Ministry of Health

Guyana

GUYANA STRATEGIC PLAN FOR THE INTEGRATED PREVENTION AND CONTROL OF CHRONIC NON-COMMUNICABLE DISEASES AND THEIR RISK FACTORS 2013 - 2020

Georgetown
2013

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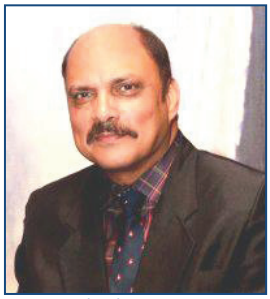


Hon. Bheri S. Ramsaran
Minister of Health

FOREWORD

The onset of the HIV/AIDS Epidemic in the 1980s caused infectious diseases and their impact on humankind to become a major preoccupation for the public, governments and the media alike. They - especially HIV/AIDS - dominated the Global and National Health Agendas. They permeated the Media and captured the attention and funding of major International Donors.

In Guyana, this was the prevailing situation but while contagious diseases such as HIV/AIDS, Malaria and Tuberculosis have historically dominated the global healthcare agenda, less visible, yet deadlier forms of illness are emerging as a mortal threat to millions worldwide. Heart disease, diabetes, cancer, and chronic respiratory diseases, collectively called Non-communicable Diseases (NCDs) are responsible for the deaths of around 36 million people every year.

Poor diet, lack of exercise, smoking and excessive alcohol intake are major factors accounting for the deaths of a staggering 100,000 people every day and it's not just rich nations that are feeling the damaging effects of sloth, excess and poor diet. Far from it! Low and middle-income countries in the developing world are facing NCD deaths of epidemic proportions. Out of the 100,000 daily such deaths, four out of five occur in the world's poorest countries. NCD deaths are projected to increase by 15% globally by 2020. Not only do NCDs remain a barrier to good human health, they also hinder poverty reduction and economic prosperity by placing excessive burdens on healthcare systems and by undermining the health of the national workforce.

The cost of inaction risks running into trillions of dollars. The sharp rise of Non-communicable Diseases in emerging market economies such as Russia, India and China is a striking example of this and is particularly worrying. Experts say that between 2005 and 2015 these countries could lose $200 billion to $550 billion of national income due to the effects of NCDs on their populations. The World Economic Forum's 2010 Global Risk Report identifies NCDs as the second most severe threat to the global economy in terms of livelihood and potential economic loss.

The emerging NCD epidemic and the efforts and resources required to address it makes it a *Development Issue.* The NCD Strategic Plan positions our efforts to combat the epidemic in this context.

Whilst effective treatment for NCDs is essential, early action and prevention are critical. Preventing the onset of chronic illness will ultimately save our government valuable time and money, and relieve the burden on often overstretched healthcare resources. The development of better and more accessible screening programs combined with wider public awareness could also dramatically reduce the number of NCD related deaths.

The Strategic Plan builds on the successes and reviews of the shortcomings of programmes already in operation – especially for breast cancer and cervical cancer (VIA), diabetes (the Diabetic Foot Clinic – DFC) and Eye Care (Mission Miracle).

Prevention has to start at the community level, with people being better informed and better equipped to take care of their own health. An estimated 80% of causes of cardiovascular disease and diabetes could be prevented simply through exercise, healthy diet and by cutting back on smoking. Encouraging people to drink responsibly and stop smoking, to exercise more, and to improve their diet is therefore a basic but life-saving step.

The State Health Sector organizations and entities, such as the Health Centers, whose staff and volunteers work closely with local communities, will continue to play a vital and expanding role in bringing about changes in behaviour and attitudes towards health and lifestyle. But no single entity can bring about change alone. The growing problem of NCDs requires the input and influence of all sectors of our societies. The Strategic Plan envisions a “Health-in-All-Policies (HiAP)” approach. The world is changing and all of us, public, civic and private sector must recognize that our approach must change too.

The way in which we approach NCDs is of course different from the way infectious diseases have historically been tackled. The objective in the fight against NCDs is to address the root causes just as much as developing the cures, and this process must involve a far broader section of our societies. Strong leadership and political will is critical as the milestone UN High Level Meeting on NCDs noted. Some twenty years ago, the world's decision-makers promised to get tough on causes and effects of HIV/AIDS.

With the lives of millions more at stake, we urgently need the same political commitment on NCDs. At the international level this commitment is growing and consolidating. In recognition of the growing burden of NCDs and the huge threat they place on world development, on 24th May 2012, at the 65th World Health Assembly, a resolution was made and supported by over 50 countries to "***adopt a global target of a 25% reduction in premature mortality from NCDs by 2025."***

The 2010-2015 Regional Health Framework of the Caribbean Cooperation in Health III (CCH III) also recognizes the importance of ***"Investing in Health for Sustainable Development".*** Both fora extensively discussed and adumbrated a broad roadmap for the "***post-2015 Agenda for sustainable health"***. Our Strategic Plan for NCDs draws profoundly on these deliberations and recommendations and aligns Guyana's response to global strategy while embracing the "best buys" contained therein.

The UN General Assembly in its resolution A/RES/65/238 convened a high-level meeting of the General Assembly on the prevention and control of non-communicable diseases which was held on **19 and 20 September 2011** in New York. The same Resolution advised that the high-level meeting address the prevention and control of non-communicable diseases worldwide, with a particular focus on developmental and other challenges and social and economic impacts, particularly for developing countries. The General Assembly resolution A/RES/65/238 further requested the President of the General Assembly to organize, no later than June 2011, an informal interactive hearing with non-governmental organizations, civil society organizations, the private sector and

academia to provide an input to the preparatory process for the high-level meeting. This informal interactive hearing took place on 16 June, 2011.

The new Guyana NCD Strategic Plan must be seen against the wider canvas of the larger National Health sector Plan to be officially launched shortly. This larger enterprise will forge innovative, strategic partnerships with the untapped NGO/CSO sector and the Private Sector. The new component to building strategic partnerships will see the Academic Community embraced and, the large, well organized, disciplined Services, Para Military Organizations, large Trade Unions and workforces recruited in the Ministry's endeavours to create a sustainable national response. The pilot being conducted with a local Call-Center employing some 1,600 workers, predominantly women, is a case to note.

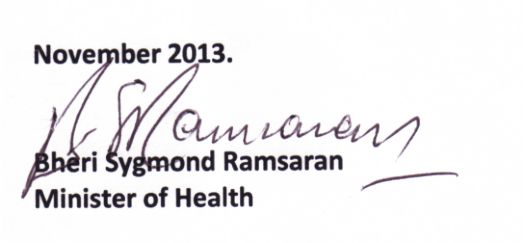
The larger National Health Sector Strategy embraces the school population as a vital pool of energy and sustainability in the fight against the NCD epidemic. This population will attract our attention and resources aimed at nurturing positive behavioral change in our replacement generation as well as creating the energetic change agents needed to influence wider segments of the national population.

The new and aggressive initiatives started earlier this year to create School Health Clubs at the formal education sector level and the Wellness Warriors Club nationally will tap into these youthful energies and numbers to push unprecedented national screening programmes for NCD and the support national Health Literacy drive. The effectiveness and sustainability of the new NCD Strategy will benefit from such wider initiatives which will see the mass training and equipping of Guyana's youths in standard screening and health awareness techniques. This will unleash an army of Wellness Warriors to support the fight against the epidemic of NCDs and other wider national health goals.

Non-communicable diseases (NCDs) have emerged as a new frontier in the fight to improve health globally. The increase in such diseases means that they are now responsible for more deaths globally than all other causes combined. The new Guyana NCD Strategic Plan will position our Nation to mount an effective, sustainable response.

The Guyana NCD Strategic Plan is the product of numerous public, intra- and inter-Ministries consultations. It draws on internationally recognized best practices and will achieve sustainability from the Administration's well established commitment to funding the response and wider Ministry of Health initiatives to mobilize other latent, untapped national partners.

November 2013.



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Our sincere thanks are extended to the following persons:

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Ms. Rosemary Benjamin	Chairperson Periwinkle Club
Ms. Annette Gooding	Founder member Periwinkle Club
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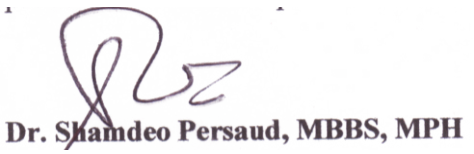

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List of Acronyms

ARI- acute respiratory infections
BMI- body mass index
CARMEN- Collaborative Action for Risk Factor Reduction and Effective Management of NCDs
CARPHA- Caribbean Regional Public Health Authority
CBO- community based organizations
CCHIII- Caribbean Cooperation in Health III
CEHI- Caribbean Environmental Health Institution
CFNI - Caribbean Food and Nutrition Institute
CRDTL Caribbean Regional Drug Testing Laboratory
CWD-Caribbean Wellness Day
DALYs - Disability Adjusted Life Years
FBO- faith based organizations
FCTC - Framework Convention on Tobacco Control
GDP- gross domestic product
GPHC- Georgetown Public Hospital Corporation
IDF- International Diabetes Federation
IIWCC - International Inter-professional Wound Care Committee
MoCYS-Ministry of Culture, Youth and Sport
MoA-Ministry of Agriculture
MoH- Ministry of Health
MoLHSSS- Ministry of Labor Human Services and Social Security
NIS - National Insurance Scheme Policies
NCDs- non-communicable diseases
NGO- non-governmental organizations
PA- physical activity
PE- physical education
PPP- public, private partnerships
POS- Declaration of Port of Spain
RHA- Regional Health Authorities
SHS- second hand smoke
STEPS- Stepwise Approach to Chronic Disease Surveillance
TMRI- Tropical Medicine Research Institute
VIA - Visual Inspection using Acetic Acid
WDF- World Diabetes Foundation
WHA- World Health Assembly
WHO- World Health Organization

Background

Chronic Non-communicable Diseases (NCDs) are recognized as a growing international socio economic and public health problem, accounting for over 36 million of the 57 million deaths worldwide in 2008[i]. Of these deaths, 80% originated in the low and middle income countries. NCDs and non-intentional injuries represent nearly 70% of all causes of death in the Region of the Americas, mostly affecting those 18-70 years old. The Caribbean epidemic of chronic diseases - in particular, cardio vascular disease, diabetes, cancer and asthma- is the worst in the region of the Americas[ii] These diseases are preventable: "Up to 80% of heart diseases, stroke, and type 2 diabetes and over a third of cancers could be prevented by eliminating shared risk factors, such as tobacco use, unhealthy diets, physical inactivity and the harmful use of alcohol."[iii]

In 2005, the Conference of Heads of Government in CARICOM took a decision to convene a Summit that would facilitate a multi-sector, comprehensive and integrated response to the issue of NCDs in the Caribbean. In September 2007, at the CARICOM Summit on Chronic Non-communicable Diseases (NCDs) the Declaration of Port of Spain (POS) was pronounced with the theme of "*Uniting to Stop the Epidemic of Chronic Non-communicable Diseases"*[iv]. This declaration provided a framework for policies and programmes across government ministries, the private sector, civil society, the media, non-governmental organizations (NGOs), academia and the community, *"to make the right choice the easy choice."*[v]

In recognition of the growing burden of NCDs and the huge threat they place on world development, on 24th May 2012, at the 65th World Health Assembly, a resolution was made and supported by over 50 countries to "adopt a global target of a 25% reduction in premature mortality from NCDs by 2025."

The 2010-2015 Regional Health Framework of the Caribbean Cooperation in Health III (CCH III) recognizes the importance of "Investing in Health for Sustainable Development."

The vision for the NCD strategy is in keeping with the Ministry of Health's (MoH) vision "***for Guyanese citizens to be among the healthiest in the Caribbean and the Americas"***

The principles of the strategy are in sync with those of the MoH and the CCH III:

- The right to the highest attainable level of health and therefore the provision of services commensurate with needs
- Equity in access to quality health services regardless of origin, ethnicity, gender, geographic location or socio-economic status
- Solidarity between member countries-working together to define and achieve common good
- People centered – primary goal of meeting the needs of the people, families and communities
- Leadership in the public health sector that focuses on the attainment of health for all and a shared vision that creates an enabling environment for mobilizing resources, improving performance and ensuring greater cooperation and accountability within the region[vi]. The CCH provides a mechanism for small member states to share "rare" medical specialists that are in demand within the region e.g. oncologists and endocrinologists.

CARICOM member states have embraced a Primary Health Care Approach as the over arching health development framework. This approach emphasizes the decentralization of the administration and provision of an essential package of primary health services to ensure equity in access to most, rather than investing huge sums into centrally located, tertiary health services that are affordable and accessible to few.

Guyana has observed a growing epidemic of NCDs which is in part a reflection of the effects of globalization, increased urbanization, population ageing, behavioral and lifestyle change, and the inadequacies of existing health promotion, disease prevention, diagnosis and management efforts.

NCDs can undermine the potential of an individual to earn a living or provide for themselves and family. Vulnerable populations are more likely to develop chronic diseases and low-income families are more likely to become further impoverished as a result of them. The World Health Organization's 2008-2013 Action Plan for the Global Strategy for the Prevention and Control of Non-communicable Diseases emphasized the need for policies to protect the poor from the disproportionate burden of NCDs they carry. Furthermore, the action plan highlighted the need for investing in NCD prevention as an integral part of sustainable socioeconomic development. In recognition of the potential threat chronic diseases pose to socioeconomic development, the Government of Guyana is committed to investing in health sector development to ensure universal access to quality prevention, care and treatment services.

"Whole-of government-whole- of –society effort" WHA, Declaration of 2011

The health sector in Guyana is striving to build strategic partnerships with other ministries, civil society and the private sector to implement a comprehensive and integrated approach to preventing and mitigating the impact of NCDs. This is in alignment with the WHO 2008-2012 Global Action Plan that emphasizes the need for whole government involvement and the crucial role of non-health sector participation and policies to effectively address NCDs. The World Health Assembly of 2011 recommended "strong leadership and multi-sectoral approaches for health at the government level, including, as appropriate, health in all policies and whole-of-government approaches across such sectors as health, education, energy, agriculture, sports, transport, communication, urban planning, environment, labour, employment, industry and trade, finance and social and economic development."

This strategic plan for NCDs utilizes the Caribbean Strategic Plan of Action for the Prevention and Control of NCDs as a framework to address the top four causes of premature death in Guyana: cardiovascular diseases, cancer, diabetes and chronic respiratory diseases ensuring a multi-sectoral, integrated approach is maintained.

SITUATIONAL ANALYSIS

Administration

Responsibility for health services in Guyana is being devolved from the Ministry of Health Central to Regional Health Authorities (RHA), and to Georgetown Public Hospital Corporation (GPHC)[vii]. Regional Health Authorities were established under the RHA Act 2005 (and the Public Corporations Act in the case of GPHC) and serve as corporations contracted to deliver health services under the supervision and regulation of the Ministry of Health. RHA contracts specify the level and quality of services they should provide in return for the funding they receive. RHAs are established in Regions 4 and 6 while the remaining regional services are administered under the Regional Health Services Department of the MoH.

Economic Burden of NCDs in Guyana

In 2011MoH/PAHO conducted a cost of illness assessment for NCDs using data from local and international sources and found that:

- the annual direct costs of treating diabetes and/or hypertension are estimated between US$7.2 million and US$10.8 million, with clinic visits and laboratory tests accounting for the highest burden of cost
- the annual direct cost of treating cancers and cardiovascular diseases are estimated between US$0.3million and US$5.2million with treatment and drugs accounting for the highest burden of cost
- annual indirect costs of all NCDs are estimated between US$207.5million, 10% of GDP in 2010
- total annual costs accruing due to NCDs are estimated at US$221.5million

Epidemiology

Mortality from NCDs

In 2005, an estimated 35 million people worldwide died from chronic diseases; this is double the number of deaths from all infectious diseases. While deaths from perinatal conditions and nutritional deficiencies are expected to decline by 3 % over the next 10 years, deaths due to chronic diseases are projected to increase by 17 % by 2015[viii]. Over the last decade, ischemic heart disease, cerebrovascular disease and diabetes have been among the top five leading causes of death.

Table 1 Six Leading Causes of Death in Guyana from 2000 and 2009

Cause of Death	Rank 2009	Rank 2008	Rank 2006	Rank 2003	Rank 2000
Cerebrovascular Diseases	1	2	2	1	3
Ischemic Heart Diseases	2	1	1	2	1
Neoplasms	3	3	4	3	4
HIV Diseases (AIDS)	6	6	5	4	2
Diabetes Mellitus	4	4	3	5	5
Hypertensive Disease	5	5	6	6	5

Source: Adapted from MOH Statistics Bulletin, 2008

A review of Ministry of Health statistical data shows that heart disease, external causes, cancer, diabetes mellitus, and chronic liver disease have accounted for over 2,000 deaths per annum since 2004[ix]. MoH stats show that NCDs accounted for over 60% of deaths amongst males and over 70% of deaths amongst females in 2009.

Major causes of death by age group are as follows:

- Under 1 year: Respiratory diseases was the #1 cause
- *Under 5 years*: perinatal causes, acute respiratory infections (ARI), acute diarrhoeal disease and accidents/injuries.
- *5-14 years*: accidents/injuries, ARI, diarrhoeal disease, cancer and malnutrition/anaemia.

- *15-44 years*: HIV/AIDS, accidents/injuries, suicide, ARI and diarrhoea disease.
- *45-64 years*: ischaemic heart disease, cerebrovascular disease, diabetes, cancer.

