Ministry of Health Suriname

SURINAME

National Action Plan for the Prevention and Control of Noncommunicable Diseases

2012-2016

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ACRONYMS

ATM	Ministry of Labor, Technology and Environment
AZP	Academic Hospital Paramaribo
BOG	Bureau of Public Health
CAREC	Caribbean Epidemiology Center
CARMEN	Conjunto de Acciones para la Reducción Multifactorial de Enfermedades Notransmissibles Network
CCH	Caribbean Cooperation in Health
CDC	Centers for Disease Control
FCTC	Framework Convention for Tobacco Control
GSHS	Global School Health Survey
GYTS	Global Youth Tobacco Survey
MICS	Multiple Indicator Cluster Survey
MM	Medical Mission
MOA	Ministry of Agriculture
MOE	Ministry of Education
MOF	Ministry of Finance
MOH	Ministry of Health
MOT	Ministry of Trade
MOS	Ministry of Sport and Youth Affairs
NCD	Noncommunicable Diseases
OW&V	Ministry of Public Works
PAHO	Pan American Health Office
PHC	Primary Health Care
RGD	Regional Health Authority
SOZAVO	Ministry of Social Affairs and Housing
UNHLM	United Nations High Level Meeting
WHO	World Health Organization
YLL	Years of Life Lost

FOREWORD

NCDs are the main cause of mortality and morbidity in Suriname, as is the case in most of the countries in the world. At the UN High Level Meeting in September 2011, Suriname endorsed the UN resolution on NCDs, immediately after which the government assigned a special budget to the MOH to support prevention and control activities in the area of NCDs. This illustrates that the government takes up its own responsibility in the fight against the epidemic of NCDs.

One of the first priorities has been the development of this National Action Plan for the Prevention and Control of NCDs which provides a framework for a coordinated and integrated approach during the coming years in the fight against NCDs in our country.

The elements of the NCD plan focus on public awareness of the NCD burden, healthy lifestyle promotion, health systems strengthening, strengthening of the legal framework, strengthening of surveillance and operational research and the strengthening of monitoring and evaluation systems. For the coming years the priority NCDs namely cancer, diabetes, and cardiovascular disease which account for 60% of mortality nationwide will be targeted. Another priority health area which also will be included is mental health and substance abuse.

The fight against NCDs cannot be successful without a strong intersectoral collaboration which is crucial for healthy lifestyle promotion and risk factor reduction. This plan calls for a collective effort through the establishment of structured intersectoral cooperation with other ministries, private sector and civil society.

Periodic evaluations are an essential part of the fight of all diseases and specifically of NCDs which require more complex interventions than the communicable diseases. This NCD plan is a dynamic document which will be periodically revised in order to enable us to keep on track towards the goals set.

As health sector and as a nation we have to join hands, be accountable and share responsibility to be able to really tackle the burden of NCDs.

We owe it to the next generation.

Dr. M. Blokland

Minister of Health
Republic of Suriname

EXECUTIVE SUMMARY

Noncommunicable diseases (NCDs) are the leading causes of death globally as well as in Suriname. These chronic diseases, especially cardiovascular diseases, diabetes and cancers, were the cause of 60% of the deaths in Suriname in 2009. NCDs place a high burden on the Suriname health care system and prevention and control of these diseases has become a public health priority. Feasible and cost-effective interventions exist to modify risk factors such as tobacco use, harmful alcohol use, unhealthy diet and physical inactivity, which are the underlying causes for the onset and progression of NCDs.

The Ministry of Health (MOH), in collaboration with partners from within and outside the health sector, has developed a plan, which outlines the course of action for Suriname to combat the NCD epidemic that is profoundly affecting the population. The plan describes the epidemiological situation for NCDs in Suriname and provides an overview of the risk factors underlying these NCDs, clearly demonstrating the need for an effective coordinated response. The plan also describes the input incorporated from global and regional strategies and initiatives as well as from local stakeholders engaged in the efforts to reduce the burden and impact of NCDs in Suriname. The plan focuses on four priority areas identified by these stakeholders, namely Public Policy and Advocacy, Health Promotion and Disease Prevention, Integrated Management of Chronic Diseases and Surveillance. Within these priority areas a set of objectives, activities and targets are identified which will form the basis of the multisectoral approach required to affectively address NCDs in Suriname. This approach also includes a reorientation of the national primary health care systems to be able to take on a role in the prevention, early detection and management of NCDs.

This plan is a first step in the implementation of efforts for the prevention and control of NCDs in Suriname. The plan will be presented by the MOH to the National Assembly for final approval and allocation of funds. Following this process, disease specific implementation plans will be drafted in the near future for each of the main NCD categories (cardiovascular diseases, diabetes, cancers and chronic respiratory diseases) providing further guidance to the partners engaged in these efforts.

DEVELOPMENT OF THE ACTION PLAN

Introduction

Noncommunicable diseases (NCDs) are the leading causes of death in Suriname. These chronic diseases dominate the health care needs of the population and therefore place the highest burden on the Suriname health care system. Even with the emergence of HIV/AIDS as a major cause of mortality and morbidity in the past decade and the consequent resurgence of tuberculosis, NCDs remain the main causes of death in the country, as is the case globally. NCDs, especially cardiovascular diseases, diabetes and cancers, were the cause of 60% of the deaths in Suriname in 2009, and both hospitalizations and polyclinic visits increased significantly since 2005. In Suriname, cardiovascular diseases occur primarily among men while diabetes and cancers impact both men and women more equally. The majority of cardiovascular diseases and diabetes cases are among the Hindustani population and to a lesser degree within the Creole and Javanese populations while cancers are seen primarily among Creoles, followed by the Hindustani, Javanese and the Marrons. The average age for hospitalization with symptoms of cardiovascular disease is approximately 60, while diabetes and cancers tend to manifest around age 40[1].

