



MINISTRY OF HEALTH - JAMAICA

# **NATIONAL STRATEGIC AND ACTION PLAN**

**for the**

## **PREVENTION AND CONTROL NON-COMMUNICABLE DISEASES (NCDS)**

**in**

**JAMAICA**

**2013 - 2018**

**MINISTRY OF HEALTH**

**2013**

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## EXECUTIVE SUMMARY

The global and national burden and threat of non-communicable diseases (NCDs) constitutes a major public health challenge of the 21<sup>st</sup> century that undermines the social and economic development worldwide and in Jamaica. Urgent action is required to mitigate their impact in Jamaica and the rest of the world. In recognition of this global threat the World Health Organization (WHO) has recommended that NCDs be given priority consideration and that member states develop a national policy framework for the prevention and control of major NCDs and their risk factors. In September 2007 the heads of Government of CARICOM states held a summit in Port of Spain and issued a declaration calling upon governments and civil society to urgently address the threat of NCDs in the region. Following up on the Port of Spain Declaration, Caribbean governments lead an initiative, which culminated in a High Level Meeting of the United Nations (UN) in September 2011. The Political Declaration from that meeting called upon world leaders to commit to the implementation of multi-sectoral, cost-effective, population-wide interventions to reduce the impact of the common NCDs.

There is an estimated 63% of deaths globally due to NCDs, mainly due to cardiovascular diseases (48%), cancers (21%), chronic respiratory diseases (12%) and diabetes (3.5%). These disease share four common behavioural risk factors: tobacco use, unhealthy diet, physical inactivity and harmful use of alcohol. In Jamaica, for last three decades, NCDs have emerged as the leading cause of morbidity and mortality. Data from the Statistical Institute of Jamaica (STATIN) show that for 2009, diseases of the circulatory system, neoplasms, endocrine and metabolic diseases and disease of the respiratory system accounted for approximately 60% of death among men and 75% of deaths among women. Recent national surveys have also documented an increase in the four major behavioral risk factors and NCDs such as diabetes, hypertension and obesity among Adults. The World Economic Forum estimates the economic burden from life lost due to the four major NCDs was \$22.8 trillion in 2010 and if business as usual continues we expect this to increase to \$43.3 trillion in 2030. In Jamaica, the 2001 estimated cost (direct and indirect) for diabetes and hypertension alone was US\$460,442,870 or 5.87% of the Gross Domestic Product. A World Bank study showed that total economic burden on individuals, including indirect income loss, is estimated at JM\$47,882 million (US\$641 million) annually in Jamaica during 2006 and 2007. The prevalence of both diabetes and

hypertension have increased over eight years (2000 – 2008) by 9.7% and 20.6% respectively and by extension the economic burden.

In addition to these four major NCDs, Violence and injuries, Sickle Cell and Mental Health disorders are also major public health burdens for Jamaica. Data from the Data from the Jamaica health and Lifestyle Survey 2007-2008 revealed that one in 4 Jamaicans 15 – 74 years old suffer from depression and was found to be more frequent in people with chronic diseases, 12% of Jamaicans reported having sustained serious injury in the past five years, 6% of which were motor vehicle accidents.

National studies on violence related injuries showed that direct medical cost (J\$2.1 billion) of injuries due to interpersonal violence accounted for about 12% of Jamaica's total health budget while productivity losses due to violence-related injuries accounted for approximately J\$27.5 billion or 160% of Jamaica's total health expenditure and 4% of Jamaica's Gross Domestic Product. This translates into the cancellation of one in every three elective surgeries at our major trauma hospital, Kingston Public Hospital.

Sickle Cell Disease (SCD), an inherited disorder of the oxygen carrying protein haemoglobin, is also a common hereditary public health problem in Jamaica, due to the relatively high prevalence of the disease and frequent use of the health care services by affected persons.

Jamaica is also facing a demographic transition with and increasing ageing population. A recent study reported that there is an increase in NCDs amongst this population. Promotion of Healthy aging starts in childhood.

Although morbidity and mortality from non-communicable diseases mainly occur in adulthood, exposure to risk factors begins in early life, from in utero. Many of the interventions to tackle the major risk factors for NCDs lie outside of the traditional health sector and require a multisectoral approach that includes a whole of government and whole of society response. Below are some recommended actions for sectors.

Risk factor	Sectors involved	Recommended action	Desired outcome
<b>Tobacco Use</b>	All government ministries Civil society Private Sector Faith-based Organizations	Full implementation of WHO Framework Convention on Tobacco Control obligations through coordination committees at the national and subnational levels	
<b>Physical Activity</b>	Ministry of Education Ministry of Youth and Culture Ministry of Transport, Works and Housing Ministry of National Security Ministry of Labour and Social Security Ministry of Local Government and Community Development Ministry of Tourism and Entertainment Office of the Prime Minister (Sport) Ministry of Finance and Planning Private sector Civil society	<ul style="list-style-type: none"> <li>• Urban planning /re-engineering for active transport and walkable cities</li> <li>• School-based programmes to support physical activity</li> <li>• Incentives for work site healthy-lifestyle programmes</li> <li>• Increased availability of safe environments recreational spaces</li> <li>• Mass media campaigns</li> </ul>	<ul style="list-style-type: none"> <li>• Increased physical activity</li> </ul>
<b>Harmful use of Alcohol</b>	Ministry of Education Ministry of Youth and Culture Ministry of Labour and Social Security Ministry of Local Government and Community Development Ministry of Justice Ministry of Industry, Investment and Commerce Private Sector Civil Society	<ul style="list-style-type: none"> <li>• Tax increases</li> <li>• Bans on alcohol advertising</li> <li>• Restricted access to retailed alcohol</li> <li>• Reduced drunk driving</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced harmful use of alcohol</li> </ul>
<b>Unhealthy diet</b>	Ministry of Agriculture Ministry of Health Ministry of Industry, Investment and Commerce Ministry of Finance and Planning Food Industry	<ul style="list-style-type: none"> <li>• Reduced amounts of salt, saturated fat and sugars in processed foods</li> <li>• Eliminate industrially produced trans fats in foods</li> <li>• Controlled advertising of unhealthy food to children</li> <li>• Promotion of fruit and vegetable intake</li> <li>• Offer of healthy food in schools and other public institutions and through social support programmes</li> <li>• Economic interventions to drive food consumption (taxes, subsidies)</li> <li>• Food security</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced use of salt, saturated fat and sugars</li> <li>• Substitution of healthy foods for energy-dense micronutrient-poor food</li> <li>• Reduced obesity</li> </ul>

The World Health Organization has identified a set of evidence-based “best buy” interventions that are not only highly cost-effective but also feasible and appropriate to implement within the

constraints of the local Low and Middle Income Countries (LMIC) health systems. These include tobacco control measures, such as banning smoking in public places, enforcing bans on tobacco advertising and sponsorship, and raising taxes on tobacco products; enforcing advertising bans and raising taxes on alcohol; reducing salt intake; replacing trans fats in food with polyunsaturated fat; promoting public awareness about diet and physical activity; counselling and multi-drug therapy for people with a high risk of developing heart attacks and strokes and treatment of heart attacks with aspirin; Hepatitis B immunization to prevent liver cancer, and screening and treatment of pre-cancerous lesions to prevent cervical cancer.

Jamaica has instituted a number of programmes and policies in an attempt to respond to the NCD epidemic. One of the major steps was the development of a National Policy and Strategic Plan for the Promotion of Healthy Lifestyle. However, there was an absence of a comprehensive plan to address the NCD epidemic that included surveillance, reduction of exposure to risk factors and management of NCDs.

In light of this, the Ministry of Health in collaboration with key internal and external stakeholders has developed its first Comprehensive National Multisectoral Strategic and Action plan and road map to reduce the burden of the major NCDs in Jamaica. This is aligned with the WHO “best buys” for NCDs and other National, Regional, Global commitments, policies and plans. It also builds on existing programmes and policies. The Mental Health actions and strategies are found in the existing National Strategic Plan on Mental Health.

The National Plan is outlined in the framework below:

<b>VISION 2030</b>	“Jamaica, the place of choice to live, work, raise families, and do business”.
<b>VISION</b>	Healthy Jamaicans, living in healthy communities and persons living with or affected by non-communicable diseases and injuries achieving optimal quality of life.
<b>MISSION</b>	To facilitate opportunities for all Jamaicans to live a healthy life by implementing integrated, “whole of society” actions to promote social, environmental policies and systems improvement that support health in all



	places. Thus improving national productivity and development.
<b>GOAL</b>	The goal of the strategic and action plan is to reduce the burden of preventable morbidity and disability and avoidable premature mortality due to noncommunicable diseases and injuries by 25% by 2025.
<b>OBJECTIVE 1</b>	Reduce exposure to modifiable risk factors for non-communicable diseases and promotion of health throughout the lifecycle through the creation of health-promoting environments.
<b>OBJECTIVE 2</b>	Strengthen and reorient health systems to address prevention and control of non-communicable diseases through people-centred primary health care and universal health coverage
<b>OBJECTIVE 3</b>	Strengthen national capacity for NCD surveillance and high quality research for prevention and control of non- communicable diseases
<b>OBJECTIVE 4</b>	Strengthen international cooperation and advocacy to raise the priority accorded to prevention and control of non-communicable diseases in the development agenda and in internationally agreed development goals.
<b>OBJECTIVE 5</b>	Build health-promoting public policies through health in all policies
<b>OBJECTIVE 6</b>	Strengthen national capacity, leadership, governance, multisectoral action and partnership to accelerate country response for prevention and control of non-communicable diseases.

The strategic plan will be implemented within a monitoring and evaluation framework. The lead agency responsible for overseeing the implementation of this plan will be the Ministry of Health.

# I. INTRODUCTION

Non-communicable diseases (NCDs) have emerged as the leading cause of death globally (1;2). In 2001 non-communicable diseases accounted for 54% of deaths in low and middle income (developing) countries and 87% of deaths in high income (developed) countries (1). By 2008, of the 57 million global deaths, 36 million or 63% were due to NCDs. The majority of NCD deaths are due to cardiovascular diseases (CVDs), including stroke, heart attack and hypertension, which have emerged as the leading causes of death in most countries of the world (2;3). In 2004, for example, an estimated 17 million persons died from cardiovascular disease with 82% occurring in developing countries (3). Without appropriate intervention, projections are that 24 million people will die from cardiovascular disease in 2030 (3). Cancers pose another major threat to global health. It is estimated that approximately 7.6 million persons died from cancer in 2007 as well as in 2008 (4;5) with over two-thirds of cancer deaths occurring in low and middle income countries (2;5). By 2030, it is estimated that between 11 and 12 million persons will die from cancer (4;5). The other leading causes of chronic disease deaths, in 2008 are chronic respiratory disease (4.2 million deaths) and diabetes mellitus (1.3 million deaths) (2). Despite these worrisome figures it is estimated that 80% of deaths from cardiovascular disease and type 2 diabetes and 40% of deaths from cancers are preventable (6). Injuries are another important cause of death, after cardiovascular disease and cancer, accounting for approximately 9% of deaths in 2005 (6;7).

NCDs are also major contributors to global morbidity. When disease burden is expressed as disability adjusted life years (DALYs); NCDs accounted for 41% of global DALYs in 1990, 47% in 2002 and is projected to increase to 53% by 2015 (8). Mental health disorders and musculoskeletal disorders (chiefly arthritis) may also be significant contributors to the chronic disease burden, but these are not captured in routine mortality data because they are not usually recorded as the cause of death. In 2002 mental health disorders accounted for 13% of DALYs, while musculoskeletal disorders accounted for 2% (8).

In recognition of the global challenge from NCDs, the World Health Organization initiated a call to action in responding to NCDs with the passing of a resolution at the 53<sup>rd</sup> World Health Assembly in 2000 and the publication of a policy document on a Global Strategy for the Prevention and Control of

Non-communicable Diseases (9;10). This has been followed by a number of global and regional initiatives and publications (11-14) culminating with the holding of a United Nations High Level Meeting on Non-communicable Diseases in September 2011 (15) with the leadership of the Caribbean countries and the acceptance of a political declaration calling on Heads of Government to reduce risk factors for NCDs and create health promoting environments, strengthen national policies and health systems, facilitate international cooperation, research and development, and monitoring and evaluation of NCDs (16).

NCDs are also the leading causes of mortality and morbidity in the Caribbean region. Data from the Caribbean Epidemiology Centre (CAREC), now part of the Caribbean Public Health Agency (CARPHA) show that “heart disease” was the leading cause of death in CAREC member countries for the years 1985, 1990, 1995, and 2000, accounting for 15.3–17.5% of deaths in the region. In addition, cerebrovascular disease was the second or third leading cause of death, and hypertension was the fifth or sixth leading cause of death between 1985 and 2000 (17). Additional data from CAREC and the Registrar General Department (RGD) in Jamaica show that cardiovascular diseases were the leading causes of death in 2004 (18). Data from the Pan American Health Organization (PAHO) suggests that the Caribbean epidemic of chronic non-communicable diseases is the worst in the region of the Americas (19-21). In light of this high burden of NCDs, Heads of Government of the Caribbean Community (CARICOM) member countries met in Port of Spain in September 2007 and issued a declaration entitled “Uniting to Stop the Epidemic of Chronic Non-communicable Disease”, now known as The Port of Spain Declaration (11). This declaration has proved instrumental and has served as a rallying cry to address the burden of NCDs and eventually led to the holding of the UN summit on NCDs (22;23).

In recognition of this global burden and threat of NCDs, the Ministry of Health (MOH) in Jamaica has had a focus on NCDs for several years and has implemented prevention and control programmes to combat this threat (24). This strategic plan builds on the foundation of these programmes and policies and seeks to ensure that Jamaica’s response to the NCD epidemic is robust, efficient and effective and will result in a significant reduction the extent of the problem in the coming years.

## II. OVERVIEW OF NON-COMMUNICABLE DISEASES: TERMINOLOGY, DEFINITIONS AND MECHANISMS

Non-communicable diseases (NCDs) are variously termed chronic diseases, chronic non-communicable diseases (CNCD) and lifestyle related diseases (6). These terms are considered interchangeable by experts in the field, although some prefer the term chronic diseases because it presents a clearer picture of the spectrum of conditions included in the concept. Chronic diseases may be defined as diseases that have a prolonged course, that does not resolve spontaneously, and for which a complete cure is rarely achieved (25). For this strategic plan the term non-communicable diseases is used in order to be consistent with the terminology of WHO, PAHO and CARICOM documents (14;21;26) .

The spectrum of conditions included in NCDs is illustrated in Figure 1. The main conditions included within the WHO framework for action are cardiovascular diseases, diabetes mellitus, cancers and chronic respiratory disease. These are described briefly below. The broad mechanisms and risk factors underlying these conditions are illustrated in Figure 2.

**Figure 1: Types of Non-Communicable Disease (NCDs)**

<b>Cardiovascular Disease</b>	<ul style="list-style-type: none"> <li>•Ischemic (Coronary) Heart Disease</li> <li>•Cerebrovascular Disease</li> <li>•Hypertension</li> </ul>
<b>Cancer</b>	<ul style="list-style-type: none"> <li>•Breast, Cervical, Prostate</li> <li>•Lung, Colon, Stomach</li> </ul>
<b>Metabolic Disorders</b>	<ul style="list-style-type: none"> <li>•Diabetes Mellitus</li> <li>•Obesity</li> </ul>
<b>Respiratory Diseases</b>	<ul style="list-style-type: none"> <li>•Chronic Obstructive Pulmonary Disease</li> <li>•Atopic Conditions (Asthma &amp; Allergic Disorders)</li> </ul>
<b>Injuries &amp; Violence</b>	<ul style="list-style-type: none"> <li>•Motor vehicle accidents, Accidental poisoning, Suicide and Homicide.</li> </ul>
<b>Psychoneurological Disorders</b>	<ul style="list-style-type: none"> <li>•Depression</li> <li>•Psychoses (schizophrenia)</li> <li>•Epilepsy</li> </ul>
<b>Special Programme - Sickle Cell</b>	

### ***Cardiovascular Diseases***

Cardiovascular diseases (CVDs) are a group of disorders of the heart and blood vessels. The main conditions include ischaemic or coronary heart disease (IHD), stroke (both hemorrhagic and ischaemic), hypertensive heart disease or congestive heart failure (CHF).(3). Heart attacks and strokes are the most important acute CVD events and are mainly caused by atherosclerotic occlusion in the coronary and cerebral vascular beds, respectively. Strokes can also be caused by rupture of cerebral blood vessels, resulting in intracranial hemorrhage. Acute occlusion of vessels in the peripheral arteries of the lower limbs produces acute limb ischemia with the attendant risk of gangrene and amputation. Hypertension is considered both as a cardiovascular disease by itself and a risk factor for ischemic heart disease and cerebrovascular disease. The precise cause of hypertension is not known but is related to disorders in the regulation of blood volume and blood vessel tone. Excessive intake of salt is a major contributor to the development of hypertension.

### ***Cancer***

Cancer describes a range of diseases in which abnormal cells proliferate and spread out of control (6). Other terms used are tumours and neoplasms. There are more than 100 types of cancers, and different risk factors contribute to the development of cancers in different sites. Cervix, breast, Tobacco is the single most preventable cause of cancer. The causes of several other cancers are also known, including cervical cancer, which is caused by the human papilloma virus. Cervix, breast, colorectal and oral cancers can be detected early through screening.

### ***Diabetes***

Diabetes is characterized by raised blood glucose (sugar) levels. This results from a complete or relative lack of the hormone insulin, which controls blood glucose levels, and/or an inability of the body's tissues to respond properly to insulin (a state called insulin resistance). The most common type of diabetes is type 2, which accounts for about 90% of all diabetes and is largely the result of excessive weight and physical inactivity (6). Type 1 diabetes is an autoimmune condition resulting in an absolute lack of insulin. Both types of diabetes are increasing, Type 2 being driven by increasing overweight and obesity, while the causes of increasing Type 1 are not clear.

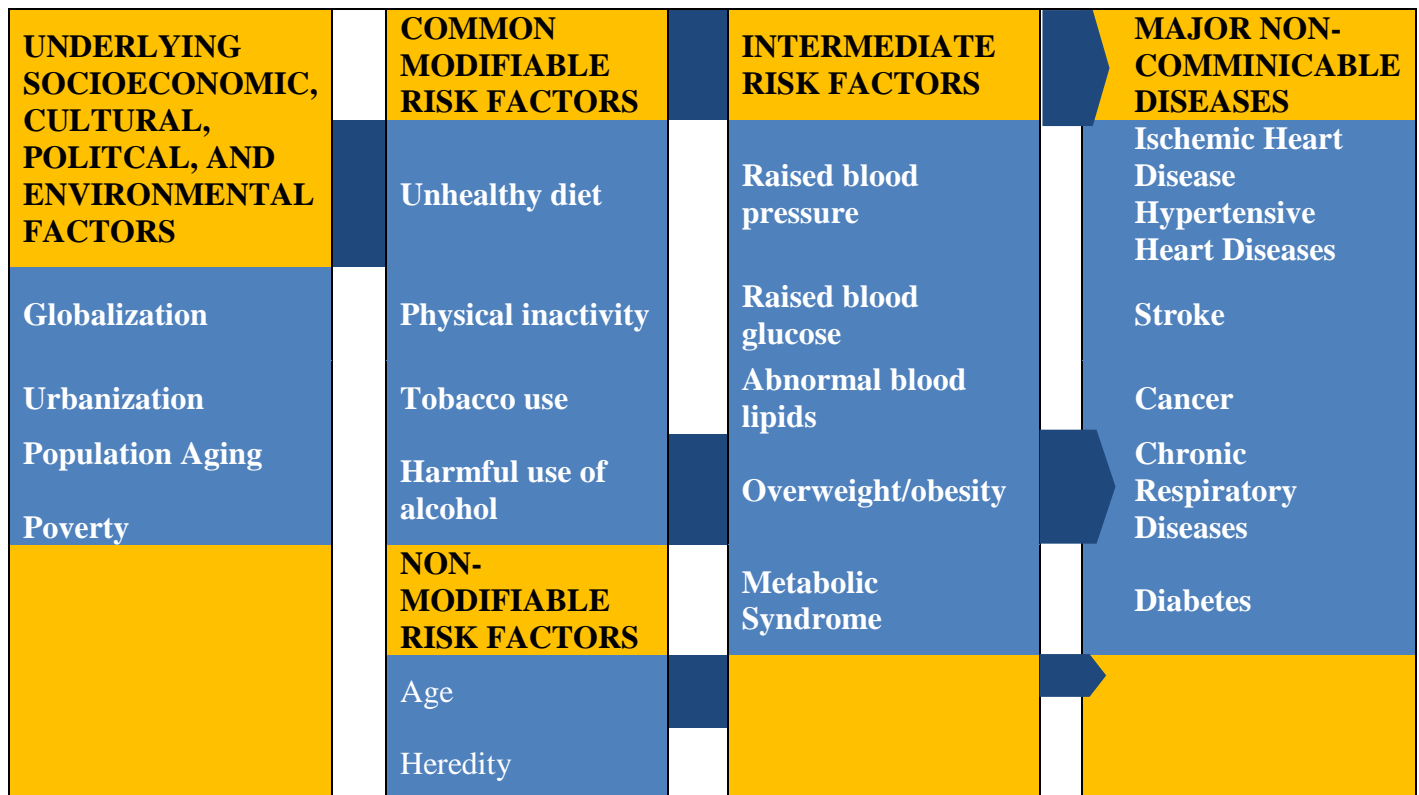
**Chronic Respiratory Diseases**

Chronic obstructive pulmonary disease (COPD) and asthma are the most common Chronic Respiratory Diseases. Chronic obstructive pulmonary disease (COPD) is caused by airflow limitation that is not fully reversible while asthma is caused by reversible obstruction of the airways. Tobacco smoking and heavy exposure to air pollution derived from indoor and outdoor sources, occupational related disorders, malnutrition and low birth weight, and multiple early lung infections are a major risk factors for chronic obstructive pulmonary disease.

