National Multi-sectoral Action Plan for the Prevention and Control of Noncommunicable Diseases in Maldives (2023-2031)

Foreword by Minister of Health

I am honoured to present the Non-Communicable Disease (NCD) Action Plan for the Maldives. This comprehensive plan reflects our commitment to addressing the growing burden of NCDs and improving the health and well-being of our population via multisectoral and multidisciplinary approach.

NCDs, including cardiovascular diseases, cancer, chronic respiratory diseases, and diabetes, have emerged as a significant public health challenge globally. The Maldives is no exception, as we witness an increasing prevalence of these diseases. Studies show that 78% of our total disease burden are NCDs. This growing burden not only has devastating consequences on the financial and socioeconomic status of the individuals, but also impact them emotionally, mentally, and leads to disabilities. It further strains our healthcare system and impacts our national development.

The key risk factors and the socio-economic conditions that lead to NCDs, are largely outside the purview of the health sector. Therefore, this action plan, as its title suggests is developed as a framework that would facilitate multi-sectoral participation and action at every level of its implementation.

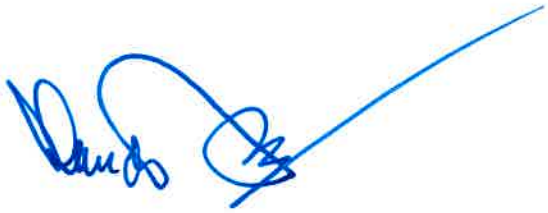
This action plan is the result of extensive collaboration and consultation with various stakeholders, including healthcare professionals, policymakers, civil society organizations, and the community. It outlines a strategic framework that will guide our efforts in preventing and controlling NCDs, promoting healthy lifestyles, and thereby healthier communities, that would, in the long term have innumerable health and economic dividends for individuals, families, community and the country as whole.

Our approach focuses on four key pillars: prevention, early detection, treatment, and rehabilitation. By prioritizing prevention, we aim to reduce the risk factors associated with NCDs, such as tobacco use, unhealthy diets, physical inactivity, and consumption of alcohol and other substances. Early detection and timely intervention will be crucial in improving outcomes and reducing the burden of these diseases. The plan reflects and draws from the global NCD Action Plan, and aims to achieve local targets in line with global NCD targets stipulated both in the Global NCD Action Plan and the Sustainable Development Goals.

Furthermore, we recognize the importance of strengthening our healthcare system to provide comprehensive and integrated care for individuals living with NCDs. This includes enhancing primary healthcare services, ensuring access to essential medicines, and promoting patient-centred care that addresses the unique needs of each individual.

I would like to express my gratitude to all those who have contributed to the development of this action plan. Your dedication and expertise have been instrumental in shaping our strategies and interventions. I also call upon all stakeholders to actively participate in its implementation, as our collective efforts are essential in achieving our goals.

Together, let us work towards a healthier future for the people of Maldives, where NCDs are effectively prevented, controlled, and managed. I am confident that with our commitment and determination, we can make a significant impact on the health and well-being of our nation.



Ahmed Naseem

Minister of Health

Endorsement Number

Plan/23/-MoH/2023/20

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16 November 2023

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16 November 2023

Ministry of Health
Republic of Maldives

CONTENTS

LIST OF ABBREVIATIONS

CBOs	Community Based Organizations
CDD	Communicable Disease Division
CHO	Community Health Officers
COPD	Chronic obstructive pulmonary disease
FAO	Food & Agriculture Organization
FBDG	Food based Dietary Guideline
FCTC	Framework Convention for Tobacco Control
FOB	Fecal Occult Blood test
GSHS	Global School-based Student Health Survey
GYTS	Global Youth Tobacco Survey
HIS	Health Information Systems
LOS	Length of Stay
MDHS	Maldives Demographic Health Survey
MHQS	Maldives Health Quality Standards
MI	Myocardial Infarction
MRL	minimum residual limit
NCCP	National Cancer Control Plan
NCDs	Non-Communicable Diseases
NCD MAP	Multisectoral Action Plan for Prevention & Control of Non-communicable Diseases in Maldives
NGOs	Non-Governmental Organizations (Community based organizations)
PCI	Percutaneous coronary interventions
PHC	Primary Health Care
PMTCT	Prevention of Mother to Child Transmission (during pregnancy and perinatal period)
PWD	Persons with Disabilities
SAARC	South Asian Association for Regional Cooperation
SEAR	South East Asia Region

SHS	Second-hand (tobacco) smoke exposure
STEPS	WHO Stepwise approach to surveillance of NCDs
TCA	Tobacco Control Act
TOT	Training of Trainers
WHA	World Health Assembly
WHO	World Health Organization
UHC	Universal Health Coverage
UN	United Nations
UNICEF	United Nations Children's Fund
VRS	Vital Registration System
YLL	Years of life lost

Stakeholders involved:

Ministries and Government Organizations

ACC	Anti-Corruption Commission
AGO	Attorney General's Office
DNR	Department of National Registration
HRCM	Human Rights Commission of Maldives
MACH	Ministry of Arts Culture & Heritage
MCST	Ministry of Communication, Science & Technology
MoED	Ministry of Economic Development
MoFA	Ministry of Foreign Affairs
MFMRA	Ministry of Fisheries, Marine Resources & Agriculture
MoGFSS	Ministry of Gender, Family & Social Services
MoHE	Ministry of Higher Education
MIA	Ministry of Islamic Affairs
MoD	Ministry of Defense
MoE	Ministry of Education
MoECCT	Ministry of Environment, Climate Change and Technology.

MoF	Ministry of Finance
MoH	Ministry of Health
MoT	Ministry of Tourism
MNPHI	Ministry of National Planning, Housing & Infrastructure
MTCA	Ministry of Transport & Civil Aviation
MYSCE	Ministry of Youth Sports and Community Empowerment
MBS (MNPHI)	Maldives Bureau of Statistics (MNPHI)
NCIT	National Center for Information Technology
NDA	National Drug Agency
NDMA	National Disaster Management Authority
NIE	National Institute of Education
STO	State Trading Organization

Departments Divisions and Committees/Boards under Ministry of Health and Health Protection Agency

HPB	Health Promotion Board
HPA	Health Protection Agency
HRD	Human Resource Division
MFDA	Maldives Food and Drug Authority
PHS	Public Health Surveillance (HPA)
PIIRD	Policy Implementation and International Relations Division
QARD	Quality Assurance and Regulation Division
RAHSD	Regional and Atoll Health Services Division
TCB	Tobacco Control Board

Health facilities

ADK	ADK Hospital
	Dhamanaveshi Male’

IGMH	Indira Gandhi Memorial Hospital
MBS	Maldivian Blood Services
PHU	Public Health Unit
VMH	Villi Male Hospital

Academic Institutions

FHS	Faculty of Health Sciences
MNU	Maldives National University
IUM	Islamic University of Maldives
NIE	National Institute of Education, Ministry of Education

Non-Governmental Organizations

ARC	Advocating Rights for Children
CSM	Cancer Society of Maldives
DSM	Diabetes Society of Maldives
MNCDA	Maldives NCD Alliance
SHE	Society for Health Education
THM	Tiny Hearts of Maldives
TM	Transparency Maldives

Media Organizations

MBC	Maldives Broadcasting Commission
PSM	Public Service Media

ACKNOWLEDGEMENT

The National Multi-sectoral Action Plan for the Prevention and Control of Noncommunicable Diseases in Maldives 2023-2031 (NCD MAP 2023-2031) was developed following review of the initial NCD MAP (2016-2020) using the WHO toolkit for evaluating NCD MAP, with consultations among a wide range of stakeholders representing government institutions, health service providers, academia and nongovernment organizations. The NCD Division/Health Protection Agency of the Ministry of Health coordinated and chaired the stakeholder's meetings. The review was conducted and documents prepared by Dr. Aishath Aroona Abdulla, a local consultant for World Health Organization.