These facts, coupled with the evidence that modifying risk factors can largely prevent the onset and progression of NCDs, reinforce that the prevention and control of NCDs are a public health priority requiring urgent action. There is a significant need for an effective coordinated response that is multisectoral and addresses social determinants of NCDs to strengthen health care for people, to develop enabling healthy environments and to support healthy individual behaviours. In addition there is a need for a radical reorientation of the health care system towards service delivery models for chronic care as well as a strong focus on health promotion and partnerships with non-health sectors and communities. This reorientation involves strengthening the national Primary Health Care (PHC) systems to be able to take on a role in the prevention, early detection and management of NCDs. This NCD Action Plan outlines the course of action for Suriname to combat the NCD epidemic that is profoundly affecting the population. Implementation plans with disease specific targets and activities will be drafted for each of the main NCD categories, namely cardiovascular diseases, diabetes, cancers and chronic respiratory diseases.

This NCD Action Plan was developed under the direction of the Ministry of Health (MOH), in collaboration with the Bureau of Public Health (BOG), the Regional Health Services (RGD), and Medical Mission (MM). The Pan-American Health Organization/World Health Organization (PAHO/WHO), the Caribbean Epidemiology Centre (CAREC), the Centers of Disease Control (CDC), and other partners provided resources and technical support for the development and preparation this NCD action plan.

Considerable input was received from various stakeholders through a process that involved several consultation meetings, starting with an NCD Workshop held in March 2010, involving representatives from the health sector. During this workshop, participants identified components to include in a plan of action and gaps and priorities for implementing an integrated approach for addressing NCDs. Following the workshop, participants established Working Groups related to four areas: Public Policy and Advocacy, Surveillance, Integrated Management of Chronic Diseases and Risk Factors, and Health Promotion and Disease Prevention. The absence of a high-level guidance document was apparent and creating this document became a critical priority. The Working Groups selected individuals from each group to form a Drafting Team to draft such a document. Early drafts of this Action Plan were reviewed by the members of all four Working Groups. Further input was provided during a national level consultation meeting in August 2011 in preparation of Suriname's participation in the United Nations High Level Meeting (UNHLM) on NCDs in September 2011. During this meeting several working groups provided recommendations for addressing the risk factors of NCDs. The MoH presented findings from these consultation meetings and the working groups to the National Assembly in November 2011. The UNHLM was attended by several representatives of the Government of Suriname, including the President, and provided further momentum to the NCD prevention and control agenda. The high level meeting succeeded in emphasizing the priority of addressing NCDs in Suriname and as a result funds in the amount of 2 million SRD were allocated for the implementation of NCD prevention and control efforts included in this plan. The plan was finalized in February 2012 by the Planning Department of the Ministry of Health.

Rationale

The global prevalence of chronic diseases is rising and is predicted to increase substantially in the next two decades[2]. In Suriname, chronic disease mortality rates are high, with cardiovascular diseases remaining the number one leading mortality cause in the past decade. Socioeconomic differences, such as income, education and physical environment, add to the high chronic disease burden and mortality especially affecting vulnerable groups leading to ill health and restrictions within their living and working conditions[3].

Chronic diseases are a defining cause of absenteeism and occupational disability, can drive disadvantaged families further into poverty, and as such have profound national development and economic implications as they result in huge costs to the health care system as well as lost productivity.

Suriname has a well-established health system, effectively addressing both the coastal and interior areas. However, advances in primary health care need to be better oriented towards addressing chronic diseases. Chronic diseases require a health system providing patient-centered care and a substantial capacity of providers and professionals in collaboration with individuals, families, communities and other sectors. They also demand a proactive role of the system in early detection of chronic diseases, guaranteeing continuity in care across the lifespan of individuals and continuity from home-based care to the tertiary level of care with supporting patients with chronic diseases in self-care and maintaining quality of life despite their illnesses. This can only reach national scale and equitable services through decentralized health services and through strengthening of the Primary Health Care system.

Chronic disease risk factors, such as unhealthy diet and physical inactivity, are affected by sectors outside of the health system including agriculture, trade, transport and civil works. As a result, collaboration with partners from these sectors is essential to realize a multisectoral approach to chronic disease prevention and control. In addition, political and socio-economic realities have a significant influence on the epidemic of chronic diseases. Public policies, regulations and allocation of resources towards cost-effective interventions in all relevant sectors can alter the risk factors that drive the epidemic. Therefore, this NCD plan proposes strategic objectives and comprehensive, integrated actions applicable to Suriname, encompassing the collaboration of sectors outside of health.

High-level commitment of all sectors involved is required for the successful implementation of the activities included in this action plan in order to effectively reduce or eliminate the risk factors contributing to the onset and progression of NCDs in Suriname.

Scope

While NCDs include a plethora of diseases and related risk factors linked by numerous causal pathways, current national trends indicate that there are four noncommunicable diseases that contribute primarily to mortality and morbidity in Suriname: cardiovascular diseases, cancer, diabetes and chronic respiratory diseases. Evidence shows that with modification of key risk factors, particularly tobacco use, harmful use of alcohol, unhealthy diet, and physical inactivity these NCDs can largely be prevented or mitigated. By implementing effective interventions to address these risk factors it is possible to significantly reduce morbidity, mortality, and disability resulting from these four main categories of NCDs. As such, key lines of actions, objectives and activities designed to combat these NCDs and related risk factors are the main focus of this NCD Action Plan.

