



**MINISTRY OF HEALTH  
BRUNEI DARUSSALAM**

**HEALTH  
INFORMATION  
BOOKLET  
  
2011**

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

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## **PREFACE**

Bismillahir Rahmanirrahim.

Alhamdulillah, once again, the Department of Policy and Planning through the Statistics Unit presents the Health Information Booklet for 2011. The compilation and publication of this Booklet is an annual effort by the Statistics Unit and serves as an important reference document on health and health related information for the use of health personnel, policy makers, students, researchers as well as the general public. We are also happy to note that the publication of this Booklet continues to be anticipated by many and is increasingly being referenced or sourced in both local and international publications.

The contents and formats of this Booklet are further expanded for 2011. Of note, reporting of information from Tobacco Control Division and Hospital Monitoring Activities on Bed Occupancies are new additions to this publication for 2011. Existing reporting contents and formats also underwent reviews as is the case with reports from Occupational Health Division and Human Resource for Health. In addition, summary write ups on Brunei Darussalam's Demography, Economy, Health Status and Health Care Delivery System are also included. As part of our drive to develop the Booklet into a useful reference document, we now have listed in full the 8 goals and targets of the Millennium Development Goals and their respective indicators as well as Health Indicators of selected countries, for the reference of our readers.

In the interest of producing a more accurate and updated report, the Department of Policy and Planning, Ministry of Health has include certain population data from Census 2011 Preliminary Report which was recently released by the Brunei Darussalam Economic Planning and Development Department into this Health Information Booklet and where possible, to use the Census 2011 population figures in our calculation.

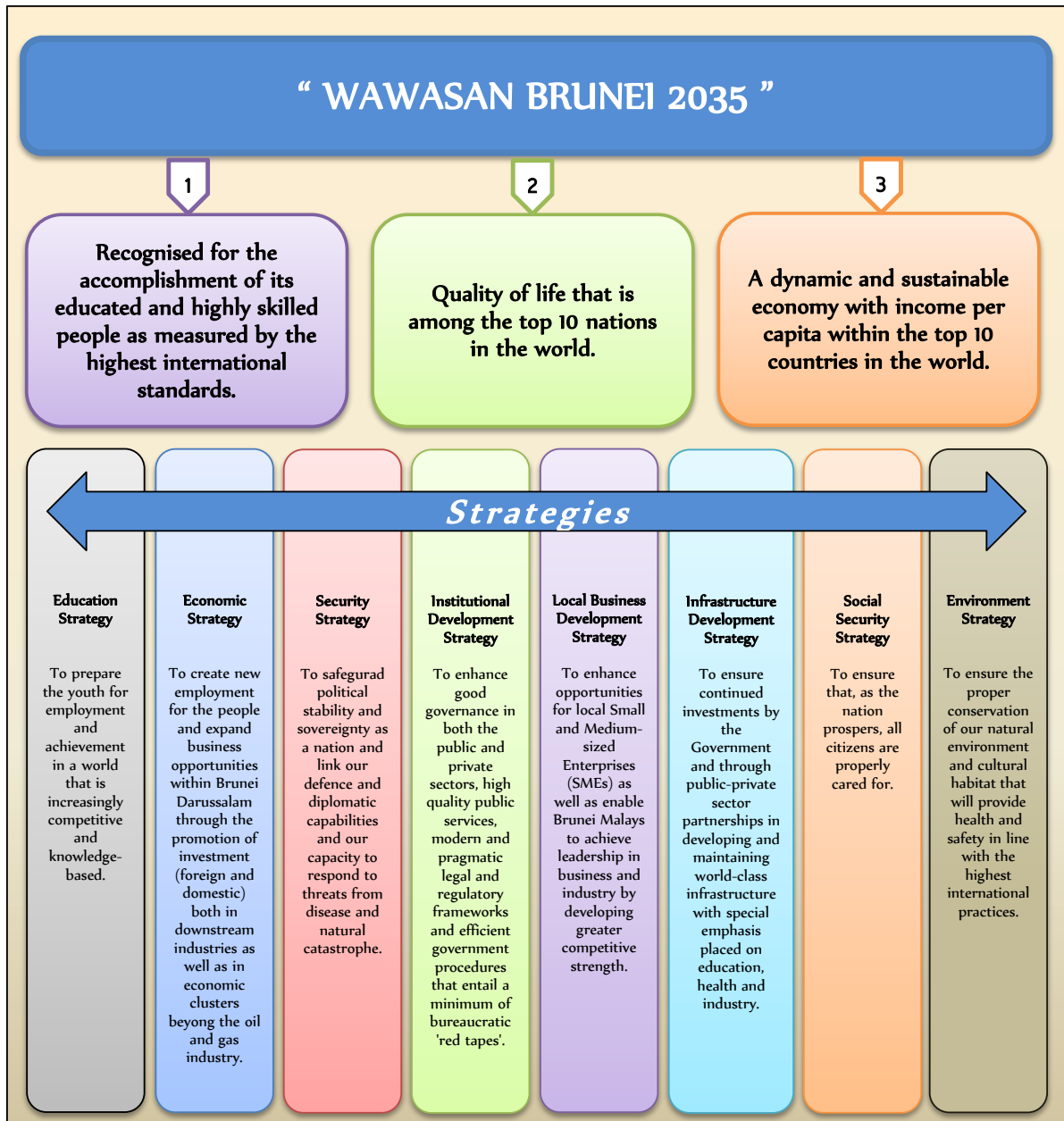
The publication of this Booklet will not have materialised without the continuous support and help from our various sources within the Departments under the Ministry of Health, who have been responsive to our objective for the publication of reliable information in the shortest possible time. Our appreciation also goes out to the relevant departments under the Prime Minister's Office, Ministry of Finance, Ministry of Communication and Ministry of Home Affairs for their cooperation in providing the necessary information.

Lastly, we hope this Health Information Booklet 2011 will continue to contribute to the generation and dissemination of health knowledge and information.

*TOGETHER TOWARDS A HEALTHY NATION*

**HAJAH ZAHRAH DP HAJI MD HASHIM**  
**Director of Policy and Planning**  
**Ministry of Health**  
**Brunei Darussalam**

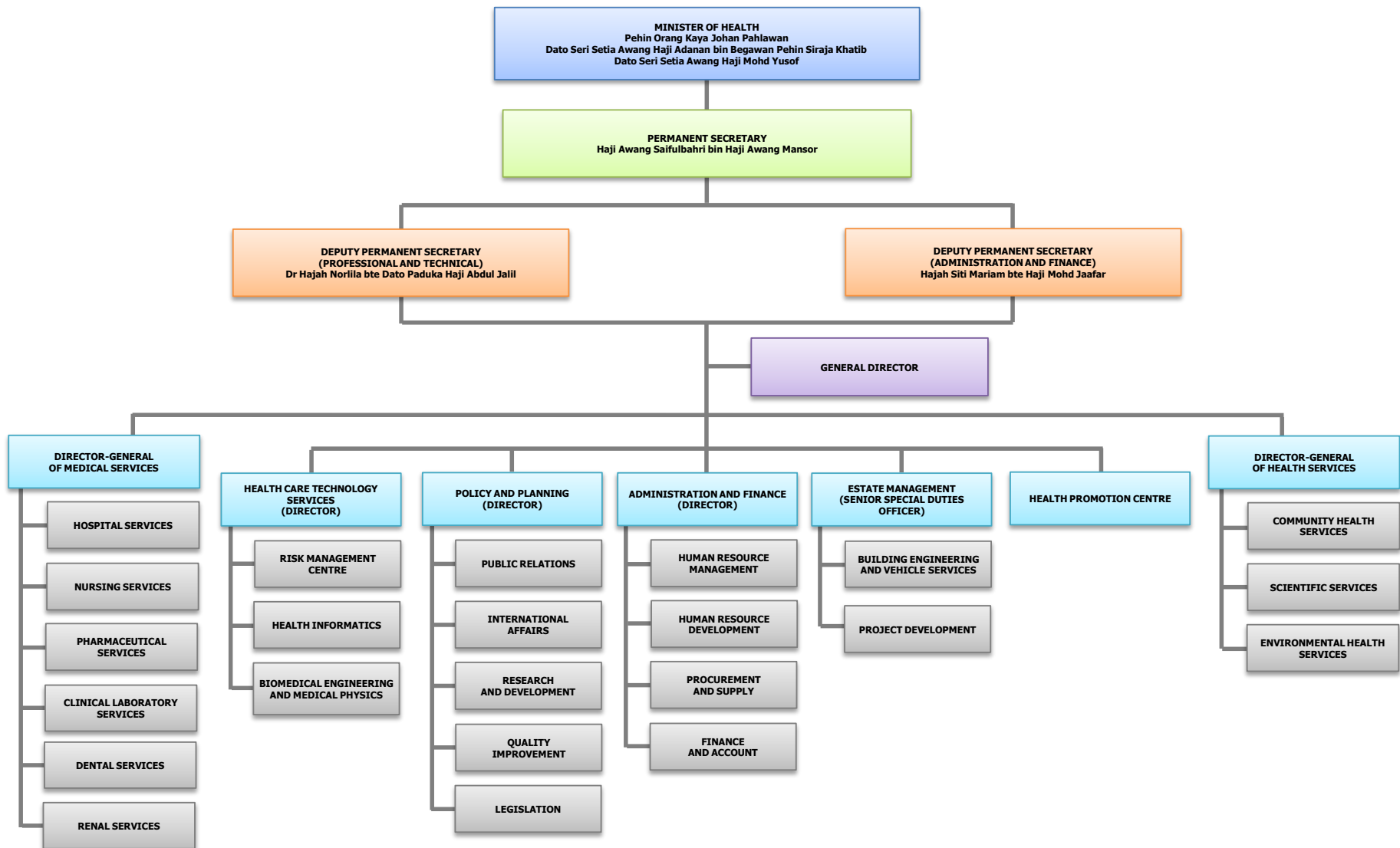
# Brunei Darussalam's Vision and Strategies



# Ministry of Health's Vision and Strategies



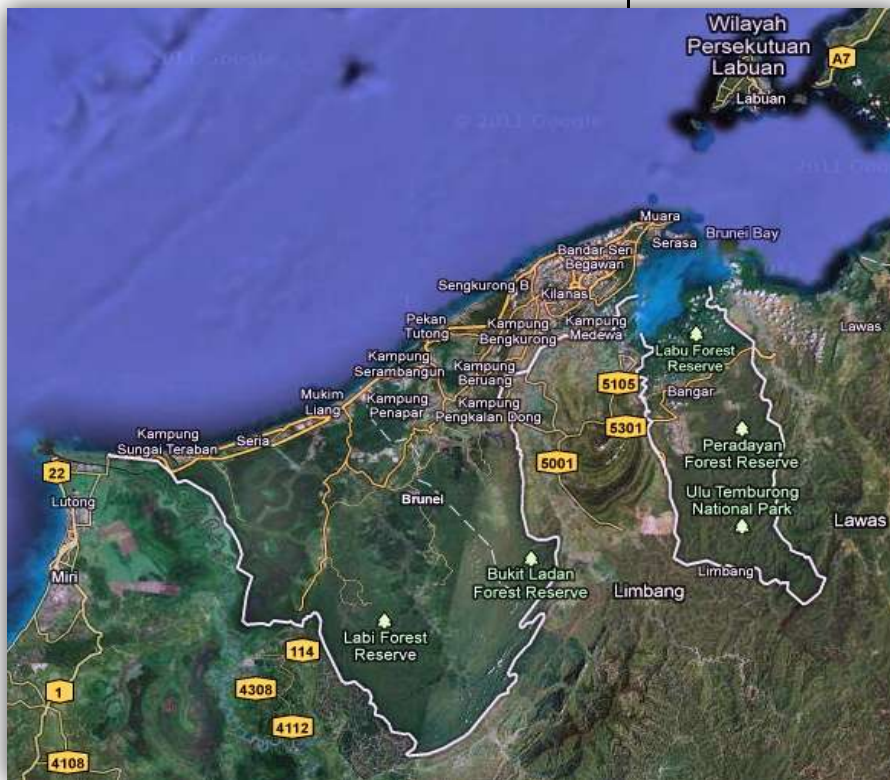
## Organisation Structure (As of June 2012)



## Geography

Brunei Darussalam lies on the northwest coast of Borneo island facing the South China Sea and about 443km north of the equator.

With a land area of 5,765 square kilometres, Brunei Darussalam shares a common border with Sarawak, an East Malaysia State, which splits Brunei into two parts; the western part consisting of 3 districts namely Brunei-Muara, Belait and Tutong while the eastern part is the Temburong district. The largest district is Belait District whilst the capital, Bandar Seri Begawan is in the smallest district of Brunei Muara.



CAPITAL  
~ **BANDAR SERI BEGAWAN**

AREA  
~ **5,765 sq. km**

DISTRICTS  
~ **4**

MUKIMS  
~ **39**

KAMPONGS / LOCALITY  
~ **430**

HOUSEHOLDS  
~ **68,208 (2011 Census)**

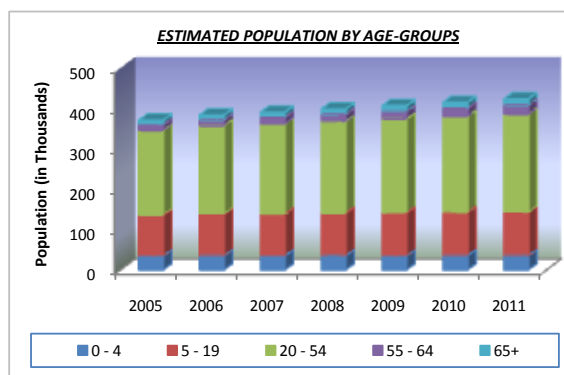
AV. NO. PERSONS  
PER HOUSEHOLD  
~ **5.8**



## Demography

The preliminary count for Brunei Darussalam's population based on census 2011 was 393,162 comprising of 51.5% males and 48.5% females with a gender ratio of 106. The average growth rate was recorded at 1.7% per annum.

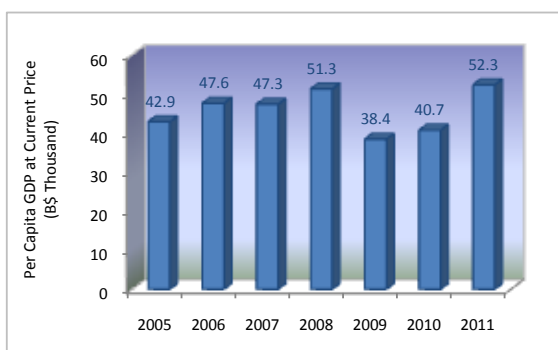
Despite the slowing growth rate since 2001, the total population is still increasing with previous statistics showing a thicker distribution of temporary residents and others in the working age range of 25-49 years old.



The demographic structure is essentially that of a young population; about 8.3% are under five years of age, 25.2% are under 15 years, and only 3.5% are 65 years or over. Brunei Darussalam has a multi-ethnic population, with Malays, comprising 65.7%, the predominant ethnic community, and Chinese, with 10.9%, the next major group. Other races and expatriates make up the rest of the population. (Figures are based on 2011 ESTIMATED Population).

## Economy

Brunei's economy is dominated by the oil and gas sector, which contributes nearly two thirds of the nominal income. Oil and gas exports made up about 95 percent of Brunei's export revenues, and generated about 90 percent of government revenue. Per capita GDP is one of the highest in the world, estimated at US\$32,000 in 2010. The economy has remained stable over the past 20 years with an average inflation rate of 1.5%. The Government's flexible and prudent fiscal policy has also enabled fiscal and economic sustainability over the years.



Source:  
Oxford Business Group - The Report: Brunei Darussalam 2009

Economic diversification is a major agenda in the Government's drive for economic sustainability and reducing reliance on hydrocarbon resources. Government policies increasingly emphasize economic and commercial viability in supporting development spending. Accelerated structural reforms and successful implementation of the various economic diversification initiatives could increase growth further.

The Government spending continues to include matters such as payroll and subsidies for basic necessities such as rice and housing and seen as important in driving domestic demands.

## ***Health Status***

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Brunei Darussalam has achieved most of the health related targets set in the Millennium Development Goals. These include significant reductions in under 5 mortality rate (U5MR) and infant mortality rate (IMR). IMR has declined from 42.3 per 1000 live births in 1966 to 8.3 per 1000 live births in 2011. Figures from the last two decades have shown only slight fluctuations to the current level, which is on par with the standard set in developed nations.

The U5MR has also declined from 22.7 per 1000 live births in 1980 to 10.0 per 1000 live births in 2011. Data analysis from 2004-2011 showed over two thirds of deaths occurred during early and late neonatal periods, mainly due to perinatal conditions and congenital abnormalities. In 2011, deaths occurring at infant period (less than 1 year) account for 84% of total deaths in U5MR.

Brunei Darussalam has a consistently very low maternal mortality ratio (MMR). In 2010, the MMR was calculated at 15.6 per 100,000 live births which is equivalent to 1 maternal death and no maternal death was recorded for the year 2011. It must be noted that Brunei's small population and relatively low live births (around 7,000 annually) makes calculation of MMR sensitive to small changes and any small fluctuations will result in significant jump in MMR. The very low in MMR can be attributed to the high access to reproductive health care, immunization programmes as well as high percentage deliveries in hospitals by skilled health personnel.

The prevalence of HIV/AIDS in Brunei Darussalam remains at a very low level despite an increase in the number of cases since 2006. Brunei Darussalam attained the status of 'Malaria Free' in 1987 by World Health Organisation and since then has continued its surveillance through the Malaria Vigilance and Vector Control Unit in the Ministry of Health. In 2000, Brunei was also declared Polio Free.

## ***Healthcare Delivery System***

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The Ministry of Health is responsible for the provision, management, delivery and regulatory functions of health in Brunei Darussalam. The delivery of health care services is mainly distributed through two main areas. The Department of Medical Services is responsible for hospital, nursing, medical state laboratory, pharmaceutical, dental and renal services, while the Department of Health Services oversees community health, environmental health and scientific services.

The Government of Brunei Darussalam provides free medical and health care to the citizens via government hospitals, health centres and health clinics. A large network of health centres and clinics, located throughout the country, provides primary health care services, including those for mothers and children. In remote areas that are not accessible or are difficult to access by land or water, primary health care is provided by Flying Medical Services. The decentralization of primary health care services in 2000 was initiated to enhance the accessibility of care to all in the country. To date, there are four government general hospitals, 16 health centres (including Panaga Health Centre), 15 health and maternal and child health clinics, three travelling health clinics and four Flying Medical Services teams for remote areas.

The main referral government hospital in the country is Raja Isteri Pengiran Anak Saleha (RIPAS) Hospital; located at the capital city. RIPAS Hospital offers a very wide and comprehensive range of medical and surgical services covering almost 30 different specialties and subspecialties.

Public Health Services is the main division in the Ministry of Health responsible for providing community-based preventive and promotive primary health care services as well as environmental health services in the country. As a result of its monitoring and surveillance activities and preventive programmes, such as immunization, the country is free from major communicable diseases.

Note:

Writeup based on 'ASEAN Country Health Profile'

# Population

Brunei Darussalam conducted the first population census in 1971. The fifth decennial 2011 census of population and housing has been completed by the Department of Economic Planning and Development, Prime Minister's Office.

The main purpose of the census was to collect, process, analyse and disseminate information on the demographic, socio-economic and other related characteristics of the the country's population. The data collected through the census will provide the new benchmark for the purpose of review, planning and policy formulation by the Government.

| <u>Estimated Population</u>                | <u>2008</u>   | <u>2009</u>   | <u>2010</u>   | <u>2011<sup>#</sup></u> | <u>2011<sup>##</sup></u> |
|--|---------------|---------------|---------------|-------------------------|--------------------------|
| Total (in thousands) :                     | 398.0         | 406.2         | 414.4         | 422.7                   | 393.162                  |
| Male (in thousands) :                      | 211.0         | 215.0         | 219.1         | 223.3                   | 202.668                  |
| Female (in thousands) :                    | 187.0         | 191.2         | 195.3         | 199.4                   | 190.494                  |
| Sex ratio (M / 100F) :                     | 113           | 112           | 112           | 112                     | 106                      |
| Persons / sq.km :                          | 69            | 70            | 72            | 73                      | 68                       |
| Annual rate of increase :                  | 2.1%          | 2.1%          | 2.0%          | 2.0%                    | 1.7%                     |
| Population median age :                    | 26.4          | 26.6          | 26.8          | 27.3                    | ...                      |
| <b><u>Age Structure (in thousands)</u></b> |               |               |               |                         |                          |
| 0 - 4 :                                    | 35.2 (8.8%)   | 34.7 (8.5%)   | 35.4 (8.5%)   | 35.1 (8.3%)             | ...                      |
| 5 - 19 :                                   | 105.3 (26.5%) | 106.4 (26.2%) | 106.5 (25.7%) | 107.3 (25.4%)           | ...                      |
| 20 - 54 :                                  | 227.1 (57.1%) | 232.5 (57.2%) | 237.8 (57.4%) | 242.7 (57.4%)           | ...                      |
| 55 - 64 :                                  | 17.2 (4.3%)   | 18.8 (4.6%)   | 20.3 (4.9%)   | 22.6 (5.3%)             | ...                      |
| 65 & Over :                                | 13.2 (3.3%)   | 13.8 (3.4%)   | 14.4 (3.5%)   | 15.0 (3.5%)             | ...                      |
| <b><u>Race (in thousands)</u></b>          |               |               |               |                         |                          |
| Malay * :                                  | 265.1 (66.6%) | 269.4 (66.3%) | 273.6 (66.0%) | 277.8 (65.7%)           | ...                      |
| Chinese :                                  | 43.7 (11.0%)  | 44.6 (11.0%)  | 45.4 (11.0%)  | 46.1 (10.9%)            | ...                      |
| Others :                                   | 89.2 (22.4%)  | 92.2 (22.7%)  | 95.4 (23.0%)  | 98.8 (23.4%)            | ...                      |
| <b><u>District (in thousands)</u></b>      |               |               |               |                         |                          |
| Brunei-Muara :                             | 276.6 (69.5%) | 283.3 (69.7%) | 290.1 (70.0%) | 296.5 (70.1%)           | 279.842 (71.2%)          |
| Belait :                                   | 66.0 (16.6%)  | 67.1 (16.5%)  | 68.3 (16.5%)  | 69.6 (16.5%)            | 60.609 (15.4%)           |
| Tutong :                                   | 45.3 (11.4%)  | 45.7 (11.3%)  | 45.8 (11.1%)  | 46.3 (11.0%)            | 43.855 (11.2%)           |
| Temburong :                                | 10.1 (2.5%)   | 10.1 (2.5%)   | 10.2 (2.5%)   | 10.3 (2.4%)             | 8.856 (2.3%)             |

Note :

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

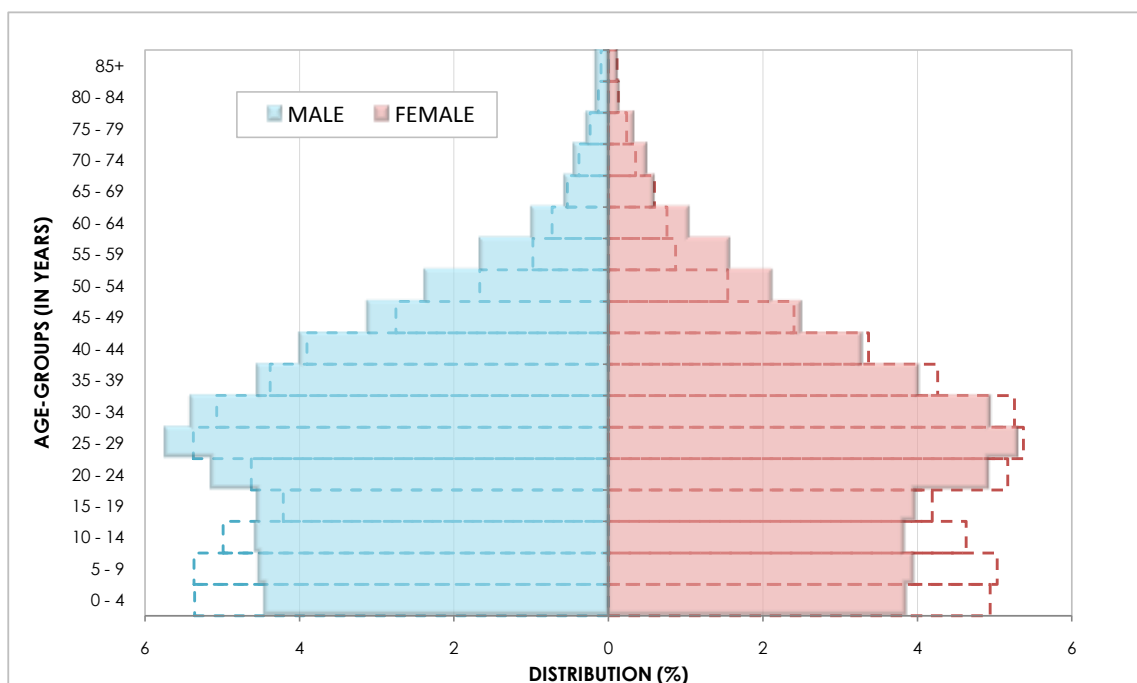
# - Figures are based on 2011 ESTIMATED Population based on 2001 Census.