**Neuropsychological disorders**

Neuropsychological disorders are cerebral dysfunction from any physical cause manifested by changes in mood, behavior, perception, memory, cognition, or judgment and/or psychophysiology. These include but not limited to mental disorders and epilepsy. Depression is common amongst persons with NCDs especially with Diabetes Mellitus.

**Figure 2: Causes and Pathway to Major Non-Communicable Diseases**



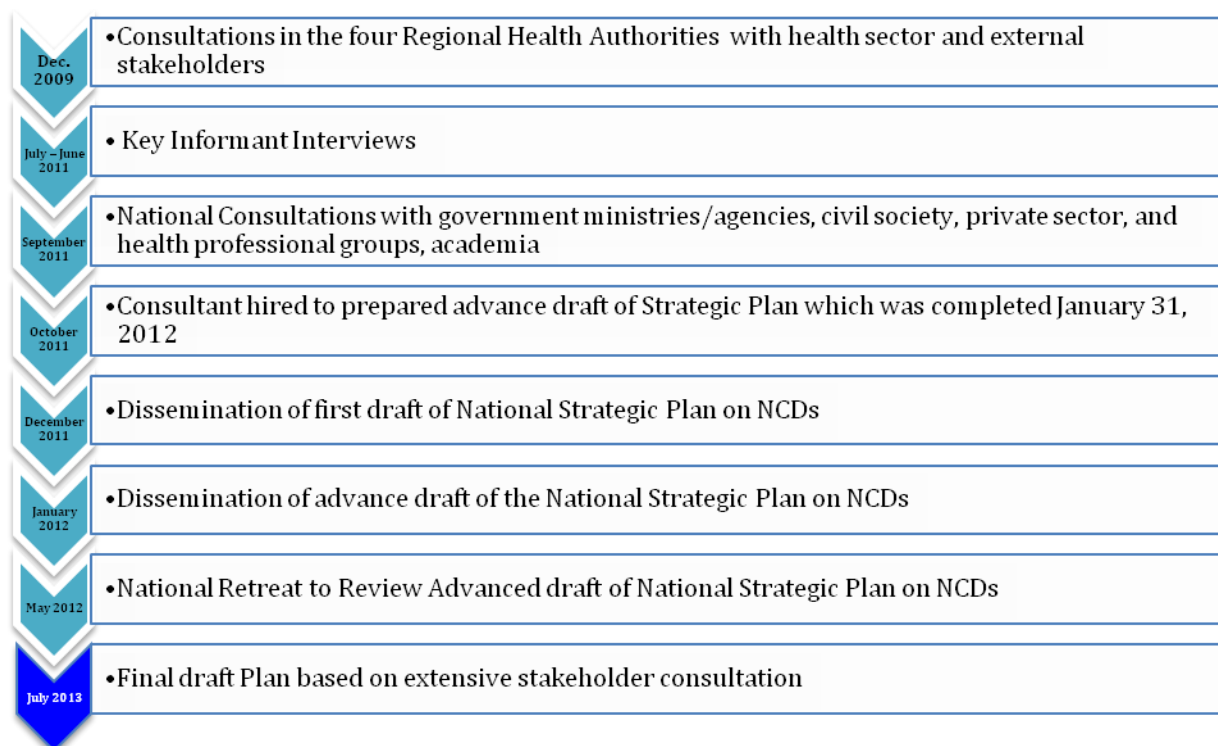
Modified from Preventing Chronic Disease: A Vital Investment (6)

### III. METHODOLOGY

The National Strategic and Action Plan for the prevention and control of NCDs commenced in 2009 as an outcome from the Port-of- Spain declaration on Chronic Diseases in 2007. Ministry of Health adopted a consultative and evidence-based approach in developing the National Strategic Plan. The process brought together an array of partners’ governmental health sector and non-health sector, non-governmental and faith-based organization, academia and private sector, to review the epidemiological data, evaluate the existing initiatives and to examine and discuss potential challenges and solutions.

The significant milestones are summarized in Figure 3 below:

**Figure 3: National Strategic and Action Plan developmental process and milestones**

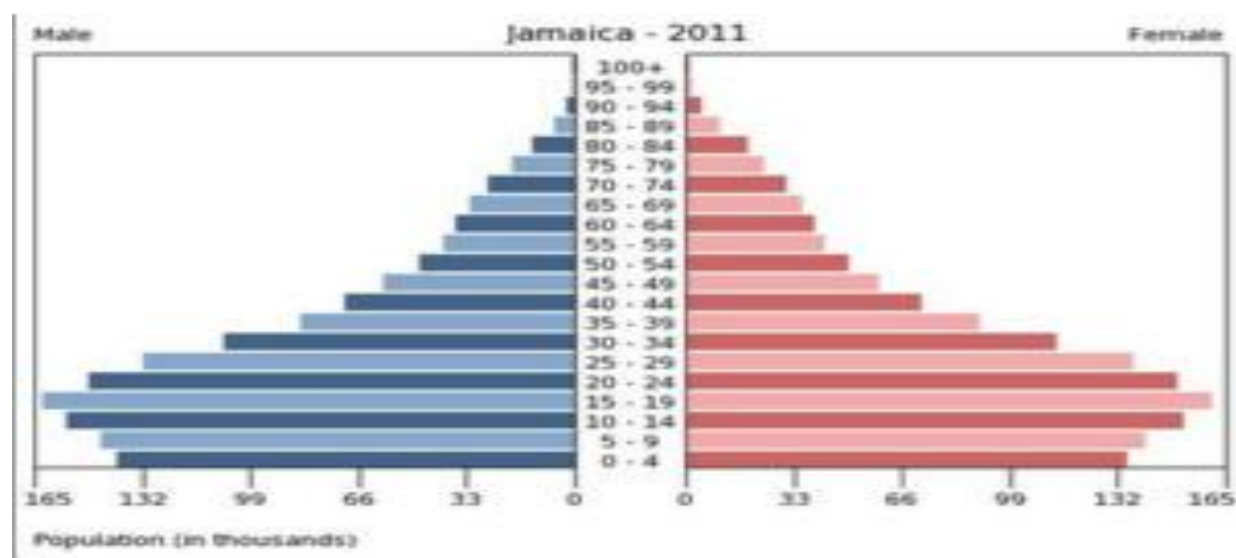


## IV . SITUATIONAL ANALYSIS

### A. DEMOGRAPHY

Jamaica is the third largest Caribbean island and the largest English-speaking one. In 2011, the population of Jamaica was 2, 697,983 (2011). The population has increased by 3.46% (90,351) over the past ten (10) years. Males accounted for 49 percent and females 51 percent of the population. The average life expectancy for Jamaica at birth is 73.43 years (male - 71.78 years, female - 75.15 years).

**Figure 4: Population of Jamaica by Age and Sex**

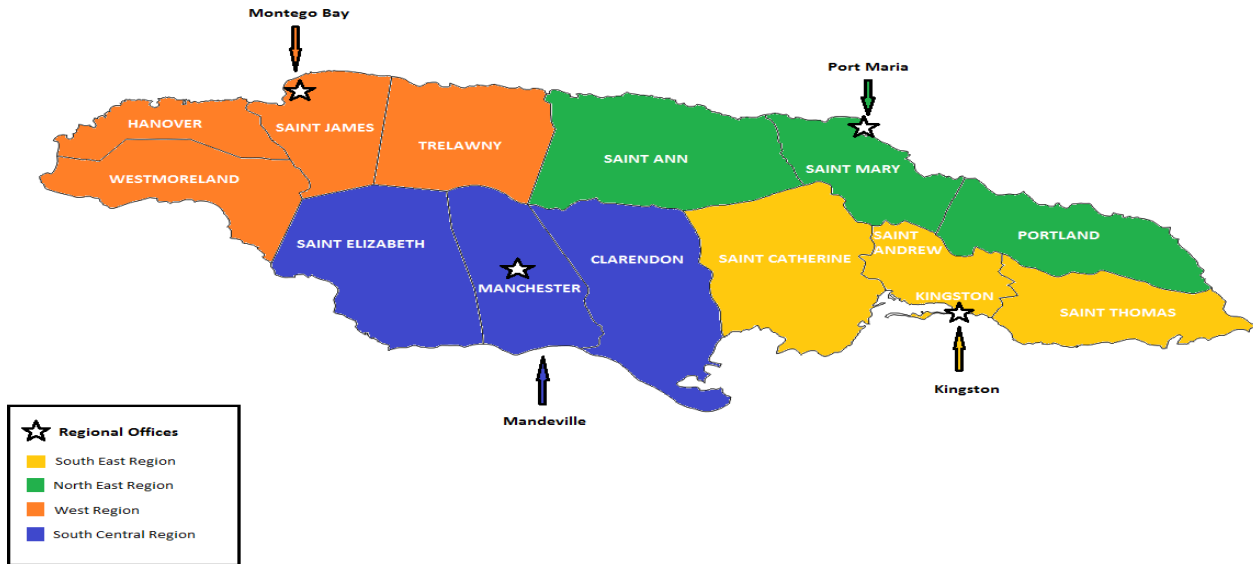


### B. JAMAICAN HEALTH SYSTEM

As a part of the process of Health Reform the National Health Services Act (1997) was implemented and divided Jamaica into four Health Regions (see Figure below). Each region is governed by a Regional Health Authority, which has a direct management responsibility for the delivery of public health services within its geographically defined area. Services are provided through a network of 24 hospitals including 6 specialist institutions and 316 health centres. The Ministry of Health's role subsequently changed to one of setting policy, norms and standards as well as monitoring and evaluating service delivery.



**Figure 5: Map of the Jamaica showing the Parishes and Heath Regions**



Private health care is provided by general physicians and specialists, and by private laboratories, pharmacies, diagnostic centres and hospitals. The private sector offers primary health care services throughout the island and hospital care through seven hospitals.

## C. EPIDEMIOLOGY

### Overview

Jamaica has experienced an epidemiological transition over the past sixty years (27-29). This is illustrated in Table 1, which shows the leading causes of death in Jamaica for selected years between 1945 and 2004. Whereas in 1945, the top five leading causes of death included tuberculosis, syphilis, nephritis and pneumonia, since 1982 cardiovascular diseases, diabetes and malignant neoplasm have been the leading causes of death.

**Table 1: Top Five Leading causes of death in Jamaica for selected years from 1945-2004**

<b>1945*</b>	<b>1982*</b>	<b>1996 **</b>	<b>2004 ***</b>
Tuberculosis	Cerebrovascular Disease	Cerebrovascular Disease	Cerebrovascular Disease
Heart Disease	Heart Disease	Diabetes Mellitus	Diabetes mellitus
Nephritis	Malignant Neoplasm	Ischaemic heart Disease	Ischemic Heart Disease
Syphilis	Hypertension	Hypertensive diseases	Hypertensive Diseases
Pneumonia & Influenza	Diabetes Mellitus	Homicide /Assault	Other Heart Disease

\* Wilks et al. Chronic diseases: the new epidemic. *West Indian Medical Journal* 1998; 47 Suppl 4: 40-44

\*\* McCaw-Binns, et al. Multi-source method for determining mortality in Jamaica: 1996 and 1998. Dept of Community Health and Psychiatry, University of the West Indies 2002 [Final Report]

\*\*\* Ferguson & Tulloch-Reid. Cardiovascular Disease Risk Factors in Blacks Living in the Caribbean. *Current Cardiovascular Risk Reports* (2010) 4:76–82

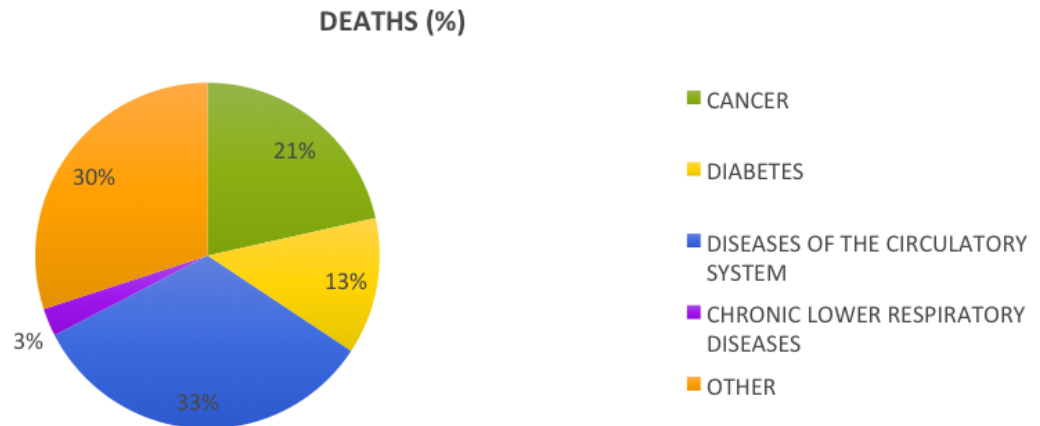
In addition to the high mortality from NCDs, several published studies have documented a high burden of cardiovascular disease risk factors in Jamaica and other Caribbean countries but data on established disease is limited (30-40). An overview of the specific NCDs and the burden of their overall mortality are presented in the sections below.

### ***Non-Communicable Disease Mortality in Jamaica***

In 2010, 70% of deaths were due to the four major NCDs of which 27% occurred below the age of 70 years old (premature) as shown in Figure 5 below.

**Figure 6: Proportion of deaths due to the four major NCDs in Jamaica, 2010**

**70%** of deaths are due to 4 major NCDs and **24%** occur below the age of 70 years old



Figures [7A](#) and [7B](#) (Appendix 1) show the leading causes of death by disease category and by sex for the years 2008 and 2009. Data were obtained from the Statistical Institute of Jamaica (STATIN) Demographic Statistics 2010 (41). The data reveal that when presented as broad disease categories the leading causes of death for both men and women were diseases of the circulatory system accounting for approximately 25% and 37% of deaths among men and women, respectively. Overall diseases of the circulatory system, neoplasms, endocrine and metabolic diseases and diseases of the respiratory system accounted for approximately 60% of deaths among men and 75% of deaths among women in 2009. Of note, death from external causes (mainly homicide and motor vehicle accidents) ranked as the second leading category among men accounting for just over 20% of deaths. When analyzed according to the specific disease conditions (Appendix 1: Figures [7C](#) and [7D](#)) significant differences emerged between men and women. Among women, diabetes emerged as the leading cause of death in 2009, but was second to cerebrovascular disease in 2008 and 2007. Hypertensive diseases and ischemic heart disease were ranked third and fourth in all three years while breast cancer and cervical cancer ranked sixth and eighth. Among men however, deaths from external causes was the leading cause of death, followed by cerebrovascular disease, diabetes, and prostate cancer. Ischemic heart disease and hypertensive disease were ranked fifth and sixth ~~with~~ while cancers of the lung, trachea and larynx and chronic respiratory diseases were ranked seventh and eighth. Overall these mortality data show that NCDs remain the leading causes of death in Jamaica even though violence and injuries (deaths from external causes) is a major problem particularly among men.

## **Cardiovascular Diseases**

Estimates from the Jamaica Health and Lifestyle Survey 2007-2008 (JHLS-II) have shown that approximately 25% of Jamaicans 15-74 years old have hypertension with prevalence estimates being similar in both men and women (35). In addition, another 35% of Jamaicans have prehypertension (35) with males having a higher prevalence than females (42% vs. 29%). This designation of prehypertension indicates a greater than three-fold risk of progression to hypertension, a greater likelihood of clustering of CVD risk factors (30;42) and a greater risk for ischemic heart disease and stroke (43). Of note the prevalence of hypertension and prehypertension have both increased when compared to the 2000-2001 Lifestyle Survey (35). Dietary salt consumption is known to be a major driver of hypertension, and PAHO has launched a programme for reduction of dietary salt consumption, as this is one of the most cost-effective measures or “Best Buys” in public health.

There are no recent data on the incidence of heart attacks and stroke in Jamaica. An analysis of data from the JHLS-II showed that prevalence of heart attacks was 0.7% [approximately 12000 persons] and for stroke was 1.4% [approximately 25000 persons] (31). Prevalence was higher among older persons, 2.6% for heart attack and 4.5% for stroke among persons 55-74 years old. In multivariable models older age and higher socioeconomic status (secondary education compared to primary education) were associated with higher odds of heart attacks while diabetes mellitus, high cholesterol and a history of past alcohol consumption were associated with increased odds of stroke. The study however was limited by that fact that analyses were based on a small number of events and that designation of stroke and heart attack was based on self-reports. Further studies should be conducted looking at the number of cases of heart attacks and stroke reported in hospital discharge summaries. In addition incidence and outcome of CVD events should be part of a national chronic disease registry.

There are no population-based data on the prevalence of peripheral arterial disease in Jamaica. In a study from the University Hospital of the West Indies diabetes clinic, 26% of patients reported being diagnosed with peripheral vascular disease (37) and 19% were found to have peripheral vascular disease on Doppler ultrasound (unpublished data).

## ***Diabetes Mellitus***

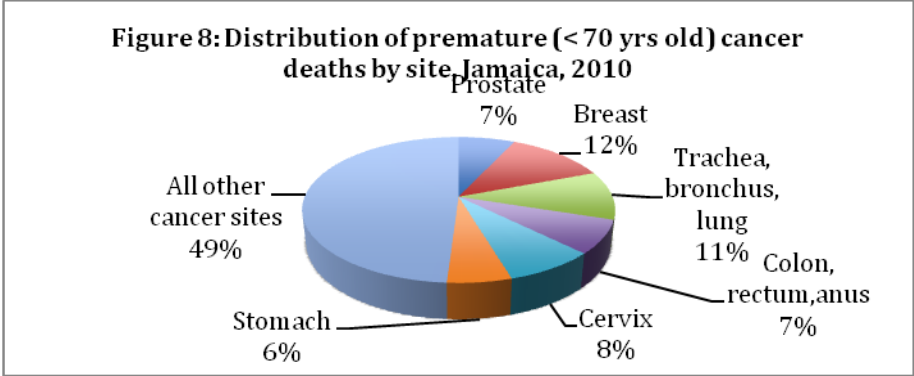
Prevalence of diabetes mellitus in Jamaica is now estimated as 7.9% among persons 15-74 years old (35) with prevalence being higher among women compared to men (9.3% vs. 6.4%), reflecting higher levels of overweight and obesity in women. Using the WHO criteria (capillary glucose  $\geq 6.1$  mmol/L) the prevalence estimate is 11.4% for persons 25 years and older (44). In addition, 2.8% of the population has prediabetes (impaired fasting glucose) (35). The estimated prevalence of diabetes mellitus in the 2000 -2001 Lifestyle Survey was 7.2% suggesting that the prevalence may be increasing.

Diabetes is a major cause of morbidity and mortality in Jamaica and was ranked as the leading cause of death among women and the third leading cause of death men for 2009 (41). In addition to the high mortality, data from Jamaica and other Caribbean countries , show that diabetes is associated with high morbidity including ischemic heart disease, stroke, peripheral vascular disease, amputation, eye disease, renal disease and peripheral neuropathy (33). In addition it has been estimated that the cost of treatment for diabetes in 2001 was 221 million US dollars representing 2.7% of GDP (45).

