



**MINISTRY OF HEALTH
BRUNEI DARUSSALAM**

HEALTH INFORMATION BOOKLET 2008

**DEPARTMENT OF POLICY AND PLANNING
MINISTRY OF HEALTH
BRUNEI DARUSSALAM**

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PREFACE

Bismillahir Rahmahirrahim.

'*Together Towards a Healthy Nation*' is the new vision of the Ministry of Health, in line with 'Wawasan Brunei 2035' that emphasized in strengthening the health care system to ensure efficient and high quality health services in Brunei Darussalam.

In an effort towards ensuring efficient health services, the Ministry of Health recognises the importance of the ongoing development and publication of health statistical information to support evidence-based decision making and planning. Amongst others, it also serves as a means for monitoring improvement of the health status of the population in Brunei Darussalam.

Health Information Booklet (HIB) 2008, the thirteenth edition, has expanded its content with the inclusion of information on Health Centre Outpatient Morbidity. The Department of Policy and Planning with the cooperation of the relevant department will continue to focus on improving the quality of subsequent publications and thus enhancing value to users.

I wish to acknowledge with gratitude the cooperation extended by the relevant departments under the Prime Minister's Office, Ministry of Finance, Ministry of Home Affairs, Ministry of Communication, and Ministry of Health in providing the information for this publication.

HAJAH FATMAH BINTI PJDSMDSU (DR) HAJI MD JAMIL
Director of Policy and Planning
Ministry of Health
Negara Brunei Darussalam



ORGANISATION STRUCTURE

MINISTER OF HEALTH
Pehin Orang Kaya Indera Pahlawan
Dato Seri Setia Awang Haji Suyoi bin Haji Osman

DEPUTY MINISTER OF HEALTH
Pehin Orang Kaya Pekerma Laila Diraja
Dato Paduka Awang Haji Hazair bin Haji Abdullah

PERMANENT SECRETARY
Dato Paduka Haji Abdul Salam bin Abd Momin

**DEPUTY PERMANENT SECRETARY
(PROFESSIONAL AND TECHNICAL)**
Datin Paduka Dr Hj Intan bte Hj Mohd Salleh

**DEPUTY PERMANENT SECRETARY
(ADMINISTRATION AND FINANCE)**
Awang Haji Rosli bin Haji Mustafa

GENERAL DIRECTOR

DIRECTOR-GENERAL OF MEDICAL SERVICES

- HOSPITAL SERVICES
- NURSING SERVICES
- PHARMACEUTICAL SERVICES
- CLINICAL LABORATORY SERVICES
- DENTAL SERVICES
- RENAL SERVICES

DIRECTOR OF HEALTH CARE TECHNOLOGY SERVICES

- RISK MANAGEMENT CENTRE
- HEALTH INFORMATICS
- BIOMEDICAL ENGINEERING AND MEDICAL PHYSICS

DIRECTOR OF POLICY AND PLANNING

- PUBLIC RELATIONS
- INTERNATIONAL AFFAIRS
- RESEARCH AND DEVELOPMENT
* STATISTICS UNIT
- QUALITY IMPROVEMENT
- LEGISLATION

DIRECTOR OF ADMINISTRATION AND FINANCE

- HUMAN RESOURCE MANAGEMENT
- HUMAN RESOURCE DEVELOPMENT
- PROCUREMENT AND SUPPLY
- FINANCE AND ACCOUNT

DIRECTOR OF ESTATE MANAGEMENT

- BUILDING ENGINEERING AND VEHICLE SERVICES
- PROJECT DEVELOPMENT

DIRECTOR-GENERAL OF HEALTH SERVICES

- COMMUNITY HEALTH SERVICES
- SCIENTIFIC SERVICES
- ENVIRONMENTAL HEALTH SERVICES

GEOGRAPHY

Brunei Darussalam is located in South-East Asia on the northwest coast of the island of Borneo facing the South China Sea and lies about 443km north of the equator. With a land area of 5,765 square kilometres, Brunei Darussalam is bounded on all sides by the Malaysian state of Sarawak which splits Brunei into two parts; the western part consisting of Brunei-Muara, Tutong and Belait districts while the eastern part is the Temburong district.

CAPITAL	:	BANDAR SERI BEGAWAN
DISTRICTS	:	4
MUKIMS	:	39
KAMPONGS / LOCALITY	:	430
HOUSEHOLDS	:	55,696 (2001 Census)
AV. NO. PERSONS PER HOUSEHOLD	:	6.0



DEMOGRAPHY

Brunei Darussalam conducts population census every 10 years. The latest census was done in 2001.

Estimated Population (2008) :

Total	:	398.0 Thousands
Male	:	211.0 Thousands
Female	:	187.0 Thousands
Sex Ratio (M / 100F)	:	113
Persons / sq.km	:	69
Annual rate of increase	:	2.1%

Age Structure :

0 - 4	:	8.8%
5 - 19	:	26.5%
20 - 54	:	57.1%
55 - 64	:	4.3%
65 & Over	:	3.3%

Race :

Malay *	:	66.6%
Chinese	:	11.0%
Others	:	22.4%

District :

Brunei-Muara	:	69.5%
Belaït	:	16.6%
Tutong	:	11.4%
Temburong	:	2.5%

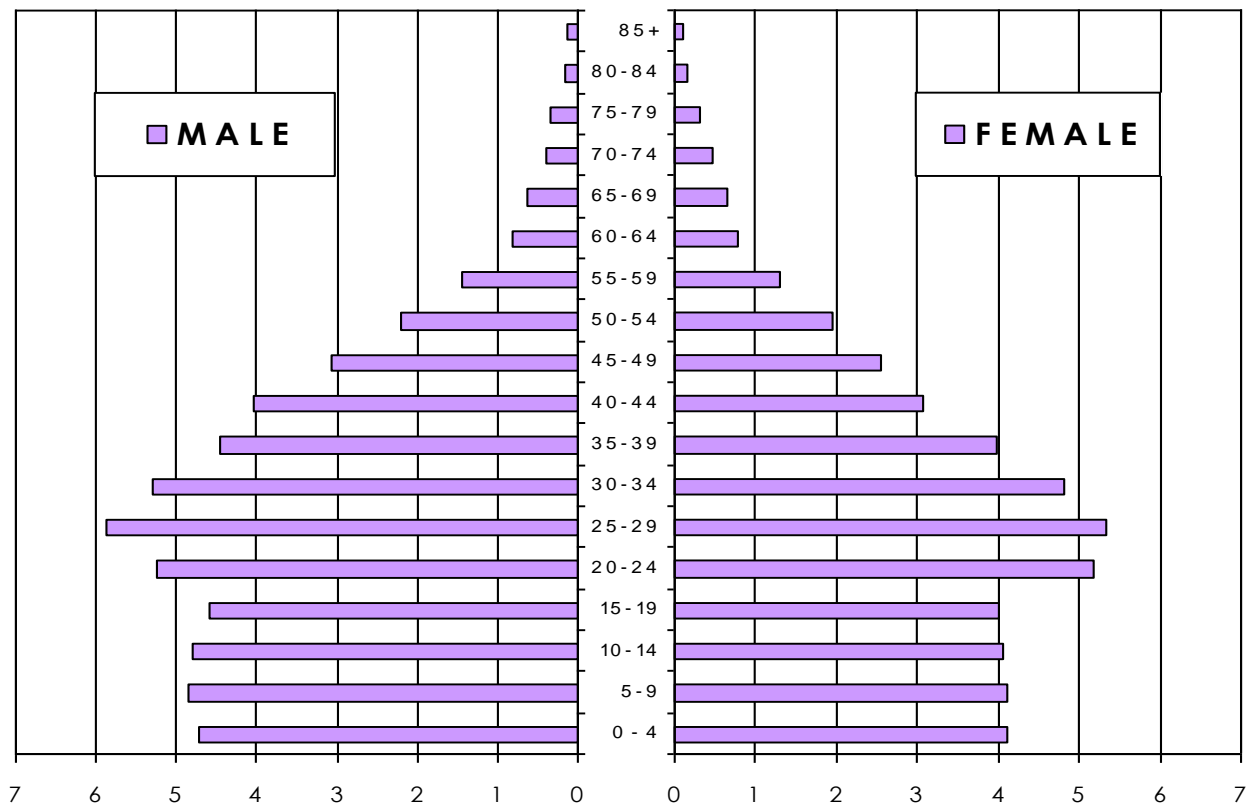
Note :

* - Including Other Indigenous Groups of the Malay race namely Belaït, Bisaya, Brunei, Dusun, Kedayan, Murut or Tutong.

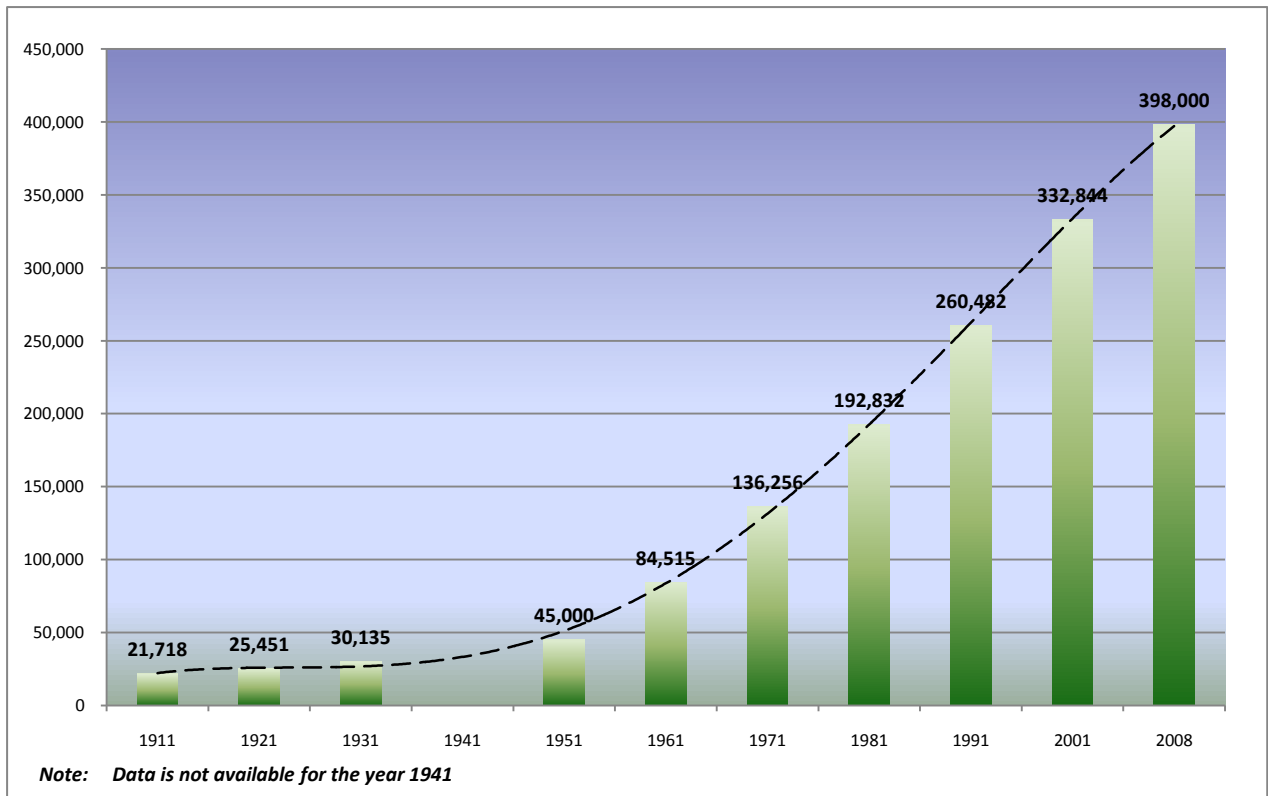
Source :

Department of Economic Planning & Development, Prime Minister's Office

POPULATION PYRAMID (2008)



POPULATION TREND OF BRUNEI DARUSSALAM (1911 - 2008)



VITAL STATISTICS

	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
Crude Birth Rate (per 1,000 Popn.) :	19.9	18.7	17.0	16.2	16.1
General Fertility Rate (per 1,000 Women (15-49)) :	71.6	68.1	62.4	59.6	55.8
Total Fertility Rate (per Women (15-49)) :	2.2	2.0	1.8	1.7	1.7
Crude Death Rate (per 1,000 Popn.) :	2.8	2.9	2.9	3.0	2.7
Infant Mortality Rate (per 1,000 LBs.) :	8.8	7.4	6.6	7.6	7.0
Late Fetal Death Ratio (per 1,000 LBs.) :	6.0	6.1	4.6	6.3	6.4
Perinatal Mortality Ratio (per 1,000 LBs.) :	9.5	8.7	7.5	10.0	10.0
Early Neonatal Mortality Rate (per 1,000 LBs.) :	3.5	2.6	2.9	3.6	3.6
Late Neonatal Mortality Rate (per 1,000 LBs.) :	2.5	1.9	1.8	0.8	1.2
Neonatal Mortality Rate (per 1,000 LBs.) :	6.0	4.5	4.8	4.4	4.8
Post Neonatal Mortality Rate (per 1,000 LBs.) :	2.8	2.9	1.8	3.2	2.2
Under 5 Mortality Rate (per 1,000 LBs.) :	9.8	9.4	9.2	9.5	9.5
Number of Maternal Deaths :	1	1	1	1	0
Maternal Mortality Ratio (per 100,000 LBs.) :	14.0	14.4	15.3	15.8	0.0
Life Expectancy At Birth - Male :	74.6	75.2	75.9	75.2	76.6
- Female :	77.5	77.8	77.5	77.8	79.8
Percentage of Newborns Weighing At Least 2500g At Birth :	N/A	90.6	89.0	88.5	88.9
Percentage of Deliveries by Trained Health Personnel :	99.6	99.7	99.7	99.9	99.7
Literacy Rate (%) (Age 9 yrs +) - Male :	(#) 95.8	(#) 95.8	(#) 95.8	(#) 95.8	(#) 95.8
- Female :	(#) 91.5	(#) 91.5	(#) 91.5	(#) 91.5	(#) 91.5
Per Capita GDP at current prices (B\$) Thousand :	37.0	42.9	47.6	47.3	51.3

Note :

