Brunei Darussalam National Multisectoral Action Plan for the Prevention and Control of Noncommunicable Diseases (BruMAP-NCD)

2013-2018

His Majesty Sultan Haji Hassanal Bolkiah Mu'izzaddin Waddaulah
ibni Al-Marhum Sultan Haji Omar 'Ali Saifuddien Sa'adul Khairi Waddien,
Sultan and Yang Di-Pertuan of Brunei Darussalam

His Royal Highness Duli Pengiran Muda 'Abdul Malik ibni
Kebawah Duli Yang Maha Mulia Paduka Seri Baginda Sultan Haji Hassanal Bolkiah
Mu'izzaddin Waddaulah.
DKMB., PHBS.

OTHER STAKEHOLDERS

BRUNEI

Jerudong Park Medical Centre

Contents

Abbreviations

AGC	Attorney General's Chambers
ACB	Anti Corruption Bureau
AITI	Authority for Info-Communications Technology Industry
BMI	Body Mass Index
BruHIMS	Brunei Health Information Management System
COPD	Chronic Obstructive Pulmonary Disease
CPG	Clinical Practice Guidelines
CSPS	Centre for Strategic and Policy Studies
CSO	Civil Society Organisations (also known as NGO – Non-Governmental Organisations)
CVD	Cardiovascular disease
DM	Diabetes Mellitus
HiAP	Health in All Policies
ITPSS	Information Technology Protective Security Services Sdn Bhd
JPMC	Jerudong Park Medical Centre
KAP	Knowledge, Attitudes and Practice
KBM	Klinik Berhenti Merokok (Smoking Cessation Clinic)
KCHS	Klinik Cara Hidup Sihat (Healthy Lifestyle Clinic)
MCYS	Ministry of Culture, Youth and Sports
MinComm	Ministry of Communication
MinDef	Ministry of Defence
MIPR	Ministry of Industry and Primary Resources
MOD	Ministry of Development
MOE	Ministry of Education
MOF	Ministry of Finance
MOFAT	Ministry of Foreign Affairs and Trade
MOH	Ministry of Health
MOHA	Ministry of Home Affairs
MORA	Ministry of Religious Affairs
MoU	Memorandum of Understanding
NCB	Narcotic Control Bureau
NCD	Noncommunicable Disease
NHANSS	2nd National Health and Nutritional Status Survey
NNSS	National Nutritional Status Survey
NPAG	National Physical Activity Guideline
PA	Physical Activity
PE	Physical Education
PEN	Package of Essential Noncommunicable Disease Intervention
PMO	Prime Minister's Office
RBPF	Royal Brunei Police Force
RTB	Radio Television Brunei
SD	Standard Deviation
SOP	Standard Operating Procedure
TOR	Terms of Reference
UBD	Universiti Brunei Darussalam
WHO	World Health Organisation
WPRO	Western Pacific Regional Office

Excerpts from Titah of His Majesty Sultan Haji Hassanal Bolkiah Mu'izzaddin Waddaulah ibni Al-Marhum Sultan Haji Omar 'Ali Saifuddien Sa'adul Khairi Waddien, Sultan and Yang Di-Pertuan of Brunei Darussalam

"In health, we are committed in providing medical and health services that are of high quality and to ensure that all the people of Brunei Darussalam are able to enjoy the benefits of quality health care"

On the occasion of His Majesty's 50th Birthday, 15th July 1996

"On the matter of health, our government is not neglecting to give due attention and emphasis to the importance of health promotion programmes, with the aim of raising awareness about the importance of leading healthy lifestyles as part of our efforts to raise the quality of life in the country."

On the occasion of His Majesty's 51st Birthday, 15th July 1997

"My government will always give priority to health issues. Our concept is to emphasise on the prevention of diseases rather than treatment. We do not wait for diseases to develop then administer treatment but as far as possible, to identify the causes of the diseases as preventive measure."

On the occasion of His Majesty's 57th Birthday, 15th July 2003

"Besides providing the necessary treatment, (the Health Services) cannot stop from guiding and advising the community to practise a healthy lifestyle, by taking proper diet, exercising and creating clean environments"

On the occasion of the 100 Years Anniversary of the Health Services and Launching of the Health Convention, 15th November 2007

"How do we go about taking care of health? Through various means such as monitoring food intake, maintaining cleanliness and exercise and the likes. This comes down, in the end, to an individual's self discipline. However, self-discipline alone is inadequate because not everyone has the ability to do so and hence needs guidance and advice of relevant authorities."

On the occasion of His Majesty's Working Visit to the Ministry of Health, 20th October 2010

"In the field of health, aside from building up the Nation's medical services capacity at the specialist level, efforts to improve health should also be intensified through prevention and awareness programmes. This includes strengthening efforts to completely eradicate the dangerous habit of smoking through the amendments made in the duty and excise of cigarettes, tobacco and tobacco products."

On the occasion of the New Year's Day, 1st January 2011

"Moving on to the health aspect, we have no choice but to change the focus of treatment services (cure) to prevention so that it can be sustainable in the long term. This can be implemented through increasing public awareness on the importance of a healthy lifestyle inclusively or "Health in All Policies" in all of their daily actions, as a key to effective prevention."

On the occasion of His Majesty's 65th Birthday, 15th July 2011

"In the health field, I am very concerned with the increasing noncommunicable diseases such as diabetes, hypertension, renal failure, cancer and heart disease. Lately, I am very worried with the findings from studies that showed the increase in obesity in the country. This indicates an unbalanced lifestyle. Let us resolve to build a more disciplinary health care, especially in choosing healthy food, avoid smoking and diligent physical activity."

On the occasion of the New Year's Day, 1st January 2012

"In the health aspect, the government is not neglectful in enhancing the scope and quality of services. Nevertheless, cases of noncommunicable diseases such as diabetes, cancer, hypertension, renal and coronary diseases continue to increase to a worrying level. In my opinion, the way to prevent and overcome these diseases depends on the awareness and resolve of every individual. To stay healthy, we need discipline in healthy lifestyle and healthy diet. Among the healthy lifestyle is diligence in exercising while a healthy diet has its own definitions. In this matter, I would also like to see how far our campaigns and all promotions have been implemented including the evaluation of their effectiveness."

On the occasion of His Majesty's 66th Birthday, 15th July 2012

"Nevertheless, we should not be complacent and be off-guard because, as with other countries around the world, we are not exempted from being confronted by various challenges of health and diseases that do not only threaten the community and country but can also jeopardise national socio-economic development. Among the challenges are the increasing number of people suffering chronic noncommunicable diseases such as cancer, diabetes, hypertension and coronary diseases, which are oblivious to age and social status. I understand diseases such as these constitute the main causes of death in this country. In this regard, the costs of treatment and health care also continue to increase from one year to the next. In confronting such challenges, I hope all the relevant stakeholders, the Ministry of Health in particular, will continue to multiply efforts by taking more holistic approaches in accordance with best practices, such as adopting more cost-effective methods as well as the principle that "prevention is better than cure".

On the occasion of the Majlis Ilmu 2012, 11th September 2012

Foreword

السلام عليكم ورحمة الله وبركاته

بسم الله الرحمن الرحيم
الحمد لله رب العالمين
والصلاة والسلام على أشرف الأنبياء والمرسلين
سيدنا محمد وعلى آله وصحبه أجمعين

Alhamdulillah, Brunei Darussalam to date has been successful in controlling communicable diseases and in achieving great strides in major areas of health and development. Epidemiological transition and changes in our traditional lifestyle have resulted in lifestyle related diseases which we refer to as noncommunicable diseases (NCDs). The 4 predominant diseases are; cancer, heart diseases, diabetes and chronic respiratory diseases. These diseases are the result of risk factors which are modifiable and include tobacco use, unhealthy diet and physical inactivity.

The Ministry of Health has since addressed these growing concerns through a series of actions since 2000. Most of these initial actions were focused on dietary policies and interventions such as the National Dietary Guidelines, National Breastfeeding Policies, School Feeding Schemes and individual nutrition counselling as well as nutrition education for various target groups in the primary care setting and community. In the last decade, major achievements were also made in relation to tobacco control starting with the ratification of the Framework Convention on Tobacco Control in June 2004 followed by the enactment of the Tobacco Order 2005, its subsequent amendments and implementation as well as the establishment of smoking cessation services in the community.

Further efforts have since then been initiated such as the strengthening of primary health care based on the principle of universal health care coverage that is accessible, affordable and equitable, with lifecycle specific services and health promotion programmes and activities related to the promotion of healthy lifestyle. These programmes and services are guided by the World Health Organisation's best-buy interventions which are cost-effective and will help ensure the sustainability of the health system. Additionally, in implementing these programmes, the principles of primary care and health promotion are further upheld through the strengthening of civil society partnerships and collaboration as well as community participation.

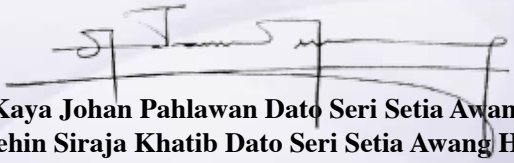
In April 2011, the Health Promotion Blueprint 2011 – 2015 was developed in line with the Ministry of Health's strategic plan to work towards a healthy nation and offers guidance in our initial journey towards curbing the growth of NCDs. This was subsequently followed by the establishment of the National NCD Prevention and Control Strategic Planning Committee in 2012, with the prime objective of strengthening NCD initiatives and responsible for the development of the Brunei National Multisectoral Action Plan for the Prevention and Control of Noncommunicable Diseases (BruMAP-NCD) 2013 – 2018.

NCD prevention and control need a holistic, integrated and multilevel approach where all ministries and sectors have a role to play. BruMAP-NCD 2013-2018 has been developed with the goal of achieving an 18% relative reduction in premature mortality from NCDs by 2018 ("18 by 18"). This requires strong and sustained commitment and actions from all sectors to make it feasible. The action plan is fully aligned with the World Health Organisation's Global Action Plan for NCD Prevention and Control and also captures the spirit and content of the political declaration of United Nations High Level Meeting on NCD Prevention and Control in New York, 2011. BruMAP-NCD 2013-2018 sets up recommended actions for the Ministry of Health and other ministries, leveraging on existing policies and strengthening others, as well as provides detailed guidance to achieve the various goals and targets. It provides a connection and continuity of actions identified in the Health Promotion Blueprint 2011 – 2015, particularly in addressing the first three objectives of reducing tobacco use, promoting balanced and healthy diet as well as promoting physical activity.

The urgent need to address NCD prevention and control has also been reflected at the highest political level where His Majesty Sultan Haji Hassanal Bolkiah Mu'izzaddin Waddaulah ibni Al-Marhum Sultan Haji Omar 'Ali Saifuddien Sa'adul Khairi Waddien, the Sultan and Yang Di-Pertuan of Brunei Darussalam, in His Majesty's New Year's Day speech in 2012 and also during His Majesty's 66th Birthday speech in 2012, has called upon repeatedly for better discipline and sustainable actions in adhering to healthy lifestyles and progressively tackle NCDs. The development of BruMAP-NCD is therefore, well timely and provides us with concrete and comprehensive directions for the next few years.

I would like to take this opportunity to commend the efforts of all those who have contributed to BruMAP-NCD 2013 – 2018, particularly, the National NCD Prevention and Control Strategic Planning Committee and the participants from the two multi-sectoral workshops held prior to this Action Plan. I also wish to thank the Western Pacific Regional Office of the World Health Organisation in Manila for supporting us in the journey of developing this Action Plan. It is my greatest hope and wish that with the implementation of the various actions in BruMAP-NCD 2013 – 2018, will assist us achieve our overall goal and specific targets related to the five objectives in the Action Plan.

وبالله التوفيق والهداية
والسلام عليكم ورحمة الله وبركاته



Pehin Orang Kaya Johan Pahlawan Dato Seri Setia Awang Haji Adanan bin Begawan Pehin Siraja Khatib Dato Seri Setia Awang Haji Mohd Yusof
Minister of Health
16 Zulkaedah 1434 / 21 September 2013

Preface

السلام عليكم ورحمة الله وبركاته

بسم الله الرحمن الرحيم
الحمد لله رب العالمين
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Noncommunicable Diseases (NCDs) have attracted global attention given their scope and impact. In addressing the fast rising tide, it requires deep understanding of the complex causative pathways and interlinkages together with concertive efforts, close collaboration, strong commitment, and integrative actions by all sectors health and non-health alike.

In Brunei Darussalam, NCDs have marked their presence as indicated by being the top cause of deaths for more than three decades. Current trends indicate NCDs will continue to dominate our health landscape potentially on impacting socio-economic development, escalating health care cost and challenging our quality of life.

In responding to the NCDs situation, we are privileged for the strong political commitment and acknowledgement on the importance of disease prevention and the promotion of healthy lifestyles alongside the highly accessible related clinical services including the latest treatment protocol and screening modalities.

Therefore, to enhance and align existing initiatives further all sectors needs to be fully engaged. As most NCD risk factors are largely influenced by policies and actions in the non-health sectors, a holistic government and societal health policy needs to be activated which in essence is the prime objective of this "BruMAP-NCD, the Brunei Darussalam National Multisectoral Action Plan for the Prevention and Control of Noncommunicable Diseases 2013-2018". BruMAP-NCD actions are not only aligned with those of WHO Global Action Plans for NCDs but also has National targets and indicators identified which are aligned with those of the WHO Global Action Plan.

The initiation of BruMAP-NCD is a follow-up activity since the formation of the National NCD Prevention and Control Strategic Planning Committee in April 2012. In the construction, issues and

input shared from the two workshops by health and non-health sectors were highly appreciated and have been integrated with the technical support from the World Health Organisation Western Pacific Regional Office. It is hoped that with this comprehensive and strategic approach, we can tackle NCDs together and achieve the ***"Vision 2035: Together Towards a Healthy Nation".***

وبالله التوفيق والهداية
والسلام عليكم ورحمة الله وبركاته

Dr. Hjh Rahmah bte Hj Md Said
Deputy Permanent Secretary (Professional & Technical)
as Chair of National NCD Prevention and Control Strategic Planning Committee
Ministry of Health
16 Zulkaedah 1434 / 21 September 2013

Introduction

I. Introduction

Noncommunicable diseases (NCDs) comprise mainly of cardiovascular diseases, cancers, diabetes and chronic respiratory diseases. The underlying determinants for chronic diseases are globalisation, urbanisation, industrialisation and an ageing population. Common modifiable risk factors of NCDs are unhealthy diet, physical inactivity, tobacco and alcohol use, and exposure to environmental pollutants.

In Brunei Darussalam, NCDs were estimated to account for 82% of all deaths in 2011.[1] The top four causes of death in Brunei Darussalam were cancer, cardiovascular diseases, DM and cerebrovascular diseases. In term of common risk factors for NCDs, Brunei Darussalam has one of the highest rates of obesity in Southeast Asia, with 27% of the adult population being obese. The prevalence of tobacco smoking in Brunei Darussalam is among the highest in high income countries, with nearly one-third (32%) of adult males who smoke.

Globally, NCDs are the leading cause of premature deaths and chronic disabilities. An estimated 36 million deaths, or 63% of the 57 million deaths in 2008 were due to NCDs, and about one fourth of these global NCD-related deaths occur before the age of 60. These figures have continued to grow and NCD deaths are projected to increase by 15% between 2010 and 2020 (to 44 million deaths), with the highest numbers predicted in the Western Pacific and South-East Asia regions.[2]

Exposure to NCD risk factors starts in early life. Most NCDs have chronic progress and stay silent or asymptomatic for a period of time, with major morbidity and mortality from NCDs occurring in adulthood. Children can also die from treatable NCDs, such as cancers, diabetes, and asthma, if health promotion, disease prevention, and appropriate care are not provided.

The UN General Assembly High Level Meeting has highlighted the importance of a whole-of-government and a whole-of-society effort to respond to the challenge of NCDs. Effective preventions and control of NCDs require multisectoral approaches across all government sectors including health, education, energy, agriculture, sports, transport, communication, town planning, environment, labour, employment, industry and trade, finance, social and economic.[3]

[1] WHO-NCD Country Profile, 2011
[2] Global Status Report on noncommunicable diseases 2010, Geneva, World Health Organisation, 2010
[3] United Nations General Assembly resolution 66/2

A whole-of-society approach requires efforts from all relevant members of society, including individuals, families, communities, intergovernmental organisations and religious institutions, civil society, academia, media, voluntary associations and the private sector and industry.

NCD related deaths are mostly preventable if interventions for prevention and control are available, NCD risk factors are reduced and cost-effective disease management is implemented in an effective and balanced manner.[4] To effectively address NCD risk factors, population-based approaches using different strategies including legislation, environmental intervention and education are needed. Approaches to the prevention and control of risk factors need to incorporate a lifecycle approach and multi-pronged interventions in various settings, including schools, workplaces and local communities.