The initial NCD MAP (2016-2020) was developed through a similar process of stakeholder consultations by Dr. Gampo Dorji, a visiting consultant of World Health Organization, with technical and financial support provided by the Southeast Asia Regional Office and the Country Office for Maldives of the World Health Organization.

Our thanks go out to all stakeholders who were involved and provided valuable input to the development of this NCD MAP.

PART I- BACKGROUND SITUATION

INTRODUCTION

The health status of the Maldivians has improved significantly over the years. The life expectancy increased from 67 years in 2000 to 73 years in 2019 and the other indicators such as maternal and child survival rates have also shown similar leap. [1] Maldives ranks one of the top countries in the SAARC after Sri Lanka in health indicator achievements, with significant achievements in communicable disease control, such as elimination of Malaria, Polio and Measles & Congenital Rubella Syndrome. The control of communicable diseases, along with the economic development of the country and the heavy influx of imports and investments, has led to the epidemiological transition from communicable diseases to non-communicable diseases (NCDs). Chronic non-communicable diseases are emerging as the main cause of morbidity and mortality in the country with the fast-changing lifestyle and development. NCDs (including injuries) increased from 78% in to 84% of the total disease burden.[2]

NCDs are becoming ever more challenging to control as the country is increasingly being exposed to globalization and NCD risk factors: tobacco use, importation of unhealthy foods high in salt, sugar and fats and inadequate accessibility and affordability of vegetables and fruits, and rapid urbanization with limited spaces for physical activity, promoting motored vehicle use and sedentary forms of entertainment. The burden of NCDs is beyond health, with far reaching negative socio-economic consequences, not only through health of the affected individual, but losses incurred to family members, society and country due to productivity loss and prolonged care and treatment required for people with NCDs including mental health. The costs of NCDs have led to NCD prevention and control being listed under the UN Sustainable Development Goals (SDGs) 2015-2025, with specific targets to be achieved by 2030.

BURDEN OF NCDS

Mortality from NCDs

According to WHO estimates, Non-communicable Diseases have been identified, as the leading cause of mortality and the rate had been on the increase for some time, recording highest in the SEA Region, with NCDs attributed to 84% of total deaths in 2018.[2] According to the Maldives Health Statistics), in 2020, NCDs accounted for 66% of total deaths[3]. The risk of premature deaths (Death that occurs before the average age of death in a certain population)

[1] World Health Statistics 2023

[2] World Health Organization - Noncommunicable Diseases (NCD) Country Profiles, 2018. Available from: https://www.who.int/nmh/countries/mdv_en.pdf?ua=1

[3] Maldives Health Statistics 2020, Health Information and Research Section, Health Information Management and Research Division, Ministry of Health, 2021.

between 30-70 years due to NCDs is 13%, and has been decreasing from 2000 to 2016. [2,3] According to Maldives Health Statistics 2020, life expectancy for a person born in 2014 for males is 79 years and for females is 86 years. The probability of dying prematurely (aged 30-70 years) due to the 4 major NCDs in 2016 was 13.4%, among the lowest in the SEA region[4]. The top 5 leading causes of deaths in 2020 are given in Table 1 below: (also see Figure 1)

Table 1: Top 5 leading causes of deaths in 2020 on Global Burden of Disease Categories

Disease category	Number of deaths in	
	#	%
1. Other Cardiovascular diseases	166	13%
2. Cerebrovascular Disease	105	8%
3. Ischemic heart disease	102	8%
4. Other respiratory diseases	80	6%
5. Lower respiratory infections	68	5%

Source: Maldives Health Statistics 2020, Health Information and Research Section, Health Information Management and Research Division, Ministry of Health, 2021.

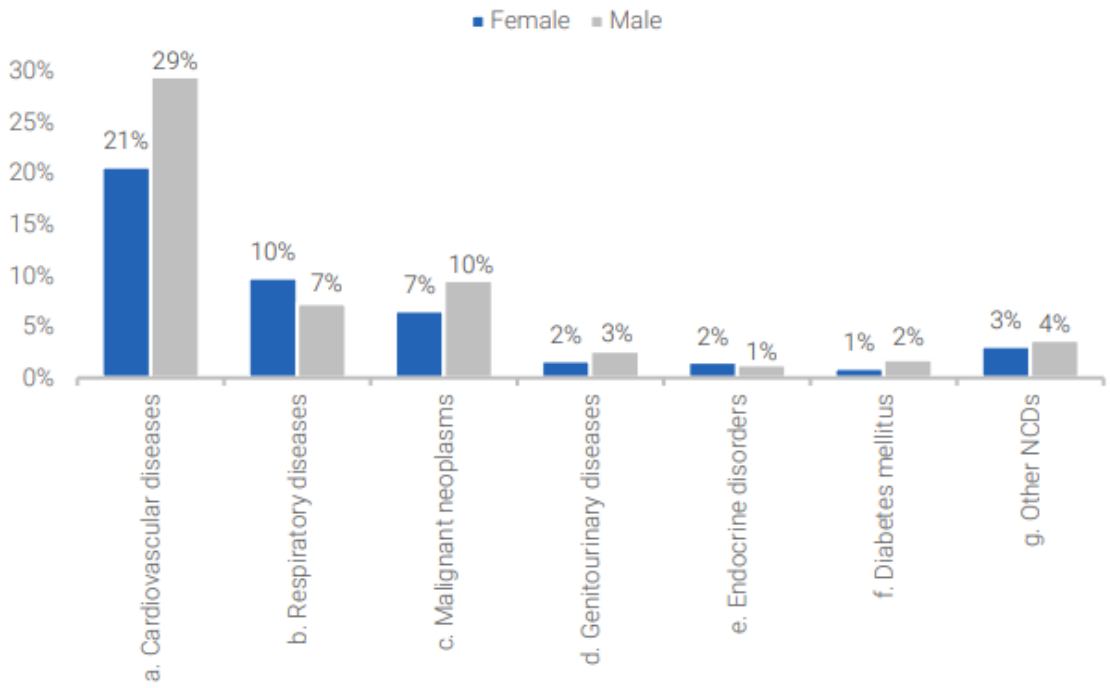
Figure 1: Proportion of deaths by main categories, 2020.

[4] World Health Statistics 2019.

GBD Categories	Female	Male	Grand Total
Noncommunicable diseases	371	467	838
Communicable, maternal, perinatal and nutritional conditions	98	112	210
Ill-defined diseases	55	112	167
Injuries	6	44	50
Not Stated	6	5	11
Not categorized	1	1	2
Grand Total	**536**	**741**	**1,278**

Source: Maldives Health Statistics 2020, Health Information and Research Section, Health Information Management and Research Division, Ministry of Health, 2021.

Figure 2: Number of NCD deaths by gender, 2020,



Source: Maldives Health Statistics 2020, Health Information and Research Section, Health Information Management and Research Division, Ministry of Health, 2021.

The leading causes of death among adults of age 18 years and above for the Maldives in 2020 were cardiovascular diseases (CVDs), followed by chronic respiratory diseases and cancer (malignant neoplasms). Respiratory diseases were also the second leading cause of death in children age 0-14 years. [3]

Cardiovascular diseases accounted for 50% of all deaths in 2020. Almost 50% of cardiovascular deaths were due to *other cardiovascular diseases* (i.e., possibly difficult to code accurately), followed by cerebrovascular diseases and ischemic heart diseases.[3]

Cancer (Malignancies) accounted for the 3rd highest cause of death 2020, with 135 deaths respectively. Among females, breast, liver, oral and multiple myeloma were the commonest causes of death in 2020. Among males, lung, liver, prostate and pancreas cancers were the commonest causes of death in 2020.[3]

Genitourinary Diseases associated cause of death was found to be the fourth most common cause of mortality in Maldives, while diabetes very closely follows as the fifth leading cause. However, it is of note that genitourinary diseases are a mixed bag of diseases including chronic kidney diseases, genitourinary infections and some diseases of the reproductive system, and is more often listed as an associated cause as the disease itself may not lead directly to death. Nephritis and nephrosis accounted for the majority of genitourinary diseases, 62% of male deaths and 38% of female deaths. [3] Chronic genitourinary diseases where evidence of kidney damage and/or reduced kidney function lasts at least 3 months, is largely preventable sharing the same risk factors as the 4 globally commonest NCDs.

