NATIONAL MULTISECTORAL ACTION PLAN FOR THE PREVENTION AND CONTROL OF NONCOMMUNICABLE DISEASES IN SINT MAARTEN 2021-2030

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LIST OF ABBREVIATIONS

AUC	American University of the Caribbean
CARICOM	Caribbean Community
CDFHA	Community Development, Family and Humanitarian Affairs
CPS	Collective Prevention Services
CSO	Community Service Organization
CVRM	Cardiovascular Risk Management
FCTC	Framework Convention on Tobacco Control
GP	General Practitioner
HiAP	Health in All Policies
HPV	Human papilloma virus
IS4H	Information System for Health
MAP	Multisectoral Action Plan
MECYS	Ministry of Education, Culture, Youth and Sports
NCD	Noncommunicable disease
NCD MAP	National NCD Multisectoral Action Plan
NGO	Non-governmental organization
PAHO	Pan American Health Organization
Project HELP	Project Health-Education-Literacy-Prevention
SDG	Sustainable Development Goals
SIDS	Small Island Developing State
SMMC	Sint Maarten Medical Centre
UN	United Nations
UNICEF	United Nations Children's Fund
USM	University of Sint Maarten
VSA	The Ministry of Public Health, Social Development and Labor
VROMI	Ministry of Public Housing, Spatial Planning, Environment and Infrastructure
WHO	World Health Organization

FOREWORD

There is a saying that the health of the nation is its wealth. With the non-communicable disease (NCD) epidemic we are facing, it is clear that the nation's wealth is in jeopardy. As part of Sint Maarten's sustainable development and for us to grow stronger together, we must leave no one behind. Looking to the future, we have to focus on the health of our citizens since health is an instrument of development and a critical determinant of achieving the Sustainability Development Goals.

Unfortunately, approximately a quarter of all people in Sint Maarten suffer from a chronic condition including high blood pressure, diabetes, asthma, cancer, stroke and heart attack. Mental health issues are also a common but hidden problem. These conditions are bolstered by lack of physical activity, unhealthy diet, harmful use of alcohol, smoking, air pollution and social-economic factors. The good news is that a supportive environment that enables and empowers people to make healthier choices, will prevent and reduce NCDs and their risk factors.

It is with this in mind, that together with our stakeholders we developed this National Multisectoral Action Plan for the Prevention and Control of NCDs. This plan outlines the strategic direction for the response to NCDs in Sint Maarten for the period of ten years, 2021-2030. Given the critical nature of multisectoral actions to address NCDs and associated risk factors, the plan was developed following a situational analysis, several consultations with key stakeholders and support from the Pan American Health Organization/World Health Organization (PAHO/WHO). It encompasses the main categories of NCDs, risk/protective factors and social determinants of health. This strategic plan shows the Ministry of Public Health, Social Development and Labor's (VSA) renewed commitment to reducing the incidence of NCDs and aligns with its mission to promote the general wellbeing and quality of life of the population. It also seeks to harness the collective efforts of all stakeholders through a whole-of-government and whole-of-society approach in order to put the structures in place that empower people to live healthy.

The COVID-19 pandemic has shown that people with NCDs are at higher risk of severe COVID-19 illness and death. The pandemic has also had severe social and economic consequences that have disrupted NCD healthcare services and worsened people's risk of developing NCDs. VSA recognizes the importance to refocus on NCD prevention and control through this consolidated efforts in the development of this comprehensive and inclusive national strategic plan.

Let us together, as proud people of Sint Maarten achieve the vision of a vibrant Sint Maarten society where health and wellbeing are the way of life for all people to achieve their fullest potential in a stigma-free, equitable and supportive community.

Yours faithfully,

[signature]

Omar E. C. Ottley

Minister of Public Health, Social Development and Labor
Government of Sint Maarten

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- Ministry of Health, Social Development and Labor
- Ministry of Education, Culture, Youth and Sports
- Ministry of Public Housing, Environment, Spatial Development and Infrastructure
- Sint Maarten Medical Center
- White and Yellow Cross Foundation
- Mental Health Foundation
- Sint Maarten Alzheimer's Association
- Positive Foundation
- Heart and Stroke Foundation
- HIV/AIDS Foundation
- American University of the Caribbean
- University of St. Martin
- Social and Health Insurances SZV
- Pan American Health Organization/ World Health Organization

EXECUTIVE SUMMARY

The National Multisectoral Action Plan for the Prevention and Control of Noncommunicable Diseases (NCD MAP) outlines the strategic direction for the response to noncommunicable diseases (NCDs) in Sint Maarten, and the strategic outcomes that partners from government, foundations, private sector, and civil society will be engaged to collaborate towards achieving over the period 2021-2030. This strategic plan of action encompasses the main categories of NCDs (cardiovascular disease, diabetes, cancer, chronic respiratory disease and mental health), risk/protective factors (physical activity, diet, smoking, harmful use of alcohol and air pollution) and social determinants of health. These NCDs and risk factors were defined as targets for NCD intervention at the Third United Nations High Level Meeting on Non-Communicable Diseases in New York in September 2018 (United Nations, 2018).[1]

This document presents international and Caribbean frameworks on NCDs, the methodology for the development of the NCD MAP, a summary of the situational analysis, and the strategic framework.

The development of the NCD MAP was based on a multisectoral, consultative and participatory process that included an evidence-based, results-focused approach. Accountability and the recognition of health in all policies is strongly embedded in the document with a key focus on meeting the Sustainable Development Goals, specifically Goal 3 target 3.4: "By 2030, reduce by one third premature mortality from noncommunicable diseases through prevention and treatment and promote mental health and well-being".

International and Caribbean frameworks on NCDs, which have guided the development of the MAP, include:

- The World Health Organization (WHO) *Global Action Plan for the Prevention and Control of NCDs 2013-2020*
- United Nations (UN) Sustainable Development Goal (SDG) 3, target 4: "*By 2030, reduce one third premature mortality from noncommunicable diseases through prevention and treatment and promote mental health and well-being"*
- The PAHO *Plan of Action for the Prevention and Control of Noncommunicable Diseases in the Americas 2013-2019*
- The Caribbean Community (CARICOM) *Port of Spain Declaration on Non-Communicable Diseases 2007: Uniting to Stop the Epidemic of NCDs*.

[1] The Third United Nations High Level Meeting on Non-Communicable Diseases also included mental health as a target for intervention. Mental health is the subject of an existing strategic plan in Sint Maarten MAP (Ministry of Public Health Social Development and Labour, 2014) and has not been included in the current NCD MAP (Ministry of Public Health Social Development and Labour, 2014).

The strategic framework lays out the vision, goals and four strategic action areas that addresses evidence, policy, health promotion and services:

Vision: A vibrant Sint Maarten society where health and wellbeing are the way of life for all people to achieve their fullest potential in a stigma-free, equitable and supportive community.

Goal: Create and promote a supportive environment that enables and empowers people to make healthier choices that will prevent and reduce NCDs and their risk factors by 2030.

Strategic Action Area1: Strengthen health systems for surveillance, research, monitoring and evaluation on NCD prevalence and risk factors.

Based on the guiding principle of *evidence-based strategies*, the collection, analysis and especially the *application* of data for informed decision-making should be strengthened. Establishing an information system for health (IS4H) is critical to ensuring timely and efficient provision of strategic information. This involves identification of data needs, infrastructural improvements, uniform reporting formats and digitization of systems. Partnership with local universities can strengthen research, monitoring and evaluation. Collaborative mechanisms between providers and users of health information should be strengthened to facilitate information sharing.

Strategic Action Area 2: Establish governance and coordination mechanisms for multisectoral involvement, decision-making and implementation of the NCD MAP.

Based on the guiding principle of *health-in-all policies*, multiple sectors should be enabled to become involved in the policy-making process and *implement* actions to address NCDs. Inter-sectoral mechanisms for collaboration and coordination such as an NCD Committee are important and need to facilitate collaboration between government, healthcare providers, foundations and the private sector. Collaboration in implementation of specific interventions is essential to ensure coherence and strategic direction to action. One important output of these mechanisms is national regulations for NCD health promotion and care.

Strategic Action Area 3: Reduce NCD risk factors by creating awareness, promoting healthy lifestyles and addressing determinants of health.

Based on the principle of *empowerment of people and communities*, reducing NCD risk factors will be most successful if community members, including patients, become partners in designing and implementing health promotion strategies. This involves strengthening communication and supporting healthy initiatives from the community and the private sector. People should be enabled to make healthy choices to reduce their risk of NCDs. This involves re-organization and investment in environmental infrastructure as well as identifying opportunities to reduce the importation and increase taxes of less healthy products. Mental health should be addressed as a component of NCD vulnerability and resilience.

Strategic Action Area 4: Provide quality, people-centered, integrated and comprehensive services for the effective management of NCDs, including self-management.

Based on the principles of *universal health coverage, human rights* and *equity*, NCD care and management should be strengthened to ensure access and availability to standardized NCD care and treatment services for all people, with special focus on vulnerable populations. This involves strengthening routine screening for early detection of NCDs and effective referral between all healthcare levels. There is a need to engage with and enhance the skills of patients to better understand their NCD risk and/or condition, manage their symptoms, medications, side effects and stress, and improve communication with their physician. For patients with terminal illness, the further development of palliative care facilities should be a priority.

I. INTRODUCTION

1.1 SINT MAARTEN

The island shared by Sint Maarten (Dutch side) and Saint Martin (French side) is the smallest landmass in the world to be shared by two sovereign nations. The area of Sint Maarten is 13 square miles/ 34 square km. After being part of the Netherlands Antilles for over 50 years, Sint Maarten became a constituent country within the Kingdom of the Netherlands on October 10th, 2010. Sint Maarten's government and parliament are empowered to enact legislation with regard to the country's own affairs (Department of Statistics, 2017).