## - Figures are based on Census 2011 Preliminary Report by Department of Economic Planning and Development. Census 2011 by age and race breakdowns are not available as yet.

Source :

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

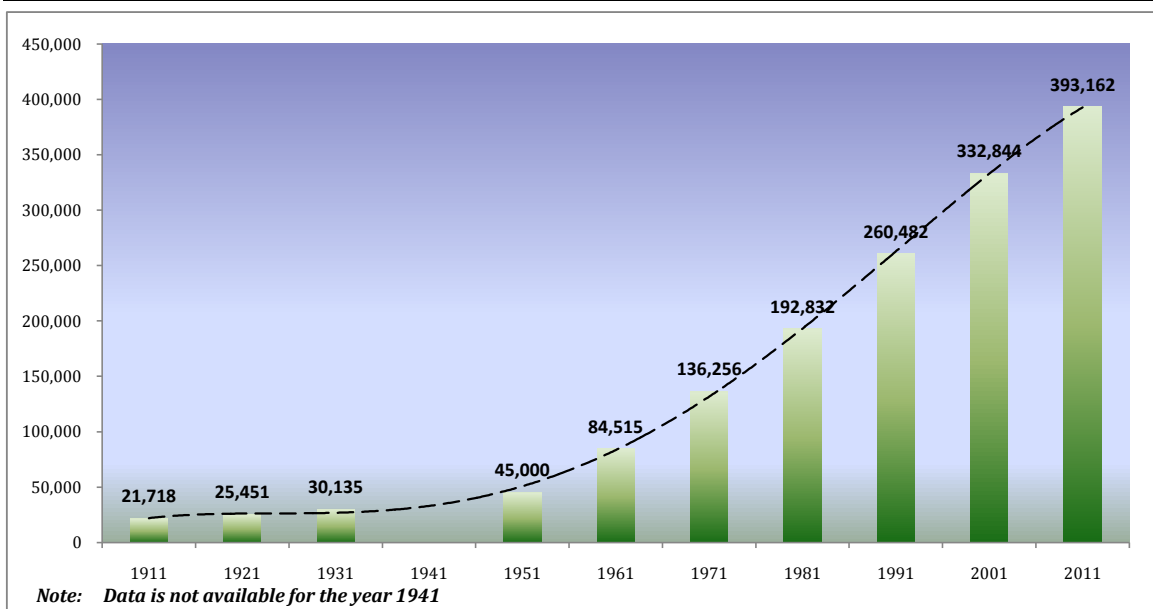
## Population Pyramid (2011)



**Total population in 2001** -----  
**Total population in 2011** ————— (Based on 2011 ESTIMATED Population)

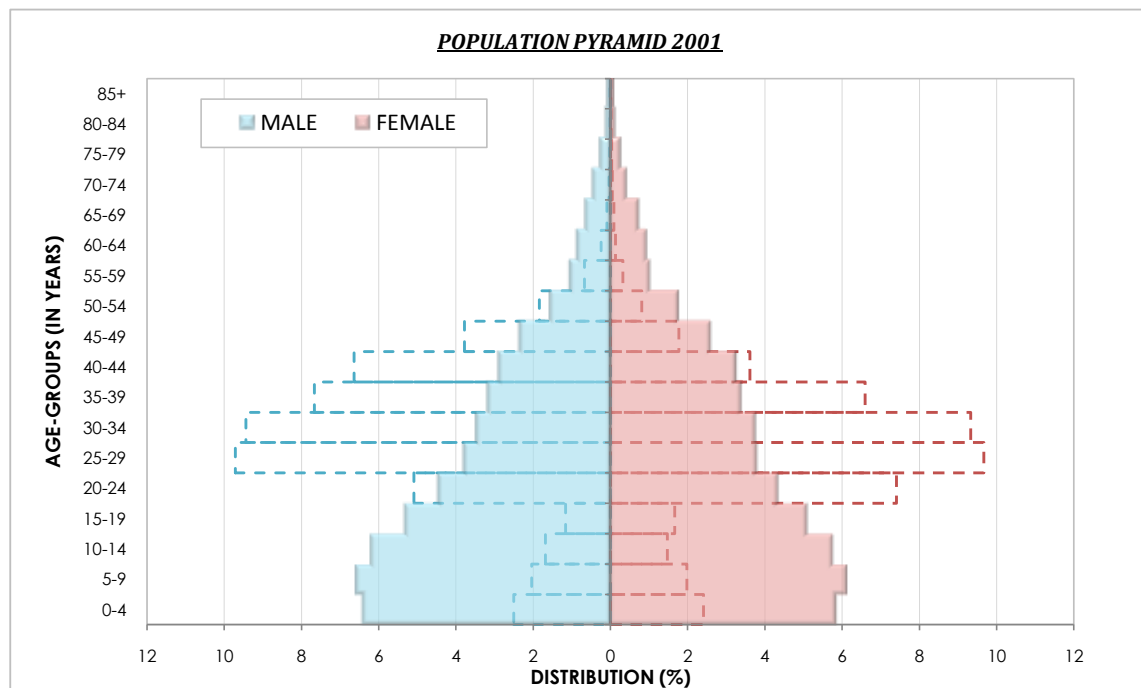
Note:  
 Population pyramid shows percentage distribution of population by gender and age-groups.  
 For example, (0 - 4) age-group for the year 2011 is represented with 8.3% of total population in which 4.4% and 3.9% are made up of male and female population respectively.

## Population Trend of Brunei Darussalam (1911 - 2011)

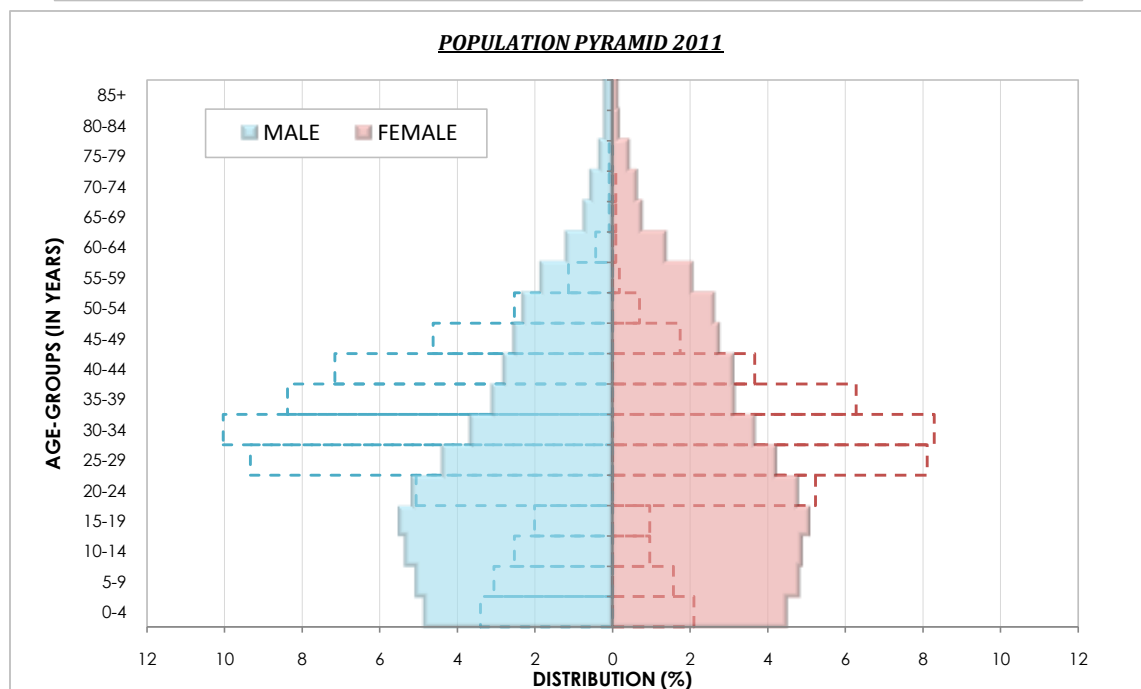


Source :  
 Department of Economic Planning and Development, Prime Minister's Office

## ***Population Pyramid by Age-Group, Gender and Residential Status (2001 and 2011)***



***Brunei Citizens and Permanent Residents***  
 ***Temporary Residents and Others***



*Note :*  
Based on 2011 ESTIMATED Population.

*Source :*  
Department of Economic Planning and Development, Prime Minister's Office

## Vital Statistics

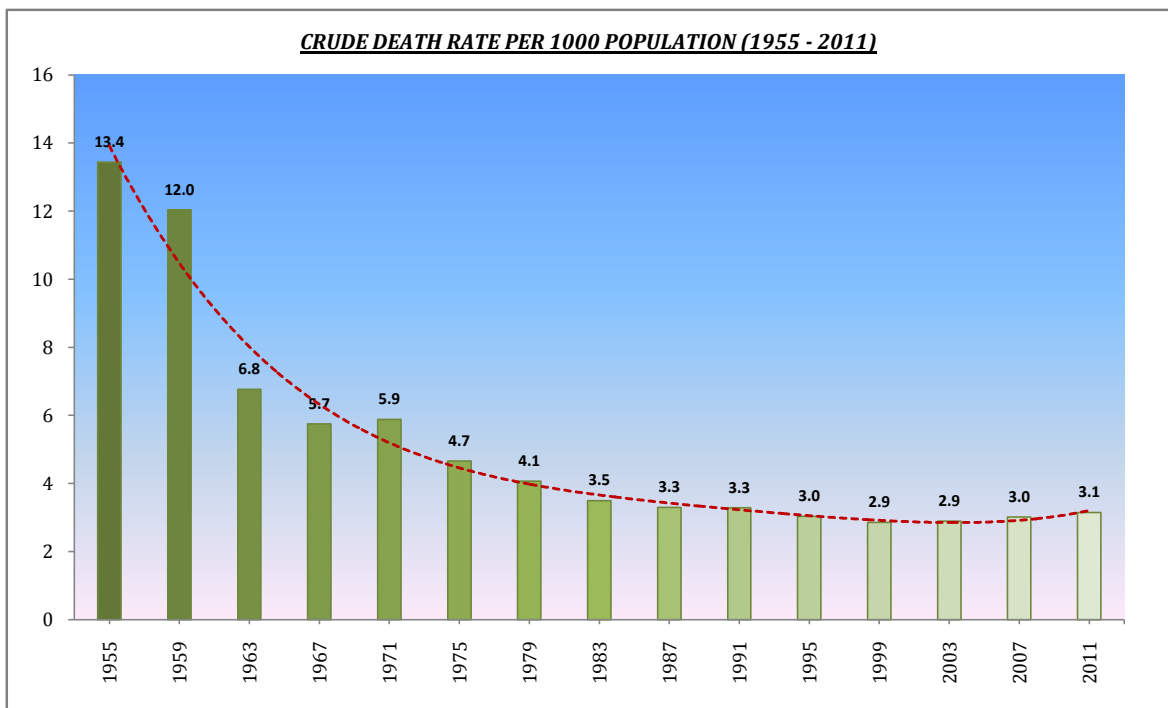
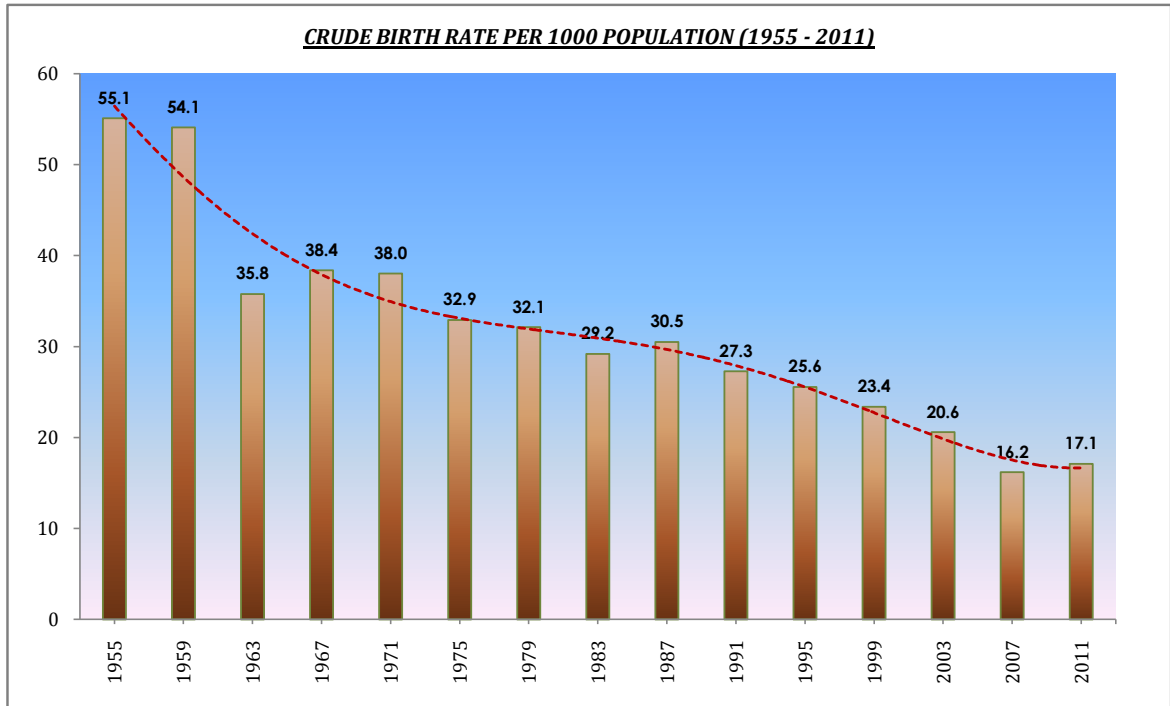
|  | 2007     | 2008     | 2009 | 2010 | 2011    |
|--|----------|----------|------|------|---------|
| Crude Birth Rate :<br>(per 1,000 Popn.)                      | 16.2     | 16.1     | 16.3 | 15.5 | 17.1    |
| General Fertility Rate :<br>(per 1,000 Women (15-49))        | 55.6     | 55.8     | 56.2 | 53.3 | 54.9 ** |
| Total Fertility Rate :<br>(per Women (15-49))                | 1.7      | 1.7      | 1.7  | 1.6  | 1.7 **  |
| Crude Death Rate :<br>(per 1,000 Popn.)                      | 3.0      | 2.7      | 2.9  | 2.9  | 3.1     |
| Infant Mortality Rate :<br>(per 1,000 LBs.)                  | 7.6      | 7.0      | 7.4  | 6.1  | 8.3     |
| Late Fetal Death Ratio :<br>(per 1,000 LBs.)                 | 6.3      | 6.4      | 4.8  | 5.5  | 3.7     |
| Perinatal Mortality Ratio :<br>(per 1,000 LBs.)              | 10.0     | 10.0     | 8.9  | 7.8  | 6.8     |
| Early Neonatal Mortality Rate :<br>(per 1,000 LBs.)          | 3.6      | 3.6      | 4.1  | 2.3  | 3.1     |
| Late Neonatal Mortality Rate :<br>(per 1,000 LBs.)           | 0.8      | 1.2      | 1.2  | 1.7  | 2.1     |
| Neonatal Mortality Rate :<br>(per 1,000 LBs.)                | 4.4      | 4.8      | 5.3  | 4.1  | 5.2     |
| Post Neonatal Mortality Rate :<br>(per 1,000 LBs.)           | 3.2      | 2.2      | 2.1  | 2.0  | 3.1     |
| Under 5 Mortality Rate :<br>(per 1,000 LBs.)                 | 9.5      | 9.5      | 8.2  | 7.3  | 10.0    |
| Number of Maternal Deaths *                                  | 1        | 0        | 1    | 1    | 0       |
| Maternal Mortality Ratio :<br>(per 100,000 LBs.)             | 15.8     | 0.0      | 15.1 | 15.6 | 0.0     |
| Life Expectancy At Birth - Total :                           | 76.5     | 78.2     | 77.7 | 77.7 | 78.9    |
| - Male :   | 75.2     | 76.6     | 77.1 | 76.5 | 78.5    |
| - Female :   | 77.8     | 79.8     | 78.3 | 78.8 | 79.3    |
| Percentage of Newborns Weighing At Least<br>2500g At Birth : | 88.5     | 88.9     | 88.8 | 89.3 | 88.1    |
| Percentage of Deliveries by Trained Health<br>Personnel :    | 99.9     | 99.7     | 99.9 | 99.8 | 99.7    |
| Literacy Rate (%) - Total :                                  | (#) 93.7 | (#) 93.7 | 96.1 | 96.4 | 96.7    |
| - Male :   | (#) 95.8 | (#) 95.8 | 97.3 | 97.5 | 97.7    |
| - Female :   | (#) 91.5 | (#) 91.5 | 94.6 | 95.0 | 95.4    |
| Per Capita GDP at current prices<br>(B\$) Thousand :         | 47.3     | 51.3     | 38.4 | 40.7 | 52.3    |

Note :

- Popn. - Population
- LBs - Live-births
- (#) - Census in 2001
- Red text - Millennium Development Goals (MDGs) Indicators
- \* - as per registered by Birth and Death Section, Immigration Department and amended for coding misclassifications by the Statistics Unit, Ministry of Health.
- \*\* - calculation based on 2011 ESTIMATED Population.

## Health Indicators

The crude birth rate of Brunei Darussalam has declined from 22.1 in 2001 to 17.1 per 1000 population in 2011 and the crude death rate was 3.1 per 1000 population in 2011.



## Millennium Development Goals (MDGs)

The United Nations Millennium Development Goals are eight goals that all 191 UN member states have agreed to try to achieve by the year 2015. The United Nations Millennium Declaration, signed in September 2000 commits world leaders to combat poverty, hunger, disease, illiteracy, environmental degradation, and discrimination against women. The MDGs are derived from this Declaration, and all have specific targets and indicators. ([http://www.who.int/topics/millennium\\_development\\_goals/en/](http://www.who.int/topics/millennium_development_goals/en/))

The eight MDGs listed below guide the efforts of virtually all organizations working in development and have been commonly accepted as a framework for measuring development progress:

| Millennium Development Goals (MDGs)   |   |  |  |
|---|---|--|--|
| Goals and Targets<br>(from the Millennium Declaration)  | Indicators for Monitoring progress  | Brunei Darussalam's<br>Current Status Related to<br>Health |  |
| <b>Goal 1 : Eradicate Extreme Poverty and Hunger</b>  |   |  |  |
| Target 1.A :<br>Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day.                                  | 1.1 Proportion of population below \$1 (PPP) per day                              |  |  |
|   | 1.2 Poverty gap ratio   |  |  |
|   | 1.3 Share of poorest quintile in national consumption                             |  |  |
| Target 1.B :<br>Achieve full and productive employment and decent work for all, including women and young people.                                   | 1.4 Growth rate of GDP per person employed.                                       |  |  |
|   | 1.5 Employment-to-population ratio.   |  |  |
|   | 1.6 Proportion of employed people living below \$1 (PPP) per day.                 |  |  |
|   | 1.7 Proportion of own-account and contributing family workers in total employment |  |  |
| Target 1.C :<br>Halve, between 1990 and 2015, the proportion of people who suffer from hunger   | 1.8 Prevalence of underweight children under five years of age                    | ...  |  |
|   | 1.9 Proportion of population below minimum level of dietary energy consumption    |  |  |
| <b>Goal 2 : Achieve Universal Primary Education</b>   |   |  |  |
| Target 2.A:<br>Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling         | 2.1 Net enrolment ratio in primary education                                      |  |  |
|   | 2.2 Proportion of pupils starting grade 1 who reach last grade of primary         |  |  |
|   | 2.3 Literacy rate of 15-24 year-olds, women and men                               |  |  |
| <b>Goal 3: Promote Gender Equality and Empower Women</b>  |   |  |  |
| Target 3.A:<br>Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015 | 3.1 Ratios of girls to boys in primary, secondary and tertiary education          |  |  |
|   | 3.2 Share of women in wage employment in the non-agricultural sector              |  |  |
|   | 3.3 Proportion of seats held by women in national parliament                      |  |  |
| <b>Goal 4: Reduce Child Mortality</b>   |   |  |  |
| Target 4.A:<br>Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate   | 4.1 Under-five mortality rate   | 10.0   |  |
|   | 4.2 Infant mortality rate   | 8.3  |  |
|   | 4.3 Proportion of 1 year-old children immunised against measles                   | 91.0   |  |



## Millennium Development Goals (MDGs)

| Millennium Development Goals (MDGs)   |   |   |
|---|---|---|
| Goals and Targets<br>(from the Millennium Declaration)  | Indicators for Monitoring progress  | Brunei Darussalam's<br>Current Status Related to<br>Health          |
| <b>Goal 5: Improve Maternal Health</b>  |   |   |
| Target 5.A:<br>Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio              | 5.1 Maternal mortality ratio  | 0.0   |
|   | 5.2 Proportion of births attended by skilled health personnel   | 99.7  |
| Target 5.B:<br>Achieve, by 2015, universal access to reproductive   | 5.3 Contraceptive prevalence rate   | ...   |
|   | 5.4 Adolescent birth rate   | 14.5  |
|   | 5.5 Antenatal care coverage (at least one visit and at least four visits)                               | 94.1 *  |
|   | 5.6 Unmet need for family planning  | ...   |
| <b>Goal 6: Combat HIV/AIDS, Malaria and Other Diseases</b>  |   |   |
| Target 6.A:<br>Have halted by 2015 and begun to reverse the spread of HIV/AIDS                            | 6.1 HIV prevalence among population aged 15-24 years  | < 0.1   |
|   | 6.2 Condom use at last high-risk sex  | ...   |
|   | 6.3 Proportion of population aged 15-24 years with comprehensive correct knowledge of HIV/AIDS          | ...   |
|   | 6.4 Ratio of school attendance of orphans to school attendance of non-orphans aged 10-14 years          |   |
| Target 6.B:<br>Achieve, by 2010, universal access to treatment for HIV/AIDS for all those who need it     | 6.5 Proportion of population with advanced HIV infection with access to anti-retroviral drugs           | 100.0   |
| Target 6.C:<br>Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases | 6.6 Incidence and death rates associated with malaria   | Incidence Rate (3.9)<br>Death Rate (0.0)                            |
|   | 6.7 Proportion of children under 5 sleeping under insecticide-treated bednets                           | n/a   |
|   | 6.8 Proportion of children under 5 with fever who are treated with appropriate anti-malarial drugs      | n/a   |
|   | 6.9 Incidence, prevalence and death rates associated with tuberculosis                                  | Incidence Rate (58.5)<br>Prevalence Rate (79.4)<br>Death Rate (3.6) |
|   | 6.10 Proportion of tuberculosis cases detected and cured under directly observed treatment short course | 100.0   |

Note :

\* - coverage for public health facilities only.