Suicide accounted for 3.25 deaths per 1000 population in 2017. (Source: Maldives Police Service) [5] Over half of these were among young people between 15-29 years old.[5]

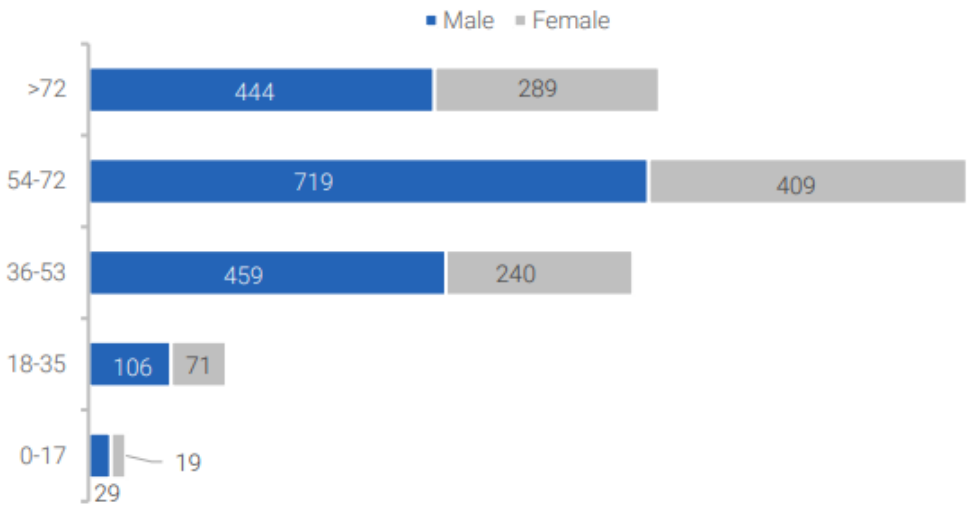
Morbidity due to NCDs

NCDs accounted for the majority of admissions in tertiary hospitals in Maldives in 2020. 35% of inpatients in tertiary hospitals were admitted due to NCDs. Cardiovascular disease was the top disease condition leading to admission in tertiary hospitals, following delivery and factors influencing health status and condition with health services, which were the top reasons for admissions. Cardiovascular diseases were the main cause of morbidity (inpatients in tertiary facilities) and mortality in the Maldives in 2020, accounting for 19% of all admissions, with 2785 admissions in number. Genitourinary diseases accounted for 18% of all admissions (2690), Digestive diseases 17% (2464), Endocrine Disorders 8% (1231) and respiratory diseases for 9% (1277) of all admissions. [3]

[5] Mental Health – Maldives Quick Facts. Published by Ministry of Health, 10th Oct 2019.

The majority of cardiovascular disease admissions were due to ischemic heart disease (40%), Cerebrovascular disease (26%), Hypertensive heart disease (17%) and other cardiovascular diseases (14%), for both men and women. Male admissions for double that of female admissions. As expected, the number of admissions increased with age, gradually increasing from 25-34 years with the majority of admissions above 65 years of age. (Figure 3) [3]

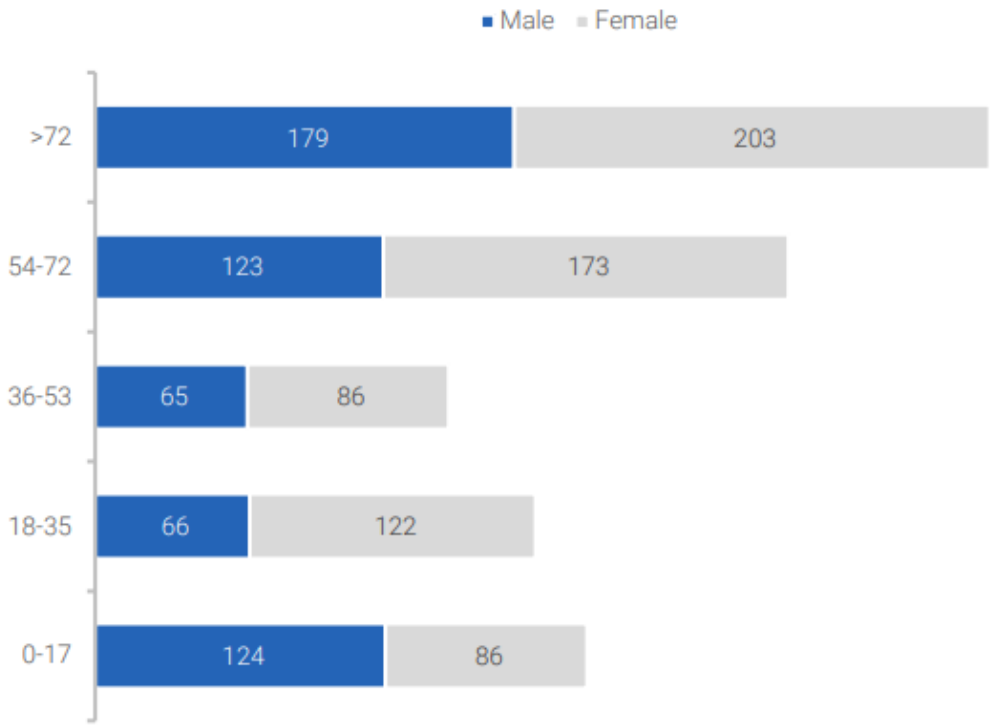
Figure 3: Inpatients with cardiovascular diseases in tertiary facilities by age groups, 2020



Source: Maldives Health Statistics 2020, Health Information and Research Section, Health Information Management and Research Division, Ministry of Health, 2021.

Respiratory diseases were the fifth most common disease category for inpatients with 1277 inpatients. The top respiratory disease admissions were due to Other respiratory disease (85%), Chronic Obstructive Pulmonary Disease (36%) and Asthma (20%). There were more female admissions than male. Respiratory disease admissions were spread out almost evenly across all age groups, with a peak of 55% in age above 54 years. [3]

Figure 4: Inpatients with respiratory diseases in tertiary facilities by age groups, 2020



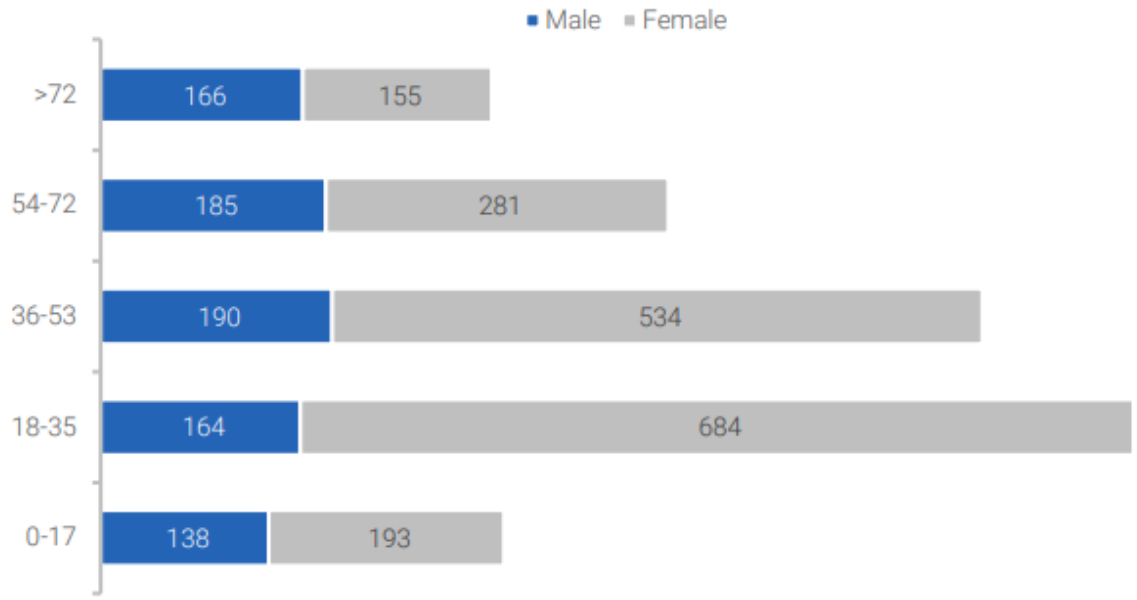
Source: Maldives Health Statistics 2020, Health Information and Research Section, Health Information Management and Research Division, Ministry of Health, 2021

Cancer accounted for 434 admissions in 2020. Excluding cancers that cannot be categorized or multiple categories, the highest is for other malignant neoplasm (30mouth and oropharynx cancers (14%) and breast cancer (10%). At present we do not have data on cancer survival rates in Maldives, which needs to be collected.