Table 2 Major causes of death by age group

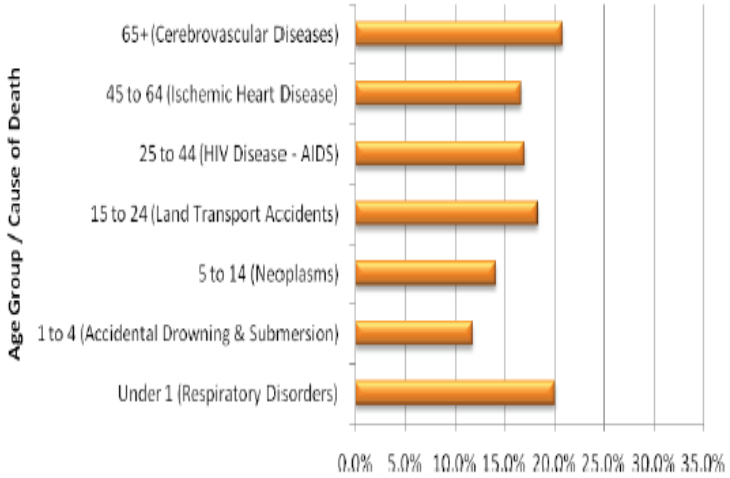


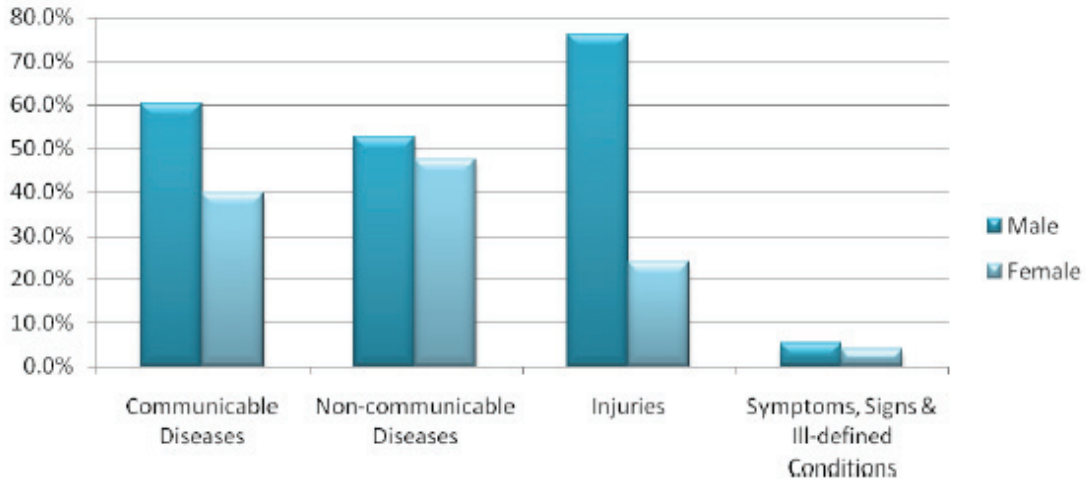
Table 3 Mortality by Cause &Sex 2009

Mortality by Cause & Sex 2009

CAUSE	MALE		FEMALE		BOTH SEXES	
	Total	%	Total	%	Total	%
Communicable Diseases	342	13.2	225	11.5	567	12.4
Non-communicable Diseases	1,726	66.4	1,558	79.4	3,284	72.0
Injuries	496	19.1	155	7.9	651	14.3
Symptoms, Signs & Ill-defined Conditions	35	1.3	25	1.3	60	1.3
Total	**2,599**	**100**	**1,963**	**100**	**4,562**	**100**

Source: Ministry of Health Statistical Bulletin 2009

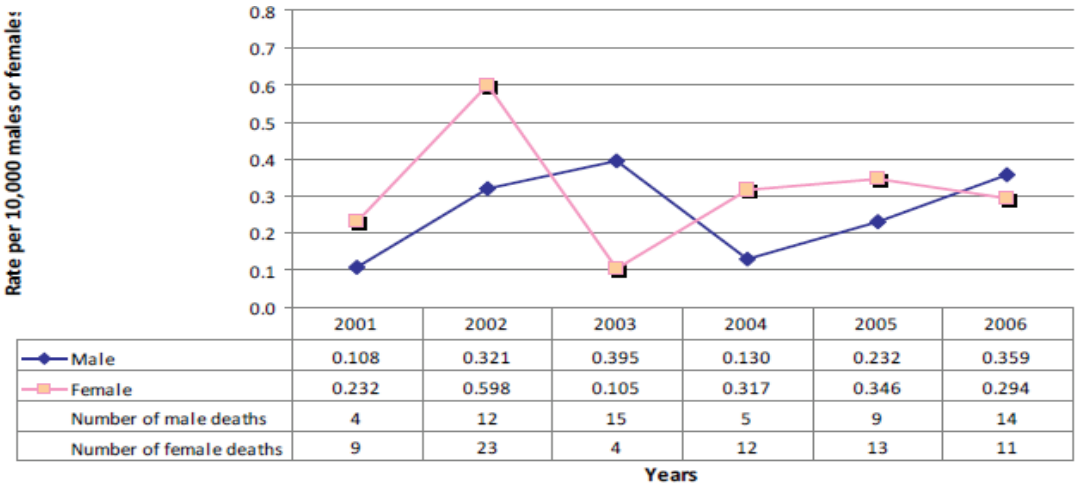
Table 4 Percentage of Mortality by Cause and Sex 2009



- *Source: Ministry of Health Statistical Bulletin 2009*

Premature death due to injuries and accidents were three times higher in males than in females. Chronic Non-communicable Diseases Cerebrovascular disease (Stroke) was the number one cause of death overall in 2009- 13.1% followed by Ischemic Heart Disease 13% and neoplasms 8.9%.

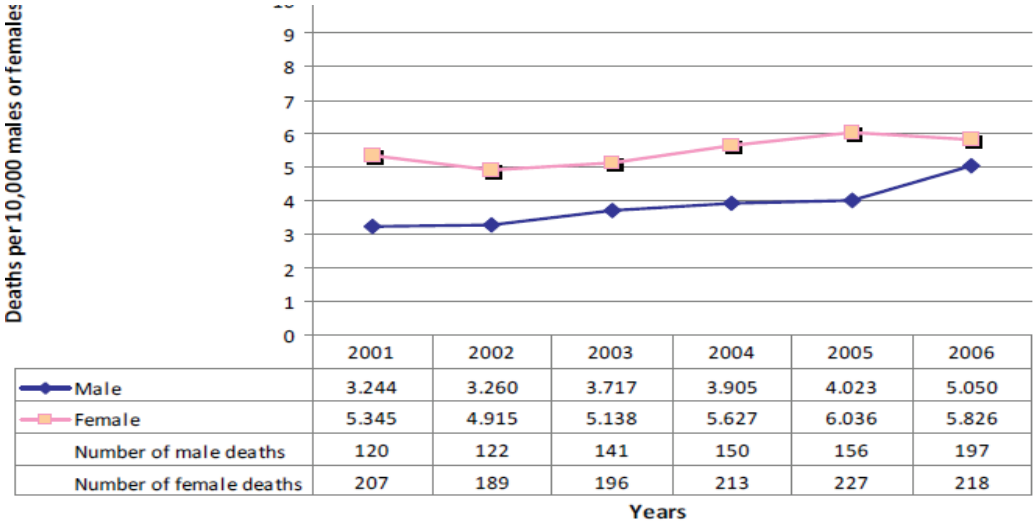
Figure 1-Mortality Rates for type II Diabetes by sex 2001-2006



	2001	2002	2003	2004	2005	2006
Male	0.108	0.321	0.395	0.130	0.232	0.359
Female	0.232	0.598	0.105	0.317	0.346	0.294
Number of male deaths	4	12	15	5	9	14
Number of female deaths	9	23	4	12	13	11

Source: PAHO Gender Analysis NCDs in Guyana 2011 and MOH statistical Bulletin 2009

Figure 2- Mortality Rates for Type I Diabetes by sex in Guyana 2001-2006



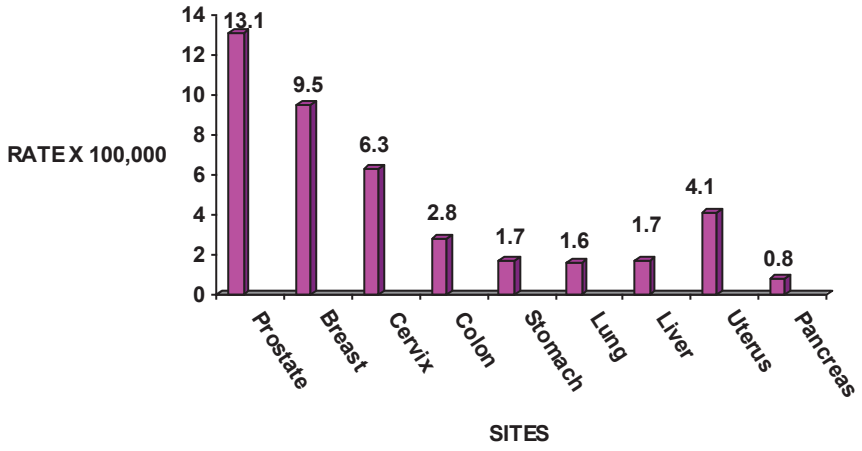
	2001	2002	2003	2004	2005	2006
Male	3.244	3.260	3.717	3.905	4.023	5.050
Female	5.345	4.915	5.138	5.627	6.036	5.826
Number of male deaths	120	122	141	150	156	197
Number of female deaths	207	189	196	213	227	218

Source: PAHO gender Analysis of NCDs in Guyana 2011and MoH Statistical Bulletin

Cancer Mortality

In 2004, prostate cancer accounted for the highest mortality rate due to cancer, followed by cancers of the breast, cervix, colon, stomach, lung and liver in descending order.

Figure 3: Mortality rate by cancer sites 2004

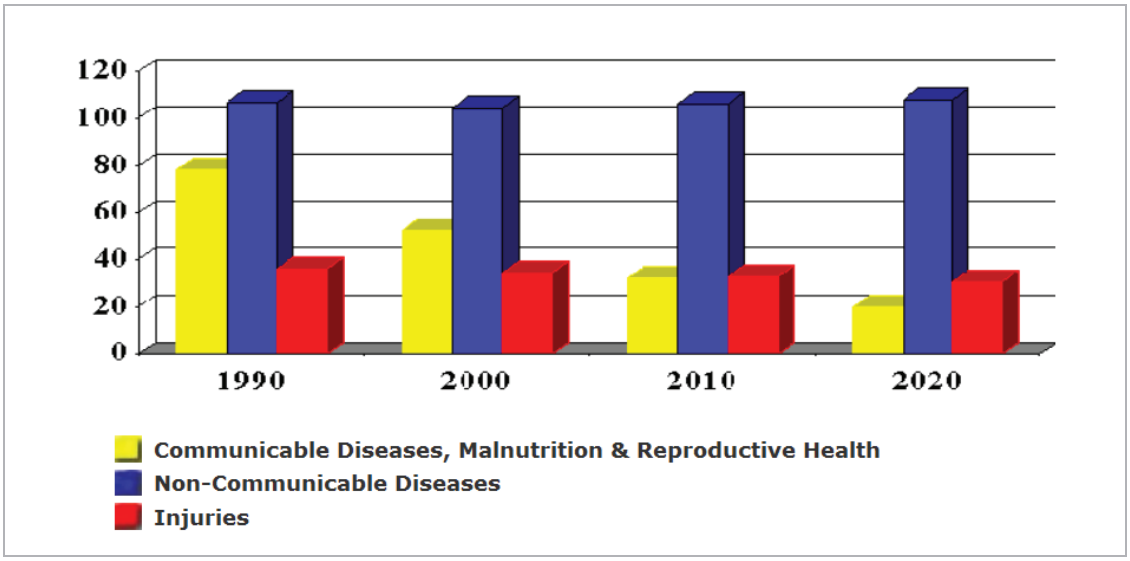


Highest mortality rates occurred in patients over 65 years old in both sexes. There has been a steady increase in mortality due to genital cancer and breast cancer in women from 2001- 2008. A 56% increase in mortality from cervical cancer from 2001 to 2008 (MoH Stats).

Disability Adjusted Life Years (DALYs)

Non-communicable Diseases, as a group, are the main contributor to the burden of disease, accounting for 46.9 % of all Disability Adjusted Life Years (DALYs) lost in 2000. Out of this, neuro-psychiatric disorders caused 16.4 % and cardiovascular diseases, diabetes and malignant neoplasms accounted 13.3 %. Asthma caused significant morbidity and was ranked 16th among the leading causes of lost DALYs and 6th among the leading causes of DALYs in 2000, causing 1.3 % and 2.5 % respectively.

Table 5 Disability Adjusted Life Years (DALY's) for Latin America and the Caribbean

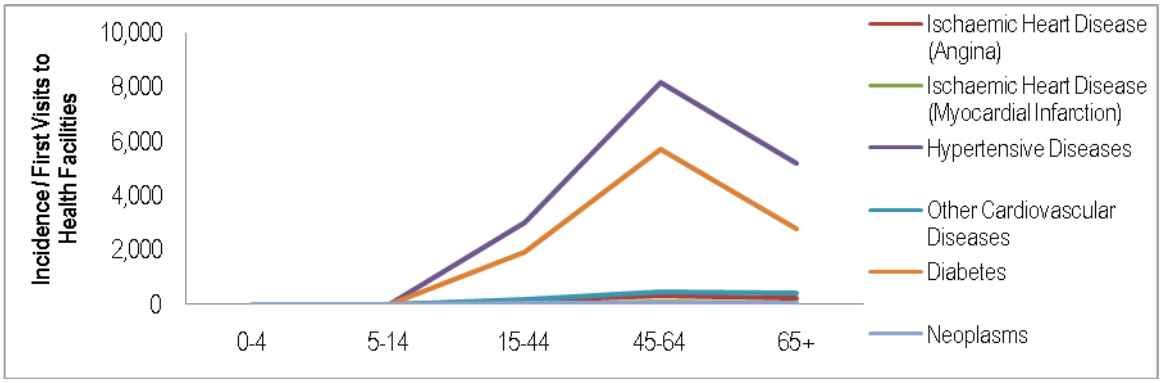


Source: http://www.paho.org/english/ad/dpc/nc/nc-home.htm

Data on some chronic diseases such as sickle cell anemia is not routinely collected and as such, a special survey to determine the burden of this disease will be needed. Data on sickle cell disease prevalence is relevant to this strategy as complications of sickle cell disease include pulmonary fibrosis, kidney failure, stroke and retinopathy which can also be complications of diabetes, hypertension or dyslipidemia, For this reason and because of an over 40% afro and mixed population base, sickle cell disease will also be included in the Guyana-specific strategy for NCDs.

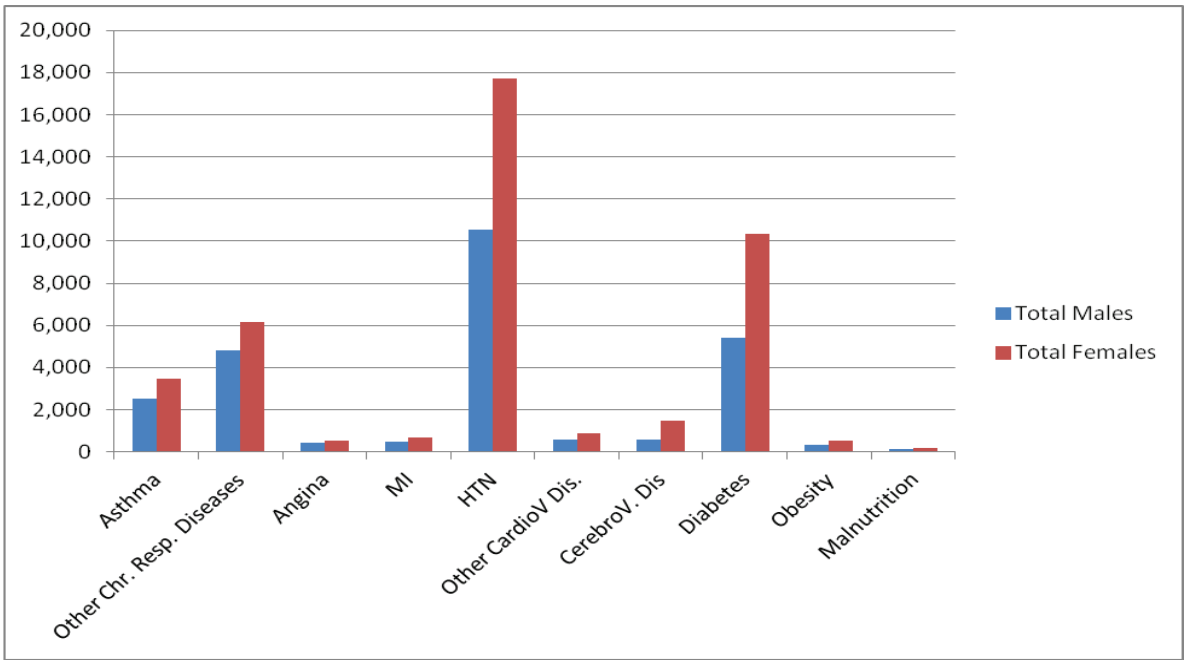
Morbidity due to NCDs

Figure 4: Incidence of first visits to health facilities



Source: *WHO Economic Burden of NCDs in Guyana, 2011 based on 2009 data*

Figure 5 - Four weekly Chronic Disease Report by sex, MoH 2009



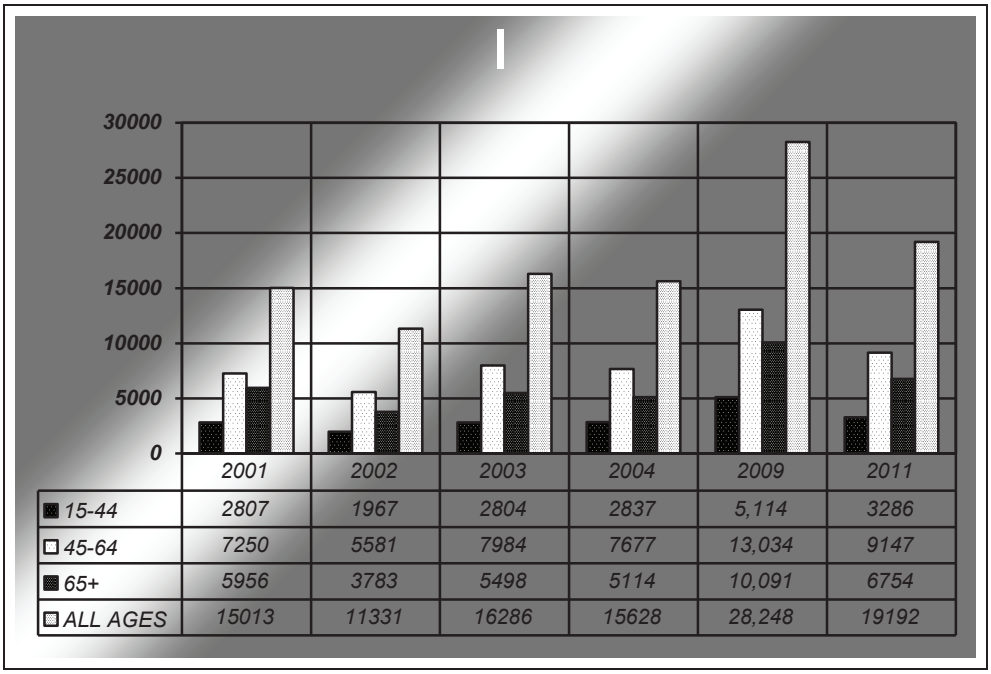
Hypertension and diabetes are the leading causes for patients to attend chronic disease clinics in Guyana.

NCDs can go undiagnosed and this can be due to multiple factors including poor uptake of health services by persons who feel "well", failure of providers to screen new and existing patients for NCDs or their complications, miss- diagnosis, and possible weaknesses in the surveillance and reporting system.

