community Health Service provides data on the total number of voluntary health workers and traditional birth attendants nationwide.
6. The Association of Philippines Medical Schools releases data on total number of enrolment and graduates per year.
7. The Finance Service gives information on the DOH budget on different programs and activities, procurements, supplies and equipment.

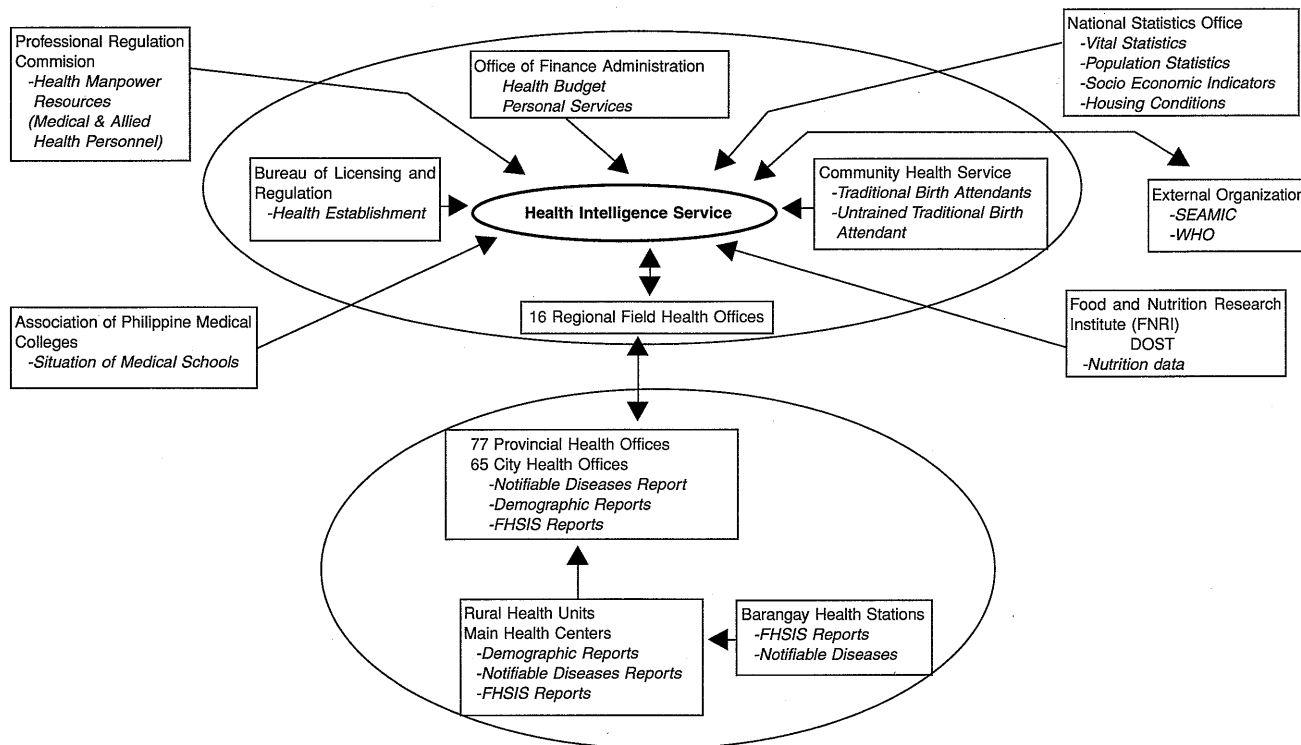
*(Health Intelligence Service, Department of Health)*

# ORGANIZATIONAL CHART OF THE DEPARTMENT OF HEALTH

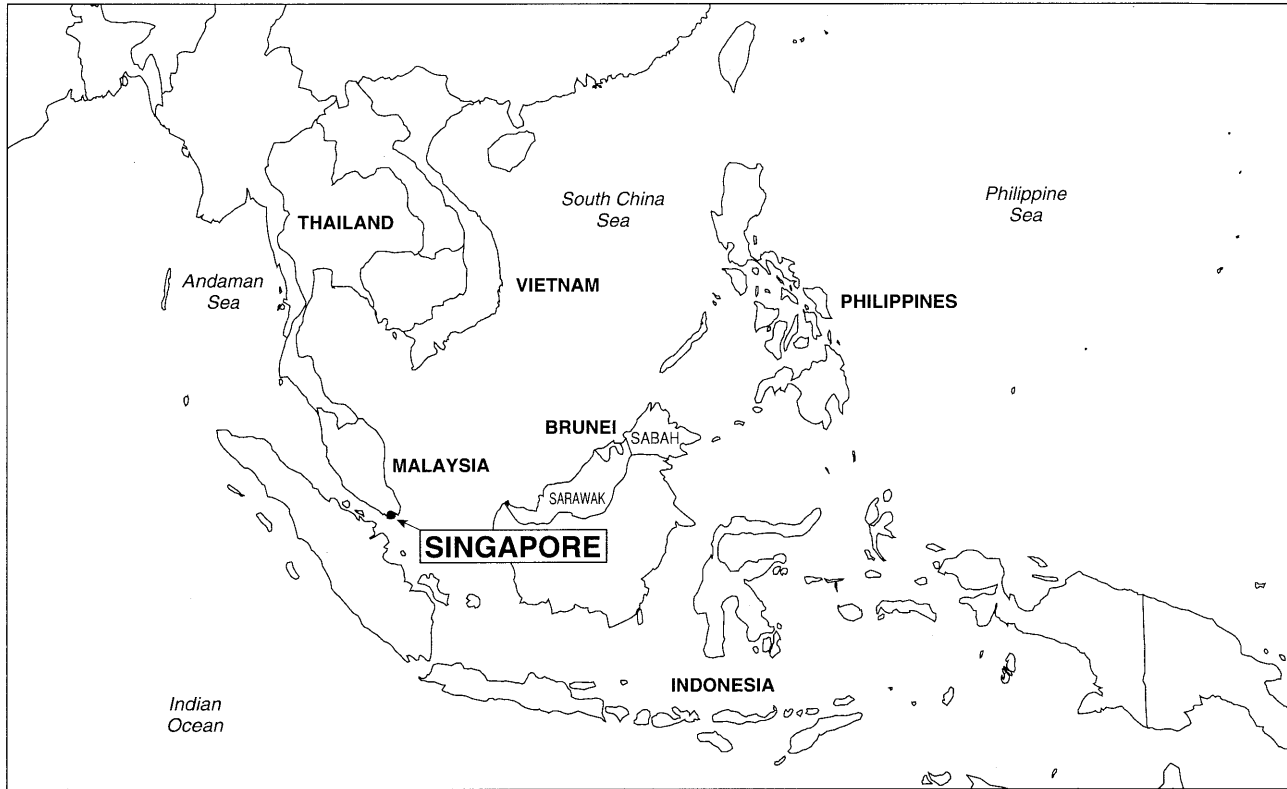




## FLOW OF HEALTH INFORMATION



# Singapore



# Singapore

## 1. Population Statistics

### (1) *Background Information*

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

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

### (2) *Purpose*

The main purpose of conducting censuses is to obtain updated information on the population situation in the country. Such data are essential for statistical analysis of changes in the population. Census information is particularly useful for planning and for evaluation of programmes such as housing, education, health, trans-

port and other social amenities, as well as for research and analysis by the Government, private corporations and individuals.

### (3) *Coverage*

The whole population of Singapore.

### (4) *Contents*

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

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

### (5) *Data Collection Procedure*

In the 1990 Population Census, a new approach was adopted. Particulars of individuals and houses which were readily available in the databases and administrative records of public authorities were 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 record errors and inconsistencies.

### (6) *Tabulation and Publication*

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

## 2. Vital Statistics

### (1) *Background Information*

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

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

years and records of vital statistics are virtually complete.

### (2) *Purpose*

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

mortality.

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

### (3) *Coverage*

The whole population of Singapore.