Figure 5: Inpatients with malignant neoplasms in tertiary facilities by age groups, 2016

Genitourinary diseases were the second most common disease category for inpatients in 2020, with 2690 admissions, and also fourth cause of mortality in the Maldives. [3] It is of note that this is a mixed bag of diseases including chronic kidney disease, genitourinary infections and some diseases of the reproductive system.

Figure 6: Inpatients with genitourinary disease in tertiary facilities by age groups, 2020



Source: Maldives Health Statistics 2020, Health Information and Research Section, Health Information Management and Research Division, Ministry of Health, 2021.

Health care cost of NCDs

In 2012, the Maldives introduced a universal health insurance scheme called *Aasandha*, which was expanded to *Husnuvaa Aasandha* from 2014 as an unlimited health insurance scheme provided by the government. This covers all in-patient and out-patient services in government sector health facilities and certain approved private sector services.[6] Where treatment is not available in Maldives, *Aasandha* also covers treatment abroad for referred patients treated in higher centers approved by *Aasandha*, for which there are formalized agreements for payment. Many of the treatments for advanced stages of the main NCDs with highest mortality are not available in Maldives, thus require treatment abroad, incurring very high costs to the government, plus high out of pocket expenditures to patients and families. E.g., coronary heart surgery, diagnosis and initiating treatment of cancer, renal transplant and even laser photocoagulation for diabetic retinopathy have to be treated abroad.

[6] Maldives Demographic and Health Survey 2016-17. Ministry of Health (MOH) [Maldives] and ICF. 2018. Malé, Maldives, and Rockville, Maryland, USA: MOH and ICF.

Thus, despite social insurance, out of pocket expenditures for medical treatment in general was still high at 29.5% in 2014. There was a decrease from 49% in 2011.[7] The UHC Service Coverage Index was 55% for Maldives in 2015, similar to the SEA regional average of 56%.[6]

In addition to health care costs, NCDs result in large economic burden to society, such as absenteeism and loss of productivity resulting from NCDs and NCD risk factors. We do not have figures of these costs for Maldives.

Prevalence of NCDs

The most recent prevalence data available are from the Maldives Demographic Health Survey (MDHS) 2016-17. The last STEPS Survey was conducted in 2021-2022. The key adult population surveyed in MDHS was between age 15 to 49 years, while STEPS survey covered adults aged 15 to 69 years. MDHS also covered atolls as well as Male', while STEPS only covered Male'. Therefore, while both are presented here to give a comparison, caution should be applied to avoid looking for trends between the statistics of these surveys, due to the difference in populations and methodology.

Cardiovascular disease: Only 1% or less of women and men age 15-49 years self-reported that they have ever had a heart attack, a stroke or renal failure. The prevalence of heart attack and stroke increased with age. There were no significant differences by area of residence, education or wealth.[8] However, as self-reported data could only capture severe yet non-fatal cardiovascular events, these may only be a part of the tip of the iceberg. We do not have data on prevalence of less severe cardiovascular disease, which would be much higher.

Chronic respiratory disease: 11% of women and 7% of men age 15-49 years reported that they had either chronic obstructive pulmonary disease (COPD) or asthma. COPD is more common among women in Malé region than those in other regions.[16] This is also likely to be an underestimate, being self-reported.

Cancer: According to MDHS 2016-17, only 1% or less of women and men age 15-49 reported to have ever had cancer, [16] which is again likely to be an underestimate due to self-reporting. According to the National Cancer Control Plan, lip, oral cavity and pharynx cancers were found to be the most commonly occurring cancer in the Maldives for the period 2012 – 2016, followed by breast cancer, prostate cancer and cancers of the digestive organs/tract (i.e., colorectal, liver, stomach), and thyroid cancer. lip, oral cavity and pharynx cancers were the most common cancer across all ages from 0 years through to 69 years. In females, the top cancers were breast cancer, lip, oral cavity and pharynx cancers, thyroid cancer, cancers of the digestive organs/tract (i.e., colorectal, liver, stomach), and leukemia and lymphomas. The

[7] National Health Accounts, quoted in Maldives Health Statistics 2015-2016, Health Information and Research Section, Health Information Management and Research Division, Ministry of Health, 2019.

[8] Maldives Demographic and Health Survey 2016-17. Ministry of Health (MOH) [Maldives] and ICF. 2018. Malé, Maldives, and Rockville, Maryland, USA: MOH and ICF.

top 5 cancers among males were lip, oral cavity and pharynx cancers, prostate cancer, cancers of the digestive organs/tract (i.e., colorectal, liver, stomach), lung cancer and lymphomas. Childhood cancers reported in age group 0-19 years accounted for 15% of all cancers reported between 2012 to 2016 (n=482). This age group consists of 37% if the population according to 2014 Census.[9]

Diabetes: According to MDHS 2016-17, 4% of women and 2% of men said they had been told by a doctor or other health professional that they had diabetes. [16] This amounts to approximately 5850 people living with diabetes in Maldives.[10] Prevalence increased with age. Self-reported prevalence of diabetes did not differ significantly by area of residence, region, education or wealth.[15] In 2020-2021, STEPS survey showed that 4.8% of people had been diagnosed with diabetes. 2.3% (3.1% of women were 1.6% of men) were diagnosed with diabetes within the past 12 months.[11]

The prevalence of diabetes in Maldives is somewhat low compared to global statistics, despite the high prevalence of obesity. The global prevalence of diabetes among adults over 18 years of age has risen from 4.7% in 1980 to 8.5% in 2014.[12] It is possible that self-reporting in MDHS could miss some cases, thus under diagnosis of diabetes in the later MDHS is a possibility.

Among those with diabetes, about half (51%) of women and 43% of men said they were taking prescribed medication; 3.8% of women and 12.5% of men were taking insulin. Large majorities of diabetic respondents said they were working to control their weight, cutting down on sugar, exercising and stopping smoking (Table 2).[16]

Table 2: People with diabetes who are currently taking treatment

[9] The NCCP for Maldives 2019 -2023. Health Protection Agency, Ministry of Health

[10] Derived from age specific population from the Maldives Population & Household Census 2014. National Bureau of Statistics, Ministry of Finance & Treasury, Maldives. 2015.

[11] WHO STEPS survey on risk factors for noncommunicable diseases Maldives, 2020-2021. Health Protection Agency Maldives and World Health Organization Country Office for the Republic of Maldives.2023

[12] Global report on diabetes. World Health Organization 2016. Available from: https://www.who.int/news-room/fact-sheets/detail/diabetes

Table 15.3 Diabetes treatments

Among women and who have been told they have diabetes, the percentage who are currently taking various steps to treat the condition, according to sex, Maldives DHS 2016-17

	Among those diagnosed with diabetes, percentage who are currently:						
Sex	Taking prescribed medication	Taking insulin	Controlling weight or losing weight	Cutting down on/avoiding sugar	Exercising	Stopped smoking	Number of women/men diagnosed with diabetes
Women	51.2	3.8	66.5	84.1	50.3	64.6	295
Men	43.0	12.5	69.8	82.3	66.1	47.8	88

Source: Maldives Demographic and Health Survey 2016-17. Ministry of Health Maldives and ICF. [16]

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Hypertension: According to MDHS 2016-17, 4% of women and 2% of men said they had been told by a doctor or other health professional that they had hypertension on 2 or more occasions. [15] This amounts to approximately 5850 people living with hypertension in Maldives.[16] Prevalence increased with age. Self-reported prevalence of hypertension did not differ significantly by area of residence, region, education or wealth.[16] However, since most of the hypertensive patients are asymptomatic, this self-reported prevalence may highly underestimate the true prevalence.