n/a - not applicable

## Millennium Development Goals (MDGs)

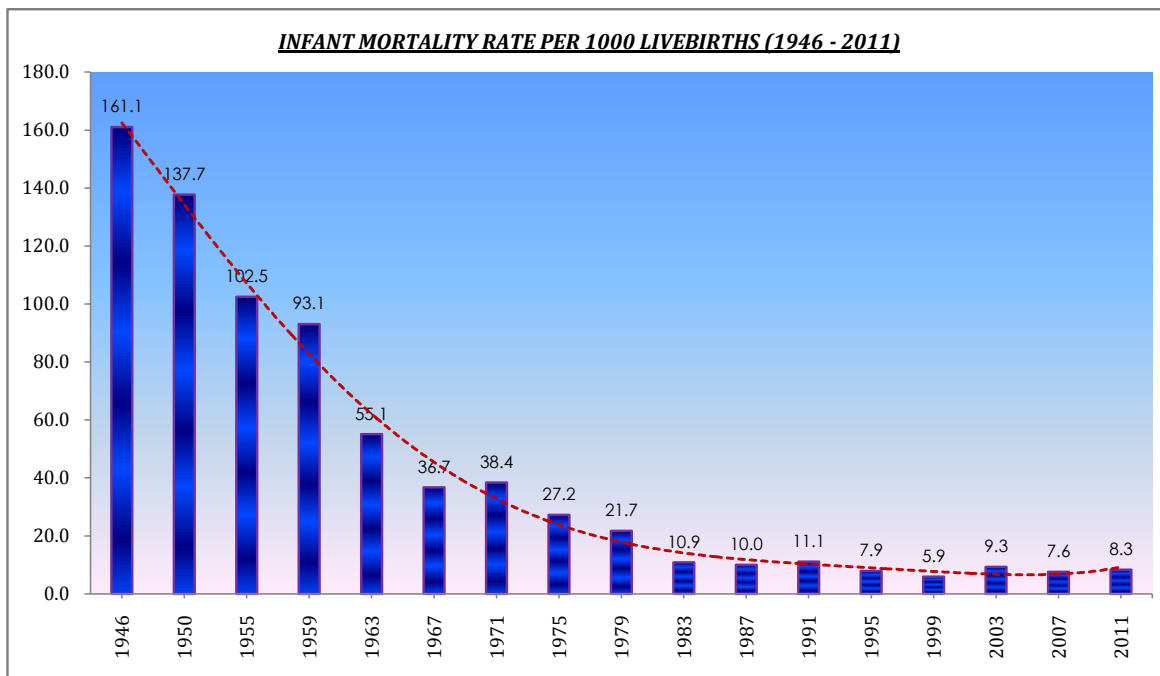
| Millennium Development Goals (MDGs)   |  |  |
|---|--|--|
| Goals and Targets<br>(from the Millennium Declaration)  | Indicators for Monitoring progress   | Brunei Darussalam's<br>Current Status Related to<br>Health |
| <b>Goal 7: Ensure Environmental Sustainability</b>  |  |  |
| Target 7.A:<br>Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources<br><br>Target 7.B:<br>Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss   | 7.1 Proportion of land area covered by forest  |  |
|   | 7.2 CO <sub>2</sub> emissions, total, per capita and per \$1 GDP (PPP)   |  |
|   | 7.3 Consumption of ozone-depleting substances  |  |
|   | 7.4 Proportion of fish stocks within safe biological limits  |  |
|   | 7.5 Proportion of total water resources used   |  |
|   | 7.6 Proportion of terrestrial and marine areas protected   |  |
|   | 7.7 Proportion of species threatened with extinction   |  |
| Target 7.C:<br>Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation  | 7.8 Proportion of population using an improved drinking water source   |  |
|   | 7.9 Proportion of population using an improved sanitation facility   |  |
| Target 7.D:<br>By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers   | 7.10 Proportion of urban population living in slums  |  |
| <b>Goal 8: Develop A Global Partnership For Development</b>   |  |  |
| Target 8.A:<br>Develop further an open, rule-based, predictable, non-discriminatory trading and financial system<br><br>Includes a commitment to good governance, development and poverty reduction – both nationally and internationally<br><br>Target 8.B:<br>Address the special needs of the least developed countries<br><br>Includes: tariff and quota free access for the least developed countries' exports; enhanced programme of debt relief for heavily indebted poor countries (HIPC) and cancellation of official bilateral debt; and more generous ODA for countries committed to poverty reduction | Some of the indicators listed below are monitored separately for the least developed countries (LDCs), Africa, landlocked developing countries and small island developing States.<br><i>Official development assistance (ODA)</i> |  |
|   | 8.1 Net ODA, total and to the least developed countries, as percentage of OECD/DAC donors' gross national income   |  |
|   | 8.2 Proportion of total bilateral, sector-allocable ODA of OECD/DAC donors to basic social services (basic education, primary health care, nutrition, safe water and sanitation)   |  |
|   | 8.3 Proportion of bilateral official development assistance of OECD/DAC donors that is untied  |  |
|   | 8.4 ODA received in landlocked developing countries as a proportion of their gross national incomes  |  |
|   | 8.5 ODA received in small island developing States as a proportion of their gross national incomes   |  |

## Millennium Development Goals (MDGs)

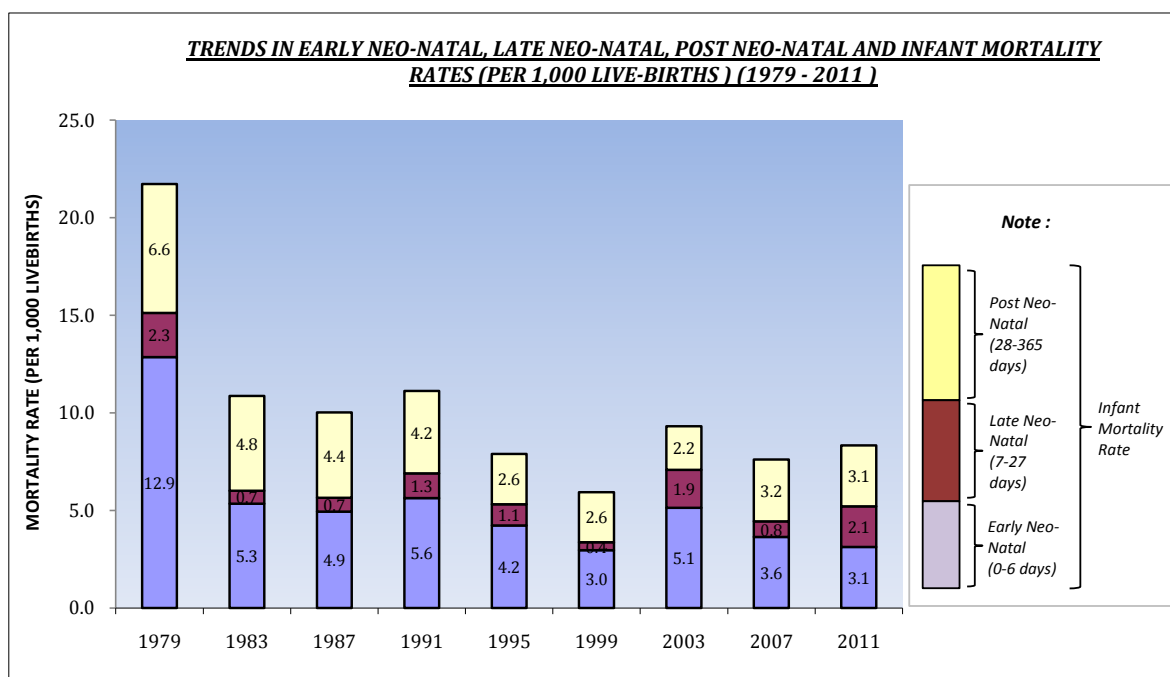
| Millennium Development Goals (MDGs)   |  |  |
|---|--|--|
| Goals and Targets<br>(from the Millennium Declaration)  | Indicators for Monitoring progress   | Brunei Darussalam's<br>Current Status Related to<br>Health                                     |
| <b>Goal 8: Develop A Global Partnership For Development (cont'd)</b>  |  |  |
| <p>Target 8.C:<br/>Address the special needs of landlocked developing countries and small island developing States (through the Programme of Action for the Sustainable Development of Small Island Developing States and the outcome of the twenty-second special session of the General Assembly)</p> <p>Target 8.D: Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term</p> | <u>Market Access</u>   |  |
|   | 8.6 Proportion of total developed country imports (by value and excluding arms) from developing countries and least developed countries, admitted free of duty |  |
|   | 8.7 Average tariffs imposed by developed countries on agricultural products and textiles and clothing from developing countries                                |  |
|   | 8.8 Agricultural support estimate for OECD countries as a percentage of their gross domestic product   |  |
|   | 8.9 Proportion of ODA provided to help build trade capacity  |  |
|   | <u>Debt Sustainability</u>   |  |
|   | 8.10 Total number of countries that have reached their HIPC decision points and number that have reached their HIPC completion points (cumulative)             |  |
|   | 8.11 Debt relief committed under HIPC and MDRI Initiatives   |  |
|   | 8.12 Debt service as a percentage of exports of goods and services   |  |
|   | Target 8.E:<br>In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries                              | 8.13 Proportion of population with access to affordable essential drugs on a sustainable basis |
| Target 8.F:<br>In cooperation with the private sector, make available the benefits of new technologies, especially information and communications   | 8.14 Telephone lines per 100 population  |  |
|   | 8.15 Cellular subscribers per 100 population   |  |
|   | 8.16 Internet users per 100 population   |  |

## Millennium Development Goals (MDGs) Indicators

Millennium Development Goal 4 (MDG4) is concerned with reducing by two-thirds the under-five mortality rate between 1990 and 2015. Under-five mortality rate is directly attributable to two other indicators namely infant mortality rate and proportion of 1 year-old children immunised against measles.



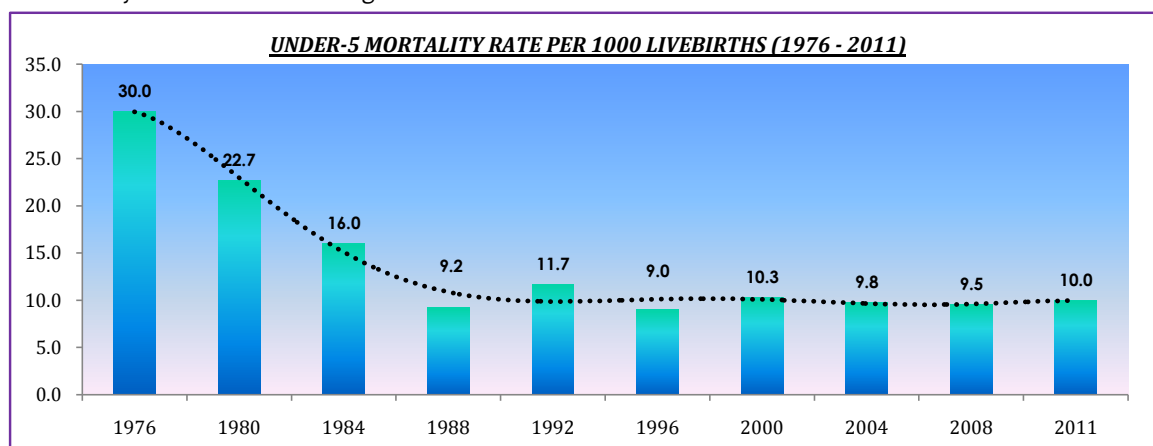
Brunei Darussalam's infant mortality rate has reached a steady state since 1990 and is on par with figures in developed nations. Infant mortality rate has declined rapidly from 50.8 per 1000 livebirths in 1962 to 8.3 per 1000 livebirths in 2011.



## Millennium Development Goals (MDGs) Indicators

Under-5 mortality rate has gradually reduced from 30 deaths per 1000 livebirths in 1976 to 10.0 deaths per 1000 livebirths in 2011.

Maternal and Child Health (MCH) services in Brunei Darussalam have contributed to the reduction in under-5 mortality. The MCH Service, a major primary health care service in Brunei Darussalam, has gone through rapid expansion. It is widely distributed and easily accessible in all four districts. Remote areas are served by the flying medical team. The objective is to provide optimum health care to all children below the age of 5 and all pregnant women throughout their antenatal and postnatal periods. MCH Service includes antenatal care, postnatal care, child-health care, well-woman clinic and health education, treatment of minor ailments, domiciliary care and home nursing.



| <b>LEADING CAUSES OF UNDER 5 MORTALITY IN BRUNEI DARUSSALAM (2007 - 2011)</b> |  |  |  |  |  |
|---|--|--|--|--|--|
|   | 2007   | 2008   | 2009   | 2010   | 2011   |
| 1   | Congenital Malformations, Deformations and Chromosomal Abnormalities<br>22 | Certain Conditions Originating In The Perinatal Period<br>20               | Certain Conditions Originating In The Perinatal Period<br>26               | Congenital Malformations, Deformations and Chromosomal Abnormalities<br>18 | Certain Conditions Originating In The Perinatal Period<br>24               |
| 2   | Certain Conditions Originating In The Perinatal Period<br>18               | Congenital Malformations, Deformations and Chromosomal Abnormalities<br>19 | Congenital Malformations, Deformations and Chromosomal Abnormalities<br>17 | Certain Conditions Originating In The Perinatal Period<br>16               | Congenital Malformations, Deformations and Chromosomal Abnormalities<br>23 |
| 3   | Cancer<br>1  | Influenza & Pneumonia<br>4   | Heart Diseases<br>2  | Septicaemia<br>1   | Heart Diseases<br>2  |
| 4   | Anaemias<br>1  | Accidental Drowning and Submersion<br>4                                    | Septicaemia<br>1   | Cancer<br>1  | Accidental Drowning and Submersion<br>2                                    |
| 5   | Heart Diseases<br>1  | Heart Diseases<br>3  | Acute Upper respiratory Infection<br>1                                     | Heart Diseases<br>1  | Meningococcal Infection<br>1   |
| 6   | Influenza & Pneumonia<br>1   | Septicaemia<br>1   | Influenza & Pneumonia<br>1   | Cerebrovascular Diseases<br>1  | Septicaemia<br>1   |
| 7   | Acute Bronchitis and Bronchiolitis<br>1                                    | Cancer<br>1  | Falls<br>1   | Bronchitis, Chronic & Unspecified Emphysema & Asthma<br>1                  | Cancer<br>1  |
| 8   | Diseases of Musculoskeletal System and Connective Tissue<br>1              | Cerebrovascular Diseases<br>1  | Accidental Drowning and Submersion<br>1                                    | *<br>0   | Influenza & Pneumonia<br>1   |
| OTHERS **   | 14   | 8  | 4  | 8  | 12   |
| TOTAL   | 60   | 61   | 54   | 47   | 67   |

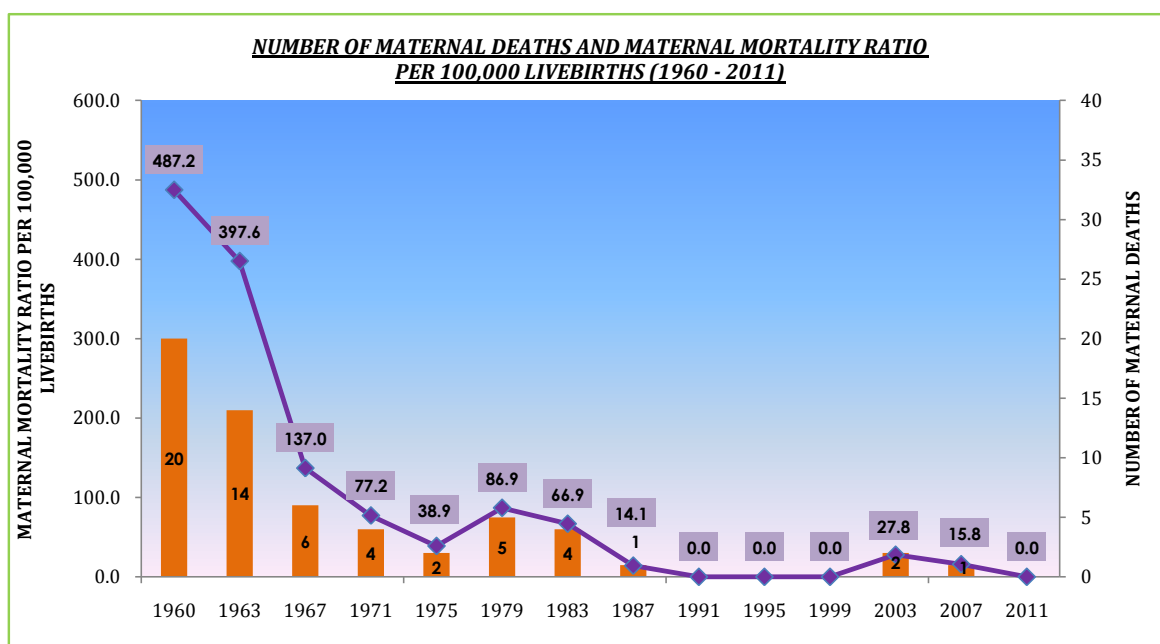
Note: \* - No other single cause of death.

\*\* - Remainders.

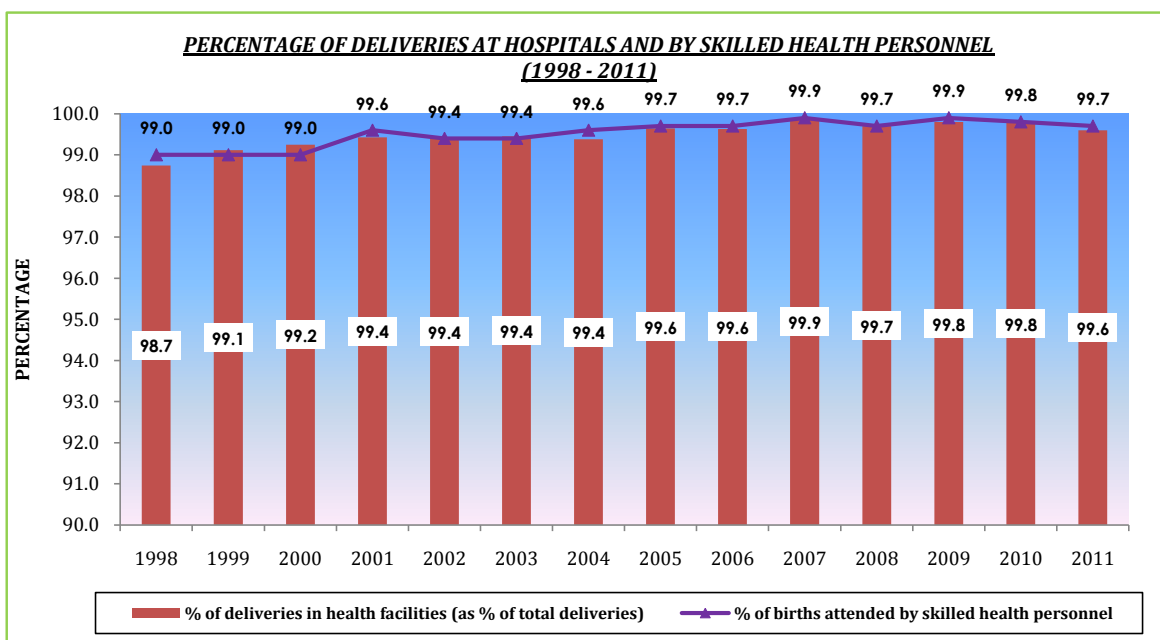
## Millennium Development Goals (MDGs) Indicators

MDG5 is concerned with improving maternal health. The targets are to (i) reduce maternal mortality ratio by three quarters between 1990 and 2015 and improve health care in terms of attention during delivery; and (ii) achieve universal access to reproductive health.

Brunei Darussalam continues to provide excellent Maternal and Child Health services including antenatal care, skilled care during childbirth including emergency obstetric care and postnatal care throughout the country as to maintain low levels of maternal mortality which is comparable to other developed countries.



Almost all deliveries in Brunei Darussalam are attended by skilled health personnel who can supervise, provide care and advice to women during pregnancy, labour and the postpartum period. They also conduct deliveries and care for the newborn child.



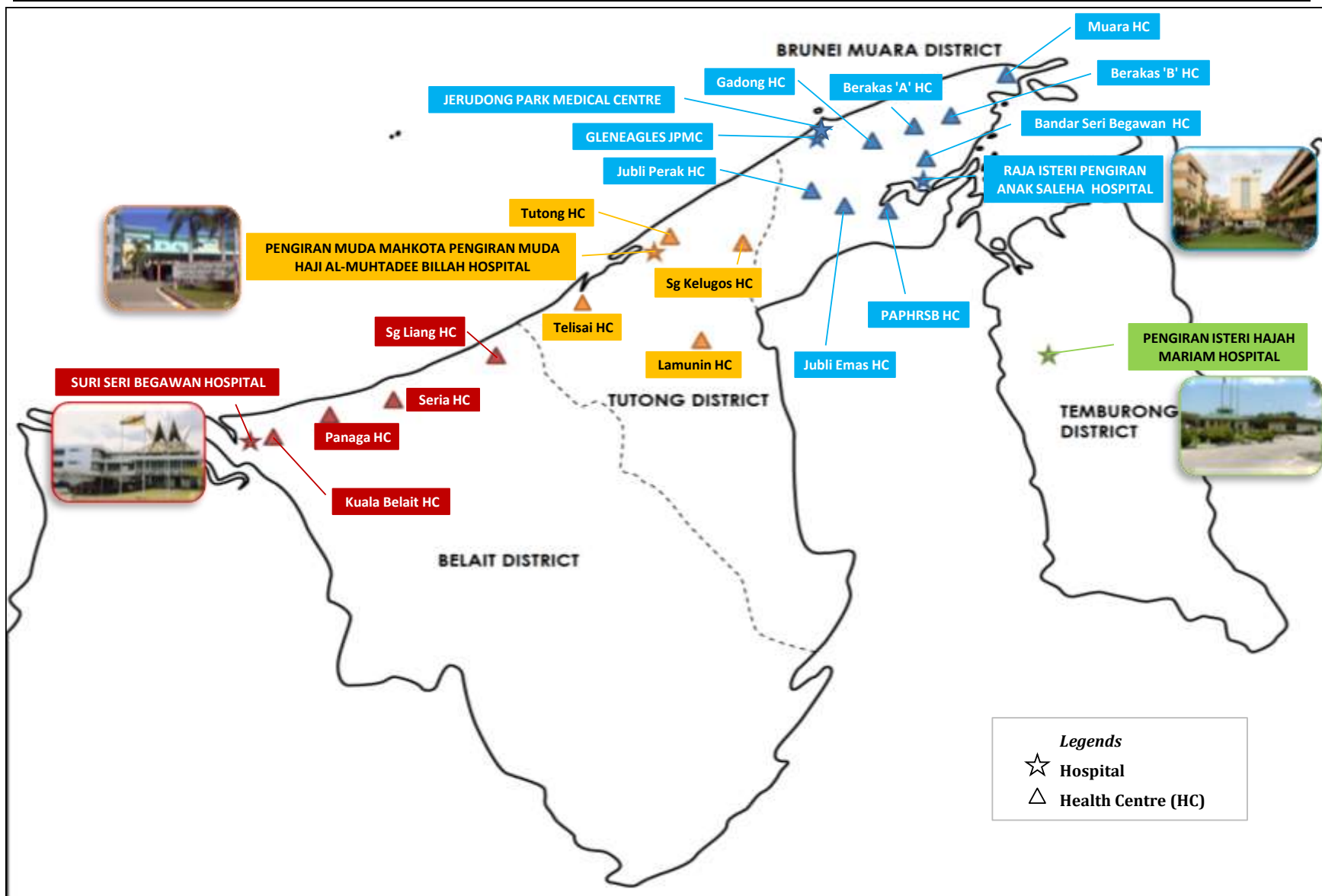
## Health Facilities (2011)

| MEDICAL CARE   | NUMBER           |
|--|------------------|
| - HOSPITALS ( 4 GOVERNMENTS + 2 PRIVATES <sup>(1)</sup> )      | 6                |
| - MEDICAL CLINICS (Ministry of Defence)                        | 9 <sup>(2)</sup> |
| - DIALYSIS CENTRES   | 6                |
| - DENTAL CLINICS:  |                  |
| GOVERNMENTS  | 22               |
| ARMY   | 6                |
| PRIVATES   | 11               |
| <b>HEALTH SERVICES</b>   |                  |
| - HEALTH CENTRES ( 15 GOVERNMENTS + 1 PRIVATE <sup>(3)</sup> ) | 16               |
| - HEALTH/MATERNAL AND CHILD HEALTH CLINICS                     | 15               |
| - TRAVELLING HEALTH CLINICS                                    | 3                |
| - FLYING MEDICAL SERVICES                                      | 4                |
| <b>DENTAL SERVICES</b>   |                  |
| - DENTAL SERVICES AT:  |                  |
| HOSPITALS  | 3                |
| HEALTH CENTRES   | 10               |
| HEALTH CLINICS   | 7                |
| STATIC SCHOOL CLINICS  | 62               |
| MOBILE SQUAD   | 50               |
| TRAVELLING (FLYING TEAM)                                       | 4                |

