NATIONAL CHRONIC NON-COMMUNICABLE DISEASE POLICY AND MULTISECTORAL ACTION PLAN FOR GRENADA (2013-2017)

Submitted on August 21st, 2013

Submitted by:
Tonia Frame, PhD
Public Health Researcher/Consultant, Grenada
Toniaframe@gmail.com

Submitted to:
Pan American Health Organization, Barbados
Ministry of Health, Grenada

Funded by the Pan American Health Organization (PAHO)

Foreword

Acronyms

BAC	Blood Alcohol Concentration
CARPHA	Caribbean Public Health Agency
CDC	Centers for Disease Control and Prevention
CHS	Community Health Services
CKD	Chronic Kidney Disease
CME	Continuing Medical Education
CNCD	Chronic Non-Communicable Disease
CMO	Chief Medical Officer
CPA	Country Poverty Assessment
CVD	Cardiovascular Disease
CRC	Convention on the Rights of the Child
CRD	Chronic Respiratory Disease
EC	Eastern Caribbean
GoG	Government of Grenada
GFNC	Grenada Food and Nutrition Council
GMA	Grenada Medical Association
GPHA	Grenada Public Health Association
GRENDEN	Grenada Drug Epidemiology Network
GSHS	Global School-Based Health Survey
HBP	High Blood Pressure
HFLE	Health and Family Life Education
IEC	Information, Education & Communication
LAC	Latin America and the Caribbean
MoE	Ministry of Education
MoH	Ministry of Health
NCD	Non-Communicable Disease
NCODC	National Council on Drug Control
NHSSC	National Health Status Steering Committee
NNP	New National Party
NSPH	National Strategic Plan for Health
OECS	Organization of Eastern Caribbean States
PAD	Peripheral Arterial Disease
PAHO	Pan American Health Organization
PHC	Primary Health Care
QoL	Quality of Life
RGPF	Royal Grenada Police Force
SGU	St. George's University
SSU	Special Services Unit
TAMCC	T.A. Marryshow Community College
WHO	World Health Organization
WINDREF	Windward Islands Research & Education Foundation

Executive Summary

The National Chronic Non-Communicable Disease Policy and Multisectoral Plan for Grenada (2013-2017) is developed with key partners. The Policy and Plan hopes to engage all relevant stakeholders, including community members and service users in prevention, management and control of Chronic Non-Communicable Diseases at the system, community and individual levels.

In Grenada, cancers, cardiovascular disease, hypertension, diabetes, chronic pulmonary diseases, and mental health are the priority chronic conditions, and are addressed by this Policy and Plan. Complication and co-morbidities of these conditions are also an important aspect of addressing these conditions. The risk factors related to these conditions include tobacco use, the harmful consumption of alcohol, unhealthy diet, physical inactivity, and weight control.

The Policy discusses the burden of chronic non-communicable diseases and their risk factors in Grenada and aims to reduce the burden by focusing on four priority areas: (1) surveillance, monitoring, evaluation, research and information sharing; (2) government leadership and legislation; (3) prevention and risk reduction; and (4) the health care system. Partnerships, re-orientation of health system based on primary health care, and a multi-ecological approach throughout the lifespan are fundamental principles of the Policy and Plan to reduce Grenada's burden of CNCDs.

A multisectoral implementation plan is developed, indentifying key leadership organizations/sectors and partners to anchor the objectives and facilitate implementation of the strategies. The monitoring and evaluation framework outlines strategies to determine progress towards achievement of the objectives. Implementation of the strategies in a measurable manner will help to determine which strategies work best in the Grenada context to reduce the common risk factors for chronic non-communicable diseases and ensure the efficient use of resources.

Acknowledgements

Table of Contents

1. Introduction

Non-communicable diseases (NCDs) or chronic non-communicable diseases (CNCDs) are the leading cause of death globally (WHO, 2012)[1], and in 2008, accounted for 63% of global deaths (WHO, 2013)[2]. In 2011, CNCDs account for 75% of death and disability in the Region of the Americas (PAHO, 2011)[3], with cardiovascular diseases (CVD), cancer, diabetes, and chronic respiratory diseases (CRD) emerging as the leading causes of CNCD deaths (PAHO/WHO, 2013)[4]. CNCDs affect persons across the lifecycle, however, almost 30% of mortality in the Region occurs among persons under age 70 (i.e. premature deaths) (PAHO, 2011).

CNCDs were once considered "diseases of affluence" in developed countries, but have now encroached on developing countries (Bloom et al., 2011)[5]. This is because the main risk factors for CNCDs – tobacco use and exposure to second-hand smoke, unhealthy diet, physical inactivity, obesity, and harmful use of alcohol, among others – are now prevalent across the globe due to the effects of globalization, urbanization and economic and demographic situation, resulting in the lifestyle changes that drive the epidemic. CNCDs are also affected by income, education, employment, and working conditions, ethnicity and gender, the private sector, and cultural forces (PAHO/WHO, 2012[6]; Bloom *et al.,* 2011). CNCDs impact on the working and

[1] WHO. 2012. A Comprehensive Global Monitoring Framework Including Indicator and a Set of Voluntary Global Targets for the Prevention and Control of Noncommunicable Diseases. Second WHO Discussion Paper. [Online] [Accessed June 21st]. http://www.who.int/nmh/events/2012/discussion_paper2_20120322.pdf

[2] WHO. 2013. NCD mortality and morbidity. Global Health Observatory. [Online] [Accessed June 21st]. http://www.who.int/gho/ncd/mortality_morbidity/en/

[3] PAHO. 2011. Noncommunicable Diseases in the Americas: Basic indicators 2011. [online] [Accessed June 15] Washington, D. C. http://new.paho.org/hq/index.php?option=com_content&task=view&id=1930&Itemid=1708&lang=en.

[4] PAHO/WHO. 2013. Plan of Action for the Prevention and Control of Noncommunicable Disease. Available from: http://www.paho.org/hq/index.php?option=com_docman&task=doc_view&gid=21346&Itemid=

[5] Bloom, D.E., Cafiero, E.T., Jané-Llopis, E., Abrahams-Gessel, S., Bloom, L.R., Fathima, S., Feigl, A.B., Gaziano, T., Mowafi, M., Pandya, A., Prettner, K., Rosenberg, L., Seligman, B., Stein, A.Z., & Weinstein, C. (2011). The Global Economic Burden of Noncommunicable Diseases. Geneva: World Economic Forum. [Online] [Accessed June 21st] http://www3.weforum.org/docs/WEF_Harvard_HE_GlobalEconomicBurdenNonCommunicableDiseases_2011.pdf

[6] PAHO/WHO. 2012. Strategy for the Prevention and Control of Noncommunicable Diseases: Document prepared after the Regional Consultation. Washington, D.C.

productive population and pose a major public health and economic development threat to countries.

It is projected that CNCDs will cost more than US$30 trillion (i.e. 48% of global GDP), and push millions of people below the poverty line, over the next 20 years (Bloom *et al.,* 2011). However, mounting evidence shows that millions of deaths can be averted and economic losses reduced by billions of dollars if added focus is put on prevention (Bloom *et al.,* 2011; PAHO/WHO, 2013; WHO, 2012). Low-resourced countries, such as Grenada are especially threatened as they often do not have the capacity to respond to scale with treatment, rehabilitative and palliative care. Therefore, a chronic disease approach which emphasizes disease prevention and health promotion is warranted in Grenada and will be taken in this Policy.

1.1. Background

Grenada is a tri-island state comprising of the mainland Grenada, its dependencies Carriacou and Petite Martinique, and several smaller uninhabited islands. The state of Grenada is 344 km^2, and is located in the southernmost region of the Anglophone Caribbean archipelago, approximately 160 km north of Venezuela (PAHO, 2012)[7].

The estimated population of Grenada for 2012 was 109, 011 with a growth rate of 0.538%, and birth rate of 16.81 births per 1,000 population (CIA, 2012)[8]. The total life expectancy in 2012 was estimated at 73.3 years (males = 70.76; females = 76.09) (ibid). In 2010, approximately 61% of the population was comprised of person under age 35 (PAHO, 2012); this very youthful population is key to the prevention and control of CNCD since most unhealthy habits have their onset in youth. The majority of the population are of African ancestry; in 2008, 85% of the population was of African descent, 11% of mixed East Indian, African, and/or European ancestry. Of the remaining population, 3% identified as being of East Indian descent, and 1% of European descent (GoG, 2008)[9].

Poverty and unemployment in Grenada are relatively high (Table 1). Based on the country poverty assessment (CPA) conducted in Grenada during 2007 and 2008, 37.7% of the

[7] PAHO. 2012. Health in the Americas, 2012 Edition: Country Volume (Grenada).
[8] Central Intelligence Agency (CIA). 2012. The World Factbook: Grenada: https://www.cia.gov/library/publications/the-world-factbook/geos/gj.html
[9] GoG, 2008. Grenada National Strategic Plan for Health 2008–2012 (Draft), Health for Economic Growth and Human Development.

population was living below the poverty line (EC $591.71), almost 25% of the population were reported as being unemployed, and almost two-thirds of Grenadians living below the poverty line were unemployed (Kairi Consultants Limited, 2009)[10]. However, the Prime Minister in his 2013 National Budget Speech stated that "the unemployment rate appears to have doubled between 2008 and 2012. And poverty...is estimated to have significantly worsened" (GoG, 2013 p.5)[11]. High levels of poverty in Grenada may have implications for CNCD prevention and control, since poor people may have fewer resources to make lifestyle changes (PAHO/WHO, 2013).

Table 1 Poverty and Unemployment Estimates 2008

Indicators	% Total	% Males	% Females
Population living below the poverty line (EC $591.71)	37.7	39.5	36.2
Population unemployed	25	17.9	31.8

Grenada is reported to have the highest percentage of female headed-household in the Organization of Eastern Caribbean States (OECS) (Judy Williams cited in Cultural Marketing Communications (Caribbean) Ltd, 2011)[12]. While female headed-households in and off themselves are not problematic, this coupled with higher unemployment of females may bear negatively for households, especially children, pregnant women and the elderly. They may be forced to forego health promoting behaviour, such as consumption of the daily dietary requirements, purchasing medication unavailable in government pharmacies or education attainment. Therefore there is a need to research the phenomenon of CNCDs on single-headed households in the country.

[10] Kairi Consultants Limited. 2009. Final Report Grenada Country Poverty Assessment: Grenada, Carriacou and Petit Martinique 2007/2008.
[11] GoG, 2013. 2013 Budget Statement: Restoring Hope, Building the New Economy, and Empowering our People. [online] [Accessed June 25].
http://www.gov.gd/egov/docs/budget_speech/Budget_Speech_2013.pdf
[12] Cultural Marketing Communications (Caribbean) Ltd. 2011. Grenada Growth and Poverty Reduction Strategy 2012-2015.

1.2. Burden of CNCDs in Grenada

This section provides an overview of Grenada's CNCD burden and the priority CNCDs addressed in this Policy and Plan. Like its regional counterparts, CNCDs are "the leading cause of preventable and premature death and illness" in Grenada (PAHO/WHO, 2013; GoG, 2011[13]; Martin, 2011[14]). In 2010 CNCDs and their complications account for 65% (Martin, 2011) to 81% (WHO, 2011) [15] of all deaths in Grenada. Table 2 shows the top causes of deaths in Grenada for 2006 and 2012 (sex disaggregated data was unavailable for 2006). Unlike global and regional trends where CVD is reported as the leading cause of CNCD mortality, the MoH has reported cancer as the leading cause of mortality in Grenada for several years, with 187 deaths in 2012.

Table 2 Top 10 Causes of Mortality in Grenada 2006 & 2012

2006			***2012***				
	RANK	***No. of DEATHS***	***CAUSE***	***RANK***	***No. of DEATHS****		
CAUSES		***TOTAL***			***MALE***	***FEMALE***	***TOTAL***
Malignant Neoplasms	**1**	**159**	Malignant Neoplasms	**1**	107	80	**187**
Cerebro Vascular Diseases	**2**	**92**	Endocrine and Metabolic Diseases	**2**	38	71	**109**
Diseases of the Pulmonary Circulation & other forms of Heart Diseases	3	**84**	Cerebro Vascular Diseases	3	44	53	**97**
Endocrine & Metabolic Diseases	4	**66**	Ischaemic Heart Diseases	4	37	39	**76**
Ischaemic Heart Diseases	5	**62**	Diseases of the Respiratory System	5	39	26	**65**
External Causes of Morbidity & Mortality	**6**	**52**	Hypertensive Diseases	**6**	29	26	**55**
Diseases of the Respiratory System	**7**	**44**	External causes of Morbidity and Mortality	**7**	26	17	**43**

[13] GoG, 2011. Registrar General's Yearly Report.
[14] Martin, F. 2011. Chronic Non Communicable Disease: The Grenada Experience.
[15] WHO. 2011. World Health Organization – NCD Country Profiles, 2011. http://www.who.int/nmh/countries/grd_en.pdf

Diseases of the Digestive System	**8**	**24**	Diseases of the Digestive System	**8**	26	17	**43**
Diseases of the Genitourinary System	**9**	**21**	Diseases of the Pulmonary Circulation and other forms of Heart Diseases	**9**	16	20	**36**
Certain Conditions Originating in the Perinatal Period	**10**	**16**	Diseases of the Nervous System	**10**	10	8	**18**
Total		**620**			***372***	***357***	***729***

(Source: GoG, 2011; GoG, 2013[16]).