## ***Cancers***

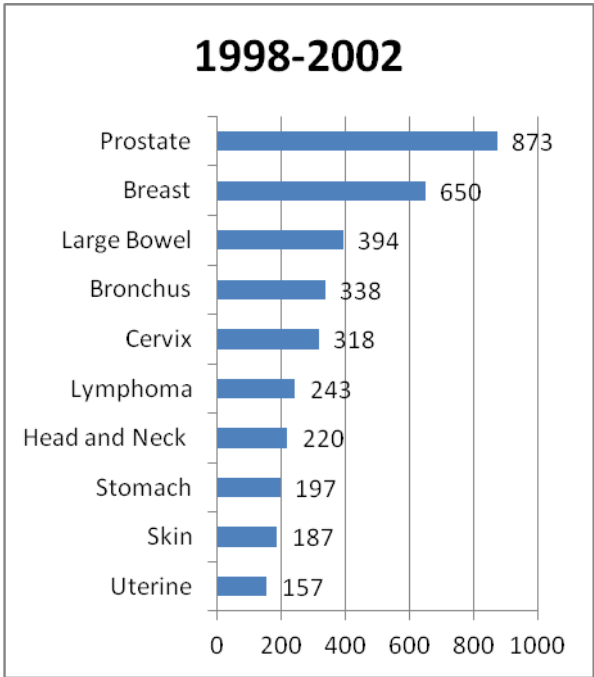
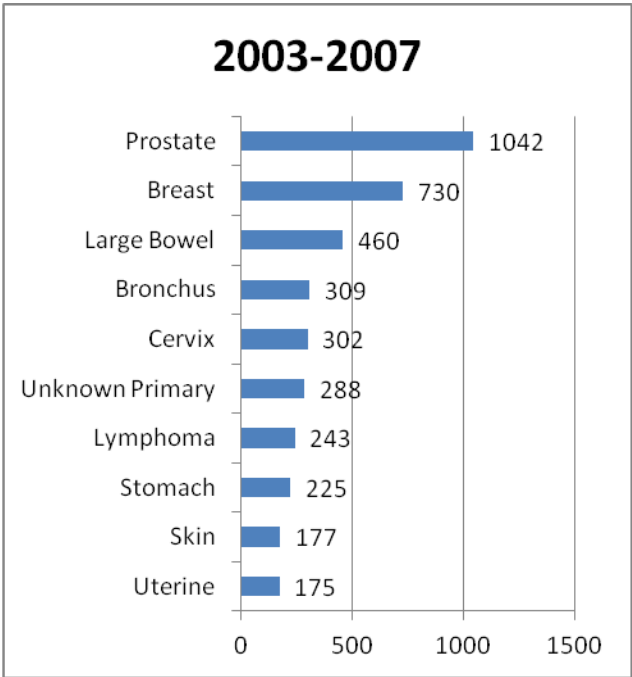
No national data on cancer incidence or outcome are available for Jamaica. As indicated above mortality statistics show that as a group cancer is the second leading cause of death among women and the third leading cause of death among men.

In terms of premature death, persons die from cancer prematurely. The three most common causes are breast 12%, trachea, bronchus and lung 11% and cervix 8% (see below). These cancers for the most part are preventable or amenable to early detection.



Data from the Kingston and St. Andrew Cancer Registry reveal that the age standardized incidence of cancer was 189 per 100,000 for men and 144 per 100,000 for women for the period 2003-2007 (46). These rates were essentially unchanged when compared to the rates 1998-2002 (47). Prostate cancer was the leading cause of cancer in men and breast cancer in women. The leading causes of cancer for the periods 1998-2002 and 2003-2007 for men and women combined are illustrated in Figure 7 / 9.

**Figure-9: Leading causes of cancer 2003-2007 and 1998-2002 for the parishes of Kingston and St. Andrew.**



Data obtained from Gibson et al West Indian Med J 2010 and Gibson et al. West Indian Med J 2008 (46;47)

The Ministry of Health has had an active cervical cancer screening programme for several years. Although there are coverage gaps and the programme suffers from a number of inefficiencies, it is likely that the programme contributed to the decreasing incidence of cervical cancer in Kingston and St. Andrew [25.2 per 100,000 in 1993-1997 compared to 17.4 in 2003-2007] (46). Programmes for breast cancer screening with mammography could likely produce a similar decline in breast cancer. While there is much debate on the effect of screening on prostate cancer and the recommendation against screening by the US Preventive Services Task Force (48) screening may have greater efficacy in a population with higher prevalence as the proportion of false positives will be lower. Methods to better select who to offer biopsies will also reduce the rates of biopsy related complications and therefore would further improve the risk benefit ratio. Further studies are required in this area both locally and internationally. Programmes for smoking cessation need to be increased in order to reduce the incidence of lung cancer.

### ***Asthma and Chronic Obstructive Pulmonary Disease (COPD)***

There are relatively little available data on the prevalence of chronic obstructive pulmonary disease in Jamaica. The JHLS-II reports a 3% prevalence of self-reported bronchitis (49). Data on asthma prevalence in both adults and children are now available from the Jamaica Asthma and Allergies National Prevalence Survey (50). This study evaluated a nationally representative sample of 2017 children 2-17 years old and 2163 adults 18 years or older. Almost a fifth (19.6%) of Jamaican children aged 2-17 years had current wheeze while 16.7% had self reported doctor-diagnosed asthma. Significant risk factors for asthma include: chest infections in the first year of life, a history of asthma in the family, allergies, molds and pets in the home.

The overall prevalence of asthma was 20.6% among adults using the Ministry of Health diagnostic criteria. Approximately 12% of adults reported wheezing in the past 12 months prior to the study (50). Although not a major cause of mortality, asthma should be a part of the plan to address the burden of NCDs in Jamaica. It is one of the most chronic conditions in children.

## ***Intermediate Risk Factors: Obesity, Dyslipidemia and the Metabolic Syndrome***

It is widely believed that obesity is a major factor fuelling the chronic disease epidemic. Data from the two national surveys suggest that the prevalence of obesity in Jamaica is increasing. In the 2000-2001 Lifestyle survey approximately 20% of the population was obese (30) while the estimated prevalence in 2007-2008 was 25% (35). In addition to the obese persons, approximately 27% of the population was overweight in 2007-2008, resulting in a prevalence of 52% for overweight and obese combined. The situation is markedly more severe among women with 38% being obese and 27% overweight for a combined prevalence of 65%. Among men, 12% was obese and 26% overweight, resulting in a combined overweight/obesity prevalence of 38%.

In support of the role of obesity as a driver for NCDs, analysis of data from the 2007-2008 Lifestyle Survey showed significant increasing prevalence of diabetes mellitus, hypertension and hypercholesterolemia with body mass index (BMI) category. Compared to the non-obese, obesity was associated with a 57% increase in the odds for diabetes, a 86% increase in the odds for hypercholesterolemia and a 64% increase in the odds for hypertension (35).

The Jamaica Health and Lifestyle Survey provide data on total cholesterol but not triglycerides or lipid sub-fractions. The overall prevalence of hypercholesterolemia in JHLS-II was 12% with a significantly higher prevalence among women (16%) compared to men (8%). This prevalence was lower than the 15% found in JHLS-I. Data from the Spanish Town Cohort Study shows that there is a very high prevalence of low HDL, 46% over all, 59% among women and 25% among men (32). The overall prevalence of hypertriglyceridemia was 9%, with a slightly higher prevalence among men compared to women (11% vs. 8%) (32).

The metabolic syndrome is a clustering of specific cardiovascular disease risk factors such that the net increase in risk for cardiovascular disease and diabetes is higher than would be expected by summing the risk factors. The specific components include central obesity (elevated waist circumference), increased blood pressure, elevated glucose, low levels of HDL and high triglycerides. The diagnosis is made when any three of these risk factors are present, although earlier definitions (from the International Diabetes Federation) required the presence of central obesity. Using data from



the Spanish Town Cohort study the prevalence of the metabolic syndrome was 21% with significantly higher prevalence among women compared to men 28% vs. 11%) (32). The prevalence of the metabolic syndrome increased with age in both men and women. In contrast to the relatively high prevalence of the metabolic syndrome in adults, the prevalence of the metabolic syndrome in youth was very low, 1.2%, although 54% of participants in that study had at least one metabolic syndrome component (51).

The high prevalence of these intermediate NCD risk factors suggests that the burden of NCDs in Jamaica is likely to increase if steps are not taken to reverse these trends.

### ***Underlying Risk Factors: Physical Activity, Dietary Practices, Tobacco and Harmful use of Alcohol***

According to WHO, four risk factors, namely tobacco use, unhealthy diets, physical inactivity and harmful use of alcohol are responsible for the majority of NCD deaths (14). It is estimated that 80% of heart disease, stroke and type 2 diabetes and 40% of cancer could be avoided through healthy diets regular physical activity and avoidance of tobacco use (52). These risk factors are fairly common in Jamaica

Data from JHLS-II show that 65% of the population 15-74 years old currently uses alcohol, 14.5% smoke cigarettes and 13.5% use marijuana (49). The prevalence among males is significantly higher than among females. Approximately 80% of males currently consume alcohol compared to 49% of females. For smoking 22% of men were current smokers compared to 7% of women. By the age of 16 years, nineteen percent of smokers had initiated smoking. Ten percent of men and 2 % of women report daily alcohol use and 15% of men and 3% of women reported having 5 or more drinks in a single day (49). Alcohol contributes to NCDs, and also to injuries and violence as well as neuro-psychiatric disorders.

Physical activity among Jamaicans was examined in respect of both occupational and recreational involvement and in transportation to and from place of work in JHLS-II (49). Almost a half (46%) of the adult population were classified as having low physical activity or being inactive while the

highest proportion of men (48%) and women (43%) were classified as engaging in high physical activity and being inactive, respectively.

The majority of Jamaicans were not on any special diet. Being on a special diet was reported by only 2% of the population (49). A preponderance (> 90%) of persons who were diagnosed as being obese, having a high blood pressure and having high cholesterol were not on a specific diet for their condition. The majority of the Jamaican population (74%) reported that vegetable oil was used for cooking, and about a quarter of persons did not use any fat on bread; however 60% of persons used soft margarine on bread. A third of individuals reported that frying was the preferred method of preparing their main protein. The vast majority (99 %) of Jamaicans currently consume below the daily recommended portions of fruits and vegetables with no apparent gender differences. In addition to these dietary patterns, recent analyses from studies among youth have found that consumption of sugar-sweetened beverages is associated with obesity and elevated waist circumference while fast-food consumption is associated with dyslipidemia (53;54). These studies suggest that targeting a reduction in the consumption of sugar sweetened beverages and fast food (high in cholesterol and saturated fats) would be important targets in reducing the burden to NCDs in Jamaica.

#### **D. SOCIAL DETERMINANTS OF NCDs in JAMAICA**

The term social determinants of health refers to the circumstances in which people are born, grow up, live work, and age and the systems put in place to deal with illnesses. These circumstances are themselves shaped by other factors such as economics, social policies and politics (55). The poorest of the poor around the world have the worst health; this is seen between countries as well as within countries (55). Several studies have documented marked gradients in health based on variations in education, income, wealth, social position, possessions, race, ethnicity and neighborhood conditions (56;57).

In Jamaica, a number of studies have evaluated social factors and their relationship to health (32;51;58;59). Studies have shown significant sex differences in the association between social factors and NCD risk factors such as obesity, hypertension and the metabolic syndrome. There appears to be an inverse relationship between measures of obesity and the metabolic syndrome for women while among men the prevalence of obesity and the metabolic syndrome increase with higher

socioeconomic status (32;59). The relationships between income, education and blood pressure was non-linear (58).

A recent World Bank report found that there were vast socioeconomic disparities in the burden of NCDs in Jamaica with females, seniors and rural residents at higher risk (60).

Further studies are required to explore the social determinants of NCDs in Jamaica in order to inform public policy. One aspect that requires exploration is the impact of the 'no user fee' policy at public health facilities on use of health services and medication purchasing patterns. In addition, the impact of education and occupational classes on the use of health services and general health seeking behaviour needs further exploration.

A study of Pakistan students found that only 3.1% of the participants were without any preventable lifestyle risk factor for NCDs, and over 80% had  $\geq 2$  factors (82). Co-existence of risk factors was independently associated with fathers being blue-collar workers (OR, 3.57; 95% CI, 1.07 to 11.92) and parents not treating their child fairly (OR, 5.05; 95% CI, 1.29 to 19.78) (82).

## **E. CULTURAL PRACTICES AND NCDs IN JAMAICA**

Prevention and treatment of NCDs usually require long-term commitment to lifestyle modifications and/or drug therapy. This presents a potential problem as persons may have conflicts with the perceived risk versus benefits of these treatments. One source of such conflicts is cultural beliefs or practices related to the causes and best treatment of chronic diseases. These beliefs may be rooted in popular culture or may be on religious grounds. Another area of potential conflict is in the use of herbal remedies and complementary/alternative therapies. An understanding of these cultural practices and beliefs is essential in designing culturally acceptable interventions for NCD prevention and control.

The WHO reports that in some countries up to 80% of the population depend on traditional medicines for primary health care and that herbal remedies generate billions of dollars in revenue for businesses (61). While recognizing that traditional medicine is an important and useful aspect of healthcare, the WHO is concerned that the regulatory framework for traditional medicines in many countries is inadequate and as such could place some persons at risk. The WHO therefore proposes that its member states support and integrate traditional medicine into the national health systems, ensure the use of safe, effective and quality products and practices and upgrade the skills and knowledge of traditional medicine providers (61).

Data on cultural practices and beliefs with regards to NCDs in Jamaica are quite limited. Studies from the Natural Products Institute however reveal that a large proportion of Jamaicans use medicinal herbs as part of their treatment for chronic diseases often without the knowledge of their doctor (62;63). In one study, Picking et al reported that 72.6% of Jamaicans used medicinal herbs to treat illnesses, of which 53% used herbs alone and 19.3% used herbs along with prescribed drugs (63). Prevalence of herb use alone was highest among male respondents, those without health insurance and Rastafarians (63). In another study looking at factors affecting compliance in a group of patients with systemic lupus erythematosus at the University Hospital of the West Indies, Chambers and colleagues found that while the majority of patients felt that they could be healed of the condition at any time, this belief did not intrude on their pill-taking practices (64). However prayer was an important source of emotional comfort for persons without medicines (64).

Another area in which cultural factors may affect NCDs is in the uptake of potential screening programmes such as digital rectal examination (DRE) in the screening for prostate cancer. In the JHLS-II 62% of men in the age group 55-64 years old and 58% of those 65-74 years old had never had a DRE done despite this test being promoted as a screening test for prostate cancer (49).

Further studies detailing the effect of cultural practices on health behaviours are required to further inform health policy. In addition, increasing the body of knowledge regarding the use of Complementary and Alternative Medicine needs to part of any response.

## **F. BURDEN OF SICKLE CELL DISEASE**

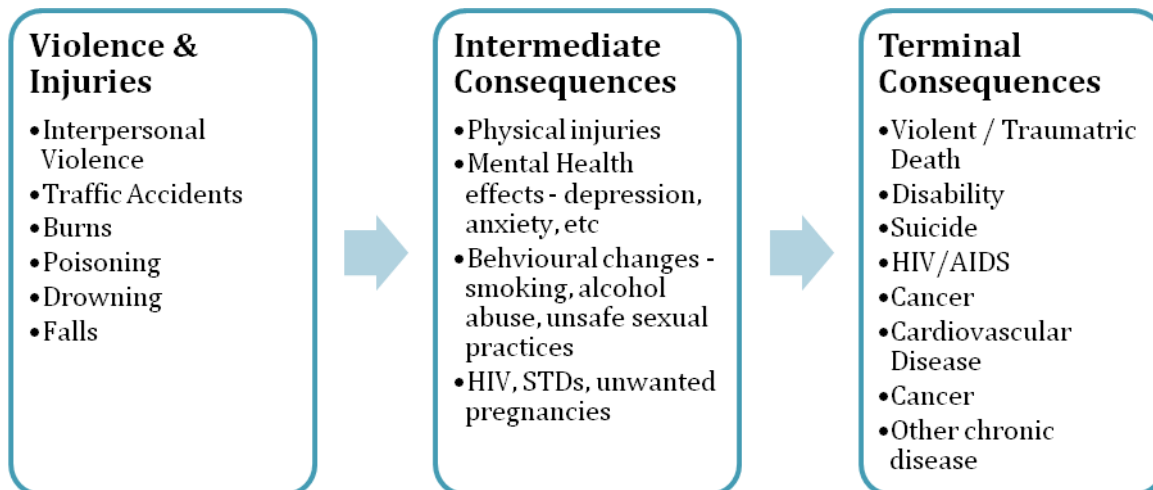
Sickle Cell Disease (SCD), an inherited disorder of the oxygen carrying protein haemoglobin, is a major health problem in Jamaica, due to the relatively high prevalence of the disease and frequent use of the health care services by affected persons. Approximately 15% of the population carry an abnormal haemoglobin gene; this is composed of 10% haemoglobin S (HbS) trait and 5% from other haemoglobinopathies that can interact with HbS to produce the sickle cell disease syndromes (65). Based on estimated birth rates, every year over 350 babies are born with a sickle haemoglobinopathy in Jamaica. As a chronic disorder with clinical manifestations from as early as 4 months of age, sickle cell disease contributes adversely to health statistics and threatens the realization of the Millennium Development Goals (MDG) for Jamaica. For example, infant mortality in Jamaica decreased by 14% to 19 per 1000 live births and child mortality rates by ~30% to 21 per 1000 between 1990 and 2005. For the similar period, standardized mortality (SMR) ratio of a cohort of children with sickle cell disease identified at birth and exposed to early care was 0.92 (95% CI 0.6 to 1.6) compared with the general population. This value of the SMR suggest that the mortality of children in this cohort was not different from the general population and underscores the benefit of island neonatal screening and comprehensive care to further reduce infant and child mortality rates (66) and achieve MDG goal 4. Additionally, documented average life expectancy for persons with sickle cell disease in Jamaica is more than twice that seen on the African continent and significantly greater than even in the USA [53yrs vs. 42yrs for males; 58yrs vs. 48yrs for females] (67). This will translate into an increasing prevalence of SCD as survival improves and increase the contribution of sickle cell disease to chronic end-organ complications such as renal failure, cardiac failure, orthopedic disabilities and pulmonary failure. For example sickle cell disease is currently ranked as 11<sup>th</sup> leading cause of renal failure requiring dialysis. However significant risk factors for renal failure are present in 17% of children (68) and 40 % of adults (69) suggesting that this ranking will change in near future. In addition to its chronic complications, sickle cell disease is characterized by frequent acute complications such as pain, infections and acute pulmonary complications (including asthma and acute chest syndrome) (70) requiring repeated visits to health care facilities and emergency rooms and prolonged hospitalizations. For instance at the University Hospital of the West Indies, sickle cell related diagnoses were responsible for ~2% of admissions and 2783 person-days of hospitalization in 2010 (unpublished data). In light of this SCD is projected to constitute a significant burden on the public health system and needs to be addressed within the chronic disease framework.

## **G. BURDEN OF VIOLENCE AND INJURIES**

Violence and injuries continue to be major problems in Jamaica, particularly among youth and among males. In fact, death from external causes has now emerged as the leading cause of death in Jamaican males as illustrated in Figure 7C. Rates for homicide was estimated at 121/100,00 among males 15-44 for the years 1998-2002 (71). It is estimated that the direct medical cost for injuries due to interpersonal violence was J\$2. 1 billion in 2006 accounting for 12% of the health budget (72). In addition, productivity losses due to violence and injuries were estimated at \$J27.5 billion, equivalent to 4% of Gross Domestic Product (72). A study from the University Hospital found that only 26% of patients admitted for trauma actually paid their hospital bills (73).

Data from the Jamaica health and Lifestyle Survey 2007-2008 revealed that 12% of Jamaicans reported having sustained serious injury in the past five years, 6% of which were motor vehicle accidents (49). A very low proportion of Jamaicans (2%) report participating in violence with the majority (>70% ) being involved in a fight; but 10% have witnessed a violent act in the last month and 10% of the population say they carry a protective device, with the most popular implement being a sharp object such as a knife (49).

In addition to physical consequences of violence and injuries, there are a number of chronic illnesses that are associated directly and indirectly with exposure to violence and injures. These include asthma, heart disease, ulcers and gastrointestinal disorders, diabetes mellitus, cancer and depression (74;75), Other consequences of injuries and violence include sexually transmitted infections, unwanted pregnancies, eating disorders and substance abuse (74;75). A proposed pathway from violence and injuries to chronic illnesses is illustrated in Figure 8. Fear of exposure to violence is also a barrier engaging in outdoor physical activity thus contributing to obesity and other NCDs.



**Figure 10: Pathway from violence and injury to chronic disease and death. Modified from Injures and Violence The Facts (75).**

Given the high rates of violence and injuries in Jamaica and the burden on the health system, an integrated approach including the methods of public health and behavioral sciences should be adopted to deal with the problem (76). It is therefore necessary to include programmes to address violence and injuries as part of Jamaica’s NCD plans.

## **H. BURDEN OF NEUROPSYCHOLOGICAL DISORDERS**

Mental Illness is a common neuropsychological disorder. Depression is a major public health problem in Jamaica. Data from the Jamaica Health and Lifestyle Survey 2007- 2008 reported that 20.3% of Jamaicans reported were depressed. More women (25.6%) than men (14.8%) were reported as depressed. Reported suicidal ideation and considering suicide in the past year were highest in the youngest age group 15-24 years old, 1.6% and 4% respectively.

Depression was prevalent in persons with chronic conditions, 25% of persons with Hypertension, 25% High Total Cholesterol, 28% Diabetes and 22% of persons with Obesity were depressed. More than a third of persons who reported a history of heart attack or stroke were depressed. One in four persons who had cancer or asthma also met these criteria.

Epilepsy is one of the world’s most common chronic neurological disorders. Roughly 50 million people suffer from it, 5 million of them in the region of the Americas. Nevertheless, it is estimated

that over 50% of these people in Latin America and the Caribbean have no access to services. There is no national data on this problem.