Hypertension

There has been an increase in the incidence of hypertension in Guyana from 2001 to 2011 (See Figure 6 below). There are around 15,000 new cases of hypertension diagnosed each year and a higher prevalence is found in people older than 50. Hypertension is associated with a high mortality and is the fifth leading cause of death in Guyana.

Figure 6: Incidence of Hypertension in Guyana 2001-2011



	2001	2002	2003	2004	2009	2011
15-44	2807	1967	2804	2837	5,114	3286
45-64	7250	5581	7984	7677	13,034	9147
65+	5956	3783	5498	5114	10,091	6754
ALL AGES	15013	11331	16286	15628	28,248	19192

Cancer

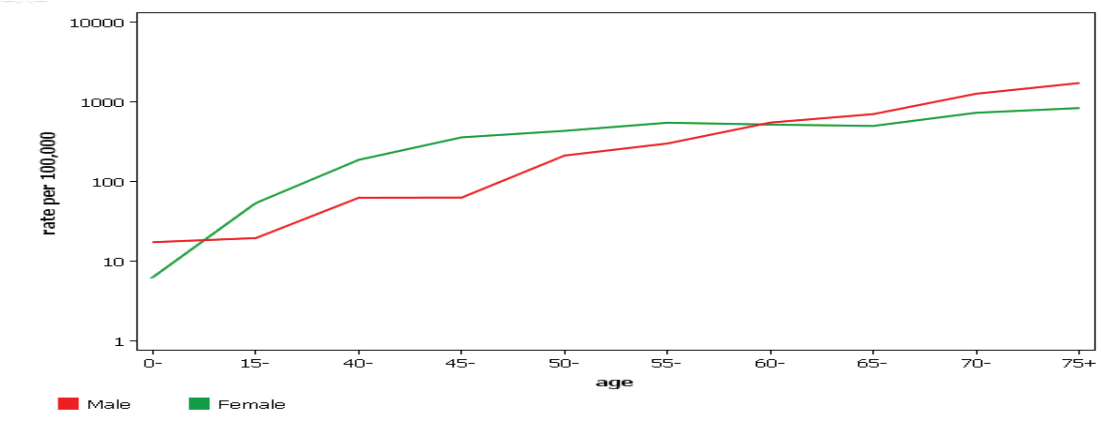
The incidence of cancer in Guyana has increased over the period 2000-2011. The principal cancers were breast (15.4 %), prostate (14.6%) and cervical (12.9 %). Whereas in 2009 prostate- 38% (male), breast-23% (female), cervical- 21% (female), intestinal-9%

(both sexes),lung-2% and all other-4% (MoH Stats). The annual figures are shown in the table 6.

Table 6: Incidence of cancer by year 2000 - 209

SITE	2000	2001	2002	2003	2004	TOTAL	%
Breast	54	55	76	74	85	344	15.4
Prostate	53	52	59	90	72	326	14.6
Cervix	27	59	56	82	64	288	12.9
Colon	21	24	29	27	24	125	5.6
Stomach	27	26	17	28	17	115	5.1
Lung	13	21	19	21	13	87	3.9
Liver	16	9	10	20	15	70	3.1
Others	134	147	183	232	185	881	39.4
TOTAL	**345**	**393**	**449**	**574**	**474**	**2236**	**100.0**

Figure 7 - Incidence of cancers by gender in Guyana, GLOBOCAN Estimates 2008



Source: PAHO, Economic burden of NCDs in Guyana, 2011

Chronic Respiratory Diseases

Table 7 - Four weekly Asthma and Respiratory Diseases report by sex, 2009

Source: MoH 2009, Statistical bulletin –Reflects cumulative total number of visits to health facilities and not the absolute number of individuals seen

Syndrome	Total Males	Total Females	0-4	5-14	15-44	45-64	65+	Total
Asthma	2,540	3,486	689	1,303	2,271	1,221	542	6,026
Other Chr. Resp. Diseases	4,827	6,151	2,228	2,488	3,605	1,830	827	10,978

The prevalence of asthma in the Caribbean is high and rising, with significant morbidity and mortality, despite the existence of evidence based protocols for its management and control. Guyana has developed and trained doctors on its Standard Treatment Guidelines for Primary Health Care which captures the management of the common NCDs**.** However there remains a need for protocols and flow charts to guide the general management of a NCD case ensuring linkages to other services and screening for complications. Chronic Respiratory Diseases accounted for 28.5% and 23% of the male and female burden of NCDs respectively in the year of 2009.

Diabetes

Approximately 74 % of all people with diabetes are in their productive years i.e. under 65 years and more females than males are affected. Each year an average of over 7,000 new cases of diabetes are diagnosed across Guyana.

Table 8 – Four- weekly diabetes report by sex, 2009

Syndrome	*Total Males*	*Total Females*	*0-4*	*5-14*	*15-44*	*45-64*	*65+*	*Total*
Diabetes	*5,395*	*10,332*	*1*	*17*	*2,909*	*7,982*	*4,818*	*15,727*

Source: MoH 2009, Statistical bulletin. Reflects cumulative total number of visits to health facilities and not the absolute number of individuals seen

THE LINKS BETWEEN TUBERCULOSIS AND DIABETES

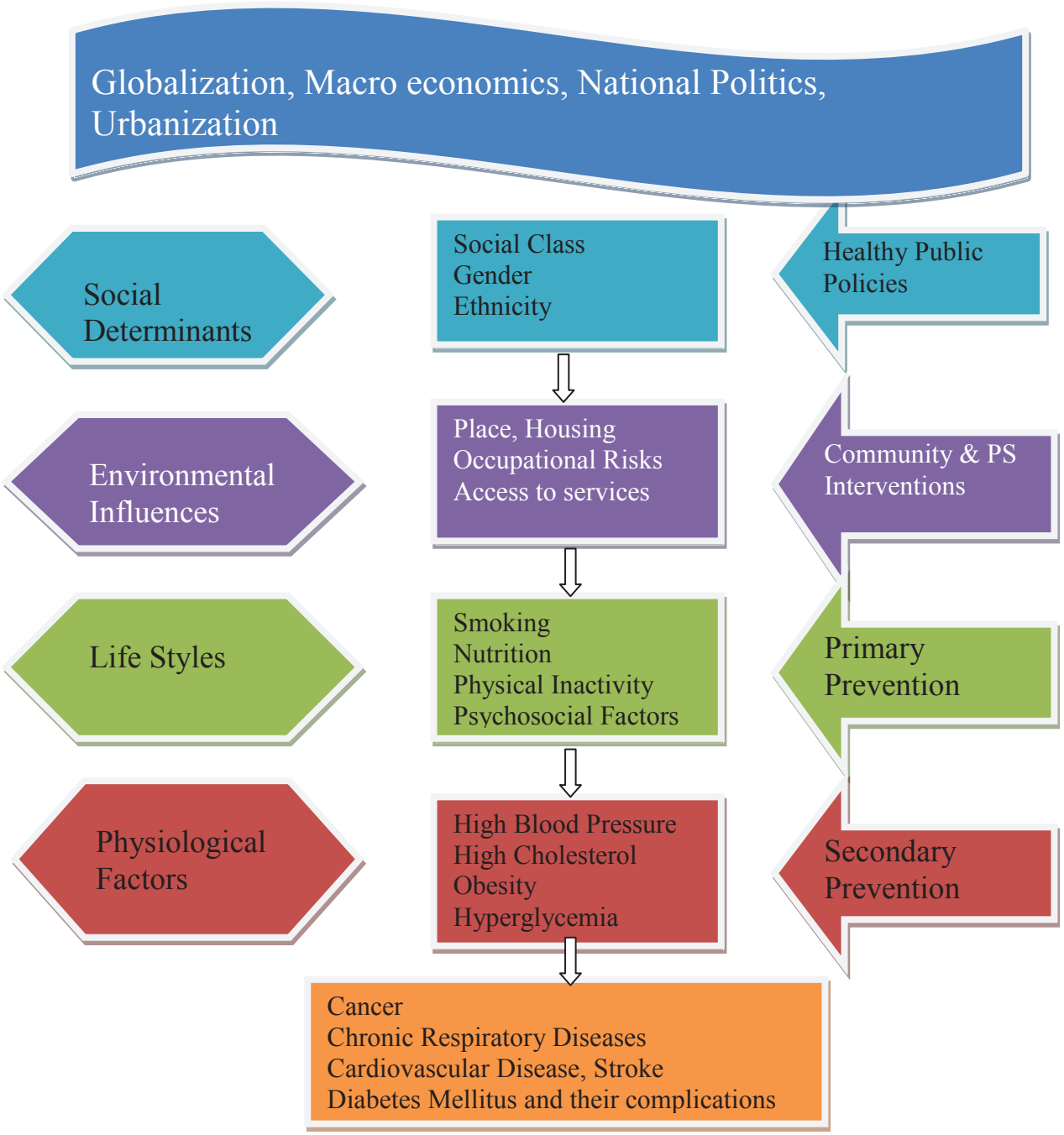
- People with a weak immune system, as a result of chronic diseases such as diabetes, are at a higher risk of progressing from latent to active TB.
- People with diabetes have a 2-3 times higher risk of TB compared to people without diabetes.
- All people with TB should be screened for diabetes.

People with diabetes who are diagnosed with TB have a higher risk of death during TB treatment and of TB relapse after treatment.

The National Tuberculosis Programme in Guyana started screening all TB patients for Diabetes in 2010. In 2010 7% of the new TB patients were found to be diabetics and in 2012 4.8% of the new TB patients were diabetics. TB patients with diabetes are placed on WHO recommended treatment like all other categories of TB patients.

Risk Factors for NCD's

Figure 10 Determinants of four NCDs in Guyana



PS- Private Sector

Risk factors for chronic diseases can be divided into **physiological, behavioral or lifestyle, social and environmental influences**. Most of the behavioral and lifestyle factors are amenable to modification through education, sensitization, social learning. Man, however is a social being and there are social, economic and political factors that can facilitate or serve as barriers to an individual having the agency to make healthy choices. It is important to appreciate the social determinants of health in order to address them effectively and systematically.

Physiological

Physiological factors causing chronic diseases can be non-modifiable - age, gender and family history or genetic constitution and modifiable factors such as high blood pressure, obesity, high blood sugar and cholesterol.

The Life Course Approach to chronic diseases recognizing the long term sequelae to in utero- stressors such maternal malnutrition and the emergence of the thrifty phenotype : at birth and/or in early infant life -decreased growth, and increased risk for type 2 diabetes and metabolic syndrome in adulthood. Low birth weight has been found to lead to increased risk for hypertension, obesity and diabetes in adulthood[x]. Based on this understanding, any preventative interventions concerning NCDs should include antenatal and early childhood development interventions. Stunting is lower among children whose mothers have more than secondary education (16 percent) and highest among children from Interior locations (35 percent)[xi]. Rates of low birth weight in Guyana have increased from 11.2% in 2000 to 18.9% in 2006[xii]. MOH figures report 13% of babies born in 2008 weighed less than 2,500g. Almost one in five children (18 percent) under age 5 is short for age or stunted.

The 2009 Demographic and Health Survey found that the prevalence of anemia is highest for children 9-11 months (74 percent) and lowest for those 36-59 months (25 to 28 percent). The percentage of children with anemia is lowest among children of mothers with secondary or higher education (38-40 percent) and among children of mothers in the

highest wealth quintile (32 percent). These findings suggest that:1) the education of mothers in general, 2) the focused effort to teach mothers in Interior locations the importance of balanced diets, supplements and anti-helminthes and 3) provision of accessible, culturally appropriate primary health services are critical to preventing stunting and anemia in our children.

Past socioeconomic status and nutrition during childhood and development influence the height attainable as an adult. Low pre-pregnancy BMI and short stature are risk factors for poor birth outcomes and obstetric complications[xiii].

Obesity

Table 9 Four weekly obesity and malnutrition reports, 2009 -*Reflects cumulative total number of visits to health facilities and not the absolute number of individuals seen*

Syndrome	Total Males	Total Females	0-4	5-14	15-44	45-64	65+	Total
Obesity	345	549	45	42	316	316	175	894
Malnutrition	115	160	101	28	61	44	41	275

Source: MoH 2009, Statistical bulletin

Guyana not unlike its Caribbean counterparts, has observed a rising trend in obesity and other forms of malnutrition.

Obesity was shown to be a growing concern in adults in both the 1997 micronutrient survey and the1999 Physical Activity Survey in Guyana. The physical activity survey showed 51% of adults over age 20 had a BMI of 25 and higher, and 22.4% of them were classified as obese (BMI >30). Significantly more women than men were obese (20% vs. 6%). The prevalence of obesity increased with age, with persons 50-64 years old having three times higher levels of obesity than those aged 20-30 (33% vs. 11%). The Global School-Based Student Health Survey of 2010 found 15.9% of girls and 14.6% of boys aged 13-15 years were overweight and 3.6% of girls and 4.6% boys of the same age group were

obese[xiv].The Demographic and Health Survey reported 6% of children under the age of 5 are overweight in Guyana.

WHO rationale for the surveillance of overweight and obesity*(xii)*:

- Obesity increases the risks of cancer of the breast, colon, prostate, endometrium, kidney and gall bladder[xv].
- Overweight and obesity lead to adverse effects on blood pressure, cholesterol, triglycerides and insulin resistance. Risks of coronary heart disease, ischemic stroke and type 2 diabetes mellitus increase with increasing BMI[xvi]

Raised blood pressure

WHO rationale for the surveillance of elevated blood pressure[xvii]:

- Raised blood pressure is a huge risk factor for coronary heart disease and ischemic and hemorrhagic stroke[xviii]
- The risk of cardiovascular disease doubles for each increment of 20/10 mmHg of blood pressure, starting at 115/75mmHg[xix]
- Complications of raised blood pressure include heart failure, peripheral vascular disease, renal impairment, fundal hemorrhages, and papillodema[xx]
- Treating systolic and diastolic blood pressures to targets that are less than 140/90 mmHg is associated with a decrease in cardiovascular complications[xxi]
- Staging the management of hypertension:

Raised blood glucose

WHO recommends surveillance for elevated blood glucose because it is a serious metabolic disorder that can insidiously damage microcirculation and nerve cells, often going unnoticed until irreparable damage has occurred. Early detection and adequate management of DM are required to reduce the incidence of peripheral neuropathies, amputations, chronic leg ulcers, blindness, loss of productivity and ultimately, premature death.

Two or more fasting blood glucose levels of >126mg/dl or a random blood glucose of > or equal to 200mg/dl are used to define diabetes in Guyana. Alternatively, a 2 hour glucose tolerance test of over 200mg/dl can be used. Screening for Pre-diabetes can be extremely beneficial including follow up with women with h/o Gestational diabetes. HbA1C is the preferred method to monitor the management of diabetes.

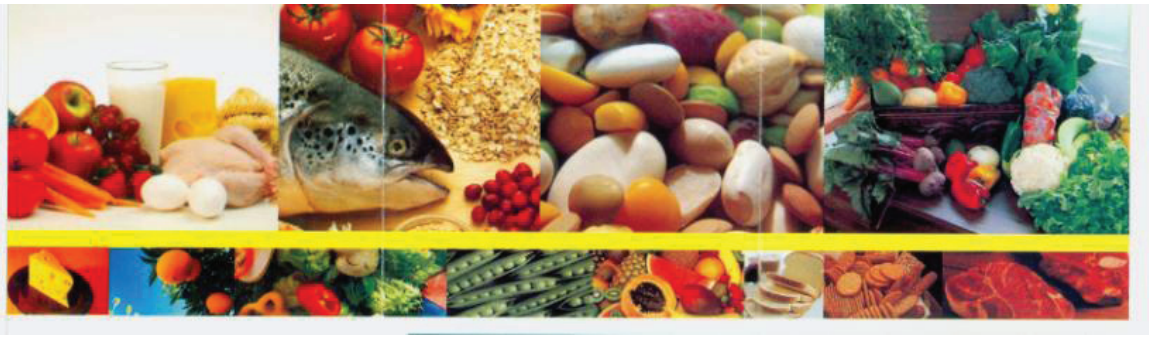
Abnormal blood lipids

Testing for lipid profiles is not readily available in the public sector though its utility is readily recognized. The magnitude of this problem in Guyana is not quite known due to the unavailability of reliable data. No national surveys or studies on the prevalence of dyslipidemia have been done in Guyana. The link between high blood lipids and the development of coronary heart disease and ischemic cerebrovascular disease has been established.

Behavioral

The physiological risks which lead to chronic diseases are caused mainly by modifiable, lifestyle-related, socially –determined behavioral risk factors, namely unhealthy diet, physical inactivity, tobacco use and harmful use of alcohol.

Picture: *Source: Ministry of Culture Youth and Sport Strategic Plan*



Unhealthy diet

PAHO has attributed the rising trend in obesity in the Caribbean to the "nutrition transition" as more persons are choosing foods rich in trans-fats, salt and sugar instead of the traditional fresh fruits, peas and vegetables. As the caribbean adopts the western diets, they are also adopting the western sedentary life style- both key factors in the rise of obesity[xxii]. PAHO reports that the LAC region utilizes > 160% of the average requirement for fats and >250% for sugars.

To combat the issue of unhealthy eating habits, the Ministry of Health has developed the Guyana Food based Dietary Guidelines which are available on the MoH website www.health.gov.gy, and the Guyana Nutrition Strategy 2011-2015. There is a Basic Nutrition Programme: a Government of Guyana / Inter-American Development Bank (GoG/IDB) programme which was initiated in 2004. The programme has four (4) components), namely:

- Component 1: Maternal and child anaemia: prevention and treatment
- Component 2: The development and scaling up of national growth promotion
- strategy and national nutrition surveillance
- Component 3: Community-based child health interventions in Regions 1, 7, 8, 9
- Component 4: Information, Education, and Communication campaign on nutrition

The Food and Agriculture Organization of the United Nations contends that agriculture's current production is still unable to meet the minimum food energy requirements for approximately 1 billion people of the world, while 2 billion are suffering from "hidden hunger" caused by micronutrient deficiencies and an estimated 1.5 billion adults are overweight and at greater risk of NCDs. The goal therefore is to restore the bridge between agriculture and health since good health depends on good nutrition and good nutrition depends on agriculture to provide the foods.[1]

[1] Traorè , Modibo & Thompson, Brian "Sustaining Nutrition Security: Restoring the bridge between agriculture and health"; Food & Agriculture Organisation of the United Nations, Rome, September 2012.

Agriculture plays a pivotal role in improving food and nutrition security in Guyana, especially for under nutrition and over nutrition. The sector has to assure a consistent supply of the right foods to meet the dietary needs of the population, while providing for the sustainable livelihood of the producers. It is important therefore for Guyana to be food secured, taking cognizant of the 4 key pillars of food security; availability, accessibility, utilization and stability.