Popn. - Population

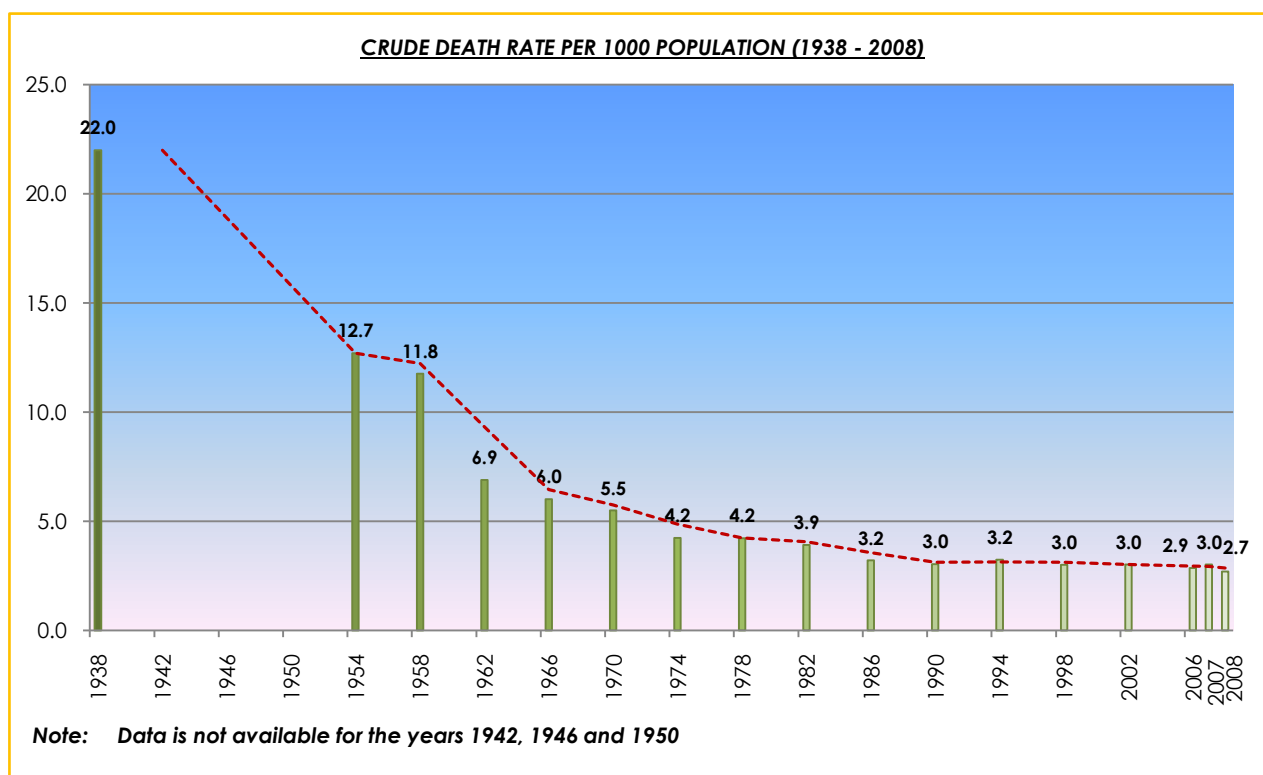
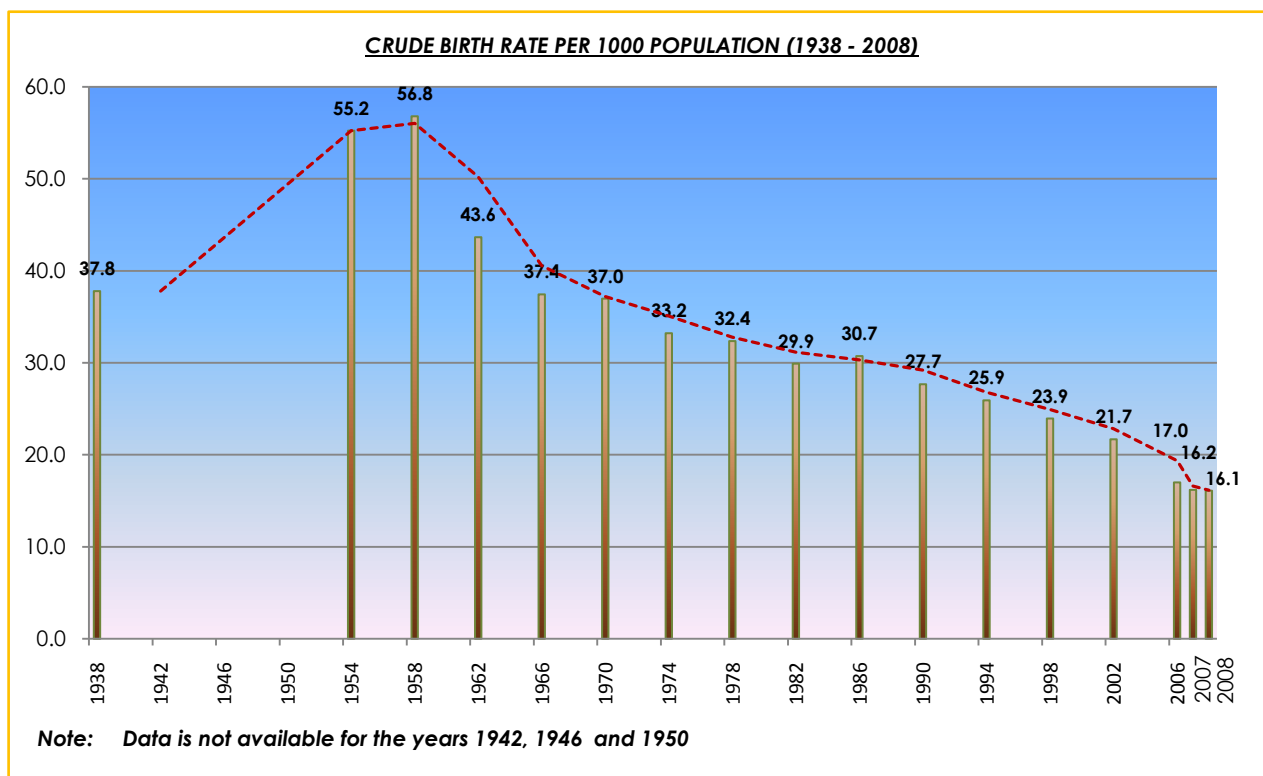
LBs - Live-births

(#) - Census in 2001

Red text - Millennium Development Goals (MDGs) Indicators

HEALTH INDICATORS

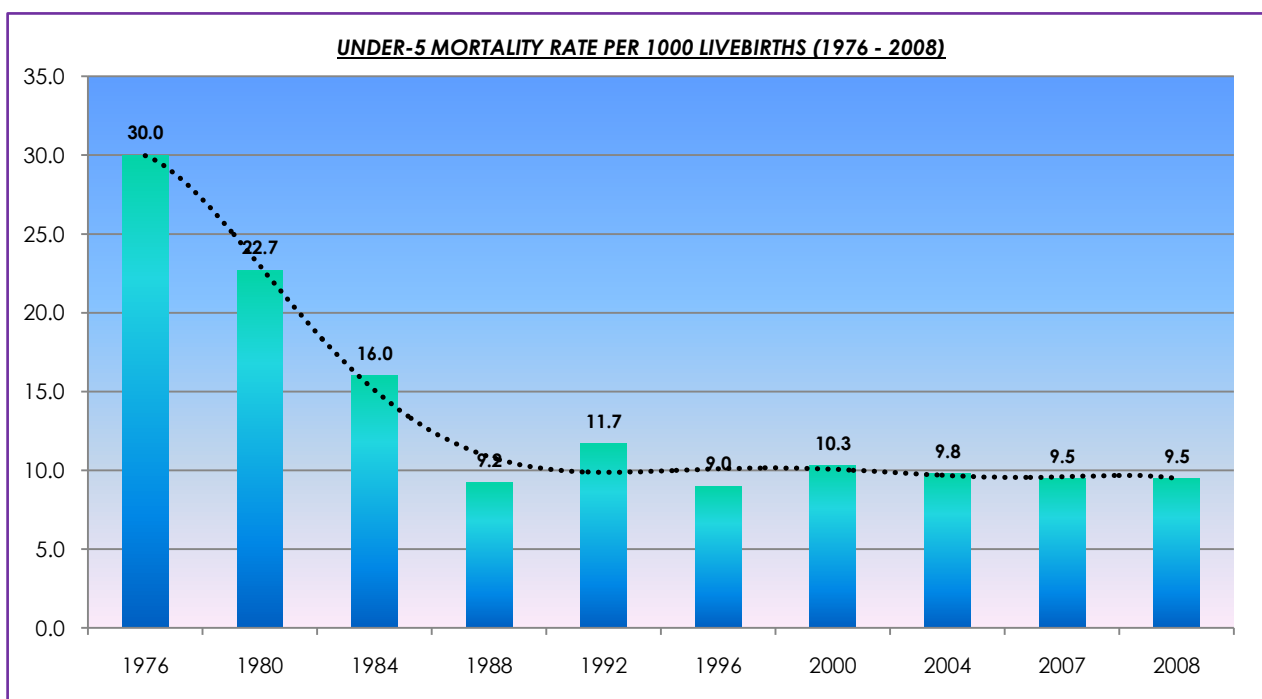
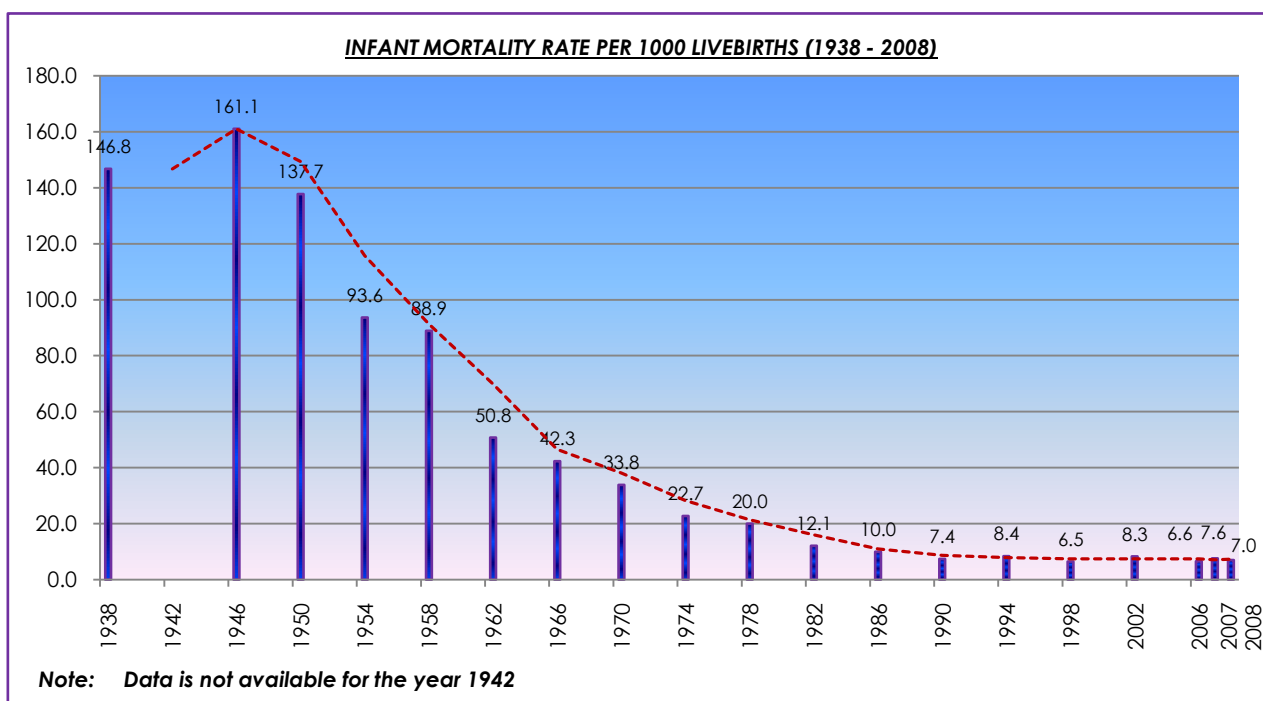
As of 2009, the average birth rate for the whole world is 19.95 per year per 1000 total population. The crude death rate for the whole world was recorded at 8.23 per 1000 per year.



HEALTH INDICATORS

Brunei Darussalam has achieved targets set by the Millennium Development Goal 4 (MDG) for child health, which is to reduce by two thirds, between 1990 and 2015, the under-5 mortality rate. Brunei Darussalam's figures for both under-5 mortality rate and infant mortality rate are comparable to that of developed countries and way below the world average.

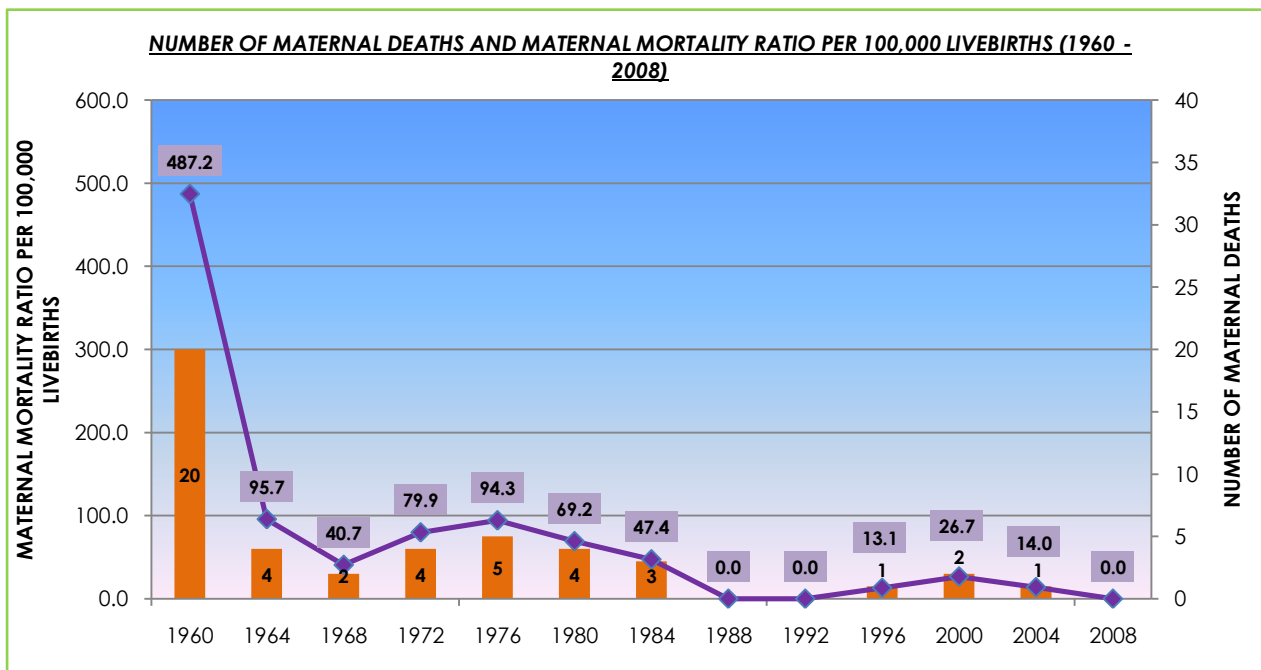
Improvements in infant mortality in Brunei Darussalam are a result of higher standards of living, improved levels of education and literacy, increasing empowerment of women and rising standards of infant care services. There is an extensive network of maternal and Child Health Clinics throughout the country which has been in existence for several decades. Maternal child health services in Brunei Darussalam have contributed to the reduction in under-5 mortality. Brunei has a comprehensive child immunization programme against vaccine preventable diseases. Coverage in the past decade has been virtually universal.