### (4) *Contents*

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

#### (i) Births

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

#### (ii) Deaths

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

### (5) *Data Collection Procedure*

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

### (6) *Tabulation and Publication*

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

### 3. Statistics on Notifiable Diseases

#### (1) *Background Information*

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

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

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

#### (2) *Purpose*

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

#### (3) *Coverage*

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

#### (4) *Contents*

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

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

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

#### (6) *Tabulation and Publication*

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

## 4. Morbidity Statistics

### (1) *Background Information*

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

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

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

In July 1990, the Central Claims Processing System (CCPS), an automated system, was introduced by the Ministry of Health to facilitate all public and private hospitals to submit their Universal Claims Forms (UCF) through the Singapore Network Systems. The UCF is a single electronic message that contains all information for the Medisave\*, claims for MediShield\*\* and Hospital Inpatient Discharge Summary (HIDS).

Through this system, Medisave and MediShield claims are submitted to the Central Provident Fund Board while the information from the HIDS is made available to the Ministry of Health for the processing of patient profile and disease data.

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

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

### (2) *Purpose*

The main purpose of collecting the data is to study the morbidity patterns of patients and to analyse the disease profile of patients. This helps in the plan-

ning and proper design of government and community health programmes.

(3) *Coverage*

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

(4) *Contents*

Data on hospitalized patients include:

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

For outpatients, the principal morbid condition

for which the patient is treated is recorded.

(5) *Data Collection Procedure*

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

(6) *Tabulation and Publication*

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

The statistics are processed annually.

## 5. Statistics on Occupational Diseases

(1) *Background Information*

The Department of Industrial Health in the Ministry of Labour is responsible for controlling health haz-

ards in workplaces and preventing occupational diseases. The department's inspectors, industrial hygiene staff, nurses and doctors check workplaces, investigate



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

## (2) *Purpose*

Statistics on occupational diseases are collected for the following reasons:

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

## (3) *Data Collection and Publication*

Workers suspected to have occupational disease

are referred to the Department through:

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

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

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

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

## 6. Health Service Utilization Statistics

### *(1) Background Information*

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

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

### *(2) Purpose*

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

### *(3) Coverage*

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

### *(4) Contents*

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

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

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

- e. Selected health manpower;
- f. Average hospital inpatient bill sizes;

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

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

#### (6) *Tabulation and Publication*

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

## 7. Statistics on Preventive Health Care Service

### (1) *Background Information*

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

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

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

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

### (2) *Purpose*

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

(3) *Coverage*

All pre-school and school children in Singapore.

(4) *Contents*

Data collected include:

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

(5) *Data Collection Procedure*

Data are collected from the various Family Health Service Clinics and from vaccination records

kept by the School Health Service and private practitioners as well as from the compulsory notifications of diphtheria immunization carried out in pre-school children received by the Central Immunization Registry.

(6) *Tabulation and Publication*

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

## 8. Statistics on Legalized Abortion and Sterilization

(1) *Background Information*

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

sional advice and contraceptive supplies.

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

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

1974 which further liberalized abortion and sterilization in the Republic.

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

### *(2) Purpose*

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

### *(3) Coverage*

All persons who have undergone sterilization or abortion.

### *(4) Contents*

The statistical data collected include:

- a) Number of sterilizations performed and pro-

file of persons who have undergone sterilization;

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

### *(5) Data Collection Procedure*

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

### *(6) Tabulation and Publication*

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

## 9. Health Manpower Statistics

### *(1) Background Information*

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

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

### *(2) Purpose*

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

### *(3) Coverage*

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

### *(4) Contents*

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

### *(5) Data Collection Procedure*

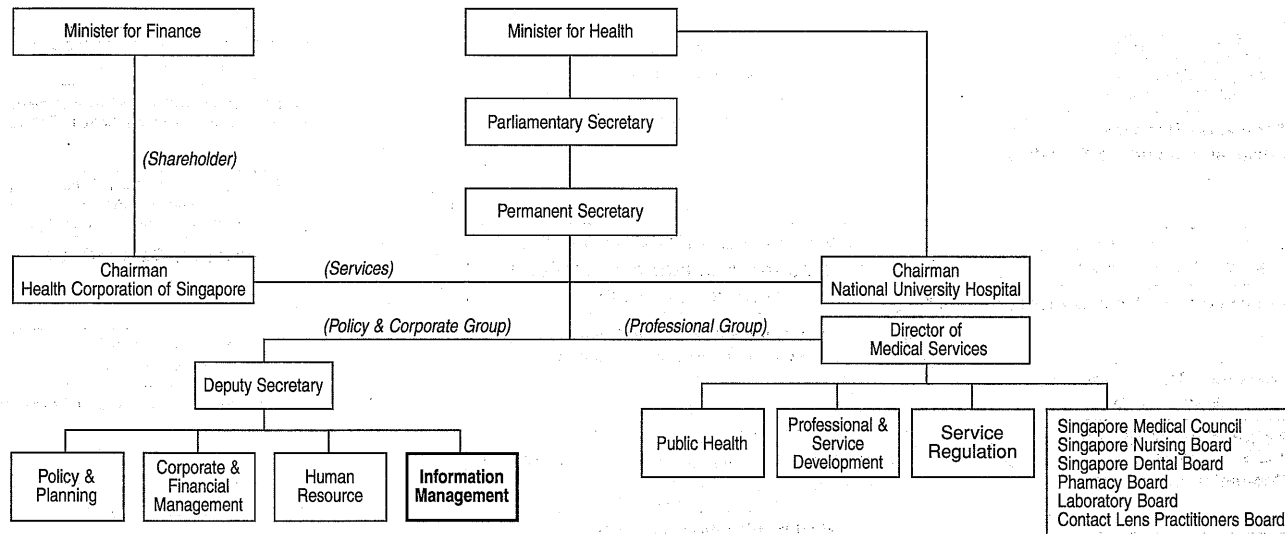
The information is obtained from the registration forms completed by the doctors, dentists, pharmacists, nurses and midwives. The manpower registers are updated annually.

### *(6) Tabulation and Publication*

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

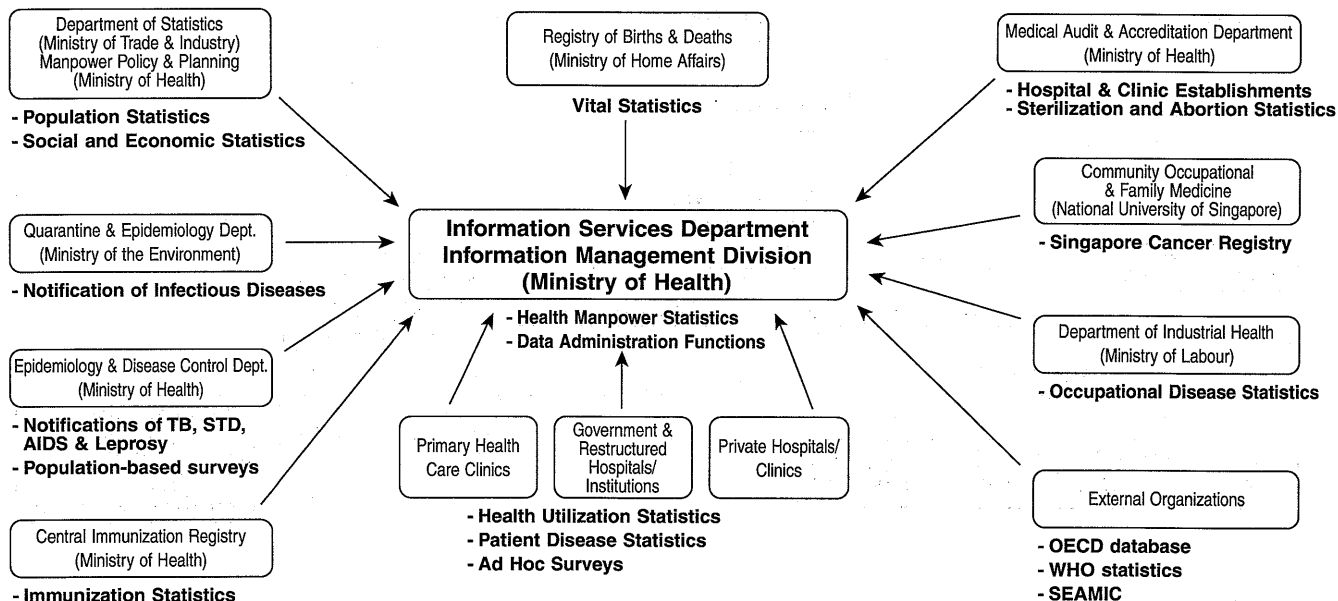
*(Information Services Department,  
Information Management Division, Ministry of Health)*