Sint Maarten is classified as a high-income country, with per capita Gross Domestic Product of US$28,241 in 2017 (United Nations, 2018). Tourism has contributed to prosperity, but with around 2 million tourist arrivals per year (Department of Statistics, 2018), there are strains on the capacity of some infrastructure such as roads and solid waste disposal facilities. Population has grown very rapidly, from around a thousand people in 1950 to around 40 thousand currently (United Nations Department of Economic and Social Affairs, 2017). Social and economic determinants of health include income inequality, high population density, high prices and inflation (notably affecting the cost of food) and variation in access to amenities (especially financial access to some exercise facilities). Sint Maarten is one of the Caribbean Small Island Developing States (SIDS), highly dependent on imports of food, medical technology and other items important to health, and vulnerable to the impact of climate change. On September 6th, 2017, Hurricane Irma hit Sint Maarten at Category-5 strength on the Saffir-Simpson hurricane scale, inflicting massive damage to buildings and other infrastructure, with ongoing impacts on health and the health system (UNICEF, 2017).

The Ministry of Public Health, Social Development and Labor (VSA) oversees the health system. Primary and secondary care are provided by a variety of non-profit and private agencies. The main health facility is the Sint Maarten Medical Centre (SMMC) which provides primary and secondary care, with outpatient and inpatient departments (PAHO, 2017). General Practitioners provide most primary care. More than half of the health expenditure is devoted to medical care (54.8%) while investment in preventive and curative health care is relatively low (7.0%) (UNICEF, 2013). Financing of health care is mainly through insurance levied on employers and employed persons. The SZV insurance company covers most medical expenses, including screening for cancer and most treatment once referred by a doctor. AVBZ coverage is the national insurance scheme to cover the care of persons suffering from a prolonged illness, where they are dependent on others to care for them. Around one in eight persons (12.3%) are not insured (Department of Statistics, 2017). To treat some medical conditions, some patients are flown for medical care to other countries with which the insurance companies have agreements and financing arrangements. New General Health Insurance legislation, which addresses the limitation of the present insurance schemes, has been drafted but is not yet approved.

This National Multisectoral Action Plan for the Prevention and Control of Noncommunicable Diseases is aligned with the overall VSA mission and includes addressing the determinants of health. Recognizing that important determinants of health are outside the health sector, the plan aims to develop governance mechanisms to include and enable action across Ministries, in non-governmental, private and community agencies and by people living with or affected by noncommunicable diseases (NCDs). The plan is in line with Health in All Policies (HiAP) and Whole of Government approaches to health (World Health Organization, 2016).

1.2 REGIONAL AND INTERNATIONAL RESPONSE TO NCDS

This National Multisectoral Action Plan for NCDs is guided by several international and regional frameworks and declarations, which inform the strategic approach adopted in the Plan within the context of the local situation.

The World Health Organization (WHO) *Global Action Plan for the Prevention and Control of NCDs 2013-2020* was endorsed at the Sixty-Sixth World Health Assembly in 2013 (Sixty-Sixth World Health Assembly, 2013). This Action Plan has six objectives, nine voluntary global targets and many policy options and interventions for achieving the targets (World Health Organization, 2013). Coming out of this WHO Global Action Plan were revised cost-effective policy options and interventions including 16 Best Buys. These Best Buys are evidence-based recommended interventions to address NCDs that are cost effective and easy to implement (World Health Organization, 2017).

In 2015 the global development community shifted attention from the Millennium Development Goals as the Sustainable Development Goals (SDGs) were established in the document, *Transforming our world: the 2030 agenda for sustainable development.* There are 17 SDGs with one, Goal 3 – *Ensure healthy lives and promote well-being for all at all ages* – specifically targeted towards health. Goal 3 has 13 targets: Target 4 relates to NCDs and mental health – *"By 2030, reduce one third premature mortality from noncommunicable diseases through prevention and treatment and promote mental health and well-being"* (World Health Organization, 2015).

The Pan American Health Organization (PAHO) *Plan of Action for the Prevention and Control of Noncommunicable Diseases in the Americas 2013-2019* has as its overall goal to, *"reduce avoidable mortality and morbidity, minimize exposure to risk factors, increase exposure to protective factors, and reduce the socioeconomic burden of these diseases by taking multisectoral approaches that promote well-being and reduce inequity within and among Member States".* It has lines of action:

1. Build and promote multisectoral polices and partnerships for NCD prevention and control
2. Reduce the prevalence of the main NCD risk factors and strengthen the protective factors

3. Improve coverage, equitable access and quality of care of the health systems to respond to NCDs and risk factors
4. Strengthen country capacity for surveillance and research (PAHO, 2014).

Caribbean regional initiatives include the *Port of Spain Declaration on Non-Communicable Diseases 2007: Uniting to Stop the Epidemic of NCDs* (CARICOM, 2007). After the meeting leading to this Declaration, the Caribbean Community (CARICOM) worked tirelessly to address the growing epidemic. With the support of the then United Nations (UN) Secretary General, Ban Ki-Moon, CARICOM was able to get agreement for the First UN High Level Meeting on NCDs in New York in 2011. CARICOM has also developed and implemented its own *Strategic Plan of Action for the Prevention and Control of NCDs for countries in the Caribbean Community*. The Plan of Action has five priority actions (CARICOM, 2011).

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 communications
5. Program management

An evaluation of progress ten years after the Port of Spain Declaration was conducted.[2] Findings, which have influenced the design of the current MAP, included (among others):

Multisectoral and governance issues

- Indicators with the highest levels of implementation were those where the action needed was clear and there was support from regional or international organizations. For example, Caribbean Wellness Day, WHO STEPwise Approach to Surveillance (STEPS) risk factor surveys and the WHO's Framework Convention on Tobacco Control (FCTC) were implemented in several countries (Samuels and Unwin, 2016a and b).

- Multisectoral collaboration worked best with specific actions to implement, e.g. school meals Programs involving health, education and agriculture sectors. "On the ground" health promotion was generally faster and easier to implement than structural and legislative NCD policies. Nevertheless, legislation was important to provide the framework for action.

- The Multisectoral NCD Commissions established in several countries generally lacked decision-making power and relied on trying to influence those with resources and executive authority (Murphy et al, 2018).

[2] Pan American Journal of Public Health special issue (vol. 42, 2018) *Ten years of the Port of Spain Declaration on NCDs.*

According to these findings, multisectoral partnerships should be established at the level of activities and not just in NCD Commissions or similar multisectoral coordinating bodies. Such bodies may be strengthened by including people with executive authority and resources.

Addressing risk factors

- It has been difficult for SIDS to control diet-related factors because of their high dependency on food imports and the international trade environment, including large multinational companies and trade rules and regulations.
- Regional cooperation was helpful to address international agencies collectively and negotiate trade agreements and allowances on food labeling, trans-fat free imports and protection of local agriculture (Murphy et al, 2018).
- Taxes to increase the cost of sugar-sweetened beverages (SSBs) required negotiation with drinks manufacturers and met with varying success in implementation. Income from the taxes was generally put into a consolidated fund but this was not always earmarked for health activities (Foster et al, 2018).
- Globally, research has shown that taxation of tobacco and alcohol products is successful in reducing consumption while raising revenue for health projects (La Foucade et al, 2018; Samuels and Unwin, 2016 a and b).

1.3 METHODOLOGY FOR THE DEVELOPMENT OF THE MAP

The World Health Organization's *Tool for National Multisectoral Action Plan for prevention and control of noncommunicable diseases (NCD MAP Tool)* was used to define the areas for analysis and the methodology for developing the MAP.

A situational analysis was first conducted to determine the NCD burden, the nature and extent of interventions being implemented[3] including the opportunities, resources, challenges and barriers regarding NCDs and their determinants.[4] An in-country PAHO mission was conducted to support the Ministry of Health in the process of meeting with the different stakeholders to gather this information. Meetings were held with key representatives from VSA, Medical Centre, Ministry of Education, Culture, Youth and Sports (MECYS), Ministry of Public Housing, Spatial Planning, Environment and Infrastructure (VROMI), Department of Statistics, SZV Insurance, American University of the Caribbean (AUC), University of Sint Maarten (USM) and representatives from several foundations and non-governmental organizations (NGOs).

Following the situational analysis, a two-day stakeholder's consultation was held in February 2019 with the participation of the stakeholders that were involved in the situational analysis as well as others. Using the evidence from the situational analysis, the participants were

[3] WHO website, accessed July 31, 2018. http://apps.who.int/ncd-multisectoral-plantool/home.html .

[4] Ibid

guided in the methodology to develop a strategic framework. A draft NCD MAP was developed however never finalized due to the COVID-19 pandemic. New rounds of consultation meetings were held virtually with the same stakeholders in June 2021. Based on feedback from the meetings and internal discussions within the Ministry of Health, Social Development and Labor, and PAHO/WHO, the draft NCD MAP was finalized.

1.4 RATIONALE FOR THE DEVELOPMENT OF THE MAP

Sint Maarten faces challenges in managing NCDs, risk factors and determinants. The health care system is predominantly oriented towards care and treatment of acute illness while structures to promote and prevent diseases are less well developed. Sint Maarten has no written comprehensive national plan to address NCDs, although there are some plans and policies that addressed specific NCDs and mental health. Recently, the COVID-19 pandemic has had severe social and economic consequences that have worsened people's exposure to NCD risk factors and disrupted NCD prevention, management and treatment services (see Chapter 2.5). For these reasons, the development of the NCD MAP is timely as it will provide urgency and direction to strategic actions to address NCDs in Sint Maarten. This NCD MAP encompasses the main categories of NCDs (cardiovascular disease, diabetes, cancer, chronic respiratory disease and mental health), risk/protective factors (physical activity, diet, smoking, harmful use of alcohol and air pollution) and social determinants of health. The ten-year NCD MAP will be used to develop two-year implementation plans that define the timelines and budgets to operationalize the NCD MAP.