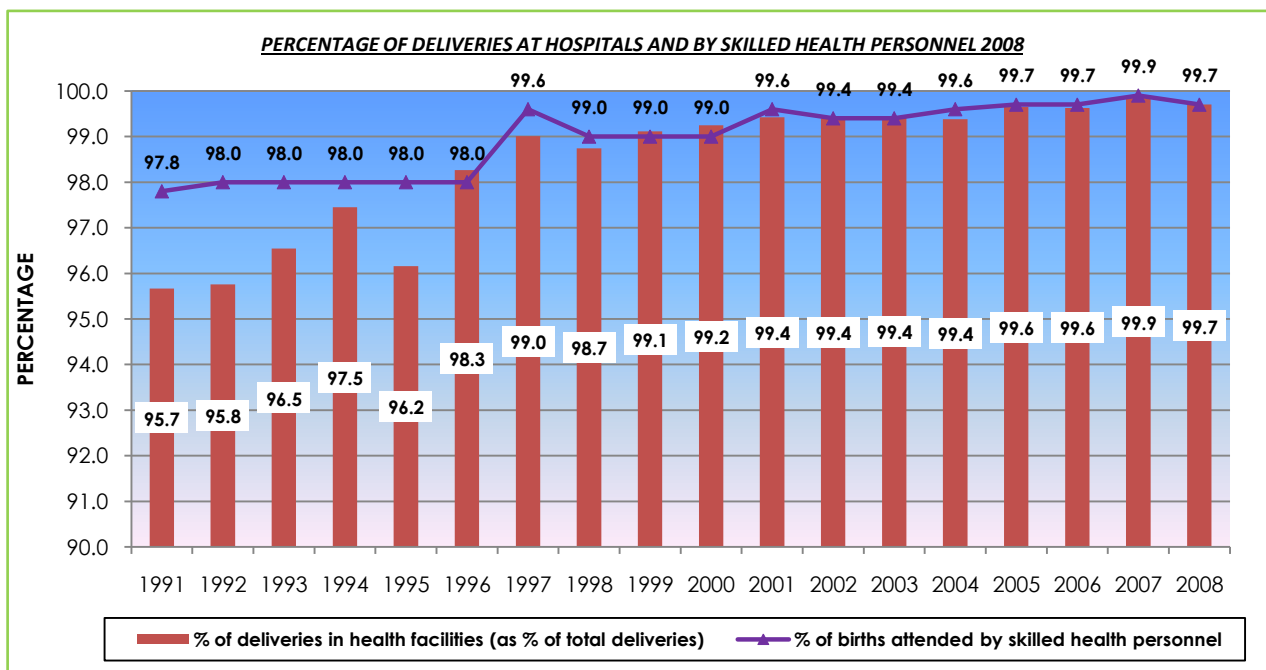
HEALTH INDICATORS

Maternal mortality in Brunei Darussalam is a difficult-to-reduce case in which the number of deaths reported averages at around 1-2 deaths per year. This achievement can be attributed to the nation's comprehensive and quality health service.

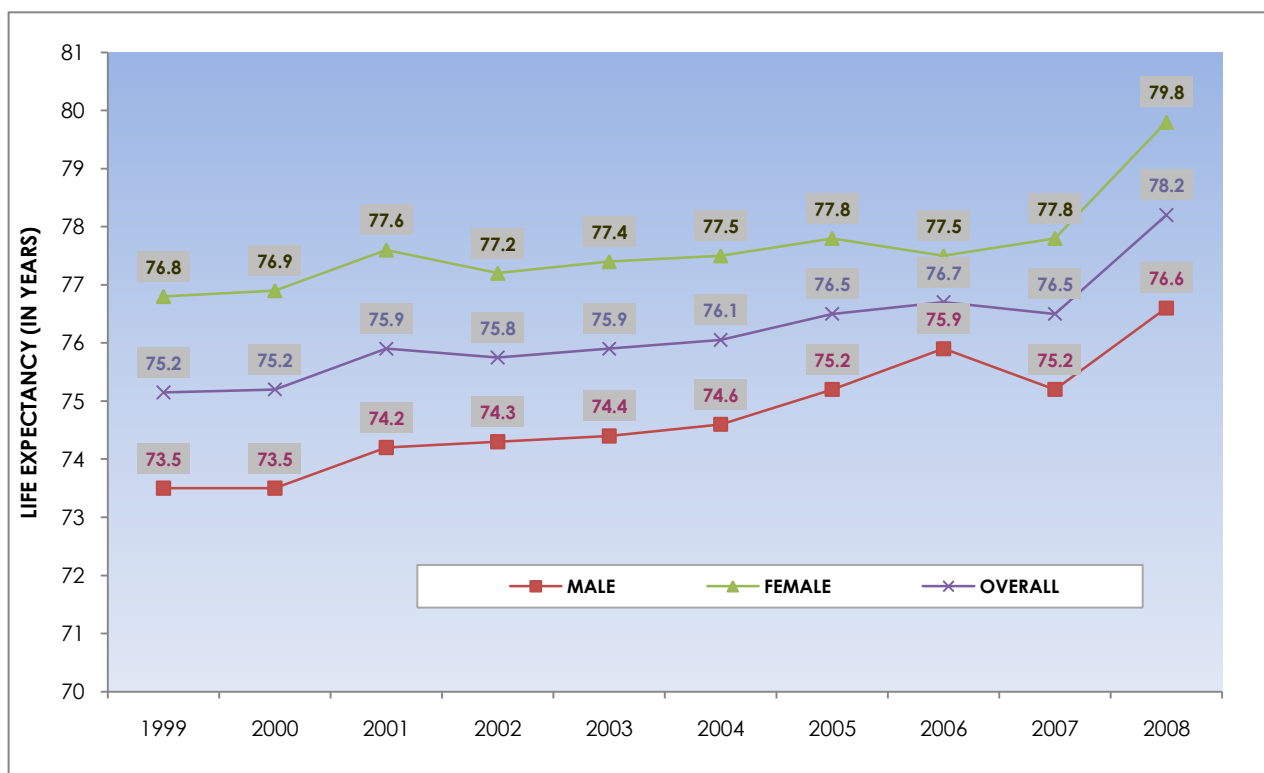
Brunei Darussalam has achieved the 5th goal of the MDG which is the reduction by three quarters the Maternal Mortality Ratio. Reduction of Maternal mortality is also closely linked to access to reproductive care with target indicators such as percentage of deliveries in hospitals and by skilled health personnel.



Almost all births now take place in hospitals and are attended by qualified skilled health personnel. These 2 indicators are most relevant to Brunei Darussalam's context as it correlates closely with the notion of safe delivery and availability of institutional support in the event of emergencies.



LIFE EXPECTANCY OF BRUNEI DARUSSALAM (1999 - 2008)



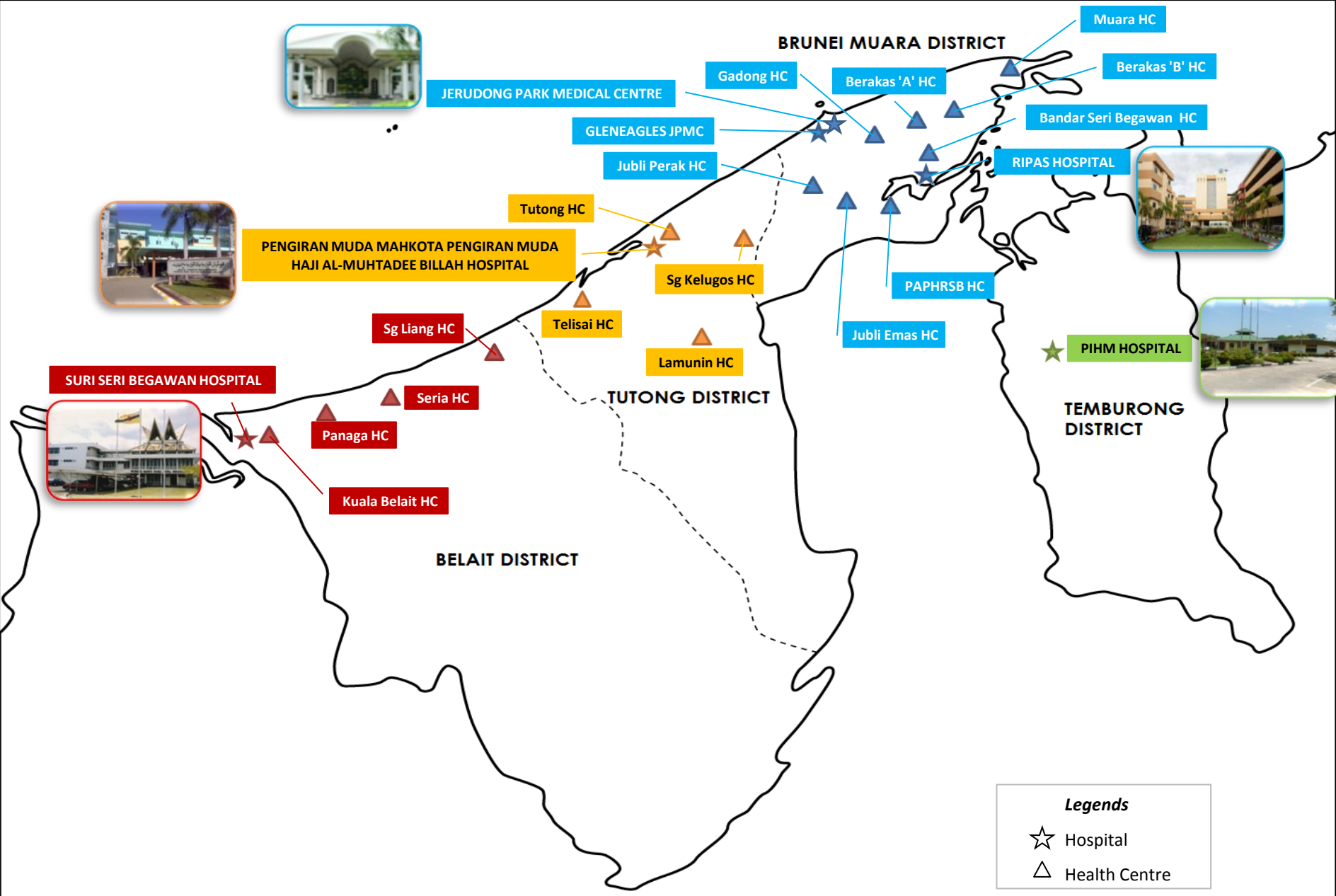
HEALTH FACILITIES

<u>MEDICAL CARE</u>	<u>NUMBER</u>
- HOSPITALS (4 GOVERNMENTS + 2 PRIVATES ⁽¹⁾)	6
- MEDICAL CENTRES (Ministry of Defence)	9 ⁽²⁾
- DIALYSIS CENTRES	5
- DENTAL CENTRES / CLINICS	14
 <u>HEALTH SERVICES</u>	
- HEALTH CENTRES	16
- HEALTH/MATERNAL AND CHILD HEALTH CLINICS	13
- TRAVELLING HEALTH CLINICS	9
- FLYING MEDICAL SERVICES	4
 <u>DENTAL SERVICES</u>	
- DENTAL SERVICES AT:	
HOSPITALS	3
HEALTH CENTRES	8
HEALTH/MATERNAL AND CHILD HEALTH CLINICS	10
SCHOOLS	70
MOBILE SQUAD	17
TRAVELLING (FLYING TEAM)	4

Note :

- (1) - Jerudong Park Medical Centre and Gleneagles Park Centre
- (2) - Including Air Forces Medical Clinic

DISTRIBUTION MAP OF HEALTH CARE FACILITIES

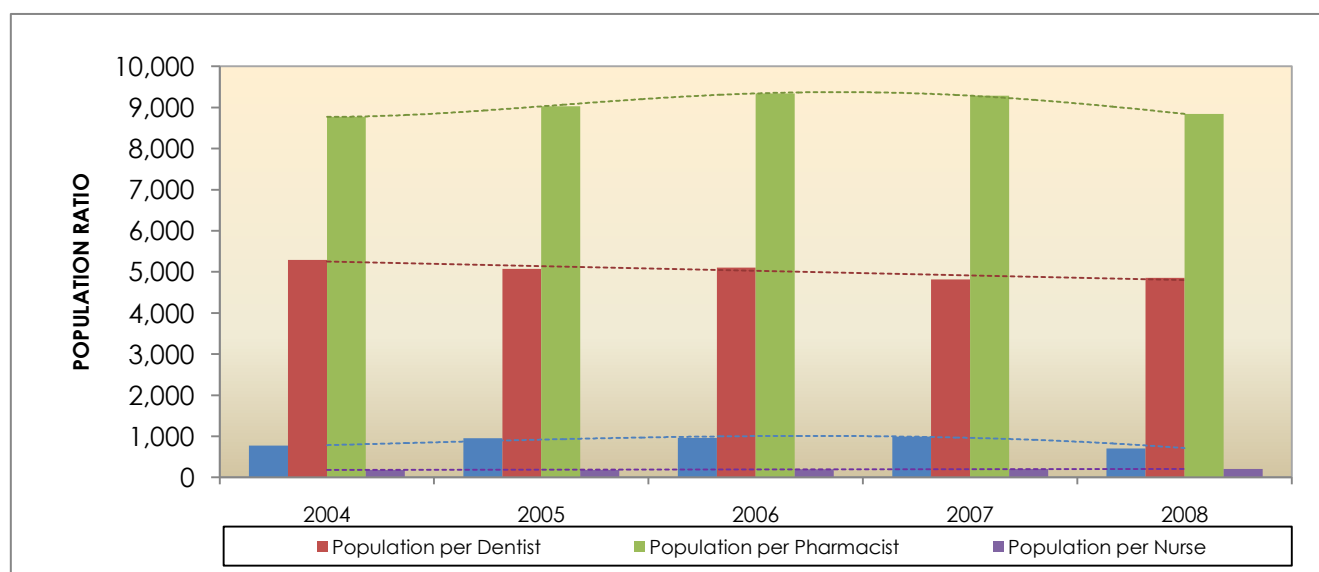


HUMAN RESOURCE

Human Resources for Health for 2008			Government	Private	Total	
Doctors ⁽¹⁾	Male	Local	61	6	67	331
		Foreign	232	32	264	
	Female	Local	94	3	97	233
		Foreign	119	17	136	
	TOTAL			506	58	564
Population per Doctor					706	
Dentists ⁽¹⁾	Male	Local	10	4	14	44
		Foreign	20	10	30	
	Female	Local	30	1	31	38
		Foreign	6	1	7	
	TOTAL			66	16	82
Population per Dentist					4854	
Pharmacists ⁽²⁾	Male	Local	4	1	5	6
		Foreign	1	0	1	
	Female	Local	26	5	31	39
		Foreign	1	7	8	
	TOTAL			32	13	45
Population per Pharmacist					8844	
Nurses ⁽³⁾ (Including Dental Nurses and Midwives)			1859	82	1941	
Population per Nurse					205	