### Ministry of Health Organisation Chart, Singapore (effective 3 June 1999)



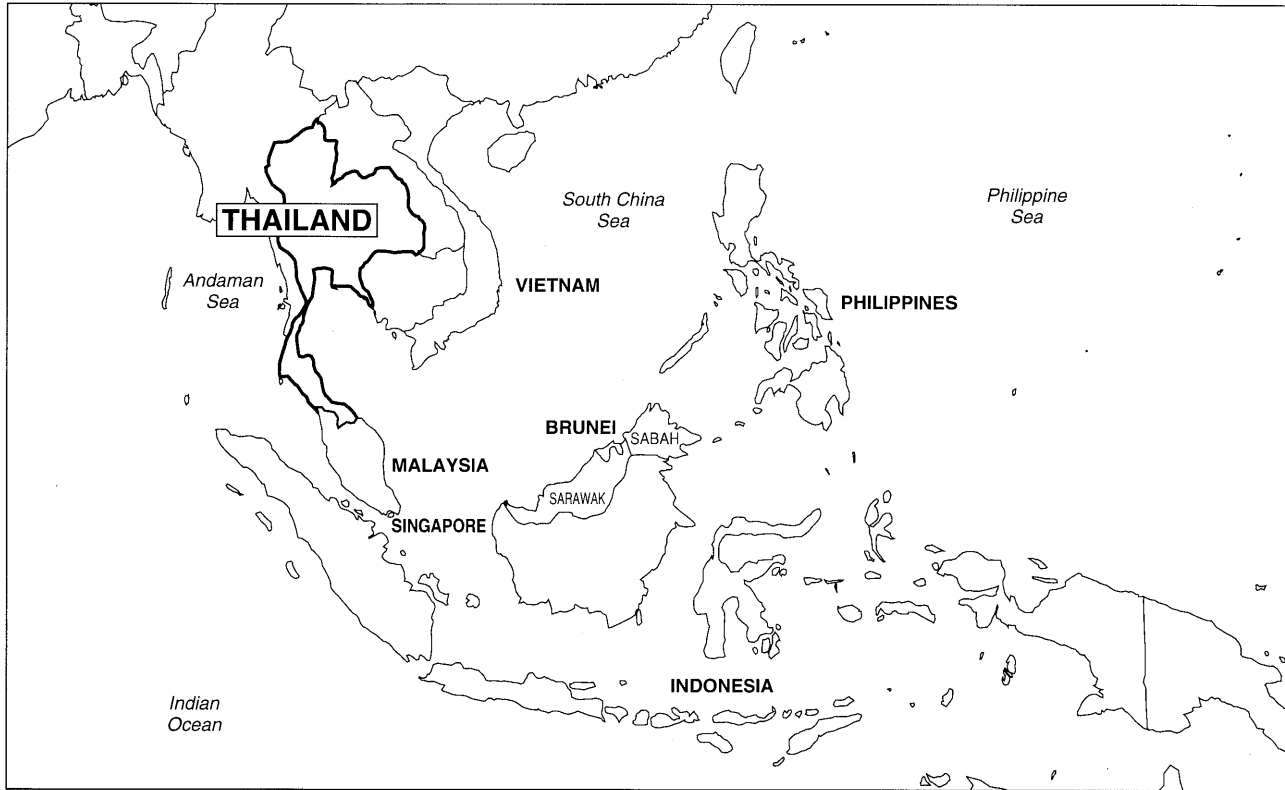
## Ministry of Health, Singapore

### Flowchart of Health & Health-Related Information





# 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 several levels: central, provincial, district, subdistrict (tambon), and village. The health care delivery systems are provided in accordance with such an organizational structure.

In order to know the relevant status of 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 (1977–1981), the 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, utilizing high technology. The validity and accuracy of the sta-

tistics and information have gradually come up to a satisfactory level, but the timeliness is still the major problem. So it is expected that with the modern technology of computerized data processing system, it will bring in more satisfaction to the users.

## 2. Population Statistics

Thailand has conducted a population census for the whole country for 9 times since 1911. At the beginning, the population census was under the responsibility of the Ministry of Interior. When the National Statistical Office was organized under the Office of the Prime Minister, the responsibility for conducting the population census was transferred from the Ministry of Interior to the National Statistical Office. The ninth

census, "Population and Housing Census 1990," was undertaken on 1 April 1990.

The main population statistics presented are put into 3 groups:

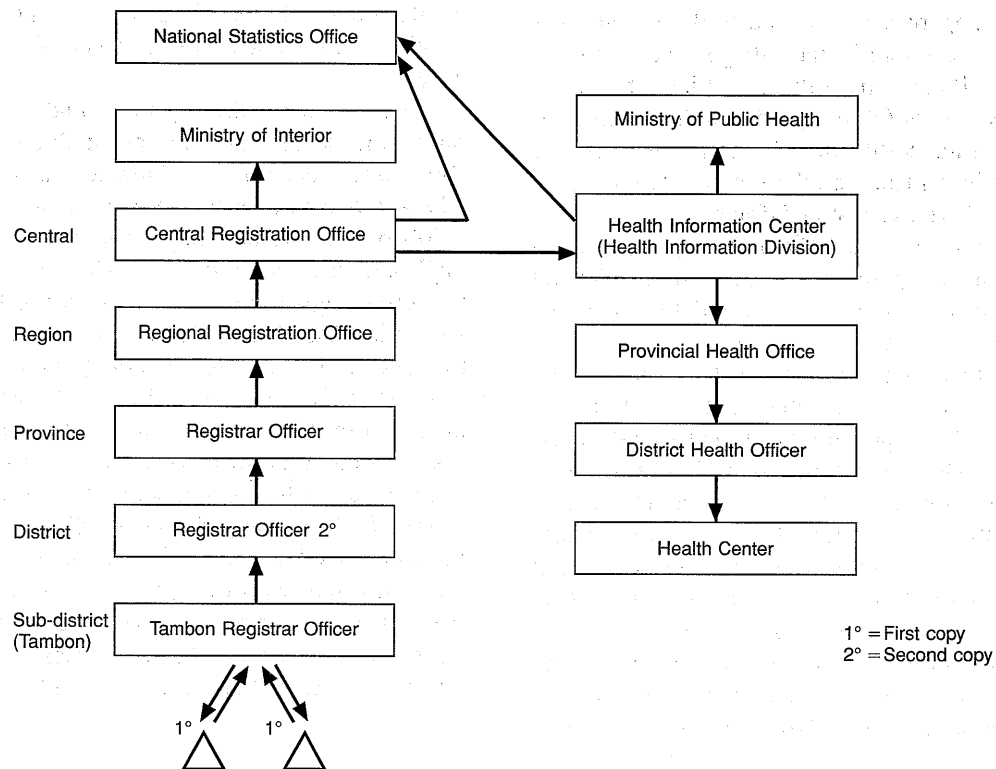
1. Census population and its components
2. Population estimates and expectation of life
3. Distribution of population

## 3. Vital Statistics

### *(1) Current System*

The Vital Registration System of Thailand is at present under the jurisdiction of the Ministry of Interior. The function of this system is compulsory and nationwide which is very essential as a source of vital

statistics. The raw data are collected through the channel of the local registrar office at the most peripheral level and are accumulated at higher levels until the data reach the central level. This system can be illustrated as follows.



## (2) *Channel of Data Collection*

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

The District Registrar Officer collects reports and certificates from all sub-districts within the district and key into database which is transferred by an online system to the Province.