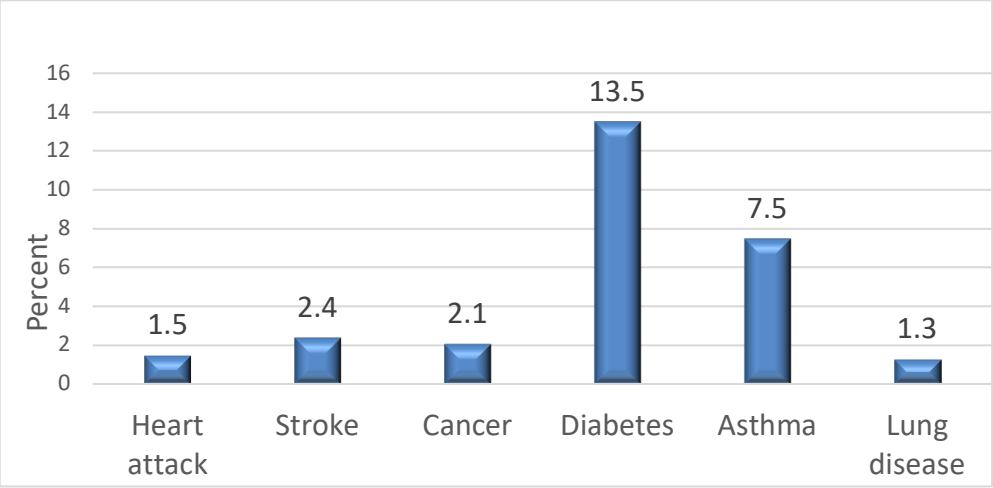
2. SITUATION ANALYSIS

In describing the situation of NCDs in Sint Maarten it is important to note limitations of the information system for health. Official health data do not currently include mortality by cause of death. Insurance companies have information on numbers of patients and pharmaceuticals distributed, by health condition, but do not systematically share this information. The SMMC has an electronic patient file system using ICD-10 coding, but there are difficulties in accessing this information. Similarly, there are challenges in services and pharmaceutical usage data from the main insurance company. Sint Maarten does not appear in some international data collections on health as a result of its partially autonomous political status. No cancer registry exists in Sint Maarten.

As a result of the limitations in surveillance and systematic data collection, the profile of NCDs in Sint Maarten relies on population-based surveys. These use a variety of indicators and have not been repeated, presenting challenges to making comparisons between surveys and to tracking changes over time. There is also screening data from Project Health-Education-Literacy-Prevention (Project HELP), a community outreach project which is a collaboration between the VSA and the American University of the Caribbean.

The censuses of 2001 and 2011 revealed that the most common diseases were NCDs, or chronic outcomes of communicable diseases such as bronchitis. The most extensive recent source of information on health in Sint Maarten is the *How Healthy is Sint Maarten-Saint Martin?* survey carried out on both the Dutch and French sides of the island in 2015 by the University of Sint Maarten and the University of the Virgin Islands (Observatoire Sint Maarten-Saint Martin, 2015). Separate analyses were presented in the survey report for the 1,203 participants in Sint Maarten. The survey estimated that around a quarter of people in Sint Maarten had a long-standing or chronic illness (23.8%). The following figure presents prevalence of some NCD conditions.

Figure 1: Self-reported prevalence of NCDs, 2015



Source: Observatoire Sint Maarten Saint Martin (2015)

Data from Project HELP 2013-'20 suggest a slightly higher prevalence of cancer (3.3%) and diabetes (15.6%). In the *How Healthy is Sint Maarten-Saint Martin?* survey 31.8% of participants reported high blood pressure as against 38.4% in Project HELP. Data for Project Help is based on persons accessing screening services from a mobile clinic that visits communities regarded as vulnerable to ill-health. Community members who visit the clinic are interviewed, undergo health screening and referrals are made. The slightly higher figures in this project may reflect the focus on more vulnerable communities rather than population-wide prevalence.

2.1 RISK FACTORS

The *How Healthy is Sint Maarten-Saint Martin?* survey results can be compared with those from the PAHO Adolescent Health Survey in Sint Maarten, which included 334 adolescents aged 13-19 (PAHO, 2013). The following table presents a comparison of results on risk factors between the two surveys. It should be noted that the indicators differ to varying degrees, making comparisons difficult.

Table 1: NCD risk factors and mental health: comparison between 2015 *How Healthy is Sint Maarten-Saint Martin?* survey and 2013 PAHO Adolescent Health Survey in Sint Maarten

Risk Factor	*How Healthy is Sint Maarten-Saint Martin?* Survey	Adolescent Health Survey
Smoking	• 10.2% smoked. • 24.5% were exposed to second-hand smoke regularly.	• 35.9% had ever smoked. • 23.1% had done so over the past 30 days.
Harmful use of alcohol	• 14% drank alcohol twice or more per week. • 2.9% drank alcohol every day. • 21% had 6 or more drinks on one occasion weekly or more frequently in past 1 year.	• 72.6% had drunk alcohol • 4.7% had drunk on 11 or more days of past 30 days. • 23.6% had ever been "really" drunk, 0.9% on 10 or more occasions.
Unhealthy diet	• 29.3% were obese and 37.5% pre-obese (Body Mass Index was measured). • 43.7% ate fruit and 55.7% vegetables more than once a day. • 11.5% ate fruit and 6.7% ate vegetables less than once per week.	• No biological measurements • 45.9% ate fruit and 44.9% vegetables more than once a day. • 30.5% ate no fruit and 26.9% no vegetables over past 7 days.

	• Most common reasons for not eating fruits and vegetables: "Not a habit"; "Too expensive" (@30% each)	
Physical activity	• 35% had no physical exercise in the past 7 days. • 59.2% did up to 3 hours exercise per week.	• 15.3% had no physical exercise in the past 7 days. • 57.8% engaged in sedentary behaviors at least three hours per day.
Mental health	• Chronic depression 5.9% • Felt down or depressed in past 4 weeks 15.7% • Difficulty remembering 20.8% • Data was not disaggregated by sex	• So sad and hopeless that nothing seemed worthwhile for more than a day or two in the past year: 53.5%. • Suicidal thoughts over the past year: 29.8%. • Females indicated higher prevalence of mental ill-health than males.

Source: Observatoire Sint Maarten-Saint Martin (2015); PAHO (2013).

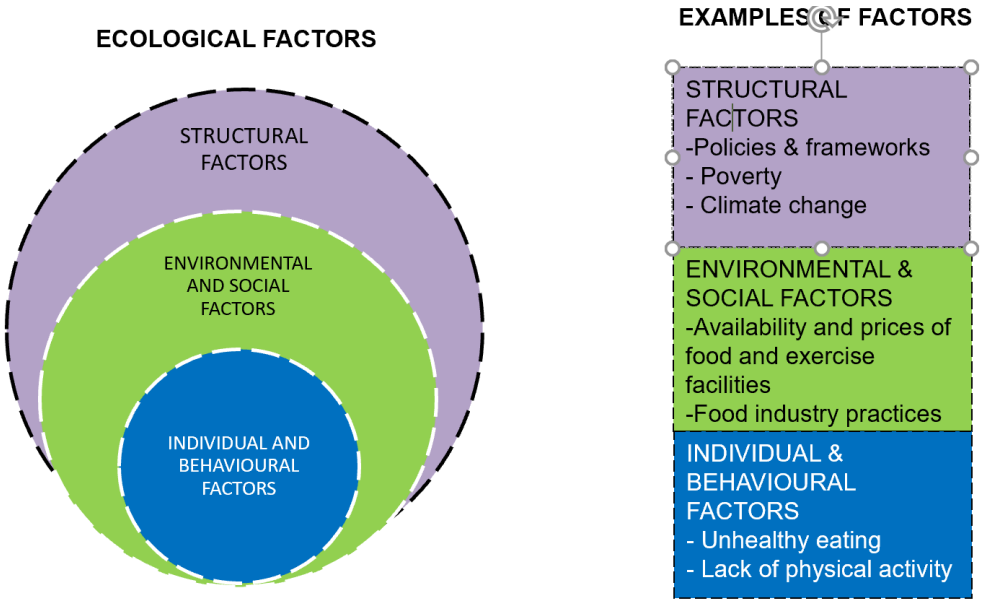
Comparisons between these surveys suggests that adolescents tend to be even more involved in risk-taking than adults. There is a need to address adolescent risk-taking and mental health because they present the distinct possibility of higher rates of NCDs in future. Low consumption of fruit and vegetables and low rates of physical activity are apparent for the youth and adult populations.

The PAHO Adolescent Health Survey did not report on air pollution. In the *How Healthy sis Sint Maarten/ Saint Martin?* survey, 6.5% reported that they were severely exposed, and 15.2% somewhat exposed to air pollution at their home. At work, 4.4% reported being severely exposed and 8.9% somewhat exposed. A quarter experienced a smell at home: 24%, or at work: 15.4%. Project HELP data showed 17.5% of participants experienced breathing problems. Important minorities of the population, then, are at risk of chronic respiratory diseases and other consequences of air pollution.

2.3 DETERMINANTS OF NCDS

In seeking to address NCDs and their risk factors it is critical to address underlying determinants of health. The following diagram provides examples of environmental, social and structural factors affecting health via diet and exercise practices.