## **V. JAMAICA'S RESPONSE TO THE NCDS: PROGRAMMES AND PROGRESS**

Jamaica has instituted a number of programmes and policies in an attempt to respond to the NCD epidemic. These programmes and policies are listed in bulleted points below:

### ***Policy and Advocacy***

- Jamaica Drug for the Elderly Programme (JADEP) – Launched in 1996
- Healthy Lifestyle Policy and Strategic Plan implemented from 2004-2008
- National Health Fund (NHF) established 2004
- Schools Health Enhancement Committee established in 2009
- Abolition of User Fees at government health facilities in 2007 (partial) and 2008 (full)
- Early Childhood Commission (ECC) and National Strategic Plan for the early childhood sector with a Child Health and Development Passport implemented in 2010.
- National Health Policy 2006 – 2015
- Food Security and Nutrition Policy (2006) - a joint effort between the Ministries of Agriculture and Health
- National Infant Feeding Policy (1995)
- Programme for Advancement Through Health and Education (PATH) – Launched 2002

### ***Unhealthy Diet***

- Schools Nutrition Pilots (2003, 2006): Developed Procedures & Operations Manuals on:  
Nutrient & Meal Standards, Cycle Menus, and Recipes & Ingredients Lists
- Nutritional Standards for the Operation, Management and Administration of Early Childhood Institutions



- Draft Food Based Dietary Guidelines for the Population
- Nutrition Promotion Campaign – media and print under the Healthy Lifestyle Project 2004-2008
- Implemented Exclusive Breastfeeding Pilot Project in St. Catherine and Clarendon and implementation of the Baby Friendly Hospital Initiative at government hospitals
- Nutritional management in some health centres and hospital clinics by staff nutritionists
- The Caribbean Food and Nutrition Institute Jamaica Protocol for the Nutritional Management of Obesity, Diabetes and Hypertension in the Caribbean (launched in 2004)

### ***Tobacco Use***

- WHO Framework Convention on Tobacco Control (FCTC) Ratified in 2005
- All government buildings are now smoke free
- Advertising is banned in line with the WHO FCTC under article 13
- Cigarettes are labeled in line with Article 11 of the WHO FCTC
- 20% of tobacco tax revenue allocated to NHF since 2008
- A national guideline for the Management of Nicotine Use disorders was developed in 2007 and health care providers trained on these guidelines.
- Tobacco control legislation is in draft form

### ***Physical Inactivity***

- National campaign promoting physical activity under the Healthy Lifestyle project 2004-2008
- **Caribbean Wellness Day** – programmes focused on increasing physical activity
- **National Cheerleading Initiative in High Schools** - Promoted physical activity in High Schools targeting girls however boys were involved.
- **Healthy Lifestyle Camp** - The main focus of the camp was physical activity although other areas were taught.

- **National Dance Competition** - Promoted physical activity amongst out of school youth
- **The formation of Healthy Lifestyle Clubs in High Schools** - This included physical activity as the main component but involved students being engaged in a healthy lifestyle project and presentation.
- **The establishment of Healthy Zones** - A jogging trail, stretch area, landscaping and fencing were done to open spaces that were accessible to surrounding communities for physical activity
- **Celebrating Health Festivals** - This was done prior to the genesis of Caribbean Wellness Day – There was a targeted focus on physical activity through a 5k Fun walk/run as well as several demonstrations regarding different types of physical activity
- **Move for Health Day activities** - These were initiatives that were done across the island to promote physical activity to the general public, patients and staff.

### ***Violence prevention programmes***

- CAMP Bustamante Project as a tertiary preventative strategy for injuries/violence prevention targeting children.
- Utilization of Sports to reduce violence in schools and communities
- Utilization of Dance Hall Interventions to reduce violence
- Media Campaign (print & promotional material) targeting students, parents and general public

### ***Harmful Use of Alcohol***

- Public Education Campaigns - Media campaign and health education interventions have been developed and implemented by the National Council on Drug Abuse

### ***Other programmes***

- National Workplace Wellness (2004)
- National Faith-based Forum on the Promotion of Healthy Lifestyles and Prevention of NCDs
- Camp-4 - the Healthy Way: targeted obese adolescents with intervention including: promotion of physical activity, mental health, and nutrition counselling.
- Healthy Life style in Schools 2004 -2008
- Implementation of the Health and Family Life Education Curriculum 2008 for grades 1-9

## ***Chronic Disease Surveillance and Management***

- Risk Factor Surveys and Caribbean Minimum dataset for NCDs
  - ✚ Two national surveys NCD Risk Factors: 2000-2001 & 2007-2008
  - ✚ Global Tobacco School Health Survey 2006 and 2010
  - ✚ Youth Risk and Resiliency Behaviour Survey 2005 and 2006
  - ✚ CAREC /PAHO Caribbean minimum dataset implemented in 2010.
- Revision of National Guidelines for the Management of Diabetes and Hypertension (2007)
- Focus on Diabetes and Hypertension in Primary care - special clinic days for hypertension and diabetes mellitus implemented in most clinics.
- National Chronic Disease Passport piloted at the seven health centre sites
- National Cervical cancer prevention and control programme established 2000
- Implementation of National Guidelines for the Management of Cervical Cancer
- HPV Vaccination - National HPV Study implemented to evaluate the feasibility and cost of introducing the HPV vaccine

## ***Mental Health***

The Mental Health Act which was enacted in 1997 and the Mental health Policy provide the framework within which to address mental health issues. The legislation focuses on a number of issues including:

- ✚ Access to mental health care including access to treatment in the least restrictive environment.
  - ✚ Rights of mental health service to consumers, family members and other care givers.
  - ✚ Competency, capacity and guardianship issues for individuals with mental illness.
  - ✚ Voluntary and involuntary treatment
  - ✚ Accreditation of professionals and facilities
  - ✚ Law enforcement and other judicial system issues for people with mental illness
  - ✚ Mechanisms to oversee involuntary admissions and treatment practices
  - ✚ Mechanisms to implement the provisions of mental health legislation.
- It is planned that in 2009 the Mental Health Policy will be reviewed and revised. Issues such as

human rights, equity, advocacy and consumer involvement will be critical components of the policy. Plans are also in place for the revision of the act to include the human rights component.

- In keeping with the policy to reform mental health services, which was tabled in Parliament in 2003, and which went to a Joint Select Committee of the House, the Ministry is moving towards delivering more services at the community level, which is being done on a phased basis. Progress has been made to integrate mental health services into general health services through Community Clinics for example. Mental health services are also offered at 139 locations including health centres and hospitals' outpatients departments.
- Patients are screened and treated for common mental disorders especially depression in general health clinics which are run both at the level of the health centre as well as hospitals. As a result of the thrust to reform mental health services, more hospitals admit and treat mentally ill patients. A new section was constructed on Greater Portmore Health Centre grounds to facilitate expansion of the Mental Health Clinic.
- With respect to Bellevue, there has been a gradual decline in the patient population which has moved from over three thousand in the 1960s to under eight hundred at present. Approximately 70% or about 560 persons are fit for discharge but family members are not willing or able to accept them in their home setting.
- The Bellevue Hospital still has an important role to play in the treatment and care of acutely ill psychiatric patients who need specialized care and services from highly trained staff. Although there is still stigma and discrimination, there has been significant improvement with improved access to mental health care at community level.
- Many persons with chronic mental illness live in community residential facilities (supported housing). There is one entirely run by government and several others run by non-governmental organisations and supported by government.

- The Policy and legislation are currently being revised to ensure compliance with international human rights instruments and evidence based strategies. The current Strategic Plan for mental health is also being updated.

Despite the number of programmes and policy initiatives however The Jamaica Health and Lifestyle Survey 2007-2008 failed to show any significant improvement in chronic disease risk factors (24). In addition a formal evaluation of the Healthy Lifestyle Project found that the Healthy Lifestyle Project lacked specific measurable objectives and was too broad-based and as such did not yield the improvement in health behaviours desired.

It is important that the lessons learnt from the programmes and projects implemented to date be taken into considered in the development of the new strategic plan, ensuring that objectives are feasible, measureable and that programmes to be implemented are sustainable.

## VI. STRATEGIC PLAN

### A. SCOPE, GUIDING PRINCIPLES, GOAL, OBJECTIVES AND TARGETS

#### SCOPE

The plan will cover **seven main categories of diseases – cardiovascular diseases, cancer, chronic respiratory diseases, diabetes, sickle cell disease, mental health and injuries**. Diseases of the first four categories (cardiovascular diseases, cancer, chronic respiratory diseases, and diabetes) can be largely prevented or controlled by reducing risk factors such as, tobacco use, unhealthy diet, physical inactivity and harmful use of alcohol and also through early detection and treatment. Injuries are inextricably linked to non-communicable diseases and are largely preventable, with alcohol control being a major strategy for both NCDs and injuries. Sickle cell disease is also one of the most common congenital chronic diseases in Jamaica.

There are several other conditions associated or closely linked with these diseases that will not be addressed in this plan, such as other non-communicable diseases, including deafness, communicable diseases, and oral health. This plan could not include all conditions without becoming unwieldy and excessive and hence it focused on select conditions/diseases. The other conditions are addressed in other disease/condition specific National strategic plans and policies of the Government of Jamaica, CARICOM, Pan American and World Health Organization. This plan will be aligned to ensure linkages with these other interrelated conditions to maximize opportunities and efforts for mutual benefit.

The plan is the NCD sector response for Vision 2030 development plan. The plan also takes into consideration and builds on previous National, Regional and Global initiatives and agreements to tackle non-communicable diseases. In particular, the strategic plan incorporates concepts from the following documents: WHO 2008-2013 Action Plan and draft 2013 – 2020 Action Plan for the Prevention and Control of Non-communicable Diseases; PAHO Regional Strategy and Plan of Action on an Integrated Approach to the Prevention and Control of Chronic Diseases; Strategic Plan of

Action for the Prevention and Control of Non-Communicable Diseases for Countries of the Caribbean Community 2011-2015; UN Political declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases. In addition the strategic plan is aligned with the recommendations of the Port of Spain Declaration, the Caribbean Corporation in Health III, and the National Policy for the Promotion of Healthy Lifestyles in Jamaica and Jamaica's Vision 2030.

## **PURPOSE**

The strategic and action plan is to provide a framework and road map for National action to combat non-communicable diseases and injuries and their risk factors in Jamaica within the context of the socioeconomic, cultural and development agenda.

## **VISION**

Healthy Jamaicans, living in healthy communities, with optimal quality of life for persons living with or affected by non-communicable diseases and injuries.

## **MISSION**

To facilitate opportunities for all Jamaicans to live a healthy life by implementing integrated, “whole of society” actions to promote social, environmental policies and systems improvement that support health in all places; thus improving national productivity and development.

## **OVERARCHING PRINCIPLES AND APPROACHES**

The following **core principles** will guide this National Strategy:

1. **Leadership and Governance**
2. **Integration into national development and economic agenda and plan**
3. **Health in All Policies**
4. **Promotion of “ Whole of Society”, Multisectoral partnerships and actions**
5. **Universal access, equity and gender equality.**
6. **Reorientation of health systems and reinforcing competence of Health workforce.**

7. **Building Capacity for Chronic Disease Information Generation and Knowledge Management**
8. **Emphasis on health promotion, education, primary prevention, early detection, treatment, rehabilitation and palliative care and quality of care for persons who have NCDs or their risk factors.**
9. **Integrated Disease prevention and control**
10. **Building Capacity for Community Based Action and empowerment of people.**
11. **Consideration of a life course approach in NCD policies and programmes,**
12. **Evidence-based, or evidence-informed**

## **GOAL**

The goal of the strategic and action plan is to reduce the burden of preventable morbidity and disability and avoid premature mortality due to non-communicable diseases and injuries by 25% by 2025.

## **TIMEFRAME**

The Strategic and action plan will be implemented over the period 2013 – 2018 and the Ministry of Health will support its implementation through annual sector wide operational plans.

## **STRATEGIC OBJECTIVES**

There are five priority programme areas that the plan will be implemented under:

### **FIVE PRIORITY PROGRAMME AREAS:**

1. Risk Factor Reduction and Health Promotion
2. Comprehensive and integrated disease management for NCDs and injuries
3. Surveillance, research, monitoring and evaluation
4. Public Policy and Advocacy
5. Leadership, Governance and Capacity Building



In order to achieve the targets the following strategic objectives will be implemented:

**Priority AREA #1 Risk Factor Reduction and Health Promotion**

**STRATEGIC OBJECTIVE 1: Reduce exposure to modifiable risk factors for non-communicable diseases and promotion of health throughout the lifecycle through the creation of health-promoting environments.**

**Specific Objectives:**

- 1.1 To reduce the prevalence of current tobacco use in persons aged 15+ years and among adolescents 13-15 years old by 10% by 2018 by implementing the key measures of the FCTC fully, especially price/tax, promotion, smoke free spaces, labelling and introducing smoking cessation counselling in PHC.
- 1.2 To reduce the harmful use of alcohol, in persons aged 15+ years by 3 % by 2018.
- 1.3 To reduce the age – standardized of the mean population intake of salt/sodium by 10% by 2018.
- 1.4 To increase the age-standardized prevalence of adult (aged 18+ years) population consuming  $\geq$  five total servings (400 grams) of fruit and vegetables per day by 100% by 2018.
- 1.5 To reduce proportion of persons engaging in insufficient physical activity by 5% by 2018.
- 1.6 To reduce the prevalence of obesity in adults aged 18+ years and adolescents by 5% by 2018.
- 1.7 To reduce the prevalence of hypertension in adults aged 18+ years by 5% by 2018.
- 1.8 To reduce the prevalence of diabetes mellitus in adults aged 18+ years by 5% by 2018.
- 1.9 To reduce the age-standardized prevalence of raised total cholesterol among persons aged 18+ years by 5% by 2018.
- 1.10 To reduce the age-standardized mean proportion of total energy intake from saturated fatty acids in persons aged 18+ years
- 1.11 To increase knowledge and awareness of the priority NCDs and their risk factors to at least 80% from baseline by 2018.
- 1.12 To reduce violence and injuries through building self-esteem, resiliency and life skills by 2018.

**Priority AREA #2: Comprehensive and integrated disease management for NCDs and injuries.**

**STRATEGIC OBJECTIVE 2: Strengthen and reorient health systems to address prevention and control of non-communicable diseases through people-centred primary health care and universal health coverage**

- 2.1 To develop a comprehensive screening programme for NCDs and injuries in order to identify and treat persons with priority chronic diseases or risk factors by 2014.
- 2.2 To deliver high quality comprehensive treatment, care and support for priority NCDs based on national guidelines for the management of NCDs and their risk factors by 2018.
- 2.3 To increase by 25% the proportion of persons who are aware of their disease status with regards to hypertension, diabetes, depression, dyslipidemia and cervical cancer by 2018.
- 2.4 To increase by 25% the proportion on persons with hypertension, diabetes and dyslipidemia for whom the condition is controlled in keeping with recommended targets by 2018.

- 2.5 To achieve an age-appropriate screening rate of at least 80% for priority NCDs (diabetes, hypertension, dyslipidemia, and their risk factors (obesity, tobacco use, harmful use of alcohol, physical activity, depression) in keeping with national screening guidelines by 2018.
- 2.8 To develop individual chronic disease and injury self-management skills by 2018.
- 2.9 To strengthen the management of sickle cell disease in primary care, secondary and tertiary care levels by 2018.

### **Priority AREA #3 Surveillance, Research, Monitoring and Evaluation**

#### **STRATEGIC OBJECTIVE 3: Strengthen national capacity for NCD surveillance high quality research for prevention and control of non- communicable diseases**

- 3.1 To strengthen the Ministry of Health NCD Surveillance System, and link it with the National Health Information Systems and the Caribbean NCD Surveillance by 2018.
- 3.2 To establish a National NCD Registry comprising a National Cancer Registry, National Cardiovascular Disease Registry and Diabetes, Asthma registry to monitor disease incidence and outcomes by 2016.
- 3.3 To use surveillance data to inform policy, monitor and evaluate progress towards achieving targets in the plan 2014.
- 3.4 To identify priority areas and promote research in NCDs (including injuries and violence) in collaboration with key stakeholders in academia, governmental and international organizations, civil society and community groups by 2014.

### **Priority AREA #4: Public Policy and Advocacy**

#### **STRATEGIC OBJECTIVE 4: Strengthen international cooperation and advocacy to raise the priority accorded to prevention and control of non-communicable diseases in the development agenda and in internationally agreed development goals.**

#### **STRATEGIC OBJECTIVE 5: Build health-promoting public policies through health in all policies**

- 4.1 To raise the priority status of NCD within the Health Sector and non-health Sector by 2015.
- 4.2 To ensure the passing and implementation of legislation banning smoking in public places and other provisions of the WHO FCTC by 2014.
- 4.3 To develop a policies to promoted physical activity and healthy diet.
- 4.4 To develop a NCD Health Promotion and Communications Strategy to guide public education programmes for NCD prevention and control
- 4.5 To review all relevant government policies to ensure consistency with NCD prevention and control measures in keeping with the concept of ‘Health in All Policies’

## **Priority AREA #5: Leadership, Governance and Capacity building**

### **STRATEGIC OBJECTIVE 6: Strengthen national capacity, leadership, governance, multisectoral action and partnership to accelerate country response for prevention and control of non-communicable diseases.**

- 5.1 To secure adequate funding to support the NCD programme through government subvention, national funding agencies and international donors by 2014.
- 5.2 To secure adequate staff at the ministry of health, regional health authorities and public health facilities to support the NCD programme by 2014.
- 5.3 To restructure health systems and human resource development in keeping with the burden of NCDs by 2018.
- 5.4 To strengthen the capacity of health care workers and non-health care workers to manage and deliver chronic care for NCDs in both the public and private sectors by 2014.
- 5.5 To improve laboratory and diagnostic services at national, regional and institutional level in order to provide adequate capacity for diagnosis and management of NCDs
- 5.6 To improve pharmacy services and ensure the provision of essential medicines for the treatment and prevention of NCDs at the primary, secondary and tertiary care levels
- 5.7 To establish a National NCD Commission with members appointed by the Minister of Health and approved by Cabinet
- 5.8 To maintain and staff multisectoral National NCD Commission/Taskforce.
- 5.9 To maintain annual National NCD review and conference

## **VII. APPROACH TO IMPLEMENTATION**

**The plan will be implemented on a phased basis over the five-year period.**

- **Phase I** - Short-term, these are actions to be implemented over one to two years
- **Phase II** – Medium-term actions to be implemented over three years
- **Phase III** - Long-term actions to be implemented over five years

Adjustments may be made periodically to this phasing depending on existing resources and evidence. For each priority disease and risk factor separate detailed action plans will be developed e.g. for Cancer prevention and control.

## **VIII. MONITORING AND EVALUATION**

Monitoring and Evaluation is a critical component of any plan that allows us to assess progress in achieving targets and identify gaps and strengths in the response. This national strategic and action

plan lays the foundation for future activities and provides a guide to sectors and lead agencies on how to move forward in the development of annual operational plans. A comprehensive monitoring and evaluation (M&E) plan will be developed as a companion document to the plan.

Below is a summary of the lead indicators for the plan.

## LEAD TARGETS

AREA	LEAD INDICATOR	TARGET 2018
Socioeconomic	Percentage of GDP invested by the public sector in NCD prevention and control	3%
	Percentage of population below the national poverty line that can afford to purchase a quality food basket.	50%
	Number of NCD interventions that address access of low-income populations in social protection schemes	2 per annum
Premature mortality from noncommunicable diseases	% relative reduction in overall mortality from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases and injuries	10%
Harmful use of alcohol	% relative reduction in the harmful use of alcohol, in persons aged 15+ years	3%
Physical inactivity	% relative reduction in prevalence of insufficient physical activity in adults	5%
	% relative reduction in prevalence of insufficient physical activity in adolescents	5%
Salt/sodium intake	% relative reduction in the age-standardized mean of mean population intake of salt/sodium	10%
Tobacco use	% relative reduction in the prevalence of current tobacco use in persons aged 15+ years	10%
Raised blood pressure	% relative reduction in the prevalence of raised blood pressure	5%
Diabetes and obesity	% relative reduction in the prevalence of diabetes and obesity	5% (obesity)
Cervical cancer	% relative reduction in the incidence of cervical cancer	10%
Drug therapy to prevent heart attacks and strokes	% of eligible people receive drug therapy and counselling (including glycaemic, control) to prevent heart attacks and strokes.	50%

AREA	LEAD INDICATOR	TARGET 2018
Essential medicines and basic technologies to treat major non-communicable diseases	% availability of the affordable basic technologies and essential medicines, including generics, required to treat major non-communicable diseases in both public and private facilities.	80%

## IX. BUDGETARY CONSIDERATIONS AND CONTINGENCY ACTIONS

Successful implementation of the strategic plan and the accomplishment of specified targets will require that the plan be adequately funded. Funding for the projects and programmes included in the strategic plan will require involvement of multiple funding agencies. The government of Jamaica will show its commitment to the plan by allocation resources to core staff positions and key projects. Additionally funds will be sought through programme grants and project grants. Grant applications and project proposals will be prepared and submitted to potential funding agencies. Possible funding agencies will include local funders such as the National Health Fund, Culture Health Arts Sports and Education (CHASE) Fund and corporate foundations. Regional and international funding can be sought through PAHO/WHO, Inter-American Development Bank and the World Bank. It is hoped that with the recent focus on NCDs leading up to and following the UN High Level Meeting in September 2011 the capacity to attract the required funds will be significantly increased.

If the situation arises such that resources to adequately fund the programme are not realized the NCD Committee and the MOH NCD Unit would be required to settle on a limited number of core programmes and projects and focus on these as the main targets for NCD prevention and control.