The provincial database at the Provincial Registrar Office is linked to the database at the central level which is under the responsibility of the Central Registration Office, Department of Local Administration, Ministry of Interior. The data are updated all time.

The Central Information Centre or the Health Information 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 func-

tion 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.

There is a certain amount of under-registration of births and deaths. The Survey of Population Change (SPC) undertaken by the National Statistical Office in 1995–1996 estimates the crude birth rate to be 17.9 per 1,000 population as against the figures of 16.3 and 16.7 obtained for 1995 and 1996, respectively, from the civil registration system described above and shown in Table 2–1 of Part I. For the crude death rate, the SPC estimate was 6.0 per 1,000 population, as against 5.5 for 1995 and 5.9 for 1996 which were obtained from the civil registration. The under-registration of infant mortality is especially large, since many of the deaths which occur soon after birth are not registered. In the present edition, the SPC estimate of 26.1 per 1,000 live births is shown in Table 4–1 and in Figure 6, together with the SPC estimates obtained from the past surveys undertaken periodically. However, the figures obtained from the civil registration are still given in Tables 2–3 and 4–2, for the sake of continuity.

## 4. Health Statistics

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

### (1) *Health Status*

(i) Morbidity data are collected from the outpatients and inpatients in hospitals and other health institutions. The disease categorization is based on the 10th edition of the International Classification of Diseases (ICD) provided by WHO.

(ii) Epidemiological data are keyed in an electronic format for producing a weekly report which is sent by post to the Epidemiology Division, but some provinces transfer data by e-mail.

#### (iii) Tabulation and Publication

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

### (2) *Health Activities*

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

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

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

#### (ii) Coverage

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

#### (iii) Contents of report

##### a. Health care delivery

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

#### (iv) Data Collection Procedure

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

municipal areas and sent to the 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 Health 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 Minis-

try 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.

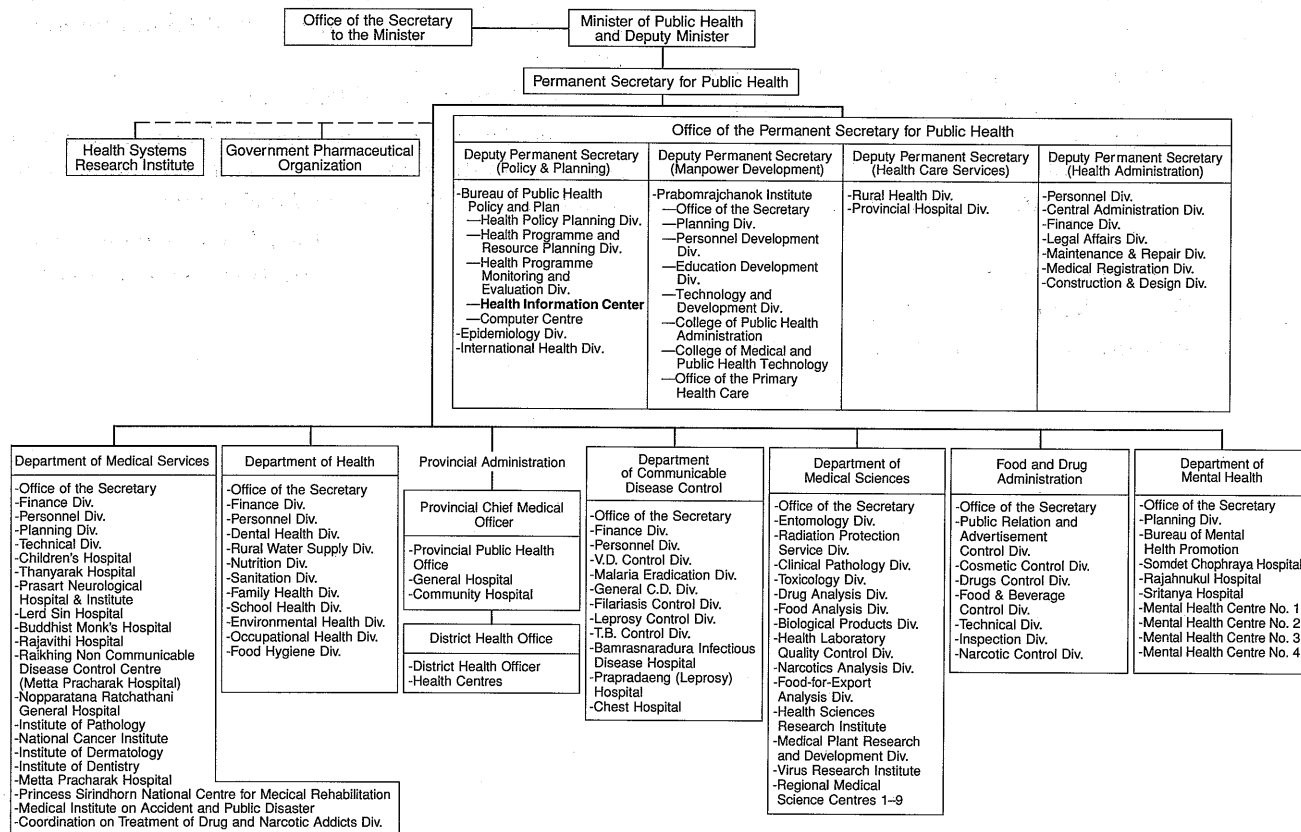
(v) Tabulation and Publication

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

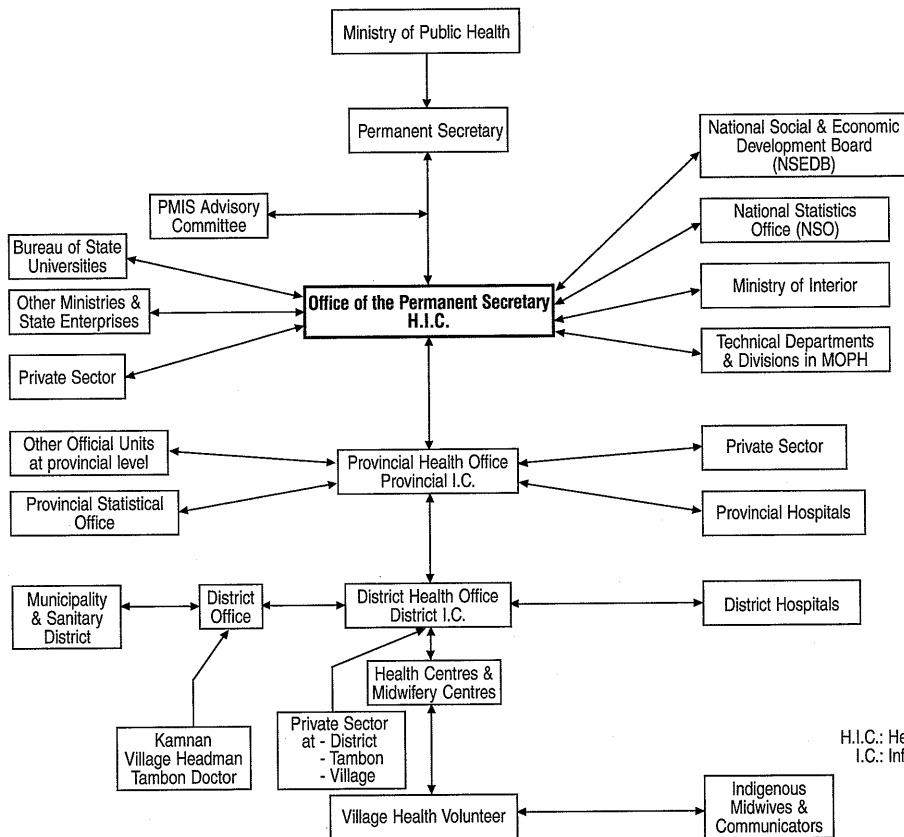
*(Health Information Centre,  
Ministry of Public Health)*