CNCD mortality statistics are variable based on the source, highlighting challenges Grenada encounters with surveillance. Variation may be attributed to disease classification system used (e.g. ICD-10) and purpose of classification, suggesting a need for clear definitions of variables and/or standardization of indicators. This discrepancy is exemplified by comparing Figure 1 which shows the proportional mortality of CNCDs and other select conditions in Grenada, and Table 2 above. According to the figure, CVD, and not cancers account for the highest proportion on mortality in Grenada (WHO, 2013). It is possible that mortality related to hypertension may be included in this figure, therefore inflating the proportion of CVD deaths compared to cancers.

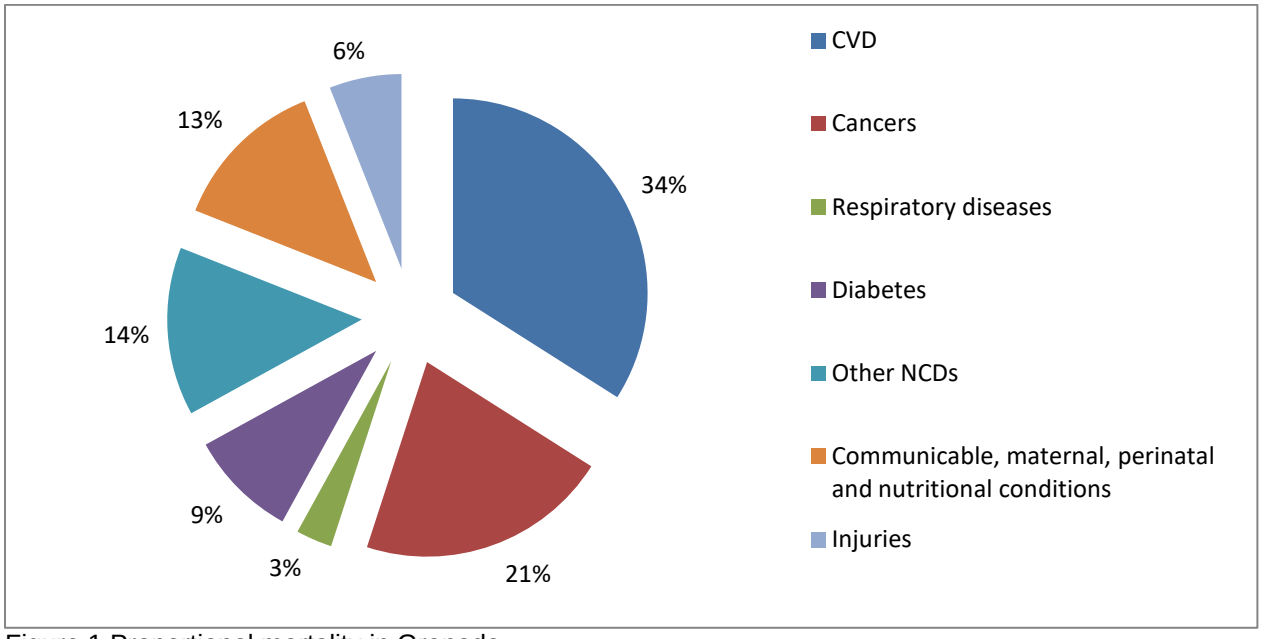
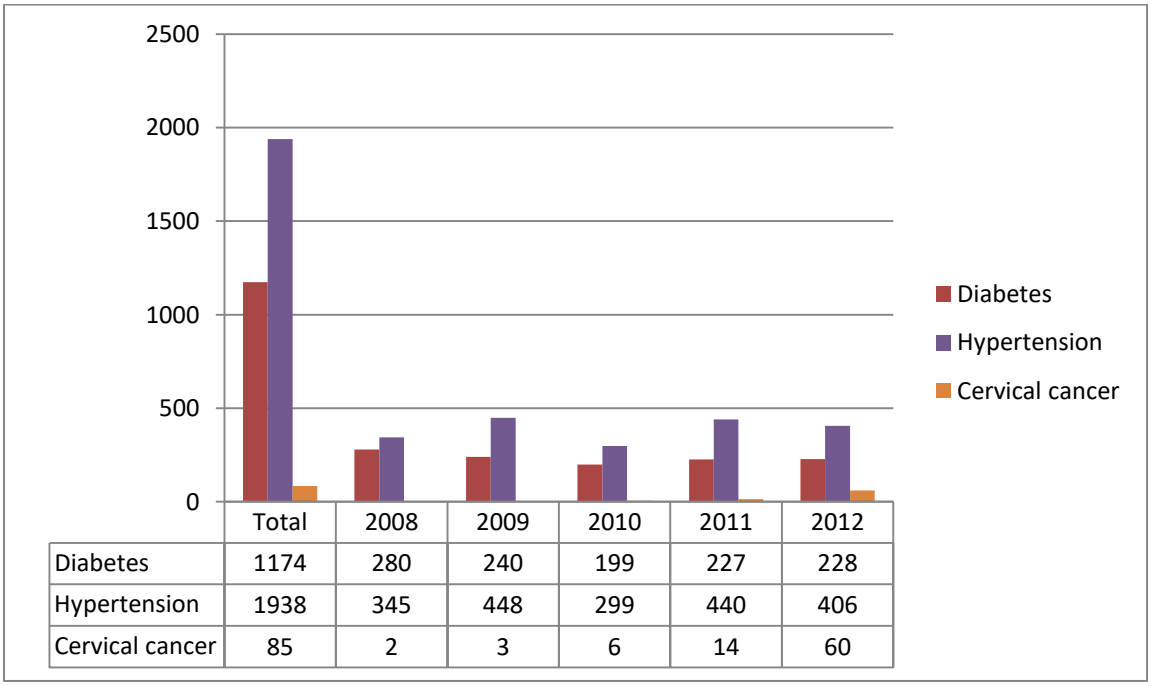


Figure 1 Proportional mortality in Grenada
(Source: WHO, 2013)

[16] GoG, 2013. Top Ten Causes of Death Data. Ministry of Health.

Community Health Services (CHS) data show the total number of persons screened for hypertension (23,174), diabetes (12,999) and cervical cancer (9,354) between 2008 and 2012, and testing positive (Figure 2). Based on figure 2, cervical cancer shows a clear increasing trend, however, it appears that an intervention or other phenomenon may have occurred in 2010 resulting in the reduced incidence of both diabetes and hypertension cases. Nonetheless, the effects of the phenomenon were not sustained as the incidence rose again for both conditions the following year. Variations in diabetes and hypertension incidence cannot be explained by fluctuations in the number of persons screened, which suggest a need for research to understand the reason for these reductions, particularly in hypertension incidence.



	Total	2008	2009	2010	2011	2012
Diabetes	1174	280	240	199	227	228
Hypertension	1938	345	448	299	440	406
Cervical cancer	85	2	3	6	14	60

Figure 2 Community Health Services: Positive test results from first time screening

In addition to CHS data, hospital discharge data is also available. Between 2006 and 2010, chronic conditions accounted for an average of 24% of total hospital discharges (Martin, 2011), which represents an increasing trend in both total hospital discharge and chronic diseases discharge over the last 10 years. Figure 3 shows that Hypertension accounted for the highest numbers of CNCD-related hospitalizations in 2011, followed by diabetes, nutritional deficiencies, CRD, cancer, CVD, and mental health. Further investigations are needed to tell us more about the duration of hospitalization for these conditions to shed light on management of CNCDs.

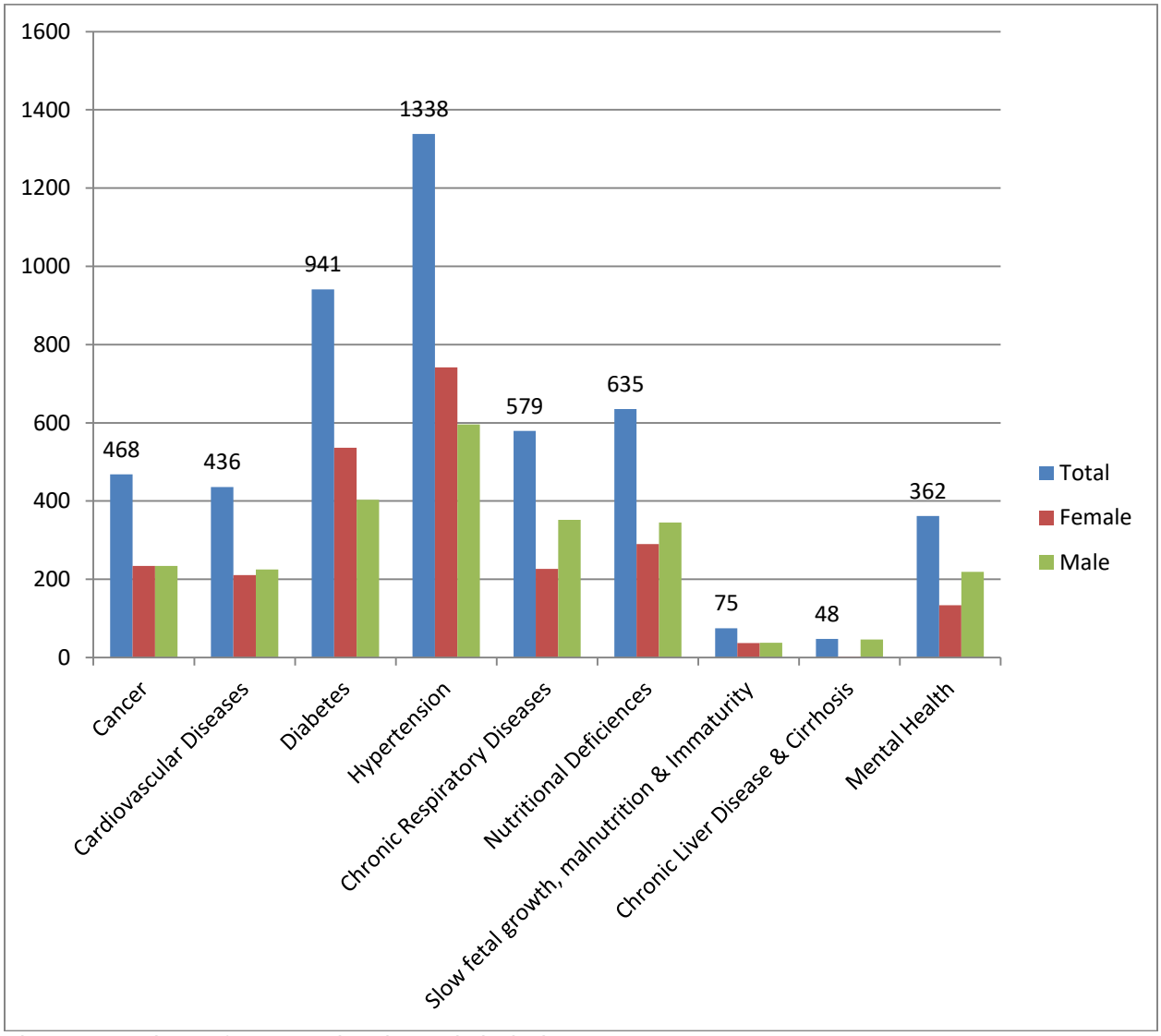


Figure 3 Numbers of CNCD-related Hospital Discharge, 2011
(Source, GoG, 2013)

Cancers

Cancer refers to the rapid growth and division of abnormal cells in a part of the body. These cells outlive normal cells and have the ability to metastasize, or invade parts of the body and spread to other organs. There are more than 100 types of cancers (Bloom, *et al.,* 2011). Table 3 shows national and global ranking of cancers in Grenada, and shows how the national and global priorities may differ based on the burden on different type of cancers at the country-level. For example, while lymphomas are the 10th cause of cancer deaths nationally, Grenada ranks number one in the global burden of lymphomas. However, prostate cancer which is the number

one cancer-causing mortality in Grenada, ranks 6th worldwide, and uterine cancer which is the 32nd cause of cancer death nationally, ranks 4th globally (World Life Expectancy, 2013)[17].

Table 3 Grenada Top 50 Causes of Death: Age Standardized Death Rate (per 100,000 population)

Top 50 Causes of Death		Rate	World Rank	Top 50 Causes of Death		Rate	World Rank
6	Prostate cancer	24.28	6	24	Colon-Rectum cancers	6.35	104
7	Breast cancer	23.30	23	28	Cervical cancer	4.59	107
10	Lymphomas	15.56	1	30	Oral cancer	4.32	56
11	Lung cancers	13.20	92	32	Uterine cancer	4.11	4
15	Oesophagus cancer	7.94	26	36	Ovary cancer	2.60	69
17	Pancreas cancer	7.74	28	37	Leukaemia	2.01	162
19	Stomach cancer	6.86	91	39	Bladder cancer	1.76	117
18	Liver cancer	6.46	85	44	Other neoplasms	1.66	141

(Source: World Life Expectancy, 2013)

The WHO/ICO Information Centre on HPV and Cervical Cancer (HPV Information Centre) indicates that in Grenada 35,000 women ages 15 years and older are at risk of developing cervical cancer (WHO/ICO, 2010)[18]. Therefore there is a need to vigorously pursue immunizations for HPV and promote cervical cancer screening via regularized pap tests. While there is a need for cancer interventions targeted by type of cancers and their risk group, there is an urgent need for interventions targeted to men to prevent and manage prostate cancer. Guidelines for cancer testing and treatment exist; however, getting the cancer registry to a fully functional and utilized stage would contribute to strengthening cancer management in Grenada.

Cardiovascular Diseases (CVDs)

Cardiovascular diseases refer to a group of diseases involving the heart, blood vessels, or the sequelae of poor blood supply due to a diseased vascular supply (Bloom *et al.,* 2011).