Sources:

- (1) - Brunei Medical Board
- (2) - Pharmacy Department
- (3) - Nursing Board



GOVERNMENT HEALTH EXPENDITURE

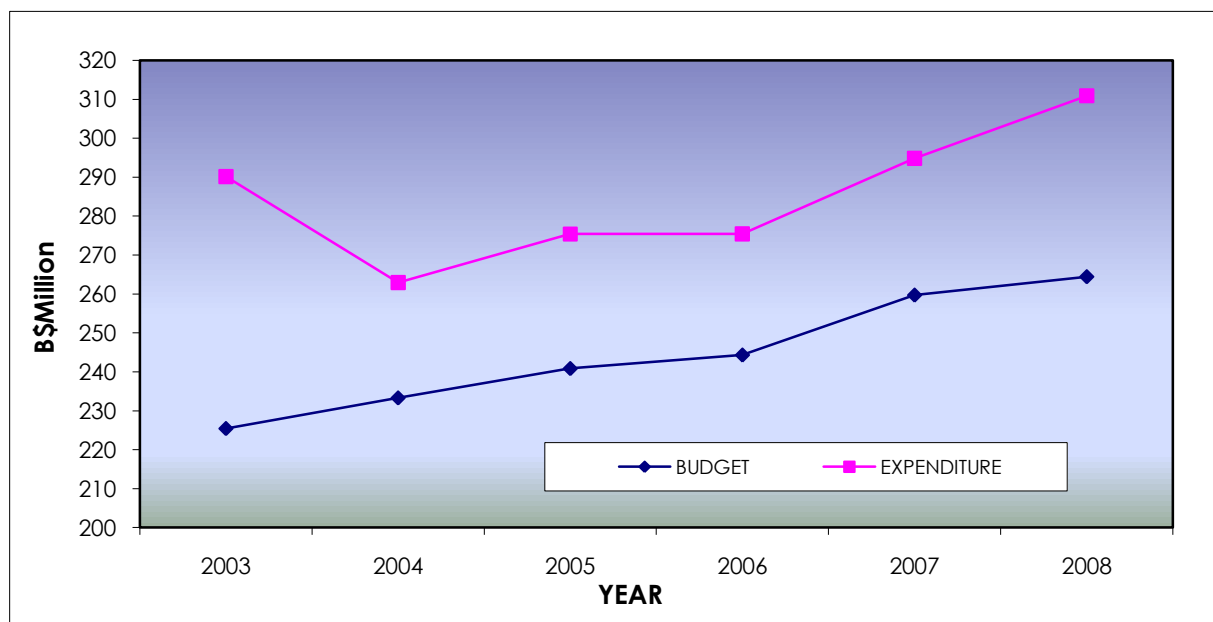
	<u>2006/07</u>	<u>2007/08</u>	<u>2008/09</u>
Total Health Budget (B\$ Millions)	244.33	259.72	264.44
Health Budget as % of National Budget	6.73	6.96	7.08
Per Capita Health Budget (B\$) #	638	666	664
Health Budget as % of GDP #	1.34	1.41	1.30
Total Health Expenditure (B\$ Millions)	275.45	294.82	310.90
Health Expenditure as % of Government Expenditure	7.35	7.38	...
Per Capita Health Expenditure (B\$) #	719	756	781
Health Expenditure as % of GDP #	1.51	1.60	1.52

Note:

- GDP - Gross Domestic Product
- ... - Not available

Source:

- # - DEPD, Brunei Darussalam Key Indicator's 2008
- (Budget) - Budget Section, Ministry of Finance
- (Expenditure) - Ledger Section, Treasury Department



TEN LEADING CAUSES OF DEATHS FOR THE YEAR 2008
(Based on ICD-10)

No.	ICD-10	TYPE OF DISEASE	MALE	FEMALE	TOTAL	%	RATE PER 100,000 POPN.
1	I00 - I09, I20 - I52	Heart Diseases (Including Acute Rheumatic Fever)	124	87	211	19.3	53.0
2	C00 - C97	Cancer (Malignant Neoplasms)	104	97	201	18.4	50.5
3	E10 - E14	Diabetes Mellitus	53	44	97	8.9	24.4
4	I60 - I69	Cerebrovascular Diseases	54	39	93	8.5	23.4
5	J10 - J18	Influenza and Pneumonia	39	14	53	4.9	13.3
6	J40 - J46	Bronchitis, Chronic & Unspecified Emphysema & Asthma	23	16	39	3.6	9.8
7	V01 - V99	Transport Accidents	23	10	33	3.0	8.3
8	A40 - A41	Septicaemia	17	15	32	2.9	8.0
9	I10 - I15	Hypertensive Diseases	12	12	24	2.2	6.0
10	P00 - P96	Certain Conditions Originating In The Perinatal Period	8	12	20	1.8	5.0
Others			179	109	288	26.4	72.4
ALL DEATHS			636	455	1091	100.0	274.1

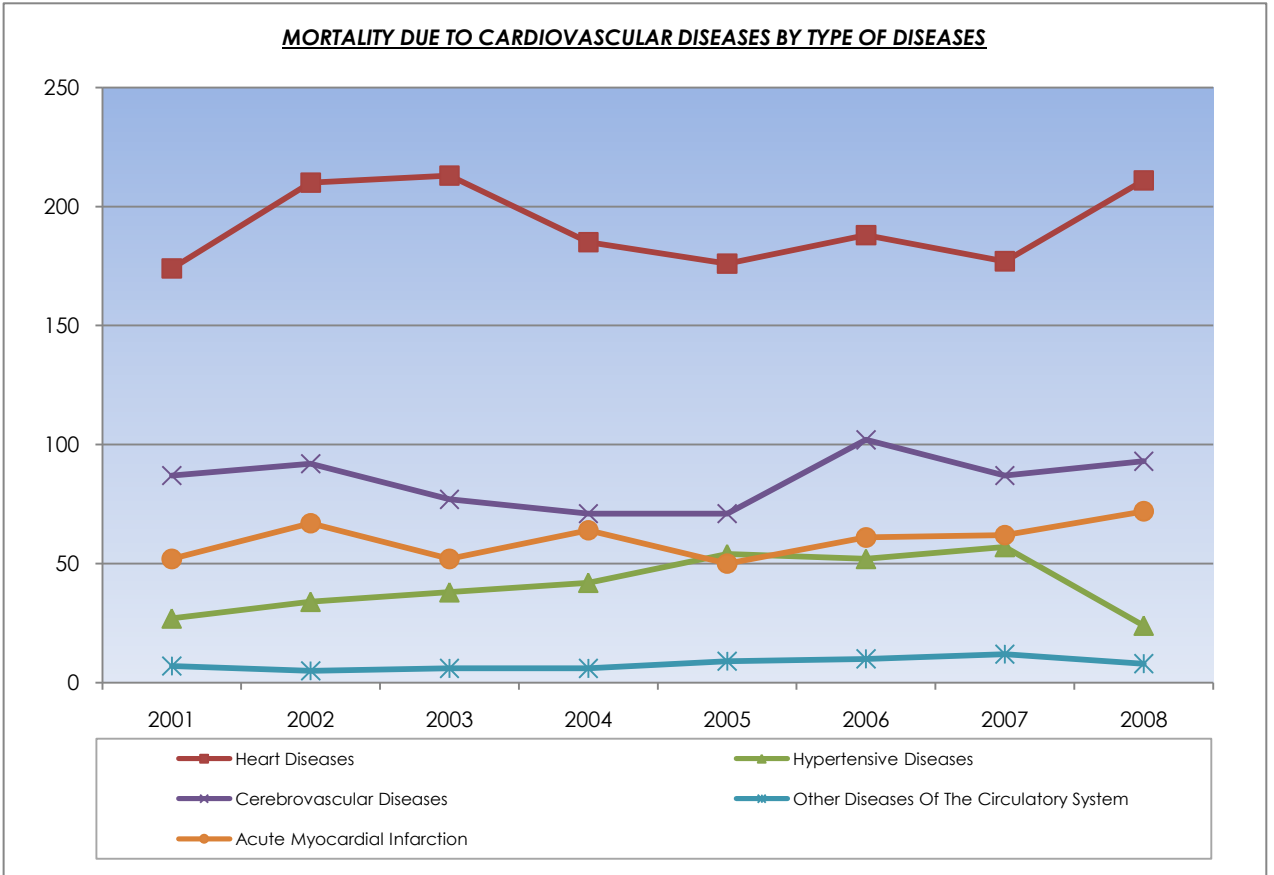
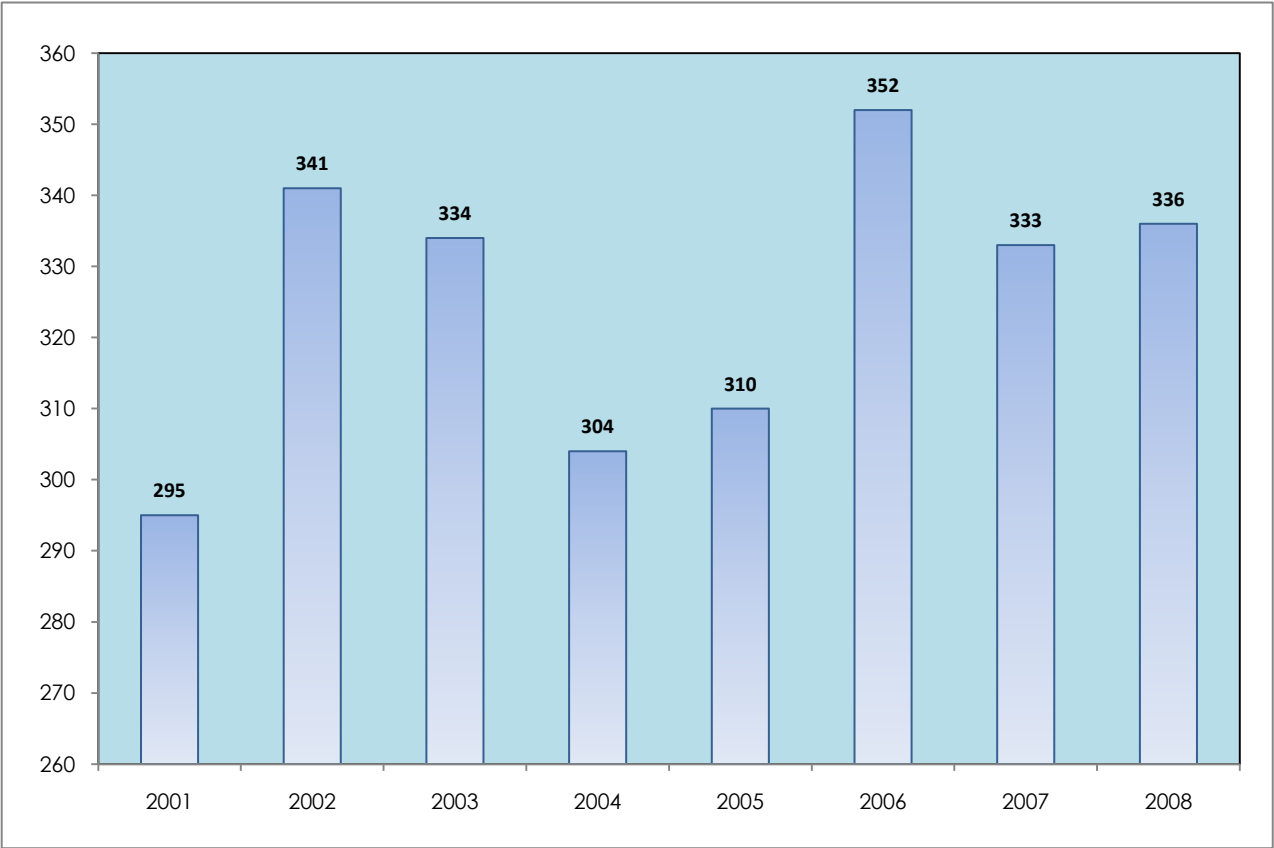
TEN LEADING CAUSES OF DEATHS (2004 - 2008)