## Organization Chart, Thailand

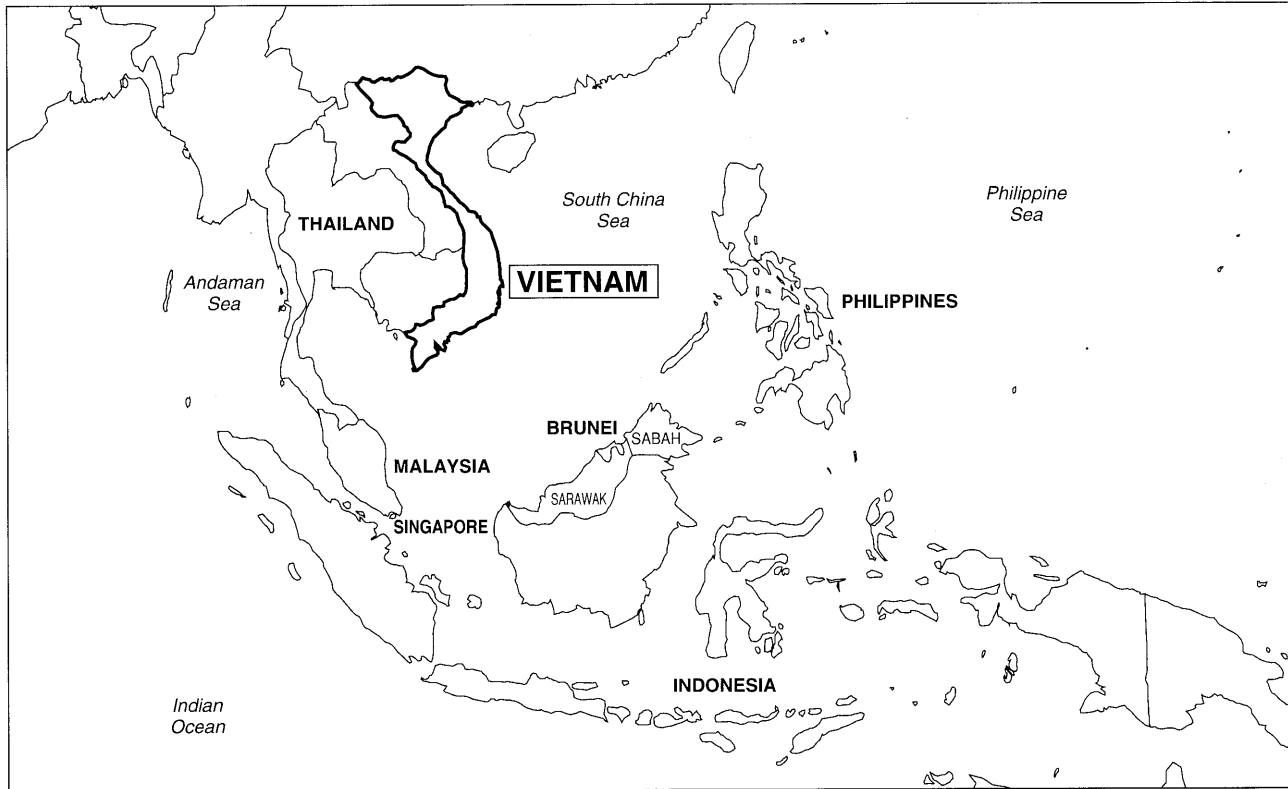


### Thailand National Health Information System Network



H.I.C.: Health Information Centre  
I.C.: Information Centre

# Vietnam



# Vietnam

## 1. Population Census

### *(1) Background information*

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

### *(2) Purpose*

The main purpose of the censuses is to obtain updated information on the population of the country. The intercensal population surveys aim at collecting information on fertility, morbidity, mortality, family planning and mother/child health care. The informa-

tion is used for making national plans as well as health plans.

### *(3) Coverage*

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

### *(4) Contents*

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

## 2. Vital Statistics

### *(1) Background information*

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

### *(2) Purpose*

The main purpose of the vital registrations is to obtain data on births, age at death and causes of death,

so that changes in the population of the country can be projected. The data are very useful for health planning, family planning and population programmes.

### *(3) Coverage*

Nationwide

### *(4) Contents*

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

## 3. Health Statistics

### **3.1. Health Management Information System (HMIS)**

#### *(1) Background information*

A major proportion of health statistics are collected by the HMIS under the Department of Planning

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

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

### *(2) Purpose*

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

### *(3) Coverage*

Nationwide

### *(4) Contents*

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

## **3.2. Hospital-Based Statistics System (HBSS)**

### *(1) Background information*

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

### *(2) Purpose*

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

### *(3) Coverage*

Nationwide

### *(4) Contents*

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

### **3.3. Statistics Systems of Vertical Health Programmes**

#### *(1) Background information*

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

tem of the programme under the programme manager concerned at the central level.

#### *(2) Purpose*

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

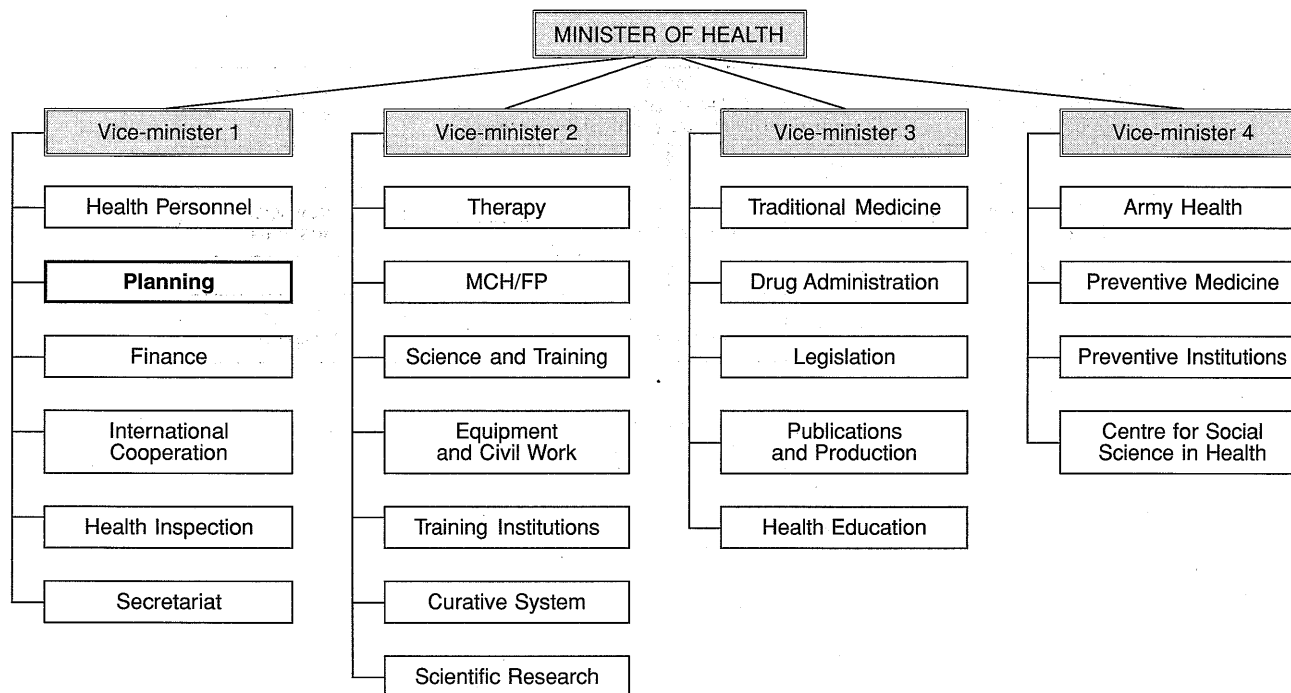
#### *(3) Coverage*

Within the coverage areas of the vertical health programmes.