[17] World Life Expectancy. 2013. Health Profile: Grenada. http://www.worldlifeexpectancy.com/country-health-profile/grenada

[18] WHO/ICO. 2010. Human Papillomavirus and Related Cancers. Grenada Summary Report Update. September 15, 2010. http://apps.who.int/hpvcentre/statistics/dynamic/ico/country_pdf/GRD.pdf?CFID=4005139&CFTOKEN=50211239

According to the Grenada Heart Study[19], Grenada is in the third transitional stage of the CVD epidemic (i.e. degenerative and man-made), and the estimated prevalence of CVD among adults in low (Bansilal *et al*, 2012)[20]. The study found that peripheral arterial disease (PAD) was the most common form of CVD with a prevalence of 7.6%, and prevalence of stroke and coronary heart disease reported at 1.9% and 1.8%, respectively. Although not statistically significant, there was a trend toward greater prevalence of PAD and CHD among women. Morbidity data based on 2011 hospital discharges indicated that more males (225) than females (211) were discharged from hospital due to CVD, and 2012 mortality data showed that more CVD deaths occurred among females than males (GoG, 2013).

Hypertension

Hypertension is the term used to describe high blood pressure, which is a measurement of the force against the walls of the arteries as the heart pumps blood to the body (Medline Plus, 2013)[21]. According to the WHO STEPS (PAHO/WHO, 2011) [22], screening for hypertension was high among men (84%) and women (93%), which should bode well for prevention and control. The mean systolic and diastolic blood pressure in men (133/81 mmHg) and women (128/79.9 mmHg) can be described as pre-hypertensive, because it is above the normal blood pressure (120/80 mmHg), but below the threshold for high blood pressure (140/90 mm Hg). Therefore, the management of pre-hypertensive cases is critical to preventing the transition to hypertension, which is currently a challenge to manage and control in Grenada.

Findings from the WHO STEPS indicate that a significant percentage of men (41%) and women (35%) had high blood pressure although they (total 54.8%; women 58.2%; men 49.2%) reported currently taking medication for hypertension. For persons not on any antihypertensive medication (a) blood pressure increases with age and (b) more than a third of men (35.5%) and more than a fifth of women (21.6%) had high blood pressure, with 9% of men and 7% of women having very high blood pressure (≥ 160 and/or ≥ 100 mmHg). Among both sexes, persons with uncontrolled blood pressure increases as age increases. Most persons with hypertension were

[19] The Grenada Heart Study was conducted to study the clinical, biological, and psychological determinants of cardiovascular health in Grenada between 2008 and 2009 among persons 2,827 persons age 18 years and older, and provides prevalence data for CVD (Bansilal et al, 2012).
[20] Bansilal, S.; Vendanthan, R.; Iyengar, R.; Hunn, M.; Lewis, M.; Francis, L.; Charney, A.; Graves, C.; Farkouh, M. E.; Fuster, V. 2012. Cardiovascular Risk Surveillance to Develop a Nationwide Health Promotion Strategy: Grenada Heart Project. Global Heart. 7 (2); p.89-94.
[21] Medline Plus. 2013. Hypertension. http://www.nlm.nih.gov/medlineplus/ency/article/000468.htm.
[22] PAHO/WHO. 2011. WHO STEPS: Chronic Disease Risk Factor Surveillance Grenada.

given lifestyle advice, especially salt reduction (men 64.7%; women 69%), exercise (men 56.6%; women 62.9%), and smoking cessation advice (men 23.2%; women 4.3%) to reduce their risk factors for hypertension (PAHO/WHO, 2011).

According to WHO (2012), hypertension also accounted for the main morbidities among the elderly (48.7%). The Grenada Heart Study found that the prevalence of hypertension, as a risk factor and disease co-occurring with CVD was 29.7% (Bansilal *et al.,* 2012).

Diabetes

Diabetes is a metabolic disorder in which the body is unable to appropriately regulate the level of sugar, specifically glucose, in the blood, either by poor sensitivity to the protein insulin, or due to inadequate production of insulin by the pancreas. Type 2 diabetes accounts for 90%-95% of all diabetes cases *(Bloom, et al.,* 2011*).* In Grenada, diabetes deaths accounted for 56 (11.29%) of total mortality, with an age adjusted death rate of 61.48 per 100,000 population and a global ranking of 32, and third nationally (World Life Expectancy, 2013).

Findings from the WHO STEPS surveillance (PAHO/WHO, 2011) show that screening for diabetes is relatively low, especially among men. Fifty seven percent of men and 77% of women reported being screened for elevated blood sugar at some time in the past. More men than women reported being treated (insulin 15%; oral 70%) compared to women (insulin 9.1%; oral 66%) – significantly more persons were being treated with oral medication than insulin. Women were reportedly treated with insulin at a younger age (35-44) than men (45 – 54). According to WHO (2012), diabetes also accounted for one of the main morbidities among the elderly (27%). Similar to hypertension, persons diagnosed with diabetes were given lifestyle advice, especially advice to exercise (total 59.9%: male 54.4%; female 61.9%).

Consistently high blood glucose can lead to several other health conditions an complications, such as CVD, blindness, kidney disease (diabetic nephrophaty), nerve disease (i.e. diabetic neuropathy), eye disease (diabetic retinopathy), lower limb amputation, and pregnancy complications (International Diabetes Federation, 2013[23]; WHO, 2013b[24]). The prevalence of diabetes as a risk factors and disease that co-occur with CVD was reported at 13.3% (Bansilal *et al.,* 2012)

[23] International Diabetes Federation. 2013. Complications of Diabetes. http://www.idf.org/complications-diabetes?language=en

[24] WHO. 2013b. Diabetes Fact Sheet. http://www.who.int/mediacentre/factsheets/fs312/en/

The WHO STEPS surveillance found that a significant number of men diagnosed with diabetes had never had their eye (men 67.6%; female 29.7%) or foot examined (total 61%: males 67.6%; females 58.9%) as part of their diabetes management. These findings suggest that eye and foot examinations may need to be integrated into the standard of care for diagnosed cases of diabetes, in an attempt to prevent these complications.

Chronic kidney disease is increasingly recognized as a global public health problem (Levey, *et al*., 2007)[25]. The age adjusted standardized death rate for kidney disease in Grenada is 17.12 per 100,000, with a global ranking of 92 and a national ranking of 8 (World Life Expectancy, 2013). This suggests that Grenada should be concerned about preventing this diabetes complication, considering the existing challenges for management (e.g. access to dialysis) of this condition in Grenada.

Chronic respiratory diseases (CRD)

Chronic respiratory diseases refer to chronic diseases of the airways and other structures of the lung. Some of the most common are asthma, chronic obstructive pulmonary disease (COPD), respiratory allergies, occupational lung diseases and pulmonary hypertension (Bloom *et al.,* 2011). In Grenada, diseases of the respiratory system accounted for the 5th cause of deaths in 2012 (65 deaths), which is an increase from 7th cause of death in 2006 (44 deaths) (GoG, 2013). CRDs were estimated to account for 3% of all deaths in 2010 (WHO, 2011), and in 2011, 657 CRD cases were discharged from hospital, with more males (397 cases) than females (260 cases) discharged (GoG, 2013). A study of CRD from secondary data of patient diagnosis (n=3951) at the time of discharge from the General Hospital between 2001 and 2010 in Grenada showed a prevalence of 3,831 cases of CRD per 100,000 population – a three-fold increase in CRD during that period (Akpinar-Elci *et al*, 2012)[26].

[25] Levey A. S.; Atkins, R.; Coresh, J.; Cohen, E. P.; Collins, A. J.; Eckardt, K-U.; Nahas, M. E.; Jaber, B. L.; Jadoul, M.; Levin, A.; Powe, N. R.; Rossert J.; Wheeler, D. C.; Lameire, N.; Eknoyan, G. 2007. Chronic kidney disease as a global public health problem: Approaches and initiatives – a position statement from Kidney Disease Improving Global Outcomes. *Kidney International.* Meeting Report. 13 June, 2007. Pp. 1-13. http://www.kdigo.org/pdf/Levey_KI_2007.pdf

[26] Akpinar-Elci, M.; Giganti, M.; Radix, R.; Elci, O. C. 2012. Prevalence of Chronic Respiratory Diseases Over Time in Grenada, The Caribbean. American Journal of Respiratory and Critical Care Medicine: American Thoracic Conference Society International Conference – Abstract Issue. 185:A3240. [online] [Available Jun 24] http://www.atsjournals.org/doi/abs/10.1164/ajrccm-conference.2012.185.1_MeetingAbstracts.A3240

Mental illness

Mental illness is a term that refers to a set of medical conditions that affect a person's thinking, feeling, mood, ability to relate to others and daily functioning (Bloom *et al.,* 2011). In 2011, 353 cases of mental disorders were reported from hospital discharge data, with more cases among males (219) than females (134) (GoG, 2013). Disaggregated data was not available at the time of drafting this Policy for types of mental disorders. However, a chart-by-chart review for the 2007 WHO–AIMS assessment indicated that most persons treated for mental disorders received a diagnosis for schizophrenia and related disorder (PAHO, 2012). Furthermore, recent reports indicate that Grenada ranks number one in cases of schizophrenia globally with a rate of 1.53% (World Life Expectancy, 2013). Unlike reporting of other CNCDs in Grenada, there is no system to report mental health data from the Mt. Gay Psychiatric Hospital and the community health facilities to the Epidemiology and Information Department in the MoH. A reporting system is critical to integrate mental health prevention and control services into the wider health system, rather than perpetuating a standalone service.

1.3. CNCD Risk and Protective Factors

The above CNCDs which account for the burden of CNCD mortality and morbidity share four main risk factors (the harmful use of tobacco and alcohol, physical inactivity, and consumption of unhealthy foods). This clustering of risk factors presents an opportunity, in that, if Grenada and other countries are able to minimize and/or turn risk factors into protective factors in the population and individually, the burden of CNCDs can be effectively reduced. Related to these are the significant co-morbidities caused by overweight and obesity, mental health conditions and oral and renal diseases. Other risk factors include: gender, occupation, rural or urban residence, and other socioeconomic characteristics (PAHO, 2013). It should be noted that not all CNCD risk factors are modifiable; factors such as age and heredity are described as non-modifiable risk factors and together with the modifiable risk factors help explain the incidence of CNCD (WHO, 2005)[27].

Additionally, multiple risk factors may co-occur in an individual. For example, the WHO STEPS survey indicated that 61.3% of respondents had 1 or 2 risk factors (males 65.5%; females 57%),

[27] WHO. 2005. Chronic Diseases and Their Common Risk Factors. http://www.who.int/chp/chronic_disease_report/media/Factsheet1.pdf

35% had 3 to 5 risk factors (males 30.5%; females 39.8%) and 3.7% had no risk factors (males 4%; females 3.3%). Among respondents with 3 to 5 risk factors, older adults (ages 45-64) had significantly higher combined risk than younger adults (ages 25-44) (PAHO/WHO, 2011). The presence of combined risk factors increases a person's chances of positive CNCD diagnoses. This suggests that there is a great need to reduce the number of risk factors for CNCD. Figure 4 highlights the relationship between the causes and drivers of CNCDs.

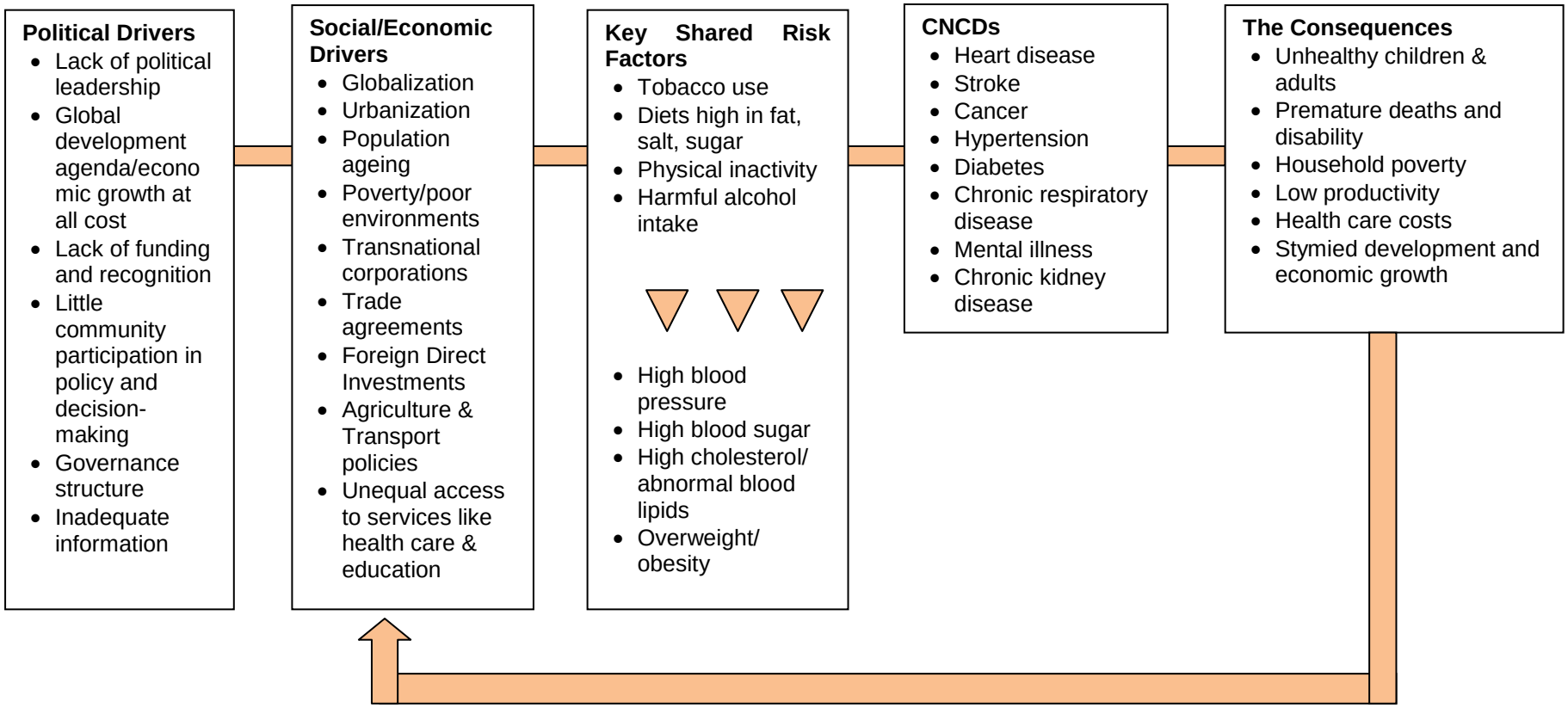


Figure 4 The cause and drivers of NCDs (Adapted from: NCD Action Network)[28]