Note:

- (1) - Jerudong Park Medical Centre and Gleneagles Park Centre
- (2) - Including (SAF) Air Forces Medical Clinic
- (3) - Panaga Health Centre

# Distribution Map of Health Care Facilites



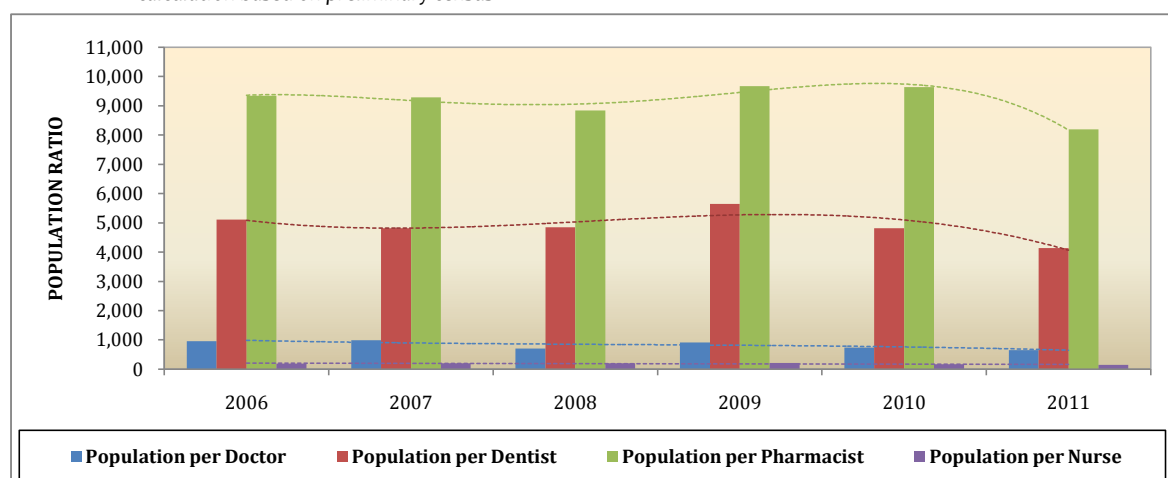


## Human Resource in Health

| Human Resources for Health for 2011 |        |         | Government | Army  | Private | Total |       |
|-------------------------------------|--------|---------|------------|-------|---------|-------|-------|
| Doctors <sup>(1)</sup>              | Male   | Local   | 71         | 7     | 11      | 89    | 347   |
|                                     |        | Foreign | 227        | 0     | 31      | 258   |       |
|                                     | Female | Local   | 112        | 3     | 9       | 124   | 261   |
|                                     |        | Foreign | 118        | 0     | 19      | 137   |       |
|                                     | TOTAL  |         |            | 528   | 10      | 70    | 608   |
| * Population per Doctor             |        |         |            |       |         | 647   |       |
| Dentists <sup>(1)</sup>             | Male   | Local   | 11         | 1     | 4       | 16    | 46    |
|                                     |        | Foreign | 18         | 2     | 10      | 30    |       |
|                                     | Female | Local   | 33         | 2     | 1       | 36    | 49    |
|                                     |        | Foreign | 11         | 1     | 1       | 13    |       |
|                                     | TOTAL  |         |            | 73    | 6       | 16    | 95    |
| * Population per Dentist            |        |         |            |       |         | 4,139 |       |
| Pharmacists <sup>(2)</sup>          | Male   | Local   | 5          | ...   | 1       | 6     | 8     |
|                                     |        | Foreign | 1          | ...   | 1       | 2     |       |
|                                     | Female | Local   | 26         | ...   | 8       | 34    | 40    |
|                                     |        | Foreign | 0          | ...   | 6       | 6     |       |
|                                     | TOTAL  |         |            | 32    | ...     | 16    | 48    |
| * Population per Pharmacist         |        |         |            |       |         | 8,191 |       |
| Nurses <sup>(3)</sup>               | Male   | Local   | 389        | 8     | 72      | 469   | 555   |
|                                     |        | Foreign | 33         | 0     | 53      | 86    |       |
|                                     | Female | Local   | 1,668      | 5     | 113     | 1,786 | 2,073 |
|                                     |        | Foreign | 99         | 0     | 188     | 287   |       |
|                                     | TOTAL  |         |            | 2,189 | 13      | 426   | 2,628 |
| * Population per Nurse              |        |         |            |       |         | 150   |       |
| Midwives <sup>(3)</sup>             | Male   |         | 0          | 0     | ...     | 510   |       |
|                                     | Female |         | 504        | 6     | ...     |       |       |
|                                     | TOTAL  |         | 504        | 6     | ...     |       |       |
| * Population per Midwife            |        |         |            |       |         | 771   |       |

Source :

- (1) - Brunei Medical Board, Ministry of Health
- (2) - Pharmacy Department, Ministry of Health
- (3) - Nursing Board, Ministry of Health
- \* - calculation based on preliminary census 2011.



## *Human Resource in Health*

| Allied Health Professionals<br>for 2011 | Male  |         | Female |         | TOTAL |
|---|-------|---------|--------|---------|-------|
|   | Local | Foreign | Local  | Foreign |       |
| Physiotherapists                        | 3     | 4       | 10     | 3       | 20    |
| Assistant Physiotherapists              | 6     | 0       | 8      | 0       | 14    |
| Occupational Therapists                 | 3     | 1       | 17     | 2       | 23    |
| Assistant Occupational Therapists       | 3     | 0       | 15     | 0       | 18    |
| Dietician / Nutritionist                | 5     | 1       | 15     | 5       | 26    |
| Medical Social Workers                  | 0     | 0       | 8      | 0       | 8     |
| Medical Lab. Technicians                | 41    | 0       | 132    | 0       | 173   |
| Assistant Medical Lab. Technicians      | 23    | 0       | 52     | 0       | 75    |
| Radiographers                           | 6     | 2       | 20     | 0       | 28    |
| Assistant Radiographers                 | 21    | 1       | 18     | 2       | 42    |
| Entomologists                           | 2     | 0       | 2      | 0       | 4     |
| Health Educators                        | 3     | 0       | 5      | 0       | 8     |

Source :  
Department of Administration and Finance, Ministry of Health

## Government Health Expenditure

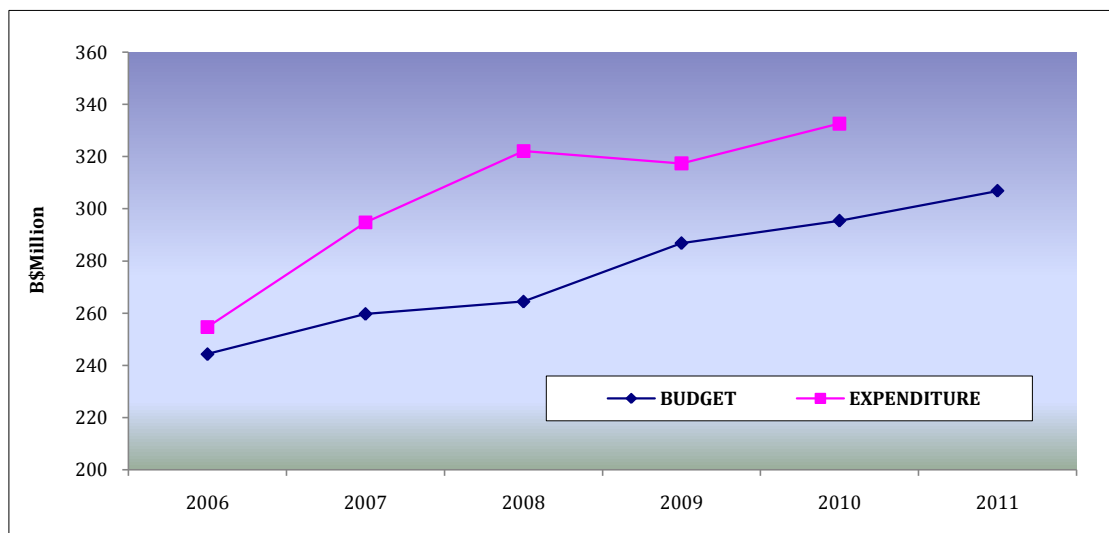
|   | 2009/10 | 2010/11 | 2011/12 |
|---|---------|---------|---------|
| Total Health Budget (B\$ Millions)                | 286.82  | 295.41  | 306.85  |
| Health Budget as % of National Budget             | 7.29    | 7.48    | 7.52    |
| Per Capita Health Budget ( B\$ )                  | 706     | 713     | 780 *   |
| Health Budget as % of GDP                         | 1.84    | 1.75    | 1.49    |
| Total Health Expenditure (B\$ Millions)           | 317.40  | 332.63  | ...     |
| Health Expenditure as % of Government Expenditure | 7.07    | 8.12    | ...     |
| Per Capita Health Expenditure (B\$)               | 781     | 803     | ...     |
| Health Expenditure as % of GDP                    | 2.03    | 1.97    | ...     |

Note:

- GDP - Gross Domestic Product
- ... - Not available
- \* - calculation based on preliminary census 2011.

Source:

- (Budget) - Budget Section, Ministry of Finance
- (Expenditure) - Ledger Section, Treasury Department, Ministry of Finance



## ***Leading Causes of Deaths for the Year 2011 (Based on ICD-10)***

The four leading causes of deaths which accounted for 50 percent of the total deaths were comprised of Non-Communicable Diseases namely Cancer, Heart Diseases, Diabetes Mellitus and Cerebrovascular Diseases.

| <b>No.</b>        | <b>ICD-10</b>           | <b>TYPE OF DISEASE</b>   | <b>MALE</b> | <b>FEMALE</b> | <b>TOTAL</b> | <b>%</b>     | <b>RATE PER<br/>100,000 POPN.<br/>(Based on 2011<br/>Census)</b> |
|-------------------|-------------------------|--|-------------|---------------|--------------|--------------|--|
| 1                 | C00 - C97               | Cancer (Malignant Neoplasms)   | 137         | 119           | 256          | 20.7         | 65.1   |
| 2                 | I00 - I09,<br>I20 - I52 | Heart Diseases (Including Acute<br>Rheumatic Fever)                        | 116         | 67            | 183          | 14.8         | 46.5   |
| 3                 | E10 - E14               | Diabetes Mellitus  | 59          | 57            | 116          | 9.4          | 29.5   |
| 4                 | I60 - I69               | Cerebrovascular Diseases   | 45          | 41            | 86           | 7.0          | 21.9   |
| 5                 | J40 - J46               | Bronchitis, Chronic & Unspecified<br>Emphysema & Asthma                    | 31          | 19            | 50           | 4.0          | 12.7   |
| 6                 | I10 - I15               | Hypertensive Diseases  | 25          | 24            | 49           | 4.0          | 12.5   |
| 7                 | V01 - V99               | Transport Accidents  | 28          | 14            | 42           | 3.4          | 10.7   |
| 8                 | Q00 - Q99               | Congenital Malformations,<br>Deformations and Chromosomal<br>Abnormalities | 20          | 15            | 35           | 2.8          | 8.9  |
| 9                 | A40 - A41               | Septicaemia  | 18          | 11            | 29           | 2.3          | 7.4  |
| 10                | P00 - P96               | Certain Conditions Originating In The<br>Perinatal Period                  | 13          | 11            | 24           | 1.9          | 6.1  |
| Others            |                         |  | 203         | 162           | 365          | 29.6         | 92.8   |
| <b>ALL DEATHS</b> |                         |  | <b>695</b>  | <b>540</b>    | <b>1,235</b> | <b>100.0</b> | <b>314.1</b>   |


## Leading Causes of Deaths (2007 - 2011)

| No.                | 2007  | 2008  | 2009  | 2010  | 2011  |
|--------------------|---|---|---|---|---|
| 1                  | Cancer (Malignant Neoplasms)<br>215 (18.3%)                                       | Heart Diseases (Including Acute Rheumatic Fever)<br>211 (19.3%)     | Cancer (Malignant Neoplasms)<br>215 (18.4%)                                       | Cancer (Malignant Neoplasms)<br>252 (20.9%)                                       | Cancer (Malignant Neoplasms)<br>256 (20.7%)                                       |
| 2                  | Heart Diseases (Including Acute Rheumatic Fever)<br>177 (15.1%)                   | Cancer (Malignant Neoplasms)<br>201 (18.4%)                         | Heart Diseases (Including Acute Rheumatic Fever)<br>185 (15.8%)                   | Heart Diseases (Including Acute Rheumatic Fever)<br>186 (15.4%)                   | Heart Diseases (Including Acute Rheumatic Fever)<br>183 (14.8%)                   |
| 3                  | Diabetes Mellitus<br>140 (11.9%)  | Diabetes Mellitus<br>97 (8.9%)                                      | Diabetes Mellitus<br>100 (8.5%)   | Diabetes Mellitus<br>100 (8.3%)   | Diabetes Mellitus<br>116 (9.4%)   |
| 4                  | Cerebrovascular Diseases<br>87 (7.4%)   | Cerebrovascular Diseases<br>93 (8.5%)                               | Cerebrovascular Diseases<br>97 (8.3%)   | Cerebrovascular Diseases<br>99 (8.2%)   | Cerebrovascular Diseases<br>86 (7.0%)   |
| 5                  | Hypertensive Diseases<br>57 (4.9%)  | Influenza and Pneumonia<br>53 (4.9%)                                | Septicaemia<br>52 (4.4%)  | Bronchitis, Chronic and Unspecified Emphysema & Asthma<br>47 (3.9%)               | Bronchitis, Chronic and Unspecified Emphysema & Asthma<br>50 (4.0%)               |
| 6                  | Transport Accidents<br>55 (4.7%)  | Bronchitis, Chronic and Unspecified Emphysema & Asthma<br>39 (3.6%) | Bronchitis, Chronic and Unspecified Emphysema & Asthma<br>43 (3.7%)               | Septicaemia<br>39 (3.2%)  | Hypertensive Diseases<br>49 (4.0%)  |
| 7                  | Bronchitis, Chronic and Unspecified Emphysema & Asthma<br>51 (4.3%)               | Transport Accidents<br>33 (3.0%)                                    | Hypertensive Diseases<br>41 (3.5%)  | Hypertensive Diseases<br>38 (3.1%)  | Transport Accidents<br>42 (3.4%)  |
| 8                  | Influenza and Pneumonia<br>35 (3.0%)  | Septicaemia<br>32 (2.9%)  | Transport Accidents<br>37 (3.2%)  | Influenza and Pneumonia<br>28 (2.3%)  | Congenital Malformations, Deformations and Chromosomal Abnormalities<br>35 (2.8%) |
| 9                  | Septicaemia<br>25 (2.1%)  | Hypertensive Diseases<br>24 (2.2%)                                  | Certain Conditions Originating In The Perinatal Period<br>26 (2.2%)               | Transport Accidents<br>25 (2.1%)  | Septicaemia<br>29 (2.3%)  |
| 10                 | Congenital Malformations, Deformations and Chromosomal Abnormalities<br>23 (2.0%) | Certain Conditions Originating In The Perinatal Period<br>20 (1.8%) | Congenital Malformations, Deformations and Chromosomal Abnormalities<br>25 (2.1%) | Congenital Malformations, Deformations and Chromosomal Abnormalities<br>21 (1.7%) | Certain Conditions Originating In The Perinatal Period<br>24 (1.9%)               |
| OTHERS             | 309 (26.3%)   | 288 (26.4%)   | 350 (29.9%)   | 373 (30.9%)   | 365 (29.6%)   |
| <b>GRAND TOTAL</b> | <b>1,174 (100.0%)</b>   | <b>1,091 (100.0%)</b>   | <b>1,171 (100.0%)</b>   | <b>1,208 (100.0%)</b>   | <b>1,235 (100.0%)</b>   |

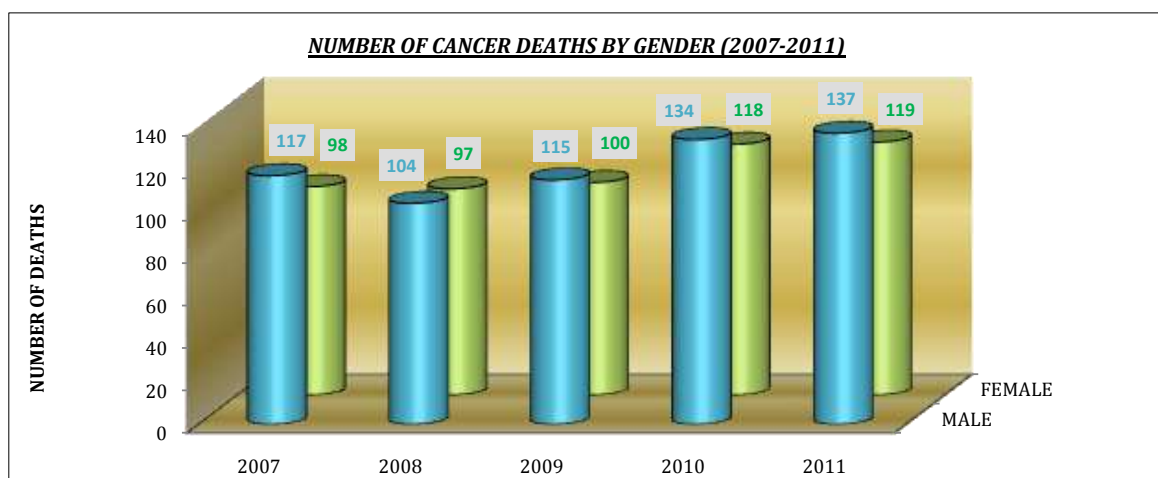
## Mortality due to Cancer for the Year 2011

The top three causes of cancers among male in Brunei Darussalam for 2011 were Trachea, Bronchus and Lung; Rectum and Anus; and Prostate and for female cancer deaths were Breast; Trachea, Bronchus and Lung; and Rectum and Anus.

| TYPE OF CANCER  | MALE       | FEMALE     | TOTAL      |
|---|------------|------------|------------|
| Trachea, Bronchus and Lung                                | 28         | 22         | 50         |
| Rectum and Anus   | 17         | 11         | 28         |
| Breast  | 1          | 22         | 23         |
| Stomach   | 10         | 8          | 18         |
| Lip, Oral Cavity and Pharynx                              | 11         | 2          | 13         |
| Prostate  | 13         |            | 13         |
| Liver and Intrahepatic Bile Ducts                         | 12         | 0          | 12         |
| Colon   | 5          | 5          | 10         |
| Non-Hodgkin's Lymphoma                                    | 6          | 3          | 9          |
| Leukaemia   | 8          | 1          | 9          |
| Ovary   |            | 8          | 8          |
| Pancreas  | 3          | 3          | 6          |
| Cervix Uteri  |            | 5          | 5          |
| Skin  | 3          | 1          | 4          |
| Meninges, Brain and Other Parts of Central Nervous System | 2          | 2          | 4          |
| Other and Unspecified Parts of Uterus                     |            | 3          | 3          |
| Bladder   | 2          | 0          | 2          |
| Larynx  | 1          | 0          | 1          |
| Multiple Myeloma and Malignant Plasma Cell Neoplasms      | 1          | 0          | 1          |
| Oesophagus  | 0          | 0          | 0          |
| Remainder   | 14         | 23         | 37         |
| <b>TOTAL</b>  | <b>137</b> | <b>119</b> | <b>256</b> |

Note:  - top three leading causes of cancer death for male / female

| YEAR                              | 2007 | 2008 | 2009 | 2010 | 2011 |
|-----------------------------------|------|------|------|------|------|
| <b>TOTAL NO. OF CANCER DEATHS</b> | 215  | 201  | 215  | 252  | 256  |