No.	2004	2005	2006	2007	2008
1	Cancer (Malignant Neoplasms) 21.6%	Cancer (Malignant Neoplasms) 20.1%	Cancer (Malignant Neoplasms) 20.1%	Cancer (Malignant Neoplasms) 18.3%	Heart Diseases (Including Acute Rheumatic Fever) 19.3%
2	Heart Diseases (Including Acute Rheumatic Fever) 18.3%	Heart Diseases (Including Acute Rheumatic Fever) 16.4%	Heart Diseases (Including Acute Rheumatic Fever) 17.0%	Heart Diseases (Including Acute Rheumatic Fever) 15.1%	Cancer (Malignant Neoplasms) 18.4%
3	Diabetes Mellitus 7.7%	Diabetes Mellitus 11.0%	Diabetes Mellitus 10.6%	Diabetes Mellitus 11.9%	Diabetes Mellitus 8.9%
4	Cerebrovascular Diseases 7.0%	Cerebrovascular Diseases 6.6%	Cerebrovascular Diseases 9.3%	Cerebrovascular Diseases 7.4%	Cerebrovascular Diseases 8.5%
5	Bronchitis, Chronic and Unspecified Emphysema & Asthma 4.8%	Hypertensive Diseases 5.0%	Hypertensive Diseases 4.7%	Hypertensive Diseases 4.9%	Influenza and Pneumonia 4.9%
6	Hypertensive Diseases 4.2%	Influenza and Pneumonia 4.6%	Bronchitis, Chronic and Unspecified Emphysema & Asthma 4.4%	Transport Accidents 4.7%	Bronchitis, Chronic and Unspecified Emphysema & Asthma 3.6%
7	Certain Conditions Originating In The Perinatal Period 3.8%	Bronchitis, Chronic and Unspecified Emphysema & Asthma 4.3%	Transport Accidents 3.6%	Bronchitis, Chronic and Unspecified Emphysema & Asthma 4.3%	Transport Accidents 3.0%
8	Transport Accidents 3.8%	Transport Accidents 4.2%	Influenza and Pneumonia 3.4%	Influenza and Pneumonia 3.0%	Septicaemia 2.9%
9	Influenza and Pneumonia 2.2%	Certain Conditions Originating In The Perinatal Period 2.4%	Certain Conditions Originating In The Perinatal Period 1.9%	Septicaemia 2.1%	Hypertensive Diseases 2.2%
10	Congenital Malformations, Deformations and Chromosomal Abnormalities 1.7%	Congenital Malformations, Deformations and Chromosomal Abnormalities 2.3%	Congenital Malformations, Deformations and Chromosomal Abnormalities 1.6%	Congenital Malformations, Deformations and Chromosomal Abnormalities 2.0%	Certain Conditions Originating In The Perinatal Period 1.8%
Grand Total	1,009	1,072	1,095	1,174	1,091

MORTALITY DUE TO CARDIOVASCULAR DISEASES BASED ON ICD-10 FOR THE YEAR 2008

ICD-10 CODE	TYPE OF DISEASES	AGE-GROUP IN YEARS																	
		<35		35 - 44		45 - 54		55 - 64		65 - 74		75+		TOTAL					
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	T			
1	I00 - I09, I20 - I52	Heart Diseases		14	2	15	2	28	11	14	13	19	16	34	43	124	87	211	
	i	I00 - I09	Acute Rheumatic Fever & Chronic Rheumatic Heart Diseases		0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	ii	I20 - I25	Ischaemic Heart Diseases		3	0	12	1	24	7	11	8	15	11	21	22	86	49	135
		I21	Acute Myocardial Infarction		2	0	11	1	11	3	6	4	6	6	10	12	46	26	72
		I20, I22 - I25	Other Ischaemic Diseases		1	0	1	0	13	4	5	4	9	5	11	10	40	23	63
	iii	I26 - I52	Diseases of Pulmonary Circulation & Other Forms of Heart Diseases		11	2	3	1	4	4	3	5	4	5	13	21	38	38	76
2	I10 - I15	Hypertensive Diseases		0	0	0	0	1	1	1	1	3	6	7	4	12	12	24	
3	I60 - I69	Cerebrovascular Diseases		5	2	6	3	8	5	4	4	13	14	18	11	54	39	93	
4	I70 - I98	Other Diseases of the Circulatory System		0	0	1	0	1	1	4	0	0	0	1	0	7	1	8	
		I70	Atherosclerosis		0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		I71 - I98	Others		0	0	1	0	1	1	4	0	0	0	1	0	7	1	8
1 to 4	I00 - I98	All Cardiovascular Diseases		19	4	22	5	38	18	23	18	35	36	60	58	197	139	336	
		All Causes of Mortality		99	60	55	28	90	52	74	62	110	98	208	155	636	455	1091	

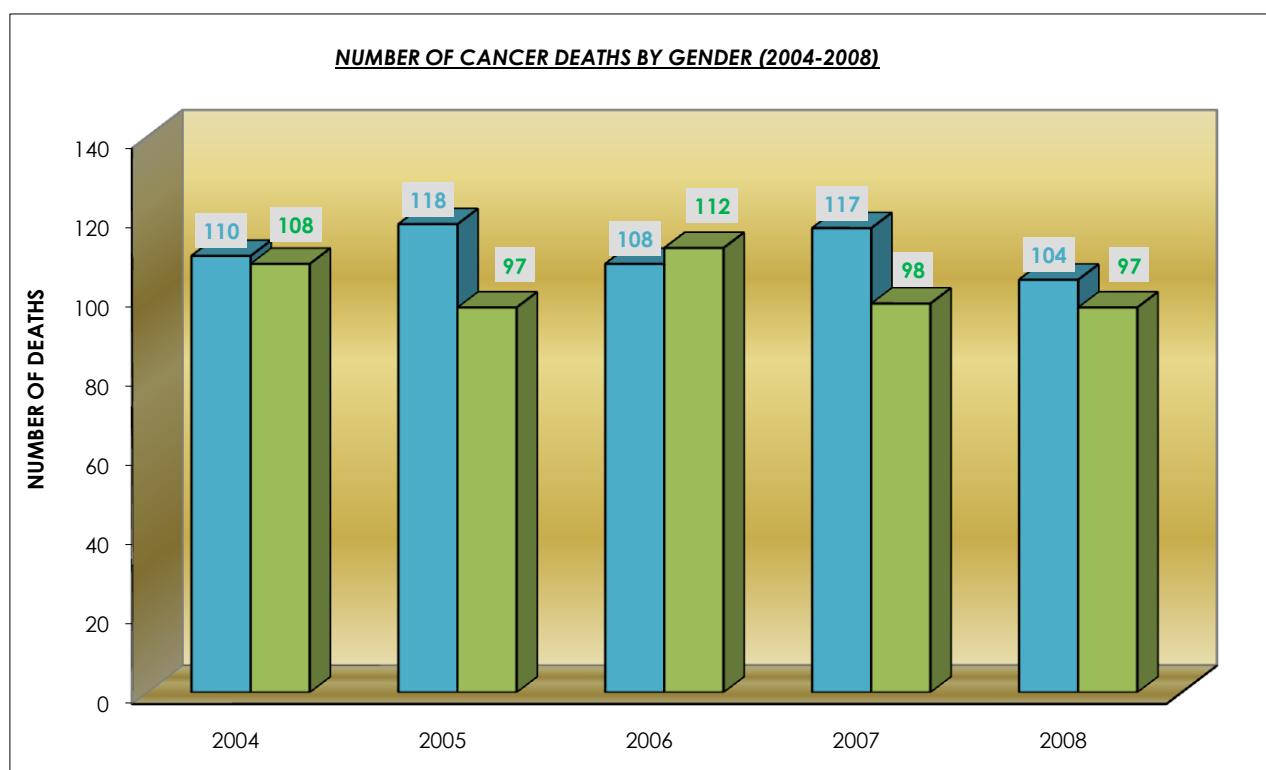
MORTALITY TREND DUE TO CARDIOVASCULAR DISEASES (2001 - 2008)



MORTALITY DUE TO CANCER FOR THE YEAR 2008

TYPE OF CANCER	MALE	FEMALE	TOTAL
Trachea, Bronchus and Lung	31	19	50
Liver and Intrahepatic Bile Ducts	7	7	14
Cervix Uteri		13	13
Stomach	9	3	12
Rectum and Anus	8	3	11
Colon	4	7	11
Breast	1	7	8
Leukaemia	4	3	7
Pancreas	5	1	6
Meninges, Brains and Other Parts of CNS	4	2	6
Multiple Myeloma and Malignant Plasma Cell Neoplasms	3	2	5
Lip, Oral Cavity and Pharynx	2	3	5
Ovary		5	5
Non-Hodgkin's Lymphoma	4	0	4
Prostate	4		4
Larynx	3	0	3
Skin	2	0	2
Bladder	1	1	2
Oesophagus	0	2	2
Remainder	12	19	31
TOTAL	104	97	201

YEAR	2004	2005	2006	2007	2008
TOTAL NO. OF CANCER DEATHS	218	215	220	215	201



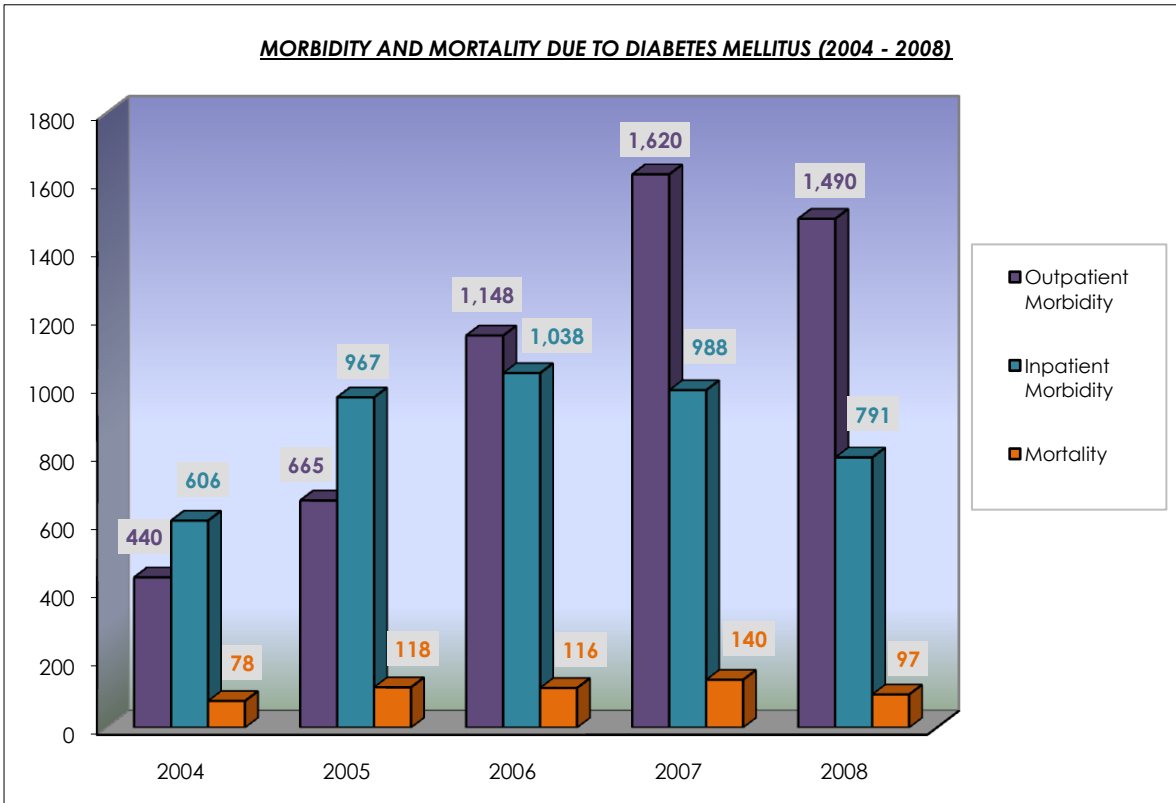
**TREND IN LEADING CANCER DEATHS IN BRUNEI DARUSSALAM
(2004 - 2008)**

No.	2004	2005	2006	2007	2008
1	Trachea, Bronchus and Lung 16.5%	Trachea, Bronchus and Lung 23.7%	Trachea, Bronchus and Lung 17.7%	Trachea, Bronchus and Lung 23.3%	Trachea, Bronchus and Lung 24.9%
2	Stomach 9.6%	Colon 9.3%	Breast 9.1%	Rectum and Anus 9.8%	Liver and Intrahepatic Bile Duct 7.0%
3	Liver and Intrahepatic Bile Duct 8.7%	Breast 7.9%	Lip, Oral Cavity and Pharynx 7.3%	Stomach 9.3%	Cervix Uteri 6.5%
4	Rectum and Anus 7.8%	Lip, Oral Cavity and Pharynx 5.6%	Rectum and Anus 7.3%	Liver and Intrahepatic Bile Duct 7.4%	Stomach 6.0%
5	Breast 6.4%	Stomach 5.1%	Colon 5.9%	Breast 6.0%	Colon 5.5%
6	Non-Hodgkin's Lymphoma 5.5%	Liver and Intrahepatic Bile Duct 5.1%	Liver and Intrahepatic Bile Duct 5.5%	Cervix Uteri 4.7%	Rectum and Anus 5.5%
7	Lip, Oral Cavity and Pharynx 5.0%	Rectum and Anus 5.1%	Stomach 5.0%	Colon 3.7%	Breast 4.0%
8	Meninges, Brains and Other Parts of CNS 4.6%	Non-Hodgkin's Lymphoma 5.1%	Ovary 4.5%	Pancreas 3.7%	Leukaemia 3.5%
9	Cervix Uteri 4.1%	Ovary 4.7%	Pancreas 4.1%	Meninges, Brains and Other Parts of CNS 3.7%	Pancreas 3.0%
10	Prostate 3.2%	Meninges, Brains and Other Parts of CNS 4.7%	Cervix Uteri 4.1%	Lip, Oral Cavity and Pharynx 3.3%	Meninges, Brains and Other Parts of CNS 3.0%
Grand Total	218	215	220	215	201

MORBIDITY AND MORTALITY DUE TO DIABETES MELLITUS FOR THE YEAR 2008

	AGE-GROUP IN YEARS										
	0-14		15-44		45-64		65+		TOTAL		
	M	F	M	F	M	F	M	F	M	F	TOTAL
OUTPATIENT MORBIDITY *	3	5	130	230	330	450	156	186	619	871	1,490
INPATIENT MORBIDITY *	4	11	93	97	127	206	108	145	332	459	791
MORTALITY	1	0	4	2	17	8	31	34	53	44	97

Note:
* - Hospital Morbidity only



HOSPITAL SERVICES

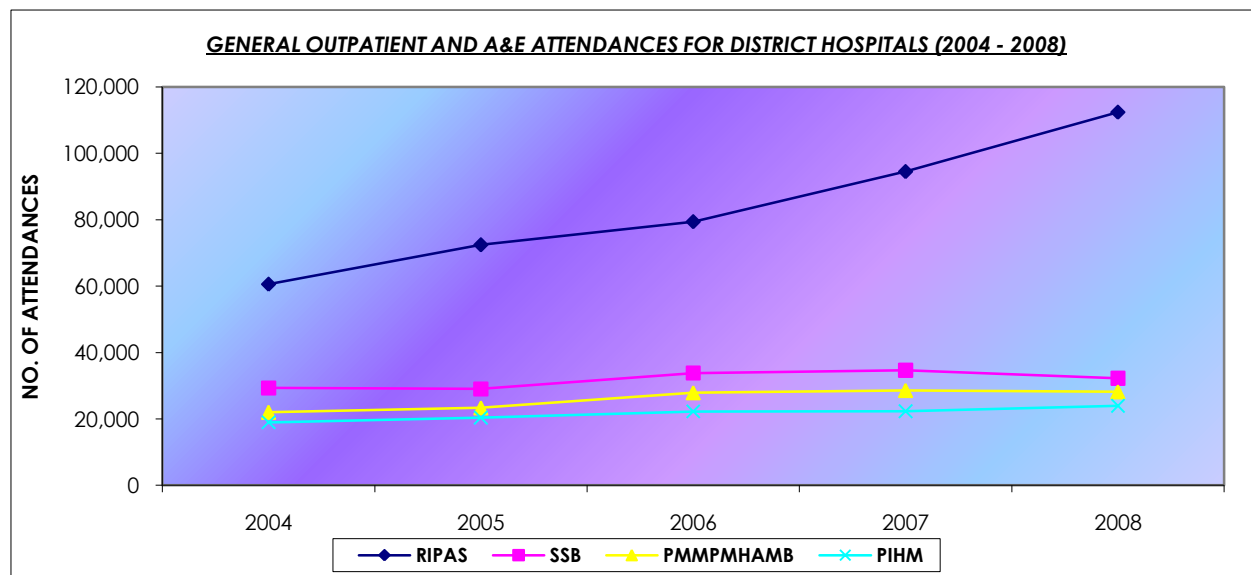
The Department of Medical Services is responsible for the delivery of hospital services in all four districts.