Indeed, STEPS survey 2020-2021 showed that the prevalence of raised blood pressure (SBP ≥140 mmHg and/or DBP ≥90 mmHg or currently on medication for raised blood pressure) among the respondents was 23.9% (21.8% among men and 26.3% among women). [18]

Table 3: People with diabetes who are currently taking treatment – MDHS 2016-17

Table 15.2 Hypertension treatments

Among women and men who have been told by a doctor or other health professional on at least two occasions that they have high blood pressure, the percentage who are currently taking various steps to treat the condition, according to sex, Maldives DHS 2016-17

	Among those diagnosed with high blood pressure, percentage who are currently:					
Sex	Taking prescribed medication	Controlling weight or losing weight	Cutting down on salt	Exercising	Stopped smoking	Number of women/men diagnosed with high blood pressure
Women	52.3	54.5	76.7	43.9	55.1	334
Men	48.0	66.2	65.6	63.1	47.7	99

Source: Maldives Demographic and Health Survey 2016-17. Ministry of Health Maldives and ICF.[16]

According to the STEPS survey 2020-2021, only 16.3% received treatment.

The higher treatment rates in later MDHS could be due to self-reporting in MDHS, leading to people with more awareness admitting to having hypertension, thus being keener on

treatment with both medicines and lifestyle modification Therefore, Maldives requires more actions to improve detection and increase treatment and lifestyle management of hypertension and diabetes.

Mental health:

In 2017, 207 hospital admissions to IGMH were for mental health and behavioral conditions. Of these, 200 were Maldivians and 7 foreigners. 46% were males. Around 2 in 10 were repeat admissions.[8]

The survey of the Mental Health Situation in the Maldives (2003) revealed that 29.10% of the sample self-reported that they suffer from mental health conditions. The survey estimated that the prevalence of neurosis was 22.3% while the prevalence of psychoses was at 1%. Furthermore, twice as many women were found to suffer from depression, anxiety and somatic symptoms in comparison to men.[13]

Substance abuse: (4.4%) of students had ever used marijuana one or more times during their life. Of these, 69% had used drugs for the first time before age 14 years. Drug use was more common among boys (6.7%) than girls (1.7%).[21]

Thalassemia:

Maldives has a relatively high prevalence of Thalassemia. 623 patients were taking treatment for Thalassemia in 2016. There were 3 Thalassemia deaths in 2015 and 6 deaths in 2016. A total of 9,543 and 6,091 people were screened for Thalassemia in 2015 and 2016 respectively. With these screenings, by 2015 and 2016, more than 400 males and females were registered in Maldives Blood Service (MBS). 22 new cases were detected in 2015 and 14 in 2016. More new patients were detected in the atolls. 15% of those screened in 2016 were found to be B-Thalassemia carriers.[3]

Disability: According to Household Income and Expenditure Survey (HIES) Maldives 2019, prevalence of disability stands at 9% of the population above 5 years age. Disability increased with age. The highest prevalence of disability was 58% at ages above 75 years. The prevalence of disability among children (aged 5-17 years) was 4%. Almost 35% of the population with disability experience multiple disability. Among them, most experience difficulty in two domains. Men tend to experience more difficulty by multiple kinds of disability. Majority of

[13] Niyaz, H., & Naz, A. (2003). Mental health situation in the Maldives. Male': Ministry of Health.

them have disability in 2 or 3 domains. [14] According to the Maldives Demographic Health Survey (MDHS) 2016-17, the proportion of the household population with any disability declined as wealth increased.[16]

NCD RISK FACTORS

STEPS survey 2020-2021 showed that dietary habits, high blood pressure, high body mass index and tobacco use were in the top five attributable risk factors for the burden of disease in the country.[3] Population/city-based surveys show that the prevalence of NCD risk factors has not shown any decrease in the population in the past decade.

Tobacco use:

Tobacco use is highly prevalent in Maldives. MDHS 2016-17 showed that 42% of men smoked any type of tobacco. Smoking any type of tobacco was 2.7% among women.[16] Almost all male smokers smoked cigarettes, while half of the women smokers smoked other types of tobacco (including hooka/shisha, bidis, cigars, pipes, and e-cigarettes). Among men who smoke cigarettes daily, majority of close to one-half (45%) smoke 15-24 cigarettes each day while 9% of daily cigarette smokers smoke 25 or more cigarettes each day. The highest prevalence of smoking was in the younger age group 20-24 years among men and in the older age group of 45-49 years among women.[16] This was similar to STEPS survey 2020-2021, where smoking among women was highest among the age group of 45-69 years. [18] [16]

Smoking among adults seems to have increased by 2016-17, particularly among men (42%), when compared to the prevalence of 34.7% of men and 3.4% of women in the STEPS survey 2011, given that the MDHS covers a narrower age range than the STEPS survey. Smoking prevalence among people 15-65 years was 18.8% in 2011 STEPS Survey and 22% in 2004.[18] In the STEPS Survey 2020-2021, 23.1% are current smokers out of which (35.6% are males and 7.6% are females), out of the current smokers, 87.1% are daily smokers and the most commonly used type is manufactured cigarettes. About 5% of the population also uses smokeless tobacco. The mean age at which the respondent's started smoking was 18 years.[18]

However, smoking among adolescents has decreased slightly, according to Global School Health Surveys (GSHS). Tobacco uses among school going students aged 13-17 years showed a slight decrease in prevalence in 2014 with 12.3% (CI: 10.7-14.1) of students who currently used any tobacco products during at least one day during the past 30 days before the survey,

[14] Maldives Bureau of Statistics, Ministry of National Planning & Infrastructure. Household Income & Expenditure Survey (HIES) Maldives 2019, available from: https://statisticsmaldives.gov.mv/demographic-characteristics-by-disability/

compared to 14.7 (CI: 12.1-17.7) in 2009.[15],[16] Between 2009 and 2014, the Tobacco Control Act (2010) was implemented, and a regulation banning smoking in most public places was implemented from December 2012. However, it is alarming that the youngest age of initiation had decreased to less than 7 years of age in 2014, from 9 years age in 2009. [18]

Another major concern is the high exposure to second hand smoke. MDHS showed that someone smoked indoors on a daily basis in more than 1 in five (22%) of households. It is alarming that 63.4% (CI 60.5-66.2) of school children aged 13- 17 years reported that people smoked in their presence on one or more days during the 7 days before the GSHS survey.[22] The reports of Grade 1 student health screening conducted nationwide by the Ministry of Education showed that parental smoking and tobacco use was high (40%) among parents of Grade 1 students, exposing these young children to tobacco smoke and related health problems. Asthma was the commonest medical illness among these children, with 5.8% of children suffering from asthma. [17], [18] There was as strong association between asthma and parental smoking. Children whose parents smoked had a risk of 11 times that of children whose parents did not smoke (P<0.05).[21] Parental tobacco use was higher in the atolls than Male' (49% vs. 23%), indicating the need for more education and better implementation of tobacco control laws such as smoking bans in the atolls.[24] There was a decrease in parental tobacco use from 47% in 2016 to 40% in 2018, indicating that addressing this risk factor during school health screenings at this key stage of life for a child and his/her parents may have helped to educate parents and reduce parental smoking and the risk to children to some extent.[21] During this period media awareness campaigns and programs on the risks of tobacco were minimal.

Unhealthy dietary practices:

Fruit and vegetable consumption is very low among Maldivians. In Male City, 92.6% of men and 94.6% of women consumed only one serving of fruits and /or vegetables per day[19] far behind the WHO recommended serving of five portions of fruits and vegetables in a day. In a typical week, fruits were consumed on 3.3 days and vegetables on 3.8 days.