## **X. STRATEGIC PLAN OF ACTION**

## **Priority AREA #1 Risk Factor Reduction and Health Promotion**

**STRATEGIC OBJECTIVE 1: Reduce exposure to modifiable risk factors for non-communicable diseases and promotion of health throughout the lifecycle through the creation of health-promoting environments.**

### **Specific Objectives:**

- 1.1 To reduce the prevalence of current tobacco use in persons aged 15+ years and among adolescents 13-15 years old by 10% by 2018.
- 1.2 To reduce the harmful use of alcohol, in persons aged 15+ years by 3 % by 2018.
- 1.3 To reduce the age-standardized mean of the population intake of salt/sodium by 10% by 2018.
- 1.4 To increase the age-standardized prevalence of adult (aged 18+ years) population consuming  $\geq$  five total servings (400 grams) of fruit and vegetables per day by 100% by 2018.
- 1.5 To reduce proportion of persons engaging in insufficient physical activity by 5% by 2018.
- 1.6 To reduce the prevalence of obesity in adults aged 18+ years and adolescents by 5% by 2018.
- 1.7 To reduce the prevalence of hypertension in adults aged 18+ years by 5% by 2018.
- 1.8 To reduce the prevalence of diabetes mellitus in adults aged 18+ years by 5% by 2018.
- 1.9 To reduce the age-standardized prevalence of raised total cholesterol among persons aged 18+ years by 5% by 2018.
- 1.10 To reduce the age-standardized mean proportion of total energy intake from saturated fatty acids in persons aged 18+ years
- 1.11 To increase knowledge and awareness of the priority NCDs and their risk factors to at least 80% from baseline by 2018.
- 1.12 To reduce violence and injuries through building self-esteem, resiliency and life skills by 2018.



Strategy	Activities	Indicators	Targets	Timelines	Other Sectors/stakeholders	Lead Agency or Institution Responsible
Accelerate the implementation of the World Health Organization Framework Convention on tobacco control	<ul style="list-style-type: none"> <li>• Work with the Minister of Health to ensure the passage of legislation for the full implementation of the FCTC and MPOWER Package for tobacco control</li> <li>• Implement National Social marketing campaign to discourage tobacco smoking in keeping with Article 11 and 12.</li> <li>• Provide smoking cessation support for persons wanting to quit smoking in keeping with Article 14 and National guidelines for the management of Nicotine Use disorders</li> <li>• Primary care and hospital services to record smoking status of all clients and initiate referral systems to cessation services.</li> <li>• Protect tobacco control policies from commercial and vested interests of the Tobacco industry in accordance with Article 5.3</li> <li>• Raise taxes and inflation-adjusted prices on all tobacco products.</li> <li>• Implement comprehensive bans on tobacco advertising, promotion and sponsorship in keeping with Article 13.</li> <li>• Implement strategies to prevent initiation of smoking among youth 13-15 years old</li> <li>• Monitor Tobacco use in adolescent and adults</li> <li>• Monitor and evaluate implementation of tobacco control policies.</li> </ul>	<ul style="list-style-type: none"> <li>• Tobacco control regulation 2013 passed</li> <li>• Number of smoke-free settings</li> <li>• Number of persons accessing smoking cessation services</li> <li>• % compliance with documentation of smoking status.</li> <li>• Number of reports of non-compliance with Article 5.3</li> <li>• Number of tobacco products sold to 1000 cigarette equivalents or less per adult</li> <li>• Age-standardized prevalence of current tobacco use among persons aged 15+ years</li> <li>• Prevalence of current tobacco use among adolescents</li> </ul>	<ul style="list-style-type: none"> <li>• 10% relative reduction in current tobacco use in persons aged 15+ years and among adolescents 13 – 15 years old by 2018.</li> <li>• 100% compliance with documentation of smoking status</li> </ul>	<ul style="list-style-type: none"> <li>• By 2018</li> </ul>	<p><b>GOJ</b></p> <ul style="list-style-type: none"> <li>• MOE</li> <li>• MYC</li> <li>• MLSS</li> <li>• MTE</li> <li>• MOA</li> <li>• Localgov</li> </ul> <p><b>NGOs</b></p> <ul style="list-style-type: none"> <li>• HFJ/JTC</li> <li>• DAJ</li> <li>• JCS</li> </ul> <p>Professional Association</p>	<ul style="list-style-type: none"> <li>• MOH</li> <li>• MOFP</li> <li>• MIIC</li> <li>• MOJ</li> <li>• MNS</li> </ul>

Strategy	Activities	Indicators	Targets	Timelines	Other Sectors/stakeholders	Lead Agency or Institution Responsible
Implement WHO Recommendations for Reduction of Harmful Use of Alcohol	<ul style="list-style-type: none"> <li>• Work with the Minister of Health to support the implementation of the WHO Recommendations for Reduction of Harmful Use of Alcohol as appropriate.</li> <li>• Social marketing campaign to discourage harmful use of alcohol and raise public awareness, especially among young people, about alcohol-related health risks, including cancer.</li> <li>• Strengthen capacity of health-care services to deliver prevention and treatment interventions for hazardous drinking and alcohol use disorders including screening and brief interventions at primary care setting.</li> <li>• Ensure that specific cancer risks associated with alcohol are identified in policies and information by Government agencies and other key stakeholders.</li> </ul>	<ul style="list-style-type: none"> <li>• Proportion of WHO recommendations implemented</li> <li>• Improved access to prevention and treatment interventions for hazardous drinking and alcohol use disorder.</li> <li>• % relative reduction in overall alcohol use</li> </ul>	<ul style="list-style-type: none"> <li>• At least 80% of WHO Recommendations implemented</li> <li>• 2% relative reduction in overall alcohol use, (including hazardous and harmful drinking)</li> <li>• % coverage of prevention and treatment interventions for alcohol use disorder</li> </ul>	<ul style="list-style-type: none"> <li>• WHO recommendations implemented by 2018</li> </ul>	<p><b>GOJ</b></p> <ul style="list-style-type: none"> <li>• MOE</li> <li>• MYC</li> <li>• MIIC</li> <li>• MOT</li> <li>• Localgov</li> </ul> <p><b>NGOs</b></p> <ul style="list-style-type: none"> <li>• HFJ</li> <li>• DAJ</li> <li>• JCS</li> </ul> <p><b>Professional Association</b></p> <p><b>Private sector</b></p> <ul style="list-style-type: none"> <li>• JABA</li> </ul>	<ul style="list-style-type: none"> <li>• MOH</li> <li>• NCDA</li> <li>• MOJ</li> <li>• MNS</li> </ul>

Strategy	Activities	Indicators	Targets	Timelines	Other Sectors/stakeholders	Lead Agency or Institution Responsible
Promote Healthy diet by reducing salt intake and trans-fatty acids	<ul style="list-style-type: none"> <li>• Measure salt intake on a sub-sample of persons from the national health survey in 2012 and 2017</li> <li>• Public education campaign to reduce salt used in cooking, adding salt at the table and consumption of high salt processed foods</li> <li>• Reaffirmation by private sector of commitment made to the Port of Spain Declaration and Declaration of St. Ann</li> <li>• Partner with food industry, restaurants, cook-shops and trade organizations to reduce the salt content of food prepared outside the home</li> <li>• Develop and implement policies measures directed at food producers and processors to eliminate industrially produced trans-fatty acid from food and replace them with polyunsaturated fatty acids</li> <li>• Decrease the level of saturated fatty acids in food and replace them with polyunsaturated fatty acids</li> <li>• Reduce the content of free sugar in food and alcoholic beverages</li> </ul>	<ul style="list-style-type: none"> <li>• % reduction in mean population intake of salt</li> <li>• % reduction in use of trans-fats</li> </ul>	<ul style="list-style-type: none"> <li>• 10% reduction in mean population intake of salt</li> <li>• To eliminate the use of artificial trans-fats in restaurants</li> </ul>	<ul style="list-style-type: none"> <li>• By 2018</li> </ul>	<p>GOJ</p> <ul style="list-style-type: none"> <li>• MFAFT</li> <li>• MOE</li> <li>• Localgov</li> </ul> <p>NGOs</p> <ul style="list-style-type: none"> <li>• HFJ</li> <li>• DAJ</li> <li>• JCS</li> </ul> <p>Food Industry</p>	<ul style="list-style-type: none"> <li>• MOH</li> <li>• MOA</li> <li>• MIIC</li> </ul>
Promote Healthy diet by increasing fruit and vegetable consumption.	<ul style="list-style-type: none"> <li>• Work with Ministry of Agriculture to ensure adequate availability of fruits and vegetables</li> <li>• Promote subsidies on fruit and vegetable production in order to ensure affordable prices</li> <li>• Work with Food Industry to promote</li> </ul>	<ul style="list-style-type: none"> <li>• Prevalence of adequate consumption of fruit and vegetable in 2012 and 2017</li> <li>• Proportion of population having at</li> </ul>	<ul style="list-style-type: none"> <li>• 100% increase prevalence of adequate consumption of fruit and vegetable</li> <li>• 50% of</li> </ul>	<ul style="list-style-type: none"> <li>• By 2018</li> </ul>	<p>GOJ</p> <ul style="list-style-type: none"> <li>• MFAFT</li> <li>• MOE</li> <li>• Localgov</li> </ul> <p>NGOs</p> <ul style="list-style-type: none"> <li>• HFJ</li> </ul>	<ul style="list-style-type: none"> <li>• MOH</li> <li>• MOA</li> <li>• MIIC</li> </ul>

Strategy	Activities	Indicators	Targets	Timelines	Other Sectors/stakeholders	Lead Agency or Institution Responsible
	methods of vegetable preparation to make them more palatable / enjoyable	least 2 servings of fruit or vegetables in 2012 and 2017	population having at least two servings of fruit or vegetables		<ul style="list-style-type: none"> <li>• DAJ</li> <li>• JCS</li> <li>• Food Industry</li> </ul>	
Promote Healthy diet by increasing access to healthy foods	<ul style="list-style-type: none"> <li>• Strengthen breastfeeding programme</li> <li>• Strengthening of healthy nutrition promoting environment in schools, workplaces, clinics and hospitals</li> <li>• Work with food industry and restaurants to reduce portion sizes for food prepared outside the home</li> <li>• Require that restaurants and fast food outlets supply nutrition information on foods served</li> <li>• Establish a system of healthy food certification for packaged foods through Caribbean Food and Nutrition Institute</li> <li>• Promote taxes and subsidies to improve the affordability of healthier food products and discourage the consumption of less healthy options. <ul style="list-style-type: none"> <li>• Promote the drinking of water</li> <li>• Implement WHO set of recommendations on the marketing of foods and non-alcoholic beverages to children</li> </ul> </li> <li>• Implement food -labeling standards for all pre-packaged foods.</li> </ul>	<ul style="list-style-type: none"> <li>• % increase in obesity levels</li> </ul>	<ul style="list-style-type: none"> <li>• reduce the prevalence of obesity in adults aged 18+ years and adolescents by 5% by 2018</li> <li>• 100% of foods supplied by restaurants &amp; fast foods with labels showing nutritional content of foods</li> </ul>	<ul style="list-style-type: none"> <li>• By 2018</li> </ul>	<p>GOJ</p> <ul style="list-style-type: none"> <li>• MFAFT</li> <li>• MOE</li> <li>• Localgov</li> </ul> <p>NGOs</p> <ul style="list-style-type: none"> <li>• HFJ</li> <li>• DAJ</li> <li>• JCS</li> </ul> <ul style="list-style-type: none"> <li>• Food Industry</li> </ul>	<ul style="list-style-type: none"> <li>• MOH</li> <li>• MOA</li> <li>• MIIC</li> </ul>

Strategy	Activities	Indicators	Targets	Timelines	Other Sectors/stakeholders	Lead Agency or Institution Responsible
Promotion of physical activity	<ul style="list-style-type: none"> <li>• Conduct National Knowledge Attitude Practice and Behaviour (KAPB) survey for physical activity.</li> <li>• Adopt and implement national guidelines for physical activity</li> <li>• Develop policy of physical education with physical activity in all grades of schools</li> <li>• Development of a national policy that mandates physical education from Early Childhood to at least grade 11.</li> <li>• Development of a curriculum for grade 10 and 11.</li> <li>• Develop and implement social marketing campaign to increase physical activity levels and raise the awareness of the link between physical activity and cancer.</li> <li>• Promote the building or improvement of parks, walking trails and other facilities to promote increased physical activity</li> <li>• Promote physical activity in the workplace</li> <li>• Implement exercise prescription programme into primary health care services and outpatient clinics,</li> </ul>	<ul style="list-style-type: none"> <li>• Age-standardized prevalence of insufficiently active persons aged 18+ years (defines as less than 150 minutes of moderate-intensity activity per week, or equivalent)</li> <li>• Prevalence of insufficiently physically active adolescents defined as less than 60 minutes of moderate to vigorous intensity activity daily</li> </ul>	<ul style="list-style-type: none"> <li>• 5% relative reduction of the proportion of persons engaging in insufficient physical activity by 2018</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge Attitude Practice and Behaviour (KAPB) survey for physical activity By 2014</li> <li>• Other activities by 2018</li> </ul>	<p>GOJ</p> <ul style="list-style-type: none"> <li>• MFAFT</li> <li>• MOE</li> <li>• MISS</li> <li>• Localgov</li> </ul> <p>NGOs</p> <ul style="list-style-type: none"> <li>• HFJ</li> <li>• DAJ</li> <li>• JCS</li> </ul> <ul style="list-style-type: none"> <li>• Private Sector</li> <li>• JAAA</li> </ul>	<ul style="list-style-type: none"> <li>• MOH</li> <li>• MOS</li> </ul>

Strategy	Activities	Indicators	Targets	Timelines	Other Sectors/stakeholders	Lead Agency or Institution Responsible
Reduce exposure to infections	<ul style="list-style-type: none"> <li>Promote safer sex practices and delaying the onset of sexual activity.</li> <li>Support Family Health Unit in initiatives to improve and maintain coverage for hepatitis B vaccination</li> <li>Advocate for the implementation of HPV vaccine for adolescent girls and boys.</li> <li>Support the Prevention of Blood-borne infections programme (POEBI)</li> </ul>	<ul style="list-style-type: none"> <li>HPV vaccine introduced into National vaccine programme</li> <li>Hepatitis B vaccine coverage</li> </ul>	<ul style="list-style-type: none"> <li>HPV vaccine introduced into National vaccine programme</li> <li>100% Hepatitis B vaccination coverage</li> </ul>	<ul style="list-style-type: none"> <li>By 2015</li> </ul>	GOJ <ul style="list-style-type: none"> <li>Localgov</li> </ul> NGOs <ul style="list-style-type: none"> <li>HFJ</li> <li>DAJ</li> <li>JCS</li> </ul> <ul style="list-style-type: none"> <li>Professional Association</li> <li>Private Sector</li> </ul>	<ul style="list-style-type: none"> <li>MOH</li> <li>MOE</li> </ul>
Prevent exposure to environmental risk factors	<ul style="list-style-type: none"> <li>Strengthen programmes to reduce exposure to indoor and outdoor pollutants, and known environmental carcinogens.</li> <li>Public educational campaign to increase awareness of the environmental risk factors for NCDs.</li> </ul>	<ul style="list-style-type: none"> <li>Programme for the prevention of occupational diseases strengthened</li> <li>Increased awareness of the environmental risk factors for NCDs.</li> </ul>	<ul style="list-style-type: none"> <li>Programme for the prevention of occupational diseases strengthened</li> <li>Increased awareness of the environmental risk factors for NCDs.</li> </ul>	<ul style="list-style-type: none"> <li>By 2016</li> </ul>	GOJ <ul style="list-style-type: none"> <li>MFAFT</li> <li>MISS</li> <li>MOA</li> <li>MLSS</li> <li>MOT</li> <li>Localgov</li> </ul> NGOs <ul style="list-style-type: none"> <li>HFJ</li> <li>DAJ</li> <li>JCS</li> </ul> <ul style="list-style-type: none"> <li>Private Sector</li> </ul>	<ul style="list-style-type: none"> <li>MWH</li> <li>MOH</li> </ul>
Prevent exposure to occupational risk factors	<ul style="list-style-type: none"> <li>Work with the Ministry of Labour and Social Security to ensure the passage of the Occupational Health and Safety Act.</li> <li>Strengthen programme for the</li> </ul>	<ul style="list-style-type: none"> <li>Passage Occupational Health and Safety Act</li> <li>Programme for the prevention of</li> </ul>	<ul style="list-style-type: none"> <li>Passage Occupational Health and Safety Act</li> <li>Programme</li> </ul>	<ul style="list-style-type: none"> <li>By 2018</li> </ul>	GOJ <ul style="list-style-type: none"> <li>MFAFT</li> <li>MISS</li> <li>MOA</li> <li>MLSS</li> </ul>	<ul style="list-style-type: none"> <li>MWH</li> <li>MOH</li> <li>MLSS</li> </ul>

Strategy	Activities	Indicators	Targets	Timelines	Other Sectors/stakeholders	Lead Agency or Institution Responsible
	prevention of occupational diseases. <ul style="list-style-type: none"> <li>Develop workplace wellness policy by adapting the WHO Healthy Workplace Model and based on ILO principles.</li> </ul>	occupational diseases strengthened. <ul style="list-style-type: none"> <li>Workplace Wellness policy developed</li> </ul>	for the prevention of occupational diseases strengthened. <ul style="list-style-type: none"> <li>Workplace Wellness policy developed</li> </ul>		<ul style="list-style-type: none"> <li>MOT</li> <li>Localgov</li> </ul> NGOs <ul style="list-style-type: none"> <li>HFJ</li> <li>DAJ</li> <li>JCS</li> </ul> <ul style="list-style-type: none"> <li>Private Sector</li> </ul>	
Create Supportive Environments for Violence and Injuries Prevention.	<ul style="list-style-type: none"> <li>Develop public education campaign to increase the awareness of the impact of violence and injuries on the society and the health services programmes</li> <li>Develop/strengthen mentorship programmes manage and prevent violence</li> <li>Implement programmes to address socio- economic issues of high risk communities to reduce conditions supportive of violence and injuries.</li> <li>Skills training and employment opportunities for youth in high risk communities increased.</li> <li>Work with Road Safety Council and other key stakeholders to develop and strengthen programmes to prevent Road Traffic Injuries.</li> <li>Develop/strengthen, community-based model of violence prevention developed and implemented</li> <li>Develop unintentional injuries</li> </ul>	<ul style="list-style-type: none"> <li>Awareness of the impact of violence on the society and the health services increased through public education programmes</li> <li>Access of victims of violence and communities to community based support services increased</li> <li>Socio- economic issues of high risk communities addressed to reduce conditions supportive of violence</li> <li>Community-based model of violence prevention</li> </ul>	<ul style="list-style-type: none"> <li>Awareness of the impact of violence on the society and the health services increased through public education programmes</li> <li>Mentorship programme developed and implemented to manage and prevent violence</li> <li>Unintentional injuries prevention</li> </ul>	<ul style="list-style-type: none"> <li>By 2018</li> </ul>	GOJ <ul style="list-style-type: none"> <li>MFAFT</li> <li>MISS</li> <li>MOH</li> <li>MYC</li> <li>MLSS</li> <li>MOT</li> <li>Localgov</li> </ul> NGOs <ul style="list-style-type: none"> <li>HFJ</li> <li>DAJ</li> <li>JCS</li> </ul> <ul style="list-style-type: none"> <li>Private Sector</li> </ul>	<ul style="list-style-type: none"> <li>MNS</li> <li>OPM</li> <li>PIOJ</li> </ul>

Strategy	Activities	Indicators	Targets	Timelines	Other Sectors/stakeholders	Lead Agency or Institution Responsible
	prevention programme.	developed and implemented <ul style="list-style-type: none"> <li>• Mentorship programme developed and implemented to manage and prevent violence</li> <li>• Skills training and employment opportunities for youth in high risk communities increased.</li> <li>• Leadership and parenting skills improved</li> </ul>	programme developed.			
Targeted interventions in special settings	<ul style="list-style-type: none"> <li>• Partner with media organizations and telecommunication companies in the development of a NCD Health Promotion and Communication Strategy with targeted messages for public education using print media, television, radio, social media and text messaging.</li> <li>• Partner with NGOs and Faith Based Organizations to promote healthy lifestyles and uptake of screening programmes</li> <li>• Promote healthy diets and physical activity in schools and the inclusion of healthy lifestyles and aspects of disease prevention and control in the school curriculum</li> </ul>	<ul style="list-style-type: none"> <li>• Number of media organizations participating in NCD Health Promotion programme</li> <li>• Proportion of NGOs with health agenda participating in NCD Health Promotion campaign</li> <li>• Proportion of schools designated health promoting school compliant</li> </ul>	<ul style="list-style-type: none"> <li>• ≥30 days of media broadcast on NCD control (risk factors and treatment)</li> <li>• 80% of NGOs with health agenda participating in national health promotion campaign</li> <li>• &gt;60% of schools designated health</li> </ul>	<ul style="list-style-type: none"> <li>• By 2018</li> </ul>	GOJ <ul style="list-style-type: none"> <li>• MOE</li> <li>• Localgov</li> <li>• MYC</li> </ul> NGOs <ul style="list-style-type: none"> <li>• HFJ</li> <li>• DAJ</li> <li>• JCS</li> </ul> FBOs <ul style="list-style-type: none"> <li>• Private Sector</li> </ul>	<ul style="list-style-type: none"> <li>• MOH</li> </ul>



Strategy	Activities	Indicators	Targets	Timelines	Other Sectors/stakeholders	Lead Agency or Institution Responsible
	<ul style="list-style-type: none"> <li>Designating Schools as Health Promoting School Compliant if all stated targets are met</li> </ul>		promoting school compliant			

Notes: MOH = Ministry of Health; RHA = Regional Health Authorities

***Priority AREA #2: Comprehensive and integrated disease management for NCDs and injuries.***

***STRATEGIC OBJECTIVE 2: Strengthen and reorient health systems to address prevention and control of non-communicable diseases through people-centred primary health care and universal health coverage***

2.1 To develop a comprehensive screening programme for NCDs and injuries in order to identify and treat persons with priority chronic diseases or risk factors by 2014.