The National NCD Prevention and Control Strategic Planning Committee was set up in 2012 with the aim of developing a National Multisectoral Action Plan in Brunei Darussalam. Since its establishment, several multisectoral consultations and forums have been held at various levels: senior management meetings including Permanent Secretaries of Ministries; a Senior Technical Officers' workshop in collaboration with WHO; and a public forum in collaboration with a CSO. Recognising the growing trends and burden of NCDs in Brunei Darussalam, a National Multisectoral Action Plan was developed following several rounds of multisectoral consultations.

The National Multisectoral Action Plan comprises of 5 key strategic actions towards

i) reducing tobacco use
ii) promote balanced and healthy diet
iii) increasing physical activity
iv) effective identification and management of people at high risk of NCDs
v) improving the quality of care and outcome of NCDs management.

All of these strategic actions require multi-agency or multi-disciplinary efforts in enabling healthy environments, reducing NCD risk factors and enhancing the continuum of care for NCDs. Every sector and member of the society has a part to play in realising the 2035 vision of 'Together Towards A Healthy Nation".

[4] Preventing Chronic Diseases. A Vital Investment. Geneva. World Health Organisation 2005.

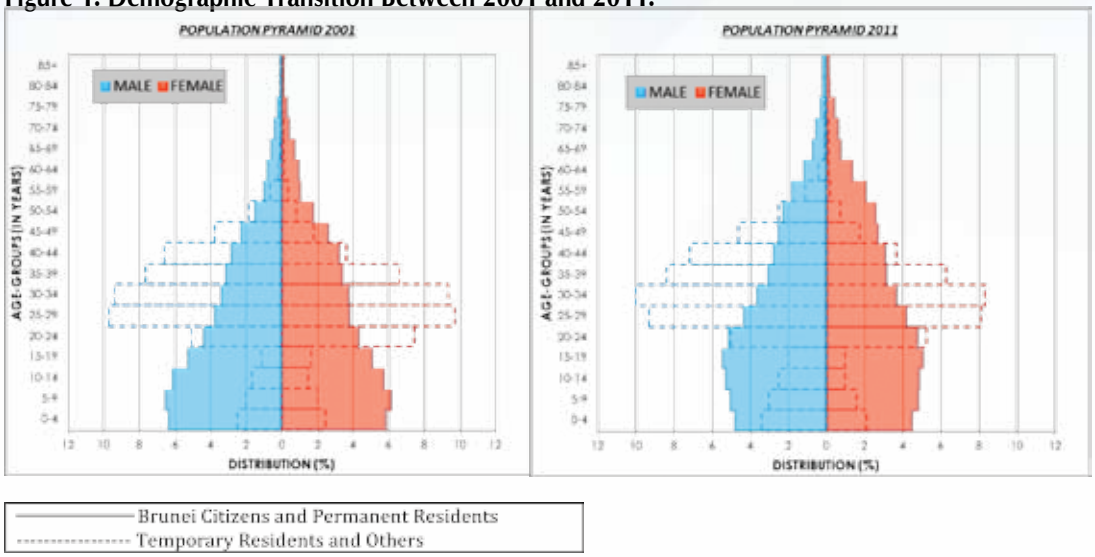
Prevention and Control of Noncommunicable Diseases: Current Status, Challenges and Opportunities

II. Prevention and Control of Noncommunicable Diseases: Current Status, Challenges and Opportunities

Demographic Transition

Like many other developed countries, Brunei Darussalam is also experiencing a demographic transition[5] as illustrated in Figure 1.

Figure 1: Demographic Transition Between 2001 and 2011.



Key differences are:

- **Increasing proportion of older population** - The percentage of people who are 65 years and above increased from 2.8% in 2001 to 3.7% in 2011; whereas the percentage of those aged 0 – 19 years decreased from 38.1% in 2001 to 33.7% in 2011.

- **Increasing life expectancy** – The overall life expectancy of Bruneians increased from 75.9 years in 2001 to 78.9 years in 2011.[6] Life expectancy among men increased from 74.2 years in 2001 to 78.5 years in 2011, and for women it increased from 77.6 years in 2001 to 79.3 years in 2011.

- **Decreasing birth rate** – The number of babies born to women aged 15 - 49 decreased from 2.2 in 2001 to 1.9 in 2011.

[5] Health Information Booklet 2011, Ministry of Health, Brunei Darussalam
[6] Population Census 2011, Department of Economic Planning and Development

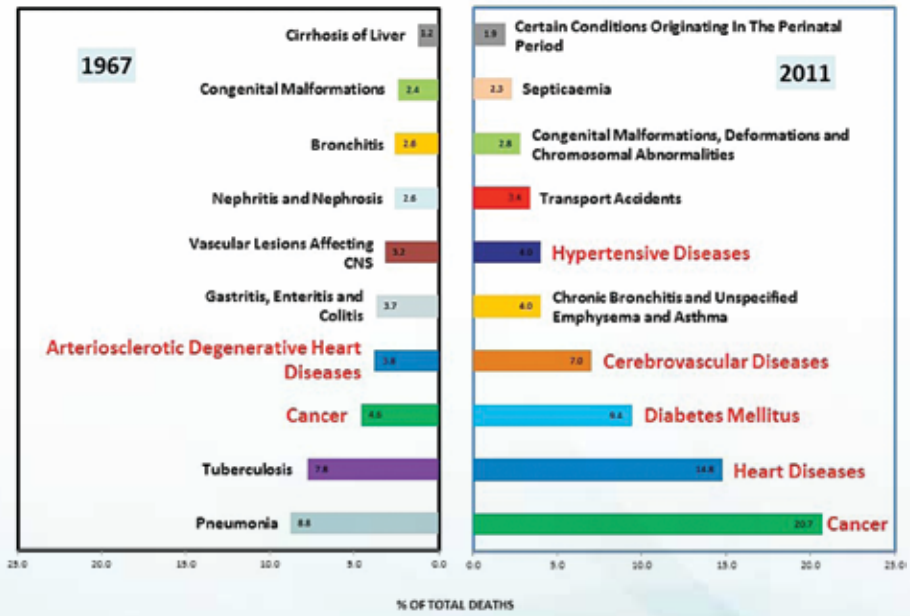
Box 1: Key Demographic Changes

		2001	2011
Increasing proportion of population age 65 and above (%)		2.8	3.7
Decreasing proportion of population age 0 - 19 (%)		38.1	33.7
Increasing overall life expectancies (years)	Total	75.9	78.9
	Male	74.2	78.5
	Female	77.6	79.3
Total fertility rate (number of child per women aged 15 - 49)		2.2	1.9

NCD Burden in Brunei Darussalam

Over the past four decades, the leading causes of deaths have shifted from being predominantly communicable diseases such as pneumonia and tuberculosis to NCDs such as cancer, CVD, DM and COPD (Figure 2).[7]

Figure 2: 10 Leading Causes of Deaths in Brunei Darussalam in 1967 and 2011[7]

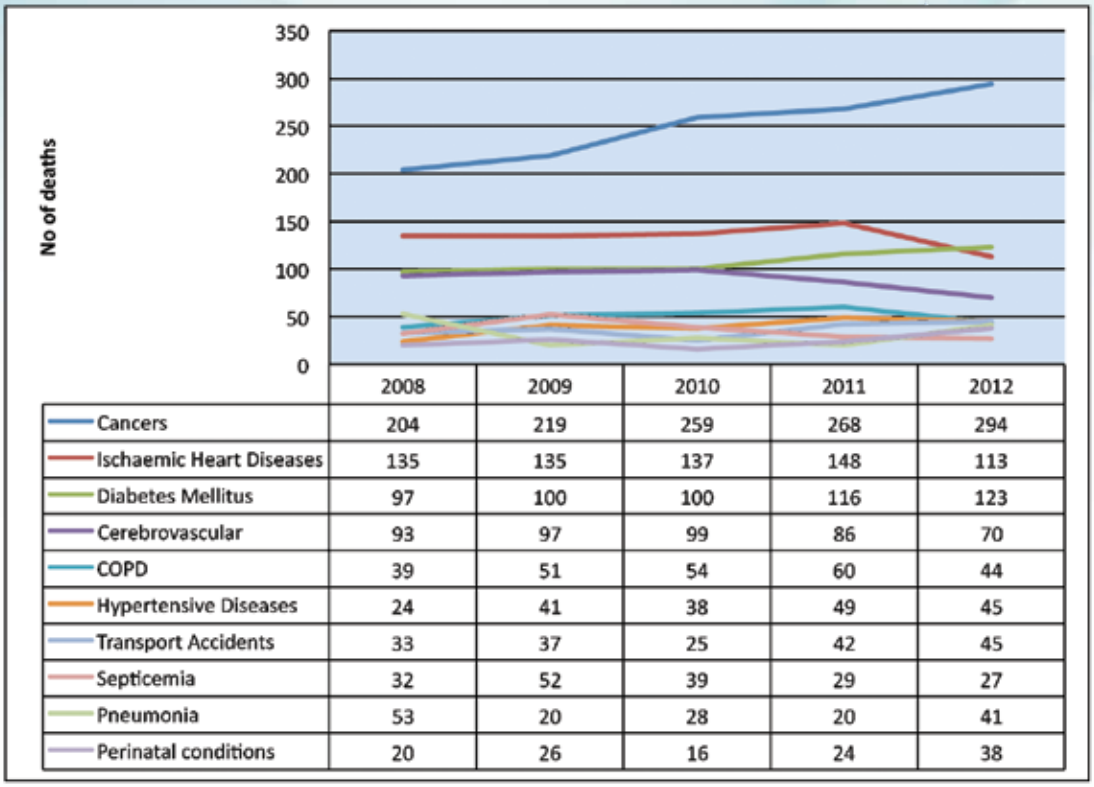


As shown in Figure 3, the top 5 leading causes of deaths were due to cancers, heart diseases including acute rheumatic fever, DM, cerebrovascular diseases, chronic bronchitis and unspecified emphysema and asthma.

[7] Data from Research and Development, Department of Policy and Planning, Ministry of Health, Brunei Darussalam

It is estimated that in 2012, 50.8% males and 54.4% females died prematurely due to NCDs. In contrast, in 2008, 48.8% males and 38.3% females died prematurely from NCDs.[7,8]

Figure 3: Top Leading Causes of Deaths in Brunei Darussalam, 2008-2012[7]



	2008	2009	2010	2011	2012
Cancers	204	219	259	268	294
Ischaemic Heart Diseases	135	135	137	148	113
Diabetes Mellitus	97	100	100	116	123
Cerebrovascular	93	97	99	86	70
COPD	39	51	54	60	44
Hypertensive Diseases	24	41	38	49	45
Transport Accidents	33	37	25	42	45
Septicemia	32	52	39	29	27
Pneumonia	53	20	28	20	41
Perinatal conditions	20	26	16	24	38

Over the past few years, cancers have been the number one killer in Brunei Darussalam. Cancer by gender is illustrated in Box 2.

Box 2: Top 5 Cancers reported in Brunei Darussalam by gender 2002 to 2011

Gender	Types of Cancers
Male	• Lung • Colorectal • Nasopharyngeal • Stomach • Prostate
Female	• Breast • Lung • Cervical • Colon • Uterine

[7] Data from Research and Development, Department of Policy and Planning, Ministry of Health, Brunei Darussalam
[8] Premature Death (WHO, 2013) is defined as 70 years and below.

Significant proportions of cancer patients were diagnosed below the age of 40 years as highlighted in Figures 4, 5, 6 and 7.

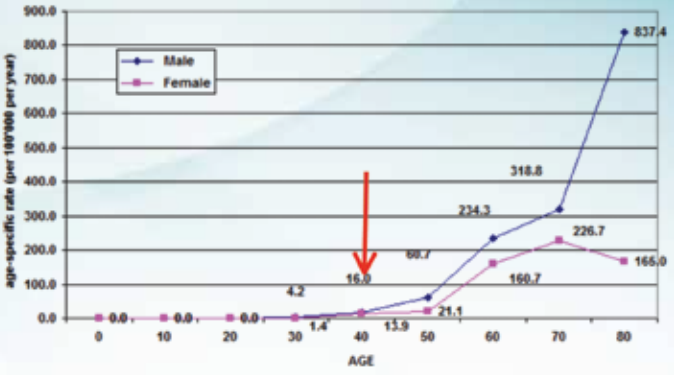


Figure 4: Lung Cancer Age-Specific Incidence by Sex and Age Group, 2002-2005

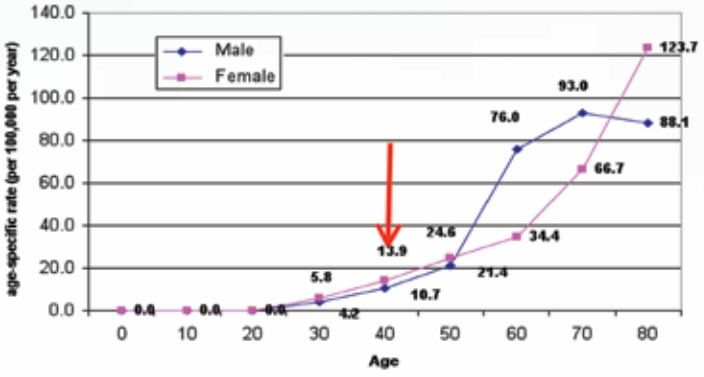


Figure 6: Breast Cancer Age-Standardised Incidence by Age Group, 2002-2005

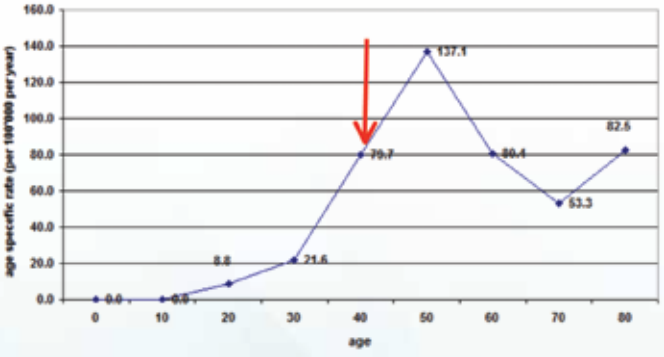
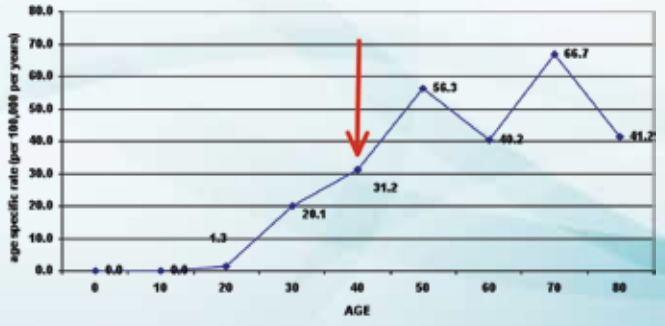


Figure 7: Cervical Cancer Age-Standardised Incidence Rate by Age Group, 2002-2005



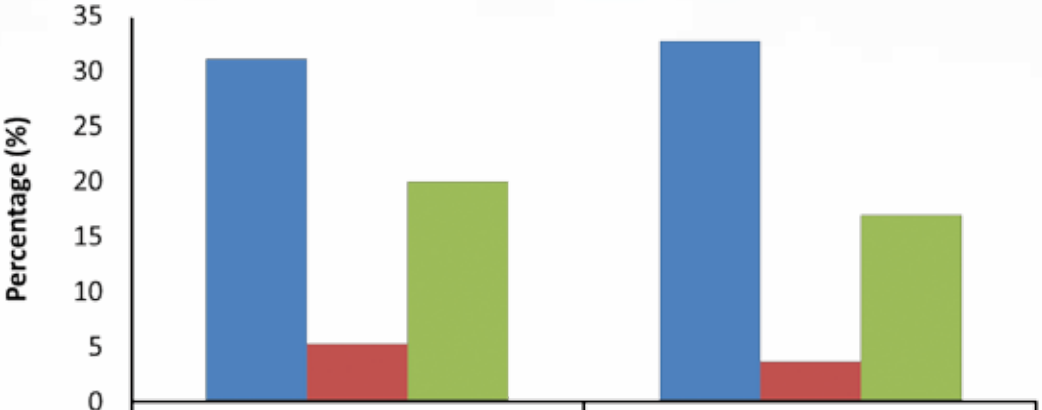
Risk Factors for NCDs

Information on the risk factors for NCDs is mainly captured from the following population surveys as follows:

- 1st National Nutritional Status Survey (NNSS) 1997, Ministry of Health
- 2nd National Health and Nutritional Status Survey (NHANSS) 2009 – 2011 (<5 years, published) (5-75 years, preliminary), Ministry of Health

1. **Tobacco smoking:** In 1997, the overall smoking prevalence amongst Bruneians was 20%. The same survey showed that 31.1% of adult[9] males were smokers. In 2011, the overall smoking prevalence was reported as 17%, however, adult male smokers had increased to 32.8% (Figure 8).