Guyana is self sufficient in food and is a net exporter of food in the CARICOM region. However, while food availability is not a major issue of the country being food secure, accessibility and utilization of sufficient quantities of the right foods are of great concern. In order to sustain and improve food security in Guyana, the Government, through the Ministry of Agriculture has developed the Guyana Food and Nutrition Security Strategy (GFNSS): 2011-2020 Plan. This strategy is aimed at improving the health and well-being of all persons living in Guyana through enhanced food and nutrition security.[2] The strategy has 3 goals, namely;

- To facilitate sustainable and stable employment generating opportunities that would increase availability of and accessibility to food, especially among more vulnerable groups,
- To promote systems (information, education and communication/ dissemination) for use and consumption of healthy foods for increased nutrition of all Guyanese, and especially vulnerable groups; and
- To promote increased institutional coordination and functioning for improved food and nutrition security.

Physical inactivity

Physical activity and sports are considered basic human rights essential for the full development of personality, physical, intellectual and moral prowess and should be guaranteed both within the educational system and in other arena of social life[xxiii].

[2] Guyana Food and Nutrition Security Strategy: 2011-2020. Ministry of Agriculture, Georgetown, Guyana, July 2011

Urbanization and globalization have both influenced the lifestyles of the average Guyanese. Sedentary lifestyles encouraged by the introduction of televisions and personal computers are becoming more prevalent. The Ministry of Culture Youth and Sport has addressed the need for more physical activity in its Strategic plan: Objective 1- To increase participation in sports and physical activity in Guyana to reduce the incidence and severity of chronic Non-communicable Diseases caused by physical inactivity, including heart disease, strokes, Type II diabetes, and obesity. This Ministry is committed to partnering with the Ministry of Education and Health to mobilize more Guyanese to be physically active throughout their lifespan.

Picture: *Source: Ministry of Culture Youth and Sport Strategic Plan*

Smoking

Tobacco consumption is the leading cause of avoidable death in the Americas. It is the cause of over one million deaths in the Region each year.[xxiv] Fifteen percent of the overall Guyanese population are smokers, with significantly more men smoking than women (35% vs. 4%). To address this harmful behavior, knowledge alone is not enough. Health promotion, awareness raising and community dialogue need to be accompanied by interpersonal interventions to help users quit. The 2010 Global Youth Tobacco survey conducted in Guyana found:

1) that 20.9% of students ages 13-15 were current users of tobacco products[xxv]

2) Second hand smoke (SHS) is high- over three in ten students live in homes where others smoke and more than a half of the students are exposed to smoke around others outside of the home

3) Almost three quarters of the students think smoking should be banned

4) Over four in five current smokers want to quit

The WHO Framework Convention on Tobacco Control (FCTC)[xxvi] Guyana ratified the FCTC in 2005 by accession. Legislation has been drafted awaiting further public consultation. This legislation falls short of addressing the issue of taxation but addresses the five other aspects of the FCTC MPOWER package. The MPOWER package is a set of six tobacco control measures that are based on the FCTC:

MPOWER

M - Monitor tobacco prevalence, impact of policies and tobacco industry marketing and lobbying

P - Protect from second hand smoke: Guyana has adopted this without the supporting Legislation: the population is protected from exposure to second-hand smoke in all health-care facilities and educational facilities, not including universities.

O - Offer help to quit. Tobacco cessation program, including nicotine replacement therapy, and counseling are not yet readily available however opportunities exist for the procurement of Zyban, nicotine patches and buproprion to help

W- Warn of the dangers- Pictoral warnings on <50% of cigarette packages. Public Education programmes on the addictiveness of tobacco and dangers of its use Graphic posters and pamphlets on the effect of tobacco on the body developed and disseminated. While **Guyana** is required by law to include health warnings on tobacco product packaging, the warnings are not consistent with the recommendations of the WHO FCTC and its implementation guides.

E- Enforce ban on tobacco advertisement, promotion and sponsorship, Labelling Standards were drafted however they have failed to be taken to Parliament for final approval.

R- Raise taxes on tobacco to 75% of retail price. A 70% increase in price will prevent 25% of tobacco deaths.[xxvii] Taxation is deemed to be the single most effective way to reduce the demand for smoking and consequently, the effect of second hand smoke. In Guyana the tax on the most sold brand of cigarettes is 27% of the retail

price. The price of cigarettes in Guyana in USD is lower than the region's average (USD 2.30), and the portion of the price composed of taxes is also lower than the region's average (46%)[xxviii].

Alcohol Use

Many of the negative consequences of alcohol use are alcohol-related accidents, injuries, homicides, suicides, lower inhibitions, increased impulsivity, alcohol dependence and poisoning. Alcohol miss-use among youth can contribute to risky sexual behavior, early initiation of sexual behavior, multiple sexual partners, inconsistent condom use and transactional sex[xxix]. Data from the Guyana physical activity survey reported that 43.6% of the overall population consumed alcohol, with significantly more male drinkers than female (73% vs. 28%). Harmful drinking habits are on the rise among adolescents and other youth[xxx]. Among adolescents, 2.1% regularly and 32% occasionally drank alcohol. 79% of school children had their first drink before age 14.

There isn't data readily available on the prevalence of alcoholism in Guyana. However it is estimated that consumption in Guyana is 9.5 liters per capita- higher than WHO's average of 8.7 for this region. Cultural practices such as the Friday night binge drinking and bar hopping contribute to the high incidence of road accidents. The Valencia Project study on emergency room admissions, injuries and alcohol found that the proportion of victims of non-fatal injuries with alcohol intoxication was 17%; males 21.6% > females 5.2%; men were four times more likely to be involved in injuries than their female counterparts. The study found that 50% of the time, when females in romantic relationships reported acts of violence, one or both partners had been drinking.

To summarize the short falls in the response to the challenge of alcohol misuse:

- Inconsistent efforts to enforce anti-drinking and driving laws
- Inadequate inter-sectoral collaboration.
- Inadequate health promotion and prevention strategies.

- Inadequate treatment facilities and trained personnel for effective rehabilitation.
- Poor data collection

Environmental and Socio-economic Factors

The ability to attain the best level of health is influenced by income, education level, living conditions such as access to clean potable water, sanitation, the political climate and access to affordable, acceptable, quality health services and nutritious food. The Government of Guyana provides free health services to all, however there are geographic variations in the availability of some public health services. A person living in the remote regions of Guyana would have limited access to potable water, proper sanitation or specialized medical services. Ethnicity, differences in cultural practices and gender roles also contribute to observed discrepancies in health status across population groups.

Lack of access to refrigeration in the hinterland requires populations to continue to use traditional methods for meat and food preservation which includes the salting and smoking of meats. Food traditionally prepared using coal fires which women as against men are exposed to several times per day for hours per day. The health effects of this lifestyle on women needs to be further studied to see if there is a link to increased risk for lung cancer or chronic lung diseases.

Additionally, cultural practices that encourage early sexual debut and multiple sexual partners have been associated with the relatively high mortality and morbidity rates for cervical cancer in the hinterland locations. Chances for early detection of cervical cancer in the hinterlands are limited in comparison regions 4 or 6 and therefore survival rates after diagnosis are also less.

Around two-thirds of households in urban areas are in the two highest wealth quintiles compared with about one-third in rural areas. In contrast, households in rural areas are five times as likely as those in urban areas to be in the poorest wealth quintile (26 percent versus 5 percent).

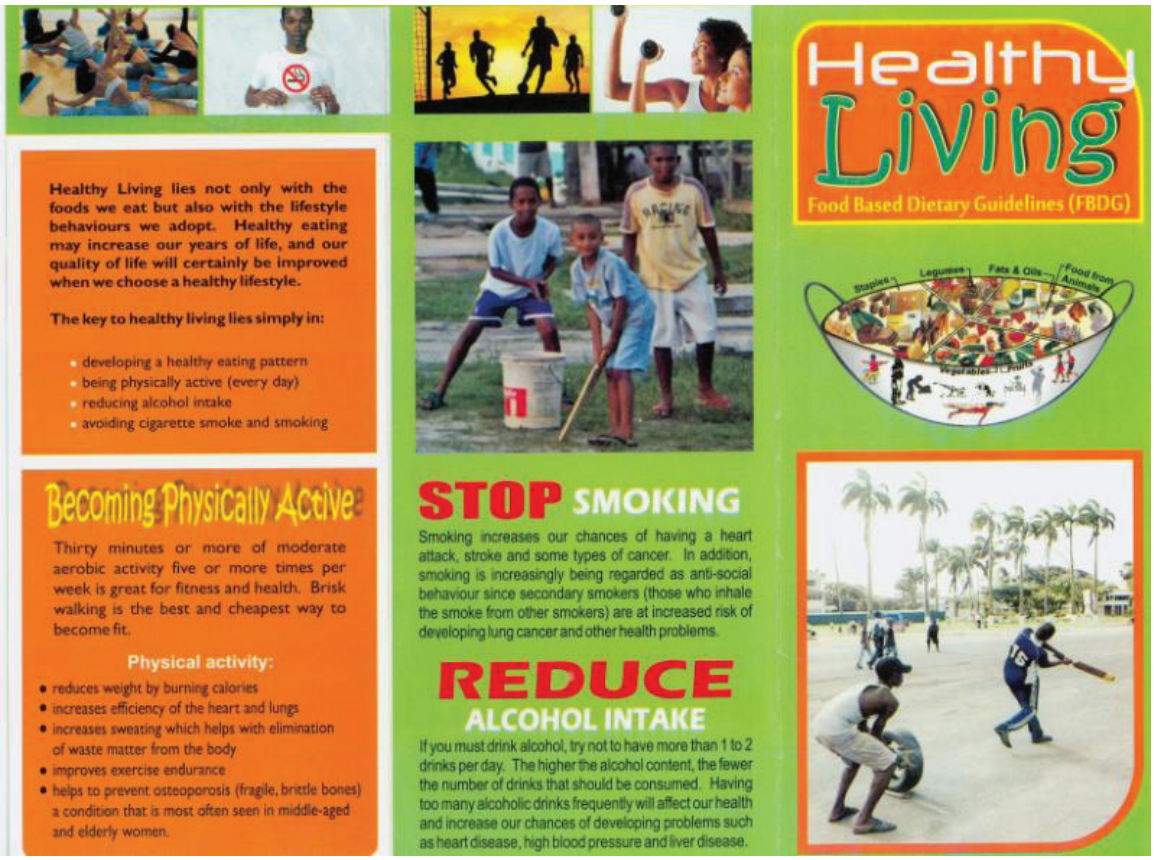
Guyana is in the process of decentralizing the administration and delivery of health services through the contraction of Regional Health Authorities (RHA). RHAs are well positioned to know the local health needs of the people and are therefore readily able to deliver them.

The Government is striving towards establishing more RHAs to reduce inter-regional inequity in health. Equity in access to health services needs to be assured. For example, in regions where high incidence and mortality rates of cervical cancer are observed, vaginal inspection using acetic acid (VIA) screening for the early detection and HPV vaccination for prevention need to be readily accessible and promoted.

The Government needs to provide the citizens of Guyana with job security which in turn fosters dignity and self worth. Unemployment and underemployment make the attainment of optimal health and attendance to school and work problematic. Poverty erodes health and poor health feeds poverty. Regions 1, 8, and 9 have most of their households in the lowest quintile (72, 74, and 84 percent, respectively), while Regions 4 and 10 have a significant percentage of households in the wealthiest quintile (32 and 24 percent respectively[xxxi]).

Various population- based health promotion and risk awareness raising campaigns have been utilized to change risk taking behaviors. Mass media advertisements have been accompanied by supporting inter-personal communication materials such as brochures and pamphlets that are distributed at health fairs, during out- reach efforts and community health talks and edutainment. These interventions have to be evaluated for their effectiveness in changing behaviors and reaching those most in need.

Source: Ministry of Health Food Policy Behavior Change brochures



6.3 Update on the NCD Progress Indicator Status/Country Capacity Commitment in Draft

POS NCD #	NCD Progress Indicator	Guyana	
1,14	NCD Plan	√	2008-2012 Plan in Place, , 2013-2020 to be launched 2 Dec. 2013
4	NCD Budget	√	Government commitment to provide funding. Tangible support from international donors and private sector.
2	NCD Summit convened	√	Summit to be conducted in 2014.
2	Multi-sectoral NCD Commission appointed and functional	√	2010 Appointed, no longer functional -No NCD Coordinator in place, New Members identified and contacted.
	Gaps/Weakness		No record of summit
	Opportunities		Plan for summit to be held in 2013/2014 Re-establish commission; ensure Government policies to support same are in place.

KEY
Updated September 2012; √ **in place**

Tobacco Control

POS NCD #	NCD Progress Indicator	Guyana	
3	FCTC ratified	√	Acceded, signatory in 2005
3	Tobacco taxes >50% sale price	√	27% tax on retail price for Tobacco
3	Smoke Free indoor public places	√	Up to two types of indoor public places and workplaces completely smoke-free: Prohibited in Hospitals and education facilities drafted anti-tobacco legislation, over seven stakeholder consultations conducted around Guyana. Draft communication plan in place for Tobacco. Some graphic BCC materials developed – "The Smoker's Body".
	GAPs/Weaknesses		
3	Advertising, promotion & sponsorship bans	±	Ban doesn't cover National Television Radio and print Media. Legislation not yet tabled in Parliament. Wider consultation conducted in

			Regions 2 and 9 with cane cutters and community leaders; Anti-smoking BCC materials not readily accessible.
			Warning covering <30% of the package cover, CROSQ – Jamaica sent sample standard to Guyana for review – Bureau of Standards submitted draft Standards to Minister for tabling in Parliament – Not done.
14	Demand reduction measures and cessation		National formulary has provisions for bupropion but none has been requested for smoking cessation programs, lack skilled personnel to counsel on smoking cessation in public sector, NO NICOTINE REPLACEMENT THERAPY AVAILABLE
	Opportunities		Minister to advocate for legislation to be passed, additional funds mobilized for further stakeholder consultation, hiring policy/law expert to assist the MoH with further legislation, MoH to advocate for tobacco labelling standards to be passed.

Nutrition

POS NCD #	NCD Progress Indicator	Guyana	
7	Multi-sector Food & Nutrition plan implemented	√	Draft National Nutrition strategy 2011-2020 completed. Multi-sector food and nutrition plan in place led by Ministry of Agriculture. Food policy department collaborates with Ministry of Education and chronic diseases department to train school- teachers and student on healthy living, eating and PA. Weight, height, blood sugar and blood pressure testing conducted at schools and work places.
7	Trans fat free food supply	X	Ministry of agriculture working with FAO and farmers to educate them on the need to grow more fresh fruit and vegetables, Crop diversification, organic agriculture, disease prevention and reduction strategies for livestock, improved livestock genetic and capacity building and awareness and sensitization programs
7	Policy & standards promoting healthy eating in schools implemented	±	School Health, Nutrition and HIV policy in place. Canteens are required to serve healthy food. Dorm schools are piloting project to grow food for self-

			consumption
			30 schools in the process of rolling out school nutrition programs, school farms- part of nutrition policy for schools.
8	Trade agreements utilized to meet national food security & health goals	±	
9	Mandatory labeling of packaged foods for nutrition content	±	Bureau of Standards- 2009 the Standard for packaging was developed
	Weakness/gaps		Standard was not taken to parliament by the then Minister of Trade and commerce Food and Drugs Department of the MOH lacks capacity to test for trans fats and caloric content of food.
	Opportunities		Collaboration across the region with CFNI- or CARPHA for food testing for trans fats and caloric content, food policy and labeling standards Minister of Health to promote the tabling of standards by the Minister of Trade. Possibility of sharing specialists in demand- Oncologists, Endocrinologists across the region- building on the provisions of CCHIII

KEY

Updated September 2012; √ **In place** **± In process/partial** **X Not in place**

Physical Activity (PA)

POS NCD #	NCD Progress Indicator	Guyana	
6	Mandatory PA in all grades in schools	±	There is a draft curriculum for PE (Physical Education) in Primary Schools, PAHO trained 10 Primary School Teachers in PE and donated equipment for sports.
10	Mandatory provision for PA in new housing developments	X	
10	Ongoing, mass Physical Activity or New public PA spaces	√	Ministry of Culture Youth and Sport has allocated 100 million Guy $ for the development of community grounds and sports equipment, Have created special programs to use sports to promote healthy lifestyles, plan on using videos to promote healthy practices. Implemented an inter-ministry sports activity that lasted 6 months. Trained coaches and some community volunteers on the importance of PA and good nutrition- MoA, through the Guyana Livestock Development Authority (GLDA) has in place a wellness club ensuring the physical well-being of the entire staff of the Ministry. This club came into effect in October 2012 and targets activities such as physical exercise, healthy eating, healthy food choices, etc
	Gaps/Weaknesses		No reports available on the community interventions. Health Training program for coaches needs to be standardized and assessed. Need a M&E component to measure the implementation and effectiveness of community interventions Need for policy for PE to be in all schools, lack of PE teachers, MoE looking into training other teachers in PE.
	Opportunities		Appoint a focal point for health at MCYS and every other Ministry who will serve to oversee and report on activities contributing to the goal of NCD program at the respective Ministries

			More policy interventions to allow for mandatory PA in schools and housing development Inter-sectoral collaboration for PA., M&E and reporting mechanisms development of joint plans of action To standardize the training of community volunteers to deliver a package of basic accurate information

KEY
Updated: September 2012; √ **In place** ± **In process/partial** **X Not in place**

Education/Promotion

POS NCD #	NCD Progress Indicator	Guyana	
12	NCD Communication plans	√	Draft communication plan is in place for tobacco, Scripts in place for two seven minute infomercials on NCDs and their prevention. Collaborative effort with National AIDS Program Secretariat, Provisions in place for time on national T.V. to promote NCDs- Minister of Health has pledged support for air time; Caribbean Nutrition Day and Nutrition Awareness week were observed- a month long nutrition quiz targeting schools MoA provides on-going training of farmers and agro-processors in Food Safety and Quality Assurance, and Good Agriculture Practices
			Food Policy Unit Trains Community volunteers - four day training. On staff: 6 Community Nutrition Officers and 2 Nutrition Auxiliary Officers who target clinics and provide patient education Unit collaborates with UNICEF and PTA to train parents on nutrition and health choices.
	Gap/weakness		Need for an integrated NCD plan that promotes the Life Course approach to NCDs. No reports on work implemented by volunteers post training in communities- if they are indeed doing this- no data collection, no M&E Staff inadequate, need nutritionist, 8 Auxiliary