[28] NCD Action Network. 2011. http://ncdaction.org/page/the-causes-drivers

Much of the understanding of CNCDs risk factors among Grenadians comes from the following sources:

- *WHO STEPS Chronic Disease Risk Factor Surveillance* study (PAHO, 2011), which was conducted among male and female adults in Grenada. The WHO STEPS collected basic demographic information, such as age, sex, years in school, tobacco and alcohol consumption, types of physical activity, sedentary behaviour and vegetable consumption, as well as collecting physical measurements (i.e. weight and height, heart rate, blood pressure, waist and hip circumference). Due to lack of resources, blood samples' for biochemical measurements (e.g. blood fasting glucose, total cholesterol, HDL-cholesterol and triglycerides) which is a usual part of the STEP survey was not conducted.
- Global School-Based Student Health Survey (GSHS) was conducted among Forms 1 to 4 secondary school students in 2008 (CDC, 2008)[29];
- The Second Secondary School Drug Prevalence Survey conducted in 2005 among 3,088 2nd, 4th and 5th Form students in 2005 (GoG, 2005)[30]; and
- The Grenada Food and Nutrition (GFNC) Day Care and Preschool Survey conducted in 2011 (GFNC, 2011).[31]

Harmful use of tobacco

Empirical data shows that smoking of tobacco is relatively low among adults and adolescents in Grenada (PAHO/WHO, 2011; CDC, 2008; GoG, 2005), with what appeared to be higher experimental use among students. However, anecdotal evidence from the CNCD Commission suggests that prevalence of tobacco smoking is on the increase. Nineteen percent of respondents in the WHO STEPS (PAHO/WHO, 2011) were current smokers (male 30.7%; female 6.5%), and 11.2% reported being daily smokers (19.4% male; 2.8% female). Smoking was more prevalent among persons 35 years and over, but significantly more persons in the 45-54 age range reported being smokers.

Among respondents in the WHO STEPS, the average age of initiating smoking among daily smokers was 18 years, with no significant gender differences. Additionally, the GSHS (CDC,

[29] CDC. 2008. *Global School-based Student Health Survey (GSHS): Grenada Data set.*
[30] GoG, 2005. Grenada Second Secondary School Drug Prevalence Survey 2005.
[31] GFNC. 2011. Annual Report 2011: Grenada Food and Nutrition Council.

2008) also reported that fewer than 100 students reported trying their first cigarette at age 13 or younger. Among students in the Drug Prevalence Survey, lifetime, past year and current prevalence of cigarette smoking was 37.4%, 11.8% and 6.0% respectively. Similar to adults, gender and age trends were observed among students, with 43.2% males and 31.2% females experimenting with cigarette smoking in their lifetime.

Based on the WHO STEPS, environmental exposure to tobacco smoke (i.e. second-hand smoke) was a concern, and was significantly greater in the workplace (21.4%; 95% CI 17.0-25.7%) than the home (12.5%; 95% CI 10.1-14.9%). Exposure of men was significantly greater than women both at home and in the workplace.

Harmful use of alcohol

Alcohol consumption at harmful levels is a major public health problem in Grenada. The WHO STEPS survey indicated that 44.3% of respondents reported consuming alcohol in the past month (i.e. current drinkers), in addition to 10.6% who reported consuming alcohol in the past year. Significantly more men (63%) than women (24.8%) reported consuming alcohol in the past month, while more women (14.5%) than men (10.6%) consumed alcohol in the past year.

Nine percent of respondents reported daily alcohol consumption (males 12.3%; females 2.7%), and 8.3% of men and 2.7% of women drank alcohol 5 to 6 days per week. In every age group, men consumed more alcoholic drinks per day compared to women, and the youngest age group (25-34 yrs) consumed more alcohol than older age groups (35-44 yrs; 45-54 yrs; 55-64 yrs) for both men and women. Furthermore, 28.5% of men and 10.2% of women reported drinking more than the recommended alcohol consumption on any day for their sex (5 drinks for men; 4 drinks for women). The mean maximum of drinks consumed on one occasion in the past month for both men (6.5) and women (3.9) presents a public health concern, especially among the younger male population who consume 8 drinks on one occasion (PAHO/WHO, 2011).

Using data from 2002 as a baseline, the rate of alcohol consumption among secondary school students in Grenada are high and represent an increasing trend over the periods of 2005 (GoG, 2005) and 2008 (CDC, 2008). Lifetime, past year and current prevalence of alcoholic drinks were 84.1%, 63.2% and 42.8% in 2005. Gender trends were reported that were similar to that of adults whereby 88% of male and 77% of female students reported consuming alcohol. More females (3.8%) reported experimenting with alcoholic drinks in 2005 compared to 2002 (GoG,

2005). Based on the GSHS, alcohol consumption increases with age (33.9% among students age 12 or young; 74.8% among age 16 or older) (CDC, 2005), which may indicate social acceptability of alcohol consumption and impact of the law permitting the sale of alcohol to persons age 16 and older. Finally, 22% of students (males 28%; females 15.6%) reported that they usually bought the alcohol they drank from stores, shops or street vendors (CDC, 2008). However, there was no data on access to alcohols from home or parents.

Taken together, these findings, especially among students indicate a need to strengthen and enforce legislation and other regulations on the availability of alcohol to school-aged children and young people.

Unhealthy diets

Ways in which a healthy diet is measured in Grenada are limited. However, evidence from the WHO STEPS reported that adults in Grenada consume a mean of 2.2 serving of fruits and 1.5 serving of vegetable on average per day. During a typical week fruits were consumed on 4.5 days and vegetables on 4.3 days with no significant differences among age group or sex. Interestingly, men consume fruits and vegetable on a slightly greater average number of days than women. The majority (38.2%) of respondents had 1-2 servings, while 21.1% had 3-4 servings and 24.7% had five or more servings (PAHO/WHO, 2011). The Grenada Heart Project conducted a study in Carriacou and Petite Martinique between 2005 and 2007 with 2, 017 participants and found that on average men and women eat 5-7 servings of fruits and vegetables per week, and that in general younger populations tended to have unhealthier diets (i.e. types of diet and frequency) than their older counterparts – they ate more fried meat, chicken, and duck and other types of fried food (Robert, *et al.,* 2012)[32]. Seventy-eight percent (78%) of households reported using vegetable oil or fat in meal preparations (PAHO/WHO, 2011).The consumption of fatty foods was also discussed as a concern for residents in long-term care facilities for the elderly (GFNC, 2011).

Among school-aged students, only 32.6% (males 33.9%; females 31.8%) of students ate fruits and vegetables five or more times per day during the past 30 days – most were in Forms 1 (37.2%) and 2 (33.9%). However, a high percentage of students reported usually eating fruits

[32] Block, R. C.; Dozier, A. M.; Hazel-Fernandez, L.; Guido, M. S.; Pearson, T. A. 2012. An epidemiologic transition of cardiovascular disease risk in Carriacou and Petite Martinique, Grenada: the Grenada Heart Project, 2005-2007. Prev Chronic Dis 2012;9:110167. http://www.cdc.gov/pcd/issues/2012/11_0167.htm

(73.7%) and vegetable (67%) one or more times per day during the past 30 days, with no significant difference between male and female students. Gender differences were observed for fruit but not vegetable consumption.

Since 2008 there has been a steady rise in the cost to purchase a nutritiously balanced meal (i.e. 2400kcal) – the average cost in 2012 was EC$8.85 or US$3.28 compared to EC$7.14 or US$2.64 in 2008 (GoG, 2013)[33]. If prices continue to rise steadily, it may become increasingly difficult for households to purchase a healthy meal, especially if unemployment remains high. The ability to compare the costs for a healthy vs. unhealthy meal can help policy-makers determine whether costs are indeed a barrier to healthier dietary consumption habits.

Physical inactivity

Physical activity was measured in the WHO STEPS, GSHS and the Grenada Heart Project Study conducted in Carriacou and Petite Martinique (Block *et al.*, 2012). Based on the WHO STEPS, 49% of adults reported they had high levels of physical activity (i.e. length of time spent doing activity and the level or intensity with which it was done), 18% reported moderate levels and 33% reported low levels. Differences between age groups were not significant. A larger proportion of men (61.3%) reported they had a high level of physical activity compared to women (35.8%); and more women (40%, 24%) than men (27%, 12%) reported low and moderate levels of physical activity. The mean time for physical activity on average per day by men was 295.9 minutes compared to 130.5 minutes for women.

The most physical activity for both men and women were work related (males 213; female 83.5), followed by transport related (males 45.7; females 32.4) and recreation/leisure related (males 37.2; females 14.6). In Carriacou and Petite Martinique between 62% and 81% (varies based on age and sex) of persons reported engaging in continuous walking or biking for more than 10 minutes per day (Block *et al.,* 2012). There is a need to increase physical activity among adults, especially recreational activity among women. Of public health concerns should be what appears to be a decreasing trend (not significant) in mean recreational physical activity as men and women get older.

Overall, 46% of men and 81% of women do not engage in vigorous physical activity, and the youngest cohort (25-34 years) spends more time in sedentary activities (231 minutes) on

[33] GoG. 2013. The Cost of a Balance Economic Meal. GFNC/Statistical Office Ministry of Finance.

average per day than older age groups. The GSHS reported that 12.4% of students were physically active at least 60 minutes per day for a typical week; 82.9% were active at least 60 minutes per day on less than 5 days per week on average, and 40.7 spent three or more hours per week in sedentary behaviour – no gender differences reported. These findings suggest a need to increase overall physical activity among adolescents, and in particular to reduce sedentary behaviour among young people in general.

Underweight, overweight and obesity

Related to the unhealthy diet is issue of weight control. According to PAHO, among infants under age one attending child health clinics in Grenada between 2008 and 2010, 30% of infants were overweight; 63% were moderately overweight and 7% were moderately undernourished (PAHO, 2012). This may be partly due to women's diet and beliefs about eating for two – mother and unborn child – during pregnancy.

Based on community health data, there was a drastic reduction in the number of obese cases recorded from 2011 to 2012, which was 229 to 80 cases, respectively. In 2012 most cases were recorded among persons ages 30 and over, with no cases among 1-5 year olds, who had among the highest cases in 2011. This phenomenon needs to be explained to guide interventions, as it represents an elimination of obesity among 1-5 year olds within one year. The GFNC reported dealing with 13 new cases of underweight children during 2011 in addition to the 26 cases from the previous year, and by the end of 2011 was able to successfully reduce this to 22, with 14 maintaining their normal weight for three consecutive months (GFNC, 2011), suggesting that the GFNC's intervention program among this group is having some impact.

1.3.1. CNCDs and the Health System Response in Grenada

The burden of CNCDs in Grenada places an increasing demand for services. CNCD services are offered through a network of 36 government health facilities (i.e. district health centres and medical stations), four public hospitals, including a psychiatric hospital. The Ministry of Health (MoH) manages the public health sector and tries to regulate the private health sector, which includes several private clinics and one hospital. Excluding hospitals, the CPA showed that 36.9% of the population utilized public health facilities, while 26.9% utilized private health facilities (Kairi Consultants Limited, 2009). Many patients use the private health sectors to cover

gaps in the public sector related to quality of care, such as over-crowding, long wait times, limited availability of drugs and CNCD specialists, lack of confidentiality, and the perception of poor customer service. While these issues should be urgently addressed in the public sector, there is also a need for the private health sector to be engaged as an active partner in all efforts to prevent and control CNCDs in Grenada.

Despite the wide availability of community health facilities, Grenada is faced with the challenge of high hospital visits for cases that should be seen at the community level (Kairi Consulants Limited, 2009). It is hoped that efforts to reform the Primary Health Care (PHC) system would help to strengthen the gate-keeping function of district health services (Martin, 2011)[34], therefore, preventing the unwarranted use of hospital services.

As part of the PHC reform, the government is seeking to facilitate equitable distribution and access to health services, and widen the pool of staff resources to improve efficiency and accessibility through the use of PHC Team. One strategy has been the reorganization of the health districts according to population rather than in purely geographic terms (Martin, 2011). A pilot study to gather baseline data on the new PHC initiative is underway and the new model will be launched in three rural health districts, and the two largest health facilities in the St. George's district. The reestablishment of Primary Health Care Teams is notable, because it takes into account the multiple dimensions of a health problem, providing a more comprehensive, multidisciplinary and multifaceted response in a one-stop-shop manner. Furthermore it speaks to the social determinants of health approach advocated by the WHO (CSDH, 2008)[35] and can address common risk factors for CNCDs, such as tobacco use, unhealthy diet, physical inactivity, and harmful alcohol use, as well as co-morbid conditions, such as overweight and obesity, mental conditions, and oral and renal diseases (PAHO, 2013, p. 2).