Figure 8: The prevalence of smoking in adults between 1997 and 2011 in Brunei Darussalam



	NNSS 1997	NHANSS 2011
Male	31.1	32.8
Female	5.3	3.7
Overall	20	17

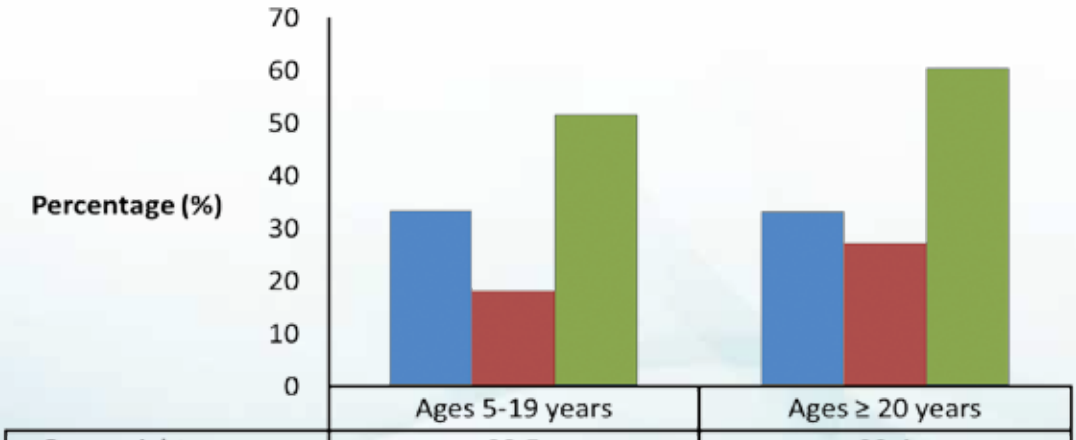
2. **Obesity:** In 1997, the prevalence of obesity[10] in adults was 12%. This figure has more than doubled to 27.2% in 2011 as illustrated in Figure 9. However, the prevalence of overweight[11] adults only increased marginally from 32.4% in 1997 to 33.4% in 2011. Alarmingly, our children[12] are not spared from being overweight (as defined by BMI for age ≥ 1 SD) and obese (as defined by BMI for age ≥ 2 SD) where prevalence in children was found to be 33.5% and 18.3% respectively (Figure 10).

[9] Adults is defined as aged >19 years
[10] Obesity is defined as BMI ≥30
[11] Overweight is defined as BMI 25 -29.9
[12] Children is defined as aged 5-19 years

Figure 9: Prevalence of Overweight and Obesity in Adults between 1997 and 2011 in Brunei Darussalam

	NNSS 1997	NHANSS 2011
Overweight	32.4	33.4
Obese	12	27.2
Overweight and obese	44.4	60.6

Figure 10: Prevalence of Overweight and Obesity amongst Children and Adults in Brunei Darussalam from NHANSS (preliminary data)



	Ages 5-19 years	Ages ≥ 20 years
Overweight	33.5	33.4
Obese	18.3	27.2
Overweight and obese	51.8	60.6

3. **Hypertension:** The prevalence of hypertension[13] increased from 28.6% in 1997 to 33.8% in 2011. As shown in Figure 11, hypertension in adult males increased marginally from 35.4% to 36.4% but the increase in hypertension in adult females from 23% in 1997 to 31.7% in 2011 is more alarming.

Figure 11: Prevalence of Hypertension in Adults between 1997 and 2011 in Brunei Darussalam

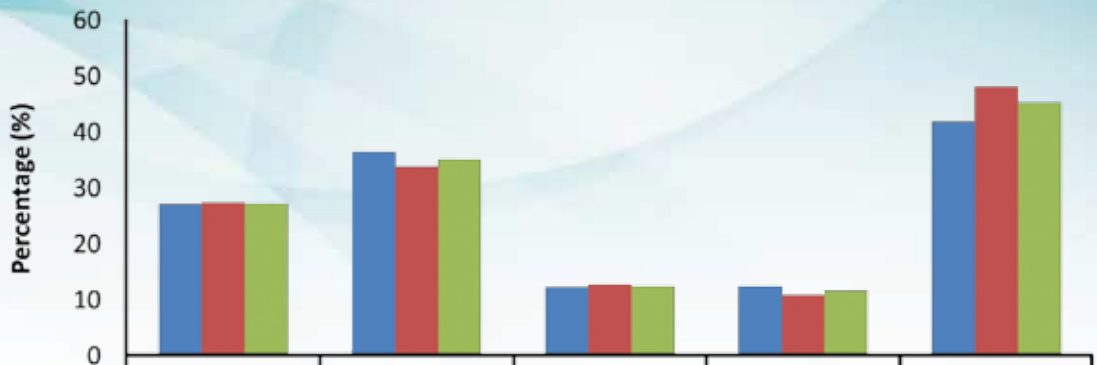
	NNSS 1997	NHANSS 2011
Male	35.4	36.4
Female	23	31.7
Overall	28.6	33.8

4. **Diabetes:** As shown in Figure 12, the prevalence of diabetes[14] in 2011 was 12.5%; 12.2% amongst adult males and 12.7% amongst adult females.

5. **Hypercholesterolemia:** As shown in Figure 12, the prevalence of hypercholesterolemia[15] in 2011 was 11.6%; 12.4% amongst adult males and 10.8% adult females.

[13] Hypertension is defined as Blood Pressure of more than 140/90
[14] Diabetes is defined as known diabetes or newly diagnosed diabetes based on fasting blood glucose ≥ 7.0 mmol/L and/or 2 hour blood glucose of ≥ 11.1 mmol/L for those with no known diabetes
[15] Hypercholesterolemia is defined as fasting total cholesterol of ≥ 6.2mmol/L

Figure 12: Prevalence of Obesity, Hypertension, Diabetes, Hypercholesterolemia and Physical Activity in Adults in Brunei Darussalam from NHANSS (preliminary data)



	Obesity	Hypertension	Diabetes	Cholesterol	Physical Activity
Male	27.1	36.4	12.2	12.4	41.9
Female	27.4	33.8	12.7	10.8	48.1
Overall	27.2	35.1	12.5	11.6	45.3

6. **Consumption of unhealthy food and beverages:** Data from 2011 showed that exclusive breastfeeding rates at 0 - 6 months were only 26.7%. Additionally, 8.7% of children aged 1 year and below were already consuming sweetened drinks. Children were also found to be consuming high amounts of saturated fats and sugary drinks while their intakes of fibre and fruits and vegetables were too low.[16]

   Poor nutrition in Brunei Darussalam is apparent among 2 - 5 year old children where it has been revealed that there is poor intake of fruits and vegetables leading to an extremely low dietary fibre intake of 6.2g (SD ± 2.1) for males and 6.1g for females (SD ± 2.1).[16] With this intake not more than 1.0% of the 2-5 year old population met 70% of most international recommended dietary intakes for fibre.[17,18]

   The National Dietary Guidelines recommend 2-3 servings of fruits and 2-3 servings of vegetables per day for the prevention of chronic diseases. In 2011, preliminary results for 5-75 year old showed that only females aged between 30-60+ and males aged 40-60+ met the daily recommendations for vegetable intake. For males aged 39 and below and females aged 29 and below, there is a failure to meet the daily recommendations for vegetable intake. The poorest intakes were among children and adolescents.

   In terms of fruit intake, on average only two (2) servings of fruits per week were consumed by males and three (3) servings by females for all age categories – significantly lower than the

[16] 2nd National Health and Nutritional Status Survey (NHANSS) 2009 – 2011(0 to 5 years)
[17] Adequate intake for dietary fibre intake is 14g per day (for 1-3 year old) and 18g per day (for 4-8 year old)
[18] Nutrient Reference Values for Australia and New Zealand- including recommended Dietary Intakes, Australian Government, Department of Health and Ageing, National Health and Medical Research Council (2005)

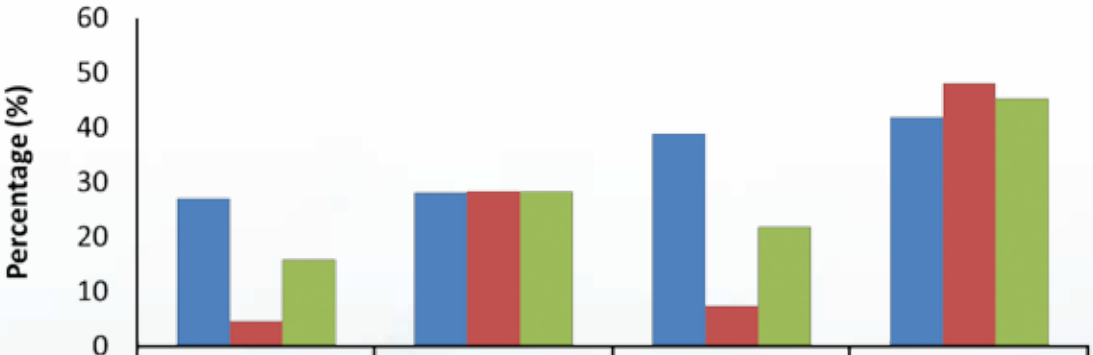
recommended 14 - 21 servings per week. Dietary fibre intake is therefore extremely poor among Bruneians of all ages.

Only 7.8% of Bruneian males and 3.4% of females met most international dietary recommended amounts for fibre intake of 18 - 30 grams per day.[18]

NHANSS (2009 - 2011) showed that breakfast meals were taken daily in all age categories for both males and females. However this is an exception for males aged 15 - 29 years and females aged 15 - 19 years who tend to miss their breakfast two (2) times per week. This showed that adolescents are missing out on important nutrients for peak growth and development and therefore may have negative implications on scholastic achievements.

7. **Physical activity:** The prevalence of physical activity in adults (≥ 20 years) from NHANSS is 45.3%, with 42% of males and 48.1% of females performing more than the recommended 150 minutes of moderate physical activity per week. In the same population study, the prevalence of physical activity for children (aged 5 - 19 years) is much lower than the adults at 28.3%, with 28.2% in males and 28.4% in females respectively (Figure 13). Another 21.8% of adults, with 38.9% males and 7.4% females, performed between 75 - 150 minutes of moderate physical activity per week. These figures are lower for all children at 15.8%, with 27% males and 4.6% females respectively, performing between 75 - 150 minutes of moderate physical activity per week.

Figure 13: Prevalence of Physical Activity in Brunei Darussalam from NHANSS (preliminary data)



	Children 75 - 150 mins a week	Children > 150 mins a week	Adults 75 - 150 mins a week	Adult > 150 mins a week
Male	27	28.2	38.9	42
Female	4.6	28.4	7.4	48.1
Overall	15.8	28.3	21.8	45.3

[18] Nutrient Reference Values for Australia and New Zealand- including recommended Dietary Intakes, Australian Government, Department of Health and Ageing, National Health and Medical Research Council (2005)

Ministry of Health Initiatives on the Prevention and Control of NCDs

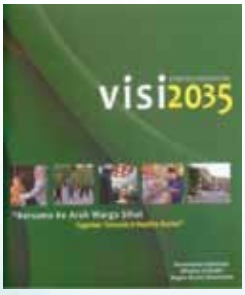
Increasing focus has been given to address NCDs following the epidemiological shift in the population disease trend over time. The increasing trends on the burden of NCDs over time has led to the development of MOH strategies, policies and programmes to address the prevention and control of NCDs accordingly. Policies and programmes which have been established in Brunei Darussalam is shown in Table 1.

Table 1: Current Initiatives on Prevention and Control of NCDs in Brunei Darussalam

No.	Area	Initiatives
1	Policies and programmes on prevention and control of NCDs  	• Hepatitis B (HepB) Vaccination (since 1989) • National Dietary Guidelines (2000) • Guidelines on School Feeding Schemes (2000) • National Breastfeeding Policy (2002) • Health Promoting School Initiatives (2002) • Ratification of WHO Framework Convention on Tobacco Control (2004) • Tobacco Order 2005 • Tobacco Regulations 2007 • School Canteen Guidelines (revised 2009) • Guidelines on Food and Drinks Served or Sold in Workplaces (2010) • Health Promotion Blueprint 2011 – 2015 (2011) • National Physical Activity Guidelines (2011) • Tobacco Order Amendments (2012) • Human Papilloma Virus (HPV) Vaccination (2012)  
2	National and multisectoral committees on prevention and control of NCDs	• National Committee on Health Promotion (2000) • National Tobacco Control Committee (2009) • Healthy Lifestyle Promotion Committee (2012) • National NCD Prevention and Control Strategic Planning Committee (2012) • Maternal, Infant and Young Child Nutrition Task Force (2013)
3	Prevention and control of NCD services in primary care and community settings 	• Lifestyle risk factor interventions e.g. Smoking Cessation Clinics (2005); Weight Management Clinic (KCHS) (2005) • Screening – opportunistic and programme-based; occupational health fitness assessment; Well Women's Clinics; Cervical Cancer Screening Programme (2011), Health Screening for NCDs (2013) • Diagnosis and management of NCDs and risk factors including hypertension, diabetes, hypercholesterolemia and COPD • Management of NCD complications including diabetic retinopathy through Community Ophthalmology Clinics • Counselling and patient education on NCDs & risk factors – asthma and diabetic nurse educators and dietitians

No.	Area	Initiatives
3	Prevention and control of NCD services in primary care and community settings 	• Group counselling, public lectures and health education on healthy eating, physical activity, weight management and smoking. • School Health Services which encompasses BMI monitoring and obesity clinic • Maternal and Child Health services monitoring maternal weight, blood glucose level and blood pressure.
4	NCD services in secondary and tertiary care  	• Specialist treatment, interventions and follow-up for NCDs • Provision of essential medicine • Provision of diagnostic and investigative facilities • Counselling and patient education by asthma and diabetes nurse educators and dietitians • Multidisciplinary rehabilitation services including occupational therapy, physiotherapy, speech therapy, medical social worker services and clinical psychology • Specialised rehabilitation programmes such as cardiac and stroke rehabilitation
5	NCD surveillance 	• NCD risk factor surveys i.e. National Nutritional Status Survey (NNSS), 2nd National Health and Nutritional Status Survey (NHANSS) • Mortality and morbidity indicators • Birth and Death Registries • National Cancer Registry • Pap Smear Registry • Other Chronic Diseases Registry e.g, diabetes (hospital-based)

At the National level, several policy documents guide national actions on prevention and control of NCDs. Specific focus on the prevention of NCDs is emphasised through the promotion of healthy lifestyle under the theme ***A Nation That Embraces and Practices Healthy Lifestyle,*** which constitutes one of the 5 themes of the Ministry of Health's Vision 2035: "Together Towards A Healthy Nation".



The Health Promotion Blueprint 2011-2015, published in April 2011, outlines several strategic objectives and initiatives in addressing prevention and control of NCDs, particularly, in relation to reducing lifestyle risk factors, such as unhealthy diet, insufficient physical activity, smoking and obesity.

Several multisectoral mechanisms are in place at different levels such as the National Committee on Health Promotion, which was reviewed and revised in 2011. The committee currently has a Royal Patronage and is chaired by the Minister of Health with members comprising Permanent Secretaries from other government ministries, CSOs and the private sectors. At the operational level, the National Tobacco Control Committee was established in 2009. This committee is chaired by the Minister of Health with membership also consisting of representatives from multisectors including non-health sectors and CSOs.

In April 2012, the National NCD Prevention and Control Strategic Planning Committee was established with the prime objective of strengthening NCD initiatives through the development of a National Strategic Action Plan on NCD Prevention and Control using a more comprehensive common risk factors approach. The Committee's approach is in-line with WHO recommendations[19] which emphasise multisectoral actions and active participation from various stakeholders and organisations within and outside of the Ministry of Health using a 'Whole of Government' or 'Whole of Society' approach as being the key for successful NCD intervention. Furthermore, such actions must be evidence-based as well as aligned and integrated within and across sectors.

[19] Sixty-seventh World Health Assembly WHA/67/373 dated 17 Sep 2012

Challenges and Opportunities in Addressing NCDs in Brunei Darussalam

In the prevention and control of NCDs in Brunei Darussalam key challenges identified are as follows:

1. Changing the behaviour and mindset of people is a complex process requiring enabling environments in addition to health education;
2. NCDs are influenced by multisectoral domains related to food, trade, education, transport, urban planning as well as social services and require engagement and holistic integrated actions by all Ministries as well as other relevant stakeholders;
3. Sustained efforts in prevention and control of NCDs require expertise and trained manpower at all levels from management to implementation and monitoring and evaluation;
4. Epidemiological and demographic transition means that the health system must be able to cope with the increasing trend in NCDs whilst simultaneously being able to deal with emerging and re-emerging infectious diseases and epidemics;
5. The current Health Information System is in the early phases of implementation and isolated NCD databases exist in various departments which need to be systematically coordinated and integrated into BruHIMS.

In addressing the above challenges, there is strong and clear political commitment and acknowledgement from the highest level on the importance of the prevention and control of NCDs as well as the promotion of a healthy lifestyle. The development of this multisectoral action plan for prevention and control of NCDs (2013-2018) including identification of priority areas for action is in response to a strong leadership call and commitment from top levels of Government .

