A Snapshot on Public Health Care Brunei Darussalam

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Scope

• Preamble
• Health Care in Brunei Darussalam
• Health Achievements in Brunei Darussalam
• Health Issues & Challenges
• Way forward
Preamble

• What is health & Health of a population?
• What is health care?
HEALTH - Definition

• WHO in 1948 define health as
  “A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”

• WHO Health Promotion¹ initiative expanded definition in 1984 as
  “The extent to which an individual or a group is able to realize aspirations and satisfy needs, and to change or cope with the environment. Health is a resource for everyday life, not the objective of living; it is a positive concept, emphasizing social and personal resources as well as physical capabilities.

• Other definition
  “A state characterized by anatomical, physiological and psychological integrity; ability to perform personally valued family, work and community roles; ability to deal with physical, biologic, psychologic and social stress; a feeling of well-being; and freedom from the risk of disease and ultimate death.”²

²Stokes J III, Noren JJ, Shidel S. Definition of terms and concepts applicable to clinical preventive medicine. J Commun Health 1982; 8:33-41
Health of a population

Determinants:

- Physical and biological environment;
- Social environment and lifestyle;
- Genetics – an individual’s genotype may confer a degree of protection or susceptibility to factors in the environment, whether physical or social, that trigger disease.
- Healthcare
HEALTH CARE

Definition:

• Services provided to individuals or communities by agents of the health services or professions to promote, maintain, monitor or restore health.

• Not limited to medical care which implies therapeutic action by or under the supervision of a physician

• Include measures for health protection, health promotion and disease prevention
Health Care in Brunei Darussalam

• Historical perspective
• Principle and approach
• Health Care Delivery Framework
Brief Historical Perspective

- 1907 Deputy British resident also residing doctor
- 1911 Dresser runs a dispensary also as postmaster
- Nov 1928 First government hospital built and completed in 1929
- 1929 – Establishment of Medical Department & appointment of State Medical Officer
- 1929- Inauguration of Public Health and sanitation measures
- 1933 – 3 government hospital in place
- 1940- Maternal & Child Health widely accepted
- 1951 – New Hospital completed in Pekan Brunei which included a Nursing School
- 1958 – Establishment of Health Office & appointment of a Medical Officer together with the commencement of School Health Services
- 1965 – Start of flying Doctors Service
- 1966 – Department of Medical and Health established
- 1968 – 2 local doctors joined together with establishment of Dialysis Center and Mental health Unit
- 1970 – Formation of Haj Medical Support Team

Source: 100 Years Caring 1907 -2007 Together Towards A Healthy Nation
Principle and approach
Healthcare in Brunei Darussalam

• Universal Health Care Coverage
• Health for all
• Curative, preventive and promotive
• Emphasis on Primary Health Care
• Together Towards a Healthy Nation
Health Care Delivery Framework

Social Welfare

Consultation
Outpatient, Inpatient, Emergency

Social Integration
Diagnostic
Laboratory, Imaging, Pathology, Physiology, etc

Treatment
Pharmacy, Surgery, Physiotherapy, Occupational Therapy etc

Educational Integration

Rehab

Well

Palliative

ILL

Health Promotion & Advocacy
Training & Skill Development
Resource (Asset) Management
Policy & Legislation
Surveillance & Information
Research & Development
Health Facilities
Medical & Health Services

IN 1952
- 2 General Hospitals (150 bed in Brunei Town & 30 beds in Kuala Belait)
- 2 Outstation Dispensaries
- 13 Urban & Rural Ante-Natal Clinics
- 4 Riverine Travelling Dispensaries
- 2 Road Travelling Dispensaries

IN 2012 (To Date)
- 4 Government (968 beds) and 2 Private Hospitals
- 17 Health Centres
- 9 Medical Clinics (Ministry of Defence)
- 12 Maternal & Child Health Clinics
- 39 dental Clinics
- 3 Travelling Clinics
- 4 Flying Medical Services
- 6 Dialysis Centres
# Human Resource in Health (2011)