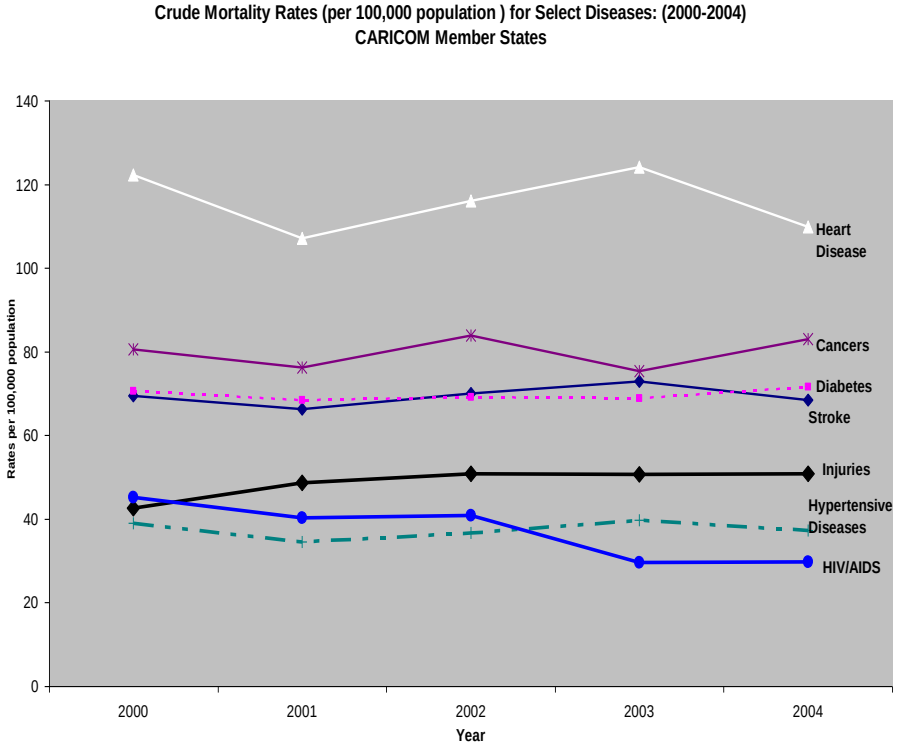
The concept of NCDs varies widely, often including mental health and injuries. Although both mental health and injuries, especially road traffic related injuries, are of significant public health concern in Suriname, they are not included in this Action Plan. The decision to exclude these priorities resulted from a careful examination of the health policy context in Suriname. The Suriname Mental Health Plan was finalized in January 2012 and preparations are underway to implement the plan. A National Road Safety Commission was established in 2008 and a National Directional Framework on Road Safety was developed and approved in 2010. Recognizing that the Mental Health Plan has been completed and that initiatives to address injury prevention are advancing, the decision was made to not integrate mental health and injuries into the NCD Action plan at this time to prevent duplication of efforts.

Situational Analysis

In 2008 an estimated 36 million people worldwide died from noncommunicable diseases, mainly cardiovascular diseases, diabetes, cancer and chronic respiratory diseases[4]. Of these NCD deaths, nearly 80% (29 million) occurred in low-and middle-income countries. NCDs are the most frequent cause of death in most countries, exceeding deaths from all infectious diseases (including HIV/AIDS, malaria and tuberculosis), maternal and perinatal conditions and nutritional conditions combined [5]. While deaths from infectious diseases, perinatal conditions and nutritional deficiencies are expected to decline, deaths from NCDs are projected to increase by 15% globally between 2010 and 2020.

In the Americas, the Caribbean region has the highest prevalence of chronic noncommunicable diseases[6]. Mortality analysis showed a consistent trend of NCDs as the most common cause of death in the early 2000s[7]. In 2004, the leading causes of death were heart diseases, cancer, diabetes, stroke, injuries (intentional and unintentional), hypertensive diseases and HIV/AIDS (Figure 1)[8].

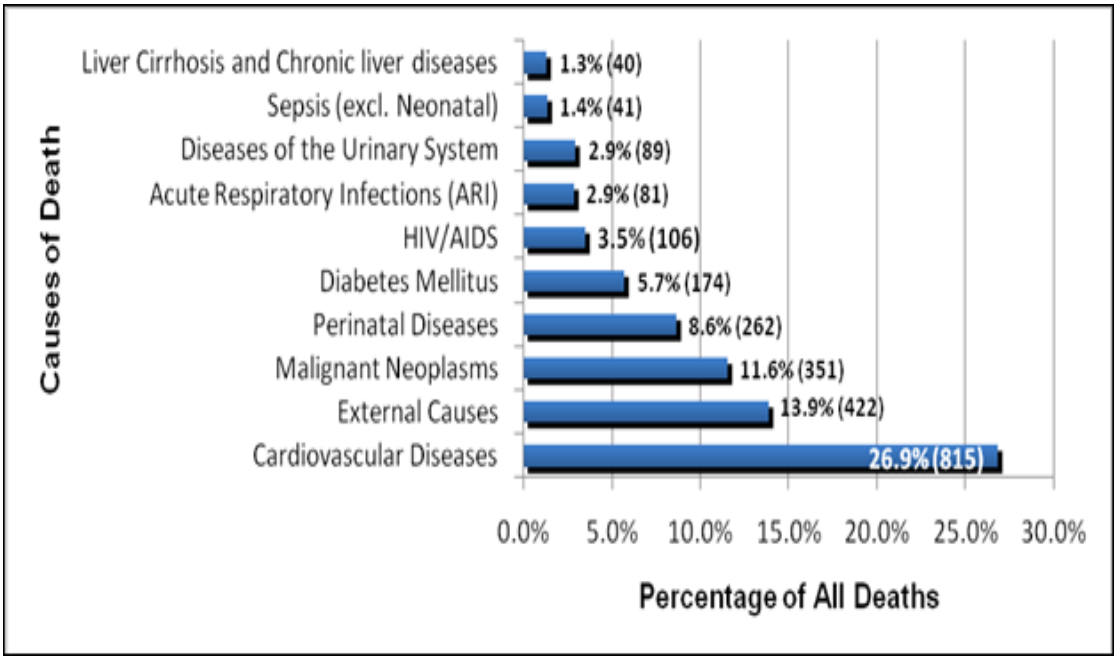
Figure 1. Crude mortality rates for select diseases 2000-2004: CAREC member countries



Source: CAREC member countries based on country mortality reports Minus Jamaica). 2007

Similar to global trends, Suriname is experiencing an increasing mortality attributable to NCDs, while mortality attributed to infectious diseases show significant decreases. Over the last decade, cardiovascular diseases, malignancies and diabetes have been among the leading causes of death, with cardiovascular diseases remaining the number one cause of death. Mortality from external causes (accidents and violence) has been the second leading cause and shows an upward trend (from 11.1% in 2001 to 13.9% in 2009). In 2009, 60.5% of all deaths among the ten leading mortality causes were attributed to noncommunicable diseases, as shown in figure 2. In addition, external causes and mental disorders are significant health problems[9].