			Outreach Officers, Director.
	Opportunities		**Communication Plan** will need to help create an enabling environment for the adoption of healthy habits and reduction of risk taking. To promote proactive health maintenance and the improvement of health seeking behaviors- for prevention not just cure. Needs to mobilize men and for women to be educated on nutrition and the correlation between education and health outcomes for infants and children, parenting, physical activity across the lifespan, multi-sectoral collaboration
15	CWD multi-sectoral, multi-focal celebrations	√	MoE, MoH, MCYS, MoLG have events, MOH started whole month of activities.
	Gaps/weakness		- No reports available on persons reached etc.
	Opportunities		Develop a reporting mechanism that feeds data to the secretary of the NCD commission
10	≥50% of public and private institutions with physical activity and healthy eating programmes	±	
12	≥30 days media broadcasts on NCD control/yr (risk factors and treatment)	√	Caribbean wellness celebrations marked by one month of activities

KEY

Updated September 2012; **√ In place** **± In process/partial** **X Not in place**

Surveillance

POS NCD #	NCD Progress Indicator	Guyana	
11, 13, 14	Surveillance: - STEPS or equivalent survey	±	Over 70 persons trained in STEPS in 2011 by PAHO consultant, PAHO procured equipment but there was no budget to implement. MOH collaborates with MOE to educate, measure weight, RBS, BP testing- poor data collection on persons reached- app.190 reached in 2012.
			Quality Assurance unit developing standards to brand Wellness centers for CNCDs, inspections will be twice per year
	- Minimum Data Set reporting	±	Need to establish indicators that facilitate comparisons over time and across countries
	- Global Youth Tobacco Survey	√	Conducted in 2010.
	- Global School Health Survey	√	Conducted in 2010.
	Gaps/Weaknesses		Difficulty in accessing quality data, dissemination plan, room for strengthening reporting system surveillance and surveys. STEPS to be planned and budgeted for baseline and repeat every three years
	Opportunities		Surveillance of both risk factors and diseases- STEPS, multi-sector collaboration to implement, MoE, MoL, MoCYS, and Civil Society,

KEY

Updated September 2011; September 2012;

√ In place ± In process/partial X Not in place * Not applicable ☐ No information ▭ Recent update

Treatment

POS NCD #	NCD Progress Indicator	Guyana	
5	Chronic Care Model / NCD treatment protocols in ≥ 50% PHC facilities	±	The Guyana Diabetes and Foot care project uses the PAHO Chronic Care Model- Phase 1 started in 2008, now have 1 Center of Excellence at the Georgetown Public Hospital Corporation and an additional six Regional Diabetes and Foot care Centers. These are manned by multi-disciplinary teams. Seen 48% reduction in major amputations at the Center of Excellence
5	QOC CVD or diabetes demonstration project	√	trained 275 persons in Diabetes and Foot care in 6 regions- 71 doctors and 40 Medex, 122 nurses, 23 Rehab workers, 17 CHW, 2 Pharmacists from 97 facilities, 17 District Hospitals and 67 centers, Data Entry Clerks trained and available at centers
	Weakness/Gaps		**Equipment**: Lack of some supplies, capacity for testing for HBA1 in the regions, lipid profile, fundoscopy, kidney and liver function testing not readily available in the regions. **DFC is a vertical project** that needs to be integrated into the wider NCD program.
	Opportunities		**Pharmaceuticals in regions-**, equipment in all Regions- ECG, HBA1 testing, kidney function testing, lipid profile and liver function testing capability needs to be increased in all regions, **Wellness Centers of Excellence** established in each region- where health promotion and NCD disease prevention is an integral part of client management and a multi-disciplinary team approach to care is adopted **Patient Education** video and other educational materials- print and non- print, health educators **Skilled Personnel** sharing of specialists under CCHIII Oncologists, Hematologist, Endocrinologist, Cardiologist, Respiratory Therapist, Nutritionists, Health Educators **Community Based Organizations** can be trained as lay-educators to reinforce prevention

			and health maintenance messages within the Community/Region. **Training:** Health providers can be trained in screening for NCDs, referral, and I**ntegration of Prevention** into treatment-ultimately want to prevent end organ damage **Standards/ Protocols** for case management and policy for wellness centers. **Decentralizatio**n of services with maintenance of standards, **Research**- Sentinel Survey of chronic disease management

CARMEN

In November 2007, Caribbean countries decided to request Ministers of Health to all join CARMEN- acronym "*Collaborative Action for Risk Factor Reduction and Effective Management of NCDs".* The network seeks to implement projects to support the Chronic Disease Regional Strategy; define tools/methodologies to support CARMEN initiatives at country level and to deepen the sense of joint collaborative commitment among PAHO, countries, and partners towards implementing the Chronic Disease Regional Strategy.

In 2009, the Caribbean Sub-region outlined the following as priorities:

1. Support for the design and development of National Commissions
2. Support for development Tobacco Legislation for implementation in countries
3. Development of an integrated approach to NCDs, mainstreaming surveillance and other actions within the health care model
4. Capacity development for resource mobilization with the emphasis on Grants

Regional Institutions providing support to countries:

- Caribbean Epidemiological Research Centre (CAREC): Public Health Surveillance, applied research, training, information warehousing/ databases; specific support to Cervical cancer
- Caribbean Food and Nutrition Institute (CFNI): Regional, collaborative approaches to solving the nutrition challenges in the Caribbean - enhance, describe, manage and prevent the key nutritional problems and to increase their capacity for food security and optimal nutritional health using nutritional surveillance, policy and inter-sectoral work with Agriculture, Education, and others, information, training and applied research.
- Caribbean Health Research Centre (CHRC): Coordinating research, advocacy
- CRDTL Caribbean Regional Drug Testing Laboratory
- CEHI Caribbean Environmental Health Institution

(The five agencies above are being merged into CARPHA, the Caribbean Regional Public Health Authority)

- University West Indies; Chronic Disease Research Center, (CDRC), UWI Barbados: conducting research, training, advocacy
- CARICOM Secretariat: policy especially inter-sectoral approaches, e.g., trade policy currently negotiated by CRNM, resource mobilization
- PAHO/WHO: normative roles, surveillance, capacity building, applied research, resource mobilization, advocacy with other UN and international partners, CCH joint coordination with CARICOM

NCD Summit

The Caribbean is in the unique position of having a mandate from their Heads of Government for inter-sectoral work to combat the NCD epidemic. Since the CARICOM summit in September 2007, inter-sectoral NCD summits have been held and national commissions launched in several countries. The 16th meeting of the CARICOM Ministers Council on Human and Social Development (COHSOD) on Children and Development (April 2008), and COHSOD 17 on the Implementation Agenda on Education (October 2008) adopted relevant elements of the Port of Spain Declaration for implementation by the respective sectors. In addition, the successful region-wide, inter-sectoral celebrations of Caribbean Wellness Day 2008 have set the stage for scaling up activities in regard to the NCDs.

PARTNERSHIPS

In keeping with the recommendations from the PAHO regional Strategy for NCDs, this strategy will focus on community interventions that build supportive environments for risk–factor reduction, mobilize communities to change institutional policies, and to become active participants in the creation of enabling environments[xxxii].

Addressing NCDs requires the collaboration of civil society, the private sector, government, regional and international organizations and individual community residents to bring action to bear on the broad determinants of these diseases. Since the *CARICOM Heads of Government Summit on NCDs*, partnerships have been enhanced.

Civil Society and Private Sector:

The Ministry of Health has named as partners:

Ministry of Agriculture

Ministry of Culture Youth and Sport

Ministry of Labor, Human Services and Social Security

Ministry of Education

Ministry of Regional and Local Government

Ministry of Housing

University of Guyana

Media Association

Private Sector

Faith Based Organizations

Guyana Association of Medical Laboratory Professionals

Cancer Society, Cancer Institute, Periwinkle Society

Guyana Kidney Foundation,

The Guyana Diabetes Association,

The Guyana Sickle cell Association

Other Community Based Organizations across Guyana

Private and NGO Health Sector

The majority of primary care is delivered through public medical practitioners. The private sector provides a smaller but significant portion of health services. Private pharmacies, laboratories and other health and wellness services form part of the network of Guyana's health system. Collaboration with these important partners needs to be developed and enhanced.

Government:

The Minister of Health recognizing the multi-sectoral factors in the NCD epidemic undertakes to support the various government ministries and agencies with developing clear objectives, priorities and time-tables for the actions required, and determine a reporting mechanism with milestones.

Government priorities in support of NCD prevention and control are:

- Fiscal and tax policies
- New legislation (especially tobacco legislation) and enforcing existing legislation;
- Review of policies and programs to improve the built environment which significantly impact health risks of inactivity, pollution, stress and road traffic accidents;
- Strengthen the coordination and management mechanisms between government agencies.
- Establish inter-sectoral National Commissions, the leadership mechanism for the POS Declaration, including representatives from the private sector and civil society

Prevention and Control of NCDs

Guyana is intensifying its population based health promotion efforts encouraging primary prevention through the adoption of healthy lifestyles. Quality improvement of primary care services is being actualized through the development of guidelines and standards, quality assurance committees that conduct regular facility and procedural inspections towards licensing. The seven established regional Diabetes and Foot Care Centers provide a solid base on which to integrate cardiovascular, lipid profile, kidney function screening and management and screening for cancer.

In keeping with recommendations from WHO and the Port of Spain Declaration, Guyana is proposing combining a population based and a high-risk individual approach for the prevention and control of chronic diseases.

WHO: ***"Small shifts throughout the range and accompanying reductions in the mean population levels of several risk factors are likely to be more effective in reducing the incidence of disease than approaches targeted to people with elevated levels of those risk factors or people who meet diagnostic criteria for hypercholesterolemia hypertension, obesity or diabetes".***

NATIONAL STRATEGY AND ACTION PLAN FOR THE PREVENTION AND CONTROL OF CHRONIC DISEASES

This Strategy is based on the directives and orientations of the Regional Strategy, which established 5 lines of action:

1. *Risk factor reduction and Health Promotion*
2. *Integrated Disease Management and Patient Self-Management Education*
3. *Surveillance, Monitoring and Evaluation*
4. *Public Policy, Advocacy and Communication*
5. *Programme Management*

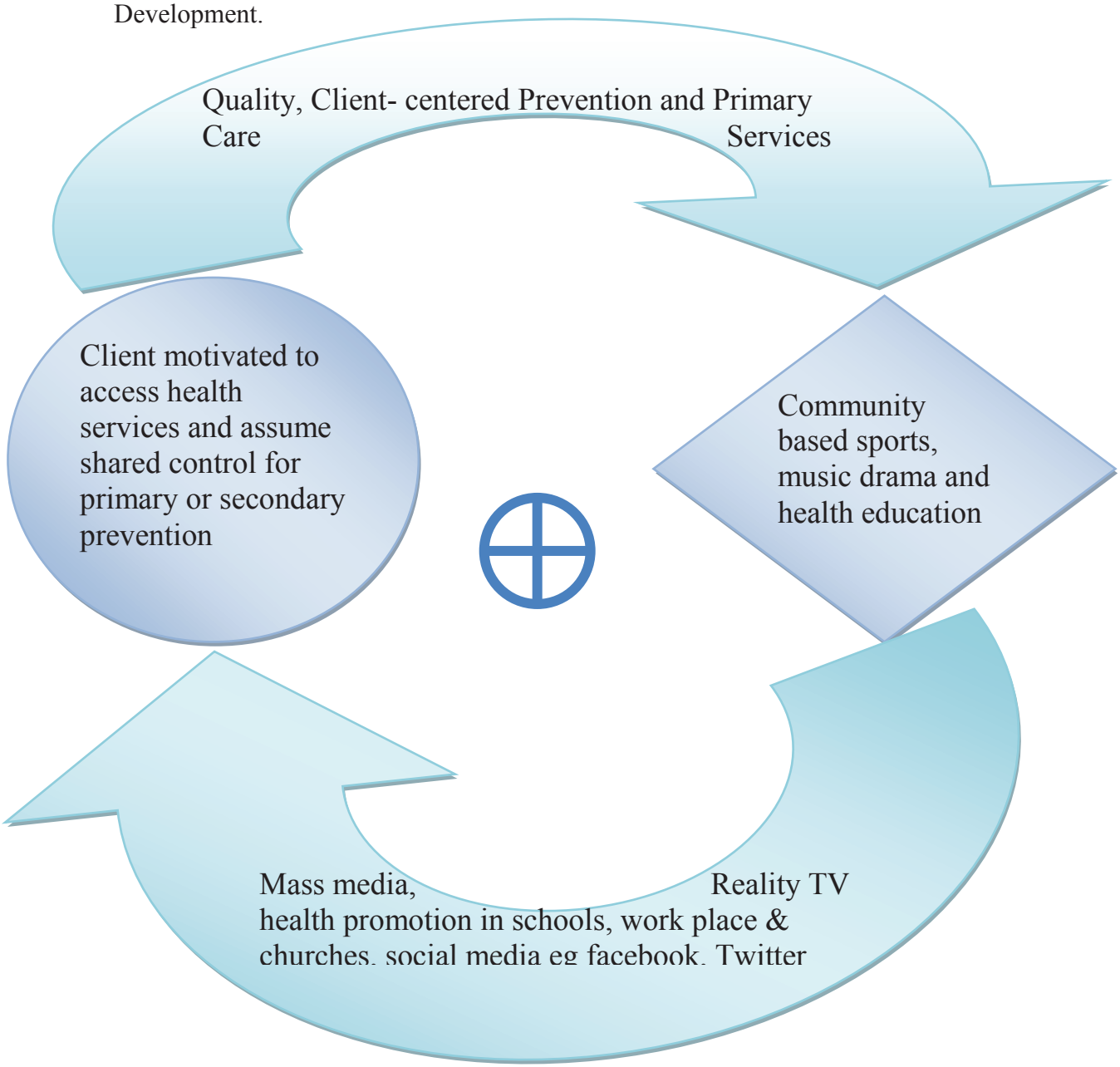
This strategy recommends the use of population based as well as high risk individual based interventions to reduce the incidence of NCDs.

Framework for Action

The Strategy incorporates some of the concepts and themes from the following WHO and PAHO resolutions:

- the WHO Global Strategy for the Prevention and Control of Chronic Diseases 2008-2013
- Regional Strategy for NCD prevention and control 2012-2025
- Strategic Plan of Action for the Prevention and Control of Non-communicable Diseases in the Caribbean Community 2011-2015 PAHO/WHO
- Caribbean Cooperation in Health Phase III (CCH III) 2010-2015
- Cardiovascular Disease, especially Hypertension (CD42.R9, 2000);
- Framework Convention for Tobacco Control (WHA56.1, 2003);
- Global Strategy on Diet, Physical Activity, and Health (WHA57.17, 2004);
- Cancer Prevention and Control (WHA58.22, 2005).
- Caribbean Charter for Health Promotion (1993)

In addition, this strategy is consistent with the obesity prevention strategies laid out in the International Obesity Task Force and the Regional Strategy on Nutrition and Development.



The Guyana Chronic care model- ease of access to high quality primary care services provided by a multi-disciplinary team operating in a supportive environment that includes community participation in health.

Priority Action1: RISK FACTOR REDUCTION, HEALTH PROMOTION AND DISEASE PREVENTION

The life course perspective is considered in this strategy and recognizes the environmental, economic and social factors, and the consequential behavioral and biological processes that act across all stages of life to affect disease risk. The objective of this strategy is to promote social and economic conditions that address the determinants of chronic diseases and empower people to adopt healthy behaviors.
Health promotion is a fundamental part of an integrated approach for chronic disease prevention and control.

This strategy incorporates some of the concepts and themes from Health Promotion: Achievements and lessons learned from Ottawa to Bangkok (CE138/16). This strategy supports the Ottawa Charter's call to prioritize health promotion and empower individuals and communities to exercise greater control over their health status and social determinants. The Ministry of Health will provide technical assistance and in some instances, sub-contract communities or organizations to help mobilize communities to take action for health maintenance and promotion. This plan, in keeping with the Caribbean Charter for Health Promotion 1993, proposes the following to address the needs for health promotion, particularly to promote risk reduction through the adoption of healthy diets, physical activity, the cessation of tobacco use and alcohol demand reduction:

- the promotion and adoption of healthy dietary habits, active lifestyles, and the control of obesity and nutrition-related chronic diseases;
- the development of public policies, guidelines, institutional changes, communication strategies, and research related to diet, physical activity, alcohol and tobacco use;
- health promotion and disease prevention strategies at population based, community based an interpersonal levels to create a supportive environment for sustained behavior change

- a life course perspective that considers health starting with fetal development, throughout childhood and continuing into old age
- he formation of strategic partnerships and alliances for health and wellness
- Developing personal health skills
- Empowering communities and work places to achieve well-being
- Reorienting health services to support wellness checks and to conduct community outreach

Primary prevention is best achieved through risk factor identification and reduction.

Routine preventive health exams in primary care settings are a recommended approach for chronic disease prevention. **Wellness Centers of Excellence** will be identified and branded to attest to the provision of services that reach national quality standards. These services will include screening for risk factors:

- blood pressure measurement
- ECG testing and interpretation;
- calculation of body-mass index or simple waist measurement (which research out of the Tropical Medicine Research Institute (TMRI) in Jamaica suggests is equally as effective and less complex)[xxxiii]
- lipid profile testing
- blood glucose testing, including HBA1C
- screening for cervical cancer using Visual Inspection using Acetic Acid (VIA) or Pap tests and referral as needed
- screening for breast cancer and referral for further investigation
- screening for prostate and colorectal cancer.
- Referral of hypertensive and diabetic patients for annual eye exams and fundoscopy
- Screening and/or monitoring of kidney function tests especially in the diabetic, hypertensive and renal failure patients.
- Timely referral to tertiary level and/or wrap-around services when appropriate
- Space for exercising
- Screening for sickle cell anemia

Health promotion will take place at the population, community and individual level and will be culturally appropriate based on the profile of the sub-population targeted. Interventions will include:

- Community-based and national interventions – Caribbean Wellness Promotion for one to three months, World Health Day etc.
- School-based interventions –Promoting PE from primary through secondary schools, , health talks and screenings. Promoting at least 60 minutes of physical activity for children in accordance with recommendations from the Obesity Task Force Strategy
- Faith-based organizations- Health talks, fitness groups and screenings
- Male dominated institutions such as the Lodge, Guysuco.
- Work place interventions- PA promotion, screening, nutrition and competition. Health goals will be set for individuals at each work site and inter-agency competitions will be held
- The messages on the mass media and reinforced through public and community based meetings will help motivate individuals and groups to take charge of their health by becoming physically active, reducing alcohol intake, using healthy diets and ceasing to smoke,
- National media campaigns – ads on TV and radio stations, infomercials developed for TV and waiting rooms. Reality TV shows such as Weight No More- Fitit and the Wellness Warriors targeting youths, Face-book, Youtube and Twitter will be utilized to gain public awareness and buy-in from both young and old. Merundoi or a similar entity will be contracted to write stories highlighting the issues of living with a chronic illness and measures for prevention.
- Gender sensitive programs and behavioral change interventions will be developed based on information garnered from research on how gender roles affect risk for NCDs
- Mass media, institutional and interpersonal communication to raise awareness on measures to eliminate the risk for sickle cell disease

Targeted groups will be formally contacted and invited to partner with the Ministry of Health on health promotional activities. The Ministry will provide technical support and access to screening and referral services. Health promotional items and BCC material will be used to guide health talks and then disseminated to the target group. Each entity would be encouraged to organize themselves into health and wellness groups with a fitness agenda. The Ministry of Health would encourage such groups to monitor and support the progress of members in the adoption of healthier lifestyles.