#### *(4) Contents*

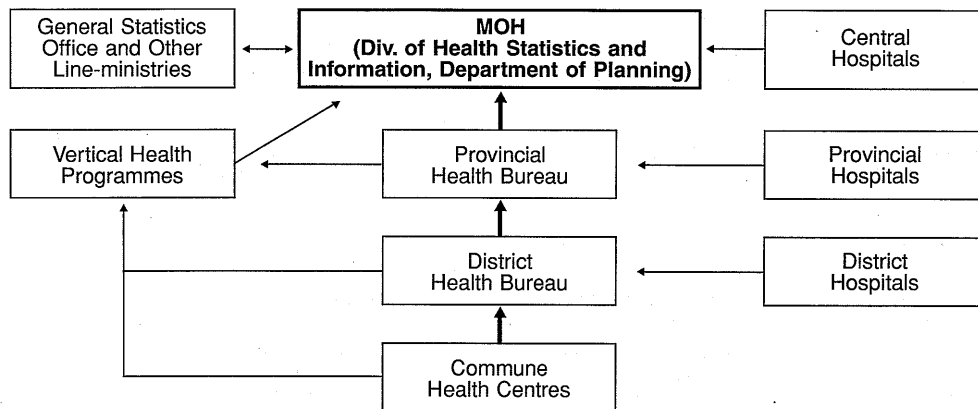
The contents depend on each programme. In general, following data are collected: coverage, programme performances (service delivery) and programme outcomes.

## Ministry of Health Organization Chart, Vietnam





# Health Management Information System Chart, Vietnam



# INDEX

## Part I

### [ a ]

abortion ..... 57, 77  
 accident(s) ..... 79  
   — caused by fire and flames ..... 57, 79  
   —, other, including late effect ..... 80  
   —, transport ..... 57, 58, 59, 60, 61, 63, 65, 66, 67, 79  
 accidental  
   — drowning and submersion ..... 57, 79  
   — fall ..... 57, 79  
   — poisoning ..... 57, 79  
 admission(s) ..... 16, 124, 130 ~ 133, 134 ~ 136  
 adverse effect ..... 79  
   — — of the medicaments in therapeutic use ... 57, 80  
 AIDS ..... 57, 59, 61, 71, 98, 102  
 amebiasis ..... 68  
 anemia ..... 57, 74  
 anthrax ..... 97  
 anus ..... 72  
 asthma ..... 57, 58, 59, 60, 77  
 atherosclerosis ..... 76

Average length of stay ..... 16, 134 ~ 136

### [ b ]

bacillary ..... 68  
 bacterial disease ..... 70  
 bed(s) ..... 124  
   —, number of ..... 128  
   — occupancy rate ..... 16, 134 ~ 136  
 bilharziasis → schistosomiasis ..... 98  
 birth(s), number of ..... 37  
 birth rate ..... 11, 28, 29, 30, 31, 32, 33, 36  
 blood and blood forming organ ..... 74  
 breast, female ..... 73  
 bronchitis ..... 57, 58, 59, 60, 76, 77  
 bronchiolitis ..... 76  
 bronchus ..... 72

### [ c ]

calcium ..... 108  
 carbohydrate ..... 108

cause of death → death, cause of  
 census, latest ..... 19  
 cerebrovascular disease ..... 57, 58, 59, 60, 61, 62  
     63, 64, 65, 66, 67, 75  
 cervix uteri ..... 73  
 chest circumference ..... 111  
 chickenpox ..... 97, 101  
 cholera ..... 68, 97, 99, 100  
 circulatory system disease ..... 75, 76  
 colon ..... 72  
 connective tissue disease ..... 78  
 congenital anomaly ..... 57, 59, 78

## [ d ]

death(s) ..... 38 (Also → mortality)  
   —, cause of ..... 12, 55 ~ 80  
   —, fetal ..... 13  
   —, infant ..... 12, 84, 85, 86  
   —, maternal ..... 13, 84, 85, 86  
   —, medically certified ..... 13, 81  
   —, neonatal ..... 13  
   —, number of ..... 28, 29, 30  
   —, post-neonatal ..... 13  
   —, perinatal ..... 13  
 death rate ..... 12, 38  
   — —, crude ..... 11, 12, 29, 30, 31, 32, 33, 34, 35, 36

dengue ..... 70, 97  
   — hemorrhagic fever ..... 70  
 density ..... 19  
 dental  
   — assistant ..... 138, 141, 143  
   — auxiliary ..... 138, 141, 143  
   — nurse ..... 138, 141, 143  
   — surgeon ..... 138, 141, 143  
   — technician ..... 138, 141, 143  
 dentist(s) ..... 16, 138, 141, 143  
   —, number of ..... 16, 150  
   —, number/percentage, by sex ..... 16, 155  
   — per 10,000 population ..... 147  
 diabetes mellitus ..... 57, 59, 60, 65, 73  
 dietitian ..... 139, 141, 145  
 digestive system disease ..... 77  
 diphtheria ..... 69, 97, 99, 101, 103  
 discharge ..... 16, 124, 130, 131, 132, 133  
 dispenser ..... 138, 141, 144  
 divorce rate, crude ..... 11, 36  
 dracontiasis ..... 98  
 dysentery, amebiasis and bacillary ..... 68, 100

## [ e ]

emphysema ..... 57, 58, 59, 60, 77  
 encephalitis ..... 102

—, mosquito-borne viral ..... 97, 99  
 endocrine disease ..... 74  
 energy ..... 107  
 entomologist ..... 140, 142, 146  
 environmental health ..... 14  
 expectation of life → life expectancy

## [ f ]

family planning ..... 92  
 fat ..... 107  
 fertility rate  
 — —, general ..... 11, 29, 36  
 — —, total ..... 31  
 filarial infection ..... 98  
 filariasis ..... 102  
 food  
 — intake ..... 107, 108  
 — poisoning ..... 100

## [ g ]

genito-urinary system disease ..... 77  
 GNP ..... 15, 120  
 gonococcal infection ..... 98, 102

## [ h ]

health

— budget ..... 121  
 — care ..... 30, 31  
 — educator ..... 140, 142, 146  
 — expenditure ..... 15, 121  
 — manpower → (specific types of manpower)  
 — personnel ..... 16  
 heart disease ..... 12, 31, 57, 58, 60, 61, 62  
 63, 64, 65, 66, 67, 75  
 height ..... 110, 112  
 hemopoietic tissue ..... 73  
 hemorrhagic fever, viral ..... 112  
 hepatitis, viral ..... 97, 101  
 HIV → AIDS  
 homicide ..... 57, 59, 66, 80  
 hospital(s) ..... 124  
 —, district ..... 135  
 —, general ..... 124, 125, 130, 134  
 —, infectious disease ..... 125, 131  
 —, leprosy ..... 125, 131  
 —, local or rural ..... 124, 125, 130  
 —, maternity ..... 125, 131, 136, 137  
 —, mental ..... 125, 130, 136  
 —, number of ..... 15, 126, 127  
 —, specialized ..... 124  
 — —, other ..... 125, 132  
 —, tuberculosis ..... 125, 132, 135

—, utilization ..... 16, 134 ~ 136  
 housing condition ..... 119  
 human resources ..... 16  
 hypertensive disease ..... 31, 57, 58, 59, 64, 65, 75

## [ i ]

ill-defined condition ..... 12, 79  
 immunization programme, diseases specified by ..... 99  
 immunized against target diseases,  
   percentage of infants ..... 103  
 infection  
   —, intestinal ..... 97  
   —, lower respiratory tract ..... 61  
   —, upper respiratory ..... 76  
 infectious disease ..... 14, 68, 71  
 influenza ..... 12, 57, 58, 59, 60, 61, 62  
   64, 65, 66, 67, 76, 98  
   — (grippe) ..... 101  
 injury  
   —, self-inflicted ..... 57, 58, 59, 62, 65, 80  
   — inflicted by other persons ..... 57, 59, 66, 80  
 iron ..... 108  
 intestinal infectious disease ..... 12, 57, 59, 61, 63, 69  
 ischemic heart disease ..... 74