ACTIVITIES FOR THE YEAR 2008	RIPAS	SSB	PMMPMHAMB	PIHM	TOTAL
<u>OUTPATIENT ACTIVITIES</u>					
General Outpatient and A & E Attendances	112,395 *	32,268 *	28,186 *	23,955	196,804
Specialist Outpatient Attendances	320,620	97,735	52,078	9,719	480,152
<u>INPATIENT ACTIVITIES</u>					
Available Beds	555	210	129	25	919
Admissions	30,329	6,747	4,048	1,198	42,322
Discharges & Deaths	30,309	6,374	3,682	986	41,351
Patient Days	146,942	30,505	16,376	3,090	196,913
Day Patients	60,616	5,304	N/A	227	66,147
<u>PERFORMANCE INDICES</u>					
Average Number of Inpatients / Day	401	83	45	8	538
% Occupancy	72	40	35	34	59
Average Duration of Stay (Days)	4.8	4.8	4.4	3.1	4.8
Average Turnover of Patients / Bed	55	30	29	39	45
Average Outpatient Attendances / Day	N/A	N/A	N/A	55	55

Note:

* - A & E only

N/A - Not Applicable



**HOSPITAL OUTPATIENT MORBIDITY
FOR THE YEAR 2008 (A & E + G O P D)**

No.	ICD-10	DISEASES	MALE	FEMALE	TOTAL	%
1	J00-J06	Acute Upper Respiratory Infection	31,690	30,857	62,547	30.1
2	J40-J46	Bronchitis, Chronic & Unspecified Emphysema & Asthma	5,350	4,372	9,722	4.7
3	A09	Gastroenteritis/ Diarrhoea	4,415	4,040	8,455	4.1
4	L00-L99	Diseases of Skin & Subcutaneous Tissue	3,521	3,580	7,101	3.4
5	W00-W19	Falls	3,206	2,312	5,518	2.7
6	R10	Abdominal and Pelvic Pain	2,123	2,965	5,088	2.4
7	I10-I15	Hypertensive Diseases	1,884	2,425	4,309	2.1
8	H10	Conjunctivitis	1,792	1,459	3,251	1.6
9	V01-V99	Transport Accident	1,257	715	1,972	0.9
10	J10-J11	Influenza	831	745	1,576	0.8
11	E10-E14	Diabetes Mellitus	619	871	1,490	0.7
12	B01	Chickenpox	694	656	1,350	0.6
13	T78.4	Allergy, Unspecified	609	642	1,251	0.6
14	K00-K08	Diseases of Teeth & Supporting Structures	632	463	1,095	0.5
15	M10	Gout	969	96	1,065	0.5
Others			48,547	43,590	92,137	44.3
GRAND TOTAL			108,139	99,788	207,927	100.0

Note:

A & E - Accident & Emergency

GOPD - General Outpatient Department

SINGLE LEADING CAUSES OF HOSPITAL OUTPATIENT MORBIDITY (2004 - 2008)

No.	2004	2005	2006	2007	2008
1	Acute Upper Respiratory Infections 29.9%	Acute Upper Respiratory Infections 29.9%	Acute Upper Respiratory Infections 31.2%	Acute Upper Respiratory Infections 30.7%	Acute Upper Respiratory Infections 30.1%
2	Bronchitis, Chronic & Unspecified Emphysema & Asthma 5.1%	Bronchitis, Chronic & Unspecified Emphysema & Asthma 5.1%	Bronchitis, Chronic & Unspecified Emphysema & Asthma 5.1%	Gastroenteritis and Diarrhoea 5.0%	Bronchitis, Chronic & Unspecified Emphysema & Asthma 4.7%
3	Gastroenteritis and Diarrhoea 4.6%	Gastroenteritis and Diarrhoea 4.2%	Gastroenteritis and Diarrhoea 4.4%	Bronchitis, Chronic & Unspecified Emphysema & Asthma 4.8%	Gastroenteritis and Diarrhoea 4.1%
4	Diseases of Skin & Subcutaneous Tissue 3.3%	Diseases of Skin & Subcutaneous Tissue 3.2%	Diseases of Skin & Subcutaneous Tissue 3.5%	Diseases of Skin & Subcutaneous Tissue 3.4%	Diseases of Skin & Subcutaneous Tissue 3.4%
5	Abnominal and Pelvic Pain 2.9%	Abnominal and Pelvic Pain 3.0%	Abnominal and Pelvic Pain 2.9%	Abnominal and Pelvic Pain 2.8%	Falls 2.7%
6	Falls 2.6%	Falls 2.4%	Conjunctivitis 2.4%	Falls 2.3%	Abnominal and Pelvic Pain 2.4%
7	Conjunctivitis 1.3%	Conjunctivitis 1.8%	Falls 2.1%	Hypertensive Diseases 2.0%	Hypertensive Diseases 2.1%
8	Transport Accidents 1.2%	Hypertensive Diseases 1.2%	Hypertensive Diseases 1.7%	Conjunctivitis 1.8%	Conjunctivitis 1.6%
9	Hypertensive Diseases 1.0%	Transport Accidents 1.1%	Transport Accidents 0.9%	Influenza 1.0%	Transport Accidents 0.9%
10	Chicken Pox 0.8%	Chicken Pox 0.7%	Influenza 0.8%	Transport Accidents 0.9%	Influenza 0.8%
Grand Total	140,357	154,974	181,604	201,062	125,596

HOSPITAL INPATIENT MORBIDITY FOR THE YEAR 2008

NO	ICD-10	TYPE OF DISEASES	MALE	FEMALE	TOTAL	%
1	J10-J22	Acute Lower Respiratory Infections	704	497	1,201	3.2
2	O00-O08	Pregnancy with Abortive Outcome		1,067	1,067	2.8
3	J45-J46	Asthma	568	487	1,055	2.8
4	A09	Diarrhoea and Gastroenteritis of Presumed Infections Origin	582	444	1,026	2.7
5	J00-J06	Acute Upper Respiratory Infections	568	448	1,016	2.7
6	N80-N98	Non-Inflammatory Disorders of Female Genital Tract		984	984	2.6
7	E10-E14	Diabetes Mellitus	332	459	791	2.1
8	I10-I15	Hypertensive Diseases	382	363	745	2.0
9	R50	Fever of Unknown Origin	410	327	737	2.0
10	O98-O99	Maternal Diseases Classifiable but Complicating Pregnancy, Childbirth and The Puerperium (Indirect Obstetric Causes)		660	660	1.8
11	I00-I09, I20-I52	Heart Diseases	294	252	546	1.5
12	S02, S12, S22, S32, S42, S52, S72, S82, S92, T02, T08, T10, T12	Fractures Of Specified and Multiple Body Regions	355	159	514	1.4
13	R10	Abdominal and Pelvic Pain	203	305	508	1.4
14	H25-H26	Cataract	252	239	491	1.3
15	W00-W19	Falls	280	159	439	1.2
Others			8,863	16,759	25,622	68.3
GRAND TOTAL			13,388	24,150	37,538	100.0

**SINGLE LEADING CAUSES OF HOSPITAL INPATIENT MORBIDITY
(2004 - 2008)**

No.	2004	2005	2006	2007	2008
1	Pregnancy with Abortive Outcome 2.9%	Asthma 2.7%	Asthma 2.8%	Acute Lower Respiratory Infections 3.2%	Acute Lower Respiratory Infections 3.2%
2	Asthma 2.3%	Diabetes Mellitus 2.7%	Diabetes Mellitus 2.8%	Diarrhoea and Gastroenteritis of Presumed Infections 3.0%	Pregnancy with Abortive Outcome 2.8%
3	Diarrhoea and Gastroenteritis of Presumed Infections 2.2%	Acute Lower Respiratory Infections 2.5%	Acute Lower Respiratory Infections 2.6%	Asthma 3.0%	Asthma 2.8%
4	Acute Lower Respiratory Infections 2.1%	Pregnancy with Abortive Outcome 2.5%	Pregnancy with Abortive Outcome 2.6%	Acute Upper Respiratory Infections 2.8%	Diarrhoea and Gastroenteritis of Presumed Infections 2.7%
5	Non-Inflammatory Disorders of Female Genital Tract 2.1%	Diarrhoea and Gastroenteritis of Presumed Infections 2.5%	Acute Upper Respiratory Infections 2.4%	Diabetes Mellitus 2.6%	Acute Upper Respiratory Infections 2.7%
6	Hypertensive Diseases 2.0%	Hypertensive Diseases 2.3%	Diarrhoea and Gastroenteritis of Presumed Infections 2.4%	Pregnancy with Abortive Outcome 2.5%	Non-Inflammatory Disorders of Female Genital Tract 2.6%
7	Acute Upper Respiratory Infections 2.0%	Acute Upper Respiratory Infections 2.2%	Non-Inflammatory Disorders of Female Genital Tract 2.4%	Non-Inflammatory Disorders of Female Genital Tract 2.5%	Diabetes Mellitus 2.1%
8	Heart Diseases 2.0%	Heart Diseases 1.8%	Hypertensive Diseases 2.2%	Hypertensive Diseases 2.0%	Hypertensive Diseases 1.9%
9	Diabetes Mellitus 1.8%	Fractures of Specified and Multiple Body Regions 1.6%	Maternal Diseases Classifiable but Complicating Pregnancy, Childbirth and The Puerperium (Indirect Obstetric Causes) 1.7%	Fever of Unknown Origin 1.8%	Fever of Unknown Origin 1.9%
10	Maternal Diseases Classifiable but Complicating Pregnancy, Childbirth and The Puerperium (Indirect Obstetric Causes) 1.7%	Cataract 1.6%	Heart Diseases 1.5%	Heart Diseases 1.7%	Maternal Diseases Classifiable but Complicating Pregnancy, Childbirth and The Puerperium (Indirect Obstetric Causes) 1.8%
Grand Total	34,615	35,247	36,883	37,822	37,538

HEALTH SERVICES

The Department of Health Services, Ministry of Health is responsible for providing public health services in the country. The mission of the department is to promote well-being and prevent ill health, whereby various activities and programmes have been developed and established under three main services: Community Health Service, Environmental Health Services and Scientific Services.

WORKLOAD INDICATORS	<u>2006</u>	<u>2007</u>	<u>2008</u>
1. Ante Natal attendances	47,082	42,279	46,419
2. Post Natal attendances	8,936	8,595	8,396
3. Child (<5) attendances	129,227	116,301	122,229
4. General O/P attendances in Health Centres / Clinics *	374,605	511,363	540,559
5. No. of students medically examined (Primary I, IV & Form II)	22,076	22,196	21,984
6. No. of students screened (Primary I, III, IV, VI & Form II)	36,561	37,757	37,174

Note :

* - including extended hours services

IMMUNISATION COVERAGE	<u>2006</u>	<u>2007</u>	<u>2008</u>
% of infants immunised against			
- Tuberculosis (at birth)	99.9	95.6	99.7
- Diphtheria/Tetanus/Whooping Cough (Tetract-HIB)3	100.0	99.0	97.6
- Poliomyelitis (OPV)3	100.0	95.2	100.0
- Hepatitis B3	100.0	100.0	96.1
- Measles, Mumps and Rubella 1 (MMR1)	100.0	96.8	99.7
% of pregnant women immunised against Primigravida			
- Tetanus (TT2)	79.0	64.0	75.0

Note:

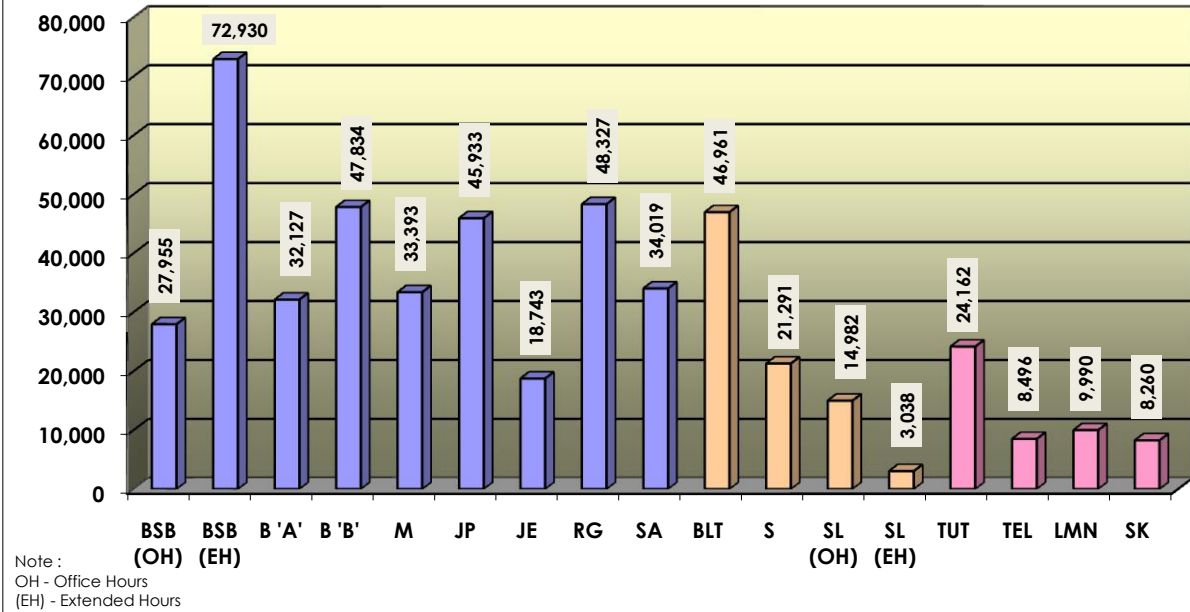
Red text - Millennium Development Goals (MDGs) Indicators