## Trend in Leading Cancer Deaths in Brunei Darussalam (2007 - 2011)

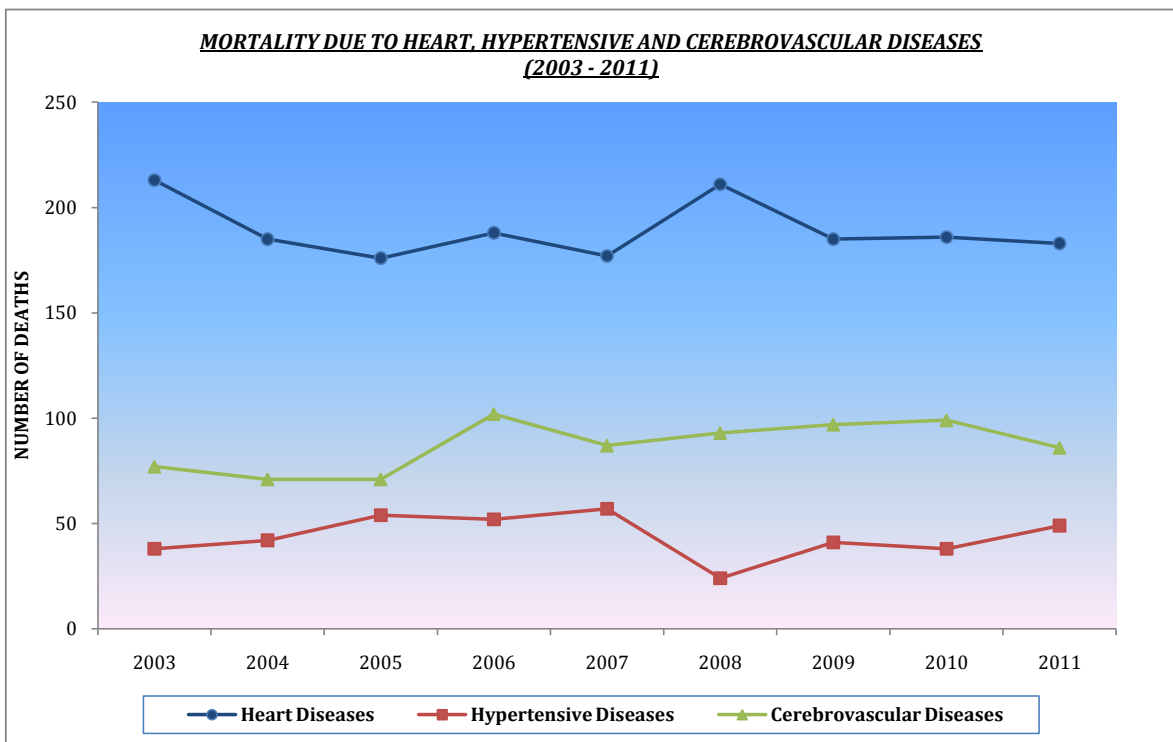
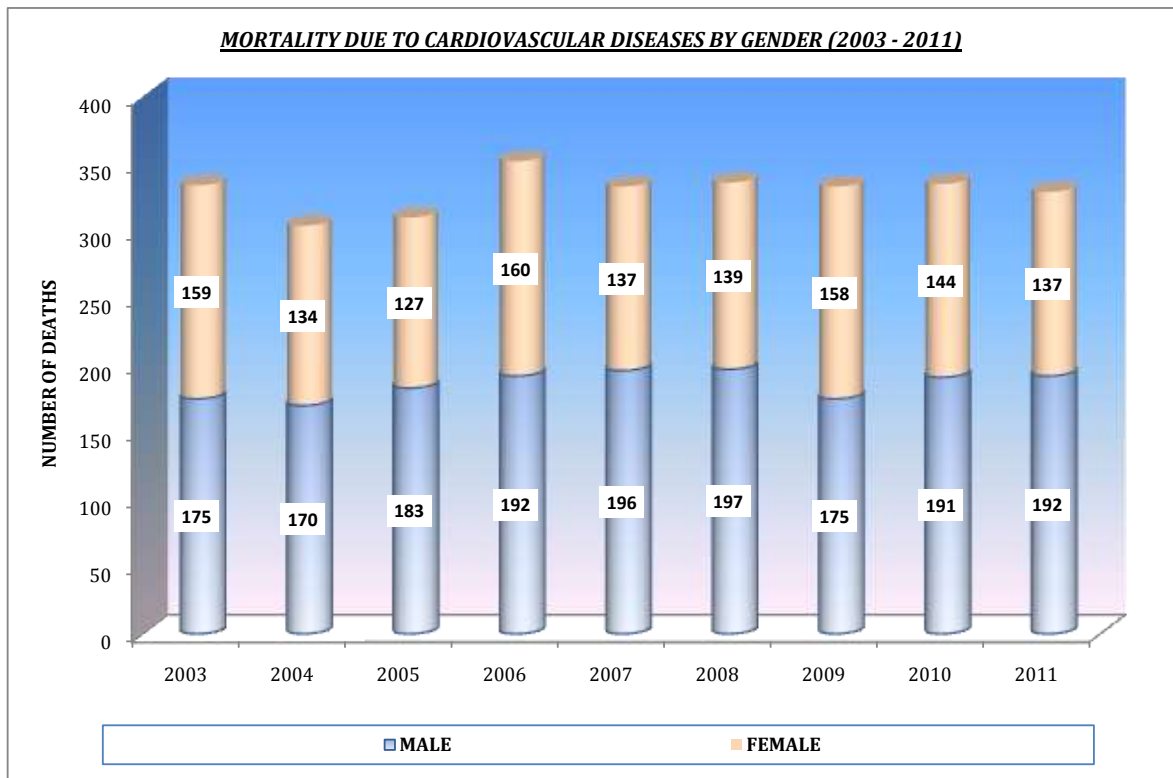
| No.                | 2007  | 2008  | 2009   | 2010  | 2011  |
|--------------------|---|---|--|---|---|
| 1                  | Trachea, Bronchus and Lung<br>50 (23.3%)                              | Trachea, Bronchus and Lung<br>50 (24.9%)                              | Trachea, Bronchus and Lung<br>37 (17.2%)       | Trachea, Bronchus and Lung<br>45 (17.9%)                              | Trachea, Bronchus and Lung<br>50 (19.5%)      |
| 2                  | Rectum and Anus<br>21 (9.8%)  | Liver and Intrahepatic Bile Duct<br>14 (7.0%)                         | Liver and Intrahepatic Bile Duct<br>24 (11.2%) | Liver and Intrahepatic Bile Duct<br>26 (10.3%)                        | Rectum and Anus<br>28 (10.9%)                 |
| 3                  | Stomach<br>20 (9.3%)  | Cervix Uteri<br>13 (6.5%)   | Cervix Uteri<br>14 (6.5%)                      | Breast<br>22 (8.7%)   | Breast<br>23 (9.0%)                           |
| 4                  | Liver and Intrahepatic Bile Duct<br>16 (7.4%)                         | Stomach<br>12 (6.0%)  | Colon<br>13 (6.0%)                             | Lip, Oral Cavity and Pharynx<br>20 (7.9%)                             | Stomach<br>18 (7.0%)                          |
| 5                  | Breast<br>13 (6.0%)   | Colon<br>11 (5.5%)  | Stomach<br>10 (4.7%)                           | Rectum and Anus<br>18 (7.1%)  | Lip, Oral Cavity and Pharynx<br>13 (5.1%)     |
| 6                  | Cervix Uteri<br>10 (4.7%)   | Rectum and Anus<br>11 (5.5%)  | Prostate<br>9 (4.2%)                           | Colon<br>15 (6.0%)  | Prostate<br>13 (5.1%)                         |
| 7                  | Colon<br>8 (3.7%)   | Breast<br>8 (4.0%)  | Non-Hodgkin's Lymphoma<br>9 (4.2%)             | Meninges, Brain and Other Parts of Central Nervous System<br>9 (3.6%) | Liver and Intrahepatic Bile Duct<br>12 (4.7%) |
| 8                  | Pancreas<br>8 (3.7%)  | Leukaemia<br>7 (3.5%)   | Rectum and Anus<br>9 (4.2%)                    | Multiple Myeloma and Malignant Plasma Cell Neoplasms<br>9 (3.6%)      | Colon<br>10 (3.9%)                            |
| 9                  | Meninges, Brain and Other Parts of Central Nervous System<br>8 (3.7%) | Pancreas<br>6 (3.0%)  | Leukaemia<br>8 (3.7%)                          | Non-Hodgkin's Lymphoma<br>9 (3.6%)                                    | Non-Hodgkin's Lymphoma<br>9 (3.5%)            |
| 10                 | Lip, Oral Cavity and Pharynx<br>7 (3.3%)                              | Meninges, Brain and Other Parts of Central Nervous System<br>6 (3.0%) | Breast<br>8 (3.7%)                             | Stomach<br>8 (3.2%)   | Leukaemia<br>9 (3.5%)                         |
| OTHERS             | 54 (25.1%)  | 63 (31.3%)  | 74 (34.4%)                                     | 71 (28.2%)  | 71 (27.7%)                                    |
| <b>GRAND TOTAL</b> | <b>215 (100.0%)</b>   | <b>201 (100.0%)</b>   | <b>215 (100.0%)</b>                            | <b>252 (100.0%)</b>   | <b>256 (100.0%)</b>                           |

## ***Mortality due to Cardiovascular Diseases for the Year 2011 (Based on ICD-10)***

| 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           | 100 - 109, I20 - I52 | Heart Diseases                           |   | 10      | 3 | 18      | 3  | 23      | 5  | 16      | 16 | 23  | 13 | 26    | 27 | 116 | 67  | 183 |     |
|             | i                    | 100 - 109                                | Acute Rheumatic Fever & Chronic Rheumatic Heart Diseases          |         | 0 | 0       | 0  | 1       | 1  | 0       | 0  | 0   | 0  | 0     | 1  | 1   | 2   | 3   |     |
|             | ii                   | I20 - I25                                | Ischaemic Heart Diseases  |         | 5 | 0       | 14 | 1       | 21 | 4       | 15 | 12  | 21 | 13    | 21 | 21  | 97  | 51  | 148 |
|             |                      | I21                                      | Acute Myocardial Infarction                                       |         | 5 | 0       | 8  | 0       | 12 | 1       | 10 | 8   | 16 | 5     | 12 | 8   | 63  | 22  | 85  |
|             |                      | I20, I22 - I25                           | Other Ischaemic Diseases  |         | 0 | 0       | 6  | 1       | 9  | 3       | 5  | 4   | 5  | 8     | 9  | 13  | 34  | 29  | 63  |
|             | iii                  | I26 - I52                                | Diseases of Pulmonary Circulation & Other Forms of Heart Diseases |         | 5 | 3       | 4  | 1       | 1  | 1       | 1  | 4   | 2  | 0     | 5  | 5   | 18  | 14  | 32  |
| 2           | I10 - I15            | Hypertensive Diseases                    |   | 1       | 1 | 1       | 3  | 5       | 2  | 3       | 1  | 3   | 1  | 12    | 16 | 25  | 24  | 49  |     |
| 3           | I60 - I69            | Cerebrovascular Diseases                 |   | 1       | 1 | 6       | 1  | 6       | 4  | 5       | 5  | 10  | 8  | 17    | 22 | 45  | 41  | 86  |     |
| 4           | I70 - I98            | Other Diseases of the Circulatory System |   | 0       | 0 | 0       | 0  | 0       | 0  | 1       | 2  | 4   | 1  | 1     | 2  | 6   | 5   | 11  |     |
|             |                      | I70                                      | Atherosclerosis   |         | 0 | 0       | 0  | 0       | 0  | 0       | 0  | 0   | 0  | 0     | 0  | 0   | 0   | 0   |     |
|             |                      | I71 - I98                                | Others  |         | 0 | 0       | 0  | 0       | 0  | 0       | 1  | 2   | 4  | 1     | 1  | 2   | 6   | 5   | 11  |
| 1 to 4      | I00 - I98            | All Cardiovascular Diseases              |   | 12      | 5 | 25      | 7  | 34      | 11 | 25      | 24 | 40  | 23 | 56    | 67 | 192 | 137 | 329 |     |



## Mortality Trend of Cardiovascular Diseases

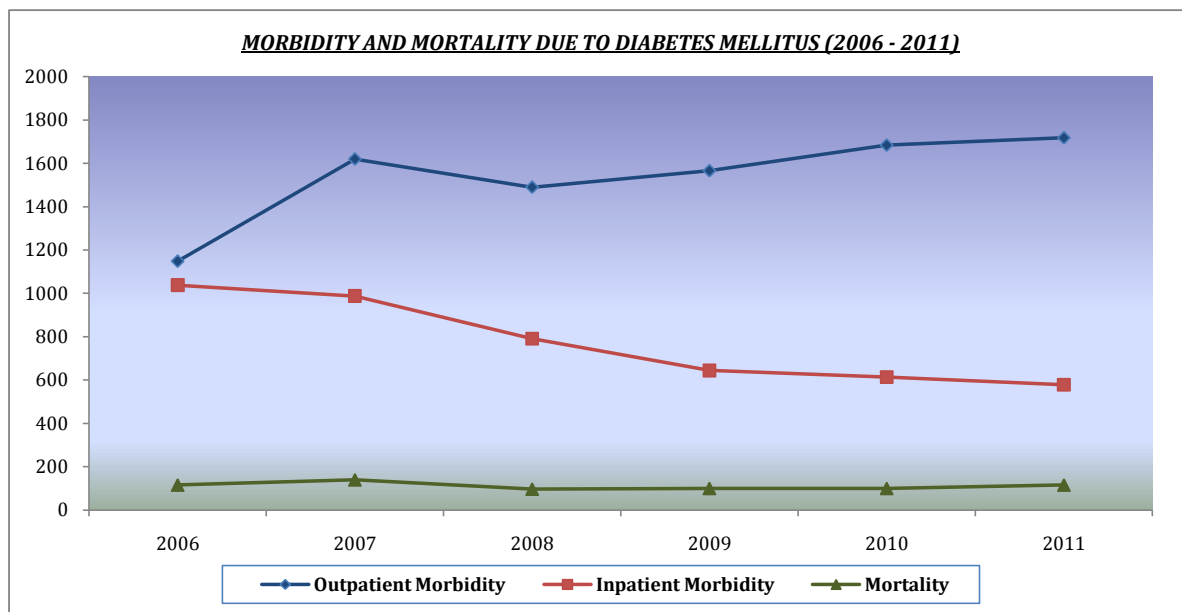


## Morbidity and Mortality due to Diabetes Mellitus for the Year 2011

|                        | 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 * | 10                 | 4 | 184   | 267 | 366   | 537 | 161 | 189 | 721   | 997 | 1,718 |
| INPATIENT MORBIDITY *  | 3                  | 6 | 70    | 84  | 120   | 151 | 66  | 78  | 259   | 319 | 578   |
| MORTALITY              | 0                  | 0 | 4     | 4   | 18    | 13  | 37  | 40  | 59    | 57  | 116   |

Note:

\* - Hospital Morbidity only



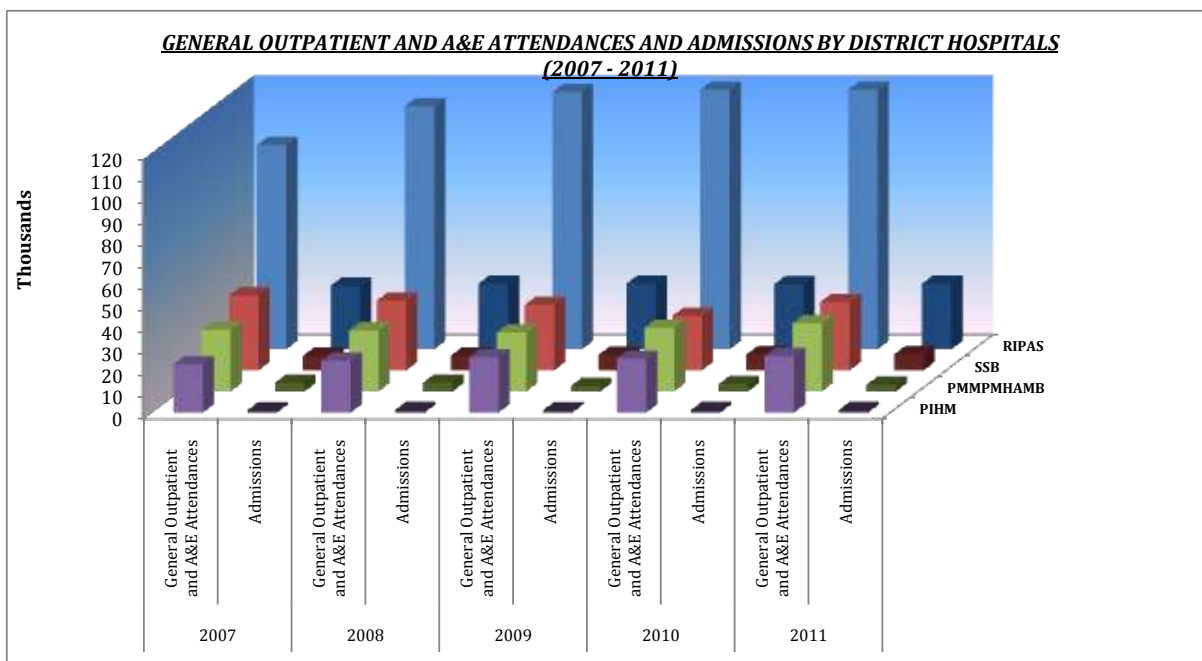
# Hospital Services

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

| ACTIVITIES FOR THE YEAR 2011                | RIPAS   | SSB    | PMMPMHAMB | PIHM   | TOTAL   |
|---|---------|--------|-----------|--------|---------|
| <b>OUTPATIENT ACTIVITIES</b>                |         |        |           |        |         |
| General Outpatient Attendances              | ...     | ...    | ...       | 20,854 | 20,854  |
| Accident & Emergency Outpatient Attendances | 129,301 | 31,571 | 31,536    | 5,342  | 197,750 |
| Specialist Outpatient Attendances           | 284,440 | 89,452 | 44,899    | 10,532 | 429,323 |
| <b>INPATIENT ACTIVITIES</b>                 |         |        |           |        |         |
| Available Beds                              | 607     | 222    | 107       | 32     | 968     |
| Admissions                                  | 30,293  | 7,419  | 3,069     | 1,099  | 41,880  |
| Discharges & Deaths                         | 30,260  | 7,394  | 2,858     | 932    | 41,444  |
| Patient Days                                | 150,525 | 42,598 | 10,398    | 1,124  | 204,645 |
| Day Patients                                | 66,801  | 9,439  | N/A       | 550    | 76,790  |
| <b>PERFORMANCE INDICES</b>                  |         |        |           |        |         |
| Average Number of Inpatients / Day          | 412     | 117    | 28        | 3      | 561     |
| Bed Occupancy Rate                          | 68      | 53     | 27        | 10     | 58      |
| Average Duration of Stay (Days)             | 5.0     | 5.8    | 3.6       | 1.2    | 4.9     |
| Average Turnover of Patients / Bed          | 50      | 33     | 27        | 29     | 43      |
| Average Turnover Interval (Days)            | 2.3     | 5.2    | 10.0      | 11.3   | 3.6     |

Note:

N/A - Not Available

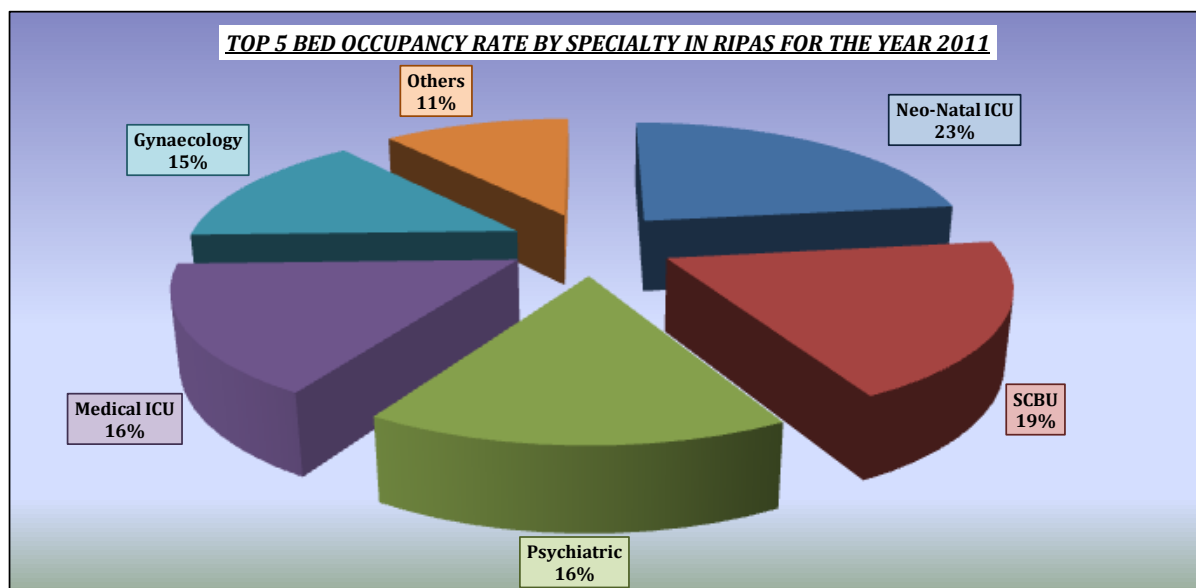


## Bed Capacity and Bed Occupancy Rates since 2007

| HOSPITAL     | 2007         |                        | 2008         |                        | 2009         |                        | 2010         |                        | 2011         |                        |
|--------------|--------------|------------------------|--------------|------------------------|--------------|------------------------|--------------|------------------------|--------------|------------------------|
|              | Bed Capacity | Bed Occupancy Rate (%) | Bed Capacity | Bed Occupancy Rate (%) | Bed Capacity | Bed Occupancy Rate (%) | Bed Capacity | Bed Occupancy Rate (%) | Bed Capacity | Bed Occupancy Rate (%) |
| RIPAS        | 555          | 71%                    | 555          | 72%                    | 571          | 70%                    | 591          | 67%                    | 607          | 68%                    |
| SSB          | 210          | 41%                    | 210          | 40%                    | 212          | 7%                     | 222          | 50%                    | 222          | 53%                    |
| PMPMHAMB     | 107          | 40%                    | 129          | 35%                    | 129          | 21%                    | 106          | 31%                    | 107          | 27%                    |
| PIHM         | 25           | 27%                    | 25           | 34%                    | 25           | 29%                    | 32           | 21%                    | 32           | 10%                    |
| <b>TOTAL</b> | <b>897</b>   | <b>59%</b>             | <b>919</b>   | <b>59%</b>             | <b>937</b>   | <b>48%</b>             | <b>951</b>   | <b>57%</b>             | <b>968</b>   | <b>58%</b>             |

## Top 5 Bed Occupancy Rate by Specialty in RIPAS Hospital for the Year 2011

| SPECIALTIES   | BED CAPACITY | ADMISSIONS | PATIENT-DAYS | DAY-PATIENTS | BED OCCUPANCY RATE |
|---------------|--------------|------------|--------------|--------------|--------------------|
| Neo-Natal ICU | 8            | 158        | 3,830        | 3            | 131                |
| SCBU          | 16           | 363        | 6,474        | 206          | 111                |
| Psychiatric   | 24           | 175        | 8,175        | 59           | 93                 |
| Medical ICU   | 5            | 67         | 1,660        | 0            | 91                 |
| Gynaecology   | 32           | 2,921      | 9,623        | 1,439        | 82                 |
| Others        | 522          | 26,609     | 120,763      | 65,094       | 63                 |



Source:  
RIPAS Hospital Monitoring Services

## ***Hospital Outpatient Morbidity for the Year 2011 ( A & E + G O P D )***

| No.                | ICD-10  | DISEASES   | MALE           | FEMALE         | TOTAL          | %            |
|--------------------|---------|--|----------------|----------------|----------------|--------------|
| 1                  | J00-J06 | Acute Upper Respiratory Infection                    | 30,818         | 30,124         | 60,942         | 26.7         |
| 2                  | A09     | Gastroenteritis/ Diarrhoea                           | 7,145          | 6,417          | 13,562         | 5.9          |
| 3                  | J40-J46 | Bronchitis, Chronic & Unspecified Emphysema & Asthma | 4,935          | 4,030          | 8,965          | 3.9          |
| 4                  | L00-L99 | Diseases of Skin & Subcutaneous Tissue               | 3,653          | 3,785          | 7,438          | 3.3          |
| 5                  | R10     | Abdominal and Pelvic Pain                            | 2,820          | 3,664          | 6,484          | 2.8          |
| 6                  | W00-W19 | Falls  | 3,339          | 2,288          | 5,627          | 2.5          |
| 7                  | H10     | Conjunctivitis                                       | 2,343          | 2,084          | 4,427          | 1.9          |
| 8                  | I10-I15 | Hypertensive Diseases                                | 1,882          | 2,405          | 4,287          | 1.9          |
| 9                  | V01-V99 | Transport Accident                                   | 1,887          | 1,119          | 3,006          | 1.3          |
| 10                 | E10-E14 | Diabetes Mellitus                                    | 721            | 997            | 1,718          | 0.8          |
| 11                 | J10-J11 | Influenza  | 792            | 728            | 1,520          | 0.7          |
| 12                 | B01     | Chickenpox   | 743            | 618            | 1,361          | 0.6          |
| 13                 | M10     | Gout   | 1,215          | 127            | 1,342          | 0.6          |
| 14                 | K00-K08 | Diseases of Teeth & Supporting Structures            | 615            | 458            | 1,073          | 0.5          |
| 15                 | K25-K27 | Gastric, Duodenal and Peptic Ulcer                   | 474            | 535            | 1,009          | 0.4          |
| Others             |         |  | 55,819         | 49,685         | 105,504        | 46.2         |
| <b>GRAND TOTAL</b> |         |  | <b>119,201</b> | <b>109,064</b> | <b>228,265</b> | <b>100.0</b> |

Note:

A & E - Accident & Emergency

GOPD - General Outpatient Department

## Leading Causes of Hospital Outpatient Morbidity (2007 - 2011)

| No.         | 2007   | 2008   | 2009   | 2010  | 2011   |
|-------------|--|--|--|---|--|
| 1           | Acute Upper Respiratory Infections<br>61,701 (30.7%)                 | Acute Upper Respiratory Infections<br>62,547 (30.1%)                 | Acute Upper Respiratory Infections<br>68,249 (31.8%)                 | Acute Upper Respiratory Infections<br>57,818 (23.3%)                  | Acute Upper Respiratory Infections<br>60,942 (26.7%)                 |
| 2           | Gastroenteritis and Diarrhoea<br>10,084 (5.0%)                       | Bronchitis, Chronic & Unspecified Emphysema & Asthma<br>9,722 (4.7%) | Gastroenteritis and Diarrhoea<br>9,339 (4.4%)                        | Gastroenteritis and Diarrhoea<br>14,145 (5.7%)                        | Gastroenteritis and Diarrhoea<br>13,562 (5.9%)                       |
| 3           | Bronchitis, Chronic & Unspecified Emphysema & Asthma<br>9,656 (4.8%) | Gastroenteritis and Diarrhoea<br>8,455 (4.1%)                        | Bronchitis, Chronic & Unspecified Emphysema & Asthma<br>9,177 (4.3%) | Bronchitis, Chronic & Unspecified Emphysema & Asthma<br>10,389 (4.2%) | Bronchitis, Chronic & Unspecified Emphysema & Asthma<br>8,965 (3.9%) |
| 4           | Diseases of Skin & Subcutaneous Tissue<br>6,921 (3.4%)               | Diseases of Skin & Subcutaneous Tissue<br>7,101 (3.4%)               | Diseases of Skin & Subcutaneous Tissue<br>6,448 (3.0%)               | Diseases of Skin & Subcutaneous Tissue<br>8,467 (3.4%)                | Diseases of Skin & Subcutaneous Tissue<br>7,438 (3.3%)               |
| 5           | Abnominal and Pelvic Pain<br>5,595 (2.8%)                            | Falls<br>5,518 (2.7%)  | Falls<br>5,139 (2.4%)  | Falls<br>7,005 (2.8%)   | Abnominal and Pelvic Pain<br>6,484 (2.8%)                            |
| 6           | Falls<br>4,536 (2.3%)  | Abnominal and Pelvic Pain<br>5,088 (2.4%)                            | Abnominal and Pelvic Pain<br>4,287 (2.0%)                            | Abnominal and Pelvic Pain<br>6,652 (2.7%)                             | Falls<br>5,627 (2.5%)  |
| 7           | Hypertensive Diseases<br>4,007 (2.0%)                                | Hypertensive Diseases<br>4,309 (2.1%)                                | Hypertensive Diseases<br>4,258 (2.0%)                                | Conjunctivitis<br>4,704 (1.9%)  | Conjunctivitis<br>4,427 (1.9%)                                       |
| 8           | Conjunctivitis<br>3,555 (1.8%)                                       | Conjunctivitis<br>3,251 (1.6%)                                       | Conjunctivitis<br>3,582 (1.7%)                                       | Hypertensive Diseases<br>4,215 (1.7%)                                 | Hypertensive Diseases<br>4,287 (1.9%)                                |
| 9           | Influenza<br>1,916 (1.0%)  | Transport Accidents<br>1,972 (0.9%)                                  | Influenza<br>2,718 (1.3%)  | Transport Accidents<br>3,370 (1.4%)                                   | Transport Accidents<br>3,006 (1.3%)                                  |
| 10          | Transport Accidents<br>1,803 (0.9%)                                  | Influenza<br>1,576 (0.8%)  | Transport Accidents<br>2,361 (1.1%)                                  | Influenza<br>1,971 (0.8%)   | Diabetes<br>1,718 (0.8%)   |
| OTHERS      | 91,288 (45.4%)   | 98,388 (47.3%)   | 99,072 (46.2%)   | 129,396 (52.1%)   | 111,809 (49.0%)  |
| GRAND TOTAL | 201,062 (100.0%)   | 207,927 (100.0%)   | 214,630 (100.0%)   | 248,132 (100.0%)  | 228,265 (100.0%)   |