## [ l ]

labour force participation rate ..... 15, 116  
 leukemia ..... 73  
 leprosy ..... 97, 100  
 leptospirosis ..... 98  
 life, expectation of → life expectancy  
 life expectancy ..... 12, 30, 31, 32, 40  
 lighting ..... 119  
 literacy rate ..... 15, 120  
 live-birth → birth  
 live-birth rate → birth rate  
 liver ..... 70  
   — cirrhosis ..... 57, 59, 77  
   — disease, chronic ..... 57, 59, 66, 77  
 lung ..... 72  
 lymphatic tissue ..... 73

## [ m ]

malaria ..... 71, 98, 101  
 malaria field officer ..... 140, 142, 146  
 malignant neoplasm ..... 12, 57, 58, 59, 60, 61  
   62, 63, 64, 65, 66, 72  
   (Also → specific sites)  
   — —, other sites ..... 73  
 marriage rate, crude ..... 11, 29, 38  
 measles ..... 70, 97, 99, 101, 104

medical assistant(s) ..... 138, 141, 143  
     — — per 100,000 population ..... 147  
 medical establishments ..... 15, 125  
 medical laboratory technician ..... 139, 141, 145  
     — — —, assistant ..... 139, 141, 145  
 medical personnel  
     — —, comparative table on ..... 141 ~ 142  
     — —, definition of ..... 138 ~ 140  
 medical school ..... 16, 155  
 meningococcal infection ..... 57, 69, 97, 101  
 meningitis ..... 74  
     —, viral ..... 102  
 mental disorder ..... 74  
 metabolic disease ..... 74  
 midwife(ves) ..... 16  
     —, assistant ..... 138, 141, 144  
     —, auxiliary ..... 138, 141, 144  
     —, number of ..... 16, 152  
     —, professional ..... 138, 141, 144  
 morbidity ..... 14, 100 ~ 102  
 mortality (Also → death; death rate)  
     —, general ..... 37  
     —, infant ..... 84, 85, 86, 87, 88  
     —, fetal ..... 13, 87  
     —, maternal ..... 13, 84, 85, 86  
     —, neonatal ..... 13, 87

    —, perinatal ..... 13, 87  
     —, post-neonatal ..... 13, 87  
 mortality rate ..... 30  
     — —, infant ..... 12, 13, 36, 84  
     — —, maternal ..... 13, 84, 90  
 mumps ..... 98, 99, 102  
 musculoskeletal system disease ..... 78  
 myocardial infarction ..... 12, 75

## [ n ]

natality ..... 12, 37 (Also → live-birth; live-birth rate)  
 natural increase ..... 12, 37  
 nephritis ..... 57, 59, 66, 77  
 nephrosis ..... 57, 59, 66, 77  
 nephrotic syndrome ..... 57, 59, 66, 77  
 notifiable diseases, list of ..... 97, 98  
 nurse(s) ..... 16  
     —, assistant ..... 139, 141, 145  
     —, auxiliary ..... 139, 141, 145  
     —, number of ..... 16, 153  
     —, professional ..... 139, 141, 145  
 nursing and midwifery personnel  
     per 100,000 population ..... 147  
 nursing personnel per 10,000 population ..... 147  
 nutrition ..... 14  
 nutritional deficiency ..... 74

nutritionist ..... 139, 141, 145

## [o]

obstetric cause

— —, direct ..... 78

— —, indirect ..... 57, 78

occupational therapist ..... 139, 141, 145

## [p]

parasitic disease ..... 68, 71

paratyphoid fever ..... 68, 97, 99, 100

patient days ..... 124, 130, 131, 132, 133

perinatal

— period ..... 57, 58, 59, 60, 61, 63, 64, 67, 78

pertussis ..... 103

pharmaceutical assistant ..... 138, 141, 144

pharmacist(s) ..... 16, 138, 141, 144

—, number of ..... 16, 149

—, —, by sex ..... 16, 155

— per 100,000 population ..... 147

PHC facility → primary health care facility

physical therapist ..... 139, 141, 145

physician(s) ..... 16, 138, 141, 143

—, number of ..... 16, 148

—, —, by sex ..... 16, 155

— per 100,000 population ..... 147

physiotherapist ..... 139, 141, 145

plague ..... 97

pneumonia ..... 12, 57, 58, 59, 60, 61

62, 64, 65, 66, 67, 76

poisoning ..... 57, 58, 62, 79

poliomyelitis ..... 99, 103

—, acute ..... 57, 70, 97, 102

population ..... 11, 19, 28 ~ 31

— increase ..... 19

—, mid-year ..... 20

—, urban ..... 26

— projection ..... 21

population by age and sex ..... 22 ~ 23

population per

— — dentist ..... 147

— — medical assistant ..... 147

— — nursing personnel ..... 147

— — nursing & midwifery personnel ..... 147

— — pharmacist ..... 147

— — physician ..... 147

prenatal care, women receiving ..... 93

primary health care facility ..... 124, 125, 132, 133

protein ..... 107

## [r]

rabies ..... 70, 97, 101

radiographer ..... 139, 141, 146  
   —, assistant..... 139, 142, 146  
 rectosigmoid junction ..... 72  
 rectum ..... 72  
 relapsing fever ..... 98  
 respiratory infection, upper ..... 57, 76  
 respiratory system disease ..... 77  
 rheumatic  
   — fever..... 75  
   — heart disease ..... 75  
 rubella ..... 99, 102

## [ s ]

safe water ..... 14, 119  
 salmonella infection ..... 97  
 sanitarian..... 139, 142, 146  
   —, assistant..... 139, 142, 146  
 sanitary  
   — engineer ..... 139, 142, 146  
   — toilet ..... 14, 15, 119  
 scarlet fever ..... 97  
 schistosomiasis ..... 98, 102  
 senility ..... 12, 62, 79  
 sense organs, disease of ..... 75  
 septicemia ..... 57, 58, 63, 66, 69  
 shigellosis ..... 97

skin and subcutaneous disease ..... 80  
 smoking  
   — prevalence ..... 122  
   —, rate..... 15  
 social worker, medical ..... 139, 141, 145  
 socio-economic  
   —, situation ..... 14  
   —, indicator ..... 15, 120  
 stomach ..... 72  
 streptococcal sore throat ..... 97  
 suicide ..... 57, 58, 59, 60, 65, 80  
 surface area ..... 19  
 survivor..... 12, 44  
 syphilis ..... 102  
   —, congenital ..... 98

## [ t ]

tetanus ..... 57, 69, 97, 99, 101, 103  
 trachea ..... 72  
 traditional birth attendant, trained ..... 138, 141, 144  
   — —, untrained ..... 138, 141, 144  
 trichinosis ..... 98  
 tuberculosis ..... 57, 58, 61, 64, 67, 97, 99, 100, 103  
   —, other forms ..... 69  
   —, respiratory system ..... 69  
 typhoid fever ..... 68, 97, 99, 100



typhus, other ..... 98

**[ u ]**

ulcer, stomach and duodenum ..... 77

uterus ..... 73

**[ v ]**

venereal disease ..... 71, 98, 102

veterinarian ..... 138, 141, 144

veterinary

— assistant ..... 138, 141, 144

— surgeons ..... 138, 141, 144

violence ..... 80

viral disease ..... 71

vitamin A, B<sub>1</sub>, B<sub>2</sub>, C ..... 108

vital statistics, trend of ..... 11, 28

voluntary health worker ..... 139, 141, 145

**[ w ]**

weight ..... 110, 114

whooping cough ..... 57, 69, 97, 99, 101

**[ Y ]**

yaws ..... 98

yellow fever ..... 97, 99

## Part II

## [ b ]

birth registration → vital registration

## [ c ]

civil registration → vital registration

consortium of health sciences in Indonesia ..... 177

## [ d ]

death registration → vital registration

## [ e ]

epidemic and communicable diseases

(Also → notifiable disease statistics)

—— report in Indonesia ..... 172ff

epidemiological surveillance

(Also → notifiable disease statistics)