This initiative is further driven by concerns at global and regional levels. The United Nations High-level Meeting on the Prevention and Control of Noncommunicable Diseases in September 2011 acknowledged that the global burden and threat of NCDs constitutes one of the major challenges for development.[20] Since then the World Health Assembly has:

1. Endorsed the WHO Global Action Plan for the Prevention and Control of NCDs 2013–2020
2. Adopted the Comprehensive Global Monitoring Framework for the Prevention and Control of NCDs
3. Adopted the set of nine voluntary global targets for achievement by 2025 for prevention and control of NCDs, noting that the target related to a 25% relative reduction in overall mortality from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases concerns in premature mortality from NCDs between ages 30 and 70.

Regionally, high level ASEAN political commitment to combat prevention and control of NCDs has provided further momentum for NCD prevention and control through the formation of the ASEAN

[20] Sixty-sixth World Health Assembly WHA66/10 Agenda item 13.1 and 13.2.

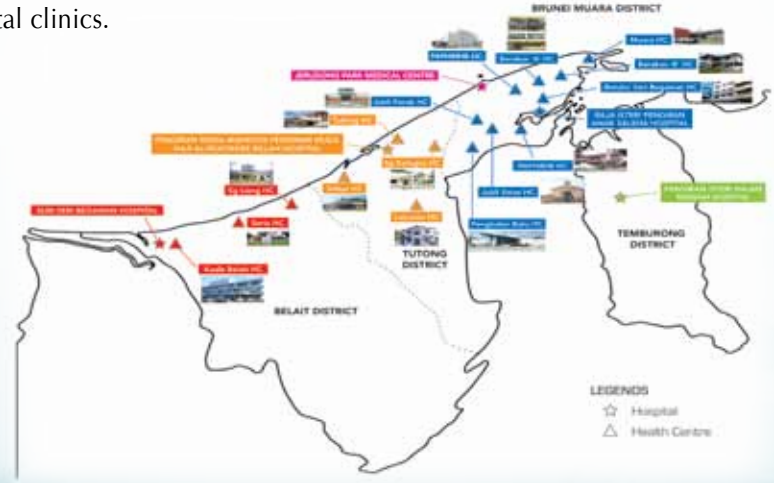
Task Force on NCDs in 2012.

Opportunities exist in various sectors to enable healthier environments through the adoption of Health in All Policies approach which can result in co-benefits for all sectors involved. Brunei Darussalam can also leverage on various regional and international platforms to build capacities and to collaborate on research related to NCD prevention and control.

Effective human resource planning will ensure adequate supply of competent expertise through education, training, recruitment and retention with the provision of relevant career pathways. The scope of the Brunei Darussalam Health Systems and Infrastructure Masterplan (HSIMP) which has been conducted recently includes looking into strengthening capacity in prevention and control of NCDs.

Brunei has one of the highest rates of internet usage in the region.[21] The opportunities from info-communication and mobile technology can be further explored or enhanced to provide better services which would assist people in making healthier choices or leading healthy lifestyles. The current health information system will be further strengthened to allow for accurate and timely data management.

Within the health sector, there is a strong impetus in strengthening primary health care based on the principle of universal health care coverage. The Government of Brunei Darussalam generously subsidises medical and health care to its citizens via government hospitals, health centres and health clinics. A network of health centres and clinics, throughout the country, provides primary health care services. In remote areas that are difficult to access by land or water, primary health care is provided by the Flying Medical Services. The decentralisation of primary health care services in 2000 was initiated to further enhance the accessibility of health care to all in the country. To date, the Ministry of Health provides four government general hospitals, 16 health centres, 15 health and maternal and child health clinics, 5 travelling health clinics and 2 Flying Medical Services teams to the remote areas. This is further supported by 37 medical clinics and facilities including Panaga Health Centre, Jerudong Park Medical Centre, Gleneagles Jerudong Park Medical Centre for Cardiac Services, the Brunei Cancer Centre and the Brunei National Stroke Centre as well as 7 private dental clinics.



[21] Data from Research and Development, Department of Policy and Planning, Ministry of Health, Brunei Darussalam

Brunei Darussalam National Multisectoral Action Plan for the Prevention and Control of Noncommunicable Diseases (BruMAP-NCD) 2013-2018

- *A. FRAMEWORK*
- *B. OBJECTIVES AND KEY ACTIONS*
- *C. MONITORING FRAMEWORK*
- *D. RESEARCH AGENDA*
- *E. HUMAN RESOURCE DEVELOPMENT*

III. Brunei Darussalam National Multisectoral Action Plan for the Prevention and Control of Noncommunicable Diseases (BruMAP-NCD) 2013-2018

The Brunei Darussalam National Multisectoral Action Plan for the Prevention and Control of Noncommunicable Diseases (BruMAP-NCD) 2013-2018 is developed under the overall Vision 2035 of the Ministry of Health, *'Together Towards A Healthy Nation'*.

The mission of BruMAP-NCD is to prevent and control NCDs through enabling healthier environments as well as reducing risk factors and better management.

The goal of BruMAP-NCD is fully aligned to the global target of a 25% relative reduction in premature mortality from NCDs by 2025 which has been translated to 18% relative reduction by 2018 in Brunei Darussalam.

There are two strategic themes, five objectives, and a set of recommended actions for the Ministry of Health, other ministries and stakeholders. Guidance for implementing the actions for objectives 1, 2 and 3 are provided in Annex 1.

A monitoring framework including targets and methods of measurement, priority areas for research, and approaches for human resource development are also included. The comprehensive global framework for monitoring prevention and control of NCDs will guide this process (Annex 2).

In operationalising the BruMAP-NCD, existing multisectoral mechanisms such as the National Committee on Health Promotion and the National Tobacco Control Committee are to be utilised. The NCD Prevention and Control Unit, Ministry of Health will be the coordinating body for BruMAP-NCD and is responsible for monitoring its implementation and periodic reporting.

A. FRAMEWORK

<table>
<tr><td>Vision 2035:</td><td colspan="5">Together Towards A Healthy Nation</td></tr>
<tr><td>Mission:</td><td colspan="5">Prevention and control of NCDs through enabling healthy environments, reducing risk factors and better management</td></tr>
<tr><td>Goal:</td><td colspan="5">18% relative reduction in premature mortality from NCDs by 2018 (“18 by 18”)</td></tr>
<tr><td>Five enablers:</td><td>Policy & Legislation</td><td>Human Resources</td><td>Patient Empowerment</td><td>Effective Communication</td><td>Research and Innovation</td></tr>
<tr><td colspan="6">Strategic themes</td></tr>
<tr><td colspan="3">Improving Health Through Enabling Environment and Healthy Choices</td><td colspan="3">Improving Health Through Enhancing the Continuum of Care for NCDs</td></tr>
<tr><td>Objective 1:
To reduce tobacco use</td><td>Objective 2:
To promote balanced and healthy diet</td><td>Objective 3:
To increase physical activity</td><td>Objective 4:
To identify people at risk for NCDs and manage effectively</td><td colspan="2">Objective 5:
To improve the quality of care and outcome of NCDs management</td></tr>
<tr><td colspan="6">National targets to be achieved by 2018 (with baseline value of 2010)</td></tr>
<tr><td>• A 30% relative reduction in prevalence of current tobacco use in persons aged 15+ years
• All public places to be smoke-free by 2016</td><td colspan="2">• A 10% relative reduction in mean population intake of salt/sodium and prevalence of hypertension
• Reduction in the rate of increase of obesity and diabetes to 1%
• All school canteen operators stop selling sugar-sweetened beverages containing 6 grams or more added sugar per 100mls**
• 50% reduction on ‘regular’ consumption of sweetened drinks by children
• 50% of all workplaces having established healthy workplace programs to promote a healthy lifestyle
• A 10% relative reduction in prevalence of insufficient physical activity</td><td colspan="2">• 50% of eligible people* receive drug therapy and counselling (including glycemic control) to prevent heart attack and stroke
• 10% reduction in CVD, cancer and DM mortality in hospitals, other health centres and clinics.</td><td>• An 80% availability of the affordable basic technologies and essential medicines, including generics, required to treat major noncommunicable diseases in both public and private facilities</td></tr>
<tr><td colspan="6">Priority actions and guidance for implementation</td></tr>
<tr><td colspan="6">Research surveillance and evaluation</td></tr>
</table>

*Eligible persons (defined as aged 40 years and older with a 10-year cardiovascular risk ≥30%, including those with existing cardiovascular disease) receiving drug therapy and counselling (including glycemic control) to prevent heart attacks and strokes
**For milk and soya-based drinks not more than 10 grams of added sugar per 100mls

B. OBJECTIVES AND KEY ACTIONS

Objective 1: To Reduce Tobacco Use

RECOMMENDED ACTIONS FOR MINISTRY OF HEALTH

1) To conduct mass media campaigns to increase public awareness of tobacco control.
2) To improve enforcement of compliance of smoke-free indoor settings to 100% by 2015.
3) To reduce the exposure of children from second-hand smoke in homes by 25% in 2015 through public education.
4) To revise current Tobacco Order 2005 as needed and to coordinate the enforcement mechanism.
5) To work towards the ratification of the protocol for illicit trade in tobacco.
6) To monitor and raise awareness of tobacco industry interference.
7) To advocate and facilitate sustained increase in tobacco tax.
8) To explore the feasibility of implementing plain packaging.
9) To strengthen smoking cessation services.

RECOMMENDED ACTIONS FOR OTHER MINISTRIES

All Ministries
- To enforce 100% smoke-free policies in all government buildings and public places.
- To work towards the National goal of a smoke-free Brunei by 2016.

Prime Minister's Office
- To strengthen enforcement of all smoke-free policies.
- To strengthen efforts on controlling smuggling and illegal trade.
- To enforce the ban on tobacco interference.
- To support efforts in increasing public awareness on tobacco control.

Ministry of Defence
- To strengthen smoking cessation services.

Ministry of Finance
- To increase tobacco taxation up to 100% or more of retail price.
- To strengthen efforts on controlling smuggling and illegal trade.

Ministry of Foreign Affairs and Trade
- To give consideration to and support current tobacco legislations in trade negotiations.
- To support efforts on controlling smuggling and illegal trade.
- To explore the adoption of the plain packaging.

Ministry of Education
- To educate and raise awareness amongst students on the harmful effects of tobacco.
- To inculcate social norms in educational institutions to support "100% smoke-free public places".

RECOMMENDED ACTIONS FOR OTHER MINISTRIES

Ministry of Religious Affairs

- To continue to raise awareness on smoking through sermons and other methods.
- To work towards smoke-free policies according to Syariah Laws.

Ministry of Culture, Youth and Sports

- To facilitate the change of social norms to support 100% smoke-free public places.
- To create awareness amongst youth about the harms of tobacco use.

Objective 2: To Promote Balanced and Healthy Diet

RECOMMENDED ACTIONS FOR MINISTRY OF HEALTH

1) To ensure compliance to the National Dietary Guidelines.
2) To develop and implement policies that limit salt, sugar and saturated fat and eliminate partially hydrogenated vegetable oil (PHVO) in processed foods.
3) To develop and implement policies to reduce the impact of marketing of food and non-alcoholic beverages high in sugar, salt and fat to children.
4) To develop and implement mandatory food labelling for all domestic and imported food products including a consumer-friendly labelling to identify healthier food products.
5) To ensure healthier dietary options in schools, workplaces and where children gather.
6) To conduct sustained mass media campaigns to increase consumption of fruits and vegetables.
7) To develop and implement guidance to interact with food industry for implementing policies.

RECOMMENDED ACTIONS FOR OTHER MINISTRIES

Prime Minister's Office
- To provide directive to all ministries and government offices to develop structured healthy workplace programs emphasising a healthy diet at all government events.
- To endorse and incorporate workplace *"Fruit and Vegetables Day"* and servings of fruits and vegetables in all government events.
- To develop and endorse Code of Conduct for marketing of unhealthy food and beverages to children through RTB.

Ministry of Finance
- To use existing fiscal mechanisms to improve consumption of healthy food and restriction of unhealthy food and beverages.

Ministry of Foreign Affairs and Trade
- To promote the importation of healthier food products.

Ministry of Education
- To develop and/or strengthen comprehensive school health programmes and frameworks.
- To organise training for Ministry of Education officers and students on healthy lifestyle.

Ministry of Development
- To incorporate community fruit and vegetables gardens/plots in housing development projects.

Ministry of Communications (AITI)
- To promote healthy diet among general public through social media / Mobile Health Solutions.
- To support implementation of Code of Conduct on marketing of unhealthy food and beverages to children through social media.

RECOMMENDED ACTIONS FOR OTHER MINISTRIES

Ministry of Industry and Primary Resources

- To develop public 'Fruit and Vegetables Parks / Orchards' for health, educational and commercial interest.
- To incorporate aspects of healthier food (low in sugar, salt and fat) within the existing food security policy.
- To work with food industries and importers for reformulation of products low in sugar, salt and fats, restriction and labelling requirements.

Ministry of Home Affairs

- To incorporate National Dietary Guidelines in 'One Kampong One Product' initiative and restaurant grading scheme with menu assessment.
- To regulate the advertisement and promotion of food and beverage products and restrict sponsorship of any public events.

Ministry of Religious Affairs

- To emphasise the importance of healthy eating through Islamic perspective.
- To promote planting of fruit trees within mosques and/or religious school compounds.

Objective 3: To Increase Physical Activity

RECOMMENDED ACTIONS FOR MINISTRY OF HEALTH

1. To strengthen the implementation of the National Physical Activity Guidelines (NPAG) 2011 recommendations through:
   a) the use of a mass media campaign in partnership with relevant agencies;
   b) the facilitation of structured physical activity programmes in the community and workplace;
   c) building the capacity of relevant stakeholders to promote physical activity.

RECOMMENDED ACTIONS FOR OTHER MINISTRIES

Prime Minister's Office
- To issue administrative order requiring all ministries and government offices to develop structured healthy workplace programmes emphasising healthy diet and physical activity.

Ministry of Finance
- To continue providing financial support for the development and maintenance of physical activity and recreational infrastructure.

Ministry of Education
- To continuously incorporate Physical Education as part of the National Curriculum.
- To improve infrastructure to promote physical activity in school settings.
- To strengthen Health Promoting Educational Institutions initiatives to enhance physical activity in schools.
- To promote educational institution facilities for the community to access and practice healthy lifestyle.

Ministry of Development
- To support the development and maintenance of conducive and safe physical activity and recreational environments and infrastructures in all settings.
- To connect recreational parks, sport facilities and communities where possible through safe pathways.

Ministry of Communications
- To promote active transportation in line with the Bandar Seri Begawan Masterplan, Transport Masterplan draft and other urban development plans.

Ministry of Industry and Primary Resources
- To support the development and maintenance of forest reserve parks conducive to physical activity and recreation.

Ministry of Religious Affairs
- To support and develop Health Promoting Schools initiative using Islamic teachings as a basis in promoting healthy lifestyle in school settings under the preview of Ministry of Religious Affairs.

RECOMMENDED ACTIONS FOR OTHER MINISTRIES

Ministry of Home Affairs

- To support the development and maintenance of conducive and safe physical activity and recreational areas in districts and local communities.
- To ensure that every Mukim has a facility for physical activity promotion.

Ministry of Culture, Youth and Sports

- To expand the current sports programme, as appropriate, to all age groups.
- To develop and implement a sustained mass media campaign for promoting sports.
- To provide guidelines to other ministries on age-appropriate physical activity equipment and facilities.

Objective 4: To Identify People at Risk of NCDs and Manage Effectively

RECOMMENDED ACTIONS FOR MINISTRY OF HEALTH

1. To promote healthy lifestyle and to control obesity among school children through strengthening of the School Health Services and Health-Promoting Schools Initiative.

2. To develop and strengthen a National smoking cessation programme.
   - To train all health care professionals in smoking cessation.
   - To develop and expand the current smoking cessation clinics to achieve National coverage with nicotine replacement therapy.
   - To develop, implement and monitor SOPs for the programme and update Clinical Practice Guidelines (CPG).
   - To establish a National smoking quit line.

3. To strengthen initiatives to identify people with NCD risk factors (tobacco use, unhealthy diet, insufficient physical activity and obesity) and to provide counselling and referral services in all health facilities.
   - To adapt WHO PEN Protocol 2 and to develop SOPs.
   - To train all health workers in implementing the counselling package.

4. To strengthen assessment and management of cardiovascular risks using hypertension, diabetes, obesity and tobacco use as entry points in all health facilities (WHO PEN protocol 1 in Annex 3):
   - To ensure easy accessibility of CVD risk assessment tools to be incorporated into MOH website including BruHIMS.
   - To train all health care professionals in implementing the risk assessment and management package.

5. To strengthen cancer screening programme for cancers of the uterine cervix, colorectum and breast:
   - To develop guidelines and SOPs and to ensure that adequate infrastructure and human resources are available for cervical cancer screening to be available in all health centres; and colorectum and breast cancer in all hospitals.