Source:

Maternal and Child Health (MCH) Clinic Data

GENERAL OUTPATIENT ATTENDANCES FOR HEALTH CENTRES

GENERAL OUTPATIENT ATTENDANCES FOR HEALTH CENTRES IN 2008



BRUNEI MUARA HEALTH CENTRES

- BSB : BSB Health Centre
- B 'A' : Berakas 'A' Health Centre
- B 'B' : Berakas 'B' Health Centre
- M : Muara Health Centre
- JP : Jubli Perak Health Centre
- JE : Jubli Emas Health Centre
- RG : Rimba Gadong Health Centre
- SA : PAP Hjh Rashidah Sa'adatul Bolkiah Health Centre

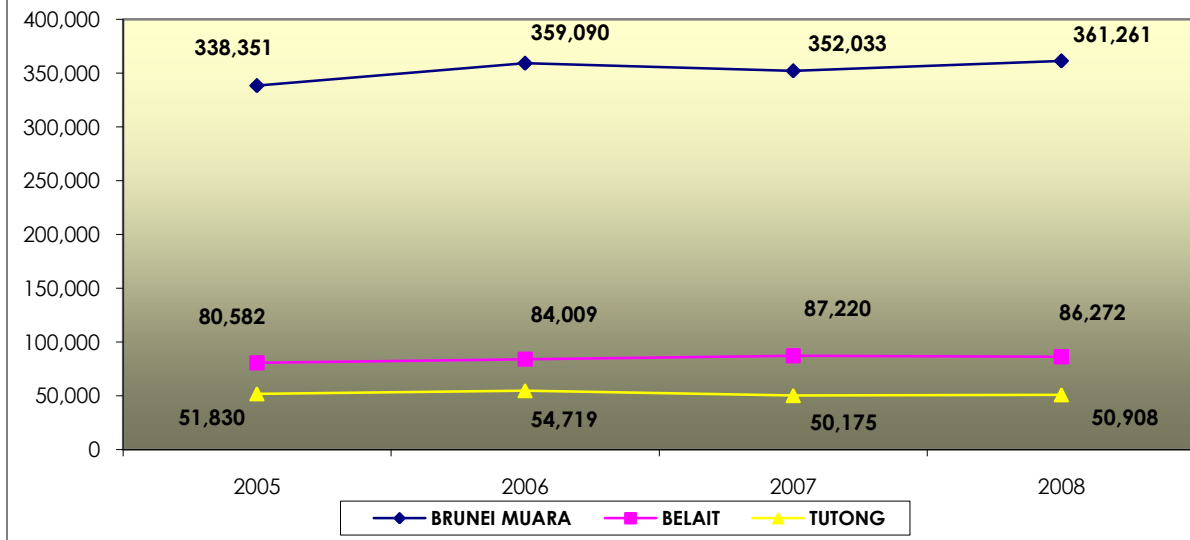
BELAIT HEALTH CENTRES

- BLT : Belait Health Centre
- S : Seria Health Centre
- SL : Sungai Liang Health Centre

TUTONG HEALTH CENTRES

- TUT : Tutong Health Centre
- TEL : Telisai Health Centre
- LMN : Lamunin Health Centre
- SK : Sungai Kelugos Health Centre

TOTAL OUTPATIENT ATTENDANCES OF HEALTH CENTRES BY DISTRICT (2005 - 2008)



**OUTPATIENT MORBIDITY OF PRIMARY HEALTH CARE
FOR THE YEAR 2008 (HEALTH CENTRES)**

No.	ICD-10	DISEASES	MALE	FEMALE	TOTAL	%
1	J00-J06	Acute Upper Respiratory Infection	96,663	100,685	197,348	32.5
2	L00-L99	Diseases of Skin & Subcutaneous Tissue	19,708	22,545	42,253	7.0
3	I10-I15	Hypertensive Diseases	16,754	23,679	40,433	6.7
4	J10-J11	Influenza	9,016	9,351	18,367	3.0
5	J40-J46	Bronchitis, Chronic & Unspecified Emphysema & Asthma	8,939	7,976	16,915	2.8
6	H10	Conjunctivitis	7,902	7,865	15,767	2.6
7	A09	Gastroenteritis/Diarrhoea	7,957	7,598	15,555	2.6
8	E10-E14	Diabetes	6,041	8,387	14,428	2.4
9	E70-E90	Metabolic Disorders	4,527	6,117	10,644	1.8
10	R10	Abdominal and Pelvic Pain	4,358	6,137	10,495	1.7
11	H65-H66	Otitis Media	3,400	3,895	7,295	1.2
12	K25-K27	Gastric, Duodenal and Peptic Ulcer	2,542	3,648	6,190	1.0
13	K00-K08	Diseases of Teeth & Supporting Structures	2,181	2,527	4,708	0.8
14	B01	Chickenpox	1,877	1,695	3,572	0.6
15	J35.3	Hypertrophy of Tonsils & Adenoids	1,674	1,825	3,499	0.6
Others			85,253	114,311	199,564	32.9
GRAND TOTAL			278,792	328,241	607,033	100.0

SINGLE LEADING CAUSES OF PRIMARY HEALTH CARE OUTPATIENT MORBIDITY BY DISTRICT FOR THE YEAR 2008

No.	HEALTH CENTRES (BRUNEI MUARA DISTRICT)	HEALTH CENTRES (BELAIT DISTRICT)	HEALTH CENTRES (TUTONG DISTRICT)	ALL DISTRICTS
1	Acute Upper Respiratory Infections 148,228 (32.1%)	Acute Upper Respiratory Infections 29,257 (36.7%)	Acute Upper Respiratory Infections 19,863 (30.7%)	Acute Upper Respiratory Infections 197,348 (32.5%)
2	Hypertensive Diseases 33,867 (7.3%)	Diseases of Skin & Subcutaneous Tissue 6,271 (7.9%)	Hypertensive Diseases 6,278 (9.7%)	Diseases of Skin & Subcutaneous Tissue 42,253 (7.0%)
3	Diseases of Skin & Subcutaneous Tissue 31,630 (6.8%)	Gastroenteritis and Diarrhoea 2,566 (3.2%)	Diseases of Skin & Subcutaneous Tissue 4,352 (6.7%)	Hypertensive Diseases 40,433 (6.7%)
4	Influenza 18,335 (4.0%)	Conjunctivitis 2,457 (3.1%)	Diabetes 1,393 (2.2%)	Influenza 18,367 (3.0%)
5	Bronchitis.Chronic & Unspecified Emphysema & Asthma 14,083 (3.0%)	Bronchitis Chronic & Unspecified Emphysema & Asthma 1,456 (1.8%)	Bronchitis Chronic & Unspecified Emphysema & Asthma 1,376 (2.1%)	Bronchitis Chronic & Unspecified Emphysema & Asthma 16,915 (2.8%)
6	Diabetes 12,970 (2.8%)	Abnominal and Pelvic Pain 605 (0.8%)	Abnominal and Pelvic Pain 1,282 (2.0%)	Conjunctivitis 15,767 (2.6%)
7	Conjunctivitis 12,330 (2.7%)	Diseases of Teeth & Supporting Structures 436 (0.5%)	Conjunctivitis 980 (1.5%)	Gastroenteritis and Diarrhoea 15,555 (2.6%)
8	Gastroenteritis and Diarrhoea 12,198 (2.6%)	Chicken Pox 432 (0.5%)	Metabolic Disorders 836 (1.3%)	Diabetes 14,428 (2.4%)
9	Abnominal and Pelvic Pain 8,608 (1.9%)	Falls 373 (0.5%)	Gastroenteritis and Diarrhoea 791 (1.2%)	Metabolic Disorders 10,644 (1.8%)
10	Otitis Media 6,934 (1.5%)	Gastric, Duodenal & Peptic Ulcer 318 (0.4%)	Gastric, Duodenal & Peptic Ulcer 635 (1.0%)	Abnominal and Pelvic Pain 10,495 (1.7%)
Grand Total	462,459	79,806	64,768	607,033

DENTAL HEALTH SERVICES

DENTAL FACILITIES (2008)

DISTRICTS	No of dental centres / clinics	No of dental chairs
Brunei-Muara	6	49
Tutong	3	8
Belait	4	16
Temburong	1	2
TOTAL	14	75

ORAL HEALTH CARE COVERAGE OF THE POPULATION (including School Dental Services) - By Dental Specialists, Dental Officers and Dental Nurses / Therapists

YEAR	New Patients	Population	Oral Health Care Coverage
2006	75,399	383,000	19.7%
2007	87,820	390,000	22.5%
2008	83,748	398,000	21.0%

ORAL HEALTH CARE COVERAGE OF PRIMARY SCHOOL POPULATION - By Dental Nurses in School Dental Services

YEAR	New Patients	Total Primary School Children Population	Oral Health Care Coverage	No. of Dental Nurses
2006	16,919	57,764	29.3%	53
2007	25,316	57,643	43.9%	49
2008	22,724	49,269	46.1%	38

UTILIZATION OF THE ORAL HEALTH SERVICES BY THE POPULATION - Provided by Dental Specialists / Dental Officers and Dental Nurses / Therapists

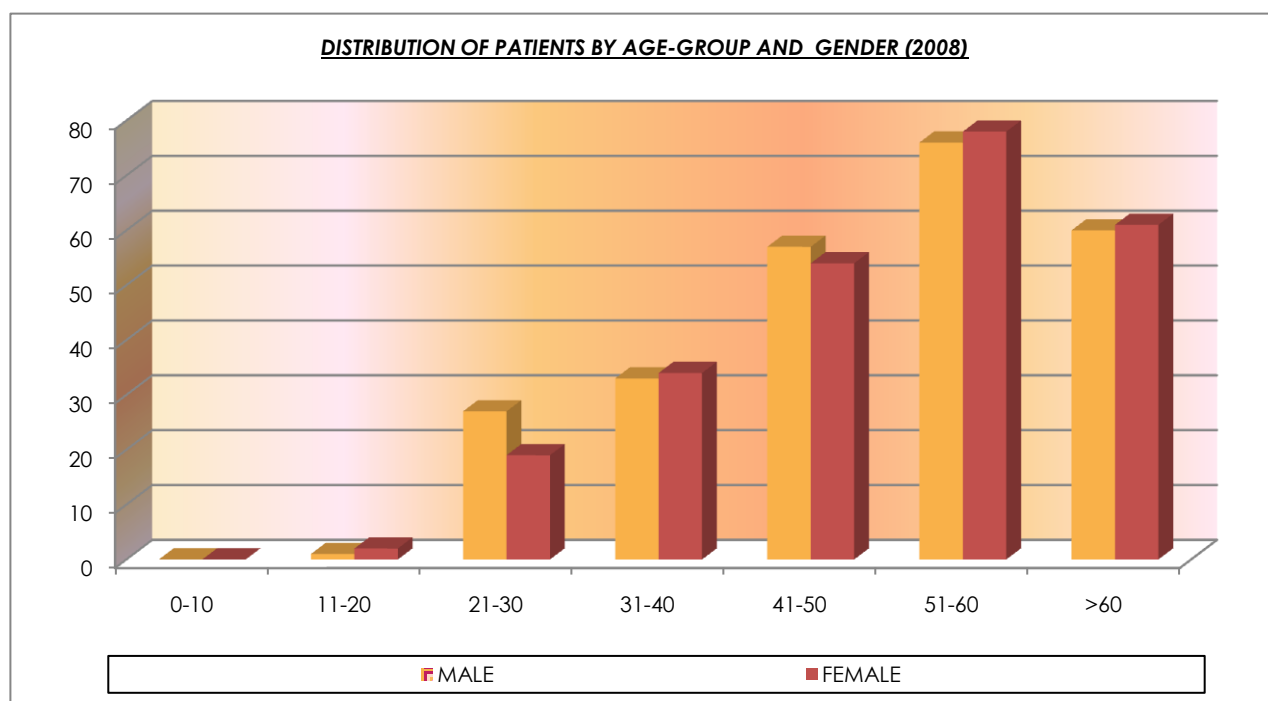
YEAR	Attendances Serviced by Dental Specialists and Dental Officers			Attendances Serviced by Dental Nurses	Grand Total of Attendances
	Outpatient Attendances	Other Attendances	Total Attendances		
2006	62,325	33,393	95,718	78,459	174,177
2007	60,833	30,129	90,962	84,377	175,339
2008	59,935	27,296	87,231	80,749	167,980

Source:

Research and Development Division, Department of Dental Services, MOH

RENAL SERVICES

DIALYSIS CENTER	NO. OF PATIENTS		
	MALE	FEMALE	TOTAL
Rimba Dialysis Center	97	116	213
Kiarong Dialysis Center	26	34	60
Dialysis Center RIPAS Hospital	28	42	70
Dialysis Center SSB Hospital, Belait	19	27	46
Continuous Ambulatory Peritoneal Dialysis	36	29	65
Transplant Unit	19	12	31
Dialysis Center PIHM Hospital, Temburong	10	7	17
TOTAL	235	267	502



NOTIFIABLE DISEASES

The most common communicable disease reported during 2008 are Chickenpox, Hand Foot & Mouth, Gonorrhoea Infections, Gastroenteritis, and Tuberculosis.