Maldivians also appear to consume diet high in salt and saturated fats. There is no data of mean salt intake for Maldivian population. The expert opinions speculate that salt

[15] Global School-based student Health Survey Maldives 2014. Ministry of Education, Republic of Maldives.

[16] Global School-based student Health Survey Maldives 2009 Country Report. Ministry of Education, Republic of Maldives. Ministry of Health and Family; World Health Organization and Centre for Disease Control and Prevention.

[17] School Health Screening Report 2018: Grade 1. Ministry of Education, Ministry of Defense and Ministry of Health of the Republic of Maldives.

[18] School Health Screening Reports: Grade 1: 2016. Ministry of Education, Ministry of Defense and Ministry of Health of the Republic of Maldives.

consumption would be much higher than the recommended level of <5 g/day. [19] Consumption of sugary drinks and energy drinks has been trending over the recent years, with sugary drinks and energy drinks being heavily advertised. GHSH 2014 showed that 33.8% of students consumed carbonated soft drinks one or more times per day during the 30 days before the survey. This was higher among boys than girls (37.5% vs. 29.8%).[21]

An early start in healthy dietary practices is important for reducing NCDs, and breastfeeding and healthy feeding practices in infancy are key measures. According to the 2016-17 MDHS results, 64% of children under age 6 months were exclusively breastfed. 62.7% continued breastfeeding till 2 years. [16] The feeding practices of only half of children age 6-23 months (51%) in the Maldives meet the minimum standards with respect to all three IYCF practices (breastfeeding status, number of food groups, and times they were fed during the day or night before the survey). 76% of children had an adequately diverse diet in which they had been given foods from the appropriate number of food groups, and 70% had been fed the minimum number of times appropriate for their age. There was a slight decrease in the proportion of children age 6-23 months who were fed appropriately since MDHS 2009. Children in Malé (59%) and North Central region (58%) were more likely to fed according to the minimum acceptable dietary standards than those in South region (35%). The likelihood that a child is receiving the minimum acceptable diet generally improved with the mother's education level and household wealth.[16]

Physical inactivity:

According to the STEPS survey 2020-2021, 45.8% (47% men and 44.2% women) were not achieving the recommended level of physical activity. According to the GSHS 2009, only 25.5% of children achieved the required level of physical activities of 60 minutes per day. Boys were more physically active than girls (29.3% vs. 21.9%). 41.6% of students spent three or more hours per day doing sitting activities during a typical or usually. Sedentary behavior was more common in Male' (46.2%) than in atolls (39.6%).[22] More recent statistics on physical activity was not available, including the GSHS 2014.

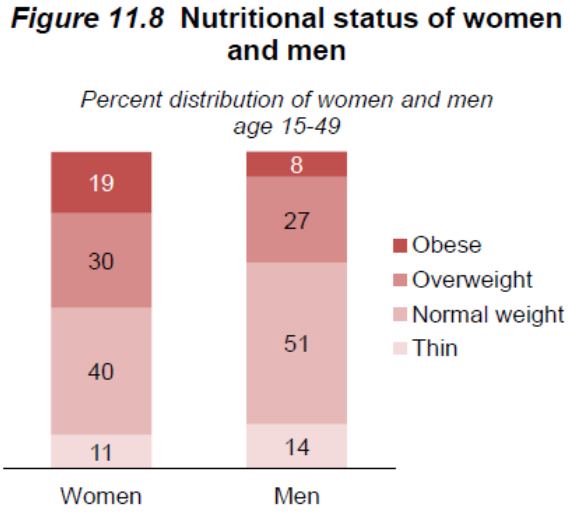
Obesity and Metabolic risk factors:

According to MDHS 2014, almost half of women (49%) in the Maldives are overweight (BMI Between 25.0 and 29.9) or obese (BMI >30). 40% had normal weight for their height and 11% of women were thin. Mean BMI for women was 25.4. Over one third of men (35%) were either overweight or obese (BMI >25), while half (51%) had normal weight (BMI between 18.5 and 24.9), and 14% were thin (BMI below 18.5). The mean BMI for men age 15-49 was 23.5. (Figure 8) The proportion of women and men who are overweight or obese increases steadily with age. Overweight and obesity among women was higher in the atolls than in Male', and

[19] Interview with Dr. Ali Nazeem, MD (Internal Medicine), Indira Gandhi Memorial Hospital, Male', April 17, 2014.

decreased with increasing education and also to some extent with increasing wealth. There was no particular pattern for men. [16]

Figure 9: Nutritional status of men and women aged 15-49 years in 2016-17



Source: *Maldives Demographic Health Survey 2016-17. Ministry of Health Maldives.*[16]

GHSH 2014 showed that 15.8% of adolescents between age 13 and 17 years were overweight (>+1SD from median for BMI by age and sex), and 4.9% of students were obese. Being overweight was higher among girls (17.8%) than boys (13.7%). Being overweight was higher in Male' (19.2%) than the atolls (14%). In Male', being overweight was higher among younger children aged 13-15 years (23.1%) than the older ones aged 16-17 years (15.6%),[21] indicating a possibility for obesity to continue to increase further.

According to MDHS 2014, the proportion of children who were overweight decreased very slightly, from 6% to 5% from 2009. 5% of children were overweight, 15% of children were stunted and 9% were wasted or too thin for their height. The prevalence of stunting had decreased to 15% from 19% in 2009.[16]

Data on hypercholesterolemia was not available. Hypertension and diabetes are discussed above.

Alcohol use:

Overall prevalence of current drinkers is less than 1% as per the STEPS 2020-2021. Although this is encouraging, statistics suggest that a small portion of young children are taking up alcohol as well according to the GSHS 2009.[22] Nearly 4% of children reported consuming alcohol and majority who consume in an amount to get drunk. (Alcohol use had not been assessed in GHSH 2014 due to an error in the question, however, majority (74.7%) of students who drank alcohol tried it for the first time at a young age – below 14 years.) Also, a similar proportion (4.4%) of students had ever used marijuana one or more times during their life. Of these, 69% had used drugs for the first time before age 14 years. [22]

Air pollution:

The estimated age-standardized mortality rate attributed to household and ambient air pollution in Maldives was 25.6 per 100,000 population, which is the lowest among countries of the SEAR.[20]

The limited ambient air quality monitoring results available from Male' showed air pollution exceeding the WHO health standard in 28 of the 38 weekly samples (74%). The WHO ambient air quality standards for PM2.5 are 10ug/m^3 (as an annual average), and 25ug/m^3 for a 24-hour (99_{th} percentile) value. These samples were taken as weekly high-volume samples from a single station in the capital Male over 12 months between January 2013 and January 2014. The results from this study (MCOH 2015) indicate the annual average PM2.5 in Male was 19ug/m^3, compared to the MCOH remote site where the annual average was 13ug/m^3. [21]

Motor vehicle use: From 2007 to 2014 the number of vehicles has increased over 295%, despite the small size of Male'. Diesel consumption contributes to 80 % of Maldives carbon dioxide emissions and vast majority of diesel emission in the country comes from transport sector and energy generation.[27,22]

Less than 1% of households in the Maldives uses some type of solid fuel for cooking, with the vast majority using liquefied petroleum gas (LPG) or natural gas. 72% of households cook inside the house (96% of households in Malé region and 57% of households in other atolls); however, since 98% of households use clean fuel for cooking, cooking inside the house is not an important source of air pollution in Maldives. Rather, the most important source of smoke inside the home in the Maldives is due to smoking. In more than one in five households (22%), someone smoked inside the house on a daily basis.[16]

PROGRESS , CHALLENGES AND OPPORTUNITIES FOR CONTROL OF NCDS

Health Master Plan (2016-2020) recognizes health promotion and NCD prevention as a key approach to improve population health. The two-year national strategic plan (2008-2010) for NCD was yet another clear step taken to address NCDs. Even though the Strategic Plan could not be implemented at a full scale, important milestones were achieved. The key ones were instituting NCD surveillance through NCD STEPS survey, creation of NCD Unit at the HPA, enactment of tobacco control laws in 2010, piloting PEN intervention and sensitizing political bodies in the country on NCDs. It was followed by the National Multisectoral Action Plan for the Prevention and Control of Noncommunicable Diseases 2016-2020.