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<tr>
<th></th>
<th>Government</th>
<th>Private</th>
<th>Total</th>
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<tr>
<td><strong>Doctors</strong></td>
<td></td>
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<tr>
<td>Local</td>
<td>193</td>
<td>20</td>
<td>213</td>
</tr>
<tr>
<td>Expat</td>
<td>345</td>
<td>50</td>
<td>395</td>
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<tr>
<td>Total</td>
<td>538</td>
<td>70</td>
<td>608</td>
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<td>* Population per Doctor: 647</td>
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| **Dentists**         |            |         |       |
| Local                | 47         | 5       | 52    |
| Expat                | 32         | 11      | 43    |
| Total                | 79         | 16      | 95    |
| *Population per Dentist: 4,139 |          |         |       |

| **Pharmacist**       |            |         |       |
| Local                | 31         | 9       | 40    |
| Expat                | 1          | 7       | 8     |
| Total                | 32         | 16      | 48    |
| *Population per Pharmacist: 8,191 |          |         |       |

| **Nurses**           |            |         |       |
| Local                | 2070       | 185     | 2255  |
| Expat                | 132        | 241     | 373   |
| Total                | 2202       | 426     | 2,628 |
| *Population per Nurse: 8,191 |          |         |       |

**Health Worker Density**
- No formula to ensure effective health system

**JLI & WHO guideline:**
- 2.28 – 2.5 doctors/nurses/midwives per 1,000 population
- Ratio for Brunei Darussalam: $\frac{3746}{393.162} = 9.53$
- Global: 9.3 (2.3 -24.8)

**Pharmacist**
- OECD: 6 – 10 / 10,000 pop
- Ratio for Brunei Darussalam: $\frac{48}{39316.2} = 1.21$

**Dentist**
- No specific recommendation
- Target 1: 4000 population by 2035
- Current: 1:7960

Source: MOH Health Information Booklet 2011
Health Achievements in Brunei Darussalam
Crude Death Rates (CDR)

The number of deaths occurring per 1000 population in a year

In 1938 CDR : 22 / 1,000
Since 1987 CDR stabilised at ≈ 3/1,000

In 1947
Total Population (Census 1947) : 40670
CDR in 1947 = 20.1 / 1,000 population
Therefore no of death : ~ 817

In 2011
Total population : 393162
CDR in 2011 : 3.1/1,000 population
Therefore no of deaths : ~ 1219

If CDR in 1938 still applicable in 2011
No of deaths : 20.1 x 393.162 = 7903
Therefore:
Number of deaths averted in year 2011:
7903-1219 = 6684
Life Expectancy

The average number of years an individual of a given age is expected to live if current mortality rates continue to apply.

In year 1971:
Male: 61.9y  Female: 62.1y

In year 2011:
Male: 78.5y  Female: 79.3y

Life expectancy in selected countries¹:

Australia: Male-80y  Female-84y
China (2000): Male-68.5y  Female-72.8y
Japan: Male-80y  Female-86y
Malaysia: Male-71y  Female-76y
Philippines (2002): Male-66.9y  Female-72.2y
Singapore: Male-79y  Female-84y
Western Pacific Region (1995-2000): Male-68.6y  Female-72.5y

¹REFERENCE WORLD HEALTH STATISTICS 2012, WHO PUBLICATION
Infant Mortality Rate (IMR)

Number of death in a year of children less than 1 year of age for every 1,000 live births

IMR in 1938 = 146 / 1,000 life births

In 1950
No of life births : 2316
No of infant mortality : 318
IMR in 1950 : 138 / 1,000 life births

In 2011
No of life births : 6749
No of infant mortality : 56
IMR in 2006 : 8.3 / 1,000 life births

If IMR rates in 1950 still applicable in 2011
No of infant mortality : 931

Therefore:
No of infant saved in year 2011: 931-56 = 885

IMR (2011) Selected Countries:
Australia : 4.55
China : 15.7
Japan : 12.2
Malaysia : 14.57
Philippines : 18.75
Singapore : 2.85
Source: CIA The World Fact Book
Maternal Mortality Ratio (MMR)

Number of deaths arising during pregnancy from puerperal causes for every 100,000 live births

MMR in **1962** = 299/100,000 live births

In **1962**
- No of life births (estimated) : 4013
- No of maternal mortality : 12

**MMR in 1962 : 299 / 100,000 life births**

**2010**
- No of births : 6,412
- No of maternal mortality : 1

**MMR in 2010 : 15.6/100,000 life births**

If MMR rates in 1962 still applicable in 2011
- No of maternal mortality : 19

Therefore:

**No of mothers saved in year 2011:**
- 19 - 1 = 18

Selected Countries:

- Australia : 7
- China : 30
- Japan : 5
- Malaysia : 29
- Philippines : 221
- Singapore : 3
MALARIA ERADICATION

Malaria – significant burden of disease up till early 1960’s

Malaria Eradication Project
National Malaria Eradication Service recommended by WHO in 1962

Total expenditure approved for 5 year period (1963-1968):
M$5,504,670.00

1963-1965 Pre-eradication phase
1966 Attack Phase
1967 Consolidation Phase commenced