Finally, through health promotion and risk reduction using a life course approach, women in particular can be educated on the importance of a balanced diet throughout pregnancy and beyond. By reaching women with information and education, she will in turn educate her family, strive to provide healthy meals, attend clinics for herself and family and reinforce health promotional messages in the home. An educated woman is more likely to ensure children stay in school, get proper nutrition and exercise. The promotion of the creation of healthy environments which includes access to clean potable water in hinterland locations, will all contribute to Guyana achieving its Millennium Development Goals

Priority Action 2: INTEGRATED MANAGEMENT OF CHRONIC DISEASES AND RISK FACTORS

The present primary health care model has not proven successful in dealing with prevention and management of chronic conditions. An inter-sectoral approach and a reorientation of the health care system are essential for successful chronic disease programs. It is necessary to improve the accessibility, acceptability and availability of services and essential medicines. Multidisciplinary health teams with the relevant skill mix will be established at regional "Wellness Centers of Excellence" which will be

established to reduce social, economic, and cultural barriers to accessing health services, particularly among more vulnerable populations.

Brand for Wellness Centers of Excellence- encompass all of the services of the Regional Diabetes and Foot care Centers "and some."

This strategy recognizes that prevention and management of chronic diseases requires integration through strengthened referrals and feedback among primary, secondary, and tertiary levels of care. The entire spectrum of disease management from screening and early detection, to diagnosis, treatment, rehabilitation, and palliative care is necessary. The constructs of the Chronic Care Model are incorporated into the objective for the management of chronic diseases and risk factors, and are intended to improve outcomes in five areas. These areas are as follows:

- a coherent approach to system improvement,
- development and adherence to guidelines,
- Self-management support for people with chronic diseases,
- improved clinical information systems,
- Appropriate skill mix and improved technical competency of the health work force, including cultural competence and sensitivity.

Integrated Disease Management and Patient Empowerment:

There will be a re-orientation of health care providers towards the provision of patient-centered care where the needs of the patient drive the delivery of individualized care and treatment plans.

- Primary care doctors, medex, nurses and community health workers based in at least 50 facilities will be trained to manage and care for diabetes, hypertension, chronic renal failure due to HTN, sickle cell anemia and DM and CVDs according to national guidelines. A team approach to holistic case management will be deployed.
- NCD sites will facilitate the screening of at-risk diabetic patients for TB
- A cadre of master trainers will be used for on-going health worker training and to provide health talks during outreach or screening exercises.

- Through on-going sensitization and policy development, health provider orientation will undergo a paradigm shift to becoming more client- and service-centered
- Protocols and guidelines for client management on arrival at health facilities will be developed whether in primary care settings, acute care or hospital in-patient management
- Prompt referral of cancer cases to specialized clinics will be promoted
- Government will leverage provisions of the CCH III to enter agreements with CARICOM member states to share limited human resources in demand, e.g. endocrinologists and oncologists.
- Capacity will be built to provide quality laboratory services at Regional Hospitals. Provisions will be made to provide access to HBA1c, lipid profile, ECG and blood glucose testing in support for NCDs
- Patient education and empowerment towards self management
- Community mobilization to create a supportive environment for the adoption and maintenance of risk reducing behaviors
- Treatment passports that chronicle treatment for reference
- Behavior change communication materials using video and print materials
- Supervisory mechanisms will be built for the attainment and maintenance of national standards
- Improved access to essential medicines and technologies
- Regional Health services will ensure an adequate budget will be assigned to NCDs at RHAs and Regional facilities
- Stronger collaboration with the Ministry of local government to ensure relevant infrastructure and equipment are available
- Partnerships with private sector providers to supplement health care services under an agreed upon MoU.

The Chronic Disease department of the Ministry of Health will collaborate with the National Tuberculosis Program to implement the WHO recommended protocol for the screening of persons with diabetes at chronic care facilities. This initiative will boost the

identification of TB among people with diabetes and also TB infection control will be strengthened at these facilities. The National Tuberculosis Program will continue to screen patients with TB for DM at TB treatment sites.

This Strategy recognizes the call for a renewed approach to primary health care and the highest attainable level of health for everyone as emphasized in the Regional Declaration on the New Orientations for Primary Health Care (promulgated at the 46th Directing Council). Also reflected in this plan is Resolution CD45.R7 which prioritizes access to medicine and other health supplies. The organization of the delivery of limited primary care services will reflect the profile of the particular sub-population or region. For example regions with high incidence of cervical access must have ready access to VIA screening and HPV vaccination.

Priority Action 3: SURVEILLANCE

Chronic Disease's surveillance includes the on-going, systematic collection, review and analysis of data. This data is in turn translated into useful information before timely dissemination to key stakeholders to facilitate its use for planning and programme modifications. Surveillance also serves to collect information on the knowledge, attitudes and behaviors of the public with respect to practices that prevent these illnesses, facilitate screening and guide the activities about Information, Education and communication in order to improve quality of life.

Surveillance of chronic diseases detects the change in the prevalence of these disorders and will be carried out through the monthly reports from the health units and the selected sentinel sites. The sub-surveillance system for the Non-communicable Diseases will be linked to the National Sanitary Surveillance System. Surveillance of chronic Non-communicable Diseases will help the formulation of policies and planning of the strategies for health promotion and sanitary education for the prevention or the delay in the onset of chronic disorders. Additionally, surveillance of alcohol consumption in hinterland locations especially Region 8 and the high incidence of death by injuries and accidents urges the NCD strategy to address policies and plans that will ensure increased

access of these populations to potable or treated water and population-based education and information on the dangers of local wine drinking from childhood. The NCD Technical Working Group through the Ministry of Agriculture will monitor the implementation of the Food Security and Safety Policy.

Components of the Surveillance System for Non-communicable Diseases:

- Mortality from Non-communicable Diseases
- Morbidity from Non-communicable Diseases
- Risk Factor Surveillance using WHO/PAHO STEPS and programmatic data

Mortality:

Mortality caused by Non-communicable Diseases or their complications will be monitored through the reports of mortality from:

- Cerebro-vascular Diseases
- Cardiovascular Diseases
- Cancer
- Diabetes Mellitus
- Asthma
- Sickle cell Disease

Morbidity:

Morbidity will be monitored through the number of people admitted to hospitals and attending the outpatient services for NCDs. A chronic disease register will be created with a corresponding patient linked database to capture risk behaviors, diseases and complications.

Targeted diseases:

- Cardio- and Cerebro-vascular diseases
- Diabetes Mellitus
- Chronic Respiratory Diseases
- Cancer

- Sickle cell Disease

Also included within the surveillance system, will be the collection of data on the frequency of complications produced by these diseases, such as: strokes, ischemic heart disease, amputations, retinopathies, renal insufficiency, `pulmonary fibrosis, neuropathies` and annual reporting for minimum data sets. The general aim is for the stabilization of the prevalence of NCDs by 2017, recognizing that with increased screening incidence will increase initially and with better management, prevalence will also increase. Guyana aims to decrease the mortality due to NCDs by 25% by 2025.

Risk Factors Surveillance

Risk factor prevalence will be established via a national survey. The first such survey will provide the baseline population data. The PAHO STEPS model will be used to gather data on behavioral risk factors, anthropometrics and biochemical status. Volunteers from partnering organizations such as Red Cross, Rotary and students of the University of Guyana will execute this survey under the management of Ministry of Health. This survey provides a mechanism for early detection of risk factors and NCDs and an opportunity for entry into the health system for management.

Once the national baseline data is collected, monitoring of the risk factors will commence at the sentinel sites. Surveillance of risk factors will be achieved through monitoring of trends from risk factor surveys repeated every 3-5 years and routine programmatic data from the NCD register that will be created

PRIORITY ACTION 4: PUBLIC POLICY AND ADVOCACY

- Laws and Regulations- Anti-drinking and driving, PA in all schools, community recreational spaces, policies that facilitate pregnant girls completing a formal secondary school education
- Tax and Price Interventions- Tobacco taxation and taxation on unhealthy foods such as those high in trans fats, increased taxation on alcoholic beverages
- Participation of Private Sector and community based organizations in the response to NCDs

- All MoH service delivery programs especially maternal and child health, tuberculosis and HIV integrate NCD sensitization, screening and management and referral into their program protocols.
- The Ministry of Health will support the Ministries of Education and Agriculture with the roll out of the School Canteen Policy and the Food Safety and Security Policy

The objective of public Policy and Advocacy is to ensure and promote the development and implementation of effective, integrated, sustainable, and evidence-based public policies on chronic disease, their risk factors and determinants.

Policies and plans addressing the issue of NCDs need to be integrated into all public and eventually private policies – "Health In All Policies". The re-creation of a National Commission that includes an interdisciplinary advisory group will be a necessary initial step for the implementation of the National Program for the Prevention and Control of Chronic Diseases. The Commission would ensure multi-sectoral policies and work plans are developed and facilitate wider stakeholder participation and accountability in strategies to address NCDs.

In various countries, many policies, laws, and regulations adopted have been successful in preventing or reducing the burden of disease and injury, such as tobacco taxation and the use of seat belts and helmets, yet several countries in LAC have no policies or plans to combat chronic diseases and their risk factors. Other examples have been legislation to decrease salt content in processed foods, plus appropriate labeling and enforcement, and legislation and health education to reduce cholesterol into the foods.

Environmental and multi-sectoral interventions are effective, for example, it has been demonstrated that replacing the 2% of energy that comes from trans-fat with polyunsaturated fat would reduce cardiovascular disease by 7 % to 40 % and would also reduce type 2 diabetes. Because trans-fat could be eliminated or significantly reduced by voluntary industry action, legislation that mandates reduced trans- fat and salt content in manufactured foods is a good intervention. With such legislation in place, the government would need the capacity to test nutritional content of food. The possibility

exists through the CCHIII mechanism, to facilitate food content testing for the Guyana at CARPHA. Such policy change would be accompanied by population-, community-, work place-, school- and health facility- based education campaigns to reduce the demand for foods high in salt and trans- fat. The Government of Guyana will develop a policy requiring fast food establishments to post the caloric content of menus in full view of customers. The NCD strategy will facilitate partnerships with fast food establishments to sponsor public health events such as walk-a-thons and health fairs as part of their social marketing efforts.

The NCD Commission will provide oversight to the finalization and implementation of school canteen and nutrition policy, and policies that facilitate physical education being time tabled at every school- from nursery to secondary. The commission will provide a forum for greater inter-sectoral collaboration for community; school and work place based physical activity and health education policies and programs.

Guyana will table its draft legislation prohibiting the smoking of cigarettes in public places, health care facilities and education facilities. This legislation will protect non-smokers from the dangers of second hand smoke but will not criminalize individuals who choose to smoke "responsibly." The draft tobacco legislation prohibits the sale of cigarettes to minors. Further legislation prohibiting the sale of alcohol to minors will be promoted by the Ministry of Health. These are effective measures to prevent young persons and children from initiating smoking or drinking. The said draft tobacco legislation stops short of recommending increased taxation on tobacco products. This very measure however has been proven to be most effective in reducing the demand for tobacco and increasing revenue that could be allocated to health promotion efforts. The Ministry will address the need for increased taxation on tobacco products from the current 27% to a minimum of 40% of the retail price. The possibility of raising taxes on alcoholic beverages and mobilizing for the enforcement of anti-drinking and driving laws can be taken up by the NCD Commission and other interest groups. Guyana FCTC working group will finalize the standard for Tobacco Advertising, Promotion and Sponsorship (TAPS), and continue to work in collaboration with regional counterparts to

move the Guyana response forward. The Ministry of Agriculture with support from the NCD Commission will also explore the drafting of legislation to prohibit the growth of tobacco in Guyana.

The NCD commission will support the Ministry of Local Government, Ministry of Culture Youth and Sport and the Ministry of Housing in drafting and tabling legislation that requires the provision of pavements, community spaces, places and equipment for recreation and exercise when designing or planning new housing schemes. Such facilities will be used to promote not only physical activities such as sports or games, but can facilitate cultural training within the community. For example the Ministry of Culture could facilitate workshops and training in steel pan, other musical instruments and drama. Health education targeting youth and men should also be facilitated through coach and other community leader training. Mobilizing community members to utilize the provided facilities will be required as these communal activities will be competing with television and the internet at home unless the community centers are also equipped with computers and televisions. When young people are thus-wise gainfully engaged it can reduce the incidence of crime and serve to build community cohesion. Physical activity, games and music can also provide stress relief and build social skills.

Finally, the commission will be responsible for the review and updating of archaic National Insurance Scheme Policies (NIS) that for instance do not compensate patients for HbA1C testing, nor compensates diabetic patients for the purchase of personal glucometers or strips. There is need for the development of a policy that will require all new-bornes to be screened for sickle cell anemia and parents educated on the implications of having a child with sickle cell trait or disease. This should be done in an effort to increase the number of persons who are aware of having sickle cell trait and the measures they can take to prevent their off-spring from having the disease.

Priority Action 5: Program Management

PARTNERSHIPS AND COORDINATION Collaborative relations between the Ministry of Health and the Ministry of Local Government will be built on to co-opt existing Regional Health Authorities and Regional Health Services into the NCD Commission. The effective implementation of the NCD strategy will be achieved through the creation of strategic partnerships between ministries of government, the private sector and community based organizations. Moreover, the formation of a governing, cabinet appointed, NCD commission will mark government's commitment to ensuring a policy framework is in place to ensure support, technical assistance, financial allocations and accountability for all participating entities- whether CBO, FBO, private sector or ministry. The commission will report directly to the Minister of Health and the NCD coordinator will serve as the secretary. Each ministry will be required to appoint a focal point and health committee- which in some instances may coincide with an occupational health department. The Commission, through its implementing ministerial committees and focal points will provide technical oversight, fiscal accountability, resource mobilization, training and monitoring and evaluation.

Health, nutrition and physical activity programs will be implemented within schools, community based sports clubs, churches and work places, and quarterly reports submitted to the NCD committee. The theme for each year, the area of focus, the coordination of activities and the distribution of resources will be managed by the NCD commission through respective NCD committees.

RESOURCE MOBILIZATION / HEALTH FINANCING

Memoranda of Understanding (MOU) will be developed for NGO/CBO and partnering ministries. The Ministries of Education, Culture Youth and Sports and Health will ensure plans of action and budgetary allocations are made to provide NGOs/CBO with subversions to implement programs on their behalf.

Wider Private Sector support would be sought through formal letters of introduction, presentations on the work the Ministry is doing for patients with NCDs and the gaps that remain. Corporate sponsorship of patients, events or health promotion at the work sites would be encouraged. This will build on the already established support the Ministry receives from several private sector companies that sponsor children with Type 1 Diabetes.

The Ministry will expand its donor support base from the International Diabetes Federation (IDF) which has provided educational materials, pharmaceutical and medical supplies for children with Type 1 Diabetes. Lily within the IDF will be approached to support the Ministry of Health with training and training materials for trainer of trainers in diabetes mapping. Proposals will be written for donor funding from the World Diabetes Foundation and similar entities to fund the purchase of equipment, training of doctors, health promotion, screening and strengthening of the health system.

There is need for the formation of a fully staffed Health Promotion Unit within the Ministry of Health or to subcontract this function to a competent entity.
The Chronic Disease Unit will have to be adequately staffed in order to effectively implement and monitor the progress in the implementation of this strategy. The Unit requires a full-time coordinator, administrative assistant, physician, nurse assistant and medex. The part time support of a surveillance officer, health visitor and health promotion officer would also be required.

Primary care and chronic diseases clinics within the regions will be equipped with requisite pharmaceuticals, machinery and supplies to provide commensurate quality services whether within Regional and District Hospitals, or at health centers and health posts. Resource mobilization for structural refurbishment, branding and upgrades will be undertaken in collaboration with the Regional Health Services Unit and the Ministry of Local Government. Efforts will be made to ensure resource allocation is reflective of the prevalence of diseases in the particular region.

PHARMACEUTICALS AND EQUIPMENT

Pharmaceuticals to support smoking cessation and to treat dyslipidemia will be procured in sufficient quantities to support the expectant increase in demand due to surveillance and health promotion. Regions will be strategically grouped to facilitate access to such laboratory tests as lipid profile, HbA1C, blood glucose, Hb, kidney and liver function testing. A system for sample collection, transportation and testing with subsequent reporting will be developed or refined. Similarly, regional grouping patterned after the administrative RHAs will lend to resource sharing and efficiency.