Figure 2: The top 10 Causes of Death (%) in Suriname in 2009



Source: Ministry of Health; Bureau of Public Health- Epidemiology Department, 2009

In 2005, a burden of disease study provided more insight in gender specific differences and mortality causes related to NCDs. For men, external causes clearly contribute the most to the number of years of life lost (YLL), followed by cardiovascular diseases, malignancies and diabetes; while for women, cardiovascular diseases contribute the most, followed by external causes, malignancies and diabetes. Considering the causes of death ranked by the YLL, NCDs account for a higher share, compared to communicable diseases and perinatal conditions[10].

Cardiovascular disease and Diabetes

Cardiovascular diseases have been the main cause of death for many years. The most prevalent are cerebrovascular diseases followed by ischemic heart disease. There is a downward trend notable in the mortality from cardiovascular diseases: from 29.4% in 2005 to 26.4% in 2009[11], which can be attributed to medical advances regarding cardiovascular surgeries in Suriname. Despite this downward trend, mortality rates due to cardiovascular diseases remain high, with higher rates for men than for women[12,13]. Morbidity data on myocardial infarction from one of the main hospitals, 2007-2010, show that men are more affected than women (76% vs. 24%)[14]. Data from this hospital also shows that hospitalizations due to cerebrovascular disease are happening at a younger age (from 69 yrs. in 2007 to 64 yrs. in 2010).

Disaggregating the mortality data by ethnicity shows an overrepresentation of persons of Hindustani descent, who represent 27.4% of the total population[15]. In 2009, Hindustanis accounted for 33.7% of cardiovascular deaths, 48.3% of diabetes deaths, and 44.8% of myocardial infarction deaths[16,17]. In addition, Hindustanis have an earlier onset of diabetes; a study on 637 diabetes patients in 12 primary health care centers reported the onset of diabetes for Hindustanis (44 years) compared to Creoles (53 years)[18]. The unfavourable cardiovascular risk profile of the Hindustani has implications for prevention in primary health care such as early detection and treatment of diabetes and hypertension.

Diabetes ranks fifth among the ten leading causes of death (2005-2009) and is the most prevalent disease among the chronic illnesses, according to a 2001 study[19,20]. A study reporting the main reasons for visits to a PHC clinic among persons aged 60 years or older, showed that diabetes accounted for 13.2% of visits, while hypertension accounted for 26.4% of visits. When observing visits due to co-morbidity, diabetes and hypertension accounted for 12.5%, and a combination of diabetes, hypertension and cardiovascular diseases accounted for 11%[21].

In addition, analysis of registered visits to PHC clinics indicates diabetes and hypertension are the most common reasons for seeking care and shows a steady increase in the percentage of registered patients with diabetes, hypertension or a combination of both. Women are twice more likely than men to visit the clinics for diabetes and three times as likely for hypertension or a combination of diabetes and hypertension[22].

Because men are less likely to utilize health services and seek care, they are entering the health care system at a later stage and, as a result suffer from more complications due to chronic diseases than women. Data from the Academic Hospital (AZP) from 2005 to 2008 indicate 15 amputations annually in patients with diabetes, with more men being affected than women (60% vs. 40 %)[23]. Between 1997 and 2007, the number of dialysis patients and the number of dialyses have increased, with a steady trend of approximately 1.4% annually. Of patients undergoing dialysis, 60% are men and 40% are women[24,25].

Cancer

Malignant neoplasms are the third leading cause of death. Percentages of cancer-related mortality, among the ten leading causes of death, show an increasing trend, from 6.4% in 1996 to 11.6 % in 2009[26].
In 2009, most cancer deaths were caused by cancer of the rectum (13.6%), followed by lung cancer (12.5%). However, female sex-specific cancers (breast, vulva, vagina, cervix, corpus uteri, uterus, and ovaries) accounted for 20.3% of all cancer deaths. Male sex-specific cancers (prostate and penis cancers) accounted for 9.4 % of all cancer deaths[27].

The burden of disease study indicate more women die of breast and cervix cancer than from maternal conditions and women die much younger than men due to sex-specific neoplasms. For women the average age at death due to breast and cervical cancer is approximately 56, while the average age at death for men due to prostate cancer is approximately 77, indicating that women lose more years of life as a result of these cancers than men[28].

When considering ethnicity, Creole and Javanese show high mortality rates for neoplasms[29,30]. Data from the National Pap Smear Project (1998-2000) revealed that the highest prevalence rates of pre-malignant cells are among women between the ages of 30-40 years; specifically among the Maroons (Afro-Surinamese) and Creole /mixed women[31]. Sexual practices -low prevalence rate of contraceptive use- and cultural and traditional beliefs, among the Maroon population might increase the vulnerability for sexually transmitted diseases and partially explain the high prevalence of pre-malignant cells.

Lifestyle and behavioural risk factors

Lifestyle and behavioural risk factors are major contributors to the NCD epidemic. Most NCDs are strongly associated and causally linked with four particular behaviours: unhealthy diet, physical inactivity, tobacco use and harmful use of alcohol. These behaviours lead to four key metabolic/physiological changes: raised blood pressure, overweight/obesity, hyperglycemia and hyperlipidemia[32].
Data from 2001 from 1,654 persons from four ethnic groups (Mixed, Creole, Hindustani and Javanese) provided some insight regarding lifestyle and behavioural factors around NCDs: 70% were physically inactive, 30% smoked, 20% were obese (BMI>30) and 15% had high total cholesterol (>6mmol/l)[33].

In addition, the Global School Health Survey 2009 among children aged 13-15 years showed that the majority (73%) of children have physical activity of less than one hour per day. The survey data indicated that 26% of these children were either overweight or obese[34]. Data from the UNICEF Multiple Indicator Cluster Survey (MICS) from 2006 showed that girls under five were slightly more overweight than boys (3.3% compared to 2.4% above +SD)[35].

Food supply data indicated increased energy availability per capita over the past four decades (from 2000 kcal in 1961-1963 to ~2700 kcal in 2003-2005)[36]. The increased energy availability appears to be related to corresponding increases in fat and sugar availability and possibly reflects changing food consumption patterns. The Global School Health Survey 2009 indicated a continuous high contribution of sugar, with 81% of children having consumed carbonated soft drinks one or more times per day.