Objective 5: To Improve the Quality of Care and Outcome of NCD Management

RECOMMENDED ACTIONS FOR MINISTRY OF HEALTH

1. To improve management of NCDs through services for patients at risk and with NCDs at all levels.
   For patients at risk of NCDs
   - To set up a one-stop multidisciplinary clinic for patients with multiple NCD risk factors in health centres.
   - To develop, implement and monitor referral systems to appropriate specialist clinics in hospitals.

   For patients with multiple NCDs
   - To develop multidisciplinary clinics for patients who have multiple co-morbidities.

2. To centralise clinical audits to ensure that all health care professionals are compliant with the NCD CPGs and SOPs through regular audits and reporting.

3. To adopt, implement and monitor the *WHO Package of Essential Noncommunicable* (PEN) *Diseases Intervention for Primary Health Care* in all health care facilities (government and private) to improve the management of NCDs.

4. To enhance and improve cancer management through provision of adequately-trained human resources, early detection programmes, patient support systems for compliance to treatment and follow up and cancer registration.

5. To scale up rehabilitation and palliative care services:
   - To ensure that rehabilitation services are provided to all those who require them.
   - To provide pain and symptoms relief to all those who require.
   - To develop and implement SOPs and clinical practice guidelines (CPGs) for rehabilitation and palliative care services.
   - To strengthen human resources for rehabilitation and palliative care services.

6. To provide a comprehensive and holistic approach for care of older adults:[22]
   - To ensure optimum quality of life.
   - To increase awareness on the "four giants of geriatric syndrome" namely falls, incontinence, dementia and depression.
   - To strengthen human resources for provision of services in all settings.

[22] Older Adults (WHO, 2013) is defined as 65 years and above.

RECOMMENDED ACTIONS FOR OTHER STAKEHOLDERS

Stakeholders	Objective 1	Objective 2	Objective 3	Objective 4	Objective 5
Government-linked companies and private companies	• Implement and enforce 100% smoke-free public places	• Implement National Dietary Guidelines	• Provide enabling environment for physical activity	• Advocate screening services for NCD risk identification and reduction	
Private health care facilities	• Implement and enforce 100% smoke-free public places	• Implement National Dietary Guidelines	• Provide enabling environment for physical activity	• Provide NCD risk identification and risk reduction services including smoking cessation services	• To support the CPGs and facilitate referral services
Private and Higher education institutions	• Implement and enforce 100% smoke-free public places	• Implement National Dietary Guidelines	• Provide enabling environment for physical activity	• Advocate screening services for NCD risk identification and reduction	
Civil Societies and General Public	• Advocate for tobacco-free Brunei Darussalam	• Promote and support healthy cooking and eating	• Advocate for physical activity • Support physical activity programmes in community settings.	• Encourage uptake and participation of screening for NCDs and compliance to treatment	

C. MONITORING FRAMEWORK

Goal: 18% Relative Reduction in Premature Mortality from NCDs by 2018 ("18 by 18")

Data sources: National NCD Risk Factor Survey (STEPS), Global School-based Health Survey (GSHS), Global Youth Tobacco Survey (GYTS), Civil Registration, Cancer and Other NCD Registries and NCD Hospital-based Mortality Registry.

Objectives	Activities	Short-term outcomes	Intermediate outcomes	Long term outcomes
1. To reduce tobacco use	• Tobacco-free mass media campaign and evaluation • KAP survey on tobacco prevalence, awareness and tobacco dependence treatment • Scale-up smoking cessation services • Environmental surveillance by enforcement unit • KAP survey on increased size of pictorial health warnings on smokers quit rate • Surveillance of smoke-free public places	• Increased proportion of smokers who want to quit smoking • Increased proportion of smokers who attempt to quit smoking • Increased proportion of smokers who quit smoking • Increased the proportion of the population whose workplace has a non-smoking policy • Increased the proportion of the population who support the smoking ban in public places • Increased the proportion of women smokers who stop smoking in early pregnancy • Reduced of smoking prevalence amongst partners during pregnancy • Reduced the exposure to passive smoking amongst working pregnant women • Increased proportion of youth who knows about ill-effects of smoking	• All public places to be smoke-free by 2016	• A 30% relative reduction in prevalence of current tobacco use in persons aged 15+ years • Smoke free generation

Objectives	Activities	Short-term outcomes	Intermediate outcomes	Long term outcomes
2. To promote balanced and healthy diet.	• Mass media campaigns on healthy diet and evaluation	• Increased the proportion of the adult population who understand which foods are high in sodium • Increased the proportion of population who believe that healthy foods can be cheap, tasty and enjoyable • Increased the proportion of the population who are able to correctly state at least 3 ways of achieving a healthier diet such as eat less salt, sugar, saturated fat, eat more fruit and vegetables, and eat more wholegrains • Reduced the population who express confusion about what constitutes a healthy diet • Increased the proportion of the population who understand how to control their weight through diet • Increased the proportion of people who have access to healthy food at the workplace	• 5% reduction in the rate of increase of diabetes and obesity to 1% • 50% of all workplaces having established healthy workplace programme to promote healthy lifestyle	• A 10% relative reduction in mean population intake of salt / sodium and hypertension
	• School canteen survey	• All school canteen operators stop selling sugar sweetened beverages containing ≥6g/100ml of sugar	• 50% reduction on 'regular' consumption of sweetened drinks by children	
3. To increase physical activity	Workplaces survey • To conduct KAP surveys of employers on workplace PA initiative • Pedometer use evaluation	• Reduced perceived barriers to increase physical activity amongst the general population • Increased the proportion of the population who receive helpful advice from their General Practitioner / Health provider	• 50% of all workplaces having established a healthy workplace programme to promote PA	• A 10% relative reduction in the prevalence of insufficient physical activity

Objectives	Activities	Short-term outcomes	Intermediate outcomes	Long term outcomes
4. To identify people at risk for NCDs and manage effectively	• Screening	• Increased awareness amongst population of the risk factors associated with NCDs • Increased awareness amongst population that it is possible to reduce personal risk of NCDs by practicing healthy lifestyle and adhering to therapy	• 50% of eligible people receive drug therapy and counselling (including glycemic control) to prevent heart attack and stroke	• 10% relative reduction in risk of premature mortality from CVD, cancer and DM
5. To improve the quality of care and outcome of NCD management	• Audit on adherence to the use of SOPs and clinical guidelines • Clinical audit on all health care professionals who are adopting WHO PEN and conducting CVD risk assessment, management and referral • Clinical audit of rehabilitative and palliative care services • Audit of palliative services that reaching 80% of the target population • Health facility survey		• 80% availability of the affordable basic technologies and essential medicines, including generics, required to treat major NCDs in both public and private facilities	

D. RESEARCH AGENDA

A set of research topics are provided to support the implementation of BruMAP-NCD. Further prioritisation will be carried out using a set of criteria for implementing the agenda. Due to human resource constraints, most if not all, will be done in collaboration with academic or research organisations such as the University of Brunei Darussalam (UBD) and Centre for Strategic Policy Studies (CSPS), Regional and International Partnerships. Dedicated funding and other resources will need to be identified early for the research to be conducted within the timeframe.

Research topics	Responsible agencies
Objective (1) To reduce tobacco use	
1. Study on the impact of trade agreement on importation of tobacco	MOH
2. Study on the effect of current tobacco taxation on tobacco consumption	MOH
Objective (2) To promote balanced and healthy diet	
1. Study of dietary consumption patterns among patients with cancer.	MOH
2. Conduct Survey of KAP on National Dietary Guideline	MOH
3. To investigate factors affecting fruit and vegetable intake across different population groups.	MOH
4. Undertake baseline survey on: a. Degree of marketing exposure to children b. Marketing influence on consumer behaviour	MOH
5. To determine level of awareness and understanding of nutrition information panel and/or healthier choice logo	MOH
6. Study on parental demand of healthier dietary options	MOH/MOE
7. Consumer survey on the uptake of Healthier Food Branding.	MOH
8. Market research to determine purchasing patterns of food and beverages	MOH
9. Study price elasticity or threshold needed to change consumer behaviour by increasing taxes of unhealthy food and beverages and providing subsidies on healthier food and beverages	Department of Economic Planning and Development
10. Healthy Workplace Initiatives Survey including baseline KAP Pre- and Post- Survey and Study on compliance to the food and beverages sold at workplaces examples “No Sales” food products by one year.	MOH
11. To collaborate on research on improving shelf life and storage/transport methods of fruits and vegetables, expertise examples farming technologies, health benefits of fruits and vegetables, development of healthier menus and marketing of fruits and vegetables	MIPR/MOE (vocational, technical and UBD), MOH
12. To explore research opportunities on healthier food products in order to assist local food industry examples recipe development, marketing of healthier food branding for local products.	MOH/MIPR

Research topics	Responsible agencies
Objective (2) To promote balanced and healthy diet	
13. To analyse contents of transfat of foods available in local market	MOH/MIPR
14. Literature review on buildings that promote healthy lifestyle: environment, design and innovations.	MOH
Objective (3) To increase physical activity	
1. KAP survey on PA	MOH/MOE
2. Literature review on buildings that promote healthy lifestyle: environment, design and innovations.	MOH
3. Conduct survey on current facilities in Mukims and Kampongs a. Conduct 'Connectivity' survey by 2013-2014 b. Conduct survey on utilisation of public facilities c. Seek consultation input on shaded walkways	MOH/MOD
4. Needs assessment on PA infrastructure in Mukims	MOH/MOHA
5. Study on the effectiveness of relevant PA initiatives examples increase productivity, reduce absenteeism and the use of protected time	PMO/MOH
Objective (4) To identify people at risk of NCDs and manage effectively	
Objective (5) To improve the quality of care and outcome of NCD management	
1. Study on facilitators and barriers to medication adherence	MOH

E. HUMAN RESOURCE DEVELOPMENT

In operationalising the BruMAP-NCD, there is a requirement for sufficient numbers of trained and competent professionals at various levels and in different sections / locations in the Ministry of Health. Therefore, a comprehensive human resource mapping exercise should be undertaken taking into account the following;

Pre-Service Requirement

Professional Qualifications Framework	To incorporate as needed and/or as relevant the following topics in the curriculum
Medical Degree	NCD Prevention and Control, Health Promotion, Health in All Policies (HiAP), Health Economics to assess NCD Burden, Policy planning and evaluation, Health Communication, Biostatistics, Epidemiology, Diseases Registration, Nutrition and NCDs, Social Determinants of Health, International Classification of Diseases (ICD) Coding, Exercise Physiology, Ergonomics and Social Marketing.
Nursing Degree and Diploma	
B.Sc and M.Sc (Allied Health Professional) - Physiotherapy - Psychology - Biomedical Sciences - Rehabilitative Medicine - Dietitics / Nutrition - Exercise Physiology - Health Promotion / Education - Epidemiology - Biostatistic - Health Information Management	
Technical Professional Qualifications - Clerical and Administrative - Systems Analysis - Medical Laboratory Technology - Information Technology - Graphics Design	Healthy Lifestyle, NCD Prevention and Control, Health Communication
Executive Development Programme	To include HiAP in the programme
Courses leading to Public Policy, Legislation and Administration	To include HiAP in the programme

**Recruitment of the above should be aligned with Ministry of Education who is responsible for awarding scholarship and providing guidelines on training requirement for undergraduates.*

In-Service Requirement

Type of manpower	Requirement
Human Resource Department in MOH	1. Increase number to support the operationalisation of BruMAP-NCD 2. Strengthen Human Resource Planning and Human Resouce development
Health Professionals for NCD Prevention and Control	1. Identify and recruit optimal numbers to operationalize BruMAP-NCD. 2. Participate in Continuous Professional Development (CPD), Continuous Medical Education (CME) and Continuous Nursing Education (CNE).

To provide capacity building programme for other sectors and stakeholders in Prevention and Control of NCDs

Stakeholders	1. To support other non-health sectors in training programmes on NCD Prevention and Control.

His Royal Highness Duli Pengiran Muda 'Abdul Malik ibni Sultan Haji Hassanal Bolkiah Mu'izzaddin Waddaulah with the National Noncommunicable Diseases Control and Strategic Planning Committee during His Royal Highness' work attachment at the Ministry of Health, 2013.

BruMAP-NCD Pictorial Journey

- The National NCD Prevention and Control Strategic Planning Committee
- BruMAP-NCD Editorial Committee

In-house Technical Consultation

Officiated by The Honourable Pehin Orang Kaya Johan Pahlawan Dato Seri Setia Awang Haji Adanan bin Begawan Pehin Siraja Khatib Dato Seri Setia Awang Haji Mohd Yusof, Minister of Health on 20th November 2012.





Clockwise from top left

- The Honourable Minister of Health officiating the In-Country Technical Consultation on the Development of a National Multisectoral Plan for Noncommunicable Diseases Prevention and Control 2013-2018.
- Professor Robert Beaglehole addressing the need for multisectoral action on NCD Prevention and Control.
- Group photograph with Guest of Honour and participants.
- The participants from various sectors.
- Dr. Cherian Varghese leading the discussion of the workshop.

Group work

Brainstorming session to prevent and control NCDs through enabling healthy environments, reducing risk factors and better management.

Follow-up Consultation

30th April - 1st & 3rd May 2013

Top left

Welcoming and opening remarks by Dr. Hjh Rahmah bte Hj Md Said, Deputy Permanent Secretary (Professional & Technical), Ministry of Health.

Top right & bottom left

Participants from non-health sectors in discussion based on the strategic theme - Improving Health through Enabling Environment and Healthy Choices.

Group work

Health professionals from government and private agencies working on the strategic theme - Improving Health through Enhancing the Continuum of Care for NCDs, with Dr. Cherian Varghese as the lead facilitator throughout the 3-day workshop.

BruMAP-NCD Working Group in WHO Western Pacific Regional Office, Manila

From left to right:
Dr. Hai Rim Shin (Team Leader in NCD and Health Promotion, WPRO), Dyg Lubna bte Abd Razak, Dr. Ong Sok King, Dr. Hj Md Syafiq bin Abdullah, Dr. Shin Young Soo (Regional Director, WPRO), Dr. Alice Yong, Dyg Siti Munawwarah bte Awang Tarif, Dr. Hjh Norhayati bte Hj Md Kassim and Dr. Cherian Varghese (Senior Medical Officer, NCD WPRO)

THE NATIONAL NCD PREVENTION AND CONTROL STRATEGIC PLANNING COMMITTEE

ADVISOR

Datin Paduka Dr. Hjh Norlila bte Dato Paduka Hj Jalil
Permanent Secretary Ministry of Health

CHAIRPERSON

Dr. Hjh Rahmah bte Hj Md Said
Deputy Permanent Secretary (Professional and Technical)

DEPUTY CHAIRPERSONS

Director General of Medical Services
Director General of Health Services

SECRETARIES

Dr. Hjh Lailawati bte Hj Jumat
Director of Hospital Services

Dr. Hjh Norhayati bte Hj Md Kassim
Senior Medical Officer Grade 1

HEADS OF PREVENTION AND HEALTH PROMOTION

Dr. Hjh Anie Haryani bte Hj Abd Rahman
Senior Medical Officer Grade 1

Dr. Hjh Norhayati bte Hj Md Kassim
Senior Medical Officer Grade 1

HEADS OF CLINICAL MANAGEMENT

Datin Dr. Hjh Haslinda bte Hj Md Hassan
Consultant Grade II (Medical)

Dr. Hj Md Syafiq bin Abdullah
Consultant Grade II (Medical)

HEADS OF RESEARCH, SURVEILLANCE AND MONITORING

Dr. Alice Yong Moi Ling
Consultant Grade I (Medical)

Dr. Ong Sok King
Specialist (Public Health)

HEADS OF CAPACITY BUILDING

Awg Abd Walid bin Hj Matassan
Acting Director of Administration and Finance

Dr. Hjh Lailawati bte Hj Jumat
Director of Hospital Services

Dyg Hjh Fatimah bte Abdullah
Acting Director of Nursing Services

HEADS OF LEGISLATION AND POLICY DEVELOPMENT

Dr. Zainal Ariffin bin Hj Yahya
General Director

Dyg Hjh Zahrah bte Dato Paduka Hj Hashim
Director of Policy and Planning

Director of Environmental Health

SECRETARIAT

Dyg Hjh Roseyati bte Dato Paduka Hj Yaakub
Senior Dietitian

Awg Hj Juniadee bin Hj Ahmad
Special Duties Officer

Awg Norsal bin Hj Salleh
Senior Dietitian

Dyg Nurasma Aini bte Hj Mat Yassin
Community Dietitian

Awg Nelson Dennis
Dietitian

Dyg Lubna bte Hj Abd Razak
Research Officer

Dyg Siti Munawwarah bte Awg Tarif
Health Education Officer

Dyg Hjh Kamariah bte Hj Abd Rahman
Senior Staff Nurse

Editorial Committee

Dr. Hjh Rahmah bte Hj Md Said
Deputy Permanent Secretary (Professional and Technical)

Dr. Cherian Varghese
Senior Medical Officer, WHO Western Pacific Regional Office

Dr. Hj Md Syafiq bin Abdullah
Consultant Grade II (Medical)

Dr. Alice Yong Moi Ling
Consultant Grade I (Medical)

Dr. Yung Chee Kwang
Consultant Grade II (Medical)

Dr. Ong Sok King
Specialist (Public Health)

Dr. Hjh Norhayati bte Hj Md Kassim
Senior Medical Officer Grade I

Dr. Hjh Siti Fatimah bte Hj Md Jaafar
Acting Assistant Director of Research and Planning

Dyg Hjh Roseyati bte Dato Paduka Hj Yaakub
Senior Dietitian

Dyg Yeo Sock Sian
Senior Dietitian

Awg Norsal bin Hj Salleh
Senior Dietitian

Dyg Nurasma Aini bte Hj Mat Yassin
Community Dietitian

Awg Han Burt Lee
Occupational Therapist

Awg Nelson Dennis
Dietitian

Dyg Lubna bte Hj Abd Razak
Research Officer

Dyg Siti Munawwarah bte Awg Tarif
Health Education Officer

Center for British Teachers (CfBT)

CfBT

Annexes

- Annex 1: Guidance for Implementation
- Annex 2: Comprehensive Global Monitoring Framework, Including 25 Indicators, and a Set of Nine Voluntary Global Targets for the Prevention and Control of Noncommunicable Diseases
- Annex 3: Protocols for NCD Risk Reduction and Integrated Management of CVD Risk

Annex 1: Guidance for Implementation

To operationalise BruMAP-NCD, guidance is provided for the Ministry of Health, other ministries and stakeholders for objectives 1, 2 and 3.