2.2 To deliver high quality comprehensive treatment, care and support for priority NCDs based on national guidelines for the management of NCDs and their risk factors by 2018.

2.3 To increase by 25% the proportion of persons who are aware of their disease status with regards to hypertension, diabetes, depression, dyslipidemia and cervical cancer by 2018.

2.4 To increase by 25% the proportion on persons with hypertension, diabetes and dyslipidemia for whom the condition is controlled in keeping with recommended targets by 2018.

2.5 To achieve an age-appropriate screening rate of at least 80% for priority NCDs (diabetes, hypertension, dyslipidemia, and their risk factors (obesity, tobacco use, harmful use of alcohol, physical activity, depression) in keeping with national screening guidelines by 2018.

2.8 To develop individual chronic disease and injury self-management skills by 2018.

2.9 To strengthen the management of sickle cell disease in primary care, secondary and tertiary care levels by 2018.

Strategy	Activities	Indicators	Targets	Timelines	Other Sectors/stakeholders	Lead Agency or Institution Responsible
Develop/update guidelines for the management of priority NCDs and risk factors	<ul style="list-style-type: none"> <li>Establish guideline development task force of volunteers including public health specialist, epidemiologist and specialist for the specific conditions to develop guidelines in consultation with relevant stake holders</li> <li>Update existing national guidelines and develop new guidelines where none existed for the management of priority NCDs and risk factors including coronary heart disease, stroke, hypertension, diabetes, asthma, most common cancers (adult and paediatric), chronic obstructive pulmonary disease, gender-based violence and sexual assault.</li> <li>Disseminate guidelines to health sector (public and private).</li> <li>Publish guidelines on the MOH website and as a supplement in the West Indian Medical Journal (WIMJ)</li> <li>Conduct regular (at least yearly) training sessions on management of NCDs for health care workers (public and private) based on national guidelines</li> <li>Develop and implement palliative care policy.</li> </ul>	<ul style="list-style-type: none"> <li>Guideline development task force established</li> <li>Number of national guidelines completed and published</li> <li>Proportion of public sector health care workers trained in NCD management using guidelines</li> <li>Palliative Care policy established.</li> </ul>	<ul style="list-style-type: none"> <li>All guidelines completed and published</li> <li>90% of public sector health care workers trained in use of the guidelines</li> <li>NCD treatment protocols in <math>\geq</math> 50% of Primary Health Care facilities, Secondary Care and Tertiary Care facilities</li> <li>Palliative Care policy established.</li> <li>At least 25% of chronically ill patients achieving desired clinical treatment targets</li> </ul>	<ul style="list-style-type: none"> <li>All guidelines published by 2015</li> <li>90% of health care workers trained by 2018</li> </ul>	<p>GOJ</p> <ul style="list-style-type: none"> <li>MIIC</li> </ul> <p>NGOs</p> <ul style="list-style-type: none"> <li>HFJ</li> <li>DAJ</li> <li>JCS</li> </ul> <p>FBOs</p> <ul style="list-style-type: none"> <li>Private Health Sector</li> <li>Professional associations</li> <li>Academia</li> </ul>	<ul style="list-style-type: none"> <li>MOH, RHA</li> </ul>
Strengthen early detection programmes for NCDs and their risk factors	<ul style="list-style-type: none"> <li>Update existing and develop comprehensive screening policy and guidelines, where none existed, for NCDs or risk factors including: hypertension, diabetes, high</li> </ul>	<ul style="list-style-type: none"> <li>Screening guidelines developed and published</li> <li>Proportion of health care workers trained</li> </ul>	90% of health care workers trained in use of screening guidelines	<ul style="list-style-type: none"> <li>Screening guidelines to be published by 2014</li> <li>90% of</li> </ul>	<p>GOJ</p> <ul style="list-style-type: none"> <li>MIIC</li> <li>MOE</li> </ul> <p>NGOs</p>	<ul style="list-style-type: none"> <li>MOH, RHA</li> </ul>

Strategy	Activities	Indicators	Targets	Timelines	Other Sectors/stakeholders	Lead Agency or Institution Responsible
	<p>cholesterol, depression, cervical cancer, breast cancer, prostate cancer and colon cancer, gender-based violence and child abuse. Guidelines to be developed through the guideline development task force</p> <ul style="list-style-type: none"> <li>• Train health care workers with regards to implementation of early detection programme.</li> </ul>	<p>in accordance with screening guidelines</p>	<ul style="list-style-type: none"> <li>• At least 60% of chronically ill patients successfully diagnosed</li> </ul>	<p>health care workers trained by 2017</p>	<ul style="list-style-type: none"> <li>• HFJ</li> <li>• DAJ</li> <li>• JCS</li> </ul> <p>FBOs</p> <ul style="list-style-type: none"> <li>• Private Health Sector</li> <li>• Professional associations</li> <li>• Academia</li> <li>•</li> </ul>	
<p>Promote individual chronic disease and injury self-management</p>	<ul style="list-style-type: none"> <li>• National public education campaign to promote age appropriate screening for NCDs and violence related injuries (e.g. gender-based violence and child abuse) consistent with the national NCD screening policy.</li> <li>• Develop chronic disease and injury self-management programme.</li> <li>• Establish programme to promote home glucose monitoring and blood pressure monitoring at home, pharmacies or health centres to improve diabetes and blood pressure control</li> <li>• Assemble multidisciplinary team and NGO representatives to produce short patient/family education booklets and IEC materials with relevant information of individual chronic diseases</li> <li>• Publish patient/family IEC materials on MOH and NGO websites</li> </ul>	<ul style="list-style-type: none"> <li>• Proportion of persons in respective age-groups screened for specified NCDs and violence related injuries.</li> <li>• Proportion of persons for hypertension, diabetes, high cholesterol, depression, and cervical cancer who are aware of their condition</li> <li>• Proportion of persons with <del>for</del> hypertension, diabetes, high cholesterol, depression, who are on treatment for their condition</li> <li>• Proportion of persons</li> </ul>	<ul style="list-style-type: none"> <li>• 80% of population in respective age-groups screened for NCDs or risk factors</li> <li>• At least 50% of patients with NCDs with an action plan/care plan who at follow up achieved goals, followed plans</li> <li>• At least 50% of persons with NCDs with updated passport that is carried to each</li> </ul>	<ul style="list-style-type: none"> <li>• Public education programme by 2014</li> <li>• Training of health care workers by 2014</li> <li>• Glucose and blood pressure monitoring programmes by 2015</li> <li>• Patient /family education booklets and IEC materials and Chronic care passport by 2015.</li> </ul>	<p>GOJ</p> <ul style="list-style-type: none"> <li>• MIIC</li> <li>• MOE</li> </ul> <p>NGOs</p> <ul style="list-style-type: none"> <li>• HFJ</li> <li>• DAJ</li> <li>• JCS</li> </ul> <p>FBOs</p> <ul style="list-style-type: none"> <li>• Private Health Sector</li> <li>• Professional associations</li> <li>• Academia</li> </ul>	<ul style="list-style-type: none"> <li>• MOH, RHA</li> </ul>

Strategy	Activities	Indicators	Targets	Timelines	Other Sectors/stakeholders	Lead Agency or Institution Responsible
	<ul style="list-style-type: none"> <li>Promote adoption of personal targets and strategies for NCD treatment and control among persons diagnosed with NCDs</li> </ul> <p>Promote the use of the chronic disease passport for patients in both the public and private sectors</p> <p>Train lay chronic disease health promoters (Community Health Aides and non-health professionals).</p>	<p>with hypertension, diabetes or dyslipidemia whose condition is under control</p> <ul style="list-style-type: none"> <li>Patient/family IEC materials published and accessible.</li> <li>Proportion of persons with NCDs who have personal targets and strategies for the treatment and control of their condition</li> <li>Proportion of persons with NCDs with an updated chronic disease passport carried to each clinic visit.</li> <li>Proportion of persons with NCDs reporting using the chronic disease passport</li> </ul>	<p>clinic visit.</p> <ul style="list-style-type: none"> <li>At least 50% of persons with NCDs reporting using the chronic disease passport</li> <li>25% of persons who are aware of their disease status with regards to hypertension, diabetes, depression, dyslipidemia and cervical cancer.</li> <li>25% of persons with hypertension, diabetes and dyslipidemia for whom the condition is controlled in keeping with recommended targets</li> <li>Patient/family IEC materials published and accessible.</li> </ul>			

Strategy	Activities	Indicators	Targets	Timelines	Other Sectors/stakeholders	Lead Agency or Institution Responsible
Reorientation of services to support violence and injuries prevention	<ul style="list-style-type: none"> <li>Established hospital-based and health centre based (major facilities) injuries prevention programme</li> <li>Partner with the Ministries of National Security, Education, Social Security, Youth and Local Government, as well as civil society NGOs to promote non-violent approaches to dispute resolution, healthy family values, safe driving habits and use of the road-way, mediation between disputing communities.</li> </ul>	<ul style="list-style-type: none"> <li>Victims and perpetrators of violence provided with counseling and supportive programme for violence prevention</li> <li>Hospital based and health centre (major facilities) based model of violence prevention developed and implemented</li> </ul>	<ul style="list-style-type: none"> <li>Victims and perpetrators of violence provided with counseling and supportive programme for violence prevention</li> <li>Hospital based and health centre (major facilities) based model of violence prevention developed and implemented</li> </ul>	By 2018	GOJ <ul style="list-style-type: none"> <li>MNS</li> <li>MOE</li> </ul> NGOs <ul style="list-style-type: none"> <li>HFJ</li> <li>DAJ</li> <li>JCS</li> </ul> FBOs <ul style="list-style-type: none"> <li>Private Health Sector</li> <li>Professional associations</li> <li>Academia</li> <li></li> </ul>	<ul style="list-style-type: none"> <li>MOH, RHA</li> </ul>
Strengthen management of Sickle Cell Disease	<ul style="list-style-type: none"> <li>Scale up sickle cell neonatal programme to cover the entire island.</li> <li>Integrate sickle cell genetic counselling into adolescent health and Family Planning programmes.</li> <li>Implement the use of current sickle cell disease treatment guidelines in primary care clinics and emergency rooms</li> <li>Development of treatment guidelines for in-patient management of sickle cell disease and its complications</li> <li>Hold training seminars for health</li> </ul>	<ul style="list-style-type: none"> <li>Proportion of pregnant women and newborn screened for sickle cell.</li> <li>Sickle cell disease treatment guidelines available in primary care clinics and emergency rooms</li> <li>In-patient guidelines for sickle cell disease developed and published</li> </ul>	<ul style="list-style-type: none"> <li>100% of pregnant women and newborn screened for sickle cell.</li> <li>90% of health care workers trained in management of sickle cell disease</li> </ul>	By 2015	GOJ <ul style="list-style-type: none"> <li>MOE</li> </ul> NGOs <ul style="list-style-type: none"> <li>HFJ</li> <li>DAJ</li> <li>JCS</li> </ul> FBOs <ul style="list-style-type: none"> <li>Private Health Sector</li> <li>Professional associations</li> <li>Academia</li> </ul>	<ul style="list-style-type: none"> <li>Sickle Cell Unit UWI</li> <li>MOH, RHA</li> </ul>

Strategy	Activities	Indicators	Targets	Timelines	Other Sectors/stakeholders	Lead Agency or Institution Responsible
	care workers on the management of sickle cell disease	<ul style="list-style-type: none"> <li>Proportion of Health care workers trained in management of sickle cell disease</li> </ul>				

Notes: MOH = Ministry of Health; RHA = Regional Health Authorities

## **Priority AREA #3 Surveillance, Research, Monitoring and Evaluation**

### **STRATEGIC OBJECTIVE 3: Strengthen national capacity for NCD surveillance high quality research for prevention and control of non- communicable diseases**

- 3.1 To strengthen the Ministry of Health NCD Surveillance System, and link it with the National Health Information Systems and the Caribbean NCD Surveillance by 2018.
- 3.2 To establish a National NCD Registry comprising a National Cancer Registry, National Cardiovascular Disease Registry and Diabetes, Asthma registry to monitor disease incidence and outcomes by 2016.
- 3.3 To use surveillance data to inform policy, monitor and evaluate progress towards achieving targets in the plan 2014.
- 3.4 To identify priority areas and promote research in NCDs (including injuries and violence) in collaboration with key stakeholders in academia, governmental and international organizations, civil society and community groups by 2014.

<b>Strategy</b>	<b>Activities</b>	<b>Indicators</b>	<b>Targets</b>	<b>Timelines</b>	<b>Other Sectors/Stakeholders</b>	<b>Lead Agency or Institution Responsible</b>
Monitoring and evaluation of NCDs	<ul style="list-style-type: none"> <li>Develop comprehensive Monitoring and Evaluation plan to monitor progress in targets on plan.</li> <li>Update minimum data set for NCDs and injuries in keeping with Global, Regional and National priorities.</li> <li>Update legislation to make select chronic diseases reportable.</li> <li>Ensure the full integration of the surveillance system into the National Health Information System</li> <li>National data anonymized, de-identified and made available to Caribbean Regional NCD Surveillance System.</li> <li>Use Geographic Information System for surveillance of NCDs</li> <li>Standardize indicators collected on NCDs via major surveys.</li> <li>Monitor and evaluate quality of</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Health NCD Surveillance System strengthened.</li> <li>National NCD Surveillance system fully integrated into National Health Information System.</li> <li>Cancer, chronic kidney disease, heart attack, and stroke are reportable disease.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Health NCD Surveillance System strengthened.</li> <li>National NCD Surveillance system fully integrated into National Health Information System.</li> <li>Cancer, chronic kidney disease, heart attack, and stroke are reportable disease</li> </ul>	<ul style="list-style-type: none"> <li>By 2018</li> </ul>	Vital Statistics Commission PIOJ  NGOs <ul style="list-style-type: none"> <li>HFJ</li> <li>DAJ</li> <li>JCS</li> </ul> FBOs <ul style="list-style-type: none"> <li>Private Health Sector</li> <li>Professional associations</li> <li>Academia</li> </ul>	<ul style="list-style-type: none"> <li>MOH, RHAs</li> <li>STATIN</li> </ul>



Strategy	Activities	Indicators	Targets	Timelines	Other Sectors/Stakeholders	Lead Agency or Institution Responsible
	<p>reports.</p> <ul style="list-style-type: none"> <li>Establish MOU with Ministry of National Security, Ministry of Transport and Works to provide injuries data and other key stakeholders.</li> <li>Report monthly to Jamaica Crime Observatory.</li> </ul>		At least 30% National data on peripheral artery disease and epilepsy collected			
Strengthen and maintain NCD registries.	<ul style="list-style-type: none"> <li>Establish and maintain National NCD registries to include National Cancer, Cardiovascular disease, Diabetes, Chronic kidney disease and Asthma registries in collaboration with the National Health Fund.</li> <li>Secure funding for establishment of registry</li> <li>Identify and train persons in designing and maintaining the cancer registry and cardiovascular disease registry</li> <li>Require compulsory reporting of confirmed or suspected cases of cancers, chronic kidney disease, heart attack, and stroke in both public and private sectors</li> </ul>	<ul style="list-style-type: none"> <li>National NCD Registry established and adequately staffed</li> <li>Proportion of health facilities and practitioners reporting cases of cancer, heart attack and stroke</li> </ul>	<ul style="list-style-type: none"> <li>&gt;80% of health facilities and practitioners reporting cases</li> <li>&gt;80% coverage of the island by registry</li> </ul>	<ul style="list-style-type: none"> <li>By 2018</li> </ul>	<p>Vital Statistics Commission PIOJ</p> <p>NGOs</p> <ul style="list-style-type: none"> <li>HFJ</li> <li>DAJ</li> <li>JCS</li> </ul> <p>FBOs</p> <ul style="list-style-type: none"> <li>Private Health Sector</li> <li>Professional associations</li> <li>Academia</li> </ul>	<ul style="list-style-type: none"> <li>MOH, RHAs</li> <li>NHF</li> </ul>
Strengthening capacity and innovation	<ul style="list-style-type: none"> <li>Identify funding to support NCD surveillance, monitoring and evaluation capacity,</li> <li>Support the implementation of the NCD component of the National Health Information</li> </ul>	<ul style="list-style-type: none"> <li>Funding secured for NCD surveillance, monitoring and evaluation capacity,</li> <li>% Primary care facilities, curative</li> </ul>	<ul style="list-style-type: none"> <li>Funding secured for NCD surveillance, monitoring and evaluation</li> </ul>	<ul style="list-style-type: none"> <li>By 2018</li> </ul>	<p>PIOJ NHF</p> <p>NGOs</p> <ul style="list-style-type: none"> <li>HFJ</li> <li>DAJ</li> </ul>	<ul style="list-style-type: none"> <li>MOH, RHAs</li> <li>STATIN</li> </ul>

Strategy	Activities	Indicators	Targets	Timelines	Other Sectors/Stakeholders	Lead Agency or Institution Responsible
	<p>Strategic Plan.</p> <ul style="list-style-type: none"> <li>Implement Chronic Disease Clinical Information System at curative clinics in Primary Care for patient management.</li> <li>Training key stakeholders in surveillance of NCDs with annual updates.</li> <li>Update infrastructure to support surveillance activities.</li> <li>Create links between health surveys and other national databases bases such as hospital records, the Registrar General Department (RDG) and the National Health Fund through the use of single unique identifier</li> <li>Record unique identifier on all health records and in national surveys and national databases (including RGD).</li> </ul>	<p>clinics utilizing Clinical Information System to guide patient management.</p> <ul style="list-style-type: none"> <li>Number of Health Care Workers trained in surveillance of NCDs</li> <li>Infrastructure updated</li> <li>% of health facilities and health records using unique identifier</li> </ul>	<p>capacity,</p> <ul style="list-style-type: none"> <li>At least 50 % of Primary care facilities utilizing Clinical Information System to guide patient management.</li> <li>At least 80% of surveillance team of NCDs.</li> <li>Infrastructure updated</li> <li>Unique identifier used in &gt;95% of health facilities and health records</li> <li>NCD component of National Health Information System strategic plan implemented/</li> </ul>		<ul style="list-style-type: none"> <li>JCS</li> <li>FBOs</li> <li>Private Health Sector</li> <li>Professional associations</li> <li>Academia</li> </ul>	
Promote research	<ul style="list-style-type: none"> <li>Research priority areas to be developed based on the Caribbean Health Research Council Research Agenda Health Research Agenda for the Caribbean and National Research Agenda.</li> <li>Partner with academic institutions</li> </ul>	<ul style="list-style-type: none"> <li>Number of research projects completed or in progress</li> <li>Number of research papers published</li> <li>Number of evidence based programmes</li> </ul>	<ul style="list-style-type: none"> <li>At least one research project per year</li> <li>At least two research papers</li> </ul>	By 2018	PIOJ NGOs <ul style="list-style-type: none"> <li>HFJ</li> <li>DAJ</li> <li>JCS</li> </ul> FBOs	<ul style="list-style-type: none"> <li>MOH, RHAs</li> <li>STATIN</li> <li>Academia</li> </ul>

Strategy	Activities	Indicators	Targets	Timelines	Other Sectors/Stakeholders	Lead Agency or Institution Responsible
	<p>and other stakeholders in conducting research to support National Health Research Agenda</p> <ul style="list-style-type: none"> <li>Establish National Health Research Funding Agency (through National Health Fund and or other appropriate agencies)</li> <li>Establish a system to review research proposals under the National Research Funding Agency and assess whether proposals are fundable based to scientific quality and novelty</li> <li>Establish a National NCD research Register to track research in priority areas avoid duplication of projects</li> <li>Analyze data from medical records, surveys and mortality databases in order to identify trends in disease patterns and generate hypotheses for testing</li> <li>Design and implement research studies to test hypotheses in collaboration with academic researchers</li> <li>Publish findings in reports and in medical journals</li> <li>Use research findings for evidence based programme planning</li> </ul>	<p>or policies implemented</p> <ul style="list-style-type: none"> <li>Research priority document available at MOH and published on MOH website</li> <li>NCD research register established</li> <li>Number of priority areas with active research programmes</li> <li>National Health Research Funding Agency established</li> <li>% Research projects submitted for funding.</li> </ul>	<p>published per year</p> <ul style="list-style-type: none"> <li>Active research programmes in at least 50% of priority areas</li> <li>NCD research register established</li> <li>At least 25% of research projects assessed as fundable by reviewers</li> </ul>		<ul style="list-style-type: none"> <li>Private Health Sector</li> <li>Professional associations</li> </ul>	
Dissemination and utilization of information for action	<ul style="list-style-type: none"> <li>Translate NCD and injuries surveillance, evaluation and research information into press releases, policy briefing documents, community education and advocacy</li> </ul>	<ul style="list-style-type: none"> <li>% Annual reports produced and disseminated.</li> <li>% of press releases, policy briefing</li> </ul>	<ul style="list-style-type: none"> <li>100% press releases, policy briefing documents, community</li> </ul>	By 2014	PIOJ NGOs <ul style="list-style-type: none"> <li>HFJ</li> <li>DAJ</li> </ul>	<ul style="list-style-type: none"> <li>MOH, RHAs</li> <li>STATIN</li> <li>Academia</li> </ul>

Strategy	Activities	Indicators	Targets	Timelines	Other Sectors/Stakeholders	Lead Agency or Institution Responsible
	<p>materials, and publications.</p> <ul style="list-style-type: none"> <li>Analyze data to guide policy and planning and progress in meeting targets.</li> <li>Produce annual reports, and publish on Ministry of Health website.</li> <li>Contribute to reports for Global, Regional, National purposes on NCDs and their risk factors.</li> </ul>	<p>documents, community education and advocacy produced using NCD and injuries surveillance/research/evaluation data.</p>	<p>education and advocacy produced using NCD and injuries surveillance/research/evaluation data.</p>		<ul style="list-style-type: none"> <li>JCS FBOs</li> <li>Private Health Sector</li> <li>Professional associations</li> </ul>	
Annual NCD Review and Conference	<ul style="list-style-type: none"> <li>Maintain Annual NCD Conference with progress reports from public and private health sector and non-health sector</li> </ul>	<ul style="list-style-type: none"> <li>Annual NCD Conference held</li> <li><b>Number of conference attendees per year</b></li> </ul>	<ul style="list-style-type: none"> <li>Annual NCD conference held</li> <li>At least 100 conference attendees each year</li> </ul>	By 2013	All non- health GOJ, NGOs, FBOs, Private and Professional associations	<ul style="list-style-type: none"> <li>MOH, RHAs</li> <li>STATIN</li> <li>Academia</li> </ul>

**Priority AREA #4: Public Policy and Advocacy**

**STRATEGIC OBJECTIVE 4: Strengthen international cooperation and advocacy to raise the priority accorded to prevention and control of non-communicable diseases in the development agenda and in internationally agreed development goals.**

**STRATEGIC OBJECTIVE 5: Build health-promoting public policies through health in all policies**

4.1 To raise the priority status of NCD within the Health Sector and non-health Sector by 2015.

4.2 To ensure the passing and implementation of legislation banning smoking in public places and other provisions of the WHO FCTC by 2014.