[20] World Health Statistics 2019

[21] Maldives Breathe Life Implementation Plan (2019 – 2020) (Draft) shared by HPA Environmental Health program

[22] http://breathelife2030.org/news/breathelife-welcomes-greater-male-region-maldives/

The health system is well distributed and staffing levels of doctors, nurses and other health workers have improved in the past few years particularly through the hire of expatriates from outside. However, the high turnover of health care professionals is a challenge. The health centers and hospitals are equipped to provide basic level of care for all health services including NCDs, however the baseline coverage needs to be assessed. With the number of private health care providers on the rise, the coverage and options for NCD related services would also increase. Special attention must be paid in maintaining equity in access to NCD services due to geographical spread of islands.

Sizeable numbers of NGOs are directly or indirectly engaged in prevention and control of NCDs and other health issues. NCDs need to be managed within the existing framework of the Maldives legal and governance structure creating an inclusive process for all sectors participation and contribution. While managing the basic health care services, the capacity of tertiary care facilities cannot be ignored. Currently, IGMH, regional Hospitals, Atoll Hospitals and ADK hospital provide the tertiary services; capacity improvement is required for advanced NCD management either through building the capacity of the institutions and/or developing better referral linkages within or outside the country.

The State sponsored social health insurance scheme, Aasandha provides universal coverage which is an immense safety net for the Maldivians. However, the insurance scheme needs to be responsive to address the gaps that may arise with the surging population needing NCD medical care and to minimize out of pocket payments and catastrophic health expenditure.

Urbanization and demand of physical space will also be a challenge for physical activity promotion. Ever increasing traffic volume and associated pedestrian accidents are a problem in Male'.[23] This provides an invaluable opportunity to rethink the urban structural development, vehicle import policies and restructuring major cities like Male' to enable long range planning.

Sole dependence on the imported food products, the country needs strong domestic policies. Capacity strengthening is required at the MFDA to ensure proper regulation of the quality of imported food products and other goods. The globalization effects of trade are palpable with high use of tobacco, fast acculturation of beverage promotion and changing food habits in the country. With the implementation of a risk factor-based model of NCDs prevention and control, influences and conflict of interest of tobacco, food and beverage industries can be transparently managed.

Existing school based healthy lifestyle programs, momentum in tobacco control laws, and the growing interest of NGOs for NCD prevention and control and recognition by non-health government sectors on NCDs as a cross sectorial issue holds a great opportunity for a true multisectoral response for NCDs in the Maldives. The Health Awards, given out annually in

[23] Injury prevention program, HPA

connection with the World Health Day in recognition of excellence in healthcare services, has been instrumental in the healthcare facilities according greater importance to broaden their spheres of service, including those related to the control and management of NCDs. The government's plans to restructure the capital city, with a focus to provide more recreational and socializing areas, and new initiatives for green spaces like such as Rasfannu beach area, free for use outdoor exercise areas in Male', Hulhumale' and several islands would result in tangible health outcomes, in the foreseeable future.

PART II- APPROACHES AND STRATEGIC ACTIONS

PROCESS OF DEVELOPMENT OF THE MULTISECTORAL NCD ACTION PLAN

The initial Action Plan (2016-2020) was developed through a multi-step process of consensus building of the stakeholders. A technical consultant of World Health Organization from WHO SEARO was appointed to initiate the discussion and gather views and suggestions from the stakeholders from April 13-May 6, 2014. The consultant did the desk review of the NCD response and met with stakeholders individually and in groups. Stakeholders were organized in thematic clusters and a two-day meeting was conducted on April 21-22, 2014. The recommendations of the stakeholders were compiled and the document was circulated for feedback. A final stakeholder consultation was held on April 30, 2014. Several activities in the plan were implemented, and the progress is detailed under the specific sections of this NCD MAP.

The revised NCD Multisectoral Action Plan (2023-2031) was prepared by a national technical consultant through WHO. An evaluation was conducted using the WHO NCD MAP evaluation tool[24] on the first NCD MAP and its implementation and the current situation of NCDs and risk factor prevalence in Maldives through desk review and series of meetings with HPA NCD prevention and control program and various stakeholders. Accordingly, a revised Action Plan was developed based on the current evidence-based Best Buys for NCD prevention and control[25] and plans of the NCD prevention and control program and other programs of HPA and MOH, with inputs from a wide representation of stakeholders engaged by a series of meetings held through June-September 2019 with various stakeholders in groups, and where more inputs were needed, with individuals and specific organizations.

Stakeholders were engaged from the following broad categories:

a. HPA and MOH: the various departments and Divisions
b. Health facilities in Male' and the atolls
c. Government organizations including ministries, implementing organizations and independent monitoring organizations
d. Community based organizations (NGOs)
e. Universities and institutions providing formal professional training and higher education
f. Media

[24] WHO toolkit for evaluating NCD MAP, available from: http://apps.who.int/nmh/ncd-map-toolkit/evaluating/tool-framework.html, http://apps.who.int/nmh/ncd-map-toolkit/evaluating/tool-steps.html

[25] WHO. Tackling NCDs: "Best buys" and other recommended interventions for the prevention and control of noncommunicable diseases. 2017. WHO reference number: WHO/NMH/NVI/17.9 Available from: https://www.who.int/ncds/management/best-buys/en/ and https://www.who.int/ncds/management/WHO_Appendix_BestBuys.pdf

The complete list of stakeholders is given in the list of Abbreviations under *Stakeholders involved* Under the list of Abbreviations.

The recommendations of stakeholders were incorporated and circulated by email among the stakeholders for further comments, which were incorporated accordingly as appropriate, and discussed for consensus and incorporated where opinions differed.

CONTEXT

Health Protection Agency (HPA) is the main public health organization responsible for NCD prevention in Maldives. HPA is a semi-independent organization headed by a Director General, under the Ministry of Health, and reports to the Minister of Health, who holds overall responsibility for the functions of HPA. The main unit responsible for NCD prevention and control is the Health Promotion & Chronic Diseases Division of HPA. This department looks after NCD prevention and control, mental health and health promotion. There is a Unit for NCD prevention and control within this Division. Other departments in HPA heavily involved in NCD prevention and control include the Population Health Division, of which Nutrition, Reproductive Health and Environmental Health sections play a large role. Other departments including, Communicable Disease Control Division, Public Health Surveillance Division and the sections under them do also have overlapping areas of work. Other technical departments in the Ministry of Health (MOH) that play a role include Maldives Food & Drug Authority (MFDA) which is responsible for regulation of food safety, and Health Information Management and Research Division (HIMRD) which collects, analyses and reports on the national disease burden statistics from health facilities and from the national Vital Registry System (VRS) through the National Bureau of Statistics.

Ministry of Health (MOH) is overall responsible for the planning and provision of health services for the management of NCDs including diagnosis, screening, early detection and treatment through a network of health facilities nationwide. The main tertiary hospital, Indira Gandhi Memorial Hospital (IGMH), in the process of upgrading to a larger Dharumavantha Hospital with a higher capacity, is a government hospital independent from the Ministry of Health, functioning directly under the President's Office (PO). MOH has a network of Regional and Atoll hospitals and Health Centers throughout the atolls. Each Regional or Atoll hospital, situated in the capital island of the atoll, caters to the needs of the atoll population and provide leadership to the health Centers catering to the populations of the islands, which are under these hospitals. Each Regional or Atoll hospital has a Public Health Unit providing preventive services. Island Health Centers provide preventive and curative services within the same premises. Urban primary care centers called Dhamanaveshi that provide preventive services were planned for cities such as Male' City, Addu City in the south and Kulhudhuffushi in the north of Maldives. However, the process is slow. Dhamanaveshi was established only in Male' since 2015 which has seen significant developments in NCD prevention and control services at PHC level. Addu Dhamanaveshi did not last long and was subsequently converted

back to a Health Center. MOH plans to upgrade regional hospitals to tertiary hospitals, during which process it is possible that the PHC services would change to Dhamanaveshi's situated outside the hospital.