Additionally, the creation of the CNCD Commission further exemplifies Grenada's commitment to the prevention and control of CNCDs. The Commission acts as a multisector advisory body, and is mandated to:

1. Advise the Minister for Health on CNCD policies and legislation;
2. Review regional strategic CNCD plans, resolutions and policies, and make recommendations for implementation of relevant programs that are relevant to Grenada;

[34] Martin, F. 2011. Chronic Non Communicable Disease: The Grenada Experience.
[35] CSDH (2008). Closing the gap in a generation: health equity through action on the social determinants of health. Final Report of the Commission on Social Determinants of Health. Geneva, World Health Organization

3. Facilitate effective involvement of all relevant sectors of society in program implementation;
4. Assist in the mobilization of resources to facilitate implementation of community prevention and control program;
5. Monitor regional and international trends and provide recommendations for national response; and
6. Facilitate the commissioning of audits and evaluations of aspects of CNCDs programs.

Grenada faces several challenges meeting health care costs. However the country is achieving health outcomes that are superior to the LAC region at a similar cost, and on par with other upper-middle-income countries at a significantly lower cost (Hatt, *et al.,* 2011). In 2010, 20% of health financing was allocated to Community Health Services, while 49% was allocated for the General Hospital (Hatt *et al.,* 2012). The overall health budget in 2013 accounted for one of the top five budgetary allocations for 2013, and there was a 2% increase in allocations for the General Hospital (51%) while allocation for Community Health Services increased by almost 1%. However, the weight of the allocations for primary vs. secondary care remains inconsistent with government's prioritization of PHC, suggesting a need for additional and/or re-distributed financial resources to fund a strategy which emphasize health promotion and prevention.

To promote CNCD prevention and control in Grenada, the challenges faced by the health sectors needs to be addressed to ensure that the capacity of the health sector and health system are improved to implement and sustain the strategies for CNCD. The Policy strategies are based on NCD best practices "Best Buys" recommended by the World Health Organization (WHO) and adapted for the Grenada context (Table 4).

Table 4 WHO "Best Buys"

Risk Factor/Disease	Interventions
Tobacco use	• Tax increases • Smoke-free indoor workplaces and public places • Health information and warnings • Bans on tobacco advertising, promotion and • Sponsorship
Harmful use of alcohol	• Tax increases • Restricted access to retailed alcohol • Bans on alcohol advertising
Unhealthy diet and physical inactivity	• Reduced salt intake in food • Replacement of trans fat with polyunsaturated fat • Public awareness through mass media on diet and physical activity

Cardiovascular diseases (CVD) and diabetes	• Counselling and multi-drug therapy for people with a high risk of developing heart attacks and strokes (including those with established CVD) • Treatment of heart attacks with aspirin
Cancer	• Hepatitis B immunization to prevent liver cancer • Screening and treatment of pre-cancerous lesions to prevent cervical cancer

1.4. Rationale

This policy is developed as part of the Regional response to the Plan of Action for the period 2013-2019, which was developed to correspond to PAHO's Strategy for the Prevention and Control of Noncommunicable Diseases for 2012-2025 endorsed in 2012 by the Pan American Sanitary Conference along with the regional framework for prevention and control of noncommunicable diseases (NCDs).[36] The government, Ministry of Health, the CNCD Commission and other stakeholders are committed to reducing the burden of CNCDs in Grenada, and take this opportunity to provide a planned and systematic response to preventing and controlling CNCD.

1.5. Method

This draft policy document was developed through the following stages:

1. Reviewing the report from the 1st stakeholder meeting to identify the priority issues and actions to be addressed in the National CNCD Policy and Multisectorial Plan.
2. Conducting a desk review of relevant CNCD-related documents specific to Grenada, regionally and internationally, such as reports, studies, Plans of Action, and other CNCD policies and best practices.
3. Collecting additional data and information from MoH, National Drug Avoidance Committee, GFNC and the Internet to clarify issues and fill gaps.

[36] Regional Framework for prevention and control of NCDs in the Americas. [online] [Accessed June 25]. http://www.paho.org/hq/index.php?option=com_docman&task=doc_view&gid=21349&Itemid=270&lang=eng

2. Chronic Disease Framework

The framework within which Grenada's CNCD will be addressed is the Regional Framework for NCD Prevention and Control and the four strategic lines of action outlined in the Regional Strategy for the Prevention and Control of NCDs and the WHO/Ottawa Charter for Health Promotion Framework. This is viewed as an appropriate framework in light of Grenada's reorientation of it PHC services.

The PAHO Regional framework addresses the following areas:

a) ***Multisector policies and partnerships for CNCD prevention and control:*** This focuses on addressing CNCDs through the building and promotion of multisectoral action with relevant sectors of government and society, including integration into development and economic agendas.

b) ***CNCD risk and protective factors:*** Reducing the prevalence of the main CNCD risk factors and strengthen protective factors, with emphasis on children and adolescents and on populations in vulnerable situations; use evidence-based health promotion strategies and policy instruments, including regulation, monitoring, and voluntary measures; and address the social, economic, and environmental determinants of health.

c) ***Health system response to NCDs and risk factors:*** Improve coverage, equitable access, and quality of care for the four main NCDs (cardiovascular diseases, cancer, diabetes, and chronic respiratory diseases) and others of national priority, with emphasis on primary health care that includes prevention and strengthened self-care. With regards to Health, an NNP government is stated to be committed to "accentuate the importance of education among patient groups and the general population on disease prevention and health promotion, and encourage continuing medical education for all cadres of medical staff" (NNP, 2013 p.2). [37]

d) ***NCD surveillance and research:*** Strengthen country capacity for surveillance and research on NCDs, their risk factors, and their determinants, and utilize the results of this research to support evidence-based policy and program development and implementation.

[37] New National Party (NNP) Manifesto. 2013. Leadership; A New Economy; A United Country: We Will Deliver!

e) The Ottawa Charter for Health Promotion[38] outlines a plan for health promotion and defines the collective action that is necessary to engender change in relation to CNCDs, including:

a) Individual skills: the acquiring of appropriate knowledge to enable choices that initiate and support healthy behaviour.
b) Community Action: As undertaken to empower communities to plan and implement strategies for improved health.
c) Supporting Environment: The natural and built environment must be oriented to support complex societies and activities that promote health. The environment must adapt to changing social norms and for example ensure the provision of sidewalks and adequate lighting for physical activity.
d) Public Policy must be drafted as necessary but must be appropriate to engender the required change.
e) Re-orientation of healthcare services to support access.

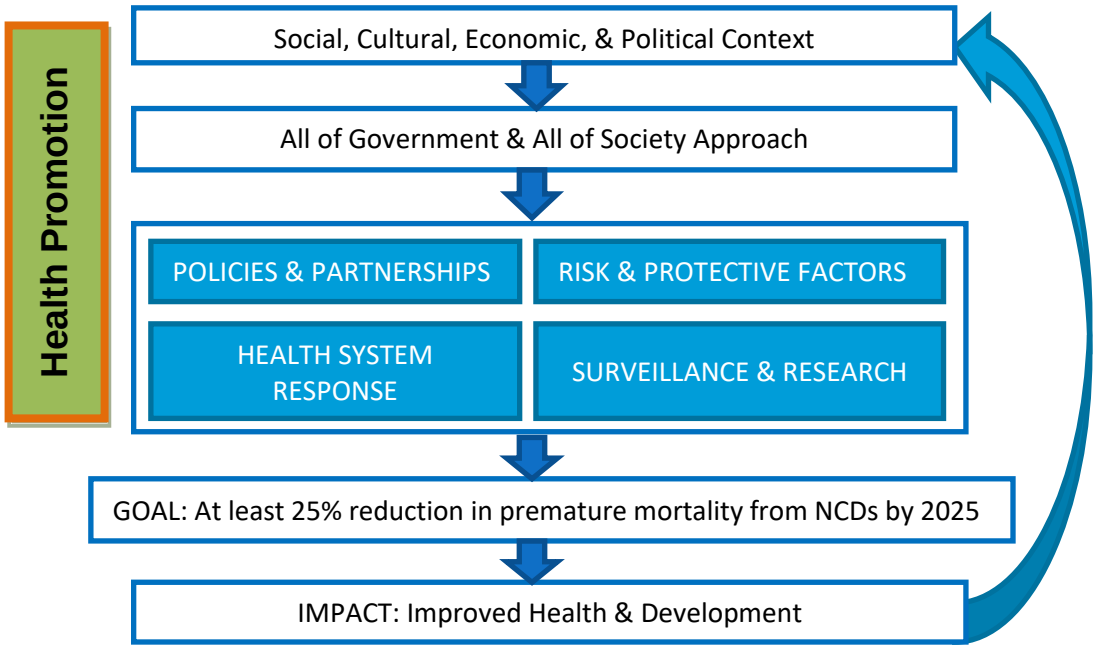


Figure 5 Regional Framework for NCD Prevention and Control
(Source: PAHO/WHO, 2012)

[38] The Ottawa Charter defines Health Promotion as the process of enabling people to increase control over, and to improve, their health.

3. Vision Statement

The Commission recommends the development of a vision for transformational change (PAHO/GoG, 2012). As such, the Vision for the multisectoral response to CNCD in Grenada is:

> ***An improved quality of life of the general population and vulnerable groups through collective action at the political, legislative, community, environmental and health system levels to attain sustainable wellbeing.***

4. Policy Principles

The following are guiding principles[39] for the National CNCD Policy and Multisectoral Plan of Grenada:

a) Integration of CNCD and risk factors into the national development and socio-economic agenda.

b) An all-of society approach that promotes strategic partners within and between sectors, involving government, civil society and community groups, academia, private sector, professional associations, and regional and international organizations.

c) Recognition that behavioural change requires a coordinated set of actions to promote health and wellbeing, resulting in improved quality of life (QoL).

d) Emphasis on health promotion, education, and prevention, as well as, early detection timely treatment, and quality of care for persons diagnosed with CNCDs or display warning signs based on known risk factors.

e) Recognition that health must be seen within the context of a multi-ecological approach taking into account key social determinants of health, such as equity, education, gender, which contribute to the presence of CNCDs.

[39] Guiding principle are an outcome of the stakeholder meeting and principles that guide the Strategy for the Prevention and Control on Noncommunicable Disease (PAHO/WHO, 2012).

f) Consideration of a lifecycle approach in CNCD policies and programs.

g) Reorientation of healthcare system based on PHC, including provision of training and capacity building and integrating CNCD prevention and control.

h) Application of the best available evidence, based on public health relevance and impact, using data from surveillance and research, in developing and formulating programs and policies and in defining research.

i) Institutionalize mandatory and routinized reporting of CNCDs by private and public health care providers.

5. Priority Action Areas

5.1. Priority Action Area I: Surveillance, Monitoring & Evaluation, Research and Information Sharing

5.1.1. The Policy Statement

Improve evidence-based planning and programme implementation by systematically collecting and analysing patient CNCD information for surveillance, monitoring, evaluation and dissemination, and conducting behavioural, clinical and operational research.

I. **Objective:** *To improve the quality and scope of CNCD and risk factor surveillance systems, including information on socioeconomic and occupation status.*

Strategies

a) Develop and implement a national CNCD information system plan taking into consideration the types, uses and users of CNCD information to guide planning, implementation and monitoring for CNCD.
b) Collect CNCD surveillance and monitoring information consistent with international criteria and norms.
c) Utilize standardize indicators across sectors and agencies (i.e. Epidemiology and Information, Procurement and Inventory Management, Private sector, RGPF, GRENDEN, GFNC, Mt. Gay mental hospital).
d) Routine collection of patient information should allow for disaggregation of statistics by age, sex, geographic location, risk factors, and occupation.
e) Build capacity of stakeholder to utilize the surveillance and monitoring systems.
f) Consolidate individualized CNCD registries into a functional National Chronic Disease Registry, to facilitate data collection on the burden of CNCDs in the general population and risk groups.
g) Ensure data protection mechanisms are in place to protect patients' privacy.

II. **Objective:** *To improve utilization of CNCD and risk factor surveillance systems and strengthen operational research with a view to improving the evidence base for planning, monitoring, and evaluation of CNCD-related policies and programs.*

Strategies

a) Review and strengthen existing health information systems to ensure that the collection of quality CNCD and risk factor data from existing sources is sufficient to inform policy, planning and surveillance needs.
b) Establish ongoing mechanisms to determine and develop national priorities for research, including operational research on risk and protective factors, management of CNCDs, and the socio-economic determinants of health, ensuring that the best evidence is used to inform the development of policies and programs.
c) Ensure that nationally representative population surveys of CNCD risk and protective factors in adults and adolescents, such as the WHO STEPS, GSHS and others, are repeated at scheduled intervals and findings are reported to the MoH for utilization in health decision-making.
d) Involve communities, schools and workplaces in undertaking needs assessments to allow for targeting and scaling up/down of intervention programs to improve quality of and satisfaction with services.
e) Develop client exit interview and suggestions boxes to understand and improve, where necessary, client satisfaction.
f) Allocate financial and human resources sufficient to maintain capacity and activities within national surveillance systems for monitoring, surveillance, and evaluation of CNCDs.
g) Invest in the assessment and development of CNCD workforce competencies needed for the analysis and use of surveillance and research data.
h) Expand the Chief Medical Officer's (CMO) Report to include an in-depth report of CNCD outcomes and risk factors, including demographic, socioeconomic and environmental determinants and their social distribution to contribute to local and global CNCD monitoring.
i) Ensure disseminate CMO Report, survey findings and others, through publications by the MoH, seminars, journals, and MoH websites.