Objective 1: To Reduce Tobacco Use

MINISTRY OF HEALTH

1) To conduct mass media campaigns to increase public awareness of tobacco control.
2) To improve enforcement of compliance of smoke-free indoor settings to 100% by 2015.
3) To reduce the exposure of children to second-hand smoke in homes by 25% in 2015 through public education.
4) To revise current Tobacco Order 2005 as needed and to coordinate the enforcement mechanism.
5) To work towards the ratification of the protocol for illicit trade in tobacco.
6) To monitor and raise awareness of tobacco industry interference.
7) To advocate and facilitate sustained increase in tobacco tax.
8) To explore the feasibility of implementing plain packaging.
9) To strengthen smoking cessation services.

OTHER MINISTRIES

Ministry	Guidance
All Ministries	• To enforce 100% smoke-free policies in all government buildings and public places. ○ To assist in enforcement officers in carrying out surveillance and enforcement activities
Prime Minister's Office	• To strengthen enforcement of all smoke-free policies. • To strengthen efforts on controlling smuggling and illegal trade • To work towards the national goal of a smoke-free Brunei by 2016. Attorney General's Chambers - To review and strengthen tobacco control legislations (Tobacco Order 2005 and Its Regulations 2007) Royal Brunei Police Force - To assist in relevant training on enforcement - To become authorised officers for enforcements of Tobacco Order 2005 and its Regulations 2007 Radio Television Brunei - To continue banning of tobacco promotion and advertisements in national television and radio - To assist in conveying and promoting anti-tobacco policy, education and awareness programmes

Ministry	Guidance
Prime Minister's Office	Narcotics Control Bureau - To provide assistance in relevant training in enforcement - To assist in enforcement of Tobacco Order 2005 and its Regulations 2007 - To incorporate anti-tobacco talks to be included in their anti-drug campaigns Anti-Corruption Bureau - To enforce ban of tobacco industry interference in government workplaces State Mufti Department - To continue working on fatwa that smoking is 'haram' in June 2004 to complement the Tobacco Order 2005 and its Regulations 2007
Ministry of Finance	• To increase tobacco taxation up to 100% or more of retail price. • To explore plain packaging • To strengthen current role in the enforcement of Tobacco Order 2005 and its Regulations 2007 particularly on labelling of imported tobacco products and to control smuggling of illicit cigarettes and tobacco products • To allocate sufficient funding for all tobacco control activities and distribute to all relevant agencies as appropriate
Ministry of Defence	• To strengthen smoking cessation services
Ministry of Foreign Affairs and Trade	International Trade - To consider and support current tobacco legislations in trade negotiations - To explore the adoption of plain packaging - To assist in monitoring and providing information on tobacco industry activities - To review agreements and terms under the World Trade Order - To support efforts to control smuggling and illegal trade
Ministry of Education	• To educate and raise awareness amongst students on the harmful effects of tobacco: - Include Anti-tobacco education to be included in the school curriculum - Collaborate with relevant stakeholders to organise and conduct programmes in combating the use of tobacco • To inculcate social norms in schools to support 100% smoke-free public places: - Strengthen the enforcement of tobacco-free zones in government and private schools enacted in January 2002
Ministry of Religious Affairs	Islamic Religious Council - To include anti-tobacco awareness and education in Friday prayer sermons and religious talks - To become authorised officers for enforcement of Tobacco Order 2005 and its Regulations 2007 - To work towards smoke-free policies according to Syariah Laws.
Ministry of Home Affairs	District Offices - To become authorised officers for enforcement of Tobacco Order 2005 and its Regulations 2007 - To be responsible for the registration and licensing of retailers under Section 16/17 whose license includes the sale of tobacco products.
Ministry of Culture, Youth and Sports	• To facilitate the change of social norms to support 100% smoke-free public places. • To integrate and promote anti-tobacco campaigns in their youth, sports and community development programmes

Objective 2: To Promote Balanced and Healthy Diet

MINISTRY OF HEALTH

1) To ensure the compliance of National Dietary Guidelines.
   - To review and revise National Dietary Guidelines.
   - To incorporate mandatory serving of fruit and vegetables as part of refreshments at all events.
   - To inculcate the use of National Dietary Guidelines in all Ministry of Health's environment and activities/events.
   - To promote the benefit of drinking water and promote messages on safety and cleanliness of water.
   - To develop healthy cook books in line with National Dietary Guidelines.
   - To promote National Dietary Guidelines in relevant programmes of Ministry of Health e.g. Maternal and Child Health Services.

2) To develop and implement policies that limit salt, sugar and saturated fat and eliminate partially hydrogenated vegetable oil (PHVO) in the food supply
   - To regulate frameworks on putting limits and labelling on transfat
   - To educate the public, food industry including local food importers and local food manufacturers on transfat
   - To offer analytical services on trans-fat to local food industry/importers
   - To offer consultation services on transfat
   - To develop inventory of foods with transfat content

3) To develop and implement policies to reduce the impact of marketing of food and non-alcoholic beverages high in sugar, salt and fat to children.
   - To develop National Guidelines by adapting WHO's Set of Recommendations on the Marketing of Foods & Non-Alcoholic Beverages to Children (WHO 2012)
   - To prepare supporting policy recommendation paper on the impact of marketing of food and non-alcoholic beverages high in sugar, salt and fat to children

4) To develop and implement mandatory food labelling for all domestic and imported food products
   - To develop a uniform consumer-friendly labelling to identify healthier food products
   - To review and expand the scope of current food labelling legislation to emphasise nutrition labelling (for both imported and local food products)
   - To review and strengthen registration of imported food products
   - To explore mechanism of mandatory implementation (legislation) of branding of healthier choice food products
   - Capacity building towards development of criteria for branding healthier food

5) To ensure healthier dietary options in schools, workplaces and where children gather
   - To develop recommendation paper to propose *"Fruit & Vegetables Day"* and submit to PMO and MOE for approval and circulation.
   - To strengthen and continue training of school-leaders, teachers and Parent Teachers Association in healthy eating in schools
   - To review existing audit checklist on the sales of food & drinks in school canteens

6) To conduct sustained mass media campaigns to increase consumption of fruits and vegetables.
   - To work with other agencies or stakeholders (PMO, MOHA, AITI, ITPSS, MOH (Information Technology), printed media (Brunei Press, Brunei Times), AGC, MinComm, Data Stream Technology (DST) (Kristal Astro) and (BMobile).

7) To develop and implement guidance to interact with food industry for implementing policies.

8) To develop a Healthy Workplace Programme (on healthy eating).
   - To review regional and international guidelines on the Healthy Workplace Programme.
   - To provide leadership and guidance in the promotion of healthy lifestyles at the workplace.
   - To strengthen and finalise stakeholder consultations within MOH in order to guide on the development of the Healthy Workplace Programme.
   - To train members of the implementing committee of Healthy Workplace Committee.
   - To develop and finalise 'Train the Trainers' Manual on Healthy Workplace.
   - To improve and modify as appropriate implementation of Healthy Workplace Programme.
   - To incorporate future facilities conducive environment to the implementation of the Healthy Workplace Programme.
   - To formulate guidelines for health facilities within MOH on the Healthy Workplace Programme.
   - To provide consultancy for other non-health sectors in the Healthy Workplace Programme.

OTHER MINISTRIES

Ministry	Guidance
Prime Minister's Office	• To provide directive through PMO circulars to all ministries and government offices - To develop structured healthy workplace programmes emphasising healthy diet. - To endorse and incorporate workplace *"Fruit & Vegetables Day"* and servings of fruits and vegetables at all government events. - To promote and prioritise healthier food brands.

Ministry	Guidance
Prime Minister's Office	• To develop and endorse a Code of Conduct for the marketing of unhealthy food and beverages to children in RTB. - To regulate sponsorship and promotion of unhealthy foods & beverages through advertisement - To regulate mode and hours of advertisement of unhealthy food and beverages targeting children. - To facilitate a media campaign on National Dietary Guidelines. • To develop a Healthy Workplace Programme (on healthy eating). - To incorporate National Dietary Guidelines into PMO's policies. - To facilitate inter-ministerial partnership in implementing Healthy Workplace Policy which will pave the way for Health in All Policies (HiAP). - To inculcate the use of healthier food branding in all PMO's environment and at activities/events. - To support MOH in promoting awareness on salt, sugar and transfat - To inculcate the use of National Dietary Guidelines in all PMO's environment and at activities/events. - To establish Healthy/Wellness Workplace Committee with defined Terms of References within PMO's set-up. - To explore and identify existing facilities and programmes within the Government Sector conducive to promoting Healthy Workplace Policy and encourage usage/uptake by all ministries. • To incorporate National Dietary Guidelines into civil servant training.
Ministry of Finance	• To use existing fiscal mechanisms to improve consumption of healthy food and restriction of unhealthy food and beverages. - To support multi-agency requirement in training, infrastructure and capacity building - To allocate specific funds to enable implementation of Healthy Workplace Programme. • To develop Healthy Workplace Programme (on healthy eating). - To incorporate National Dietary Guidelines into MOF's policies. - To inculcate the use of healthier food branding in all MOF's environment and activities/ events. - To support MOH in promoting awareness on salt, sugar and transfat - To inculcate the use of National Dietary Guidelines in all MOF's environment including canteens and activities/events. - To establish Healthy/Wellness Workplace Committee with defined Terms of References within MOF's set-up. - To improve and modify as appropriate conducive to the implementation of Healthy Workplace Programme. - To incorporate future facilities conducive to the implementation of Healthy Workplace Programme. - To implement servings of fruit and vegetables as part of refreshments at all Ministerial public events • To support the regulation of advertisement, sponsorship and promotion of unhealthy foods and beverages.
Ministry of Defence	• To develop Healthy Workplace Programme (on healthy eating). - To incorporate Healthy Workplace features into MinDef's Infrastructure Guideline Book - To incorporate National Dietary Guidelines into MinDef's policies.

Ministry	Guidance
Ministry of Defence	- To inculcate the use of healthier food branding at all MinDef's public and military events. - To support MOH in promoting awareness on salt, sugar and transfat - To inculcate the use of National Dietary Guidelines in all MinDef's environment including military camps, canteens and activities/events. - To establish Healthy/Wellness Workplace Committee with defined Terms of References within MinDef's set-up. - To improve and modify as appropriate conducive to the implementation of Healthy Workplace Programme. - To incorporate future facilities conducive to the implementation of Healthy Workplace Programme. • To incorporate fruit and vegetable gardens/plots within military camps • To support the regulation of advertisement, sponsorship and promotion of unhealthy foods and beverages
Ministry of Foreign Affairs and Trade	• To promote importation of healthier food products. - To promote healthier food branding guidelines to importers of food products - To promote National Dietary Guidelines Key Recommendations to importers of food products. • To develop Healthy Workplace Programme (on healthy eating). - To incorporate National Dietary Guidelines into MOFAT's policies. - To support and promote healthier food brands at all MOFAT's regional and international trade meetings and activities/ events. - To support MOH in promoting awareness on salt, sugar and transfat - To inculcate the use of National Dietary Guidelines in all MOFAT's environment including canteens and activities/events. - To establish Healthy/Wellness Workplace Committee with defined Terms of References within MOFAT's set-up. - To improve and modify as appropriate conducive to the implementation of Healthy Workplace Programme. - To incorporate future facilities conducive to the implementation of Healthy Workplace Programme. • To support the regulation of advertisement, sponsorship and promotion of unhealthy foods and beverages.
Ministry of Education	• To develop and/or strengthen comprehensive school health programmes and frameworks: - Adopt school policy to promote healthy food including in all school canteens, events and meetings. - Align existing educational curriculum with National Dietary Guidelines. - Continue current and implement proposed initiatives such as "Drink Water Daily" and "Fruits and Vegetables Day" in schools; establishment of Health Clubs in schools; Proposing Healthy Canteen Award (HCA); etc. • To organise training for Ministry of Education officers and students on healthy lifestyle: - Build capacity for members of the Health Promotion Unit, Department of Schools; relevant MOE officers; school teachers and students on National Dietary Guidelines; food safety aspects; etc.

Ministry	Guidance
Ministry of Development	• To incorporate community fruit and vegetable gardens/plots in housing development projects • To develop Healthy Workplace Programme (on healthy eating). - To incorporate National Dietary Guidelines into MOD's policies. - To inculcate the use of healthier food branding in all MOD's environment and sports activities/events. - To support MOH in promoting awareness on salt, sugar and transfat - To inculcate the use of National Dietary Guidelines in all MOD's environment including canteens and activities/events. - To establish Healthy/Wellness Workplace Committee with defined Terms of References within MOD's set-up. - To improve and modify as appropriate conducive to the implementation of Healthy Workplace Programme. - To incorporating future facilities conducive to the implementation of Healthy Workplace Programme. • To support the regulation of advertisement, sponsorship and promotion of unhealthy foods and beverages.
Ministry of Communications	• To promote healthy diet among the general public through social media / Mobile Health Solutions. - To support the MOH in marketing of healthier food brands - To assist in the dissemination of National Dietary Guidelines Key Recommendations/messages. • To support the regulation of advertisement, sponsorship and promotion of unhealthy foods and beverages to children through social media. • To develop Healthy Workplace Programme (on healthy eating). - To incorporate National Dietary Guidelines into MOC's policies. - To inculcate the use of healthier food branding in all MOC's environment and sports activities/events. - To support MOH in promoting awareness on salt, sugar and transfat - To inculcate the use of National Dietary Guidelines in all MOC's environment including canteens and activities/events. - To establish Healthy/Wellness Workplace Committee with defined Terms of References within MOC's set-up. - To improve and modify as appropriate conducive to the implementation of Healthy Workplace Programme. - To incorporate future facilities conducive to the implementation of Healthy Workplace Programme.

Ministry	Guidance
Ministry of Industry and Primary Resources	• To develop 'Public Fruit and Vegetables Parks/ Orchards' for health, educational and commercial interest. • To incorporate aspects of healthier food (low in sugar, salt and fat) within the existing food security policy. • To work with food industry and importers for reformulation of products low in salt, sugar and fat; restriction and labelling requirements. - To ensure food industry complies with salt, sugar and transfat restriction and labelling requirement. - To provide analytical services and increase lab capacity on analysis of salt, sugar and trans-fat to local food industry / importers. - To educate local food manufacturers on salt, sugar and transfat - To provide technical and nutritional advisory on salt, sugar and transfat for Small-Medium Enterprises - To establish inventory of food with trans-fat content - To incorporate National Dietary Guidelines Key Recommendation in Small-Medium Enterprises products. • To develop Healthy Workplace Programme (on healthy eating). - To incorporate National Dietary Guidelines into MIPR's policies. - To inculcate the use of healthier food branding in all MIPR's environment and activities/ events. - To support MOH in promoting awareness on salt, sugar and transfat - To inculcate the use of National Dietary Guidelines in all MIPR's environment including canteens and activities/events. - To establish Healthy/Wellness Workplace Committee with defined Terms of References within MIPR's set-up. - To improve and modify as appropriate conducive to the implementation of Healthy Workplace Programme. - To incorporate future facilities conducive to the implementation of Healthy Workplace Programme. - To implement servings of fruit and vegetables as part of refreshments at all public events • To expand community education on fruit and vegetables on farming examples *"Hari Peladang"* • To support the regulation of advertisement, sponsorship and promotion of unhealthy foods and beverages.
Ministry of Religious Affairs	• To emphasise the importance of healthy eating through the Islamic perspective. • To promote planting of fruit trees within mosques and/or religious school compounds. • To develop Healthy Workplace Programme (on healthy eating). - To incorporate National Dietary Guidelines into MORA's policies. - To inculcate the use of healthier food branding in all MORA's environment and sports activities/ events. - To support MOH in promoting awareness on salt, sugar and transfat - To inculcate the use of National Dietary Guidelines in all MORA's environment including canteens and activities/events. - To establish Healthy/Wellness Workplace Committee with defined Terms of References within MORA's set-up. - To improve and modify as appropriate conducive to the implementation of Healthy Workplace Programme. - To incorporate future facilities conducive to the implementation of Healthy Workplace Programme.