Annex 1: PLAN OF ACTION FOR PREVENTION AND CONTROL OF CHRONIC DISEASES AND THEIR RISK FACTORS

GOAL: TO PREVENT AND REDUCE THE BURDEN OF CHRONIC DISEASES AND RELATED RISK FACTORS IN GUYANA

Objectives	INDICATORS	BASELINES (MOH data when available)	TARGETS 2020	MEANS OF VERIFICATION
Objective 1: To foster, support and promote the conditions that enable Guyanese to adopt healthy behaviors especially healthy eating, active living, tobacco and alcohol control with the aim to reduce the incidence ofNCDs 20% by 2020	Number of persons who report being exposed to NCD risk reduction messages via mass media, community based interventions, or health provider Sub-indicators:	Baseline survey on public awareness of risk and of risk taking behaviors by gender and age group	80% of the public is aware of how to reduce risk factors, -eat healthy, exercise, avoid smoking and excess alcohol 8% reduction in harmful use of alcohol 12 new civil society or private sector partnerships with government to address NCD across Guyana	Survey reports, Promotional ads paid for, Reports to NCD commission from participating ministries, NGO, FBO and private sector, MoH surveillance data and reports Budget=$105 Mil Guy
Objective 2: To strengthen the capacity of the health system *for* the integrated management of chronic diseases in order to reduce mortality rates due to NCDs by 14% by 2020	2% annual reduction in mortality due to cancer, asthma, DM complications, CV disease, and alcohol related accidental deaths Sub-indicators: Number of doctors, medex and nurses trained in integrated NCD management, Percentage of Regional Hospitals that meet national standards – Wellness Centers of Excellence Number of optometrists trained to provide retinal fundoscopy to diabetic and hypertensive patients	Cancer deaths- 85.1 per 100,000 popDiabetes deaths- 79.5 per 100,000 pop CVD deaths 147.0 per 100,000 pop IHD137.1 per 100,000 pop -	14% reduction in premature deaths due to NCDs,	Hospital reports MOH Statistical reports Hospital admission data

	Availability of laser treatment for diabetic retinopathy at the GPHC (tertiary level treatment) Percent of patients with NCDs who are managed in keeping with national guidelines and protocols	-		Budget= $210 Million Guy
Objective 3 : To support the development and strengthen national capacity for better surveillance of NCDs, their consequences, their risk factors, and the impact of public health interventions.	Percentage of health facilities with updated NCD information including indicators on prevalence, incidence, mortality related to HTN, DM, Cancer, Chronic Resp. diseases,	STEPS baseline survey-2013, 2018 Programmatic data	Over 80% of the health facilities with updated information and data on NCDs	MOH statistical reports Surveillance reports using STEPS Minimum data set Budget=$70 Million Guy
Objective 4: To ensure and promote the development and implementation of effective, integrated, sustainable, and evidence-based public policies for chronic diseases and their risk factors and determinants.	Development of policies to facilitate multi-sectoral collaboration, implementation and reporting on anti- NCD activities, Tobacco legislation passed, labeling standards passed, taxation on 50% retail price of tobacco products, Advocacy for enforcement of anti drinking and driving laws, designated drivers, raise age for legal drinking of alcoholic beverages to 21 Legislation that limits importation of foods high in trans fats and requires labeling of the caloric value of meals at fast food restaurants Policy that supports the provision of nutritious meals in school canteens and workplaces	Draft national nutrition strategy, draft anti-tobacco policy, Draft labeling standard for tobacco products - - Draft school	Anti-Tobacco legislation passed Tobacco labeling standards passed Tobacco taxation increased by 50% of retail price by 2020 Legislation on nutrition, importation of foods high in trans fats, caloric content of menus at fast food restaurants in place Policy supporting PA in all schools in place	Anti-Tobacco legislation passed Tobacco labeling standards passed Tobacco taxation increased by 50% of retail price by 2020 Legislation on nutrition, importation of foods high in trans fats, caloric content of menus at fast food restaurants in place Policy supporting PA

	Policy that supports children of all ages having time tabled PA within school curriculum	canteen policy, -		in all schools in place Budget= $10 Million Guy
Objective 5: To increase the capacity of the MOH to mobilize and allocate resources for quality of service and health outcome improvement.	Establishment of health promotion and diseases prevention unit Establishment of NCD Commission with its own budgetary allocations for multi-sectoral program implementation Policies in place to facilitate NGOs and FBOs receiving a subvention to implement activities in the community on behalf of the MoH, MoE, MCYS, and MoLHSSS Budget allocation for procurement of equipment to support 10 Wellness centers nationally Policies established to facilitate the provision of fundoscopic services to patients with NCDs by private sector optometrists who will be trained and certified to provide theses services to the MoH	- - - No functioning NCD Commission in place	Functioning NCD Commission in place 12 Regional PPP in place for NCD program implementation in schools, community, work places and churches PPP being trained, supervised, monitored and managed by committees within the MoE, MoCYS, MoLHSSS and MoH that in turn report to the NCD Commission Private sector optometrists in 5 out of ten regions partner with MoH, NIS to provide fundoscopic services to patients NCDs	Targeted IEC materials produced for NCDs NCD Commission TOR, meeting minutes and quarterly reports submitted MOUs signed establishing multi-sectoral partnerships, Monthly reports from implementing agencies submitted to NCD unit MoUs, reports Budget= $70.5 Million Guy

PRIORITY ACTION 1: RISK FACTOR REDUCTION AND HEALTH PROMOTION

OBJECTIVE: To foster, support and promote the conditions that enable Guyanese to adopt healthy behaviors especially healthy eating, active living, tobacco and alcohol control with the aim to reduce the incidence of NCDs by 20% by 2020

Expected Result: Population-based strategies and interventions for risk factor reduction improved to facilitate a health promoting environment in which people practice healthy behaviors, including promotion of healthy diets and physical activity, no tobacco and no harmful use of alcohol

POS Dec #/Specific Objectives	Indicators	Activities	Responsible Agency	Budget
POS#10 5. Integrated Health Promotion programs in Schools, Work places, Faith-based Organizations and Sports Clubs				
5.1a) To increase by 10% the number of persons aware of the risk factors for and measures that can be taken to reduce NCDs by 2016. 5.1 b) To increase by 20% from baseline, the number of persons aware of the risk factors for and measures that can be taken to reduce NCDs by 2020 **Issues to be addressed:** ▣ DM and DM1 services for children ▣ Nutrition, healthy diets in schools, homes, work places ▣ Need for Physical	5.1.1.Communication Strategy Developed for NCDs 5.1.2. # TV ads, # of news paper articles, # of Campaigns, reality TV show, Social media 5.1.3.# of IEC materials developed	5.1.1.1. Collaborate with health promotions department to implement health promotion activities for NCDs 5.1.2.1)Hire communication agency to develop a reality TV show based on characters with various NCDs showing their life journey in addressing their health challenges and the available support from the health sector facebook and Twitter accounts based on characters from Reality TV show 5.1.2.2 Partner with the MoE to conduct national interschool	MoH, cabinet, NCD Commission, NCD unit, Partnering Ministries- MoE, MoCYS, MoLHSSS, UNICEF,Communications agency, Radio Guyana Inc, and TV G and others MoE Communications agency and TV stations/radio, private sector	Total **$105 Million (Guy)** $15 million (Guy) per year for 7 years

activity ☐ Need for annual wellness checks ☐ Cancer screening ☐ Anti-drinking and driving ☐ Anti-domestic violence ☐ Conflict resolution ☐ Anti-smoking ☐ Early enrollment into family planning and antenatal care	5.1.4. # of community discussions and educational sessions on NCDs and the importance of family planning and nutrition for optimal growth and development 5.1.5 # of people reached	debating competition on NCDs to run throughout the month of September in October 5.1.1.3.Partner with communication agencies to conduct baseline research, insight mining and develop appropriate materials for the various segments of the target population 5.1.4.1 Promote health across the lifespan with BCC messages, public announcements and community educators at clinics and in churches 5.1.4.2 Train health educators from the MoH as well as community educators from FBO, NGO and sports communities to deliver health messages to target populations	FBO, NGO, coaches from sports clubs	
5.2 Increased private sector involvement in the fight against NCDs	**5.2.1. 20 new private sector companies and social organizations** partner with the MoH, MoE or MoCYS to address wellness and PA in at least 10poor or rural communities 5.2.2. Amount of funds raised by Private Sector, Lodge and other social organizations to implement PA and wellness exercises	Public-Private Partnerships developed and MoUs signed, 5.2.1.1.Private sector companies have a NCD focal point and health promotion activities supporting healthy lifestyles 5.2.2.1 Private sector and civil society raise funds to address NCD health promotion, sponsor ads, Reality TV show and implement STEPS Survey in	Private Sector commission, Small Business Bureau, Private Laboratories, Private Hospitals, Rotary, Rotaract, Lions, Inner Wheel Clubs and the Lodge	

		communities		
5.3 Increased number of schools with health and wellness programmes integrated under HFLE and/or PE.	**5.3.1. 20% increase in number of schools** with a) healthy meals b) physical education programs c) teachers trained to manage and respond to children with DM1 and asthma in school by 2016 d) participate in risk surveys- including STEPS	5.3.1.1.Train teachers in PA and NCDs , integrate PA and NCDs into Health and Family Life Education Curriculum, 5.3.1.2.Train members of the community, gym instructors, coaches and focal points at work places and churches to address NCDs and Healthy Living 5.3.1.3. Partner schools with trained personnel from communities to support PA in schools, observation of Caribbean Wellness month,	MoE and MoCYS MoCYS, Private sector Appointed Focal Points at each participating institution FAO, PAHO, MoE, Carnegie School of Home economics, Food Policy division MoH, MoLHSSS	
5.4 Increased number of work places with integrated wellness and occupational health programmes	**5.4.1. 50% increase in number of work places** with a) healthy food choices b) Wellness programs, including c) risk screening and d) referral for management of high risk by 2016	5.4.1.1. work places appoint focal points, develop action plans and implement activities to address NCDs and promote healthy lifestyles		
5.5 Increased number of communities with wellness and physical activity programmes	**5.5.1. A 30% increase in the number of sports clubs** with a)trained personnel in PE and healthy living b) with sports equipment and facilities for mass exercise and PA by 2016 **5.5.2. A 30% increase in the number of churches with** a) Health education programmes, b) nutrition or wellness	5.5.1.1., 5.5.2.1., Caribbean Wellness month activities with months of multi-level, multi-sectoral, multi-regional plans of action and reports submitted to NCD commission for review annually		

	programmes including drive for cancer, DM and HTN – risk screening **5.5.3 Number of reports submitted to NCD committees and Commission** Funds distributed to Communities, FBOs, NGOs, and Schools to implement PA.	5.5.3.1 Focal points trained to submit reports on a monthly basis 5.5.3.2 HIS modified to accommodate and assimilate and disseminate reports to NCD coordinator		
1.No tobacco no harmful use of alcohol				
POS D/ Expected results	**Output Indicators**	**Activities**	**Partners**	
1.1) POS #3. **FCTC** ratified, compliant **legislation** passed, and implemented.	1.1.2) 100% smoke free public spaces(enclosed spaces) by 2016 1.1.3) 90% cigarettes sold carrying FCTC compliant labels by 2016 1.1.4) Complete ban on tobacco ads, promotion and sponsorship by 2016 1.1.5) Smoking prevalence declines by 30% in persons aged15+ by 2020	1.1.2.1)FCTC legislation passed and enforced by 2013 1.1.3.1) Pass and enforce legislation on Advertising, Promotion and sponsorship bans (FCTC # 13) Smoke Free indoor public places (FCTC #8) by 2013 1.1.5.1) Adapt and adopt model public education programmes 1.1.5.2) Use information from 2010 Global Youth Tobacco Survey (GYTS) for national policy and program development.	Attorney General Chambers, MoH Legal advisor MoE, MoH, Advertising agency. Health Promotions unit	

1.2) POS #4 **Tobacco taxes** directed to support health promotion, NCD prevention & control	1.2.1) Tobacco taxes funding NCD prevention and control activities by 2020	1.2.1.1) Raise tobacco taxes to 50% of sale price. 1.2.1.2) Tobacco and other taxes earmarked for NCD prevention and control programmes	Ministry of Finance, Ministry of Trade and Commerce-Bureau of Standards	
1.3) **Harmful use of alcohol** reduced	1.3.1) Reduction by 15% of baseline in the harmful use of alcohol by 2019 (this includes binge drinking as well as average consumption rates disaggregated by gender) Baseline of 9.5 litres per capita target of 7.8 litres per capita 1.3.2) Reduction by 10% in motor vehicle and pedestrian fatalities associated with drunk driving by 2016 1.3.3 Reduction by 10% in the number of MVA associated with drinking and driving by 2019	1.3.1.1) Enact and enforce legislation establishing the minimum age limit for the consumption and purchase of alcoholic beverages 1.3.1.2) Regulate or ban alcohol advertising and promotion, especially those ads aimed at children and young people. 1.3.2.1) Breathalyzer legislation - Establish and enforce blood alcohol level limits in drivers; zero tolerance for new drivers, random breath testing; sobriety check points; administrative license suspension	MoH, Legal affairs, Women in black, Ministry of Home Affairs, FBO coalition, PAHO assisted special studies	
2. Healthy eating (INCLUDING THE REDUCTION OF TRANS FAT AND REFINED SUGAR INTAKE)				
Objective: To stimulate intersectoral action that promotes the consumption of safe, healthy, tasty foods in Guyana				
Policies:	2.1.1) Legislation and regulations,	2.1.1.1) Food policy review at country	Ministry of Agriculture, FAO,	

2.1) Legislation, regulations, multi-sectoral policies, incentives, plans, protocols and programmes developed and implemented to promote **food security and healthy eating**. For example: a) POS #7 CFNI,CARDI) and the regional inter-governmental agencies to **enhance food security** b) POS # (CRNM) supports **pricing and tariffs** to assure that healthy foods are available at affordable prices. c))Reduction of **trans-fat** from the food supply b) National **nutritional and quality criteria** for food manufacturers in keeping with regional standards e) POS #9 User-friendly **food labeling**	multi-sectoral policies, incentives, plans, protocols and programmes that aim to improve dietary and lifestyle behaviours by 2016 supported by CARPHA 2.1.2) Incentives or disincentives to increase healthy eating and physical activity by 2016 2.1.3) Guyana adopts CROSQ developed regional standards for salt, fat and sugar content on imported and locally produced foods by 2016 2.1.4) All imported and locally produced foods with required nutritional labeling by 2016	level 2.1.1.2) Recommended legislation and regulations to improve diet and physical activity adapted, debated and enacted 2.1.2.1) Design and implement Incentives Program (taxes and subsidies) for producers and buyers - that subsidize low calorie nutritious foods, preferably local 2.1.4.1) Policy dialogue with local food manufacturers and fast food restaurants to ensure their use of national dietary guidelines in product development and menus 2.1.5.1) Develop and implement trans fat free policies and programmes by 2015	PAHO, Ministry of Trade and Commerce, Food and Drugs, Food Policy unit	
2.2) National **nutrition standards** and food based dietary guidelines for school meals and food sold at workplaces and institutions	.2.2.1) Model nutritional standards for schools, workplaces and institutions developed by 2013 2.2.2) Adopt and implement food based dietary guidelines in at least	2.2.1.1) Implement food based nutritional dietary guidelines in schools, workplaces and institutions	Ministry of Education and Ministry of Labor Human Services and Social Security	

	2 sectors by 2015.			
2.3) POS# 12 A comprehensive **public education** campaign to promote balanced diet	2.3.1) Comprehensive public education campaigns to promote: healthy eating in 2013, 2014 and 2015			
3. Healthy eating including reduction in salt intake				
POS Summit Declaration / Expected Results	**Output indicator**	**Activity**		
3.1) **Salt content** of processed and prepared foods reduced.	3.1.1) Bureau of Standards adopts CROSQ standards for salt by 2016 3.1.2 National Nutrition Strategy to reduce salt and fat content of processed and prepared foods implemented (including in schools, workplaces and fast-food outlets) by 2016.	3.1.2.1) Advocacy to local food manufacturers, fast food restaurants and importers to reduce the salt content of their products 3.1.2.2) Education programme for local caterers and fast food businesses about the risk of salt to health and reducing salt in their products.	Ministry of Agriculture, FAO, Ministry of Trade and Commerce	
3.2) **Salt consumption** of the population reduced.	3.2.1) Salt consumption declines by 20% by 2020 (WHO recommends less than 5grams of salt or 2 grams of sodium per person per day) 3.2.2) Use baseline and on going sampling for tracking salt consumption in population starting in 2014.	3.2.1.1) Design and mount a public education campaign about the risk of salt to health, not to add salt at the table, and healthy, tasty alternatives. 3..2.2.1) Implement population based surveys to track salt consumption		

4. POPULATION BASED PHYSICAL ACTIVITY **OBJECTIVE: 10% RELATIVE REDUCTION IN PREVALENCE OF INSUFFICIENT PHYSICAL ACTIVITY**				
POS Summit Declaration / Expected Results	**Output indicators**	**Activities**	**Partners**	
4.1) Legislation, regulations, multi-sectoral policies, incentives, plans, protocols and programmes developed and implemented to **promote physical activity**	4.1.1) Legislation, multi-sectoral policies and programmes to promote physical activity by 2016. 4.1.2) Physical activity levels increase by 5% over baseline determined from STEPS by 2019 .	4.1.1.1) Legislation to ensure that new housing developments include safe spaces for physical exercise 4.1.1.2) Support for Ministry of Housing and Mayor and City Council in designing increased public spaces supportive of physical activity	Ministry of Housing, Labor, Mayor and City Council, Ministry of Culture Youth and Sport	
4.2) POS #10. Increase in adequate public facilities to encourage **mass based activities** physical activity in the entire population,	4.2.1) Mass-based low cost physical activity available by 2014 4.2.2) Mass media and social media deployed to raise public awareness and participation in healthy living	4.2.1.1) Private / public /civil society partnerships to sponsor and promote safe use of recreational spaces with trained staff, sports equipment and music for population participation	NCD Commission, Ministry of Housing, Labor, Mayor and City Council, Ministry of Culture Youth and Sport	
4.3) POS #15. Second Saturday in September celebrated as "**Caribbean Wellness Day,**" in commemoration of NCD Summit.	4.3.1) CWD multi-sectoral planning and activities by 2014 4.3..2) CWD celebrations in at least 3 separate locations by 2013 4.3.3) Adoption of the brand for CWD with common slogans and messages	4.3.1.1) Establish private and public sector, civil society, media committee for CWD, including communications plan 4.3.2.1) Country CWD committee implements CWD activities in multiple settings and multiple locations in the	NCD Commission and participating ministries, private sector and civil society	

	4.3.4) Sustained multi-sectoral physical activity programmes spawned by CWD by 2014	country 4.3.4.1) Make CWD the catalyst for sustained, population based activities		

PRIORITY ACTION2: INTEGRATED DISEASE MANAGEMENT AND PATIENT SELF-MANAGEMENT EDUCATION

Objective: To strengthen the capacity of the health system *for* the integrated management of chronic diseases in order to reduce mortality rates due to NCDs by 20% by 2020

6. Scaling up evidence based treatment

POS Summit Declaration / Expected Results	Indicators	Activities	Partners	Budget
6.1 POS#5 Guyana has strengthened capacity to effectively and efficiently deliver quality assured chronic disease and risk factor **screening and management based on regional guidelines**	6.1.1).Ministry of Health reviews and approves evidence-based policies, guidelines and protocols for screening, secondary prevention and control of NCDs, based guidelines from the CHRC and National Treatment Guidelines for Primary Health Care, including risk chart approach.	6.1.1.1Establish guidelines and protocols for public and private sector integration of prevention into disease management 6.1.1.2Establish policies and protocols for the management of clients who seek annual screening services in the public sector	CHRC, Specialists from within the Caribbean, PAHO Standards and Quality Unit MoH Public and Private Hospitals, Medical facilities, Private Sector companies	**Total $210 Million Guy** (30 Mill per year for 7 years)
Disability or complications due to NCDs reduced by 2% per year until 2020	6.1.2) 80% of at risk populations in public, private and NGO health sectors screened by 2020	6.1.1.3 Develop staff competencies through training, workshops, preceptorships both locally and overseas to manage the prevention and control of NCDs and submit		

		accurate reports		
High quality generic drugs available	6.1.3) at least 80% of patients diagnosed with NCDs receive drug therapy and counseling according to National Primary Care Treatment guidelines by 2014	6.1.1.4.Increase access to affordable technologies and pharmaceuticals to screen for, monitor and control the management of NCDs in 10 regions of Guyana		
	10 new private companies sponsoring a child with DM1	6.1.1.5. Establish protocols for client-centered care that focuses on patient education towards self-management 6.1.1.6.Establish and Brand Wellness Centers of Excellence in at least eight out of ten regions, 6.1.1.7.Develop and procure promotional items for WCoE- T-shirts, caps and pins. banners, pamphlets, ID bands for children with DM1, 6.1.1.8. Annual three day retreat for juveniles with DM1	CIDA, Private Hospitals and physicians, Standards Unit, Communications Agencies, PAHO.CARPHA,CARICOM	
		,		
a) Effective management structure and re-oriented Primary Health	6.1.4) Chronic Care Model implemented in 50% of health	6.1.4.1) Establish centers of excellence that provide integrated	CIDA, CHRC, PAHO,	