Figure 2: Ecological model of factors affecting prevalence of NCDs



Sources: Adapted from Framework for addressing the Social Determinants of Health and Well-Being, Queensland Health, 2001;
Wider Determinants of Health Model, Dahlgren and Whitehead, 1991;
Commission of Social Determinants on Health Conceptual Framework, WHO, 2007;
A Heuristic Framework for the Social Epidemiology of HIV/AIDS, Poundstone et al, 2004;
The Socio-Ecological Model, McLeroy et al, 1988

Source: Allen, West and CARPHA, 2017

A review of demographic, economic and social data for Sint Maarten revealed the following to be important local determinants:

- Rapid population growth from around one thousand in 1950 to 40,535 in 2017 on 34 square km. There were over 2 million tourist arrivals in 2016. These factors bring:
    - Pressure on infrastructure: traffic congestion, air pollution, challenges for solid waste management, few green spaces
    - Inflationary pressure: high prices
- Agricultural production represents only 0.1% of GDP. Climate change threatens food supply via floods and increased floods and longer dry spells and drought. Vegetables and fruit were 2.5 times more expensive in 2016 than 2006. Financial access to some

exercise facilities is a challenge for some. The major consequence is low control over diet, food security and physical activity.

- Labor force participation is relatively low: 55.1%. Around one in eight persons are uninsured (12.3%). 70.4% of the population was not born in Sint Maarten. Some medical conditions require travel of patients or medical staff to obtain/ provide treatment. These factors present challenges to financing and accessing health care and to management of human resources.

The impact of Hurricane Irma continues to be felt by the population and in the health system in Sint Maarten. This disaster displaced 5,000 people, and 50.1% of buildings were destroyed or highly damaged. The hospital was affected, but primary care and intensive care facilities remained operational. Thirty-six kidney dialysis patients were flown to Aruba and 6 to Bonaire, mainly because clean water supply was not assured. Loss of power to refrigerators affected the availability of safe medication. Diabetes patients were unable to regulate their carbohydrate intake due to sporadic availability of food and disruption to usual means of preparation. The SMMC reported an increase in amputations from unregulated blood sugar levels and injury to people with diabetes. Debris created hazards such as injury and sites for breeding of mosquitos and harmful micro-organisms and added to pre-existing solid waste management and pollution challenges. The Mental Health Foundation and Turning Point (the agency mainly focusing on addressing substance abuse) reported increased and sustained admissions after the first month following the hurricane.

2.4 SINT MAARTEN'S RESPONSE TO NCDS

As part of the 2002 Public Health Policy Plan, *"Building a Healthy Island"*, the government of Sint Maarten established priorities, including the following which were stated to be the top three priorities:

A. To make recommendations for **legislation and develop standards**, guidelines and policies to maintain and improve quality care.
B. To increase public awareness of one's own responsibility for **personal and environmental health**, including the reviewing and **developing of infrastructure** to address health and environmental hygiene problems.
C. To develop prevention activities aimed at health promotion and education pertaining to **lifestyle, eating habits, overweight and exercise.**

While progress has been made with respect to these priorities, there has not been an overarching policy plan with accompanying implementation strategy for NCDs, and implementation of existing policies has been weak. There remain substantial environmental challenges and barriers to action. A number of agencies have implemented prevention activities but gaps and lack of coordination remain, along with challenges in funding of prevention.

Sint Maarten has responded to NCDs with a variety of initiatives and policy development efforts. The VSA has been involved in prevention initiatives, such as:

- Public events and communication around a Health Observance Calendar including designated international health days, Dutch and locally developed observances (such as Breast Cancer Awareness Month)
- The Project HELP mobile clinic collaboration between the American University of the Caribbean and VSA
- Screening of pregnant women for gestational diabetes
- Human papilloma virus (HPV) vaccination from age 9
- The VSA Inspectorate monitors the range of pharmaceuticals and storage conditions (e.g. refrigeration)

The VSA collaborates with the Ministry of Community Development, Family and Humanitarian Affairs (CDFHA) in outreach to families and individuals in need, including people living with or affected by NCDs. It also works with the Ministry of Education on a variety of projects for schoolchildren (see Table 2). There is scope for strengthening collaboration with the Ministry of Public Housing, Spatial Planning, Environment and Infrastructure (VROMI). Collaboration between Ministries on some key issues such as trade and finance, appears to be weak. There are shortfalls in the achievement of Health in All Policies, notably in the post Hurricane Irma National Recovery, Resilience and Rebuilding Plan, which contains plans for infrastructure (including rebuilding health facilities) but does not focus on strategies to address the public health outcomes of severe weather events.

Following is a summary of work on specific risk factors.

Table 2: Action on NCD risk factors in Sint Maarten

Risk factor	Actions
Smoking and harmful use of alcohol	• The VSA is exploring options to impose tax on alcohol and tobacco.
Unhealthy diet	• Under the Public Health Law, foods not allowed in countries of origin will not be allowed in Sint Maarten. Discussions are underway, led by VSA, of ways to achieve labelling of nutritional content. The VSA has a project to teach the public how to read food labels and understand food groups and types. • The Ministry of Education and the VSA collaborated in dietary assessment of school canteens • The VSA leads a yearly one-week vacation camp for 25 overweight children aged 10-12

	• The Community Schools program provides after school activities, including a breakfast program, in schools and communities, but it is not universally available.
Physical inactivity	• Mobility/ fitness classes are conducted at the home for the elderly and in community centers, led by the White and Yellow Cross Foundation and the VSA. • The VSA, on invitation from schools or the Ministry of Education, conducts primary school (and occasionally secondary school) health education on diet and exercise • Physical Education is part of the school curriculum
Air pollution	• Air pollution falls under the VROMI Ordinance, currently in draft. The Ordinance also covers garbage collection, coastal waters and sewage treatment. • Action on air pollution is constrained by lack of equipment for monitoring. • The Public Health Law was approved in 2016 and published in 2017 but has not come into force. It is based on International Health Regulations and includes legislation on toxic fumes. • The national energy policy has targets for reduction in fossil fuels. • There have been delays in implementation of plans for solid waste management as part of the post-Irma recovery plan.

Prevention and care services are provided by various NGOs and foundations, with which the VSA sometimes collaborates. These include the Cancer Foundation, Positive Foundation, Mental Health Foundation, Alzheimer's Foundation, Business and Professional Women's Association, Turning Point, Key of Freedom, Adventist Development Relief Agency, Association of Psychologists and Allied Professionals and the White and Yellow Cross Foundation.

In the mental health field, the Adventist Development Relief Agency provided psychological first aid training following Hurricane Irma and organized a workshop on the Community Resiliency Model of mental health. The Mental Health Foundation has spearheaded Mental Health Day but a representative reported low turnout as a result of social stigma associated with mental health. Adolescent interventions include Girl Power (targeting girls) and Real Talk (targeting boys). These focus on the development of self-esteem and negotiation skills, which may assist in prevention of NCDs. The 2014-'18 *National Mental Health Plan* has, according to interviewees for the situational analysis, not had much impact on provision. Further evaluation of this Plan is needed.

There are some systemic difficulties in financing health care, and especially long-term and preventive interventions, via the current health insurance system. There are some perverse incentives preventing long-term care, such as payment of primary health care physicians per patient rather than per visit. Access to insurance is largely via employment, leaving some

people uninsured. The limitations imposed by various rules and restrictions are expected to be addressed by forthcoming General Health Insurance legislation which will base access on payment of taxes on income. The new legislation has been drafted but is yet to be approved.

A Multidisciplinary Cardiovascular Risk Management (CVRM) Taskforce was set up in 2009. They worked with a team of consultants and developed a Care Standard for CVRM and a CVRM Program strategy. The Care Standard enabled identification, diagnosis and management of CVR factors. Patients were regarded as partners: tools were developed for care providers to work with them to create the right illness perception, align solutions with lifestyle and socio-cultural background and use emotionally oriented communication. When Sint Maarten became a constituent country on October 10th, 2010, the Program was to be a shared responsibility of the Healthcare Department and Collective Prevention Services. A pilot to test implementation of the Program in four clinical practices was developed for implementation in the 2013-'15 period. Information to date suggests that the Program has not yet been implemented.

A School Nutrition and Physical Activity Plan, 2009, has similarly not been implemented. This collaboration between governmental health and education agencies sought to build skills among students, teachers and parents. Schools' management teams were to be encouraged to develop policies for their institutions. Components included a food serving program/meal plan; nutrition education; health and nutrition services; and physical education. A pilot Nutrition and Physical Education Project in three schools was carried out, focusing on vulnerable youth (who missed breakfast or with learning challenges) and their families. The Plan is yet to be rolled out to schools across Sint Maarten.

2.5 IMPACT OF COVID-19 ON NCDS

EPIDEMIOLOGY AND PUBLIC HEALTH MEASURES

Between March 2020 and June 2021, Sint Maarten diagnosed a total of 2,618 COVID-19 cases and mourned a total of 33 COVID-19 related deaths. The country has gone through various COVID-19 resurgences and public health measures, of which nightlife closures and travel restrictions were most central.

The first case of COVID-19 in Sint Maarten was detected in March 2020 among a resident who had recently travelled abroad. Within two months, during what is called the 'first wave', 77 cases of COVID-19 were detected of whom 15 people sadly succumbed to the disease. This prompted a full national lockdown from April 5 to April 17, 2020, during which persons were not allowed to leave their homes and all businesses were closed. Services opened gradually over the course of several months, although some businesses never reopened. The lockdown included a complete travel ban to Sint Maarten that was lifted for travelers from Europe and Canada on July 1st, 2020, and for the United States on August 1st, 2020. Tourism has not picked up since. Cruise ships partially started operation again in June 2021.