—— scheme in Thailand ..... 249

## [ f ]

family registration system in Japan ..... 185ff

family planning statistics in Singapore ..... 238

food balance sheet for Indonesia ..... 173ff

## [ h ]

health activities statistics

—— Brunei Darussalam ..... 164

—— Japan ..... 192ff

—— Malaysia ..... 211ff

—— Singapore ..... 237ff

—— Thailand ..... 249ff

—— Vietnam ..... 258ff

health care institutions statistics on

(Also → hospital statistics)

—— Japan ..... 192ff

—— Malaysia ..... 209ff

—— Singapore ..... 236ff

—— Thailand ..... 250ff

—— Vietnam ..... 258ff

health manpower statistics

—— Brunei Darussalam ..... 165

—— Indonesia ..... 176ff

—— Japan ..... 201ff

—— Malaysia ..... 210ff

—— Singapore ..... 240ff

—— Thailand ..... 250ff

health personnel statistics → health manpower statistics

health programme performance

monitoring in Malaysia ..... 211ff

health resources → health manpower;  
health care institutions

health service utilization statistics

(Also → health care institutions; hospital statistics)

—— Singapore ..... 236ff

health survey in Indonesia ..... 173ff

hospital (performance) statistics

—— Brunei Darussalam ..... 164

—— Indonesia ..... 176

—— Japan ..... 195 ~ 200

—— Malaysia ..... 209ff

—— Singapore ..... 236ff

—— Thailand ..... 250ff

—— Vietnam ..... 259

housing statistics

—— Brunei Darussalam ..... 161ff

—— Indonesia ..... 171

—— Japan ..... 184

—— Philippines ..... 219

—— Singapore ..... 229ff

## [ i ]

infectious disease surveillance → notifiable disease  
statistics

## [ l ]

living conditions survey in Japan ..... 194ff

## [ m ]

medical care institutions → health care institutions

monitoring system in Brunei Darussalam ..... 165

morbidity statistics

—— Brunei Darussalam ..... 163

—— Indonesia ..... 172ff

—— Japan ..... 187 ~ 190

—— Malaysia ..... 207ff

—— Philippines ..... 221ff

—— Singapore ..... 233ff

—— Thailand ..... 249ff

—— Vietnam ..... 259

mortality statistics → vital registration

## [ n ]

national nutrition survey in Japan ..... 190ff

notifiable disease statistics

—— Brunei Darussalam ..... 163ff

—— Indonesia ..... 172ff

—— Japan ..... 187ff

—— Malaysia ..... 211ff

—— Philippines ..... 221ff

—— Singapore ..... 232ff

—— Thailand ..... 249ff

## [ o ]

occupational diseases statistics in Singapore ..... 234ff

**[ p ]**

patient survey in Japan .....	189ff
population census	
—— Brunei Darussalam .....	161ff
—— Indonesia .....	171
—— Japan .....	183ff
—— Malaysia .....	207ff
—— Philippines .....	219ff
—— Singapore .....	229ff
—— Thailand .....	246
—— Vietnam .....	257
population survey in Indonesia, intercensal .....	171ff
preventive health care service statistics	
in Singapore .....	237ff
public health statistics in Brunei Darussalam .....	164ff
public health administration services, Japan	
statistical report on .....	190ff

**[ s ]**

socio-economic survey in Indonesia .....	175
--	-----

**[ v ]**

vertical health programmes in Vietnam,	
statistics system of .....	260
vital registration	
—— Brunei Darussalam .....	162ff
—— Indonesia .....	171
—— Japan .....	185ff
—— Malaysia .....	208ff
—— Philippines .....	220ff
—— Singapore .....	230ff
—— Thailand .....	246ff
—— Vietnam .....	257
vital statistics → vital registration	

# Appendix

## List of Organizations Related to Health Statistics

### BRUNEI

Ministry of Health

Bandar Seri Begawan 1210  
Negara Brunei Darussalam

### INDONESIA

Centre for Health Data  
Ministry of Health (Departmen Kesehatan)

Jalan H.R. Rasuna Said Kav. X 4-9, Jakarta

Directorate-General of Communicable Diseases Control  
Ministry of Health

Jalan Percetakan Negara 29  
P.O. Box 223, Jakarta

Central Bureau of Statistics

Jalan Dr. Sutomo No. 8  
P.O. Box 3, Jakarta

### JAPAN

Statistics and Information Department  
Ministry of Health and Welfare

2-3, Kasumigaseki 1-chome, Chiyoda-ku,  
Tokyo 100-0013

Communicable Diseases Surveillance Division  
Health Service Bureau, Ministry of Health and Welfare

2-2, Kasumigaseki 1-chome, Chiyoda-ku,  
Tokyo 100-8045

Statistics Bureau, the Management and  
Coordination Agency

19-1, Wakamatsu-cho, Shinjuku-ku,  
Tokyo 162-8668

### MALAYSIA

Information & Documentation System Unit  
Ministry of Health (Kementarian Kesihatan)

TKT. 10, Bangunan Perkim, Jalan Ipoh, 51200  
Kuala Lumpur

Department of Statistics

Kuala Lumpur  
Kota Kinabalu, Sabah  
Kuching, Sarawak

**PHILIPPINES**

Health Intelligence Service, Department of Health

National Statistical Coordination Board

San Lazaro Compound, Rizal Avenue, Manila  
P.O. Box 1116, Manila

21F Midland Buendia Bldg. 403 Sen. Gil Puyaf  
Ave., Makati

**SINGAPORE**

Information Services Department, Information Management  
Division, Ministry of Health

Joint Co-ordinating Committee on Epidemic Diseases

Department of Statistics

College of Medicine Bldg., 16 College Road,  
Singapore 169854

College of Medicine Bldg., 16 College Road,  
Singapore 169854

100 High Street, #05-01, The Treasury  
Singapore 179434

**THAILAND**

Health Information Division, Ministry of Public Health

Epidemiology Division, Ministry of Public Health

National Statistical Office, Office for the Prime Minister

Tivanond Road, Nonthaburi 11000

Tivanond Road, Nonthaburi 11000

Lanlaung Road, Khate Pomprab, Bangkok 10100

**VIETNAM**

Department of Planning, Ministry of Health

138A Giang Vo Street, Hanoi

**WHO**

WHO Regional Office for the Western Pacific

United Nations Avenue, P.O. Box 2932,  
12115, Manila, The Philippines

WHO Regional Office for South-East Asia

World Health House, New Delhi  
110002, India

## Corrigenda for *SEAMIC Health Statistics 1998*

Table 2-4	p. 33	JAPAN	Natality (live-born), Number: Male <b>610,905</b> , Female <b>580,760</b> Mortality, Number: Male <b>497,796</b>
Table 3-1	p. 55	SINGAPORE	Conditions excluded from the denominator <sup>b)</sup> (% of all deaths): <b>0.2</b>
Table 3-2	p. 59	MALAYSIA	1995, No. 5: Septicemia <b>6.1</b>
Table 4-1	p. 81	JAPAN	Late Fetal Mortality, Number: <b>3,378</b> , Rate: <b>2.8</b> Perinatal Mortality, Number: <b>5,685</b> , Rate: <b>4.8</b>
Table 4-2	p. 82	SINGAPORE	Number, Total: T <sup>b)</sup> <b>179</b>
Table 5-1	p. 94	JAPAN	003, 005/A02, A04, A05 Food Poisoning (Bacterial): <b>29,104</b>
Table 7-2	p. 114	JAPAN	Labour Force Participation Rate (%), Year: <b>1997</b>
Table 8-3	p. 126	JAPAN	7 Tuberculosis Hospitals, Beds: <b>420</b>
"	p. 127	JAPAN	12 Total, Beds: <b>1,900,555</b>
Table 8-4	p. 128	JAPAN	General Hospitals Bed Occupancy Rate (%): <b>81.9</b> Average Length of Stay (Days): <b>35.5</b>
Table 9-1	p. 137	SINGAPORE	5. Dental Assistants/Dental Auxiliaries: <b>21</b>
"	p. 138	SINGAPORE	8. Pharmaceutical Assistants/Dispensers: <b>191</b>
Table 9-3	p. 142	SINGAPORE	1985: <b>2,631</b>