## Hospital Inpatient Morbidity for the Year 2011

| NO                 | ICD-10  | TYPE OF DISEASES   | MALE          | FEMALE        | TOTAL         | %            |
|--------------------|---|--|---------------|---------------|---------------|--------------|
| 1                  | A09   | Diarrhoea and Gastroenteritis of Presumed Infectious Origin  | 897           | 697           | 1,594         | 4.0          |
| 2                  | J10-J22   | Acute Lower Respiratory Infections   | 713           | 546           | 1,259         | 3.2          |
| 3                  | N80-N98   | Non-Inflammatory Disorders of Female Genital Tract   |               | 1,215         | 1,215         | 3.1          |
| 4                  | O00-O08   | Pregnancy With Abortive Outcome  |               | 1,193         | 1,193         | 3.0          |
| 5                  | J00-J06   | Acute Upper Respiratory Infections   | 605           | 519           | 1,124         | 2.8          |
| 6                  | J45-J46   | Asthma   | 571           | 440           | 1,011         | 2.5          |
| 7                  | I10-I15   | Hypertensive Diseases  | 326           | 467           | 793           | 2.0          |
| 8                  | R50   | Fever of Unknown Origin  | 383           | 371           | 754           | 1.9          |
| 9                  | O98-O99   | Maternal Diseases Classifiable Elsewhere but Complicating Pregnancy, Childbirth and The Puerperium (Indirect Obstetric Causes) |               | 683           | 683           | 1.7          |
| 10                 | R10   | Abdominal and Pelvic Pain  | 273           | 404           | 677           | 1.7          |
| 11                 | S02, S12, S22, S32, S42, S52, S72, S82, S92, T02, T08, T10, T12 | Fractures Of Specified and Multiple Body Regions   | 379           | 211           | 590           | 1.5          |
| 12                 | W00-W19   | Falls  | 337           | 242           | 579           | 1.5          |
| 13                 | E10-E14   | Diabetes Mellitus  | 259           | 319           | 578           | 1.5          |
| 14                 | I00-I09, I20-I52  | Heart Diseases   | 353           | 209           | 562           | 1.4          |
| 15                 | L00-L08   | Infections of the Skin and Subcutaneous Tissue   | 265           | 203           | 468           | 1.2          |
| Others             |   |  | 8,720         | 17,893        | 26,613        | 67.0         |
| <b>GRAND TOTAL</b> |   |  | <b>14,081</b> | <b>25,612</b> | <b>39,693</b> | <b>100.0</b> |

## Leading Causes of Hospital Inpatient Morbidity (2007 - 2011)

| No.         | 2007  | 2008   | 2009   | 2010   | 2011   |
|-------------|---|--|--|--|--|
| 1           | Acute Lower Respiratory Infections<br>1,226 (3.2%)                          | Acute Lower Respiratory Infections<br>1,201 (3.2%)   | Acute Lower Respiratory Infections<br>1,227 (3.4%)   | Diarrhoea and Gastroenteritis of Presumed Infectious Origin<br>1,361 (3.7%)  | Diarrhoea and Gastroenteritis of Presumed Infectious Origin<br>1,594 (4.0%)  |
| 2           | Diarrhoea and Gastroenteritis of Presumed Infectious Origin<br>1,151 (3.0%) | Pregnancy With Abortive Outcome<br>1,067 (2.8%)  | Pregnancy With Abortive Outcome<br>1,065 (3.0%)  | Acute Upper Respiratory Infections<br>1,229 (3.3%)   | Acute Lower Respiratory Infections<br>1,259 (3.2%)   |
| 3           | Asthma<br>1,122 (3.0%)  | Asthma<br>1,055 (2.8%)   | Non-Inflammatory Disorders of Female Genital Tract<br>1,039 (2.9%)   | Acute Lower Respiratory Infections<br>1,175 (3.2%)   | Non-Inflammatory Disorders of Female Genital Tract<br>1,215 (3.1%)   |
| 4           | Acute Upper Respiratory Infections<br>1,071 (2.8%)                          | Diarrhoea and Gastroenteritis of Presumed Infectious Origin<br>1,026 (2.7%)  | Diarrhoea and Gastroenteritis of Presumed Infectious Origin<br>1,032 (2.9%)  | Pregnancy With Abortive Outcome<br>1,113 (3.0%)  | Pregnancy With Abortive Outcome<br>1,193 (3.0%)  |
| 5           | Diabetes Mellitus<br>988 (2.6%)   | Acute Upper Respiratory Infections<br>1,016 (2.7%)   | Asthma<br>953 (2.6%)   | Non-Inflammatory Disorders of Female Genital Tract<br>1,111 (3.0%)   | Acute Upper Respiratory Infections<br>1,124 (2.8%)   |
| 6           | Pregnancy With Abortive Outcome<br>937 (2.5%)                               | Non-Inflammatory Disorders of Female Genital Tract<br>984 (2.6%)   | Acute Upper Respiratory Infections<br>893 (2.5%)   | Asthma<br>918 (2.5%)   | Asthma<br>1,011 (2.5%)   |
| 7           | Non-Inflammatory Disorders of Female Genital Tract<br>933 (2.5%)            | Diabetes Mellitus<br>791 (2.1%)  | Fever of Unknown Origin<br>759 (2.1%)  | Maternal Diseases Classifiable Elsewhere but Complicating Pregnancy, Childbirth and The Puerperium (Indirect Obstetric Causes)<br>787 (2.1%) | Hypertensive Diseases<br>793 (2.0%)  |
| 8           | Hypertensive Diseases<br>758 (2.0%)   | Hypertensive Diseases<br>745 (2.0%)  | Hypertensive Diseases<br>664 (1.8%)  | Hypertensive Diseases<br>771 (2.1%)  | Fever of Unknown Origin<br>754 (1.9%)  |
| 9           | Fever of Unknown Origin<br>676 (1.8%)                                       | Fever of Unknown Origin<br>737 (2.0%)  | Maternal Diseases Classifiable Elsewhere but Complicating Pregnancy, Childbirth and The Puerperium (Indirect Obstetric Causes)<br>661 (1.8%) | Fever of Unknown Origin<br>767 (2.1%)  | Maternal Diseases Classifiable Elsewhere but Complicating Pregnancy, Childbirth and The Puerperium (Indirect Obstetric Causes)<br>683 (1.7%) |
| 10          | Heart Diseases<br>633 (1.7%)  | Maternal Diseases Classifiable Elsewhere but Complicating Pregnancy, Childbirth and The Puerperium (Indirect Obstetric Causes)<br>660 (1.8%) | Diabetes Mellitus<br>644 (1.8%)  | Diabetes Mellitus<br>614 (1.7%)  | Abdominal and Pelvic Pain<br>677 (1.7%)  |
| OTHERS      | 28,325 (74.9%)  | 28,120 (74.9%)   | 27,040 (75.2%)   | 26,873 (73.2%)   | 29,390 (74.0%)   |
| GRAND TOTAL | 37,820 (100.0%)   | 37,538 (100.0%)  | 35,977 (100.0%)  | 36,719 (100.0%)  | 39,693 (100.0%)  |



## 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 Services, Environmental Health Services, and Scientific Services.

| WORKLOAD INDICATORS   | 2009    | 2010    | 2011    |
|---|---------|---------|---------|
| 1. Ante Natal attendances                                       | 48,323  | 44,068  | 44,749  |
| 2. Post Natal attendances                                       | 9,340   | 12,169  | 8,698   |
| 3. Child (<5) attendances                                       | 124,785 | 111,199 | 106,377 |
| 4. General O/P attendances in Health Centres / Clinics          | 538,999 | 465,448 | 475,068 |
| - Extended Hours + After Office Hours Services                  | 74,809  | 79,794  | 78,628  |
| 5. No. of students medically examined (Primary I, IV & Form II) | 21,149  | 20,091  | 13,820  |
| 6. No. of students screened (Primary I, III, IV, VI & Form II)  | 73,696  | 28,548  | 29,160  |

A comprehensive National Immunisation Programme is in place to protect children against vaccine preventable diseases. This successful programme is delivered through the extensive network of MCH Services and by School Health Services.

Over the years, immunisation coverage has consistently been above 95.0 percent for all vaccinations in the programme which met the targets set by the WHO. The success of this programme is one of the factors that contributed to the progression of Brunei Darussalam in achieving one of the health objectives under the United Nations Millennium Development Goal for reduction in child mortality.

| IMMUNISATION COVERAGE  | 2009         | 2010        | 2011        |
|--|--------------|-------------|-------------|
| <b>% of infants immunised against</b>                          |              |             |             |
| - Tuberculosis (at birth)                                      | 100.0        | 95.4        | 96.0        |
| - Diphtheria/Tetanus/Whooping Cough (Tetract-HIB) <sub>3</sub> | 99.4         | 95.4        | 97.0        |
| - Poliomyelitis (OPV) <sub>3</sub>                             | 99.5         | 99.0        | 100.0       |
| - Hepatitis B <sub>3</sub>                                     | 100.0        | 95.8        | 93.0        |
| - <b>Measles, Mumps and Rubella 1 (MMR1)</b>                   | <b>100.0</b> | <b>94.4</b> | <b>91.0</b> |
| <b>% of pregnant women immunised against Primigravida</b>      |              |             |             |
| - Tetanus (TT <sub>2</sub> )                                   | 75.0         | 75.6        | 78.2        |

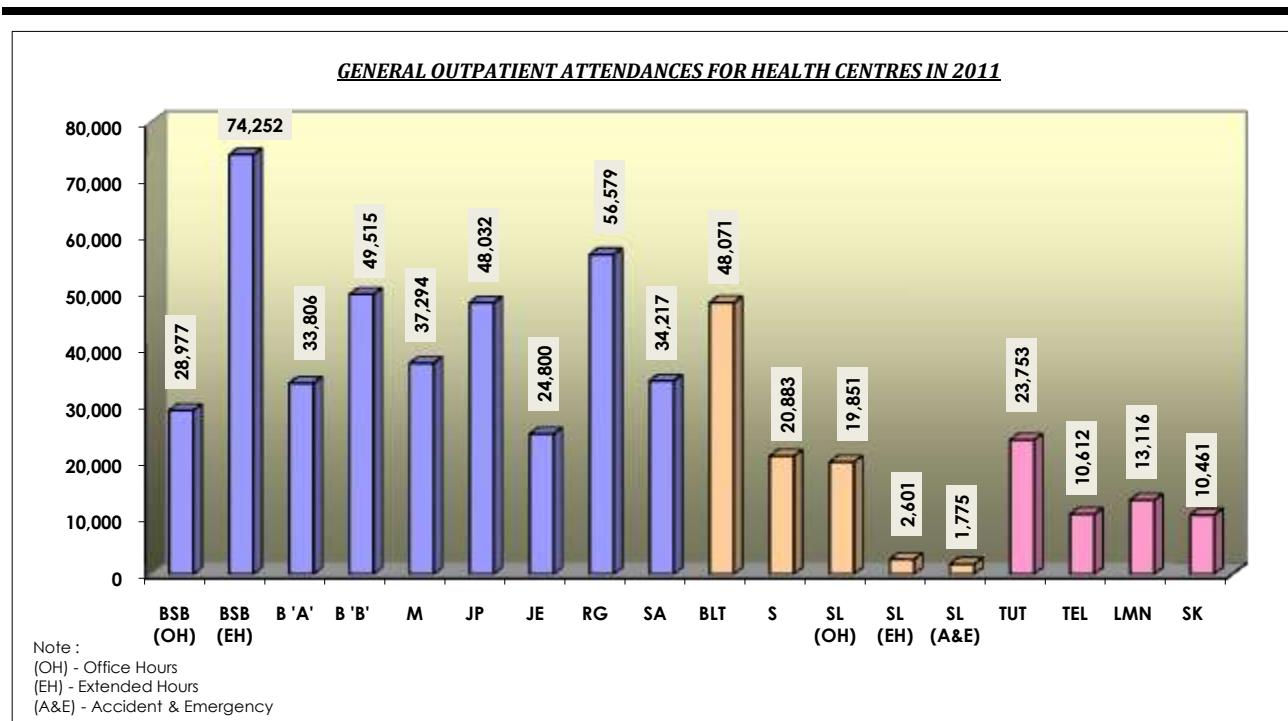
Note:

**Red text** - Millennium Development Goals (MDGs) Indicators

Source:

Maternal and Child Health (MCH) Clinic Data

# General Outpatient Attendances for Health Centres (2011)



## BRUNEI MUARA HEALTH CENTRES

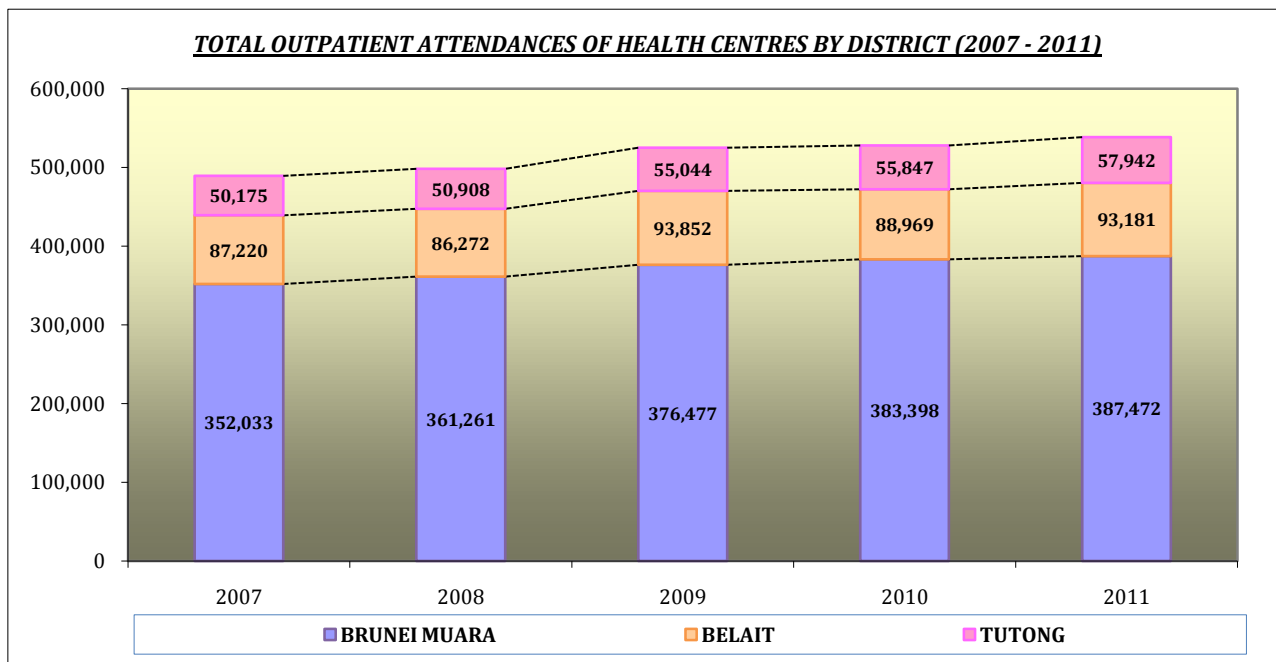
- BSB : BSB Health Centre
- B 'A' : Berakas 'A' Health Centre
- B 'B' : Berakas 'B' Health Centre
- M : Muara Health Centre
- JP : Jubli Perak Health Centre
- JE : Jubli Emas Health Centre
- RG : Rimba Gadong Health Centre
- SA : PAP Hjh Rashidah Sa'adatul Bolkiah Health Centre

## 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



## Health Centres Outpatient Morbidity (2011)

| No.                | ICD-10  | DISEASES   | MALE           | FEMALE         | TOTAL          | %            |
|--------------------|---------|--|----------------|----------------|----------------|--------------|
| 1                  | J00-J06 | Acute Upper Respiratory Infection                    | 89,998         | 95,270         | 185,268        | 33.4         |
| 2                  | I10-I15 | Hypertensive Diseases                                | 15,452         | 22,079         | 37,531         | 6.8          |
| 3                  | L00-L99 | Diseases of Skin & Subcutaneous Tissue               | 14,622         | 16,376         | 30,998         | 5.6          |
| 4                  | J10-J11 | Influenza  | 14,176         | 15,401         | 29,577         | 5.3          |
| 5                  | A09     | Gastroenteritis/Diarrhoea                            | 9,484          | 8,742          | 18,226         | 3.3          |
| 6                  | H10     | Conjunctivitis                                       | 8,936          | 9,106          | 18,042         | 3.3          |
| 7                  | E70-E90 | Metabolic Disorders                                  | 5,934          | 8,046          | 13,980         | 2.5          |
| 8                  | E10-E14 | Diabetes   | 4,814          | 6,854          | 11,668         | 2.1          |
| 9                  | J40-J46 | Bronchitis, Chronic & Unspecified Emphysema & Asthma | 4,524          | 4,449          | 8,973          | 1.6          |
| 10                 | R10     | Abdominal and Pelvic Pain                            | 3,634          | 4,807          | 8,441          | 1.5          |
| 11                 | H65-H66 | Otitis Media   | 2,501          | 2,924          | 5,425          | 1.0          |
| 12                 | K25-K27 | Gastric, Duodenal and Peptic Ulcer                   | 1,981          | 2,888          | 4,869          | 0.9          |
| 13                 | K00-K08 | Diseases of Teeth & Supporting Structures            | 1,396          | 1,504          | 2,900          | 0.5          |
| 14                 | B01     | Chickenpox   | 1,394          | 1,208          | 2,602          | 0.5          |
| 15                 | M10     | Gout   | 2,151          | 403            | 2,554          | 0.5          |
| Others             |         |  | 73,339         | 99,647         | 172,986        | 31.2         |
| <b>GRAND TOTAL</b> |         |  | <b>254,336</b> | <b>299,704</b> | <b>554,040</b> | <b>100.0</b> |

Note:

PAPHRSB Health Centre (January - June 2011 only); Lamunin Health Centre (January - June 2011 only); Berakas 'A' Health Centre (Not available); Berakas 'B' Health Centre (Not available).

## Leading Causes of Primary Health Care Outpatient Morbidity by District (2011)

| No.         | HEALTH CENTRES  |   |   |   |
|-------------|---|---|---|---|
|             | BRUNEI MUARA  | BELAIT  | TUTONG  | ALL DISTRICTS   |
| 1           | Acute Upper Respiratory Infections<br>128,407 (32.9%)               | Acute Upper Respiratory Infections<br>36,265 (37.8%)              | Acute Upper Respiratory Infections<br>20,596 (30.2%)                | Acute Upper Respiratory Infections<br>185,268 (33.4%)               |
| 2           | Influenza<br>29,520 (7.6%)  | Diseases of Skin & Subcutaneous Tissue<br>6,892 (7.2%)            | Hypertensive Diseases<br>7,411 (10.9%)                              | Hypertensive Diseases<br>37,531 (6.8%)                              |
| 3           | Hypertensive Diseases<br>28,758 (7.4%)                              | Gastroenteritis and Diarrhoea<br>3,955 (4.1%)                     | Diseases of Skin & Subcutaneous Tissue<br>3,889 (5.7%)              | Diseases of Skin & Subcutaneous Tissue<br>30,998 (5.6%)             |
| 4           | Diseases of Skin & Subcutaneous Tissue<br>20,217 (5.2%)             | Conjunctivitis<br>3,061 (3.2%)                                    | Diabetes<br>1,973 (2.9%)  | Influenza<br>29,577 (5.3%)  |
| 5           | Conjunctivitis<br>13,966 (3.6%)                                     | Hypertensive Diseases<br>1,364 (1.4%)                             | Gastroenteritis and Diarrhoea<br>1,740 (2.6%)                       | Gastroenteritis and Diarrhoea<br>18,226 (3.3%)                      |
| 6           | Metabolic Disorders<br>13,160 (3.4%)                                | Abnominal and Pelvic Pain<br>1,001 (1.0%)                         | Abnominal and Pelvic Pain<br>1,171 (1.7%)                           | Conjunctivitis<br>18,422 (3.3%)                                     |
| 7           | Gastroenteritis and Diarrhoea<br>12,531 (3.2%)                      | Otitis Media<br>623 (0.6%)  | Bronchitis Chronic & Unspecified Emphysema & Asthma<br>1,036 (1.5%) | Metabolic Disorders<br>13,980 (2.5%)                                |
| 8           | Diabetes<br>9,432 (2.4%)  | Chickenpox<br>565 (0.6%)  | Conjunctivitis<br>1,015 (1.5%)                                      | Diabetes<br>11,668 (2.1%)   |
| 9           | Bronchitis Chronic & Unspecified Emphysema & Asthma<br>7,494 (1.9%) | Diseases of Teeth & Supporting Structures<br>458 (0.5%)           | Metabolic Disorders<br>642 (0.9%)                                   | Bronchitis Chronic & Unspecified Emphysema & Asthma<br>8,973 (1.6%) |
| 10          | Abnominal and Pelvic Pain<br>6,269 (1.6%)                           | Bronchitis Chronic & Unspecified Emphysema & Asthma<br>443 (0.5%) | Gastric, Duodenal & Peptic Ulcer<br>548 (0.8%)                      | Abnominal and Pelvic Pain<br>8,441 (1.5%)                           |
| OTHERS      | 120,057 (30.8%)   | 41,439 (43.1%)  | 28,142 (41.3%)  | 191,336 (34.5%)   |
| GRAND TOTAL | 389,811 (100.0%)  | 96,066 (100.0%)   | 68,163 (100.0%)   | 554,040 (100.0%)  |

Note:

PAPHRSB Health Centre (January - June 2011 only); Lamunin Health Centre (January - June 2011 only);

Berakas 'A' Health Centre (Not available); Berakas 'B' Health Centre (Not available)