Ministry	Guidance
Ministry of Religious Affairs	• To develop and strengthen a comprehensive Healthy School Programme based on the Health Promoting School framework encompassing the healthy school award and nutrition friendly school initiative. - To adopt a school policy to promote healthy eating and healthier food branding in the school environment including school canteens, events and meetings - To review the current situation in awarding religious school canteen operators (Department of Islamic Studies) - To implement, monitor and evaluate current Guidelines on the Sales of Foods and Drinks in School Canteens (MoH, 2009) - To improve school canteens infrastructure conducive to healthier food preparation - To develop comprehensive, evidence-based, interesting pictorial resources to support healthy school canteens. - To establish Healthy Canteen Awards (HCA). - To adopt Drink Water Daily Initiatives in School - To train teachers/educators in Healthy Lifestyles using a holistic approach. • To support the regulation of advertisement, sponsorship and promotion of unhealthy foods and beverages.
Ministry of Home Affairs	• To incorporate National Dietary Guidelines in '*One Kampong One Product*' initiative and restaurant grading scheme with menu assessment. - To encourage food and beverage outlets to implement menus in compliance with National Dietary Guidelines. • To regulate the advertisement and promotion of food and beverage products and restrict sponsorship of any public events. - To reduce the size of advertisements of unhealthy food and beverages as well as sponsor's logo during national events and on billboards, banners and other marketing tools. • To support the regulation of advertisement, sponsorship and promotion of unhealthy foods and beverages. • To develop Healthy Workplace Programme (on healthy eating). - To incorporate National Dietary Guidelines into MOHA's policies. - To inculcate the use of healthier food branding in all MOHA's environment and sports activities/ events. - To support MOH in promoting awareness on salt, sugar and transfat - To inculcate the use of National Dietary Guidelines in all MOHA's environment including canteens and activities/events. - To establish Healthy/Wellness Workplace Committee with defined Terms of References within MOHA's set-up. - To improve and modify as appropriate conducive to the implementation of Healthy Workplace Programme. - To incorporate future facilities conducive to the implementation of Healthy Workplace Programme.

Ministry	Guidance
Ministry of Culture, Youth and Sports	• To develop Healthy Workplace Programme (on healthy eating). - To incorporate National Dietary Guidelines into MCYS's policies. - To inculcate the use of healthier food branding in all MCYS's environment and sports activities/ events. - To support MOH in promoting awareness on salt, sugar and transfat - To inculcate the use of National Dietary Guidelines in all MCYS's environment including canteens and activities/events. - To establish Healthy/Wellness Workplace Committee with defined Terms of References within MCYS's set-up. - To improve and modify as appropriate conducive to the implementation of Healthy Workplace Programme. - To incorporate future facilities conducive to the implementation of Healthy Workplace Programme. • To educate athletes on the importance of healthy nutrition and well-being as well as sports performance • To support the regulation of advertisement, sponsorship and promotion of unhealthy foods and beverages.

Objective 3: To Increase Physical Activity

MINISTRY OF HEALTH

1) To strengthen the implementation of National Physical Activity Guideline (NPAG) through:
   - The use of a Mass media campaign in partnership with relevant agencies to advocate PA programmes and inculcate PA in daily activities in the workplaces, schools and communities.
   - The facilitation of structured PA programmes in the community and workplace.
     - To facilitate structured PA programmes in Mukims and Kampongs.
   - Building capacity of relevant stakeholders to promote PA
     - To collaborate with MCYS on increasing the number and strengthening training of PA leaders.

2) To develop and implement healthy workplace programmes and appoint PA leaders / health ambassadors in each department.
   - To support training / exposure of PA leaders / health ambassadors in all sectors in promoting PA.
   - To inculcate active living (PA / exercise) in all government offices in accordance with NPAG.
   - To promote and support infrastructure conducive to PA such as well-lit, safe and accessible staircases.
   - To support programmes to encourage the use of stairs instead of lifts in the workplace.
   - To promote awareness among employers of the availability of PA facilities and services

OTHER MINISTRIES

Ministry	Guidance
Prime Minister's Office	• To issue an administrative order requiring all ministries and government offices to develop structured healthy workplace programmes emphasising on healthy diet and physical activity: - To appoint PA leaders / health ambassadors in each department. - To support training / exposure of PA leaders / health ambassadors in all sectors in promoting PA. - To inculcate active living (PA / exercise) in all government offices in accordance with NPAG. - To promote and support infrastructure conducive to PA such as well-lit, safe and accessible staircases. - To support programmes to encourage the use of stairs instead of lifts in the workplace. - To promote awareness among employers of the availability of PA facilities and services - To revitalise and enhance services offered at Mentiri Civil Service Club.

Ministry	Guidance
Ministry of Finance	• To continue providing financial support for the development and maintenance of physical activity and recreational infrastructure. - Provide financial support for PA facilities and infrastructures for schools and workplaces. • To develop and implement healthy workplace programmes and appoint PA leaders / health ambassadors in each department. - To support training / exposure of PA leaders / health ambassadors in all sectors in promoting PA. - To inculcate active living (PA / exercise) in all government offices in accordance with NPAG. - To promote and support infrastructure conducive to PA such as well-lit, safe and accessible staircases. - To support programmes to encourage the use of stairs instead of lifts in the workplace. - To promote awareness among employers of the availability of PA facilities and services
Ministry of Defence	• To develop and implement healthy workplace programmes and appoint PA leaders / health ambassadors in each department. - To support training / exposure of PA leaders / health ambassadors in all sectors in promoting PA. - To inculcate active living (PA / exercise) in all government offices in accordance with NPAG. - To promote and support infrastructure conducive to PA such as well-lit, safe and accessible staircases. - To support programmes to encourage the use of stairs instead of lifts in the workplace. - To promote awareness among employers of the availability of PA facilities and services
Ministry of Foreign Affairs and Trade	• To develop and implement healthy workplace programmes and appoint PA leaders / health ambassadors in each department. - To inculcate active living (PA / exercise) in all government offices in accordance with NPAG. - To promote and support infrastructure conducive to PA such as well-lit, safe and accessible staircases. - To support programmes to encourage the use of stairs instead of lifts in the workplace. - To promote awareness among employers of the availability of PA facilities and services
Ministry of Education	• To incorporate Physical Education (PE) as part of the National Curriculum. • To improve infrastructure to promote physical activity in school settings: - Promote and support infrastructure conducive to PA with emphasis on safety according to SOP. - Ensure suitability of infrastructure for the forms of PA. • To strengthen the Health Promoting Schools initiatives to enhance PA in schools: - Develop Healthy School Award. - Incorporate National Physical Activity Guidelines (NPAG) in undergraduate curriculum training for teachers. - Ensure sufficient supply of skilled PE Teachers and plan systematically the allocation of PE teachers to schools.

Ministry	Guidance
Ministry of Education	• To promote educational institution facilities for the community to access and practice healthy lifestyle: - Develop policies to support the sharing of educational institution facilities with the community.
Ministry of Development	• To support the development and maintenance of environments and infrastructure in all settings, conducive and safe for PA and recreation - To develop infrastructure based on the MinDef infrastructure guidelines for other government offices. - To provide facilities and infrastructures in schools for Physical Activity (PA) - To provide guidelines for PA-friendly building design (targeted for Authority Of Building Construction Industry contractors, architects, support industries etc. by 2014) - To develop comprehensive and connected walking and cycling parks as well as cycling paths by 2013 - To develop PA facilities in the Mukims. (Targeted goals: To achieve 50% by 2018 and each Mukim should have at least one active recreation facility) • To make facilities more accessible and available for all age groups in the community and to provide guidelines by the end of 2013/early 2014. • To develop and implement healthy workplace programmes and appoint PA leaders / health ambassadors in each department. - To support training / exposure of PA leaders / health ambassadors in all sectors in promoting PA. - To inculcate active living (PA / exercise) in all government offices in accordance with NPAG. - To promote and support infrastructure conducive to PA such as well-lit, safe and accessible staircases. - To support programmes to encourage the use of stairs instead of lifts in the workplace. - To promote awareness among employers of the availability of PA facilities and services

Ministry	Guidance
Ministry of Communications	• To promote active transportation in line with the Bandar Seri Begawan Masterplan, Transport Masterplan draft and other urban development plans. - To seek consultation input on pending transport Masterplan by 2014 - To develop traffic light design for cycling in consultation with cyclist groups (example Holland by 2013) • To develop and implement healthy workplace programmes and appoint PA leaders / health ambassadors in each department. - To support training / exposure of PA leaders / health ambassadors in all sectors in promoting PA. - To inculcate active living (PA / exercise) in all government offices in accordance with NPAG. - To promote and support infrastructure conducive to PA such as well-lit, safe and accessible staircases. - To support programmes to encourage the use of stairs instead of lifts in the workplace. - To promote awareness among employers of the availability of PA facilities and services
Ministry of Industry and Primary Resources	• To support the development and maintenance of forest reserve parks conducive to physical activity and recreation. • To develop and implement healthy workplace programmes and appoint PA leaders / health ambassadors in each department. - To support training / exposure of PA leaders / health ambassadors in all sectors in promoting PA. - To inculcate active living (PA / exercise) in all government offices in accordance with NPAG. - To promote and support infrastructure conducive to PA such as well-lit, safe and accessible staircases. - To support programmes to encourage the use of stairs instead of lifts in the workplace. - To promote awareness among employers of the availability of PA facilities and services
Ministry of Religious Affairs	• To support and develop a Health Promoting Schools initiative using Islamic teachings as a basis in promoting a healthy lifestyle in school settings under the preview of MORA. - To engage parental volunteers to assist in PA - To train teachers in PA - To promote and incorporate innovative ways to add PA to the school day examples during assembly, Health Clubs activities and other events. • To develop and implement healthy workplace programmes and appoint PA leaders / health ambassadors in each department. - To support training / exposure of PA leaders / health ambassadors in all sectors in promoting PA. - To inculcate active living (PA / exercise) in all government offices in accordance with NPAG. - To promote and support infrastructure conducive to PA such as well-lit, safe and accessible staircases. - To support programmes to encourage the use of stairs instead of lifts in the workplace. - To promote awareness among employers of the availability of PA facilities and services

Ministry	Guidance
Ministry of Home Affairs	• To support the development and maintenance of parks and recreational areas in districts and local communities, conducive and safe for PA and recreation. • To ensure that every Mukim has a facility for PA promotion. - Development of PA facilities (Targeted goals: To achieve 50% by 2018 and each Mukim should have at least one active recreation facility) - To facilitate structured PA in Mukims and Kampongs by final quarter 2013 • To develop and implement healthy workplace programmes and appoint PA leaders / health ambassadors in each department. - To support training / exposure of PA leaders / health ambassadors in all sectors in promoting PA. - To inculcate active living (PA / exercise) in all government offices in accordance with NPAG. - To promote and support infrastructure conducive to PA such as well-lit, safe and accessible staircases. - To support programmes to encourage the use of stairs instead of lifts in the workplace. - To promote awareness among employers of the availability of PA facilities and services
Ministry of Culture, Youth and Sports	• To develop sports schemes and programmes for all ages. - To conduct and publicise training programmes on PA and First Aid. - To promote behaviour conducive to a healthy lifestyle during the programmes. - Make the booking of facilities more user-friendly and accessible to the community • To increase public awareness on PA and sport facilities in Brunei through a mass media campaign. - To update calendar of PA events nationwide on the website • To create a National Task Force for promoting PA. • To provide guidelines to other ministries on age-appropriate PA equipment and facilities (indoor and outdoor). • To develop and implement healthy workplace programmes and appoint PA leaders / health ambassadors in each department. - To support training / exposure of PA leaders / health ambassadors in all sectors in promoting PA. - To inculcate active living (PA / exercise) in all government offices in accordance with NPAG. - To promote and support infrastructure conducive to PA such as well-lit, safe and accessible staircases. - To support programmes to encourage the use of stairs instead of lifts in the workplace. - To promote awareness among employers of the availability of PA facilities and services

Annex 2: Comprehensive Global Monitoring Framework, Including 25 Indicators, and a Set of Nine Voluntary Global Targets for the Prevention and Control of Noncommunicable Diseases

Framework element	Target	Indicator
Mortality and morbidity		
Premature mortality from noncommunicable disease	(1) A 25% relative reduction in risk of premature mortality from cardiovascular diseases, cancer, diabetes, or chronic respiratory diseases	(1) Unconditional probability of dying between ages of 30 and 70 from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases
Additional indicator		(2) Cancer incidence, by type of cancer, per 100 000 population
Risk factors		
Behavioural risk factors		
Harmful use of alcohol[1]	(2) At least 10% relative reduction in the harmful use of alcohol,[2] as appropriate, within the national context	(3) Total (recorded and unrecorded) alcohol per capita (≥ 15 years old) consumption within a calendar year in litres of pure alcohol, as appropriate, within the national context (4) Age-standardized prevalence of heavy episodic drinking among adolescents and adults, as appropriate, within the national context (5) Alcohol-related morbidity and mortality among adolescents and adults, as appropriate, within the national context
Physical inactivity	(3) A 10% relative reduction in prevalence of insufficient physical activity	(6) Prevalence of insufficiently physically active adolescents, defined as less than 60 minutes of moderate to vigorous intensity activity daily (7) Age-standardized prevalence of insufficiently physically active persons ≥18 years (defined as less than 150 minutes of moderate-intensity activity per week, or equivalent)
Salt/sodium intake	(4) A 30% relative reduction in mean population intake of salt/sodium[3]	(8) Age-standardized mean population intake of salt (sodium chloride) per day in grams in persons 18 years
Tobacco use	(5) A 30% relative reduction in prevalence of current tobacco use in persons aged 15+ years	(9) Prevalence of current tobacco use among adolescents (10) Age-standardized prevalence of current tobacco use among persons 18 years

Framework element	Target	Indicator
Biological risk factors		
Raised blood pressure	(6) A 25% relative reduction in the prevalence of raised blood pressure or contain the prevalence of raised blood pressure, according to national circumstances	(11) Age-standardized prevalence of raised blood pressure among persons ≥ 18 years (defined as systolic blood pressure ≥140 mmHg and/or diastolic blood pressure ≥90 mmHg) and mean systolic blood pressure

[1] Countries will select indicator(s) of harmful use as appropriate to national context and in line with WHO's global strategy to reduce the harmful use of alcohol and that may include prevalence of heavy episodic drinking, total alcohol per capita consumption, and alcohol-related morbidity and mortality, among others.
[2] In WHO's global strategy to reduce the harmful use of alcohol the concept of the harmful use of alcohol encompasses the drinking that causes detrimental health and social consequences for the drinker, the people around the drinker and society at large, as well as the patterns of drinking that are associated with increased risk of adverse health outcomes.
[3] WHO's recommendation is less than 5 grams of salt or 2 grams of sodium per person per day.