In the beginning of July 2020, COVID-19 cases began to rapidly rise again leading Sint Maarten into a 'second wave' with a higher incidence than the first wave. This outbreak was curbed by full closure of nightlight venues including restaurants, bars and clubs from 15 August until 15 September 2020. After a relatively stable period from September to November, cases began to rise again due to the festive season, which lasted well into January 2021. Another smaller peak in cases was observed around May 2021, mostly likely due to the community-wide spread of the Alpha (B.1.1.7) COVID-19 variant. This peak has been curbed by curtailing nightlife opening hours, combined with a curfew on the French side of the island. Clusters of COVID-19 cases among government offices, workplaces and healthcare institutions have caused high levels of sick-leave and temporary disruptions of public and private services.

Between March 2020 and June 2021, a total of 180 people had been admitted to the Sint Maarten Medical Center (SMMC) with COVID-19 related illness. Patients are treated in an acute care facility (ACF) in separate containers outside of the main building, that was specifically built for COVID-19 care and manned by external medical personnel from AMI. The ACF includes 12 ICU beds, which have been occupied at around 50% at the height of the COVID-19 resurgences. Patients are usually discharged from the hospital within one week.

In Sint Maarten, COVID-19 has primarily affected the working population with around 80% of cases being between 20 and 59 years of age. While more females (53%) than males (47%) were diagnosed with COVID-19, most hospitalizations were among men (57%). Hospitalizations were related to older age. The prevalence of underlying conditions of hospitalized people was similar to that among the general population, with 35% having hypertension (versus 33%) and 16% diabetes (versus 14%). Of the 33 persons who died from COVID-19 related illness, 67% were male and 67% were below the age of 70.

EFFECTS ON NCDS AND NCD SERVICES

The PAHO Survey on NCD Healthcare Services Disruption (2020) showed a high level of primary and secondary services being either completely or partially affected in the Region of the Americas.[5] This had a direct negative impact on the management of hypertension, diabetes and asthma patients as well as cancer treatment, rehabilitation and palliative care services. During the National NCD Consultation Meetings in June 2021 on Sint Maarten, government agencies, healthcare providers and foundations were asked about the extent to which they believed the COVID-19 pandemic had resulted in an increase in NCDs and its risk factors as well as disruption of NCD healthcare services on Sint Maarten.

First, it was noted that GP service hours were severely disrupted or restricted. Many NCD patients including elderly are (still) not being physically seen by their GP. Some treatment

[5] PAHO Survey on NCD service disruptions during COVID-19, 2020

decisions were based on telephone consults that would have required a physical examination before the outbreak. The Positive Foundation was unable to offer free clinical breast examinations and prostate cancer screenings during the GP hours and patients were not able to get a physical examination. Most healthcare practitioners and institutions were forced to focus their attention on COVID-19 issues, which meant that other health issues including NCDs have been put on the back burner.

Due to the COVID-19 pandemic, many community awareness programs conducted by non-profit organizations have been disrupted. For example, the White and Yellow Cross Foundation cancelled all NCD promotion activities to focus on COVID-19 vaccination outreach. The Positive Foundation was unable to organize promotion events with large gatherings like screenings and parades, and had to switch to campaigns using posters, billboards and social media. The HIV/AIDS foundation, that normally provides face-to-face information on NCDs to their clients, needed to cancel their outreach activities. The Positive Foundation also noticed a decrease in funding from corporate donors as a result of business closures. The Breast Abnormality research project conduction by the American University in the Caribbean in collaboration with Collective Prevention Services (CPS) and the Positive Foundation was also suspended.

Risk factors underlying NCDs have worsened since the COVID-19 outbreak in Sint Maarten. As reported by healthcare professionals in primary care and care homes, the use of tobacco and alcohol has presumably increased among their clients. GPs also reported a notable increase of substance abuse among the general population, especially marijuana and cocaine as well as home-made drug concoctions. Physical group activities have been cancelled for example in elderly homes.

Furthermore, non-profit organizations report that the COVID-19 pandemic has had both social and economic consequences for numerous people on Sint Maarten. Many people lost their job and became uninsured as a result, causing an increase in persons needing (financial) assistance to continue long-term care and treatment. It also made it (even more) difficult for people to buy healthy foods and to engage in sports. Economic instability, uncertainty about the future, and the abrupt halt of social and physical activities has had a negative impact on people’s overall wellbeing.

3. STRATEGIC FRAMEWORK

The strategic framework is the core of the Multisectoral Action Plan, providing direction by defining the vision, goal, strategic action areas and key priority actions.

3.1 VISION

A vibrant Sint Maarten society where health and wellbeing are the way of life for all people to achieve their fullest potential in a stigma-free, equitable and supportive community.

This vision emphasizes the need to promote health and well-being to build a vibrant society. Actions should be oriented towards facilitating and supporting healthy choices using a social inclusion approach. Barriers to prevention and care such as stigma should not affect people vulnerable to NCDs and living with or affected by NCDs.

3.2 GOAL

Create and promote a supportive environment that increases knowledge, enables and empowers people to make healthier choices that will prevent and reduce NCDs and their risk factors by 2030.

Following from the vision statement, the goal of action is framed in terms of creating and maintaining health-promoting environments. Physical environments, policy mechanisms and actions of professionals and communities should be oriented to increasing knowledge, empowering people with skills, removing barriers to and facilitating healthy behavior. A ten-year timeframe for the NCD MAP was chosen, 2021-2030, to facilitate the phased achievement of objectives given the multiple action areas and current resource capacity limitations.

3.3 GUIDING PRINCIPLES

The Guiding Principles of the Sint Maarten NCD MAP 2021-2030 are as follows.

LIFECOURSE APPROACH

NCD actions should target all age groups and should not be restricted to the middle age and older age groups where NCD prevalence is highest, since NCDs are affected by conditions throughout the life course. Exposure to risk factors during the earlier stages of life affects the development of NCDs later in life. For example, maternal hypertension can increase the life-long risk of NCDs of the unborn child; exposure to air pollution in childhood can lead to COPD as an adult; lack of physical activity as an adult can lead to cardiovascular disease at older age. Behavioral patterns originating in childhood and adolescence can determine NCD risk throughout life. Furthermore, mental health issues often originate in early childhood. Therefore, prevention of NCDs should focus on all age groups, from cradle to grave, from the unborn child through to mature age and beyond.

EVIDENCE-BASED STRATEGIES

Strategies based on scientific evidence are more likely to meet their objectives. Surveillance enables measurement of NCDs and risk factors and their distribution by population sector and geographical area, and thus permits allocation of resources according to need. Well-designed research can provide accurate and representative population prevalence estimates on NCDs and risk factors and detailed information on associated behavioral, social, cultural, political, environmental and economic determinants of health, enabling the development of policies and interventions most likely to be effective in the local context. Monitoring and evaluation are essential to assess the extent to which inputs are being appropriately utilized and activities are meeting their objectives, ultimately fulfilling the vision of the MAP.

MULTISECTORAL ACTION/ HEALTH IN ALL POLICIES

The principle of multisectoral action is based on the recognition that the conditions affecting health are largely beyond the control of the health sector acting independently. Relevant sectors of government and society should be integrated into NCD decision-making and develop plans for their own sectors. Health in All Policies (HiAP) is an approach to public policies across sectors that systematically considers the health implications of decisions, seeks synergies, and avoids harmful health impacts in order to improve population health and health equity (World Health Organization, 2016). The implementation of HiAP depends on mechanisms to ensure joint working and cooperation between sectors and avoid institutional silos.

EMPOWERMENT OF PEOPLE AND COMMUNITIES

People should be at the center of NCD strategies, taking charge of their own health and orienting action to facilitate health in their communities. The personal autonomy of patients should be respected and is a resource to enable efficient orientation of health resources to needs. Empowerment requires sharing of health knowledge and skills through communication strategies tailored to different audiences and levels of need. It also requires recognition of power differentials that should be addressed, as consistent with the principles of universal health coverage, human rights and equity (see below).

UNIVERSAL HEALTH COVERAGE

Universal health coverage entails access to health care for all and is necessary to ensure good public health and prevent social inequity and conflict. All persons should have access to prevention and care facilities that control and reduce NCDs and their negative health and social impacts. Mechanisms are needed to provide the necessary services to visitors and immigrants as well as the locally born population. These will prevent additional costs arising from ill-health in all these populations, who generally contribute to national income through expenditure and work.

HUMAN RIGHTS

Health is a pre-requisite of human fulfilment and is generally recognized as a human right. The right to health has been asserted in international agreements including (but not restricted to) the *Universal Declaration of Human Rights*, the *Convention on the Rights of Persons with Disabilities* and the *International Covenant on Economic, Social and Cultural Rights*. The right to health extends beyond the right to health care to include underlying determinants of health (e.g. safe food and water; adequate nutrition and housing; healthy working and environmental conditions; health education and information, and gender equality). It entails freedoms, including the right to be free from non-consensual medical treatment. It also entails entitlements, such as to prevention, treatment and control of diseases; to essential medicines, and participation of the population in health-related decision-making at the national and community levels (Office of the United Nations High Commissioner for Human Rights and World Health Organization, 2008).

EQUITY-BASED APPROACH

Some groups or individuals, including persons living with or affected by NCDs, face specific hurdles in relation to the right to health. Status as persons living with or affected by NCDs may be intersected by further aspects of disadvantage based on biological or socio-economic factors such as disability, gender and social class. Stigma and discrimination against people in disadvantaged positions affect access to health care. An equity-based approach requires specific attention to different individuals and groups of individuals in society, in particular those living in vulnerable situations. States should adopt positive measures to ensure that specific individuals and groups are able to enjoy the right to health as defined above. For instance, health laws and policies should be disaggregated to tailor them to those most in need of assistance rather than passively allowing seemingly neutral laws and policies to benefit mainly the majority or more powerful groups (Office of the United Nations High Commissioner for Human Rights and World Health Organization, 2008).