## Leading Causes of Primary Health Care Outpatient Morbidity (2008 - 2011)

| No.         | 2008   | 2009   | 2010   | 2011  |
|-------------|--|--|--|---|
| 1           | Acute Upper Respiratory Infections<br>197,348 (32.5%)                | Acute Upper Respiratory Infections<br>229,878 (35.8%)                | Acute Upper Respiratory Infections<br>222,641 (34.8%)                | Acute Upper Respiratory Infections<br>185,268 (33.4%)               |
| 2           | Diseases of Skin & Subcutaneous Tissue<br>42,253 (7.0%)              | Hypertensive Diseases<br>41,921 (6.5%)                               | Hypertensive Diseases<br>45,347 (7.1%)                               | Hypertensive Diseases<br>37,531 (6.8%)                              |
| 3           | Hypertensive Diseases<br>40,433 (6.7%)                               | Diseases of Skin & Subcutaneous Tissue<br>38,538 (6.0%)              | Diseases of Skin & Subcutaneous Tissue<br>35,887 (5.6%)              | Diseases of Skin & Subcutaneous Tissue<br>30,998 (5.6%)             |
| 4           | Influenza<br>18,367 (3.0%)   | Influenza<br>21,235 (3.3%)   | Influenza<br>33,313 (5.3%)   | Influenza<br>29,577 (5.3%)  |
| 5           | Bronchitis Chronic & Unspecified Emphysema & Asthma<br>16,915 (2.8%) | Conjunctivitis<br>17,566 (2.7%)                                      | Conjunctivitis<br>20,169 (3.2%)                                      | Gastroenteritis and Diarrhoea<br>18,226 (3.3%)                      |
| 6           | Conjunctivitis<br>15,767 (2.6%)                                      | Gastroenteritis and Diarrhoea<br>16,998 (2.6%)                       | Gastroenteritis and Diarrhoea<br>19,352 (3.0%)                       | Conjunctivitis<br>18,042 (3.3%)                                     |
| 7           | Gastroenteritis and Diarrhoea<br>15,555 (2.6%)                       | Metabolic Disorders<br>16,451 (2.6%)                                 | Metabolic Disorders<br>18,308 (2.9%)                                 | Metabolic Disorders<br>13,980 (2.5%)                                |
| 8           | Diabetes<br>14,428 (2.4%)  | Diabetes<br>14,405 (2.2%)  | Diabetes<br>15,003 (2.3%)  | Diabetes<br>11,668 (2.1%)   |
| 9           | Metabolic Disorders<br>10,644 (1.8%)                                 | Bronchitis Chronic & Unspecified Emphysema & Asthma<br>14,107 (2.2%) | Bronchitis Chronic & Unspecified Emphysema & Asthma<br>10,912 (1.7%) | Bronchitis Chronic & Unspecified Emphysema & Asthma<br>8,973 (1.6%) |
| 10          | Abnominal and Pelvic Pain<br>10,495 (1.7%)                           | Abnominal and Pelvic Pain<br>9,944 (1.5%)                            | Abnominal and Pelvic Pain<br>8,580 (1.3%)                            | Abnominal and Pelvic Pain<br>8,441 (1.5%)                           |
| OTHERS      | 224,828 (37.0%)  | 221,432 (34.5%)  | 210,341 (32.9%)  | 191,336 (34.5%)   |
| GRAND TOTAL | 607,033 (100.0%)   | 642,475 (100.0%)   | 639,853 (100.0%)   | 554,040 (100.0%)  |

Note:

PAPHRSB Health Centre (January - June 2011 only); Lamunin Health Centre (January - June 2011 only); Berakas 'A' Health Centre (Not available); Berakas 'B' Health Centre (Not available)

## Notifiable Diseases (2011)

Notification of infectious diseases is required by law under the 'Infectious Diseases Order 2003'. A total of 57 infectious diseases are listed as notifiable in the country. All notifications must be reported to the Disease Control Division at the Department of Health.

| DISEASES                                     | BM           | TUT        | TEM       | KB         | TOTAL        |
|--|--------------|------------|-----------|------------|--------------|
| <b>FOOD AND WATER BORNE DISEASES</b>         |              |            |           |            |              |
| Cholera                                      | 3            | 0          | 0         | 0          | 3            |
| Dysentery (Shigella)                         | 2            | 0          | 0         | 0          | 2            |
| Food Poisoning                               | 69           | 11         | 0         | 25         | 105          |
| Gastroenteritis                              | 395          | 4          | 3         | 391        | 793          |
| Hepatitis A                                  | 3            | 0          | 0         | 0          | 3            |
| Para/Typhoid Fever                           | 1            | 0          | 0         | 1          | 2            |
| Salmonella Infection                         | 26           | 2          | 0         | 4          | 32           |
| <b>Total</b>                                 | <b>499</b>   | <b>17</b>  | <b>3</b>  | <b>421</b> | <b>940</b>   |
| <b>PERSON TO PERSON TRANSMITTED DISEASES</b> |              |            |           |            |              |
| Chicken Pox                                  | 2,005        | 656        | 55        | 660        | 3,376        |
| Ebola Fever                                  | 0            | 0          | 0         | 0          | 0            |
| Hand, Foot & Mouth Disease                   | 823          | 47         | 2         | 127        | 999          |
| Influenza A                                  | 177          | 3          | 0         | 34         | 214          |
| Influenza B                                  | 0            | 0          | 0         | 0          | 0            |
| Influenza Others                             | 0            | 0          | 0         | 0          | 0            |
| Leprosy                                      | 0            | 0          | 0         | 0          | 0            |
| Meningitis                                   | 6            | 0          | 0         | 2          | 8            |
| Scarlet Fever                                | 12           | 0          | 0         | 0          | 12           |
| Severe Acute Respiratory Syndrome            | 0            | 0          | 0         | 0          | 0            |
| <b>Total</b>                                 | <b>3,023</b> | <b>706</b> | <b>57</b> | <b>823</b> | <b>4,609</b> |
| <b>VACCINE PREVENTABLE DISEASES</b>          |              |            |           |            |              |
| Diphtheria                                   | 0            | 0          | 0         | 0          | 0            |
| Hepatitis B                                  | 1            | 2          | 0         | 0          | 3            |
| Measles                                      | 2            | 0          | 0         | 2          | 4            |
| Mumps  | 18           | 7          | 0         | 7          | 32           |
| Pertussis                                    | 1            | 1          | 0         | 0          | 2            |
| Acute Flaccid Paralysis (AFP)                | 0            | 0          | 0         | 1          | 1            |
| Rubella                                      | 0            | 0          | 0         | 2          | 2            |
| Smallpox                                     | 0            | 0          | 0         | 0          | 0            |
| Tetanus                                      | 0            | 0          | 0         | 2          | 2            |
| Tetanus Neonatorum                           | 0            | 0          | 0         | 0          | 0            |
| Tuberculosis (data from TB Clinics)          | 138          | 28         | 11        | 53         | 230          |
| <b>Total</b>                                 | <b>160</b>   | <b>38</b>  | <b>11</b> | <b>67</b>  | <b>276</b>   |

## Notifiable Diseases (2011)

| DISEASES   | BM           | TUT        | TEM       | KB           | TOTAL        |
|--|--------------|------------|-----------|--------------|--------------|
| <b>SEXUALLY TRANSMITTED DISEASES</b>             |              |            |           |              |              |
| AIDS   | 1            | 0          | 0         | 2            | 3            |
| Chancroid  | 1            | 0          | 0         | 0            | 1            |
| Chlamydial Infection                             | 172          | 4          | 1         | 6            | 183          |
| Genital Herpes                                   | 4            | 0          | 0         | 0            | 4            |
| Gonorrhoea Infections                            | 303          | 13         | 4         | 15           | 335          |
| Hepatitis C                                      | 0            | 0          | 0         | 0            | 0            |
| HIV * (Local only)                               | 6            | 1          | 0         | 4            | 11           |
| Non Gonococcal Urethritis                        | 0            | 0          | 0         | 0            | 0            |
| Ophthalmia Neonatorum                            | 0            | 0          | 0         | 0            | 0            |
| Syphilis (All forms)                             | 3            | 0          | 1         | 0            | 4            |
| Other STI - Genital Warts, Trichomonas Vaginalis | 40           | 0          | 0         | 0            | 40           |
| <b>Total</b>                                     | <b>530</b>   | <b>18</b>  | <b>6</b>  | <b>27</b>    | <b>581</b>   |
| <b>VECTOR BORNE DISEASES</b>                     |              |            |           |              |              |
| Chikugunya                                       | 8            | 0          | 0         | 0            | 8            |
| Dengue Fever                                     | 18           | 1          | 1         | 5            | 25           |
| Dengue Haemorrhagic Fever                        | 0            | 0          | 0         | 0            | 0            |
| Filariasis                                       | 0            | 6          | 0         | 0            | 6            |
| Leptospirosis                                    | 0            | 0          | 0         | 0            | 0            |
| Malaria  | 12           | 1          | 1         | 1            | 15           |
| Plague   | 0            | 0          | 0         | 0            | 0            |
| Typhus   | 0            | 1          | 1         | 0            | 2            |
| West Nile Fever                                  | 0            | 0          | 0         | 0            | 0            |
| Yellow Fever                                     | 0            | 0          | 0         | 0            | 0            |
| <b>Total</b>                                     | <b>38</b>    | <b>9</b>   | <b>3</b>  | <b>6</b>     | <b>56</b>    |
| <b>ZOONOTIC DISEASES</b>                         |              |            |           |              |              |
| 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            |
| <b>Total</b>                                     | <b>0</b>     | <b>0</b>   | <b>0</b>  | <b>0</b>     | <b>0</b>     |
| <b>OTHER INFECTIOUS DISEASES</b>                 |              |            |           |              |              |
| Conjunctivitis (Chlamydia)                       | 3            | 0          | 0         | 0            | 3            |
| Encephalitis                                     | 0            | 0          | 0         | 0            | 0            |
| Legionellosis                                    | 0            | 0          | 0         | 0            | 0            |
| Puerperal Infection                              | 1            | 0          | 0         | 0            | 1            |
| Viral Encephalitis                               | 0            | 0          | 0         | 0            | 0            |
| Viral Hepatitis                                  | 0            | 0          | 0         | 0            | 0            |
| <b>Total</b>                                     | <b>4</b>     | <b>0</b>   | <b>0</b>  | <b>0</b>     | <b>4</b>     |
| <b>GRAND TOTAL</b>                               | <b>4,254</b> | <b>788</b> | <b>80</b> | <b>1,344</b> | <b>6,466</b> |

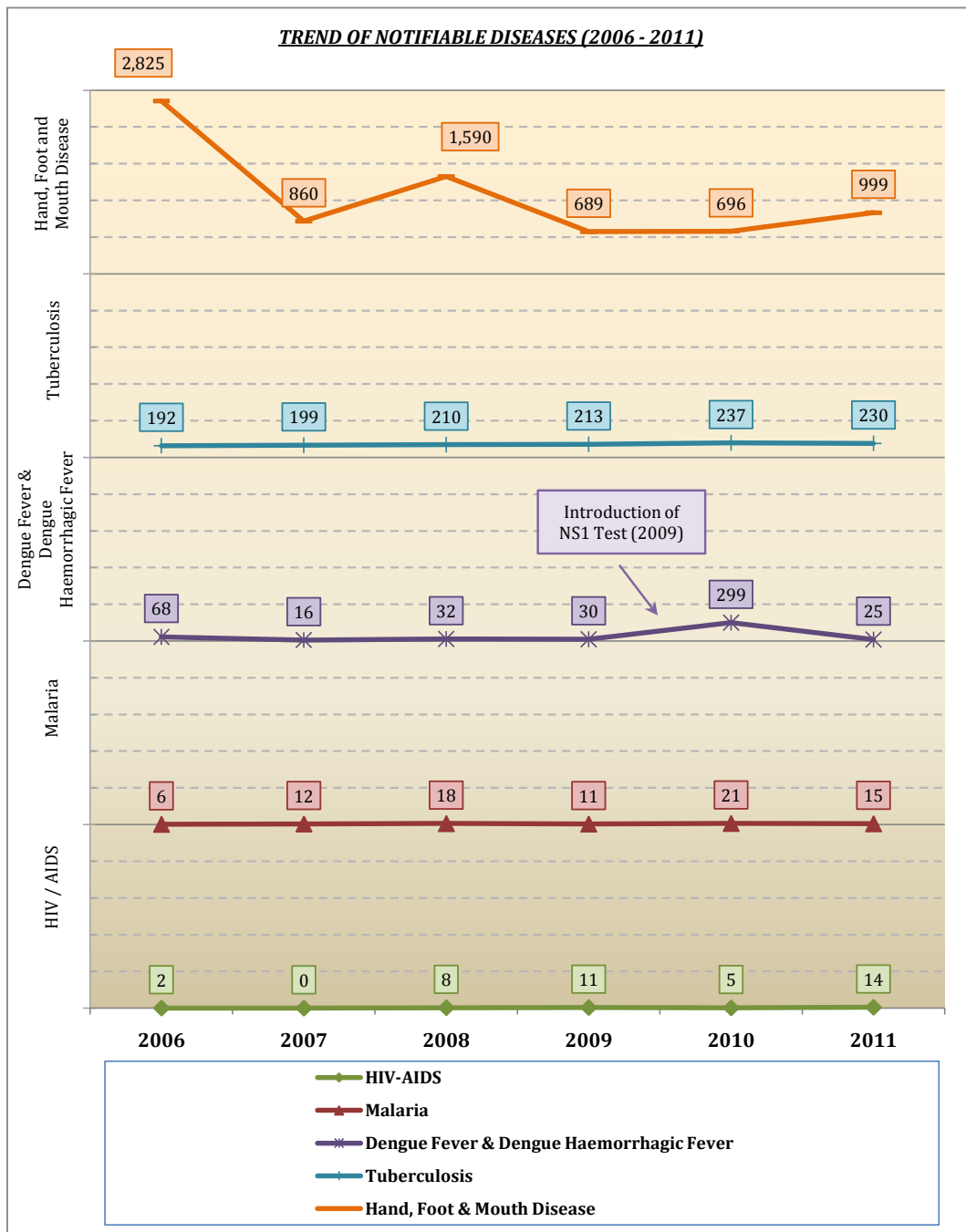
Note:

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

Source:

Disease Control Division, Ministry of Health

# Notifiable Diseases



Note:  
NS1 Test - Dengue NS1 Antigen Test

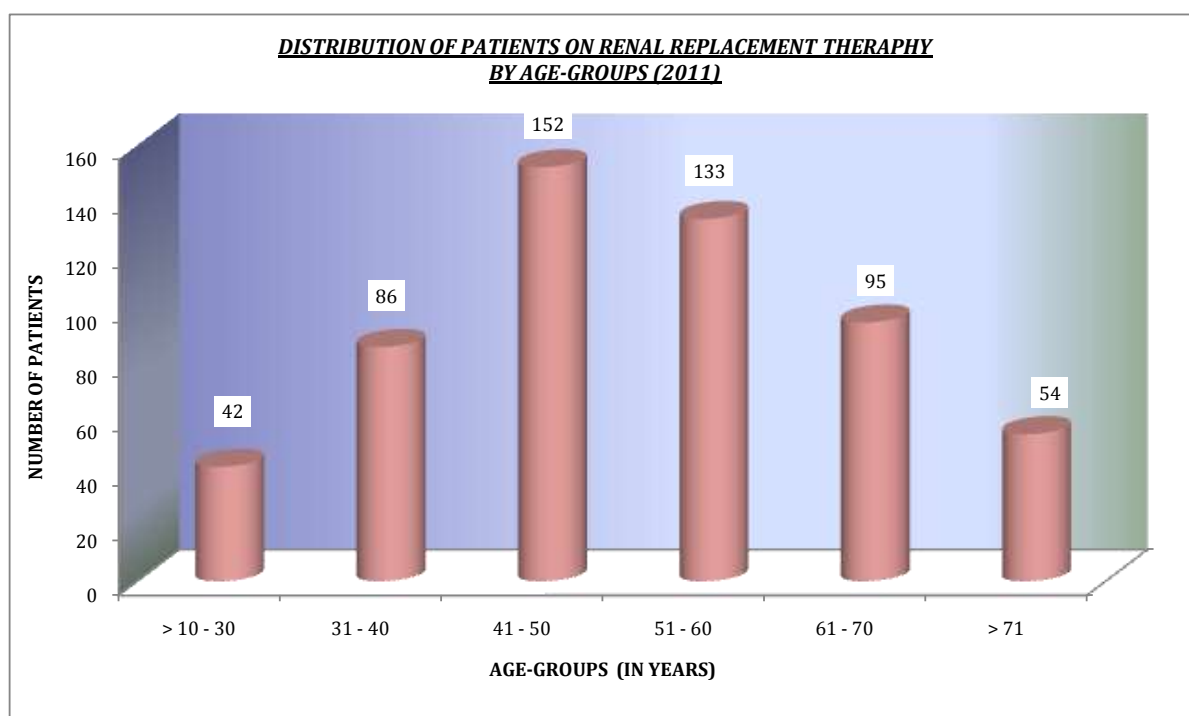


## Renal Services

| DIALYSIS CENTRE / UNIT                    | NO. OF PATIENTS |            |            |            |            |            |            |            |            |
|---|-----------------|------------|------------|------------|------------|------------|------------|------------|------------|
|   | 2009            |            |            | 2010       |            |            | 2011       |            |            |
|   | Male            | Female     | Total      | Male       | Female     | Total      | Male       | Female     | Total      |
| Rimba Dialysis Centre                     | 111             | 106        | 217        | 98         | 109        | 207        | 106        | 128        | 234        |
| Kiarong Dialysis Centre                   | 26              | 31         | 57         | 23         | 34         | 57         | 25         | 35         | 60         |
| Dialysis Centre RIPAS Hospital            | 32              | 26         | 58         | 29         | 35         | 64         | 32         | 28         | 60         |
| Dialysis Centre SSB Hospital, Belait      | 32              | 34         | 66         | 39         | 37         | 76         | 50         | 37         | 87         |
| Continuous Ambulatory Peritoneal Dialysis | 37              | 22         | 59         | 36         | 27         | 63         | 34         | 26         | 60         |
| Transplant Unit                           | 10              | 23         | 33         | 19         | 12         | 31         | 21         | 13         | 34         |
| Dialysis Centre PIHM Hospital, Temburong  | 11              | 9          | 20         | 13         | 13         | 26         | 12         | 15         | 27         |
| <b>TOTAL</b>                              | <b>259</b>      | <b>251</b> | <b>510</b> | <b>257</b> | <b>267</b> | <b>524</b> | <b>280</b> | <b>282</b> | <b>562</b> |

Source:

Renal Registry Unit, Department of Renal Services, Ministry of Health



## Dental Health Services

### ORAL HEALTH CARE COVERAGE OF THE POPULATION

| YEAR | New Patients | Catchment Population | Oral Health Care Coverage |
|------|--------------|----------------------|---------------------------|
| 2007 | 87,820       | 390,000              | 22.5%                     |
| 2008 | 83,748       | 398,000              | 21.0%                     |
| 2009 | 78,453       | 406,200              | 19.3%                     |
| 2010 | 59,803       | 397,968              | 15.0%                     |
| 2011 | 61,396       | 400,820              | 15.3%                     |

### COVERAGE AT DENTAL HEALTH SERVICES BY AGE-GROUP FOR THE YEAR 2011

| COVERAGE     | 0 - 5 | 6 - 12 | 13 - 19 | 20 - 55 | > 55  | TOTAL         |
|--------------|-------|--------|---------|---------|-------|---------------|
| New Patients | 4,926 | 10,231 | 8,839   | 32,666  | 4,734 | <b>61,396</b> |

### ATTENDANCES AT DENTAL HEALTH SERVICES BY AGE-GROUP FOR THE YEAR 2011

| TYPES OF ATTENDANCES | 0 - 5 | 6 - 12 | 13 - 19 | 20 - 55 | > 55  | TOTAL         |
|----------------------|-------|--------|---------|---------|-------|---------------|
| Outpatients          | 6,860 | 14,639 | 11,167  | 45,596  | 7,916 | <b>86,178</b> |
| Appointments         | 1,346 | 3,422  | 7,681   | 23,991  | 4,796 | <b>41,236</b> |

### COVERAGE AT SCHOOL DENTAL HEALTH SERVICES BY AGE-GROUP FOR THE YEAR 2011

| COVERAGE     | 0 - 5 | 6 - 12 | 13 - 19 | TOTAL         |
|--------------|-------|--------|---------|---------------|
| New Patients | 1,699 | 18,869 | 22      | <b>20,590</b> |

### ATTENDANCES AT SCHOOL DENTAL HEALTH SERVICES BY AGE-GROUP FOR THE YEAR 2011

| COVERAGE     | 0 - 5 | 6 - 12 | 13 - 19 | TOTAL         |
|--------------|-------|--------|---------|---------------|
| Outpatients  | 1,151 | 14,070 | 30      | <b>15,251</b> |
| Appointments | 1,277 | 12,886 | 4       | <b>14,167</b> |

Source:

Research and Development Division, Department of Dental Services, Ministry of Health

## Nutritional Status

| SCHOOL HEALTH<br>(Primary I, IV & VI<br>and Form 2 only) | PERCENTAGE (%) |      |      |      |      |
|--|----------------|------|------|------|------|
|  | 2007           | 2008 | 2009 | 2010 | 2011 |
| 1. Normal weight   | 64.8           | 69.8 | 68.9 | 67.1 | 49.7 |
| 2. Overweight  | 16.0           | 13.3 | 14.0 | 14.7 | 11.5 |
| 3. Obese   | 14.1           | 12.3 | 12.4 | 13.4 | 16.9 |
| 4. Severe Underweight                                    | ...            | ...  | ...  | ...  | 8.2  |
| 5. Underweight   | 5.1            | 4.5  | 4.7  | 4.8  | 13.8 |

Note :

In 2011, the Total Number of School Target Population is **27,881** for Primary I, III, IV & VI and **7,827** for Form 2

Source :

School Health Services, Ministry of Health

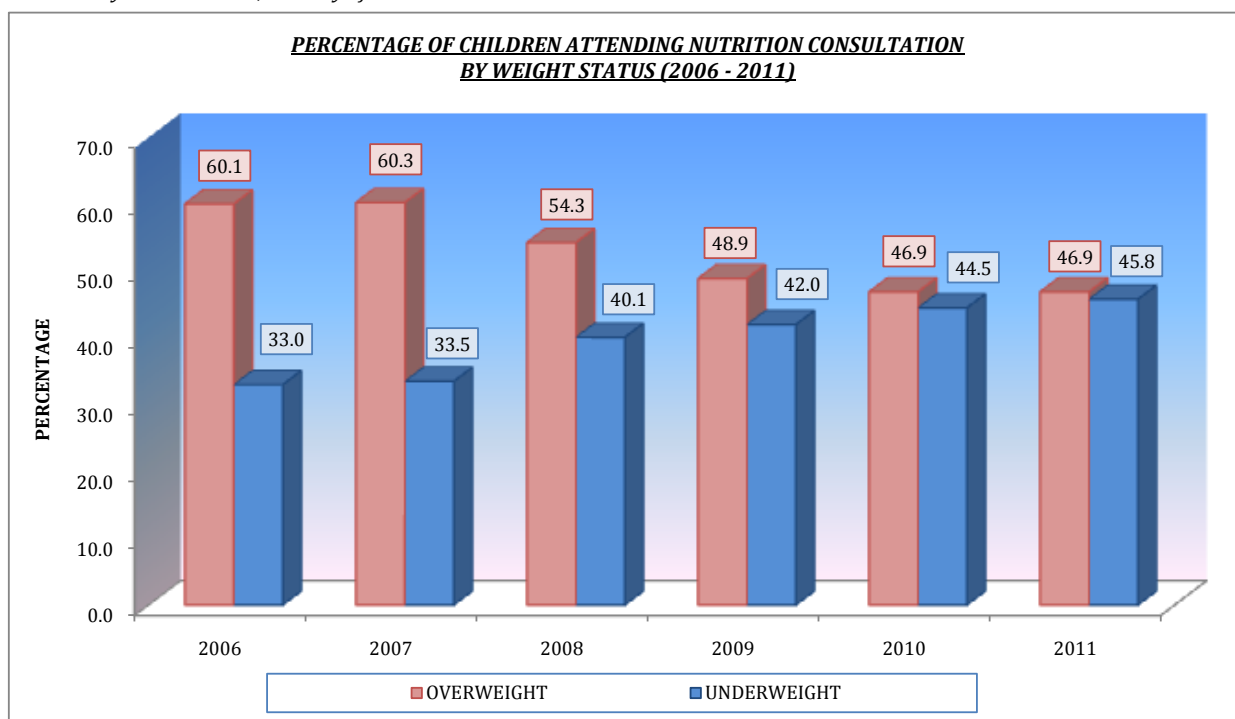
| MOTHER & CHILD<br>HEALTH CLINICS<br>(BELOW 5 YEARS) | PERCENTAGE OF CHILDREN ATTENDING NUTRITION CONSULTATION<br>BY WEIGHT STATUS (%) |              |              |            |              |
|---|---|--------------|--------------|------------|--------------|
|   | 2007  | 2008         | 2009         | 2010       | 2011         |
| 1. Underweight                                      | 60.3  | 54.3         | 48.9         | 46.9       | 46.9         |
| 2. Overweight                                       | 33.5  | 40.1         | 42.0         | 44.5       | 45.8         |
| 3. Others *   | 6.3   | 5.6          | 9.2          | 8.6        | 7.3          |
| <b>TOTAL NUMBER OF<br/>CASES</b>                    | <b>1,423</b>  | <b>1,331</b> | <b>1,158</b> | <b>960</b> | <b>1,025</b> |

Note :

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

Source :

Community Nutrition Unit, Ministry of Health



## Occupational Health Services

Occupational Health Division is responsible to monitor health and safety at workplace. The activities are streamlined to include worker's health surveillance, worksite surveillance and industrial hygiene, training, information and advisory functions as well as in the areas of compensation, counselling and rehabilitation.