Framework element	Target	Indicator
Diabetes and obesity[4]	(7) Halt the rise in diabetes and obesity	(12) Age-standardized prevalence of raised blood glucose/diabetes among persons aged ≥ 18 years (defined as fasting plasma glucose concentration ≥ 7.0 mmol/l (126 mg/dl) or on medication for raised blood glucose) (13) Prevalence of overweight and obesity in adolescents (defined according to the WHO growth reference for school-aged children and adolescents, overweight – one standard deviation body mass index for age and sex, and obese – two standard deviations body mass index for age and sex) (14) Age-standardized prevalence of overweight and obesity in persons aged ≥ 18 years (defined as body mass index ≥ 25 kg/m² for overweight and body mass index ≥ 30 kg/m² for obesity)
Additional indicators		(15) Age-standardized mean proportion of total energy intake from saturated fatty acids in persons aged ≥18 years.[5] (16) Age-standardized prevalence of persons (aged ≥ 18 years) consuming less than five total servings (400 grams) of fruit and vegetables per day (17) Age-standardized prevalence of raised total cholesterol among persons aged ≥ 18 years (defined as total cholesterol ≥5.0 mmol/l or 190 mg/dl); and mean total cholesterol concentration

Framework element	Target	Indicator
National systems response		
Drug therapy to prevent heart attacks and strokes	(8) At least 50% of eligible people receive drug therapy and counselling (including glycaemic control) to prevent heart attacks and strokes	(18) Proportion of eligible persons (defined as aged 40 years and older with a 10-year cardiovascular risk ≥30%, including those with existing cardiovascular disease) receiving drug therapy and counseling (including glycaemic control) to prevent heart attacks and strokes
Essential noncommunicable disease medicines and basic technologies to treat major noncommunicable diseases	(9) An 80% availability of the affordable basic technologies and essential medicines, including generics, required to treat major noncommunicable diseases in both public and private facilities	(19) Availability and affordability of quality, safe and efficacious essential noncommunicable disease medicines, including generics, and basic technologies in both public and private facilities
Additional indicators	(20) Access to palliative care assessed by morphine equivalent consumption of strong opioid analgesics (excluding methadone) per death from cancer (21) Adoption of national policies that limit saturated fatty acids and virtually eliminate partially hydrogenated vegetable oils in the food supply, as appropriate, within the national context and national programmes (22) Availability, as appropriate, if cost-effective and affordable, of vaccines against human papillomavirus, according to national programmes and policies (23) Policies to reduce the impact on children of marketing of foods and non-alcoholic beverages high in saturated fats, trans fatty acids, free sugars, or salt (24) Vaccination coverage against hepatitis B virus monitored by number of third doses of Hep-B vaccine (HepB3) administered to infants (25) Proportion of women between the ages of 30–49 screened for cervical cancer at least once, or more often, and for lower or higher age groups according to national programmes or policies	

[4] Countries will select indicator(s) appropriate to national context.
[5] Individual fatty acids within the broad classification of saturated fatty acids have unique biological properties and health effects that can have relevance in developing dietary recommendations.

Annex 3: Protocols for NCD Risk Reduction and Integrated Management of CVD Risk

WHO PEN Protocol 1
Prevention of Heart Attacks, Strokes and Kidney Disease through Integrated Management of Diabetes and Hypertension (Best Buy)

When could this Protocol be used?

- The protocol is for assessment and management of cardiovascular risk using hypertension, diabetes mellitus (DM) and tobacco use as entry points
- It could be used for routine management of hypertension and DM and for screening, targeting the following categories of people:
  - ▶ age > 40 years
  - ▶ smokers
  - ▶ waist circumference (≥ 90 cm in women ≥100 cm in men)
  - ▶ known hypertension
  - ▶ known DM
  - ▶ history of premature CVD in first degree relatives
  - ▶ history of DM or kidney disease in first degree relatives

Follow instructions given in Action 1 to Action 4, step by step

FIRST VISIT

Action 1. Ask about:

- Diagnosed heart disease, stroke, transient ischemic attack, DM, kidney disease
- Angina, breathlessness on exertion and lying flat, numbness or weakness of limbs, loss of weight, increased thirst, polyuria, puffiness of face, swelling of feet, passing blood in urine etc
- Medicines that the patient is taking
- Current tobacco use (yes/no) (answer yes if tobacco use during the last 12 months)
- Alcohol consumption (yes/no) (if `Yes`, frequency and amount)
- Occupation (sedentary or active)
- Engaged in more than 30 minutes of physical activity at least 5 days a week (yes/no)
- Family history of premature heart disease or stroke in first degree relatives

References
World Health Organization. *Prevention and control of noncommunicable diseases ; Guidelines for primary health care*, 2012
World Health Organization. *Scaling up action against noncommunicable diseases. How much will it cost?*, 2011
World Health Organization. *Prevention of cardiovascular diseases; Pocket guidelines for assessment and management of cardiovascular risk*, 2008

WHO PEN Protocol 1
Prevention of Heart Attacks, Strokes and Kidney Disease through Integrated Management of Diabetes and Hypertension (Best Buy)

FIRST VISIT

Action 2. Assess (physical exam and blood and urine tests):

- Waist circumference
- Measure blood pressure, look for pitting odema
- Palpate apex beat for haeving and displacement
- Auscultate heart (rhythm and murmurs)
- Auscultate lungs (bilateral basal crepitations)
- Examine abdomen (tender liver)
- In DM patients examine feet; sensations, pulses, and ulcers
- Urine ketones (in newly diagnosed DM) and protein
- Total cholesterol
- Fasting or random blood sugar (diabetes = fasting blood sugar ≥ 7 mmol/l (126 mg/dl) or random blood sugar ≥ 11.1 mmol/l (200 mg/dl) (Point of care devices can be used for testing blood sugar if laboratory facilities are not available)

Action 3. Estimate cardiovascular risk (in those not referred):

- Use the WHO/ISH risk charts relevant to the WHO subregion (Annex and CD)
- Use age, gender, smoking status, systolic blood pressure, DM (and plasma cholesterol if available)
- If age 50-59 years select age group box 50, if 60-69 years select age group box 60 etc., for people age < 40 years select age group box 40
- If cholesterol assay cannot be done use the mean cholesterol level of the population or a value of 5.2 mmol/l to calculate the cardiovascular risk)
- If the person is already on treatment, use pretreatment levels of risk factors (if information is available to assess and record the pretreatment risk. Also assess the current risk using current levels of risk factors)
- Risk charts underestimate the risk in those with family history of premature vascular disease, obesity, raised triglyceride levels

Action 4: Referral criteria for all visits:

- BP > 200/> 120 mm Hg (urgent referral)
- BP ≥ 140 or ≥ 90 mmHg in people < 40 yrs (to exclude secondary hypertension)
- Known heart disease, stroke, transient ischemic attack, DM, kidney disease (for assessment, if this has not been done)
- New chest pain or change in severity of angina or symptoms of transient ischemic attack or stroke
- Target organ damage (e.g. angina, claudication, haeving apex, cardiac failure)
- Cardiac murmurs
- Raised BP ≥ 140/90 (in DM above 130/80mmHg) while on treatment with 2 or 3 agents
- Any proteinuria
- Newly diagnosed DM with urine ketones 2+ or in lean persons of < 30 years
- Total cholesterol > 8mmol/l
- DM with poor control despite maximal metformin with or without sulphonylurea
- DM with severe infection and/or foot ulcers
- DM with recent deterioration of vision or no eye exam in 2 years
- High cardiovascular risk

If referral criteria are not present go to Action 5

WHO PEN Protocol 1
Prevention of Heart Attacks, Strokes and Kidney Disease through Integrated Management of Diabetes and Hypertension (Best Buy)

FIRST VISIT

If referral criteria are not present go to Action 5

Risk < 20%

- Counsel on diet, physical activity, smoking cessation and avoiding harmful use of alcohol
- If risk < 10% follow up in 12 months
- If risk 10 - < 20% follow up every 3 months until targets are met, then 6-9 months thereafter

Risk 20 to <30%

- Counsel on diet, physical activity, smoking cessation and avoiding harmful use of alcohol
- Persistent BP ≥ 140/90 mm Hg consider drugs (see below ** Antihypertensive medications)
- Follow-up every 3-6 months

Risk > 30%

- Counsel on diet, physical activity, smoking cessation and avoiding harmful use of alcohol
- Persistent BP ≥ 130/80 consider drugs (see below ** Antihypertensive medications)
- Give a statin
- Follow-up every 3 months, if there is no reduction in cardiovascular risk after six months of follow up refer to next level

Important practice points

Consider drug treatment for following categories

- All patients with established DM and cardiovascular disease (coronary heart disease, myocardial infarction, transient ischaemic attacks, cerebrovascular disease or peripheral vascular disease), renal disease. If stable, should continue the treatment already prescribed and be considered as with risk >30%
- People with albuminuria, retinopathy, left ventricular hypertrophy
- All individuals with persistent raised BP ≥ 160/100 mmHg; antihypertensive treatment
- All individuals with total cholesterol at or above 8 mmol/l (320 mg/dl); lifestyle advice and statins

** Antihypertensive medications

- If under 55 years low dose of a thiazide diuretic and/or angiotensin converting enzyme inhibitor
- If over 55 years calcium channel blocker and/or low dose of a thiazide diuretic
- If intolerant to angiotensin converting enzyme inhibitor or for women in child bearing age consider a beta blocker
- Thiazide diuretics and/or long-acting calcium channel blockers are more appropriate as initial treatment for certain ethnic groups. Medications for compelling indications should be prescribed, regardless of race/ethnicity
- Test serum creatinine and potassium before prescribing an angiotensin converting enzyme inhibitor

Additional actions for individuals with DM:

- Give an antihypertensive for those with BP ≥ 130/80 mmHg
- Give a statin to all with type 2 DM aged ≥ 40 years
- Give metformin for type 2 DM if not controlled by diet only (FBS > 7mmol/l), and if there is no renal insufficiency, liver disease or hypoxia.
- Titrate metformin to target glucose value
- Give a sulfonylurea to patients who have contraindications to metformin or if metformin does not improve glycaemic control.
- Give advise on foot hygiene, nail cutting, treatment of calluses, appropriate footwear and assess feet at risk of ulcers using simple methods (inspection, pin-prick sensation)
- Angiotensin converting enzyme inhibitors and/or low-dose thiazides are recommended as first-line treatment of hypertension. Beta blockers are not recommended for initial management but can be used if thiazides or angiotensin converting enzyme inhibitors are contraindicated.
- Follow up every 3 months

WHO PEN Protocol 1
Prevention of Heart Attacks, Strokes and Kidney Disease through Integrated Management of Diabetes and Hypertension (Best Buy)

FIRST VISIT

Advice to patients and family

- Avoid table salt and reduce salty foods such as pickles, salty fish, fast food, processed food, canned food and stock cubes
- Have your blood glucose level, blood pressure and urine checked regularly

Advice specific for DM

- Advise overweight patients to reduce weight by reducing their food intake.
- Advise all patients to give preference to low glycaemic-index foods (e.g.beans, lentils, oats and unsweetened fruit) as the source of carbohydrates in their diet
- If you are on any DM medication that may cause your blood glucose to go down too low carry sugar or sweets with you
- If you have DM, eyes should be screened for eye disease (diabetic retinopathy) by an ophthalmologist at the time of diagnosis and every two years thereafter, or as recommended by the ophthalmologist
- Avoid walking barefoot or without socks
- Wash feet in lukewarm water and dry well especially between the toes
- Do not cut calluses or corns, and do not use chemical agents on them
- Look at your feet every day and if you see a problem or an injury, go to your health worker

SECOND VISIT

Repeat

- Ask about: new symptoms, adherence to advise on tobacco and alcohol use, physical activity, healthy diet, medications etc
- Action 2 Assess (Physical exam)
- Action 3 Estimate cardiovascular risk
- Action 4 Refer if necessary
- Action 5 Counsel all and treat as shown in protocol

WHO PEN Protocol 2
Health Education and Counselling on Healthy Behaviours (to be applied to ALL)

Educate your patient to

- Take regular physical activity
- Eat a "heart healthy" diet
- Stop tobacco and avoid harmful use of alcohol
- Attend regular medical follow-up

Take regular physical activity

- Progressively increase physical activity to moderate levels (such as brisk walking); at least 30 minutes per day on 5 days of the week
- Control body weight and avoid overweight by reducing high calorie food and taking adequate physical activity

Eat a heart healthy diet

Salt (sodium chloride)
- Restrict to less than 5 grams (1 teaspoon) per day
- Reduce salt when cooking, limit processed and fast foods

Fruits and vegetables
- 5 servings (400-500 grams) of fruits and vegetable per day
- 1 serving is equivalent to 1 orange, apple, mango, banana or 3 tablespoons of cooked vegetables

Fatty food
- Limit fatty meat, dairy fat and cooking oil (less than two tablespoons per day)
- Replace palm and coconut oil with olive, soya, corn, rapeseed or safflower oil
- Replace other meat with chicken (without skin)

Fish
- Eat fish at least 3 times per week, preferably oily fish such as tuna, mackerel or salmon

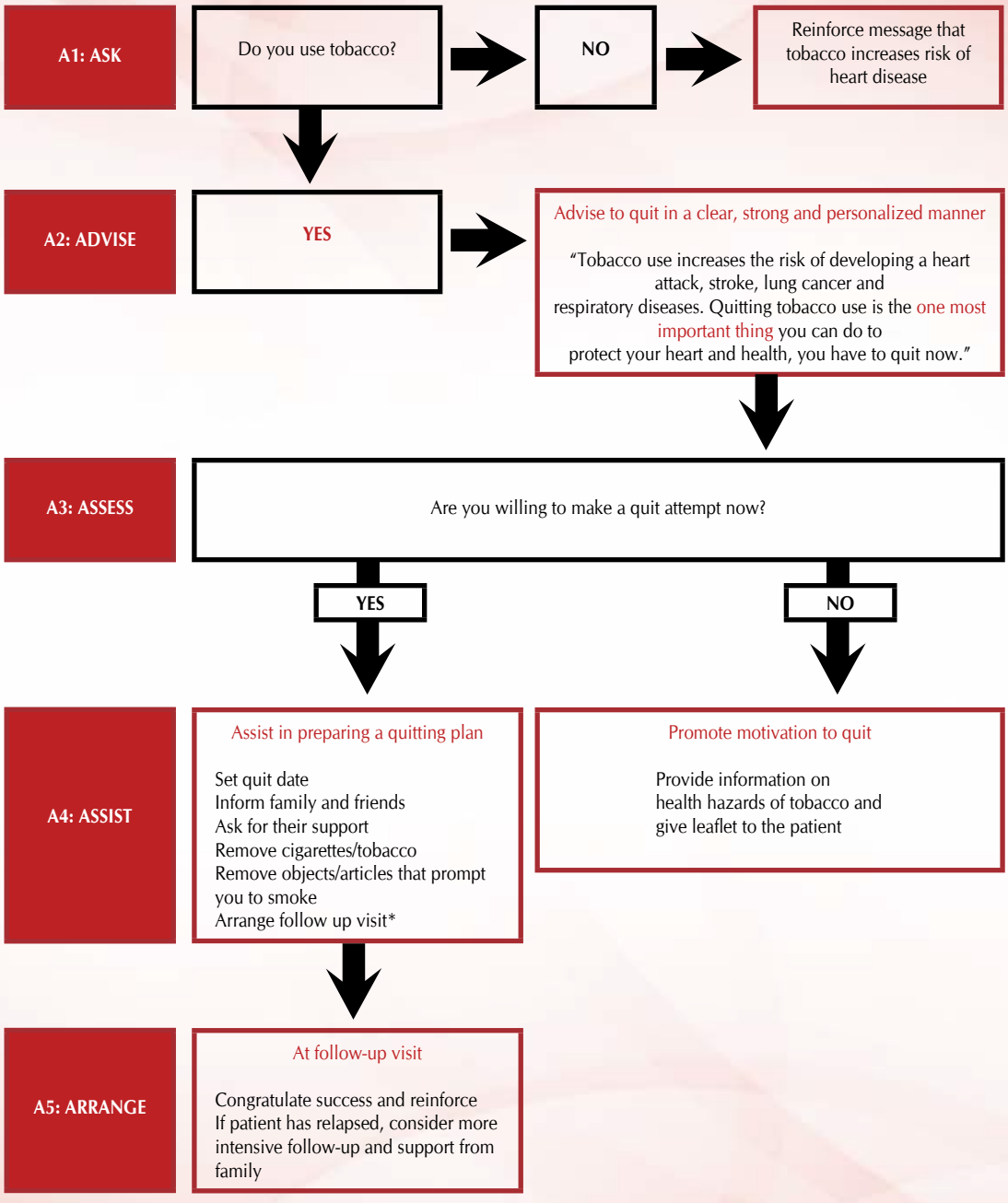
Stop Tobacco and avoid harmful use of Alcohol:

- Encourage all non-smokers not to start smoking
- Strongly advise all smokers to stop smoking and support them in their efforts
- Individuals who use other forms of tobacco should be advised to quit
- Alcohol abstinence should be reinforced.
- People should not be advised to start taking alcohol for health reasons
- Advise patients not to use alcohol when additional risks are present, such as:
  - driving or operating machinery
  - pregnant or breast feeding
  - taking medications that interact with alcohol
  - having medical conditions made worse by alcohol
  - having difficulties in controlling drinking

Adherence to treatment

- If the patient is prescribed a medicine/s:
  - teach the patient how to take it at home:
  - explain the difference between medicines for long- term control (e.g. blood pressure) and medicines for quick relief (e.g. for wheezing)
  - tell the patient the reason for prescribing the medicine/s
- Show the patient the appropriate dose
- Explain how many times a day to take the medicine
- Label and package the tablets
- Check the patient's understanding before the patient leaves the health centre
- Explain the importance of:
  - keeping an adequate supply of the medications
  - the need to take the medicines regularly as advised even if there are no symptoms

WHO PEN Protocol 2
Health Education and Counselling on Healthy Behaviours; Counselling on Cessation of Tobacco use



* Ideally second follow-up visit is recommended within the same month and every month thereafter for 4 months and evaluation after 1 year. If not feasible, reinforce counselling whenever the patient is seen for blood pressure monitoring.


Towards A Healthy Nation