Data from the 2009 Global Youth Tobacco Survey (GYTS) reported that among 927 students aged 13-15 years, 19.2% of students were current users of tobacco products. In addition, the survey indicates that students are exposed to second hand smoke: 46.6% lived in homes where others smoked, 53.3% were exposed to smoke around others outside of the home and 49% had at least one parent who smoked[37]. The National Drug Prevalence Survey indicated a higher proportion of cigarette use in the age group over 35 years of age[38].

Smoking prevention in youth, smoking cessation in adults and reduction of exposure to second hand smoke are key issues in tobacco control and should be adequately addressed. These issues are incorporated in the Framework Convention on Tobacco Control (FCTC), which Suriname ratified in 2008.

Suriname is in the process of implementing this framework and reports on progress bi-annually. In May 2012 the Ministry of Health submitted legislation developed by the tobacco control board to the National Assembly for approval and ratification. This legislation will address the establishment of smoke-free environments, limitations on advertising and inclusion of health warnings on packages as well as other provisions aimed at reducing the use of tobacco products by the Surinamese population.

Harmful use of alcohol is another risk factor of concern. Results from the 2009 Global School Health Survey indicated that among the 1698 Surinamese students, aged 13-15 years, who responded, 73.8% (1253) had their first drink before the age of 14 and 32.6% (554) consumed alcohol at least on one or more occasions in the past month. Among adults, a higher proportion of alcohol use was observed in the age group 26-34 (36.8%) followed by the group 35-64 (33.9%)[39]. At present, Suriname has a National Drug Master Plan in place which addresses substance abuse including tobacco and alcohol consumption; however, financial and human resources are required to support further implementation.

The above mentioned risk factors arise from the social determinants of health and the recognition of these risk factors reinforces the importance of coordinated actions far beyond the health sector in order to address the determinants of NCDs.

The high costs of diagnosis and treatment of NCDs place a heavy financial burden on the health system in Suriname. Costs for procedures such as kidney dialysis and heart surgery and for medications to control NCDs have increased significantly in recent years due to the increase of NCDs among the Surinamese population[40]. Referral of people to other countries for treatment not available in Suriname, specifically to Colombia for treatment of certain cancers, has been necessary in previous years. In order to mitigate these types of costs a radiotherapy center became operative in Suriname in 2011. NCDs also deeply affect the quality of life of persons suffering from these diseases as well as their families. NCDs result in loss of productivity of the workforce. Poor and vulnerable persons are disproportionately affected by NCDs, as a result of social, economic and political conditions, emphasizing that control of NCDs is not only a health problem, but a development issue which needs to be addressed through a multisectoral approach.

Relationship to Existing Declarations, Strategies and Initiatives

During the past 20 years, NCDs have increasingly become a priority globally, as well as in the Caribbean Region. Accordingly, many guiding initiatives have been developed to provide guidance for NCD prevention and control on national levels, including declarations, strategic plans, and initiatives.

This Action Plan is derived from several key declarations, linking the components of the Action Plan to statements found in the Declarations reflecting the commitments agreed upon by Suriname. Suriname has signed onto three key Regional Declarations related to NCDs prevention and control, namely the *Nassau Declaration* (2001), *the Declaration* of *Port-of-Spain* (2009), and the *Mexico Declaration* (2011**).**

The 2001 meeting leading to the *Nassau Declaration on Health*[41] stressed the importance of health in economic development, stating, "The health of the Region is the wealth of the Region". The development of a regional strategic plan for the prevention and control of chronic NCDs was called for in this declaration.
The *Declaration of Port-of-Spain*[42], resulting from a special Regional Summit on Chronic Non-Communicable Diseases held in Trinidad and Tobago in 2007, builds from the landmark linkage between health and development expressed in the *Nassau Declaration*. The *Port-of-Spain declaration* reiterated the need for comprehensive and integrated preventive and control strategies at all levels as well as collaborative programs, partnerships and policies supported by all stakeholders. This declaration also called for the establishment of comprehensive plans for the screening and management of chronic diseases and risk factors, in order to increase access to quality care and preventive education based on regional guidelines.

The High Level Regional Consultation Meeting of the Americas on NCDs and Obesity in February 2011 ended with the *Mexico Declaration*[43], which reaffirmed many statements expressed in the previous declarations, related to the link between NCD and common risk factors, which in turn are linked to economic, social, gender, political, behavioural, and environmental determinants, concerns about NCDs not being integrated into internationally agreed upon development goals like the MDGs, the multisectoral approach, the importance of surveillance and promoting of access to comprehensive and cost-effective prevention, treatment and care as a necessary/essential component for integrated management of NCDs.

Finally, this Action Plan incorporates components of the declaration resulting from the High-level Meeting of the General Assembly on the Prevention and Control of Noncommunicable Diseases, held in New York in September 2011. This declaration specifically called out the link between maternal and child health and NCDs and their risk factors, specifically the effects of prenatal malnutrition and low birth weight as well as risks resulting from pregnancy conditions. The declaration also noted the possible link between NCDs and some communicable diseases such as HIV/AIDS and calls for the integration, as appropriate, of responses for HIV/AIDS and NCDs. The declaration, as previous ones, acknowledged the significant inequalities in the burden of NCDs and access to NCD prevention and control, reiterating that NCDs are not simply a health problem, but a development problem.

Relatedly, the objectives, strategies, and activities presented in this plan were drafted based on two regionally-based strategic plans: *Strategic Plan of Action for the Prevention and Control of Non-Communicable Diseases: For Countries of the Caribbean Community, 2011-2015*, from CARICOM[44] and*;* the *Regional Strategy and Plan of Action on an Integrated Approach to the Prevention and Control of Chronic Diseases* from PAHO[45]. Regional targets from these two plans were reviewed for feasibility and adapted to the Surinamese context. The Action Plan also follows recommendations from the Caribbean Cooperation in Health Initiative (CCH), a strategy setting direction and goals for public health. Prevention and control of NCD is one of the priority areas under this initiative.