4.3 To develop policies to **promote** physical activity and healthy diet.

4.4 To develop a NCD Health Promotion and Communications Strategy to guide public education programmes for NCD prevention and control

4.5 To review all relevant government policies to ensure consistency with NCD prevention and control measures in keeping with the concept of 'Health in All Policies'

Strategy	Activities	Indicators	Targets	Timelines	Other sector/stakeholder	Lead Agency or Institution Responsible
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Strategy	Activities	Indicators	Targets	Timelines	Other sector/stakeholder	Lead Agency or Institution Responsible
Raise the priority status of NCDs	<ul style="list-style-type: none"> <li>• Highlight burden of NCDs in annual health and mortality reports</li> <li>• Representation through Minister of Health to Cabinet with regards to burden of NCDs their social and economic impact</li> <li>• Representation through Minister of Health with regards to Jamaica's commitments through the Port of Spain declaration and the UN High Level Meeting Outcomes Document</li> <li>• Periodic meetings with International Donor Agencies to highlight the burden of NCDs and progress in implementation of the Strategic Plan.</li> <li>• Participate actively in CARPHA and PAHO/CARMEN initiatives to share lessons learned and identify successful practices that Jamaica can introduce</li> </ul>	<ul style="list-style-type: none"> <li>• Number of Public and Private Sector, Civil Society and Academia plans that include NCD</li> <li>• NCD prevention and control included in national development plans</li> <li>• % of Official Development funds for NCDs</li> <li>• % CARPHA and PAHO/CARMEN initiatives attended</li> </ul>	<ul style="list-style-type: none"> <li>• Public and Private Sector, Civil Society and Academia plans that include NCD</li> <li>• NCD prevention and control included in national development plan</li> <li>• 20% increase in Official Development funds for NCDs</li> <li>• Participate in at least 50% of initiatives</li> </ul>	<ul style="list-style-type: none"> <li>• .By 2018</li> </ul>	<ul style="list-style-type: none"> <li>• .MFAFT</li> <li>• Civil Society</li> <li>• Academia</li> <li>• Private Sector</li> </ul>	MOH, RHA
Passage of Tobacco Control Legislation.	<ul style="list-style-type: none"> <li>• Representation through Minister of Health to have Tobacco Control Legislation passed by Cabinet.</li> </ul>	<ul style="list-style-type: none"> <li>• Tobacco Control legislation tabled and passed</li> </ul>	<ul style="list-style-type: none"> <li>• Tobacco Control legislation tabled and passed by 2014</li> </ul>	<ul style="list-style-type: none"> <li>• 2014</li> </ul>	<p><b>GOJ</b></p> <ul style="list-style-type: none"> <li>• MOE</li> <li>• MYC</li> <li>• MLSS</li> <li>• MTE</li> <li>• MOA</li> <li>• Localgov</li> </ul> <p><b>NGOs</b></p> <ul style="list-style-type: none"> <li>• HFJ/JTC</li> <li>• DAI</li> </ul>	<ul style="list-style-type: none"> <li>• MOH</li> <li>• MOFP</li> <li>• MIIC</li> <li>• MOJ</li> <li>• <b>MNS</b></li> </ul>

Strategy	Activities	Indicators	Targets	Timelines	Other sector/stakeholder	Lead Agency or Institution Responsible
					<ul style="list-style-type: none"> <li>JCS</li> </ul> Professional Association Private Sector	
Passage of policies / legislation to promote healthy eating	<ul style="list-style-type: none"> <li>Work with the food industry, Ministries of Agriculture and Trade in order to develop a policy document requiring food industry companies and importers of food products committing to eliminate trans-fats, reduce saturated fats and salt in foods prepared outside the home</li> <li>Establishment of a multi-sector task force to develop policy document</li> <li>Work with the Ministry of Agriculture to have the National Nutrition and Food Security Policy and Strategic plan approved by Cabinet.</li> <li>Work with Minister of Health to have the National Infant and Young Child feeding policy passed.</li> <li>Complete and implement National Food-based dietary guidelines.</li> <li>Include basic nutrition as requirement for food handler's permit.</li> </ul>	<ul style="list-style-type: none"> <li>Food Industry Task Force established</li> <li>Legislation enacted</li> <li>National Nutrition and Food Security Policy approved.</li> <li>National Infant and Young Child feeding policy passed.</li> <li>National Food-based dietary guidelines implemented.</li> <li>Nutrition integrated into Food Handlers programme.</li> </ul>	<ul style="list-style-type: none"> <li>Food Industry Task Force established</li> <li>Legislation enacted</li> <li>National Nutrition and Food Security Policy approved.</li> <li>National Infant and Young Child feeding policy passed.</li> <li>National Food-based dietary guidelines implemented.</li> <li>Nutrition integrated into Food Handlers programme.</li> </ul>	<ul style="list-style-type: none"> <li>Task Force established 2013</li> <li>Draft legislation by 2014</li> <li>Legislation enacted by 2016</li> </ul>	<b>GOJ</b> <ul style="list-style-type: none"> <li>MOE</li> <li>MYC</li> <li>MLSS</li> <li>MTE</li> <li>MOT</li> <li>MFAFT</li> <li>Localgov</li> </ul> <b>NGOs</b> <ul style="list-style-type: none"> <li>HFJ/JTC</li> <li>DAJ</li> <li>JCS</li> </ul> Professional Association  Private Sector	<ul style="list-style-type: none"> <li>MOA</li> <li>MOH</li> </ul>
Policies to support Physical Activity for Health	<ul style="list-style-type: none"> <li>Work with Ministry of Sports to ensure Physical Activity for Health in National Sports policy.</li> <li>Support the passage of a National</li> </ul>	<ul style="list-style-type: none"> <li>Sports policy approved by Cabinet.</li> </ul>	<ul style="list-style-type: none"> <li>Physical Activity of health included in Sports policy.</li> </ul>	<ul style="list-style-type: none"> <li>By 2015</li> </ul>	GOJ <ul style="list-style-type: none"> <li>MFAFT</li> <li>MOE</li> <li>MISS</li> </ul>	<ul style="list-style-type: none"> <li>MOH</li> <li>MOS</li> </ul>

Strategy	Activities	Indicators	Targets	Timelines	Other sector/stakeholder	Lead Agency or Institution Responsible
	<p>Sports Policy.</p> <ul style="list-style-type: none"> <li>• Work with Ministry of Education to make physical activity compulsory up to grade</li> </ul>				<ul style="list-style-type: none"> <li>• Localgov</li> </ul> <p>NGOs</p> <ul style="list-style-type: none"> <li>• HFJ</li> <li>• DAJ</li> <li>• JCS</li> </ul> <p>Private Sector JAAA</p>	
Health in All Policies	<ul style="list-style-type: none"> <li>• Establish policy review committee to research and review existing and new government policy documents relevant to NCDs</li> <li>• Policy review Committee to be a sub-committee of the National NCD committee</li> <li>• Policy review committee meets quarterly and submit annual reports to NCD committee</li> </ul>	<ul style="list-style-type: none"> <li>• Number of relevant government policies identified</li> <li>• Number of policies reviewed</li> </ul>	<ul style="list-style-type: none"> <li>• 100% of relevant government policies reviewed and recommendations made on NCDs.</li> </ul>	<ul style="list-style-type: none"> <li>• Activities throughout the strategic period</li> </ul>	<ul style="list-style-type: none"> <li>• All government Ministries and Agencies</li> </ul>	<ul style="list-style-type: none"> <li>• MOH</li> <li>• MOJ</li> </ul>

Notes: MOH = Ministry of Health; RHA = Regional Health Authorities; CMO = Chief Medical Officer



**Priority AREA #5: Leadership, Governance and Capacity building**

**STRATEGIC OBJECTIVE 6: Strengthen national capacity, leadership, governance, multisectoral action and partnership to accelerate country response for prevention and control of non-communicable diseases.**

- 5.1. To secure adequate funding to support the NCD programme through government subvention, national funding agencies and international donors by 2014.
- 5.2. To secure adequate staff at the ministry of health, regional health authorities and public health facilities to support the NCD programme by 2014.
- 5.3. To restructure health systems and human resource development in keeping with the burden of NCDs by 2018.
- 5.4. To strengthen the capacity of health care workers and non-health care workers to manage and deliver chronic care for NCDs in both the public and private sectors by 2014.
- 5.5. To improve laboratory and diagnostic services at national, regional and institutional level in order to provide adequate capacity for diagnosis and management of NCDs
- 5.6. To improve pharmacy services and ensure the provision of essential medicines for the treatment and prevention of NCDs at the primary, secondary and tertiary care levels
- 5.7. To establish a National NCD Commission with members appointed by the Minister of Health and approved by Cabinet
- 5.8. To maintain and staff multisectoral National NCD Commission/Taskforce.
- 5.9. To maintain annual National NCD review and conference

Strategy	Activities	Indicators	Targets	Timelines	Other sector/stakeholders	Lead Agency or Institution Responsible
Increase budgetary allocation for NCD programme.	<ul style="list-style-type: none"> <li>Representation through the Permanent Secretary, through Minister of Health to Cabinet for allocation of special funds for NCD prevention and control programme</li> <li>Mobilize resources for the NCD programme in coordination with the Ministry of Finance and the Planning Institute of Jamaica.</li> <li>Submit grant applications to local, regional and international funding agencies to fund specific segments of the NCD programme</li> </ul>	<ul style="list-style-type: none"> <li>Approved budget in place</li> <li>Proportion of programmes in the strategic plan funded</li> </ul>	<ul style="list-style-type: none"> <li>&gt;90% of proposed programmes funded</li> <li>Approved budget in place</li> </ul>	<ul style="list-style-type: none"> <li>By 2018</li> <li>Government portion of NCD budget approved by March 2014</li> </ul>	MOF Donor agencies PIOJ	MOH
<b>Strengthen Multisectoral Action</b>	<ul style="list-style-type: none"> <li>Upgrade existing National NCD Committee to National Multisectoral High Level commission/taskforce on non-communicable diseases through the Minister of Health to Cabinet.</li> <li>Secure budgetary allocation for the National Multisectoral High Level commission on NCDs.</li> <li>Chairman and members of the NCD Commission appointed by Minister of Health/Prime Minister and approved by Cabinet</li> <li>NCD Commission meets at least bimonthly to evaluate progress in meeting targets etc.</li> <li>Establish secretariat and Offices for NCD Commission</li> <li>NCD Committee submits reports annually to Minister of Health</li> </ul>	<ul style="list-style-type: none"> <li>National Multisectoral High Level commission /taskforce on non-communicable established.</li> <li>Budgetary allocation secured.</li> <li>All Members of NCD Committee appointed</li> <li>Number of NCD Committee meeting held</li> <li>Number of reports/recom</li> </ul>	<ul style="list-style-type: none"> <li>National Multisectoral High Level commission /taskforce on non-communicable established.</li> <li>Budgetary allocation secured.</li> <li>Multi-sector NCD commission appointed and functional</li> <li>NCD</li> </ul>	<ul style="list-style-type: none"> <li>By 2014</li> </ul>	All GOJ ministries and agencies Civil Society Private Sector Academia FBOs	MOH

Strategy	Activities	Indicators	Targets	Timelines	Other sector/stakeholders	Lead Agency or Institution Responsible
	and Cabinet	mendations produced by NCD Committee <ul style="list-style-type: none"> <li>• NCD Committee receives funded secretariat</li> </ul>	Commission meets at least six times per year <ul style="list-style-type: none"> <li>• Annual reports and recommendations submitted by Commission</li> </ul>			
<b>Strengthen Institutional capacity and workforce</b>	<ul style="list-style-type: none"> <li>• Increase the number of staff assigned to the NCD programme               <ul style="list-style-type: none"> <li>• Establish National NCD Unit with at least four full-time persons and two administrative assistant at MOH</li> <li>• Two full time persons at each regional health authority plus with administrative assistant</li> <li>• One full-time person in each health department</li> </ul> </li> <li>• Established post filled by government; new post filled by grants</li> <li>• Develop Human Resource Plan for Health Sector</li> <li>• Increase the number of family medicine specialist/general practitioners and specialist physicians for NCD management (internist and paediatrician; at least one in each health</li> </ul>	<ul style="list-style-type: none"> <li>• Number of requested posts established and filled</li> <li>• Established post filled by government</li> <li>• New post filled by grant funding</li> <li>• Human resource requirements established</li> </ul>	<ul style="list-style-type: none"> <li>• 100% of requested post established and filled</li> <li>• At least two specialist physicians in each health department</li> <li>• At least 80% of established human resource requirement filled</li> </ul>	<ul style="list-style-type: none"> <li>• Post to be filled by April 2014</li> </ul>	<ul style="list-style-type: none"> <li>• MOF</li> <li>• PIOJ</li> <li>• Academia</li> <li>• Professional Associations</li> </ul>	<ul style="list-style-type: none"> <li>• MOH, RHA</li> </ul>

Strategy	Activities	Indicators	Targets	Timelines	Other sector/stakeholders	Lead Agency or Institution Responsible
	department and at least two in KSA <ul style="list-style-type: none"> <li>• Establish a system of promotion for primary care core staff in order to reduce the rapid turnover of primary care staff</li> <li>• Provide scholarships for training as family medicine, public health or epidemiology as additional incentives to keep persons in primary care</li> <li>• Review and establish human resource requirements for other positions including specialist nurses, dietitians, radiologist, clinical specialist, social workers, physical activity trainers etc.</li> </ul>					
<b>Reorientation of Health Care workers</b>	<ul style="list-style-type: none"> <li>• Train health care workers in chronic care for NCD using the Chronic Care Model with an emphasis on Primary Health Care.</li> <li>• Train Health Sector in the prevention and control of priority NCDs and risk factors</li> <li>• Include prevention and control of NCDs in the teaching curricula for medical, nursing and allied health personnel.</li> <li>• Training of non-health sector in NCDs as applicable</li> </ul>	<ul style="list-style-type: none"> <li>• Proportion of health care workers trained in chronic care model for NCD</li> <li>• Number of Health Care workers and Non-Health care workers trained in the prevention and control of priority NCDs and risk factors.</li> </ul>	<ul style="list-style-type: none"> <li>• &gt;75% of core chronic care team in primary trained in chronic care model</li> <li>• Improved delivery of NCD programmes and services.</li> </ul>	<ul style="list-style-type: none"> <li>• By 2018</li> </ul>	MOE HEART Trust/NTA Professional Associations	MOH Academia

Strategy	Activities	Indicators	Targets	Timelines	Other sector/stakeholders	Lead Agency or Institution Responsible
<b>Building alliances</b>	<ul style="list-style-type: none"> <li>Strengthen, establish where it does not exist and maintain partnerships to address implementation gaps in the NCD response.</li> </ul>	<ul style="list-style-type: none"> <li>Strategic Partnerships established.</li> </ul>	<ul style="list-style-type: none"> <li>Strategic Partnerships established.</li> </ul>	<ul style="list-style-type: none"> <li>By 2018</li> </ul>	PIOJ Academia Private Sector Civil Society	MOH
<b>Upgrading of Health Care infrastructure</b>	<ul style="list-style-type: none"> <li>To review and upgrade laboratory services at national and regional labs to ensure adequate capacity to process and report on laboratory investigations required for NCD diagnosis and management in keeping with the National Laboratory Strategic Plan.</li> <li>To review and upgrade diagnostic services at hospitals and health centres to ensure adequate capacity to perform investigations required for NCD diagnosis and management.</li> </ul> <p>Upgrade pharmacy services to ensure registered pharmacist in all type 3-5 health centres and ensure adequate supply of</p>	<ul style="list-style-type: none"> <li>Laboratory service review completed</li> <li>Number of laboratory services upgraded</li> <li>Proportion of regional labs upgraded</li> <li>Diagnostic services review completed</li> <li>Recommended improvements implemented</li> </ul> <ul style="list-style-type: none"> <li>Proportion of stock out of</li> </ul>	<ul style="list-style-type: none"> <li>100% of National lab and all Regional laboratories being able to provide full range of services for NCD diagnosis and management</li> <li>75% of regional labs upgraded and adequately staffed</li> <li>Full range of required diagnostic services available</li> <li>Pharmacy services upgraded and registered</li> </ul>	<ul style="list-style-type: none"> <li>by 2018</li> </ul>	<ul style="list-style-type: none"> <li>NHF</li> <li>CHASE</li> <li>MOF</li> </ul>	<ul style="list-style-type: none"> <li>MOH</li> </ul>

Strategy	Activities	Indicators	Targets	Timelines	Other sector/stakeholders	Lead Agency or Institution Responsible
	pharmaceuticals based on National VEN list.	drugs for NCD on VEN list <ul style="list-style-type: none"> <li>• Proportion of pharmacies that have at least 95% of drugs on VEN list available per month</li> </ul>	pharmacist available at all type 3-5 health centres <ul style="list-style-type: none"> <li>• 90% of pharmacies have at least 95% of drugs on VEN list available per month</li> </ul>			

Notes: MOH = Ministry of Health; RHA = Regional Health Authorities; CMO = Chief Medical officer; KSA = Kingston and St.