August 1987
WHO declared Brunei Darussalam Malaria Free

1987 To date Vigilance Phase to ensure malaria free status maintained and reintroduction prevented.

Bell et al. Nature Reviews Microbiology 4, S7–S20 (September 2006) |
POLIOMYELITIS ERADICATION IN BRUNEI DARUSSALAM

• Poliomyelitis gazetted a notifiable disease in 1953
• Poliomyelitis endemic pre-immunisation era
• From 1953 to 1996, 79 polio cases reported in the country
• Number of polio cases dramatically reduced following the introduction of OPV in 1962
• The last case reported was in 1978 from Tutong District
• Brunei Darussalam declared polio-free in year 2000
Influencing Determinants

• Multifactor not just specific to health sector
  ➢ Government commitment
  ➢ Development of basic infrastructure
  ➢ Education
  ➢ Soci-economic and welfare status
  ➢ Human resource development
  ➢ Public awareness
Issues & Challenges

- Physical & Biological Environment
- Socio-economic & Lifestyle
- HealthCare
- Genetic

Health Outcome
OVERACHING CHALLENGES

- Lifestyle – physical inactivity and risk behavior
- Environmental pollution & climate change
- Ageing population
- Population movement and migration
- Emerging & Re-emerging Diseases
Health Challenge:
1. Disease Trend

- Clear epidemiological shift to NCD
  - Cancer
  - Heart Disease
  - Diabetes
  - Cerebrovascular
  - Obesity
CHANGES IN 10 LEADING CAUSES OF DEATHS FOR BRUNEI DARUSSALAM FOR THE YEARS 1967 AND 2011

(Total Number of Deaths in 1967 and 2011 are 656 and 1235 respectively.)

Source: Research & Development Division, DPP MOH
Top 5 cancers in Brunei Darussalam (2006-2010)

1. Bronchus & Lungs
2. Breast
3. Cervix Uteri
4. Corpus Uteri & Unspecified parts of Uteri
5. Colon

Source: National Cancer Registry, MOH
## Preliminary Finding
### IHSHPP for Civil Servants
**(2007-2011)**

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<tr>
<th></th>
<th>NORMAL</th>
<th>HIGH</th>
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<tr>
<td>Body Mass Index (BMI)</td>
<td>31%</td>
<td>66%</td>
</tr>
<tr>
<td>Blood Pressure</td>
<td>71%</td>
<td>29%</td>
</tr>
<tr>
<td>Fasting Blood Sugar</td>
<td>89%</td>
<td>11%</td>
</tr>
<tr>
<td>Fasting Blood Cholesterol</td>
<td>52%</td>
<td>48%</td>
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</table>
OVERWEIGHT & OBESITY TREND
BRUNEI DARUSSALAM

1997

1st NNSS
33%
12%

IHSHP
38%
2007 - 2011
28%

2nd NHANSS
2009 - 2011
33%
27%

Overweight
Obese
SMOKING PREVALENCE
BRUNEI DARUSSALAM

2nd NHANSS (2011, preliminary)
- Wanita: 3.7%
- Lelaki: 32.8%
- Jumlah: 17.0%

Population Census (2001)
- Wanita: 2.9%
- Lelaki: 31.8%
- Jumlah: 17.5%

1st NHANSS (1997)
- Wanita: 5.3%
- Lelaki: 31.1%
- Jumlah: 20.0%
Overweight & Obesity - Schoolchildren
Year 1, 4, 6 & 8 (2008 – 2010)

Source: Department of Health Services, MOH
Health Challenge: 2. Sustainability

- Escalating health care cost (*review, accounting, cost benefits, cost savings, investments, alternative*)
- Maintenance & upgrade of existing health services & facilities (*utilization, accessibility, positioning, evidence based, assessment, efficiency*)
- Provision of new health services & treatment modalities in tandem with medical/health development and emerging health requirements (*evidence, location & coverage, cost benefits, coverage*)
Health Challenge
3. Quality care

- Increasing public expectation for quality care and in a conducive environment
- Aligning healthcare services provided with international benchmarks and acquiring accreditation
- Globalization and trade liberalization allowing for entry of product, practitioners and services which will require strict monitoring.
Health Challenge
4. Manpower

• Managing adequate, competent and skilled manpower and of quality (assessment, training, competency)
• Expanding new treatment modalities requiring specific skills & continuous training
• Restricted training opportunities
• Competitive healthcare workers global market
Approach & Way forward

• Timely information
• Evidence base
• Program planning, monitoring and targeting
• Smart doable & innovative intervention
• Quality assurance
• Training
• Partnership – Financing, promotion & service delivery
• What is good health?
  • What is good healthcare?
Together Towards A Healthy Nation
Thank you