PRIMARY HEALTH CARE APPROACH

Primary health care should be prioritized to enable prevention and avoid longer and more serious illness among people living with NCDs and thus substantial costs of secondary and tertiary care. The health system should be oriented to preventing incidence of NCDs and morbidity and mortality among people living with NCDs. This requires community and multisectoral involvement in the health system, and patients' empowerment. Screening and testing for NCDs should be universally accessible. Health care workers should include preventive programs and counselling as part of services provided.

AFFORDABILITY AND SUSTAINABILITY

The objectives set out below should be operationalized in conjunction with information on costs and revenues so that resources can be efficiently allocated and conserved, thus enabling sustainability. Human, technological and capital as well as monetary resources should be considered. Revenue generation and resource mobilization as well as expenditure should form part of the plan. International and local sources should be tapped, while remaining conscious of the time horizons covered by funding and the need for continuous renewal of funding sources.

3.4 STRATEGIC ACTION AREAS

The four strategic action areas address evidence, policy, health promotion and services, providing the basis for a holistic approach to addressing NCDs using evidence-informed policies and interventions. They are consistent with strategic action areas defined in PAHO's *Plan of Action for the Prevention and Control of Noncommunicable Diseases 2013-2019* (PAHO, 2014). The objectives of each of the four strategic action areas including key priority actions are described below.

3.1 STRATEGIC ACTION AREA 1

Strengthen health systems for surveillance, research, monitoring and evaluation on NCD prevalence and risk factors

This objective corresponds to the guiding principle of *evidence-based strategies*. The collection, analysis and especially the *application* of data to inform decision should be improved and strengthened. To facilitate data collection and management, there are needs for infrastructural improvements; establishment of systems for data entry and analysis; identification and standardization of priority indicators and uniform reporting formats to enable comparisons and monitor trends, and digitization of data to facilitate collection, storage and sharing. Establishing an information system for health (IS4H) is critical to ensuring timely and efficient provision of strategic information. There is potential value of partnerships with local tertiary education institutions, such as the University of Sint Maarten and the American University of the Caribbean, to collaborate in strengthening research, monitoring and evaluation. Connections and collaborative mechanisms between providers and users of health information should be strengthened to facilitate data sharing.

Key priority actions:

1.1 Review collaborative mechanisms to facilitate sharing of NCD data that is standardized, relevant, useful and of a high quality

1.2 Establish and enhance a surveillance system for NCDs and risk factors as part of the national health information system

1.3 Establish and sustain monitoring and evaluation (M&E) of NCD interventions and policy implementation

1.4 Establish and implement a research agenda on NCDs, risk factors and determinants with national and international institutes

1.5 Apply data from surveillance, monitoring and evaluation and research in developing strategies, policies and interventions to address NCDs

3.2 STRATEGIC ACTION AREA 2

Establish governance and coordination mechanisms for multisectoral involvement, decision-making and implementation of the NCD MAP.

This objective corresponds most closely to the guiding principle of *health-in-all-policies*. Multiple sectors should be enabled to *implement* actions and not just become involved in the policy-making process. While inter-sectoral mechanisms for collaboration and coordination such as NCD Commissions are important, Caribbean research has shown that in themselves these mechanisms do not ensure appropriate action "on the ground." Collaboration in implementation of specific interventions has been found to be an important enabler of substantive change in environments that condition NCD risk (Murphy et al, 2018). Persons involved in implementation should also be involved at the level of coordination to ensure coherence and strategic direction to action. There is a need for collaboration between government, healthcare providers, NGOs and the private sector One important output of these mechanisms are national regulations for NCD health promotion and care.

Key priority actions:

2.1 Establish a national multisectoral NCD steering committee to facilitate and coordinate the implementation of the NCD MAP

2.2 Advocate for budgetary allocations from Ministries, agencies, institutions and the private sector to address NCD prevention and control

2.3 Develop and implement regulations for NCD health promotion

3.3 STRATEGIC ACTION AREA 3

Reduce NCD risk factors by creating awareness, promoting healthy lifestyles and addressing determinants of health.

This objective is most consistent with the principle of *empowerment of people and communities.* It involves strengthening communication between healthcare agencies and communities so that community members, including patients, become partners in designing and implementing health promotion strategies. Health promotion aims to encourage healthy lifestyles in terms of nutrition, physical activity, substance use and stress reduction, to reduce

the risk of NCDs. However, people should be enabled to make healthy choices. This involves re-organization and investment in environmental infrastructure such as public parks and waste disposal facilities to support health-enhancing action (such as increased physical activity) and reduce risk (such as air pollution). Addressing determinants of health also involves identifying opportunities to reduce the importation of, increase taxes or front of package labeling of less healthy products (such as sugar-sweetened beverages, cigarettes and processed foods with high sugar and salt content) (Healthy Caribbean Coalition, 2017). Mental health should be addressed as a component of NCD vulnerability and resilience. Because mental health is an important priority for Sint Maarten, it warrants a separate National Mental Health Plan that will be developed as a follow up of the Mental Health Plan 2014-2018.

Key priority actions:

3.1 Build capacity of the Department of Public Health and relevant NGOs and foundations to design and implement NCD prevention and control interventions

3.2 Develop, strengthen and expand targeted NCD prevention interventions in collaboration with relevant stakeholders

3.3 Establish an inter-sectoral air quality monitoring and management program to quantify levels of air pollution and determine appropriate interventions

3.4 Address mental health as part of NCD prevention and promotion under the guidance of the National Mental Health Plan

3.4 STRATEGIC ACTION AREA 4

Provide quality, people-centered, integrated and comprehensive services for the effective management of NCDs, including self-management.

This objective is most consistent with the principles of *universal health coverage*. NCD care and management should be strengthened to ensure access and availability to standardized NCD care and treatment services for all people. This involves strengthening routine screening for early detection and treatment of NCDs as standardized primary care practice. Systems of referral between all healthcare levels for NCDs, and especially between primary and secondary facilities, should be strengthened and used consistently. There should be special focus on vulnerable populations, as consistent with principles of human rights and equity. There is a need to engage with and enhance the skills of patients to manage their own care and treatment, in the interests of increased access to care, enhanced responsiveness to need, improved quality of care and sustainability. Self-management refers to the skills and techniques available to individuals, to facilitate better understanding of their NCD risk and/or condition, managing any symptoms, medications, side effects and stress and their communication with healthcare providers. Human resource capacity strengthening should

ensure thorough understanding of reforms and effect shifts towards more people-centered care strategies. For patients with terminal illness, the further development of palliative care facilities should be a priority. A rational and integrated system of service provision is likely to facilitate cost management and sustainability.

Key priority actions:

4.1 Establish mechanisms for integrated care and referral at all levels of care for NCDs

4.2 Strengthen screening for early detection and effective treatment of NCDs to prevent complications

4.3 Build capacity among persons with NCDs to improve self-efficacy and enhance management of their condition

4.4 Further strengthen palliative and supportive care for persons living with NCDs

4.5 Improve sustained supply and uptake of high-quality drugs and equipment for NCD-related services

4. MANAGEMENT AND IMPLEMENTATION OF THE NCD MAP

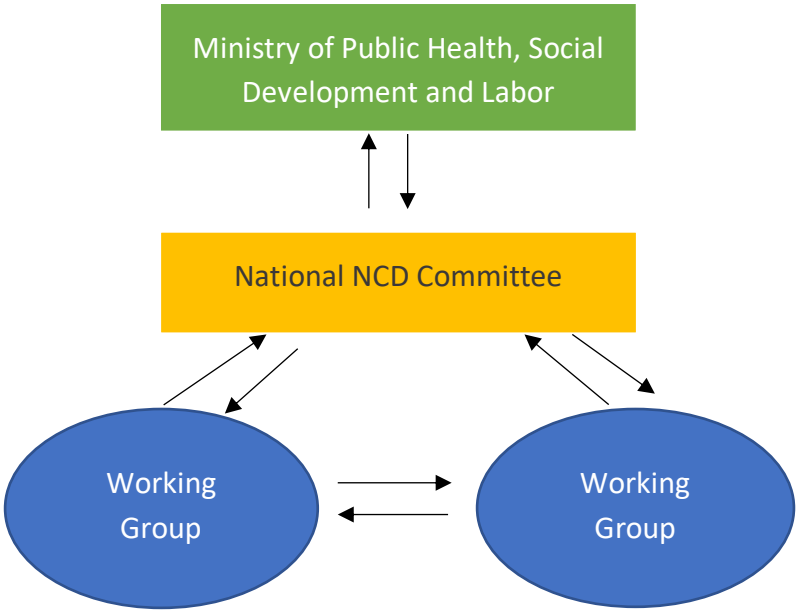
This section outlines the mechanism and approaches that will be used to guide the management and implementation of the NCD MAP.

4.1 COORDINATION AND MANAGEMENT

This strategic plan of action is multisectoral in nature and requires the involvement of many stakeholders for coordination and implementation. The overarching lead agency is the Government of Sint Maarten guided by the Ministry of Public Health, Social Development and Labor, in collaboration with different Ministries, departments or agencies that will have lead roles in specific strategic action areas.

Given the multiplicity of stakeholders in Sint Maarten, a national NCD committee will be established to facilitate national coordination and implementation of the NCD MAP. This committee will be multisectoral and include policy makers, care providers, funders and consumers. Multisectoral working groups will be established to lead specific strategic action areas. The structure of the national coordinating mechanism is depicted below (Figure 3).