5.2. Priority Action Area II: Government Leadership and Legislation

5.2.1. The Policy Statement

Efficiently implement the Policy and Plan through strong leadership, appropriate partnerships structures, and legislative reform to create health promoting communities, environments and new norms related to CNCDs.

I. **Objective:** *To develop a strong multisectoral partnership to promote CNCD prevention and control in all sectors.*

Strategies

a) Establish and/or strengthen mechanisms within the health sector to engage other key public and private sectors, civil society groups, youth, academic and research institutions, and the media more widely to participate in coordinated and concerted actions that create healthy local environments.
b) Develop memoranda of understanding with partners to formalize partnerships and collaborations.
c) Expand the role of the CNCD Commission giving it the mandate to apply for funding and operationalize and implement its recommendations.
d) Find common ground with partners and collaborate on developing the necessary regulations, such as:
    i. Partnering with the Ministry of Education (MoE), Ministry of Agriculture (MoA), and GFNC to develop standards for vending in schools and the environs, including linking school gardens to school feeding program and physical education.
    ii. Collaborating with the National Council on Drug Control to develop and implement a national interpretation of the WHO Framework Convention on Tobacco Control.
    iii. Partnering with MoE to expand regulations mandating physical education and activity in schools to all levels of the education, and ensure that the infrastructure and equipment are available for implementation.

iv. Developing a plan for healthy and safe foods, including regulation on food standards, nutritional content and labelling, vending standards, and healthier foods substitution.

e) Develop and/or strengthen public-private partnerships for more social protection policies to provide universal coverage and more equitable access to services, essential medicines, and technologies for CNCD diagnosis, treatment, rehabilitation and palliative care.

f) Provide policy advice and facilitate dialogue to strengthen governance and policy coherence, and enforcement to avoid real or potential conflicts of interest in collaborative partnerships to implement the Plan.

g) Review relationships with partners to contribute to the strengthening of mechanism for surveillance, monitoring, evaluation and research.

II. Objective: *To control the availability of alcoholic beverages and tobacco.*

Strategies

a) Review, update where necessary, and enforce laws which prohibit sale of alcohol and tobacco to minors, including prosecution of retailers and other adults who sell or supply to minors.

   i. Create legislation requiring purchasers of alcohol and tobacco to provide proof of legal age prior to purchase.

b) Taking into consideration festivals such as carnival, review, update/develop where necessary, and enforce laws on public use of alcohol by providing restrictions on: outlet location and density; times for sale of alcoholic beverages; openly carrying and drinking of alcoholic beverages in public, public or private transportation, and workplace; and ban the sale of alcohol to intoxicated persons.

c) Develop legislation for a complete ban of smoking in public places (e.g. workplace, public transport, indoor public places, and other partially enclosed public places).

d) Review, update where necessary and enforce the drinking and driving law in Grenada to include random alcohol testing, such as breath testing, sobriety check points and blood alcohol concentration (BAC) limits for drivers of 0.5 g/l, with zero tolerance for young drivers.

e) Develop and enforce a system of administrative driving license suspension or revocations, to ensure quick and effective consequences, for those caught driving under the influence of alcohol.
f) Strengthen the Royal Grenada Police Force (RGPF) capacity to enforce laws to control alcohol and tobacco sales on the informal market.

III. **Objective:** *To control the marketing and promotion of alcoholic beverages and tobacco.*

Strategies

a) Develop and enforce regulations in accordance with international agreements for the marketing and promotion of alcoholic beverages and tobacco, ensuring restriction or banning the marketing to youth and vulnerable groups.
b) Prohibit the manufacture and sale of sweets, snacks, toys or any other objects in the form of tobacco products which appeal to minors.
c) Build the capacity of civil society to act as a strong consumer body to monitor the marketing and promotion of alcohol and tobacco products.
d) Designate a government agency to enforce marketing and promotion regulations.
e) Encourage greater responsibility among commercial interests, for example through codes of conduct for sale and marketing practices, and ensure government monitoring of industry compliance with the code.

IV. **Objective:** *To revise and update pricing and/or taxation policies for food, alcoholic beverages and tobacco.*

Strategies

a) Develop or revise a pricing and/or taxation system to decrease use of unhealthy foods, alcoholic beverage and tobacco, while increasing use of healthier foods and non-alcohol beverages, including those targeted to children, young people and vulnerable groups.for example:
    i. Increase excise taxes for food containing saturated and trans fat acids, free sugars and sodium from all sources.
    ii. Reduce taxation on importation and production of fruits, legumes, whole grains and nuts.

iii. Increase taxation on all cigarettes, especially flavoured cigarettes which may appeal to children and young people.
iv. Increase taxation on alcoholic beverages, while reducing taxes on healthier fruit juices and beverage options.

b) Ensure that a proportion of revenues from taxes on food, alcoholic beverages and tobacco to the health sector, primarily PHC, National Health Insurance and civil society for prevention and treatment of related problems, including public health advertising (or counter-advertising).

V. **Objective:** *To promote environmental and occupational health and safety.*

Strategies

a) Develop, update or enforce legislation regarding occupational health standards, including the use of personal protective equipment, and measures to reduce ergonomic risk factors and provide incentives for implementation.
b) Increase awareness of employees' right to paid time off for doctor visits.
c) Review, update and/or develop legislation to introduce measured standards of automobile emissions as a prerequisite for certification of road readiness.
d) Enforce protection for persons who work in enclosed spaces and may breathe in gas fumes.
e) Expand unlawful bus stops laws nationally to reduce the potential threats of sudden, profit-inspired stops, and to increase physical activity of passengers. This will require that designated bus stops and roadways are well lit to promote personal safety and security.
f) Develop legislation on environmental engineering/physical planning to designate roads that are well-lit and safe for the exclusive use of pedestrians, joggers/runners, and/or cyclists, and lighting of strategically accessible playing fields in each Parish to encourage more active lifestyles. For example, a boardwalk along Grand Anse and Batway Beaches, and an exclusive walkway/bikeway around the circumference of the National Stadium, well lit and protected from traffic.

VI. **Objective:** *To build the capacity of the health workforce in relations to CNCD.*

Strategy

a) Assess the capacity of the health promotion department to reorient the health promotion and education services in light of PHC.
b) Provide non-financial and/or financial incentives for the retention of health workers.
c) Establish Memoranda of Understanding with significant stakeholder organizations to fill gaps in the public health workforce.
d) Regulate the mandatory completion of CNCD-related training as part of continuing medical education (CME) for health workers.

5.3. Priority Action Area III: Prevention and Risk Reduction

5.3.1. The Policy Statement

Promote healthy lifestyles across the lifecycle through communities, schools, workplaces, and the media to reduce risk and increase protective factors for CNCD.

I. **Objective:** *To reduce the harmful use of alcohol and tobacco, and exposure to second-hand smoke**.***

Strategies[40]

a) Design and implement effective programmes aimed at the initiation and cessation of tobacco use and alcohol use, in such locations as educational institutions, health care facilities, workplaces and sporting environments.
b) Raise public awareness of regulations on alcohol, tobacco use and exposure to second-hand smoke.
c) Raise awareness and increase public understanding of the harmful effects of alcohol, tobacco use and second-hand smoke throughout the lifecycle, particularly during pregnancy, breastfeeding, childhood and adolescence.

[40] Strategies c) to h) are based on the community action recommended in the Plan of Action to Reduce the Harmful Use of Alcohol (PAHO/WHO, 2011 p.7). .

d) Raise awareness on the links of intrafamily violence and sexual violence to the harmful use of alcohol, and promote integrated prevention of these problems.
e) Build and promote supportive environments, such as family support programs, community and school systems support programs that protect people from the harmful use of alcohol, tobacco.
f) Provide support to civil society to prevent, identify, and respond effectively to the negative health and social consequences of the harmful use of alcohol and tobacco.
g) Provide training in the hospitality and retail sectors for the responsible serving of alcohol, including enforcing compliance with the legal minimum age for the sale of alcoholic beverages.
h) Partner with and utilize traditional and social media, prominent community members, peers, youth ambassadors, churches, PTA, sports persons among others in health promotion activities.

II. **Objective:** *To promote healthy eating and active living in communities, schools, workplaces, and health facilities for health and well-being.*

Strategies

a) Strengthen communication strategies to increase knowledge and skills to promote utilization of Grenada's food-based dietary guideline[41].
b) Increase awareness of and skills to reduce salt intake from processed, home-cooked and restaurant foods.
c) Strengthen healthy eating initiatives to maximize nutritional value of portions, such as the creation of kitchen gardens and 'eat what you grow' concept, and reading food labels
d) Ensure that cooks in schools, hospitals, and care facilities are trained in the preparation of healthy and nutritious meals, and that the school feeding program is linked to school gardens.
e) Provide counselling on healthy diets and physical activity for chronic disease patients and their families.
f) Develop and/or expand community physical activity programs across the lifespan, such as SSU Boot Camp, football, netball and track and field clubs, etc., including among women and older adults.

[41] GFNC lead a multisectoral initiative which resulted in the development of Grenada-specific dietary guidelines.

g) Strengthen the healthy eating and active living component in schools' curricula, such as in Health and Family Life Education (HFLE), including an increase understanding of the distinction between physical education and physical activity.
h) Provide awards and incentives to organizations and sites, such as the PTA, the media, RGPF (e.g. SSU boot camp), and workplace exercise clubs that foster supportive environments for healthy eating and physical activity.
i) Raise awareness and increase public understanding of the harmful effects of unhealthy diets and poor nutrient intake throughout the lifecycle, particularly during pregnancy, breastfeeding, childhood, adolescence and old age.
j) Strengthen nutrition assistance programs for mothers and underweight children, and adapt the program for overweight and obese children.
k) Partner with and utilize traditional and social media, prominent community members, peers, youth ambassadors, churches, PTA, sports persons among others in health promotion activities.

III. **Objective:** *Promote targeted and sustainable health sector programs for CNCD.*

Strategies

a) The Health Promotion Department in the MoH should play a greater role in developing and enhancing health literacy to compliment and reinforce CNCD prevention, treatment, rehabilitation and palliative care initiatives within the sector, especially with the Primary Health Care reform and Health Promoting School initiative.
b) Utilize advocacy as a means of promoting health and preventing CNCD
c) Develop and enhance health education and screening programs for cancers, hypertension, diabetes, cardiovascular diseases, and chronic respiratory conditions.
d) Develop and deliver an educational program designed to reduce stigma against the mentally ill, primarily targeting health professionals and policy makers, and secondarily targeting the community.
e) Develop and/or expand community-based mental health support services.
f) Strategically use available media and media formats, and effectively schedule and place public service announcements to promote health and well being.

5.4. Priority Action Area IV: Health Care System

5.4.1. The Policy Statement

To strengthen the health care system's response capacity to CNCDs by utilizing a comprehensive and integrated chronic care approach across the lifecycle.

I. **Objective:** *Improve access to and quality of early screening programs and diagnosis.*

Strategies

a) Enhance and expand early screening programs for cancers, hypertension, diabetes, cardiovascular diseases, chronic respiratory conditions, and mental health illness, resulting in lower hospital admissions.
b) Develop screening programs with a recommended screening schedule for targeted and vulnerable/risk groups.
c) Ensure that organizations conducting CNCD screening during health fairs report diagnosed cases and cases for follow-up to the MoH to ensure continuity of care.
d) Expand access to technologies for screening and diagnosis of CNCDs.
e) Ensure that health workers participate in continuing medical education (CME) and training related to the prevention of CNCDs.

II. **Objective:** *Improve the quality of health services for CNCD Management.*

Strategies

a) Build the capacity of the MoH to manage the administration of quality CNCD services within the context of PHC, and identify gaps in coordination and collaborations with the goal of formalizing informal collaborations to strengthen partnerships.
b) Ensure that health workers in the public and private sectors receive pre- and in-service training in clinical and population health methods, best practices, health literacy, professionalism and ethics, and patient-provider communication.
c) Enforce CME requirement for health workers and ensure that general and CNCD specialized health workers in the public and private sectors participate in required number of credits/hours of CNCD-related CME.

d) Health workers should be trained to consider patients' use of traditional/herbal medicine in lieu of or simultaneously with biomedicine to prevent and control CNCDs.
e) Develop speciality services for vulnerable groups, such as the elderly, persons with disabilities and mental health problems.
f) Expand and strengthen oncologic and cardiovascular care and treatment.
g) Develop and use standard protocols for the delivery of health care services regarding confidentiality and comprehensive CNCD-related history taking.
h) Encourage active participation in CNCD health care by patients and their families' (i.e. self-management).
i) Strengthen the CNCD continuity of care and referral system within community health services, between community health and hospital, and between public and private providers (e.g. follow-up referred cases; Chronic Care Passport; unique identifiers).
j) Develop a mechanism for reporting and addressing service users' complaints about service provision.