Care system based on the **Chronic Care Model** implemented. b) **Universal access** to quality PHC care improved. c) Access to **technologies** and safe affordable and efficacious **essential medicines** for chronic disease prevention and control improved. d) **Personal health skills** and self-management among people with chronic conditions and risk factors and their families,	facilities (public, private and NGO) by 2018 a) Integrate CCM used in rDFC project into Wellness Centers of Excellence b. 50 % hypertensive patients at goal by 2016 c.40 % high cholesterol. patients at goal by 2016 d. 50% increase in number of women having Pap smears or VIA by 2016 e. Reduction of childhood obesity by 10% by 2016 f. 90% diabetic children and 70% diabetic adults at goal with annual fundoscopy, renal function, liver function, neuropathy and micro-albumin screening and HbA1 by 2015 6.1.5) Programs for prevention and control of cancers are an integral part of the are integrated into routine Primary Health Care services. 6.1.6.	management and patient centered care in partnership with community based organizations 6.1.4.2) Conduct audit of patient records to assess adherence to guidelines, prevalence of hypertensive and high cholesterol patients in compliance with treatment goals 6.1.4.3) Promote use of effective referral systems between levels of care. 6.1.4.3) Implement projects with partners in private and civil society for community based BP & weight screening, including at workplaces and faith-based organizations. 6.1.5.1Immunising more than 50% of adolescent females with HPV vaccine, VIA screening of all sexually active women starting with women in interior locations where there is relatively more risk	Standards and Quality of Technical Services Unit Maternal and Child Health Unit Rotary, Lodge and other NGO and FBO organizations	
6.2) Guyana's **health work force competencies strengthened** to appropriately and effectively deliver and manage quality NCD programmes, including cancer	6.2.1) Training for PHC professionals to also include management of cancer, HBP, DM, risk approach, tobacco and exercise screening) by 2013;	6.2.1.1) Conduct needs assessment with regards to competencies in NCD prevention and control 6.2.1.2) Training and Continuing	PAHO. CHRC, CARPHA, Specialist from within region- eg Oncologists sharing etc.	

prevention and control programs, especially cervical, breast, colon and prostate cancers	6.2.2) Current and future needs for specialized staff for cancer screening and control defined by 2013	medical education program with an evaluation component developed based on the needs assessment 6.2.1.3) Competencies re-evaluated as a component of performance appraisal		

PRIORITY ACTION 3: SURVEILLANCE: MONITORING AND EVALUATION

Objective: To encourage and support the development and strengthening of the national capacity for better surveillance of NCDs, their consequences, their risk factors, and the impact of public health interventions.

7. SURVEILLANCE, MONITORING AND EVALUATION				
POS Declaration/Expected Results	**Output Indicators**	**Activities**	**Partners**	**Budget**
7.1) POS #13. **Surveillance** of risk factors for NCDs and burden of disease (BOD) conducted (using chronic disease surveillance systems, aligned with WHO STEPS and a strengthened National Health Information System (HIS), including Minimum Data Set.) Chronic Disease register	7.1.1) Health information policy and plan adopted by 2016 7.1.2) Conduct STEPS survey at baseline 2014 and repeat by 2019 Collect and report data at least annually on NCDs (risk factors, morbidity, mortality, determinants, health systems performance, using	7.1.1.1) NCD Health Information Policy Document adopted and implemented to strengthen HIS 7.1.2.1) Identify & establish partnerships (private & public sector) for strengthening surveillance & research 7. 1.2.2) Apply a standardized	PAHO/CARPHA Partnering Ministries with NCD programmes, Participating FBOs and NGOs Bureau of Statistics	**Total= $70 Million (Guy)** **Baseline and follow-up risk surveys =$40 million**

	standardized methodologies; by 2015 7.1.3)Reports of in country assessment of NCD surveillance system and capacity available by 2015	protocol for NCD surveillance to collect, analyze and report annually on risk factors, morbidity, mortality, determinants and health systems performance in public and private sector. 7.1.2.3 Train partnering entities in reporting, M&E, HIS data entry for register on NCDs 7.1.3.1) Disseminate surveillance information, including publications.		
7.2) **Research** initiatives implemented to assess disease burden, risk factors, and determinants of chronic diseases	7..2.1) Research agenda for NCDs developed in collaboration with university of Guyana, CAREC CHRC, CDRC, PAHO and other CARICOM countries by 2013	7.2.1.1) Define, initiate and participate in research projects. Disseminate research information, including publications. 7.2.1.2) Implement health audit surveys for improving quality of care for specific NCDs including, CVD, DM and cancers, especially cervical, breast, prostate and colon cancer.	UG, CHRC/CARPHA/PAHO/CDC	**$20 Million**
7.3) Strengthen capacity for collection	7.3.1) Standardized monitoring and	7.3.1.1) Conduct and publish		**$10 Million Guy**

and analysis of health information for **monitoring and evaluation** of NCD programme outcomes	evaluation systems for all aspects of NCD prevention and control programs developed and implemented by 2013. 7.3.3) Risk factor data used to evaluate NCD Declaration by 2013.	analyses of data on surveillance and program evaluation of annual work plans for monitoring and evaluation of NCD programmes. 7.3.3.1) Collect data required for evaluation of the NCD Summit Declaration		

PRIORITY ACTION 4: PUBLIC POLICY, ADVOCACY AND COMMUNICATION

Objective: To ensure and promote the development and implementation of effective, integrated, sustainable, and evidence-based public policies for chronic diseases and their risk factors and determinants.

8. ADVOCACY AND HEALTHY PUBLIC POLICY

POS Declaration/Expected Results	Output Indicators	Activities	Partners	Budget
8.1) Effective and sustainable evidence-based **healthy public policies** and action plans for NCDs, their risk factors and determinants developed and implementation	8.1.1) Progress reports on NCDs and the need for healthy public policies, provided for presentation to Heads of Government and of Ministers (Ministries of Agriculture,	8.1.1.1) Use standardized format to report on NCD policies, capacity and programmes 8.1.2.1) Adapt and adopt model healthy public policies and	NCD Commission, Legal consultants, PAHO/CARPHA/CARICOM	$10 Million (Guy)

a) **Advocacy and sensitization of policymakers** to the need for evidenced based, effective and sustainable public policy enhanced b) Guyana's capacity for **advocacy for NCD policies** improved c) **Legislation** enacted or appropriately amended to support health promotion activities.	Health, Education, Human & Social Development COHSOD) from 2013. 8.1.2) Build capacity for health professionals, NGOs and Civil Society in networking, information sharing and advocacy strategies to lobby for healthy public policies by 2013 8.1.4) Priority government ministries and agencies review their policies which are relevant to NCD by 2013	advocacy guidelines. if needed 8.1.3.1) Train civil society, private and public sector partners on healthy public policies that affect NCD prevention and control using strategies outlined in the Caribbean Charter for Health Promotion. 8.1.3.2) Implement effective NCD policies, 8.1.4.1) Priority government entities identify and address gaps in current NCD related legislation and policies.		

PRIORITY ACTION *5:* PROGRAM *MANAGEMENT*

Objective: To increase the capacity of the MOH to mobilize and allocate resources for quality of service and health outcome improvement.

10. PROGRAM MANAGEMENT, PARTNERSHIPS AND COORDINATION

POS Declaration/Expected Results	Output Indicators	Activities	Partners	Budget
10.1) POS#2. Intersectoral **National Chronic Diseases Commissions** or analogous bodies established to	10.1.1) Inter-sectoral NCD Commissions appointed and functioning by 2013	10.1.1.1) Minister of Health or PM convenes national inter-sectoral NCD Summit to sensitize stakeholders in	Private Sector Commission, FBO Coalition, Small	**Total= $70.5**

guide NCD policies and programmes. 10.2) NCD Commission and national NCD programmes coordinated by **NCD Coordinator** in the Ministry of Health.	10.1.2) TORs of NCD Commission define multi-sectoral composition, mandates to make policy recommendations, and to evaluate NCD policies and programmes, 10.1.3) Required supports for NCD Commissions (administrative, technical and budgetary) provided by 2013. 10.1.5)Training in NCD prevention and control, partnerships, programme management and evaluation for Ministry of Health personnel, and members of the national NCD Commissions by 2013	public, private and civil society in 2013 10.1.2.1) Adapt or develop TOR for NCD Commission based on initial draft TOR of NCD Committee 10.1.3.1) Minister of Health or PM appoints inter-sectoral NCD Commission with TORs and necessary supports 10.1.5.1) Adapt, adopt and implement orientation package and training for guidance of commission members. 10.1.5.2) NCD Commission recommends comprehensive, integrated plan of action and evaluation mechanism. Assign major aspects to relevant agencies and sectors	Businesses Bureau, Private Sector Hospitals and Laboratories, MoLHSSS, Ministry of Trade and Commerce, Ministry of Home Affairs, Ministry of Agriculture, Ministry of Housing, Ministry of Local Government, Ministry of Education, Ministry of Culture Youth and Sport, NGOs, Social Organizations-Rotary, Rotaract etc.	**Million (Guy)** **$10.5 Million**

11. RESOURCE MOBILIZATION / HEALTH FINANCING

POS Declaration/Expected Results	Output Indicators	Activities	Partners	Budget
11.1) Resource allocation and mobilization **strategies** planned and implemented a) Increased capacity or **securing additional revenue** streams. 11.2) Financial resources mobilized and/or	11.1.2) Joint training for stakeholders (pubic, private, civil society) in resource mobilization and grant applications held by 2013 11.1.3) At least two project proposals to facilitate	11.1.2.1) Local supports for training for stakeholders (pubic, private civil society) in resource mobilization and grant applications. 11.1.3.1) Implement projects, conduct evaluation of NCD plans.	Ministry of Finance, Private Sector, NGOs, FBO Coalition, NCDCommission	$30 Million (Guy)

redistributed so that **national health budget is sufficient** to address priority health needs. 11.3) Evaluation of financial streams in the health sector and their **alignment to health priorities**. 11.4) Increase The Human Resource Capacity within the Chronic Disease Unit and the Department of Disease Control	implementation of national NCD plans developed and submitted for funding by 2014 11.2.2) Additional (new) resources identified for health financing by 2013 11.3.1) Evaluation of financial expenditures vs. health priorities conducted by 2014 11.4.1) Requisite staff recruited. Vacancies within the unit and department filled	11.2.1.1) Cabinet approves National health expenditure budgets of at least 10% of GDP to address priority health needs and to assure equity in access to health services 11.2.2.1) Policy dialogues to identify, document and share best practices in sustainable NCD financing, 11.2.2.2 Subventions made available to NGOs and FBO Coalition to implement health programmes on behalf of NCD Commission 11.3.1.1.) Conduct evaluation of financing of priority areas to assess whether expenditures met or exceed planned levels 11.4.1.1.) Advertise vacancies and create new positions as needed for the efficient implementation and monitoring of the NCD strategy	with participating ministries and focal points, IDF, ORBIS, Banting and Best Diabetes Centre University of Toronto Banting and Best, WDF, PAHO, UNICEF,	
12. PHARMACEUTICALS AND LABORATORY SUPPORTS				
POS Declaration/Expected Results	**Output Indicators**	**Activities**	**Partners**	**Budget**

12.1) Access to safe, affordable and **efficacious NCD medicines** improved by strengthening regulations, legislation & drug registration 12.2) **Generic drugs** for NCD control included on the Vital formulary list 12.3) **Harmonized procurement** and supply management of quality drugs 12.4) **Vital laboratory services** for screening and management available	12.1.1) Drugs to support smoking cessation and cancer treatment are registered as part of the national drug formulary and procured along with other drugs being used to treat and manage NCDs by 2014 12.1.2) Drug formulary for essential and necessary drugs updated as required by 2015 12.2.1) Essential (accessible, affordable and high quality) generic drugs for NCD prevention and control available by 2013 – aspirin, beta blocker, statin, thiazide diuretic, ACE inhibitor, nicotine patches, SSRIs and buproprion. 12.4.2) Procurement and improved maintenance of relevant equipment including BIO- Rad 10 back-up machine for the National Reference Laboratory (for HbA1c testing) and Nyco Card readers to boost the regional capacity to conduct HbA1, microalbumin, C-Reactive proteins, D-dimer testing and ATAC 2000 machines within at least eight regions to conduct kidney, liver function testing, lipid profile testing etc by 2014 12.4.3. Procure relevant equipment to boost the capacity of the Guyana	12.2.1.1) Vital, essential and necessary medicine formularies developed and implemented 12.2.1.2) Establish generic drug policy. 12.3.1.1) Essential generic drugs for NCD prevention and control available in public and private sector: aspirin, beta blocker, statin, thiazide diuretic, ACE inhibitor, nicotine patches, buproprion, 12.4.2.1 Train laboratory personnel in the use and maintenance of laboratory equipment 12.4.2.2. Hire contractors to service and maintain laboratory equipment in all regions of Guyana 12.4.3.1.. Partner with CFNI to train staff at the Food and Drugs Department to conduct testing of food products for caloric, trans fat, salt and sugar content Explore possibilities for partnerships within the Caribbean to share costs and services for food testing and expertise sharing	CFNI/CARPHA, PAHO FAO, Ministry of Agriculture. Ministry of Local Government, Standards and Quality Unit MoH, ORBIS, IDF, WDF	$30 Million (over regular procurement needs)

12.5)	Food and Drugs Department to test foods for caloric and other properties			

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APPENDIX 1 **DECLARATION OF PORT-OF -SPAIN:**

UNITING TO STOP THE EPIDEMIC OF CHRONIC NCDs

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

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

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

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

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

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

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

Declare –

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

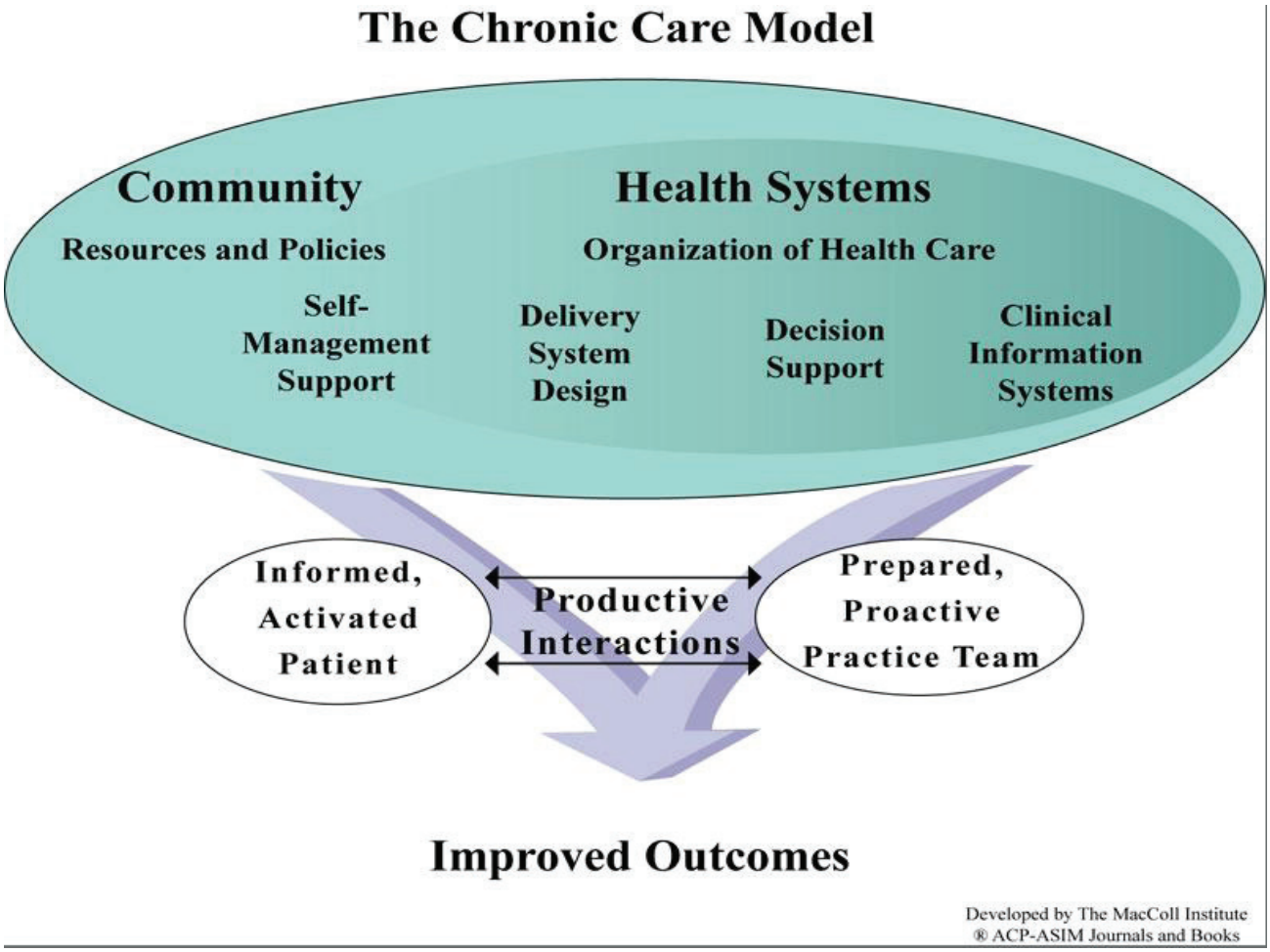
chronic diseases and risk factors so that by 2012, 80% of people with NCDs would receive quality care and have access to preventive education based on regional guidelines;

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

We hereby declare the second Saturday in September "Caribbean Wellness Day," in commemoration of this landmark Summit.

Contact: piu@caricom.org

APPENDIX 2


The Chronic Care Model
Community
Resources and Policies
Health Systems
Organization of Health Care
Self-Management Support
Delivery System Design
Decision Support
Clinical Information Systems
Informed, Activated Patient
Productive Interactions
Prepared, Proactive Practice Team
Improved Outcomes
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