This Action Plan also incorporates priorities identified by the Conjunto de Acciones parala Reducción Multifactorialde Enfermedades Notransmissibles(CARMEN)Network a PAHO initiative designed to reduce risk factors associated with NCDs. Convened in November 2007, the CARMEN Network has set out to support member countries with implementation of relevant projects and development of appropriate tools. Additionally, the CARMEN Network aims to support collaboration among PAHO, member countries and partners to implement the *Regional Strategy and Plan of Action on an Integrated Approach to the Prevention and Control of Chronic Diseases*. The support garnered from the CARMEN Network has contributed to the development of this Action Plan and will contribute to the implementation of the initiatives incorporated in this Action Plan.

The prevention and reduction of the burden of NCDs is included in the National Health Sector Plan (NHSP) of the Ministry of Health for the period 2011-2016 as the first priority[46].

Recognizing the complex nature imposed by this growing public health problem and that the progression of NCDs can largely be prevented by modifying risk factors, the strategies proposed in the National Health Sector Plan intend to strengthen health systems for NCD prevention, promotion, and control to deliver equitable health outcomes on the basis of a comprehensive approach.

The NHSP calls out the renewed approach to non-communicable diseases with a focus on the reduction of the burden of disease, disabilities, and premature deaths from the major NCDs and modifiable risk factors for all Suriname peoples. The plan specifically mentions establishing NCD prevention and control as a national priority, with appropriate attention to a comprehensive approach; multisectoral actions (including civil society and private sector); surveillance and monitoring; and appropriate, effective evidence-based population-wide prevention and control measures. The NHSP refers to this Action Plan for further national directions for NCD prevention, treatment and control in Suriname.

Guiding Principles

This Action Plan is based on the MOH's commitment to protecting and improving the health of its people. The MOH is striving to reduce the burden of disease of NCDs in the Surinamese population using the following guiding principles;

Multisectoral approaches are essential for combating the complexity of the NCD epidemic. Successful NCDs prevention and control mechanisms require engaging all sectors in a broad-based response, and will require building and maintaining partnerships and alliances with public and private sectors, all levels of governmental and non-governmental agencies to address the key determinants of NCDs. This plan emphasizes partnerships to ensure stakeholder involvement in order to advance the NCD agenda and improve the health status of all people in Suriname.

Integrated approach to prevention and control for both risk factors and NCDs within Primary Health Care is the most cost-effective measure to reduce the burden of NCDs in Suriname. This will require a reorientation of health care to strengthen referrals and relationships between primary, secondary, and tertiary prevention, as well as incorporating health promotion strategies. Appropriate integrated management and quality of care are accentuated in this Action Plan, emphasizing a public health perspective towards NCDs which includes screening and early detection, diagnosis, treatment, rehabilitation, and palliative care.

The Chronic Care Model (see appendix I), adopted by PAHO as the basis for managing chronic conditions, will be adapted to the Surinamese context and be used as a framework to evaluate and organize NCD management.

Capacity-building for both the health care workforce and community-based actions is emphasized in this Action Plan. The health care workforce is instrumental in NCD prevention and control; therefore, building capacity of the workforce is necessary to provide effective care for NCDs. This Action Plan focuses on expanding the capacity of the health workforce to achieve an appropriate skill mix to tackle the complexity of NCDs. Furthermore, this Action Plan emphasizes that individuals and their environments contribute to the prevention and management of NCDs. Capacity building for community-based action to promote healthy lifestyles will positively influence individuals and their environments, which includes social norms, regulations, institutional policies, and the physical environment.

Incorporating Age, Gender and Ethnicity dimensions into NCD prevention and control initiatives is of grave importance to address the inequities between women and men and between ethnic groups and the impact of age with regards to risk factors for NCDs, onset and progress of disease and access to quality care. Incorporating age, gender and ethnicity will require an understanding of the determinants of health in general and specifically of NCDs, and the design and implementation of age, gender and ethnicity specific interventions.

Health Promotion strengthens the capacity of individuals and communities to take control of their lives to achieve and maintain physical, mental, social and spiritual wellbeing, using a public health approach. This NCD Action Plan emphasizes health promotion principles and strategies from the *Caribbean Charter for Health Promotion*[47], a strategic document developed as a result of the 13th Meeting of the Ministers Responsible for Health in the Caribbean. These principles and strategies are adapted to appropriate interventions for the Surinamese population.

These guiding principles are reflected in the priority areas identified by stakeholders from different sectors for the implementation of this plan. The priority areas are reflected in the following table.

ACTION PLAN

Priorities identified by stakeholders convened at different workshops and meetings for the implementation of the strategy
1. Public Policy and Advocacy 2. Health Promotion and Disease Prevention 3. Integrated Management of Chronic Diseases and Risk Factors 4. Surveillance, Monitoring and Evaluation

Activities	**Indicators**	**Year**	**Lead Institution**	**Partners**	**Funding Agency**
Priority Area: Public Policy and Advocacy					
1. Enhance political commitment at national and local levels through multisectoral partnerships, policies and legislation					
Establishment of a national multisectoral NCD commission for coordination and implementation of NCD prevention and control efforts in Suriname	Central multisectoral NCD body established and functioning	2012	Office of the President	MOH, BOG, , MM, RGD, MOE, MOT, MOA, district level officials, PAHO, UN, private sector, civil society	MOH, IDB, UN
Establishment of a focal point within the MOH for coordination of NCD prevention and control efforts in Suriname	Focal point within MOH appointed	2012	MoH	TBD	MOH
Development of disease specific implementation plans for each of the NCDs included in this plan, namely	*Disease specific NCD implementation plans developed (4)*	*2013*	*MoH*	*TBD*	*MOH*

Activities	Indicators	Year	Lead Institution	Partners	Funding Agency
cardiovascular diseases, diabetes, cancer and chronic respiratory diseases					
Enhancement of multisectoral partnerships including civil society and the private sector	*5 multisectoral partnerships established*	2014	MOH	TBD	MOH
	10 multisectoral partnerships established	2016			
Lobbying for legislation related to NCD risk factors	*Tobacco legislation adopted, implemented and enforced*	2012	MOH	TBD	MOH
	Regulations on tobacco advertising, promotion and sponsorship in place and enforced	2013	MOH	TBD	MOH
	Legislation establishing minimum age for consumption and purchase of alcohol in place and enforced	2013	MOH	TBD	MOH
	Regulations on alcohol advertising and promotion, especially aimed at children and young people, in place and enforced	2014	MOH	TBD	MOH
	Legislation related to promotion of physical activity implemented	2014	MOH	TBD	MOH
	Legislation, multisectoral policies and programmes to prevent motor vehicle and pedestrian fatalities associated with drunk driving implemented	2014	MOH	TBD	MOH