III. **Objective:** *Increase access to and rational use of essential medicines and technologies for treatment, rehabilitation, and palliative care of CNCDs.*

Strategies

a) Strengthen the use of existing regional procurement mechanisms to ensure an adequate supply of essential and advanced technologies, medicines, and vaccines necessary for effective management of CNCDs, including for mental health and HPV if proven to be efficacious in the Grenadian context.
b) Consider issues of medication adherence when developing the proper course of treatment and coping for clients.
c) Enforce laws prohibiting non-pharmacists health worker from dispensing prescriptions, except in special circumstances as stated in law.
d) Expand the scope for traditional medicine as a legitimate treatment option for CNCD.
e) Consider patients' use of traditional medicine along with biomedicine in the treatment of CNCDs for patients who may already be utilizing this as a source of treatment.
f) Develop and strengthen access to treatment, rehabilitative and palliative care, including through public-private and regional partnerships.

g) Ensure that eligible people[42] receive drug therapy and counselling to prevent heart attacks and strokes.

h) Develop and use standard protocols for treatment of different types of CNCDs.

i) Strengthen methods for evaluating whether patients treatment plans are working (e.g. A1C testing for diabetic patients).

6. Multisectoral Action Plan

Acknowledging that the burden of CNCDs is mostly related to the conditions, in which, people are born, grow, work, live and age, and that health goes beyond the health sector (Martinez Valle, 2013)[43], the MoH is leading a multisectoral effort to address the social determinants of CNCDs. A multisectoral plan is important because the responsibility for health is distributed, and will require each ministry and partner to develop its own plan in relation to the broader CNCD plan on how to address its share of the health burden. Table 5 outlines the main organizations involved in implementing strategies to achieve the specific objectives of the policy. However prior to implementation of the policy, an updated stakeholder analysis should be conducted to ensure that all relevant stakeholders are identified and invited to participate. The following are a list of key stakeholders who should be engaged in various ways:

Table 5 relevant stakeholders for CNCD prevention and control

• Ministry of Health • Ministry of Education • Ministry of Agriculture • Ministry of Youth & Sports • Ministry of Trade • Ministry of Finance • Ministry of Social Development • Ministry of Legal Affairs • Ministry of Culture	• Grenada Cancer Society • Grenada National Council of the Disabled • Grenada Diabetes Association • Media Workers Association • Royal Grenada Police Force • Evangelical Churches Organization • Conference of Churches • Grenada Trades Union Council

[42] Eligible people is defines as aged 40 and over with a 10-year cardiovascular risk greater than or equal to 30% including those with existing CVD (PAHO/WHO, 2013).

[43] Martinez Valle A. *Addressing social determinants of health through intersectoral work: Five public policy cases from Mexico.* Social Determinants of Health Discussion Paper Series 6 (Case Studies). Geneva, World Health Organization, 2013. [online] [Accessed June 14] http://www.who.int/social_determinants/publications/SDH6.pdf

• Private Sector Health Providers • Grenada Food & Nutrition council • National Council on Drug Control • Grenada Medical Association • Grenada Nurses Association • Grenada Public Health Association • Grenada Heart Foundation	• St. George's University • T.A. Marryshow Community College • Chamberr of Industry & Commerce • Grenada Hotel Association • Bar & Restaurant Representative • Private sector – e.g. Banks, Electricity & Telecommunications, insurance companies • National Insurance Scheme (NIS)

Nonetheless, the MoH should remain flexible and open to new partnerships and/or Stakeholders opportunities. However, this should be done in a systematic way to ensure that partners are a good fit with the Policy and Plan, and that the benefits of partnerships are maximized. As such, the MoH should develop a partnership application or verification process to include the following:

1. Qualifications for becoming a Stakeholder/Partner
2. Instructions on how to apply
3. Validation process
4. Guidelines to follow such as:
    - Combining efforts with the MOH on community outreach activities.
    - Use shared messaging for specific diseases.
    - Provide quarterly reports (format to be provided by the MOH)
    - Disseminate materials or information to target audience
    - Partner with other Stakeholders for events, fundraising etc.

This process will also facilitate partnerships with Grenadians living in the diaspora and are interested in contributing to the health and development of Grenada.

Table 6 Example linking organizations/departments with CNCD objectives related to Priority Action Areas

Priority Action Area I: Surveillance, Monitoring & Evaluation Research and Information Sharing		
Objectives	**Lead Agency**	**Partners**
I. To improve the quality and scope of CNCD and risk factor surveillance systems, including information on socioeconomic and occupation status.	Ministry of Health	Ministries of Education, Finance, & Agriculture, GFNC, Pharmacists, St. George's University (SGU); Private health providers
I. *To improve utilization of NCD and risk factor surveillance systems and strengthen operational research with a view to improving the evidence base for planning, monitoring, and evaluation of CNCD-related policies and programs*	Ministry of Health	Grenada Medical Association (GMA), Ministries of Education, Finance, & Agriculture, GFNC, Pharmacists SGU, Caribbean Public Health Agency (CARPHA)
Priority Action Area II: Government Leadership and Legislation		
Objectives	**Lead Agency**	**Partners**
I. To develop a strong multisectoral partnership to promote CNCD prevention and control in all sectors.	Ministry of Health	Ministries of Education, Finance, Agriculture, Youth & Sports, & Legal Affairs; GFNC; GMA; Grenada Nurses Association; the Media; Churches; pharmacy; Grenada Trade Union Council (GTUC); Employers
II. To control the availability of alcoholic beverages and tobacco.	Ministry of Legal Affairs, RGPF	Ministries of Health, Education, & Finance; Grenada Bureau of Standards; Retailers: Restaurants and Bars, shops, Grenada Hotel Association; Entertainment Industry, including show promoters; Civil society
III. To control the marketing and promotion of alcoholic beverages and tobacco.	Ministry of Health Civil Society	MoE; the media; Entertainment Industry; Civil Society

IV.	*To revise and update pricing and/or taxation policies for food, alcoholic beverages and tobacco.*	Ministry of Finance	Ministries of Health, Agriculture, & Legal Affairs; GFNC; PAHO; UN
V.	*To promote environmental and occupational health and safety.*	Ministry of Labour Ministry of Health	Ministries of Labour, Legal Affairs, & Finance; NIS; GTUC; RGPF
VI.	*To build the capacity of the health workforce in relations to CNCD.*	Ministry of Health	SGU; GMA; Grenada Public Health Association (GPHA); GFNC; GTUC; CARPHA; PAHO; UN; CNCD Commission

Action Area III: Prevention and Risk Reduction

	Objectives	**Lead Agency**	**Partners**
I.	*To reduce the harmful use of alcohol and tobacco, and exposure to second-hand smoke**.***	Ministry of Health	Ministries of Legal Affairs, Labour, Education, & Youth and Sports; Grenada Cancer Society (GCS); Grenada Diabetes Association (GDA); Grenada Heart Foundation (GHF); GMA; GPHA; SGU; TAMCC; GTUC; the Media
II.	*To promote healthy eating and active living in communities, schools, workplaces, and health facilities for health and well-being.*	GFNC Ministry of Sports	Ministries of Health, Education, Agriculture & Labour; Marketing & National Importing Boards (MNIB); RGPF; Private Sector Businesses; GTUC; Civil Society; the Media
III.	*To promote targeted and sustainable health sector programs for CNCD*	Ministry of Health	Ministries of Education & Agricultural; GFNC; ; Grenada Cancer Society (GCS); Grenada Diabetes Association (GDA); Grenada Heart Foundation (GHF); GMA; GPHA; SGU; the media

Priority Action Area IV: Health Care System

	Objectives	**Lead Agency**	**Partners**
I.	To improve access to and quality of early screening programs and diagnosis.	Ministry of Health (Director of Primary Health Care & Health Promotion Unit)	Private health sector; Traditional healers; GMA; GPHA; GTUC; SGU; PAHO

II.	To improve the quality of health services for CNCD Management.	Ministry of Health (CMO)	Private health sector; Pharmacist; Traditional healers; SGU; PAHO
III.	To increase access to and rational use of essential medicines and technologies for treatment, rehabilitation, and palliative care of CNCDs.	Ministry of Health (Chief Pharmacist)	Pharmacist; Private health sector; Traditional healers; SGU; PAHO

Effective and sustainable implementation of the Policy will be difficult, and will require a clear demonstration of the political will; strong leadership, partnership and coordination; additional or re-directed financial, human and material resources; advocacy; and a strong monitoring and evaluation framework.

To ensure that the Policy is implemented by 2017, some of the different types of interventions have been categorized and implementation timeframes suggested (Table 7). However, it is suggested that stakeholders work together to develop an annual work plan to determine which objectives and their related strategies will be implemented annually for the life of the Policy.

Table 7 Implementation Timeframe and Expected Outcome

Categories of Intervention Strategies	Expected Output	Implementation Timeframe	Expected Outcome
Surveillance, Evaluation, Monitoring, Research and Information Sharing	Reorientation of Epidemiology & Information Department	By 2015	Timely CNCD surveillance, dissemination of reports and evidence decision-making
The community – Community mobilization and cultural change	Reorientation of health promotion department and hiring additional officers	Follows the PHC implementation progression	Gradual change in lifestyles and reduction in incidence of CNCD
The community – Community mobilization and information, education and communication (IEC)/public education programs	Increase the number of persons who are aware of and participate public awareness programs	By 2015	Gradual change in lifestyles and reduction in incidence of CNCD

The Environment – Schools: physical education and HFLE	Change in the level of understanding and commitment to physical and health education, and HFLE	By 2015	Scientific physical and health education, and HFLE curriculum implemented in 80% of primary and secondary schools throughout the school experience
The Environment – Workplace to promote behaviours to reduce to reduce risks of CNCD	Policy Document	By second quarter of 2015	80% of workplaces will implement wellness programs including screening
Government - Legislation	Legislation to control the marketing and promotion of alcohol and alcoholic beverages	By 2016	Reduction in the number of advertisements, outlets related to the marketing and sales of alcohol
Health care system – Improve access to screening	Improve uptake of screening services Improved quality of services to clients Increase number of persons recruited to provide services, education material produced; Increased number of health programs	By second quarter of 2015	Larger percentage of population screened Larger percentage of population satisfied with quality of services More skilled personnel available; enhanced knowledge of clients and health personnel

6.1.1. Risks and mitigation for implementation

An important consideration for effective and timely implementation of the Policy is that of a risk analysis. Risk analysis will help to identify and assess the known or perceived threats, hazards and detriments that can affect implementation, and to develop strategies to mitigate potential adverse impacts based on whether they pose a low, medium or high level of risk. This is an important step, as government and stakeholders are expected to implement the Policy in the face of resistance from some segments of society. Table 8 provides examples of some potential risks and their mitigation strategies.

Table 8 Potential risks and mitigation strategies for CNCD Policy Implementation

Potential Risk	Mitigation Strategy
Industry opposition to controlling the marketing and promotion of alcoholic beverages and tobacco	Hold sensitization meetings with industry representatives; involve policy makers from finance, trade and health in stakeholder meetings

	to develop policies, and lobby their support otherwise
Reduction in Government revenue and revenue for business due to regulations on alcohol, tobacco and unhealthy foods.	Government and businesses should collaborate on developing a taxation mechanism based on best practices to ensure that revenue loss due to alcohol, tobacco and unhealthy foods are gained by increases in sales from healthier consumer behaviour.
Support for regulations on alcohol, tobacco and diet akin to political suicide	Enlist support from civil society and other community groups to advocate for and publicly support government and political parties who to make a clear position statement in support of regulations, and take a stand against those who do not.
Institutions and community organizations may lose needed sponsorship from the alcohol and fast food industry.	
Alcohol marketing and use are socially accepted norms.	Mobilize the support of key community groups and/or members in planning and implementation, including sports and other prominent nationals to promote no drinking and safe drinking norms, especially among younger population groups.
Lack of Funding and other resources	Enlist the support of PAHO and UN and private-public partnerships, including enhancing existing programs to integrate aspects of chronic disease prevention.
Lack of private sector stakeholder support due to potential for increased costs for employee programs and anticipated loss of revenue from proposed regulations	Lobby support from and partner with the Trade Union Council and NIS to raise awareness of the benefits to the company (e.g. increased productivity) and the employee (e.g. less sick days) that can be derived from the implementation of workplace health programs and incentives.

6.1.2. Financing

To ensure that CNCD service delivery is continuous and effective, the mobilization of financial resources is important. Considering plans to move forward the PHC Strategy – listed as a health sector priority for 2013 – government budgetary allocations suggest that implementation of many of the planned community-level interventions may be hindered due to low and disproportionate financing for PHC, which is inconsistent with the goals of the sector. Furthermore, if budget allocations continue to be based on primary (i.e. district-level) and secondary (i.e. hospital-level) care rather than on essential services which will consider the concept of need, there will be little incentive for doctors to track their patients and ensure continuity of care. Government is therefore advised to develop a *financial sustainability*

implementation plan and an *annual work plan budget* for CNCDs prevention and control that is commensurate with the burden and priority of CNCDs, as well as the human and other resource needs (e.g. information technology and research infrastructure) for strengthening the implementation capacity.

To raise and/or allocate needed health care revenue for CNCDs prevention and control, government should:

- Redistribute the existing health sector budget to obtain a better balance between primary and secondary health services, while basing future budgets on essential services;
- Move swiftly to develop regulations guaranteeing the use of taxes from the importation and sale of tobacco and alcoholic beverages for CNCD services related to those risk factors, which should largely contribute to prevention strategies;
- Strengthen its public-private partnerships; and
- Move swiftly to develop and implement its fee-for-service mechanism (currently being explored through a national health insurance scheme).