DISEASES	BM	TUT	TEM	KB	TOTAL
Food and Water Borne Diseases					
Cholera	0	0	0	0	0
Dysentery (Shigella)	5	1	0	3	9
Food Poisoning	104	24	6	43	177
Gastroenteritis	141	36	19	138	334
Hepatitis A	5	1	1	2	9
Para/Typhoid Fever	1	0	0	0	1
Salmonella Infection	47	4	3	7	61
TOTAL	303	66	29	193	591
Person to Person Transmitted Diseases					
Chicken Pox	1,927	444	111	432	2,914
Ebola Fever	0	0	0	0	0
Hand, Foot & Mouth Disease	937	135	42	476	1590
Influenza A	0	0	0	0	0
Influenza B	0	0	0	0	0
Influenza Others	0	0	0	0	0
Leprosy	1	0	0	1	2
Meningitis	2	0	0	3	5
Scarlet Fever	1	1	0	0	2
Severe Acute Respiratory Syndrome	0	0	0	0	0
TOTAL	2,868	580	153	912	4,513
Vaccine Preventable Diseases					
Diphtheria	0	0	0	0	0
Hepatitis B	1	0	0	0	1
Measles	1	1	0	0	2
Mumps	21	7	0	13	41
Pertussis	2	0	0	0	2
Acute Flaccid Paralysis (AFP)	4	0	0	0	4
Rubella	0	0	0	0	0
Smallpox	0	0	0	0	0
Tetanus	0	0	0	0	0
Tetanus Neonatorum	0	0	0	0	0
Tuberculosis (data from TB Clinics)	140	23	12	35	210
TOTAL	169	31	12	48	260

NOTIFIABLE DISEASES

DISEASES	BM	TUT	TEM	KB	TOTAL
Sexually Transmitted Diseases					
AIDS	0	0	0	0	0
Chancroid	0	0	0	2	2
Chlamydial infection	120	5	1	10	136
Genital Herpes	3	0	0	3	6
Gonorrhoea Infections	321	23	5	42	391
Hepatitis C	0	1	0	7	8
HIV * (Local only)	5	0	0	3	8
Non Gonococcal Urethritis	11	0	0	4	15
Ophthalmia Neonatorum	1	0	0	0	1
Syphilis (All forms)	35	1	1	10	47
TOTAL	496	30	7	81	614
Vector Borne Diseases					
Dengue Fever	12	9	6	5	32
Dengue Haemorrhagic Fever	0	0	0	0	0
Filariasis	0	0	0	1	1
Leptospirosis	0	0	0	0	0
Malaria	11	4	2	1	18
Plague	0	0	0	0	0
Typhus	0	0	0	0	0
West Nile Fever	0	0	0	0	0
Yellow Fever	0	0	0	0	0
TOTAL	23	13	8	7	51
Zoonotic Diseases					
Anthrax	0	0	0	0	0
Bovine Spongiform Encephalitis	0	0	0	0	0
Nipah Virus	0	0	0	0	0
Rabies	0	0	0	0	0
TOTAL	0	0	0	0	0
Other Infectious Diseases					
Conjunctivitis(Chlamydia)	4	0	0	0	4
Encephalitis	0	0	0	0	0
Legionellosis	0	0	0	0	0
Puerperal infection	0	0	0	2	2
Viral Encephalitis	2	0	0	0	2
Viral Hepatitis	0	0	0	0	0
TOTAL	6	0	0	2	8
Other					
Septicaemia	0	0	0	0	0
Others	48	18	9	20	95
GRAND TOTAL	3,913	738	218	1,263	6,132

Note:

* Indicate incidence of AIDS/HIV cases among local only.

Source:

Disease Control Unit, MOH

NUTRITIONAL STATUS

SCHOOL HEALTH (Primary I, IV & VI and Form 2 only)	PERCENTAGE (%)				
	2004	2005	2006	2007	2008
1. Normal weight	71.5	69.4	70	64.8	69.8
2. Overweight	13.1	14.7	13.7	16	13.3
3. Obese	10.4	11.8	11.9	14.1	12.3
4. Underweight	5	4.1	4.4	5.1	4.5

Note :

In 2008, the Total Number of School Target Population is **29,390** for Primary I, III, IV & VI and **8,593** for Form 2

Source :

School Health Services.

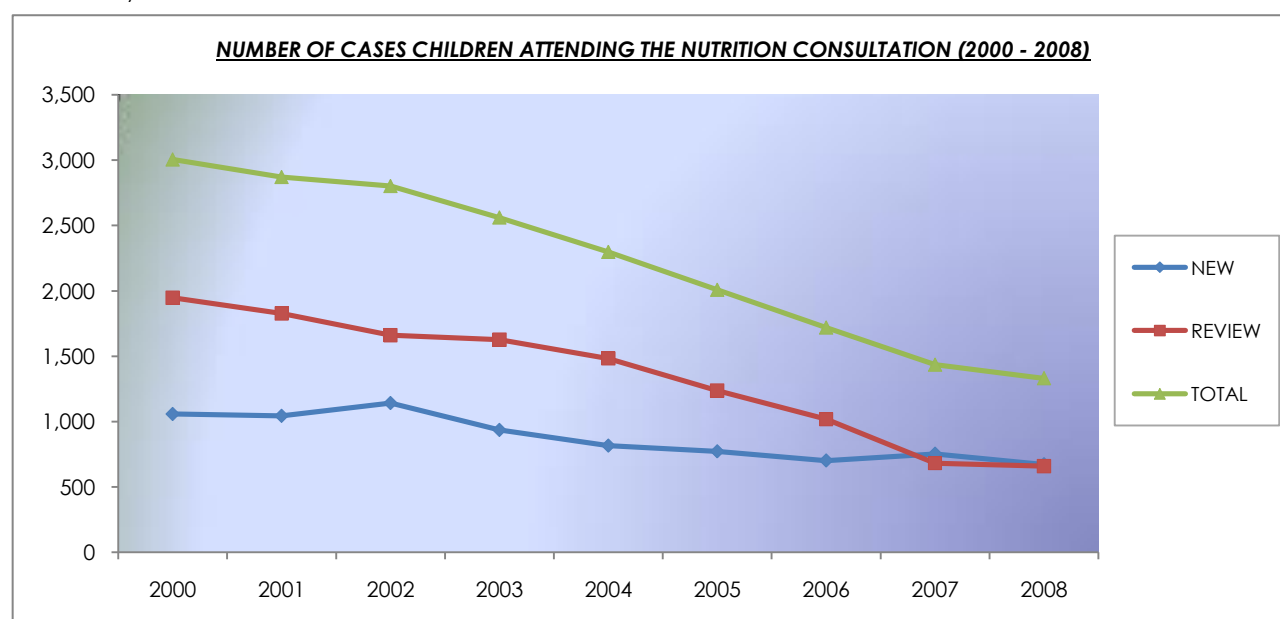
MOTHER & CHILD HEALTH CLINICS (BELOW 5 YEARS) FOR THE YEAR 2008	PERCENTAGE (%)				TOTAL
	NEW CASES		REVIEW CASES		
	MALE	FEMALE	MALE	FEMALE	
1. Underweight	151 (22.5%)	214 (31.8%)	140 (21.2%)	218 (33.1%)	723 (54.3%)
2. Overweight	138 (20.5%)	120 (17.9%)	141 (21.4%)	135 (20.5%)	534 (40.1%)
3. Others *	25 (3.7%)	24 (3.6%)	11 (1.7%)	14 (2.1%)	74 (5.6%)
TOTAL	672 (50.5%)		659 (49.5%)		1331

Note :

* - Others including Healthy Eating, Low Birth Weight and Premature.

Source :

Community Nutrition Unit.



ROAD TRAFFIC ACCIDENTS

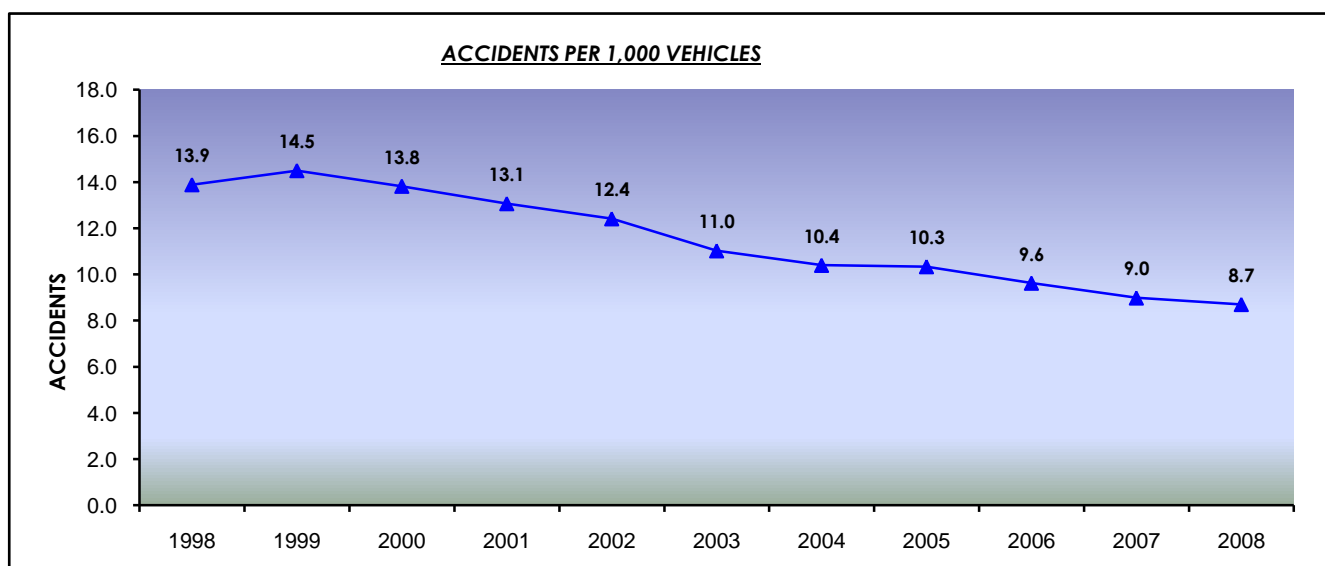
Y E A R	ACCIDENTS	KILLED	NUMBER KILLED PER 100,000 POPN.	INJURED	NUMBER INJURED FOR EACH PERSON KILLED	CASE FATALITY RATE % (CFR)	REGISTERED VEHICLES (revised)
1998	2,692	50	16.2	531	10.6	8.6	193,845
1999	2,900	45	14.2	515	11.4	8.0	200,034
2000	2,861	41	12.6	554	13.5	6.9	206,994
2001	2,794	45	13.5	537	11.9	7.7	213,816
2002	2,801	40	11.6	549	13.7	6.8	225,650
2003	2,625	28	8.0	645	23.0	4.2	238,061
2004	2,625	36	10.0	620	17.2	5.5	252,428
2005	2,771	38	10.3	528	13.9	6.7	267,995
2006	2,710	32	8.4	555	17.3	5.5	281,524
2007	2,674	54	13.8	556	10.3	8.9	297,592
2008	2,775	29	7.3	515	17.8	5.3	318,816

Source :

The Royal Brunei Police Force

Land Transport Department

In Brunei Darussalam, the number of accidents reported is declining despite the number of vehicles registered annually. However, the case fatality rate shows an increasing trend since 2003. These figures, whilst still below the world and regional averages, are still unacceptably high.



FORMULAE

- 1 CRUDE BIRTH RATE = $(\text{LIVEBIRTHS} / \text{POP.}) \times 1000$
- 2 GENERAL FERTILITY RATE = $[\text{LIVEBIRTHS} / \text{WOMEN POP. AGED (15-49)}] \times 1000$
- 3 CRUDE DEATH RATE = $(\text{NO. OF DEATHS} / \text{POP.}) \times 1000$
- 4 UNDER 5 MORTALITY RATE = $[(0-4) \text{ DEATHS} / \text{LIVEBIRTHS}] \times 1000$
- 5 LATE FETAL DEATH RATIO = $(\text{FETAL DEATHS} / \text{LIVEBIRTHS}) \times 1000$
- 6 PERINATAL MORTALITY RATIO = $(\text{PERINATAL DEATHS} / \text{LIVEBIRTHS}) \times 1000$
- 7 EARLY NEONATAL MORTALITY RATE = $(\text{EARLY NEONATAL DEATHS} / \text{LIVEBIRTHS}) \times 1000$
- 8 LATE NEONATAL MORTALITY RATE = $(\text{LATE NEONATAL DEATHS} / \text{LIVEBIRTHS}) \times 1000$
- 9 NEONATAL MORTALITY RATE = $(\text{NEONATAL DEATHS} / \text{LIVEBIRTHS}) \times 1000$
- 10 POST NEONATAL MORTALITY RATE = $(\text{POST NEONATAL DEATHS} / \text{LIVEBIRTHS}) \times 1000$
- 11 INFANT MORTALITY RATE = $(\text{INFANT DEATHS} / \text{LIVEBIRTHS}) \times 1000$
- 12 MATERNAL MORTALITY RATIO = $(\text{MATERNAL DEATHS} / \text{LIVEBIRTHS}) \times 1000$

HOSPITAL PERFORMANCE INDICES

- 1 AV. INPATIENTS / DAYS = $\text{PATIENTS DAYS} / \text{NO OF DAYS}$
- 2 % OCCUPANCY = $[(\text{AV. INPATIENTS} / \text{DAYS}) / \text{AVAILABLE BEDS}] \times 100$
- 3 AV. LENGTH OF STAY (days) = $\text{PATIENT DAYS} / \text{DISCHARGES \& DEATHS}$
- 4 AV. TURNOVER OF PATIENTS / BED = $\text{DISCHARGES \& DEATHS} / \text{AVAILABLE BEDS}$
- 5 AV. TURNOVER INTERVAL (days) = $[(\text{AVAILABLE BEDS} \times 365) - \text{PATIENT DAYS}] / \text{DISCHARGES \& DEATHS}$
- 6 DAY CASE PERCENTAGES (per 100 admissions) = $(\text{DAY-PATIENTS} / \text{ADMISSIONS}) \times 100$
- 7 HOSPITAL DEATH RATE (per 100 discharges & deaths) = $(\text{DEATHS} / \text{DISCHARGES \& DEATHS}) \times 100$

POPULATION BASED HOSPITAL ACTIVITIES

- 1 OP ATTENDANCE RATE / 1000 POP. = $(\text{GENERAL OP ATTENDANCES} / \text{POP.}) \times 1000$
- 2 A&E OP ATTENDANCES RATE / 1000 POP. = $(\text{A\&E OP ATTENDANCES} / \text{POP.}) \times 1000$
- 3 HOSPITALIZATION RATE / 1000 POP. = $(\text{ADMISSION} / \text{POP.}) \times 1000$
- 4 RATE OF PATIENT DAYS / 1000 POP. = $(\text{PATIENT DAYS} / \text{POP.}) \times 1000$

Note:

- AV. = Average
- OP = Outpatient
- POP. = Population

DEFINITIONS

- 1 INFANT DEATHS : Deaths aged less than 1 year
- 2 EARLY NEONATAL DEATHS : Deaths aged less than 7 days
- 3 LATE NEONATAL DEATHS : Deaths aged 7 - 28 days
- 4 NEONATAL DEATHS : Deaths aged less than 28 days
- 5 PERINATAL DEATHS : Fetal Deaths + Early Neonatal Deaths

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Ledger Section, Treasury Department

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Birth, Death and Adoption Section
Immigration and National Registration Department

Ministry of Communication

Land Transport Department

Ministry of Health

Department of Medical Services
Department of Health Services