Activities	Indicators	Year	Lead Institution	Partners	Funding Agency
2. Mobilize human, financial and organizational resources to support NCD prevention and control efforts					
Mobilization/redistribution of financial resources to address NCD needs	Additional (new) finances have been identified for health financing, e.g. revenue from tobacco and alcohol sales	2013	MOH	TBD	MOH
Strengthening of regulation to improve access to safe, affordable and efficacious NCD medicines	Formularies for vital, essential and necessary NCD drugs in place	2012	MOH	TBD	MOH
	Essential high quality generic drugs for NCD prevention and control are accessible and affordable	2012	MOH	TBD	MOH
Priority Area: Health Promotion and Disease Prevention/ Risk Factor Reduction:					
1. Promote and support reduction of risk factors related to tobacco and alcohol use					
Development of comprehensive public education programmes in support of wellness, healthy lifestyle and improved self-management of NCDs	Media packages on healthy eating (salt and fat, balanced diets, portion sizes and reading of labels), active living, tobacco, alcohol abuse, school health, workplace wellness, treatment and self-management in existence	2012	MOH	MOE, MOS, civil society, private sector	MOH
	Social Change Communication strategies for preventive education and self-management implemented	2013			
	Mechanisms to restrict advertising of unhealthy products to children in place	2014			
Reduction of tobacco use through implementation and enforcement of	90% cigarettes sold carry FCTC compliant labels	2012	MOH	TBD	

Activities	Indicators	Year	Lead Institution	Partners	Funding Agency
FCT[1] legislation and public education programs	100% smoke free public spaced (enclosed spaces)	2013			
	Reduction strategies and actions implemented in schools, workplaces and other settings		MOH	TBD	MOH
	50% reduction in smoking prevalence	2014			
Reduction of alcohol use through implementing and enforcement of alcohol legislation and public education programs	Reduction strategies and actions implemented in schools, workplaces and other settings	2013	MOH	TBD	MOH
	40% reduction in alcohol use among youths consuming alcohol	2013			
	20 % reduction in alcohol use among adults	2013			
	10 % reduction in motor vehicle and pedestrian fatalities associated with drunk driving	2014	MOH, MOS	TBD	MOH
2. Promote availability, accessibility and consumption of healthy, tasty foods					
Development and implementation of legislation and regulations, multisectoral policies, incentives, plans, protocols and programs that aim to improve dietary and lifestyle behaviors	Food-based dietary guidelines adopted and implemented in schools, workplaces and institutions	2015	MOH, MOE, MOL,	TBD	MOH
	National standards for salt, fat and sugar content on imported and locally produced foods developed and implemented	2014	MOH, MOT, MOA	TBD	MOH

[1] WHO Framework Convention on Tobacco Control

[2] WHO Global Strategy on Diet, Physical Activity and Health

Activities	Indicators	Year	Lead Institution	Partners	Funding Agency
	Transfat free policies and strategies for elimination of transfat from food developed and implemented	2013	MOH, MOT, MOA	TBD	MOH
	Transfat eliminated from food supply	2015	MOH	TBD	MOH
	All imported and locally produced foods have required nutritional labeling	2013	MOH	TBD	MOH
	Model nutritional standards for schools, workplaces and institutions developed	2013	MOH	TBD	MOH
	15% decrease in overweight and obesity in children and adults	2015	MOH	TBD	MOH
	Incentive and disincentive programs (taxes and subsidies) in place for producers and buyers in support of low calorie foods	2015	MOH	TBD	MOH
	30% reduction in salt content in imported and locally produced foods	2014	MOH	TBD	MOH
	20% decline in salt consumption	2013	MOH	TBD	MOH
3. Promote physical activity to support healthy lifestyle and reduce risk factors					
Development and implementation of strategies to promote healthy diets and physical activity using DPAS[2] in schools, workplaces, faith-based and other settings	Programmes to promote physical activity implemented (Healthy Settings[3])	2015	MOH,MOS	TBD	MOH
	Mass based low cost physical activity event hosted regularly	2013	MOS	MOH	MOH
	10% increase in physical activity levels	2013	MOH, BOG	TBD	MOH

[2] WHO Global Strategy on Diet, Physical Activity and Health

[3] WHO Healthy Settings: settings-based approach to health promotion. http://www.who.int/healthy_settings/en/

Activities	Indicators	Year	Lead Institution	Partners	Funding Agency
	among general population				
	"Health Promoting Schools" concept[4] adapted and implemented in at least 50% of schools	2014	MOE, MOH	TBD	MOH
	At least 20% increase in number of schools with healthy meal choices and physical education	2013	MOH, BOG	TBD	MOH
	At least 50% increase in the number of workplaces with healthy food choices and wellness programs including screening and management of high risk	2013	MOH, ATM	TBD	MOH
	Strategies for engaging FBOs in responding to NCDs in existence	2012	MOH	TBD	MOH
	15% decrease in obesity and overweight in children and adults		MOH	TBD	MOH
Development and implementation of legislation for establishment of environments supportive for physical activity	Increase in # of public spaces supportive of physical activity in existence	2014	MOW	TBD	MOH
	# of best practices for physical activity spaces identified and implemented	2014	MOH,MOW. MOS	TBD	MOH
	# of safe recreational spaces available	2012			
Priority Area: Integrated Management of Chronic Diseases and Risk Factors					

[4] Under the WHO Global School Health Initiative a "Health Promoting School" is characterized as a school constantly strengthening its capacity as a healthy setting for living, learning and working. http://www.who.int/school_youth_health/gshi/hps/en/index.html