6.2. Monitoring and Evaluation Framework

A comprehensive monitoring and evaluation system for CNCDs and their associated risk factors is an essential component of prevention and control in Grenada. The monitoring and evaluation plan can be viewed within the context of WHO Global Monitoring Framework for NCDs[44], adapted to the needs of Grenada's CNCD situation to monitor ***Outcomes*** (CNCD-specific mortality and morbidity and emerging CNCD trends), ***Exposures*** (behavioral, physiological and metabolic risk and protective factors, and social determinants), and the ***Health System***[45] ***Response*** (multisector collaboration, intervention and health system capacity), as well as, monitor ***process indicators*** to determine whether processes for implementation have been put in place. Therefore, effective monitoring and evaluation will determine whether the

[44] WHO. 2012. A Comprehensive Global Monitoring Framework Including Indicators and A Set of Voluntary Global Targets For The Prevention And Control of Noncommunicable Diseases.Geneva [online] .

[45] Health system refers to "all organizations, people, and actions whose primary intent is to promote, restore, or maintain health. This includes efforts to influence determinants of health as well as more direct health improving activities" *(World Health Report 2000: health systems: improving performance. Geneva, WHO, 2000)*

implementation is on course and the objectives are being achieved, as well as, identify problems affecting implementation which will allow for early strategizing and application of corrective measures.

Monitoring and evaluation will, therefore, be designed to:

- Provide timely data to inform evidence-based policy-making, planning and development of prevention and management intervention services nationally and regionally; and
- Provide quantitative estimates of the incidence, prevalence and impact of chronic diseases and their risk factors to determine whether CNCDs are being prevented or early onset delayed;
- Map the geographic distribution of health problems and risk factors;
- Determine strengths and challenges of interventions, including legislation and other regulations to determine whether the quality of life and wellbeing of communities and population groups have been improved;
- Determine strengths and weaknesses of partnerships and collaborations;
- Detect emerging trends in risk factors and chronic diseases to anticipate future health system response to CNCDs;
- Facilitate health research and analysis;

Existing surveillance activities in Grenada should provide the capacity for integration and development of a monitoring and evaluation system for CNCDs. This Policy recommends that the Epidemiology and Information Department in the MoH should routinize CNCD data collection and reporting practices from District Health Centres, hospitals and private health. Furthermore, other sectors, (e.g. Mt. Gay Mental hospital, MoE, RGPF, GFNC, and NIS) already collecting routine health-related information as part of their surveillance functions should be assessed and included, where relevant, as part of the monitoring and evaluation of CNCDs.

The monitoring and evaluation system will therefore bring together data from a range of administrative databases and surveys, together with a nation-wide system to monitor CNCDs and their risk factors. Existing data collection should be enhanced to meet the monitoring needs for CNCDs, and CNCD reporting should encompass more in-depth analysis of data to include analysis of social determinants.

It is envisioned that the monitoring and evaluation function will be under the purview of an inter-sectoral ***National Health Status Steering Committee (NHSSC)***. The NHSSC will be *convened*

by the Minister of Health or designee (e.g. C.M.O. or P.S.) and *coordinated and chaired* by the Chief of the Epidemiology Unit of the Ministry of Health (Medical Officer of Health – Epidemiology). The NHSSC will work closely with The CNCD Commission, and have responsibility for determining:

a) The indicators to be reported based on the Policy;
b) Each partner's area of surveillance;
c) The schedule for reporting;
d) Interpreting the data; and
e) Preparation of the Annual Grenada Health Status Report, which will include the burden of CNCDs, their risk factors and related social determinants.

Members will be identified to join the Steering Committee because they already contribute to, and/or prepare reports that will now form important parts of the integrated annual report. Each of the departments or agencies represented must, therefore, have a role in devising the work plan by which the annual report is produced.

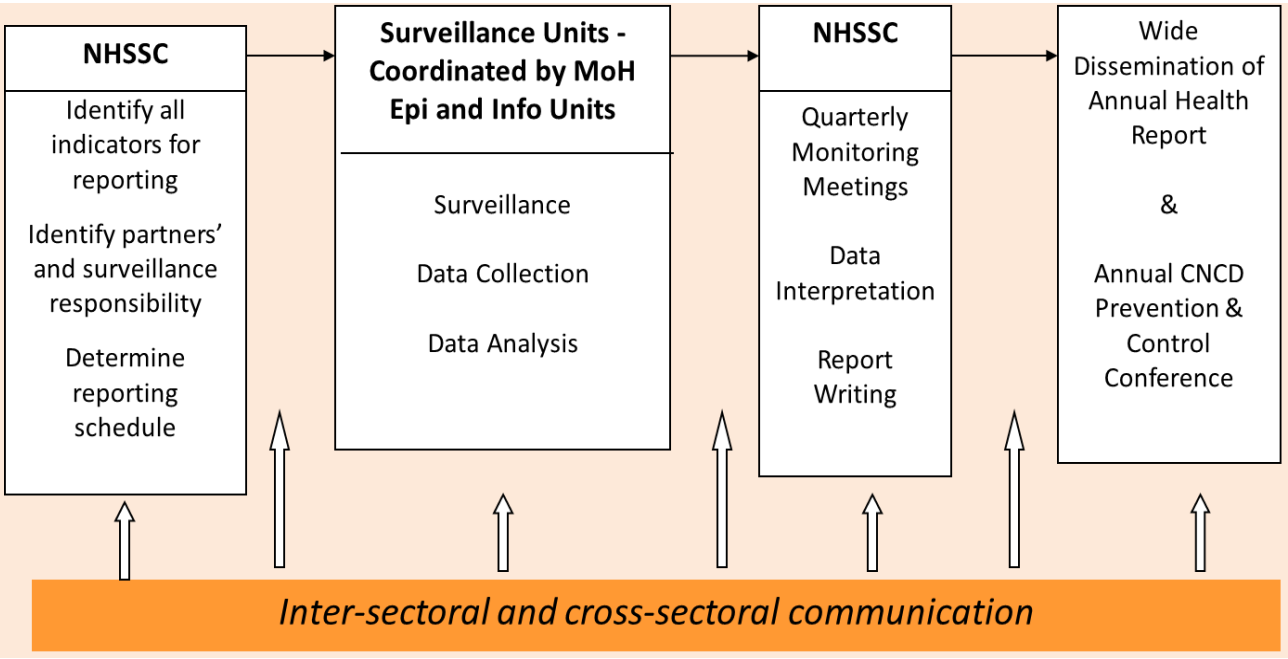


Figure 6 Overview of Monitoring and Evaluation Framework

Members of the Committee will be expected to coordinate timely and reliable data collection efforts within their respective ministry or organization to contribute to the monitoring of CNCD. Quarterly meetings are suggested to discuss progress against the strategies and corrective actions taken and/or priorities updated. Finally, it is proposed that the Annual Health Report should be widely disseminated to all stakeholders and available in various media formats. To facilitate evidence-based decision making, an Annual National Health Conference, which can be referred to as *The Health Minister's Conference* is suggested for dissemination and discussion of the Annual Health Report, including aspects relevant to CNCD. The Conference should be open to national and regional stakeholders, including members of the public. The Conference should also be broadcasted live via radio, television and Internet to keep the population involved in the process, and to raise further awareness as the country addresses CNCDs.

Tables 9 provide a summary of types of data needed, potential data sources and the organization with responsibility for data collection and/or analysis.

Table 9 Types and Sources of data to be collected and responsible Organization

Types of data	Source	Responsible Organizations
Mortality	Vital Statistics, e.g. death registration with reliable cause of death	Ministry of Health; Private health care providers
Morbidity	Positive test results from CNCD screening at District Health Centres and public hospitals; hospitalization and discharge data, including for Rathdune Psychiatric Unit and Mt. Gay Psychiatric hospital	MoH; Mt. Gay Physiatric hospital; organizations involved in Health Fairs; Private health care providers
	Positive test results from CNCD screening private clinics and hospitals; hospitalization and discharge data from private hospitals	MoH; GMA
Alcohol consumption and Tobacco use	STEPS surveillance;	MoH; PAHO; SGU
	Secondary Schools Drug Prevalence Survey;	MoE – National Council on Drug Control
	Global School-based survey	MoH; CDC
	Alcohol-related arrests and convictions	RGPF
	Alcohol and tobacco revenues	MoF
Diet and Physical activity	STEPS surveillance	MoH; PAHO; SGU
	Global School-based Health Survey;	MoH; CDC
	Diet and nutrition surveillance	GFNC; MoH – Primary Health Care Teams; MoE

	Number of physical activity programs in communities, schools, workplaces	Ministries of Health, Labour, and Sports; GTUC; RGPF
	Importation & consumption data of healthy foods	Ministries of Finance and Agriculture
Quality of and Access to health services	MoH – develop evaluation tools (e.g. survey, exit interviews, and qualitative interviews)	MoH; NHSSC; SGU; PAHO; CARPHA
Partnerships	MoH – develop evaluation tools	MoH; PAHO; NHSSC; SGU; CARPHA
Legislation and/or Regulations	Number of types of policies, plans and legislations that are new an/or updated, or existing ones enforced	Ministries of Health, Legal Affairs, Labour, Finance, Education; Agriculture, GFNC

Table 10 summarizes the indicators to measure achievement comparable at the regional and international levels. For global indicators, the year of attainment has been changed here from 2019 to 2017 to reflect the endpoint of this Policy.

Table 10 Summary of Indicators

Strategic Lines of Action	Indicators
Surveillance and research	• High-quality mortality data (based on international criteria for completeness and coverage and percentage of ill-defined or unknown causes of death) for the four main NCDs and other NCDs of national priority e.g. CKD. • Quality disaggregated cancer incidence data, by type of cancer for per 100,000 population – *Cancer Registry.* • At least two repeated nationally representative population surveys of NCD risk factors and protective factors in adults and adolescents, in any time period. • Production and dissemination of bi-annual reports with analysis on NCDs and risk factors, including demographic, socioeconomic and environmental determinants and their social distribution to contribute to global NCD monitoring process. • Develop a research agenda that includes operational research studies on NCDs and risk factors aiming to strengthen evidence-based policies, program development and implementation.
Multisector policies and partnerships	• Specific NCD prevention policies in at least three sectors outside the health sector. • Implementation of the national multisectoral plan for NCD prevention and control. • National social protection health schemes that address universal and

	equitable access to NCD interventions.
Risk and protective factors indicator	• Relative reduction of prevalence of current tobacco use in persons aged 15+. • Relative reduction of total (recorded and unrecorded) alcohol per capita consumption in persons 15+. • Policies to reduce the impact on children of marketing of foods and non-alcoholic beverages high in saturated fats, trans-fatty acid, free sugars and salt. • National policies to limit saturated fats and virtually eliminate partially hydrogenated vegetable oils in the food supply, as appropriate within the national context and national programs. • By 2017 show progress, from the national baseline, to contribute to the 2025 global target of 30% relative reduction in population based intake of salt, measured by age-standardized mean population intake of salt (sodium chloride) in grams per day in persons aged 18+ years. • By 2017 show progress, from the national baseline to contribute to the 2025 global target of at least 10% relative reduction, in prevalence of insufficiently physically active persons aged 18+. • By 2017 show progress from the national baseline to contribute the 2025 global target of at least 10% relative reduction in prevalence of insufficiently physically active adolescents (defined as less than 60 minutes of moderate-to vigorous-intensity activity daily).
Health system response to NCDs and risk factors indicators	• Implementation of a PHC model of integrated management for NCDs (e.g. Chronic Care Model with evidence-based guidelines, clinical information system, self-care, community support). • By 2017 show progress to contribute to the 2025 global target of 80% availability of a core set of cost-effective technologies and essential medicines including generics required to treat the four main NCDs in both public and private facilities. • Access to palliative care, by increasing by 50% by 2017 mean opioid consumption measured in morphine equivalent mg per person. • An official commission that advises, according to the best available evidence, and operating without conflicts of interest, CNCD interventions. • Continued participation in the OECS Drug Procurement system so that treatment and palliative care medicines and technologies for inclusion in/exclusion from public sector services are selected according to the best available evidence, and operate without conflicts of interest. • A plan in place to increase access to affordable treatment options for patients affected by CKD, particularly end stage renal disease. • By 2017 show progress, from the national baseline, to contribute to the 2025 global target of a halt in prevalence of raised blood glucose/diabetes assessed by age-standardized prevalence of raised blood glucose/diabetes among adults aged 18+ years.

	• By 2017 show progress, from the national baseline, to contribute to the 2025 global target of a halt in prevalence of adult obesity assessed through age-standardized prevalence of overweight and obesity in persons aged 18+ years. • By 2017 show progress, from the national baseline, to contribute to the 2025 global target of a halt in prevalence of overweight and obesity in adolescents. • By 2017 show progress to contribute to 2025 global target of at least 50% of eligible people receive drug therapy and counseling (including glycaemic control) to prevent heart attacks and strokes. • By 2017 show progress according to national baseline to contribute to the 2025 global goal of at least 25% relative reduction in prevalence of raised blood pressure or contain the prevalence of raised blood pressure expressed by age-standardized prevalence of raised blood pressure among adults aged 18+ years • A cervical cancer screening coverage of 70% of women between the ages of 30-49 years screened at least once, or more often and for lower or higher age groups according to national programs or policies. • A prostate cancer screening coverage of 70% of men between the ages of 40-50 years screened (or based on risk factors and in consultation with their doctor) biennially, or annually based on test result (or national programs or policies), and follow-up with the best course of action for effective treatment. • At least 50% coverage of breast cancer screening in women aged 50–69 years (and other age groups according to national programs or policies) in a three-year period with all positive cases found during screening provided effective and timely treatment. • Provide as appropriate, cost-effective and affordable vaccines against human papilloma virus (HPV) according to national programs and policies. • Develop a plan to integrate mental health screening for adolescents and adults in PHC, and by 2017, show progress toward implementation.

Appendix A: List of Participants – National Stakeholders Validation on CNCD, Grenada

NAMES	ORGANIZATION