Andrew

## XI. LIST OF ABBREVIATIONS

BMI	Body Mass Index
CAREC	Caribbean Epidemiology Centre
CARICOM	Caribbean Community
CCH	Caribbean Corporation in Health
CHASE Fund	Culture Health Arts Sports and Education Fund
CHRC	Caribbean Health Research Council
CNCD	Chronic Non-Communicable Disease
CNCDs	Chronic Non-Communicable Diseases
COPD	Chronic Obstructive Pulmonary Disease
CVD	Cardiovascular Disease
CVDs	Cardiovascular Diseases
DALYs	Disability Adjusted Life Years
DRE	Digital Rectal Examination
ECC	Early Childhood Commission
FCTC	Framework Convention on Tobacco Control
GDP	Gross Domestic Product
HbS	Haemoglobin S
HDL	High Density Lipoprotein
HIV/AIDS	Human Immunodeficiency Virus / Acquired Immune Deficiency Syndrome
HMSR	Hospital Monthly Statistics Reports
J\$	Jamaican Dollars
JHLS	Jamaica Health and Lifestyle Survey
JHLS-I	Jamaica Health and Lifestyle Survey 2000-2001
JHLS-II	Jamaica Health and Lifestyle Survey 2007-2008
KSA	Kingston and St Andrew
MCSR	Monthly Clinical Summary Reports
MDG	Millennium Development Goals
MOH	Ministry of Health

MPOWER	<b>M</b> onitor tobacco use, <b>P</b> rotect people from tobacco smoke; <b>O</b> ffer help to persons wanting to quit; <b>W</b> arn people re dangers of tobacco; <b>E</b> nforce bans; <b>R</b> aise tobacco taxes and prices
NCD	Non-communicable Disease
NCDs	Non-communicable Diseases
NGO	Non-governmental Organization
NGOs	Non-governmental Organizations
NHF	National Health Fund
PAHO	Pan American Health Organization
RGD	Registrar General Department
RHA	Regional Health Authority
SCD	Sickle Cell Disease
STATIN	Statistical Institute of Jamaica
STD	Sexually Transmitted Disease
STEPS	STEPwise approach to surveillance (STEPS)
UN	United Nations
US	United States
USA	Unites States of America
WHO	World Health Organization
WIMJ	West Indian medical Journal



## **XII. ACKNOWLEDGEMENTS AND CONTRIBUTORS**

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Curtis Yeates	CRH	Consultant
Natricia Levy-McFarlane	Ministry of Health	Director (Acting), Epi Research
Colette Myrie	TMRI	Research Fellow
Michele Roofe	Ministry of Health	National Epidemiologist (Acting)
Marva Peck	Ministry of Health	Monitoring and Compliance Officer
Jannett Lym	H.D. Hopwood	Marketing Manager
Rayaad Khan	Central Medical Lab	Technical Manager
Rahanah Khan-Francis	Ministry of Health	PDO, Injuries
Devon Anderson	Ministry of Health	Attendant
Owen Bernard	Council of Voluntary Social Services	Chairman
Winsome Wilkins	Council of Voluntary Social Services	Chief Executive Officer
Walter James	Planning Institute Of Jamaica	Health Economist
Hugh Lawson	National Health Fund	Chief Executive Officer
Rosemarie Lee	National Health Fund	Public Information Manager
Anne Logan	National Health Fund	Individual Benefit Manager
Marina Young	Rural Agriculture Development Agency	Senior Plant Health Specialist
Hugo Prado-Monje	PAHO/WHO	Rep. Acting
Takese Foga	Ministry of Health	Director, Health Promotion and Education
Rowena Palmer	Ministry of Health	Communications Focal Point
Eva Lewis-Fuller	Ministry of Health	Chief Medical Officer, Acting

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## **XIII. APPENDICES**

**Appendix 1: FIGURES**

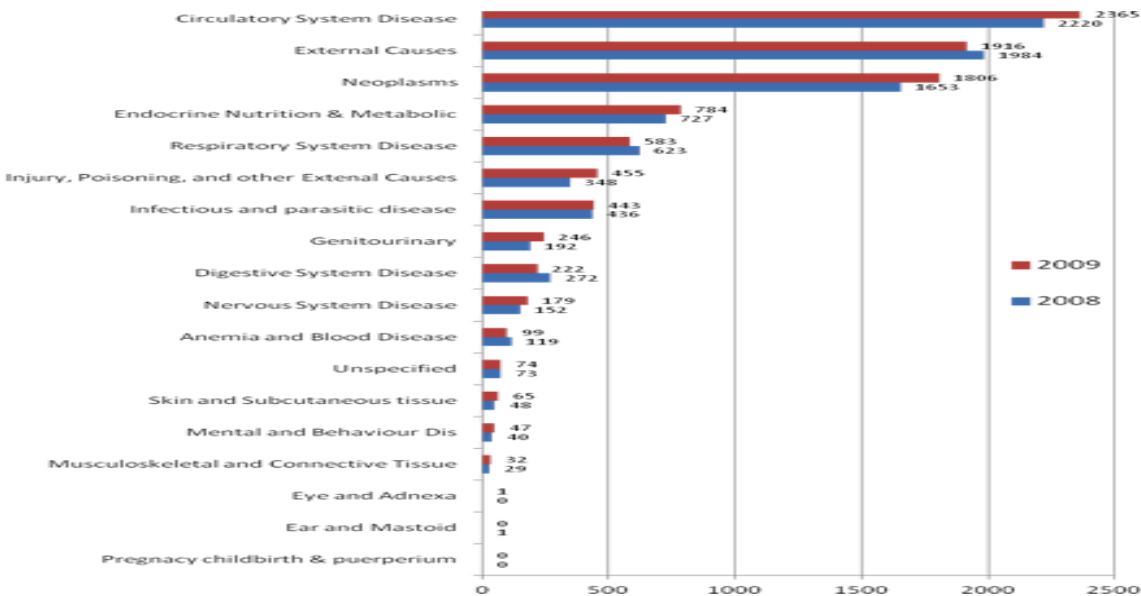
**Appendix 2: DECLARATION OF PORT-OF -SPAIN: UNITING TO STOP THE EPIDEMIC OF CHRONIC NCDs**

**Appendix 3: DECLARATION OF ST. ANN Implementing Agriculture and Food Policies to prevent Obesity and Non-Communicable Diseases (NCDs) in the Caribbean Community**

**Appendix 4: UN High Level Meeting Political Declaration**

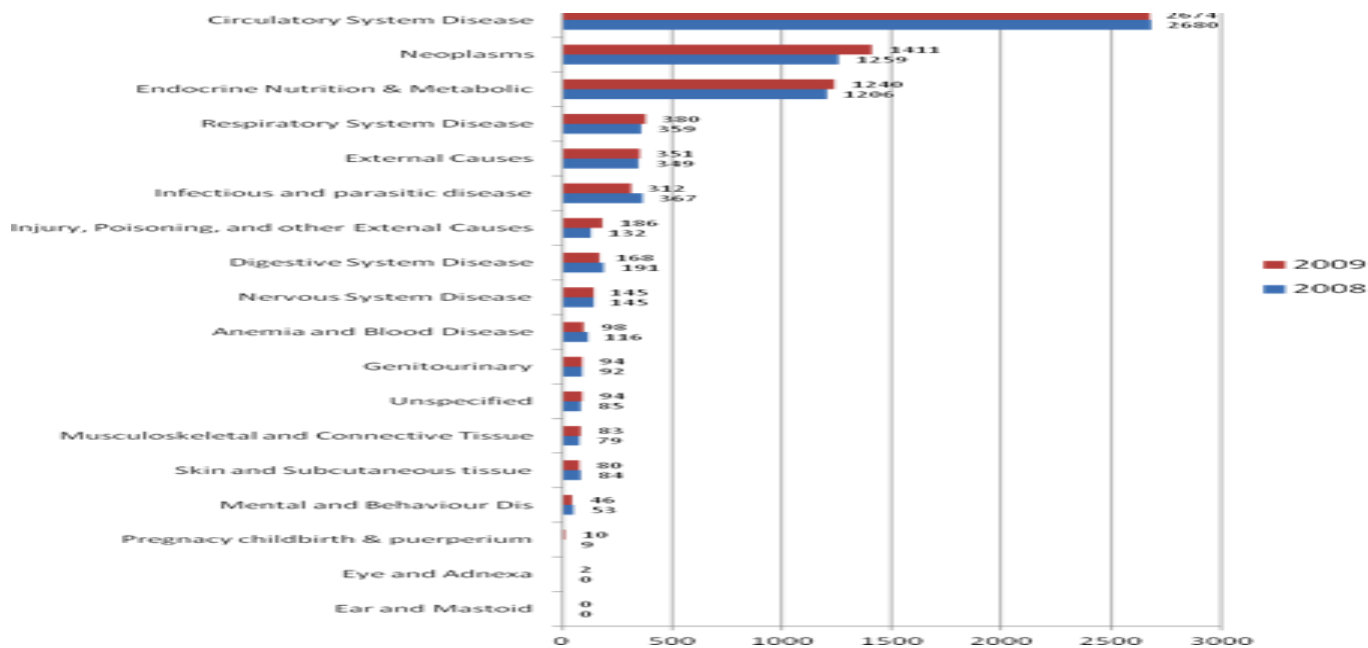
## APPENDIX 1: FIGURES

Figure 7A Leading causes of death by disease category for men 5-100 years in 2008 and 2009



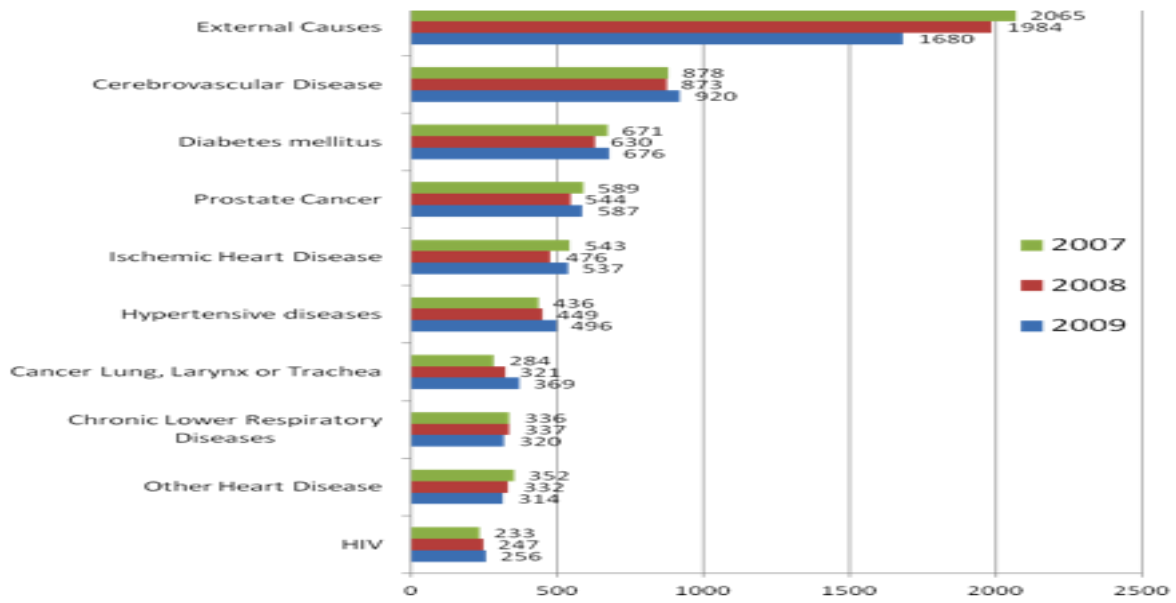
Source: Demographic Statistics 2010. Statistical Institute of Jamaica

Figure 7B Leading causes of death by disease category for women 5-100 years in 2008 and 2009



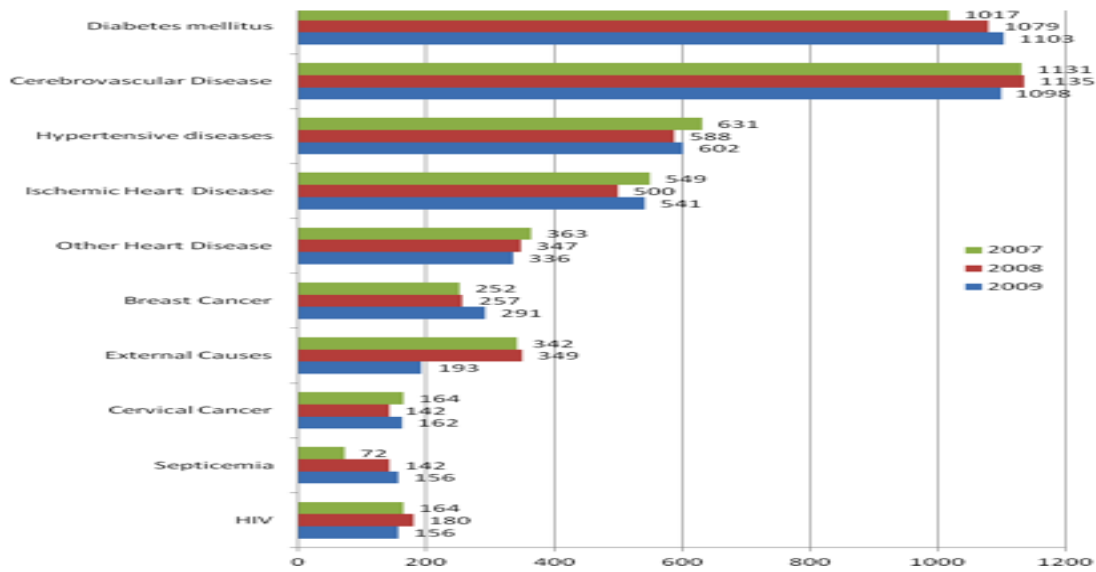
Source: Demographic Statistics 2010. Statistical Institute of Jamaica

**Figure 7C: Leading causes of death by disease condition for men 5-100 years in 2007-2009**



*Source: Demographic Statistics 2010. Statistical Institute of Jamaica*

**Figure 7D: Leading causes of death by disease condition for women 5-100 years in 2007-2009**



*Source: Demographic Statistics 2010. Statistical Institute of Jamaica*

## **APPENDIX 2: DECLARATION OF PORT-OF -SPAIN: UNITING TO STOP THE EPIDEMIC OF CHRONIC NCDs**

**We**, the Heads of Government of the Caribbean Community (CARICOM), meeting at the Crowne Plaza Hotel, Port-of-Spain, Trinidad and Tobago on 15 September 2007 on the occasion of a special Regional Summit on Chronic Non-Communicable Diseases (NCDs);

**Conscious** of the collective actions which have in the past fuelled regional integration, the goal of which is to enhance the well-being of the citizens of our countries;

**Recalling** the Nassau Declaration (2001), that “the health of the Region is the wealth of Region”, which underscored the importance of health to development;

**Inspired** by the successes of our joint and several efforts that resulted in the Caribbean being the first Region in the world to eradicate poliomyelitis and measles;

**Affirming** the main recommendations of the Caribbean Commission on Health and Development which included strategies to prevent and control heart disease, stroke, diabetes, hypertension, obesity and cancer in the Region by addressing their causal risk factors of unhealthy diets, physical inactivity, tobacco use and alcohol abuse and strengthening our health services;

**Impelled** by a determination to reduce the suffering and burdens caused by NCDs on the citizens of our Region which is the one worst affected in the Americas;

**Fully convinced** that the burdens of NCDs can be reduced by comprehensive and integrated preventive and control strategies at the individual, family, community, national and regional levels and through collaborative programmes, partnerships and policies supported by governments, private sectors, NGOs and our other social, regional and international partners;

### **Declare -**

1. • Our full support for the initiatives and mechanisms aimed at strengthening regional health institutions, to provide critical leadership required for implementing our agreed strategies for the reduction of the burden of Chronic, Non-Communicable Diseases as a central priority of the Caribbean Cooperation in Health Initiative Phase III (CCH III), being coordinated by the CARICOM Secretariat, with able support from the Pan American Health Organisation/World Health Organisation (PAHO/WHO) and other relevant partners;
2. • That we strongly encourage the establishment of National Commissions on NCDs or analogous bodies to plan and coordinate the comprehensive prevention and control of chronic NCDs;
3. • Our commitment to pursue immediately a legislative agenda for passage of the legal provisions related to the International Framework Convention on Tobacco Control; urge its immediate ratification in all States which have not already done so and support the immediate enactment of legislation to limit or eliminate smoking in public places, ban the sale, advertising and promotion of tobacco products to children, insist on effective warning labels and introduce such fiscal measures as will reduce accessibility of tobacco;
4. • That public revenue derived from tobacco, alcohol or other such products should be employed, inter alia for preventing chronic NCDs, promoting health and supporting the work of the Commissions;
5. • That our Ministries of Health, in collaboration with other sectors, will establish by mid-2008 comprehensive plans for the screening and management of chronic diseases and risk factors so that by

2012, 80% of people with NCDs would receive quality care and have access to preventive education based on regional guidelines;

6. • That we will mandate the re-introduction of physical education in our schools where necessary, provide incentives and resources to effect this policy and ensure that our education sectors promote programmes aimed at providing healthy school meals and promoting healthy eating;
7. • Our endorsement of the efforts of the Caribbean Food and Nutrition Institute (CFNI), Caribbean Agricultural Research and Development Institute (CARDI) and the regional inter-governmental agencies to enhance food security and our strong support for the elimination of trans-fats from the diet of our citizens, using the CFNI as a focal point for providing guidance and public education designed toward this end;
8. • Our support for the efforts of the Caribbean Regional Negotiating Machinery (CRNM) to pursue fair trade policies in all international trade negotiations thereby promoting greater use of indigenous agricultural products and foods by our populations and reducing the negative effects of globalisation on our food supply;
9. • Our support for mandating the labeling of foods or such measures as are necessary to indicate their nutritional content through the establishment of the appropriate regional capability;
10. • That we will promote policies and actions aimed at increasing physical activity in the entire population, e.g. at work sites, through sport, especially mass activities, as vehicles for improving the health of the population and conflict resolution and in this context we commit to increasing adequate public facilities such as parks and other recreational spaces to encourage physical activity by the widest cross-section of our citizens;
11. • Our commitment to take account of the gender dimension in all our programmes aimed at the prevention and control of NCDs;
12. • That we will provide incentives for comprehensive public education programmes in support of wellness, healthy life-style changes, improved self-management of NCDs and embrace the role of the media as a responsible partner in all our efforts to prevent and control NCDs;
13. • That we will establish, as a matter of urgency, the programmes necessary for research and surveillance of the risk factors for NCDs with the support of our Universities and the Caribbean Epidemiology Centre/Pan American Health Organisation (CAREC/PAHO);
14. • Our continuing support for CARICOM and PAHO as the joint Secretariat for the Caribbean Cooperation in Health (CCH) Initiative to be the entity responsible for revision of the regional plan for the prevention and control of NCDs, and the monitoring and evaluation of this Declaration.
15. We hereby declare the second Saturday in September “Caribbean Wellness Day,” in commemoration of this landmark Summit.

## **APPENDIX 2: DECLARATION OF ST. ANN**

### **Implementing Agriculture and Food Policies to prevent Obesity and Non-Communicable Diseases (NCDs) in the Caribbean Community**

**We**, the Ministers of Agriculture of CARICOM, meeting at the Gran Bahia Principe Hotel, Runaway Bay, St. Ann, Jamaica on 9 October 2007 on the occasion of a special Symposium on Food and Agriculture Policies and Obesity: Prevention of NCDs in the Caribbean;

**Recalling** the 1996 declaration in The Bahamas of the region's Ministers of Agriculture that "*Food and nutritional security in the Caribbean is also related to chronic nutritional life style diseases [NCDs] such as obesity, stroke and heart attack*", and the 2007 Heads of Government Declaration of Port of Spain in which a commitment was made, "*to provide critical leadership required for implementing...agreed strategies for the reduction of the burden of Chronic, Non-Communicable Diseases as a central priority of the Caribbean Cooperation in Health Initiative ...*";

**Affirming** the main recommendations of the Caribbean Commission on Health and Development which included strategies to prevent and control heart disease, stroke, diabetes, hypertension, obesity and cancer in the Region by addressing their causal risk factors of unhealthy diets, physical inactivity, tobacco use and alcohol abuse and strengthening our health and agricultural policies;

**Impelled** by a determination to reduce the suffering and burdens caused by NCDs through the promotion and implementation of effective food and agricultural policies as part of our overall development plans;

**Fully convinced** that the burdens of NCDs can be reduced by comprehensive and integrated preventive and control strategies at the individual, family, community, national and regional levels and through collaborative programmes, partnerships and policies supported by governments, private sectors, NGOs and our other social, regional and international partners;

#### **Declare –**

- Our full support for the initiatives and mechanisms aimed at strengthening regional health and agricultural institutions, to provide critical leadership required for implementing our agreed strategies for the reduction of the burden of Chronic, Non-Communicable Diseases as a central priority of the Caribbean Cooperation in Health Initiative Phase III (CCH III), being coordinated by the CARICOM Secretariat, with able support from the Pan American Health Organization/World Health Organization (PAHO/WHO) and other relevant partners;



- Our determination to exhaust all options within Regional and WTO agreements to ensure the availability and affordability of healthy foods;
- Our support for the efforts of the Caribbean Regional Negotiating Machinery (CRNM) to pursue fair trade policies in all international trade negotiations thereby promoting greater use of indigenous agricultural products and foods by our populations and reducing the negative effects of globalization on our food supply;
- Our commitment to develop food and agriculture policies that explicitly incorporate nutritional goals including the use of dietary guidelines in designing food production strategies;
- That we will explore the development of appropriate incentives and disincentives that encourage the production and consumption of regionally produced foods, particularly fruits and vegetables;
- That we will establish, as a matter of urgency, the programmes necessary for research and surveillance on the aspects of agricultural policy and programmes that impact on the availability and accessibility of foods that affect obesity and NCDs;
- Our support for the establishment of formal planning linkages between the agriculture sector and other sectors (especially, health, tourism, trade and planning) in order to ensure a more integrated and coordinated approach to policy and programme development aimed at reducing obesity;
- Our strong support for the elimination of trans-fats from our food supply using CFNI as a focal point for providing guidance and public education designed toward this end;
- Our support for mandating the labeling of foods or such measures necessary to indicate their nutritional content;
- That we will advocate for incentives for comprehensive public education programmes in support of wellness and increased consumption of fruits and vegetables and embrace the role of the media as a partner in all our efforts to prevent and control NCDs;

Our continuing support for CARICOM, CFNI/PAHO, FAO, IICA and CARDI as the entities responsible for leading the development of the regional Food Security Plan for the prevention and control of NCDs, and the monitoring and evaluation of this Declaration.

***APPENDIX 3: UN High Level Meeting Sept 2011 Political Declaration***