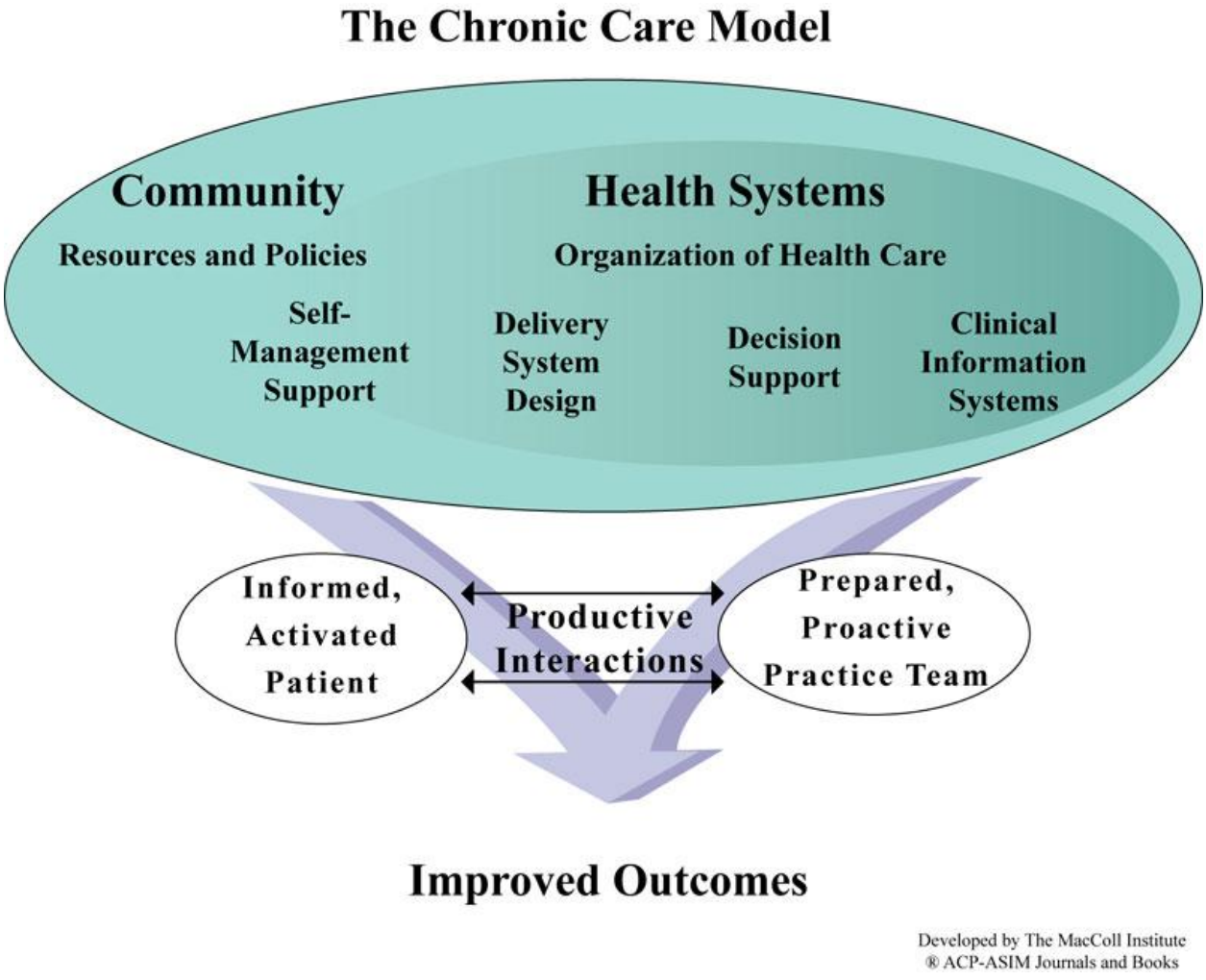
Activities	Indicators	Year	Lead Institution	Partners	Funding Agency
1. Integrate prevention and control of NCDs in primary health care using the Chronic Care Model					
Development and implementation of guidelines and protocols for screening, prevention and control of chronic diseases	Integrated evidence-based policies, guidelines and protocols for screening, prevention and control of specific NCDs in place	2013	MOH	PHC, civil society	MOH
	Disease specific NCD pocket guidelines adapted, disseminated and implemented incl. training to HCWs	2013	MOH	PHC, civil society	MOH
	80% of at risk populations screened and treated according to evidence-based guidelines in public, private and NGO heath sectors	2013	MOH	PHC, civil society	MOH
	At least 80% of patients with high risk for cardiovascular diseases have improved access to primary care services	2015	MOH	PHC, civil society	MOH
	Chronic Care Model adapted and implemented in 50% of health facilities	2013	MOH	PHC, civil society	MOH
	Chronic Care Model adapted and implemented in 80% of health facilities	2015			
	Programmes for early detection, treatment and care of cancers integrated into primary health care services	2014	MOH	PHC, civil society	MOH
2. Strengthening of health care workforce to deliver and manage quality NCD programs					

Activities	Indicators	Year	Lead Institution	Partners	Funding Agency
	Training for public health care professional related to primary prevention of risk factors contributing to NCDs such as tobacco and alcohol use, unhealthy diets and insufficient physical activity	2013	MOH	TBD	MOH
Priority Area: Surveillance, Monitoring and Evaluation					
1. Strengthen capacity for surveillance and research of chronic diseases and risk factors **2. Monitor and evaluate the impact of NCD prevention and control interventions**					
Development and implementation of NCD surveillance systems	Monitoring & Evaluation plan for NCD prevention and control programs developed		MOH	TBD	MOH
	Behavioral Risk Surveillance System in operation		MOH	TBD	MOH
	Baseline burden of disease/ risk factor survey completed	2012	MOH	TBD	MOH
	Disease registries established for all NCDs		MOH	TBD	MOH
	Data on NCDs collected and reported at least annually	2012			
	Progress reports on NCDs available for use in program management	2012			
	Progress data required for evaluation of NCD Summit declaration collected and evaluated				

ANNEXES/APPENDICES

Annex I: Chronic Care Model

The Chronic Care Model is has been adopted by the WHO/PAHO to manage chronic diseases. PAHO recommends this model be adapted for use in the region as a framework to evaluate and organize NCD management. Implementation of the integrated chronic care model can lead to more comprehensive and sustainable cardiovascular care, strengthen patient self-care, and improve coordination between levels of care[48].



Source: http://www.improvingchroniccare.org/index.php?p=the_chronic_care_model&s=2

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