Figure 3: Structure of the NCD national coordinating mechanism



4.1.1 THE NATIONAL NCD COMMITTEE

This committee is a high-level committee involving senior officials from all relevant sectors to ensure cooperation among all relevant stakeholders to tackle NCDs and their risk factors. A

clear Terms of Reference (TOR) will be developed to guide the operation of the committee. The role and function of the National NCD Committee include:

- Providing national NCD leadership and strategic direction for NCD prevention and control
- Overseeing the implementation and monitoring of the national NCD MAP and take any relevant decisions
- Developing and distributing communication strategies for improving implementation of the NCD MAP
- Facilitating strong partnerships among all sectors
- Provide advocacy /advise on policy, legislation and programs as required
- Mobilizing resources for program development and implementation
- Recommend relevant NCD research
- Reporting on progress to the Ministry of Health, Social Development and Labor and PAHO/WHO

4.1.2 WORKING GROUPS

The working groups take responsibility to advance specific strategic areas of the plan. Clear TORs will be developed for each working group to guide their actions. The roles and responsibilities include:

- Support the development and implementation of an NCD surveillance, monitoring and evaluation system to facilitate evidence-based actions relating to action area 1.
- Reviewing current legislations and policies, make recommendations and facilitate/advocate the amendments and or enactments of suitable regulations and policies relating to action area 2.
- Support the development and implementation of public education campaigns targeting the risk factors as indicated in action area 3.
- Support the development and implementation of NCD care and treatment guidelines including screening, pharmacotherapy, referrals, palliative care and self-management, in line with action area 4.
- Reporting on progress to the National NCD Committee.

4.2 IMPLEMENTATION OF THE NCD PLAN

A phased approach to implementing the NCD MAP will be followed. Two-yearly implementation plans will be developed starting with the first plan for September 2021 to August 2023. This approach allows for targeted interventions given the limited human and financial resources. It also allows for lessons learned in early phases to be incorporated in the plans developed in later phases. Relevant stakeholders will be involved in the development of the implementation plan to:

- Identify key priority actions for the first two years
- Identify key activities under each priority action
- Decide on the collective lead agencies/sectors
- Identify the relevant agencies/sectors to be involved in each activity
- Set timeframes
- Set process indicators including outputs/milestones
- Develop costing estimates where possible

5. MONITORING AND EVALUATION

This section details the monitoring and evaluation of the national NCD MAP to ensure accountability.

A national monitoring framework is important to guide the process of monitoring the NCD MAP in terms of inputs, process, outputs, impact and outcomes.

Types of indicators of the national monitoring framework:

- **Input and Process indicators** – used to measure the resources (human and financial), which are devoted to the NCD Surveillance, monitoring, and evaluation
- **Output indicators/milestones** – used to mark specific points along the project and identify what has been produced to achieve the strategic objectives
- **Impact and outcome indicators** – used to measure change and to what extent the objectives have been achieved

The national monitoring of the plan will be led by the National NCD Committee and will:

- Track the implementation of the NCD MAP in a systematic way through the monitoring of inputs, process, outputs and outcomes
- Performance will be reported against pre-defined targets and baseline data.

5.1 PERFORMANCE MONITORING

A performance monitoring framework will track impact and outcomes of the NCD MAP in terms of the achievement of objectives and the effectiveness of activities and is based on health-related indicators. The national performance monitoring framework will be aligned with the global monitoring framework for NCDs.

The following are the elements of the monitoring framework:

- Framework elements - impact/outcome targets will be adopted from the voluntary global targets
- Baseline Data – this will be established based on available local data, and will be used to guide the setting of the national NCD targets
- Targets for 2021/2023) – targets are benchmarks to be reached in two yearly period contributing to reaching the overall goal of the plan
- Indicators – Selected based on local context but aligned with the global NCD monitoring framework to allow for regional and national reporting
- Measurement techniques – Data sources and measurement techniques for each target and indicator will be identified and agreed during the development of the implementation plan .

Based on the global monitoring framework and the areas included in the national NCD MAP, the following table represents the key indicators and possible data sources to help guide the national monitoring framework for the NCD MAP.

Table 3: Proposed indicators for a national monitoring framework for the NCD MAP

Framework Element	Indicator	Data Source and Measurement Techniques
Premature mortality	Unconditional probability of dying between ages of 30 and 70 from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases	Civil registration system, with medical certificate of cause of death
Cancer	Cancer incidence, by type of cancer, per 100 000 population	Cancer Register
Tobacco use (Youth)	Prevalence of current tobacco use among adolescents	School Health Survey Youth Tobacco Survey
Tobacco use (Adult)	Age-standardized prevalence of current tobacco use among persons aged 18+ years	National surveys (WHO STEPS, Population Census, other national surveys)
Physical inactivity	Prevalence of insufficiently physically active adolescents, defined as less than 60 minutes of moderate to vigorous intensity activity daily	School Health Survey
	Age-standardized prevalence of insufficiently physically active persons aged 18+ years (defined as less than 150 minutes of moderate-intensity activity per week, or equivalent)	National surveys (WHO STEPS, Population Census, other national surveys)
Alcohol use	Age-standardized prevalence of heavy episodic drinking among adolescents and adults	National surveys (WHO STEPS, Population Census, other national surveys)
Raised blood pressure	Age-standardized prevalence of raised blood pressure among persons aged 18+ years	National survey (with measurement)
Diabetes and obesity	Age-standardized prevalence of raised blood glucose/diabetes among persons aged 18+ years	National survey (with measurement)
	Prevalence of overweight and obesity in adolescents	School health survey

	Age-standardized prevalence of overweight and obesity in persons aged 18+ years	National survey (with measurement)

5.2 MONITORING AND EVALUATION OF THE PROGRESS OF IMPLEMENTATION

A progress monitoring framework will track the inputs, process and outputs of the NCD MAP as it relates to resources used to execute activities, milestones achieved, and deliverables produced.

Process indicators will be identified and agreed during the process of developing the two-yearly implementation plan. The implementation plan will list the process indicators related to each operational activity with a completion date.

5.3 REPORTING MECHANISM

The NCD Committee is responsible for monitoring the progress of implementing the NCD MAP, anticipate and respond to potential delays in completing milestones and deliverables, and report on the progress to the Ministry of Health, Social Development and Labor as well as PAHO/WHO. The NCD Committee is also committed to communicating progress updates to key stakeholders and the community.

Successful reporting by the NCD Committee is dependent on the reporting from collective lead agencies and Working Groups. The national NCD Committee will determine the frequency of reporting and outline the appropriate mechanism for reporting. It will be the responsibility of the NCD committee to decide on:

- Frequency of reporting from collective lead agencies and Working Groups
- What should be reported
- Format in which report should be prepared
- Methods of dissemination
- The reporting cycle – to meet national, regional and international obligations.

To ensure all stakeholders are kept up to date, an overall communication strategy will be developed within the 1st year of the plan and monitored for its effectiveness. This communication strategy will inform, and over time be informed by, the communication strategies developed by the working groups.

6. COSTING AND FINANCING

The plan will be costed based on the two-yearly implementation plans. This will allow for better estimation based on the key activities to be implemented during those two years. It also allows for more realistic projections as it is easier to predict the local economic environment on a bi-annual basis rather than for the full duration of the NCP MAP. Given the local environment, political and financial, this approach was thought to be most suitable to ensure buy-in from the stakeholders.

6.1 FINANCING OF THE NCD MAP

The NCD MAP will be financed through a variety of innovative measures to include contribution from sustainable domestic, multilateral and bilateral funding initiatives. The national NCD Committee will be tasked to assess, determine and facilitate resource mobilization initiatives to support the implementation of the plan. The committee will among other things:

- Advocate for allocation of funds from the national budget to support implementation of the NCD MAP;
- Advocate for Ministries, departments and agencies to allocate funds within their respective budgets to support NCD prevention and control initiatives according to their mandates;
- Lobby for (a portion of) taxes collected from tobacco, alcohol and other items that contribute to the NCD burden to be dedicated to support the implementation of the NCD MAP;
- Identify sustainable donor investments or collaboration with NGOs, international organizations and other non-state actors to support the implementation of the plan.

APPENDIX 1. PARTICIPANT LIST NATIONAL CONSULTATION MEETINGS

Meetings were held on 7-8 February 2019 and 8-9 June 2021 with the following people:

ORGANIZATIONS	PARTICIPANTS
Ministry of Health, Social Development and Labor	
Minister's Office	Hon. Omar Ottley Hon. Emil Lee Joy Arnell
Department of Public Health	Fenna Arnell Sanne van Kampen
Collective Prevention Services	Eva Lista-De Weever Maria Henry
Youth Healthcare	Daphne Illis Nelleke Berkenveld Suzianne Duzong-Davis
CPS, Vector Control	Gerald Davelaar
Department of Community Development, Family and Humanitarian Affairs (CDFHA)	Aida Holaman Malayka Marlin Elencia Baptiste-Boasman
Social Development	Mark Schloss Rose Fleming Bernadette Barry Margje Troost
Inspectorate	Earl Best
Ambulance Health Services	Cylred Richardson
Ministry of Education, Culture, Youth and Sports	
Department of Education	Shermina Powell-Richardson Suzan Aafjes
Department of Youth	Elmora Aventurin-Pantophlet
Ministry of Public Housing, Environment, Spatial Development and Infrastructure	
New Project Department	Bayo Maynard
Healthcare providers	
Sint Maarten Medical Center	Shorma Houston
Union Road Medical Clinic	Gerard Van Osch
Dutch Quarter Medical Clinic	Radha Sanchit-Raghosing
White and Yellow Cross Foundation	M. de Bruin Macfolda Gumbs Claudette Rijff
Mental Health Foundation	Kitty Pelswijk Tracy John Bart van der Meijden

Foundations	
HIV/AIDS Foundation	Judith Bell
Positive Foundation	Shelly Alphonso
Heart and Stroke Foundation	Martha Thewet
Sint Maarten Alzheimer's Foundation	Bernard Hunt Raymond Jessurun
Academic institutes	
American University of the Caribbean	Natalie Humphrey
University of St. Martin	Antonio Baez Rolinda Carter
Insurers	
Social and Health Insurances SZV	Reginald Willemsberg Chandra Rombley Nataschia Lijkwan
International organizations	
Pan American Health Organization	Taraleen Malcolm Nicola Taylor Caroline F. Allen