A total of 228 work accidents were reported to the Occupational Health Division in 2011. About 73 percent were in non-health care settings. Majority of these accidents occurred at the manufacturing industry and at the construction sites. Within the healthcare sector, most of the injuries involved needlestick injuries.

| TYPES OF INDUSTRIES INSPECTED BY OCCUPATIONAL HEALTH DIVISION (OHD) |  |
|---|--|
| A.  | Agriculture, Hunting and Forestry  |
| B.  | Fishing  |
| C.  | Mining and Quarrying   |
| D.  | Manufacturing  |
| E.  | Electricity, Gas and Water Supply  |
| F.  | Construction   |
| G.  | Wholesale and Retail Trade, Repair of Motor Vehicles, Motorcycles and Personal and Household Goods |
| H.  | Hotels and Restaurants   |
| I.  | Transport, Storage and Communications  |
| J.  | Financial Intermediation   |
| K.  | Real Estate, Renting and Business Activities   |
| L.  | Public Administration and Defence, Compulsory Social Security                                      |
| M.  | Education  |
| N.  | Health and Social Work   |
| O.  | Other Community, Social and Personal Service Activities  |
| P.  | Private Households with Employed Persons   |
| Q.  | Extra-Territorial Organisations and Bodies   |

Note : The classifications of industries is based on the International Labour Organisation (ILO) Classification of Industries.

### WORKPLACE SURVEILLANCE BY OCCUPATIONAL HEALTH DIVISION

| PURPOSE  | NON HEALTHCARE |           |            |            | HEALTHCARE |           |           |           |
|--|----------------|-----------|------------|------------|------------|-----------|-----------|-----------|
|  | 2008           | 2009      | 2010       | 2011       | 2008       | 2009      | 2010      | 2011      |
| 1. Occupational Safety and Health 1st Inspection (Comprehensive)   | 66             | 22        | 22         | 11         | 27         | 29        | 37        | 12        |
| 2. Workplace Survey  | 365            | 37        | 38         | 158        | 0          | 0         | 0         | 0         |
| 3. Others - Complaints, Follow-Up, Periodic Inspection, Accidents at Workplace, Occupational / Work Related Disease Investigation, Requests. | 7              | 20        | 68         | 64         | 0          | 14        | 0         | 0         |
| <b>TOTAL</b>   | <b>438</b>     | <b>79</b> | <b>128</b> | <b>233</b> | <b>27</b>  | <b>43</b> | <b>37</b> | <b>12</b> |

Source : Occupational Health Division, Ministry of Health

## Occupational Health Services

| TYPES OF INJURY (NON HEALTHCARE) | 2007      | 2008       | 2009      | 2010      | 2011       |
|----------------------------------|-----------|------------|-----------|-----------|------------|
| 1. Construction                  | 41        | 55         | 28        | 30        | 57         |
| 2. Manufacturing                 | 17        | 43         | 20        | 20        | 59         |
| 3. Engineering                   | 20        | 37         | 14        | 16        | 6          |
| 4. Community Service             | 4         | 0          | 6         | 11        | 22         |
| 5. Electricity                   | 4         | 5          | 2         | 1         | 3          |
| 6. Agriculture                   | 2         | 6          | 1         | 6         | 3          |
| 7. Transport                     | 2         | 14         | 8         | 1         | 2          |
| 8. Business Activities           | 4         | 7          | 7         | 8         | 15         |
| 9. Private Households            | 2         | 5          | 6         | 6         | 0          |
| <b>TOTAL</b>                     | <b>96</b> | <b>172</b> | <b>92</b> | <b>99</b> | <b>167</b> |

| TYPES OF INJURY (HEALTHCARE) | 2007      | 2008      | 2009      | 2010      | 2011      |
|------------------------------|-----------|-----------|-----------|-----------|-----------|
| 1. Needle Prick              | 45        | 39        | 44        | 28        | 52        |
| 2. Other Injuries *          | 9         | 14        | 6         | 9         | 9         |
| <b>TOTAL</b>                 | <b>54</b> | <b>53</b> | <b>50</b> | <b>37</b> | <b>61</b> |

Note

\* - Other Injuries including Blood/Body Fluid Splash, Scalpel/Elevator and Glass Cut.

### OCCUPATIONAL AND WORK RELATED DISEASES

| DISEASES                  | 2008      | 2009      | 2010      | 2011      |
|---------------------------|-----------|-----------|-----------|-----------|
| 1. Noise Induced Deafness | 32        | 48        | 50        | 72        |
| 2. Industrial Dermatitis  | 4         | 4         | 4         | 2         |
| 3. Occupational Asthma    | 2         | 0         | 1         | 0         |
| <b>TOTAL</b>              | <b>38</b> | <b>52</b> | <b>55</b> | <b>74</b> |

Source :

Occupational Health Division, Ministry of Health

## Tobacco Control (2011)

| TYPE OF LICENSE |                    | No. of Application Received | No. of Application Approved (Approval Letter Issued) | Percentage of Application Approved * |
|-----------------|--------------------|-----------------------------|--|--------------------------------------|
| NEW             | RETAIL             | 24                          | 19   | 79.2%                                |
|                 | IMPORT & WHOLESALE | 0                           | 0  | 0.0%                                 |
| RENEWAL         | RETAIL             | 309                         | 254  | 82.2%                                |
|                 | IMPORT & WHOLESALE | 6                           | 6  | 100.0%                               |

Note:

\* -  $(\text{No. of Application Approved} / \text{No. of Application Received}) \times 100$

| TYPE OF LICENSE                   | NEW       |           | RENEWAL    |            |
|-----------------------------------|-----------|-----------|------------|------------|
|                                   | RECEIVED  | ISSUED    | RECEIVED   | ISSUED     |
| BRUNEI MUARA                      | 18        | 16        | 203        | 172        |
| TUTONG                            | 4         | 3         | 53         | 42         |
| BELAIT                            | 2         | 0         | 48         | 35         |
| TEMBURONG                         | 0         | 0         | 5          | 4          |
| <b>TOTAL</b>                      | <b>24</b> | <b>19</b> | <b>309</b> | <b>253</b> |
| <b>IMPORT</b>                     | <b>0</b>  | <b>0</b>  | <b>6</b>   | <b>6</b>   |
| <b>CHANGE OWNER / REPLACEMENT</b> |           |           |            | <b>1</b>   |

Source:

Licensing Unit, Tobacco Control Division, Ministry of Health

## Road Traffic Accidents

Road traffic accidents continue to be one of the leading causes of deaths in Brunei Darussalam. In 2011, Brunei Darussalam reported 3598 road accidents, an increase of 5.4% than the previous year. In the same year, road traffic accidents inflicted 699 injuries and 47 deaths.

| ROAD TRAFFIC ACCIDENTS |           |        |                                       |         |  |                                     |                                     |
|------------------------|-----------|--------|---------------------------------------|---------|--|-------------------------------------|-------------------------------------|
| Y<br>E<br>A<br>R       | ACCIDENTS | KILLED | NUMBER<br>KILLED PER<br>100,000 POPN. | INJURED | NUMBER<br>INJURED FOR<br>EACH PERSON<br>KILLED | CASE FATALITY<br>RATE<br>%<br>(CFR) | REGISTERED<br>VEHICLES<br>(revised) |
| 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                             |
| 2009                   | 3,110     | 38     | 9.4                                   | 608     | 16.0   | 5.9                                 | 333,203                             |
| 2010                   | 3,414     | 26     | 6.3                                   | 698     | 26.8   | 3.6                                 | 348,266                             |
| 2011                   | 3,598     | 47     | 12.0 *                                | 699     | 14.9   | 6.3                                 | 364,166                             |

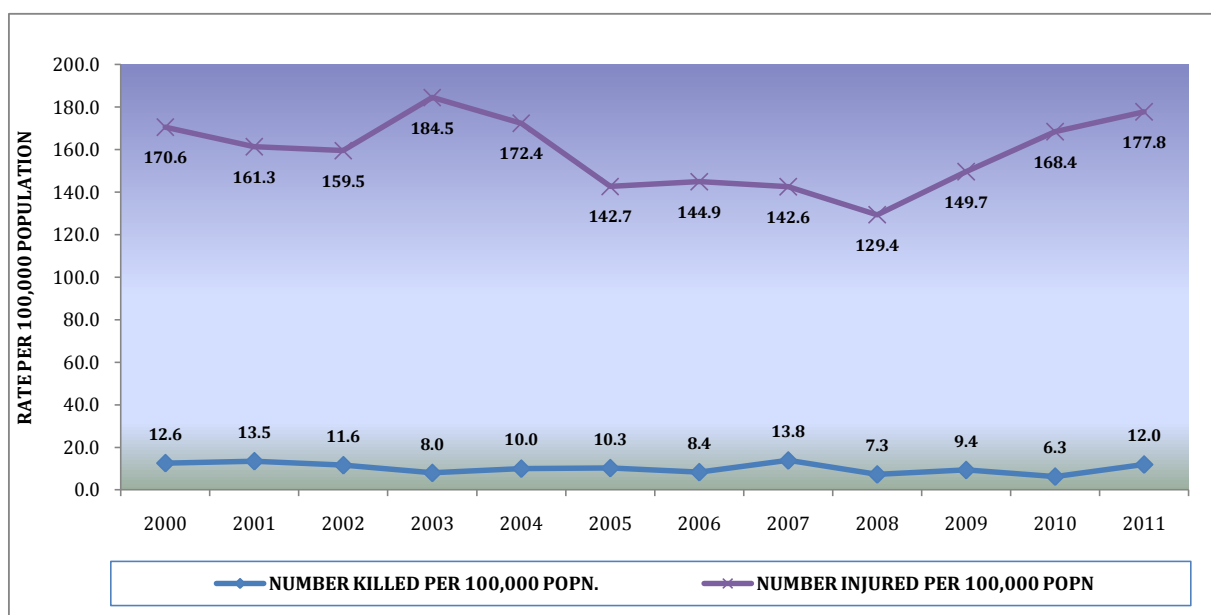
Note :

\* - calculation based on preliminary census 2011.

Sources :

The Royal Brunei Police Force, Prime Minister's Office

Land Transport Department, Ministry of Communication

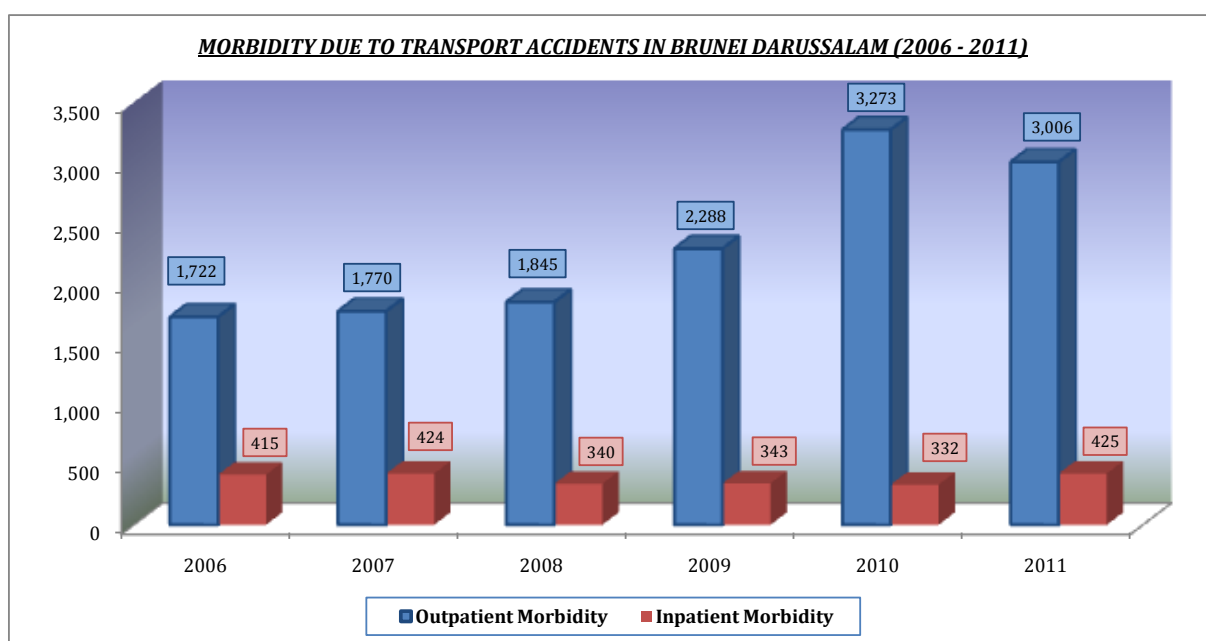


## Transport Accidents

|              | MORBIDITY DUE TO TRANSPORT ACCIDENTS IN 2011 |     |           |      |       |
|--------------|--|-----|-----------|------|-------|
|              | RIPASH                                       | SSB | PMMPMHAMB | PIHM | TOTAL |
| OUTPATIENT * | 2,012  | 242 | 688       | 64   | 3,006 |
| INPATIENT    | 297  | 110 | 0         | 18   | 425   |

Note:

\* - Newly reported cases only



Source :

Statistics Unit, Department of Policy and Planning, Ministry of Health



## Country Health Indicators

| Country           | Life Expectancy at Birth (MALE) | Life Expectancy at Birth (FEMALE) | Infant Mortality Rate (per 1000 livebirths) | Under-five Mortality Rate (per 1000 livebirths) | Maternal Mortality Ratio (per 100,000 livebirths) |
|-------------------|---------------------------------|-----------------------------------|---|---|---|
| BRUNEI DARUSSALAM | 76                              | 77                                | 6   | 7   | 24  |
| MALAYSIA          | 71                              | 76                                | 5   | 6   | 29  |
| SINGAPORE         | 79                              | 84                                | 2   | 3   | 3   |
| AUSTRALIA         | 80                              | 84                                | 4   | 5   | 7   |
| AUSTRIA           | 78                              | 83                                | 4   | 4   | 4   |
| BELGIUM           | 77                              | 83                                | 4   | 4   | 8   |
| CZECH REPUBLIC    | 74                              | 80                                | 3   | 4   | 5   |
| DENMARK           | 77                              | 81                                | 3   | 4   | 12  |
| FINLAND           | 77                              | 83                                | 2   | 3   | 5   |
| FRANCE            | 78                              | 85                                | 3   | 4   | 8   |
| GERMANY           | 78                              | 83                                | 3   | 4   | 7   |
| GREECE            | 78                              | 83                                | 3   | 4   | 3   |
| ICELAND           | 80                              | 84                                | 2   | 2   | 5   |
| IRELAND           | 77                              | 82                                | 3   | 4   | 6   |
| ITALY             | 79                              | 84                                | 3   | 4   | 4   |
| JAPAN             | 80                              | 86                                | 2   | 3   | 5   |
| REPUBLIC OF KOREA | 77                              | 83                                | 4   | 5   | 16  |
| LUXEMBOURG        | 78                              | 83                                | 2   | 3   | 20  |
| NETHERLAND        | 78                              | 83                                | 4   | 4   | 6   |
| NEW ZEALAND       | 79                              | 83                                | 5   | 6   | 15  |
| NORWAY            | 79                              | 83                                | 3   | 3   | 7   |
| OMAN              | 72                              | 77                                | 8   | 9   | 32  |
| PORTUGAL          | 76                              | 82                                | 3   | 4   | 8   |
| SPAIN             | 79                              | 85                                | 4   | 5   | 6   |
| SWEDEN            | 79                              | 83                                | 2   | 3   | 4   |
| SWITZERLAND       | 80                              | 84                                | 4   | 5   | 8   |
| UK                | 78                              | 82                                | 5   | 5   | 12  |

REFERENCE WORLD HEALTH STATISTICS 2012, WHO PUBLICATION

## Country Health Indicators

| Country                  | Physicians<br>per 10 000 popn | Nursing and<br>Midwifery Personnel<br>per 10 000 popn | Dentistry<br>Personnel<br>per 10 000 popn | Pharmaceutical<br>Personnel<br>per 10 000 popn |
|--------------------------|-------------------------------|---|---|--|
| <b>BRUNEI DARUSSALAM</b> | <b>14.2</b>                   | <b>48.8</b>   | <b>2.1</b>                                | <b>1.1</b>                                     |
| MALAYSIA                 | 9.4                           | 27.3  | 1.4                                       | 1.7  |
| SINGAPORE                | 18.3                          | 59.0  | 3.2                                       | 3.7  |
| AUSTRALIA                | 29.9                          | 95.9  | 6.9                                       | 10.4   |
| AUSTRIA                  | 48.5                          | 78.8  | 5.7                                       | 6.8  |
| BELGIUM                  | 30.1                          | 5.4   | 7.3                                       | 11.9   |
| CZECH REPUBLIC           | 36.7                          | 87.4  | 7.0                                       | 5.8  |
| DENMARK                  | 34.2                          | 160.9   | 8.1                                       | 4.8  |
| FINLAND                  | 29.1                          | 239.6   | 7.6                                       | 10.7   |
| FRANCE                   | 34.5                          | 3.1   | 6.8                                       | 11.9   |
| GERMANY                  | 36.0                          | 111.0   | 7.8                                       | 6.0  |
| GREECE                   | 61.7                          | 2.4   | 13.2                                      | 8.8  |
| ICELAND                  | 37.3                          | 158.8   | 10.2                                      | 19.4   |
| IRELAND                  | 31.7                          | 156.7   | 6.2                                       | 10.3   |
| ITALY                    | 34.9                          | 2.9   | 5.3                                       | 9.1  |
| JAPAN                    | 21.4                          | 41.4  | 7.4                                       | 13.6   |
| REPUBLIC OF KOREA        | 20.2                          | 52.9  | 5.0                                       | 12.1   |
| LUXEMBOURG               | 27.7                          | 3.6   | 8.3                                       | 7.2  |
| NETHERLAND               | 28.6                          | 1.5   | 5.1                                       | 2.1  |
| NEW ZEALAND              | 27.4                          | 108.7   | 4.6                                       | 7.1  |
| NORWAY                   | 41.6                          | 319.3   | 8.9                                       | 7.6  |
| OMAN                     | 19.0                          | 41.1  | 2.0                                       | 8.1  |
| PORTUGAL                 | 38.7                          | 53.3  | 7.2                                       | 7.0  |
| SPAIN                    | 39.6                          | 51.1  | 6.1                                       | 8.4  |
| SWEDEN                   | 37.7                          | 118.6   | 8.3                                       | 7.3  |
| SWITZERLAND              | 40.7                          | 164.6   | 5.5                                       | 5.8  |
| UK                       | 27.4                          | 101.3   | 5.3                                       | 6.6  |

REFERENCE WORLD HEALTH STATISTICS 2012, WHO PUBLICATION

# Definitions

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- 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 **POST NEONATAL DEATHS** : Deaths aged 28 - 365 days
- 5 **NEONATAL DEATHS** : Deaths aged less than 28 days
- 6 **PERINATAL DEATHS** : Fetal Deaths + Early Neonatal Deaths
- 7 **MATERNAL DEATH** : Death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes (*Source: WHO ICD-10 International Statistical Classification of Diseases and Related Health Problems*)
- 8 **DIRECT OBSTETRIC DEATHS** : Those resulting from obstetric complications of the pregnancy state (pregnancy, labour and puerperium), from interventions, omissions, incorrect treatment, or from a chain of events resulting from any of the above (*Source: WHO ICD-10 International Statistical Classification of Diseases and Related Health Problems*).
- 9 **INDIRECT OBSTETRIC DEATHS** : Those resulting from previous existing disease or disease that developed during pregnancy and which was not due to direct obstetric causes, but which was aggravated by physiologic effects of pregnancy (*Source: WHO ICD-10 International Statistical Classification of Diseases and Related Health Problems*).
- 10 **LIVEBIRTH** : The complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of the pregnancy, which, after such separation, breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached; each product of such a birth is considered liveborn (*Source: WHO ICD-10 International Statistical Classification of Diseases and Related Health Problems*).
- 11 **STILLBIRTH (ALSO REFERRED AS LATE FETAL DEATH)** : Refers to any child which has issued forth from its mother after the twenty-fourth (24th) week of pregnancy and showing NO signs of life at birth (complete expulsion from its mother).

## HOSPITAL INPATIENT ACTIVITIES

- 1 **ADMISSIONS** : Patients admitted direct to the hospitals or transferred from other institutions. It includes newborn babies born outside the hospital and admitted to the hospital but excludes babies born in the hospital.
- 2 **DISCHARGES (ALIVE AND DEATHS)** : These relate to live separations from the hospital or transfers to other institutions.
- 3 **DEATHS** : These include deaths after admissions to the hospital and exclude patients brought in dead and dying before admissions.
- 4 **PATIENT DAYS** : The number of days inpatient stayed in the hospital (services received by one inpatient in one 24-hour period). Patients admitted and discharged the same day are counted as having stayed one day in the hospital. The days a patient does not use his bed because he is on leave or absence are excluded.
- 5 **DAY PATIENTS** : Patients with conditions without the need to stay in the hospital overnight.

## Formulae

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- 1 **CRUDE BIRTH RATE** = (LIVEBIRTHS / POP.) x 1000
- 2 **GENERAL FERTILITY RATE** = [LIVEBIRTHS / WOMEN POP. AGED (15-49)] x 1000
- 3 **CRUDE DEATH RATE** = (NO. OF DEATHS / POP.) x 1000
- 4 **UNDER 5 MORTALITY RATE** = [(0-4) DEATHS / LIVEBIRTHS] x 1000
- 5 **LATE FETAL DEATH RATIO** = (FETAL DEATHS / LIVEBIRTHS) x 1000
- 6 **PERINATAL MORTALITY RATIO** = (PERINATAL DEATHS / LIVEBIRTHS) x 1000
- 7 **EARLY NEONATAL MORTALITY RATE** = (EARLY NEONATAL DEATHS / LIVEBIRTHS) x 1000
- 8 **LATE NEONATAL MORTALITY RATE** = (LATE NEONATAL DEATHS / LIVEBIRTHS) x 1000
- 9 **NEONATAL MORTALITY RATE** = (NEONATAL DEATHS / LIVEBIRTHS) x 1000
- 10 **POST NEONATAL MORTALITY RATE** = (POST NEONATAL DEATHS / LIVEBIRTHS) x 1000
- 11 **INFANT MORTALITY RATE** = (INFANT DEATHS / LIVEBIRTHS) x 1000
- 12 **MATERNAL MORTALITY RATIO** = (MATERNAL DEATHS / LIVEBIRTHS) x 100000

### HOSPITAL PERFORMANCE INDICES

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

### POPULATION BASED HOSPITAL ACTIVITIES

- 1 **OP ATTENDANCE RATE / 1000 POP.** = (GENERAL OP ATTENDANCES / POP.) x 1000
- 2 **A&E OP ATTENDANCES RATE / 1000 POP.** = (A&E OP ATTENDANCES / POP.) x 1000
- 3 **HOSPITALIZATION RATE / 1000 POP.** = (ADMISSION / POP.) x 1000
- 4 **RATE OF PATIENT DAYS / 1000 POP.** = (PATIENT DAYS / POP.) x 1000

Note:

AV. = Average

OP = Outpatient

POP. = Population

## **Contacts**

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Royal Brunei Police Force

### **Ministry of Finance**

Budget and Tender Section  
Ledger Section, Treasury Department

### **Ministry of Home Affairs**

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