APPENDIX 2: NCD MULTISECTORAL ACTION PLAN MATRIX

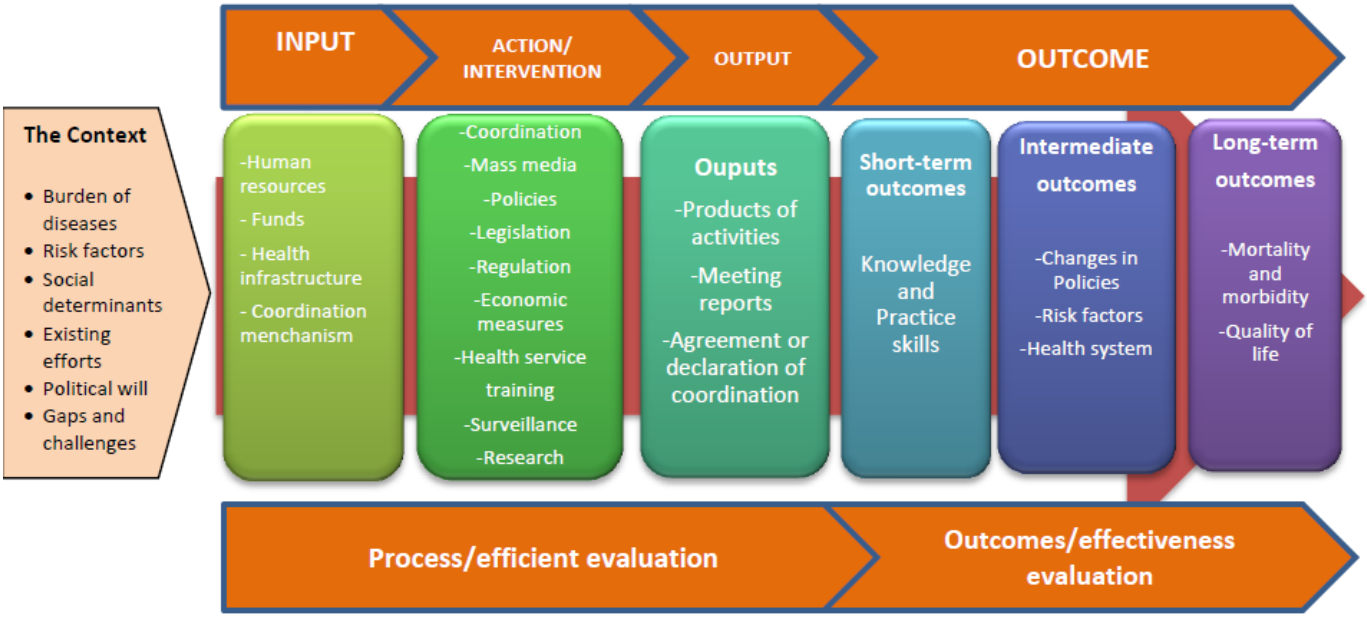
Vision (Impact – Future)	A vibrant Sint Maarten society where health and wellbeing are the way of life for all people to achieve their fullest potential in a stigma-free, equitable and supportive community	
Goal (Long term Outcome)	Create and promote a supportive environment that enables and empowers people to make healthier choices that will prevent and reduce NCDs and their risk factors by 2030.	
Strategic Action Area (Short-term Outcomes)	**Key Priority Actions (Outputs)**	**Key Activities/ Interventions**
1. Strengthen health systems for surveillance, research, monitoring and evaluation on NCD prevalence and risk factors	1.1. Review collaborative mechanisms to facilitate sharing of NCD data that is standardized, relevant, useful and of a high quality	1.1.1. Conduct mapping of data needs with key stakeholders involved in the implementation of NCD interventions or services 1.1.2. Develop policies, laws and protocols to guide the collection, analysis, sharing and storage of data 1.1.1. Build capacity to inform, educate and motivate relevant stakeholders regarding data entry, data sharing and NCD surveillance
	1.2. Establish and enhance a surveillance system for NCDs and risk factors as part of the National Information System for Health	1.2.1. Integrate NCDs in the National Information System for Health that links care providers in a comprehensive and integrated way 1.2.2. Develop platform for data sharing and reporting which will include disaggregate data (e.g. by sex, age and geographical area) to measure health outcomes and risk factors for specific populations 1.2.3. Strengthen the mechanism for registration of mortality 1.2.4. Establish a national cancer registry
	1.3. Establish and sustain monitoring and evaluation (M&E) of NCD interventions and policy implementation	1.3.1. Develop M&E guidelines for NCDs which will include NCD indicators in line with regional and international indicators 1.3.2. Conduct population-based surveys every 5 years using agreed protocols and formats 1.3.3. Conduct evaluation of NCD interventions

Strategic Action Area (Short-term Outcomes)	Key Priority Actions (Outputs)	Key Activities/ Interventions
	1.4. Establish and implement a research agenda on NCDs, risk factors and determinants with national and international institutes	1.4.1. Develop and implement an NCD research agenda which also includes determinants of health 1.4.2. Strengthen collaborations between Ministry of VSA and research partners including universities 1.4.3. Build capacity of stakeholders in research design (including ethics), implementation and evaluation
	1.5. Apply data from surveillance, monitoring and evaluation and research in developing strategies, policies and interventions to address NCDs	1.5.1. Develop mechanisms and communication strategies to inform and involve stakeholders and decision-makers 1.5.2. Translate data into interventions and policy actions across all sectors to address the determinants of health
2. Establish governance and coordination mechanisms for multisectoral involvement, decision-making and implementation of the NCD MAP	2.1. Establish a national multisectoral NCD steering committee to facilitate and coordinate the implementation of the NCD MAP	2.1.1. Identify implementation requirements for the formation of National Steering Committee 2.1.2. Formally establish the National NCD Steering Committee to facilitate multisectoral collaboration and monitor the implementation of the NCD plan
	2.2. Advocate for budgetary allocations from Ministries, agencies, institutions and the private sector to address NCD prevention and control	2.2.1 Initiate discussions with parliamentarians, Council Ministers, senior decision makers, agencies and other institutions in non-health sectors to understand their role in the prevention and control of NCDs 2.2.2 Advocate for Ministries, departments, agencies and other institutions to allocate funds with their budget to support NCD prevention initiatives 2.2.3 Strengthen national and international cooperation for resource mobilization
	2.3. Develop and implement regulations for NCD health promotion	2.3.1 Review the current regulations that address NCD risks and social determinants to identify and address gaps

Strategic Action Area (Short-term Outcomes)	Key Priority Actions (Outputs)	Key Activities/ Interventions
		2.3.2 Include NCD prevention, control and care in strategies for disaster preparedness and management
3. Reduce NCD risk factors by creating awareness, promoting healthy lifestyles and addressing determinants of health	3.1. Build capacity of the Department of Public Health and relevant NGOs and foundations to design and implement NCD prevention and control interventions	3.1.1 Educate, involve and mobilize civil society and communities via community-based, traditional and social media communication 3.1.2 Increase knowledge among NGOs/Community Service Organizations (CSOs) to design, deliver, and evaluate community-based interventions
	3.2 Develop, strengthen and expand targeted NCD prevention interventions in collaboration with relevant stakeholders	3.2.1 Prepare national inventory of existing programs and interventions on NCDs and identify gaps and opportunities 3.2.2 Reduce tobacco use in keeping with FCTC regulation 3.2.3 Promote healthy diet 3.2.4 Promote physical activity 3.2.5 Reduce the harmful use of alcohol
	3.3 Establish an inter-sectoral air quality monitoring and management program to quantify levels of air pollution and determine appropriate interventions	3.3.1 Enhance environmental public health policy and understanding towards creating a healthy environment
	3.4 Address mental health as part of NCD prevention and promotion under the guidance of the National Mental Health Plan	3.4.1 Develop National Mental Health Plan 3.4.2 Establish Mental Health and Psychosocial Support Services coordination mechanism 3.4.3 Build capacity of persons in the education and health sectors to identify mental health conditions among the youth, including substance abuse 3.4.4 Develop and implement programs to build coping mechanisms among persons with NCDs, with special focus on youth

Strategic Action Area (Short-term Outcomes)	Key Priority Actions (Outputs)	Key Activities/ Interventions
		3.4.5 Strengthen parental guidance and education to identify early signs of mental health issues among young children
4. Provide quality, people-centered, integrated and comprehensive services for the effective management of NCDs, including self-management	4.1 Establish mechanisms for integrated care and referral at all levels of care for NCDs	4.1.1 Review and improve referral pathways to identify the gaps (GP to hospital)
	4.2 Strengthen screening for early detection and effective treatment of NCDs to prevent complications	4.2.1 Implement strategies to improve early detection of cardiovascular disease, diabetes, cancer and chronic respiratory disease through primary health care 4.2.2 Develop care and treatment guidelines for NCDs 4.2.3 Build capacity of health care providers in preventive and curative services
	4.3 Build capacity among persons with NCDs to improve self-efficacy and enhance management of their condition	4.3.1 Identify and implement self-management programs using methods such as the PAHO Healthy Passport and the 'Prisma' training 4.3.2 Establish and implement a program of self-empowerment on NCD care management for the elderly and the chronically ill
	4.4 Further strengthen palliative and supportive care for persons living with NCDs	4.4.1 Establish and implement a palliative care program
	4.5 Improve sustained supply and uptake of high-quality drugs and equipment for NCD-related services	4.5.1 Establish and implement policies for sustained supply of drugs and equipment for NCD services 4.5.2 Monitor and ensure quality and effectiveness of medication

APPENDIX 3: LOGIC MODEL USED FOR NCD MAP



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