The Republic of Maldives recognizes the increasing prevalence of NCD risk factors and the growing burden of NCDs in the population as a developmental issue. In order to tackle the rapidly growing NCD burden in a swift and evidence-based, effective manner, the National Multi-sectoral Action Plan for the control of NCDs (2023-2031) aims to provide a clear pathway in the nation's pursuit to join the global fraternity to achieve the voluntary NCD targets for 2025 and 2030. The Action Plan builds on the past initiatives implemented under the National Multi-sectoral Action Plan for the control of NCDs (2016-2020) and the Maldives National Strategic Plan for Prevention and Control of NCDs 2008-2010. The Action Plan is also motivated by nation's commitments made at the international and regional forums most important among them being;

- The Political Declaration of the High-level Meeting of the United Nations General Assembly on the Prevention and Control of NCDs (September 2011)
- Global Action Plan for the Prevention and Control of NCDs (2013-2020) endorsed through resolution WHA66.10 (May 2013)
- Resolutions of the Twenty-ninth Meeting of the Health Ministers in SEARO, 2011.
- The Clomo Declaration to Strengthen NCD Services at the primary health care, 2016 [26]

SCOPE AND LINKAGES

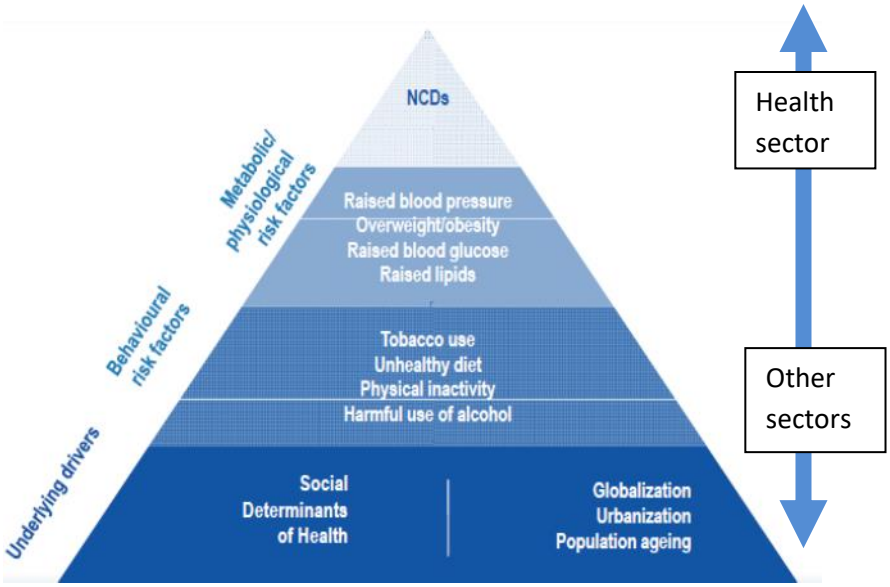
The Multi-sectoral NCD Action Plan will cover five key modifiable risk factors (tobacco use and exposure, consumption of unhealthy diets, physical inactivity and alcohol use, air pollution) and five key NCDs accounting for the highest mortality (cardiovascular diseases, chronic obstructive pulmonary diseases, cancer, diabetes and mental health). Additionally, a small component has been included on management of chronic kidney diseases and Thalassemia, as these diseases also contribute significantly to the NCD burden in Maldives. The Action Plan will ensure a holistic multisectoral approach embracing policy, legal/regulatory and structural components necessary to address complex social determinants of NCDs and their risk factors. Most importantly, the Action Plan will have heavy reliance on partnerships with non-health stakeholders and their efforts to integrate NCD prevention strategies within their plans. Within the Health Sector, the Action Plan will build synergies with the existing programs such as tobacco control, nutrition, maternal and child health, environmental health, occupational health, injury prevention and road safety, communicable disease control, immunization, mental health and prevention of substance abuse to name a few.

[26] • The Clomo Declaration to Strengthen NCD Services at the primary health care, 2016. http://www.searo.who.int/mediacentre/events/governance/rc/colombo_declaration_final.pdf?ua=1

SOCIAL, ECONOMIC AND COMMERCIAL DETERMINANTS AND RISK FACTORS OF NCDS

The action plan will be guided by the pyramidal framework shown below to prioritize NCD interventions. The framework portrays the influence of social determinants, effect of globalization and urbanization on the metabolic risk factors and subsequent development of the clinical NCD conditions. The increasing burden of NCDs is attributed to social determinants of health, in especially population ageing, rapid and unplanned urbanization, effects of globalization (such as trade and irresponsible marketing of unhealthy products), low literacy and poverty. The policies addressing social and economic determinants at the macro level have impacts on NCDs. The health sector related interventions generally targeted at the upper level of the pyramid are costlier while an intervention at the lower portion of the pyramid caters to larger population and are cost effective and multisectoral in nature. The framework demonstrates the need of a comprehensive approach addressing the various levels of determinants for implementing NCD prevention and control.

Figure 10: Determinants of NCDs.



Source: Adapted from SEA Regional NCD Action Plan

VISION

For all people of the Republic of Maldives to enjoy the highest attainable status of health, well-being and quality of life at every age, free of preventable NCDs, avoidable disability and premature death.

GOAL

To reduce preventable morbidity, avoidable disability and premature mortality due to NCDs in the Republic of Maldives.

SPECIFIC OBJECTIVES

1. To raise the priority accorded to the prevention and control of noncommunicable diseases in the national agendas and policies according to international agreed development goals through strengthened international cooperation and advocacy
2. To strengthen national capacity, leadership, governance, multisectoral action and partnership to accelerate country response for the prevention and control of noncommunicable diseases
3. To reduce modifiable risk factors for noncommunicable diseases and underlying social determinants through creation of health-promoting environments
4. To strengthen and orient health systems to address the prevention and control of noncommunicable diseases and underlying social determinants through strengthening primary health care approach.
5. To promote and support national capacity for high quality surveillance and operational research development for the prevention and control of noncommunicable diseases.

TARGETS FOR 2025 and 2030

The country goals for 2025 will align with the regional targets with only a slight variation in goal viii. However, with the slowing down of activities due to the Covid-19 pandemic, we have revised the plan to achieve these targets by 2031. This goal will target to reduce indoor tobacco smoke exposure and reduction of air pollution in general rather than focusing only on reducing household air pollution due to use of fossil fuels, which is very low in Maldives (<1% of households). All goals have been set as % relative reduction compared to baseline in year 2011 and 2015.

(i) A 25% relative reduction in premature mortality from cardiovascular diseases, cancers, diabetes, chronic respiratory diseases, chronic renal diseases and psychological diseases; i.e.
   a. Relative reduction of mortality attributed to NCDs from 81% to 60% by 2025.
   b. Relative reduction of proportional mortality due to NCDs from 75% in 2015 to 56% by 2031
   c. Relative reduction of the risk of premature death from CVD, cancer, diabetes, chronic respiratory disease between age 30 and 70 years from 16% in 2014 to 12% by 2030.

(ii) Relative reduction of suicide mortality rate from 3.25 per 100,000 population in 2017 to 2.4 per 100,000 population by 2030.

(iii) A 30% relative reduction in age standardized prevalence of current tobacco use in persons aged 15 years and older. This will amount to reducing tobacco prevalence from 18.8% (34.7% of men and 3.4% of women) in 2011 to less than 14% (less than 24% of men and less than 2.4% of women by 2030.

(iv) Total abstinence of alcohol and other substances use.
   a. To maintain total alcohol per capita (≥15 years of age) consumption below 3 liters of pure alcohol per year since 2011.
   b. to maintain the alcohol, use among adults at below 1% (from 2011)
   c. reduction of prevalence of alcohol use of alcohol among adolescents from 4% in 2009 to 3.6% in 2031

(v) A 25% relative reduction in prevalence of insufficient physical activity, that is from 45.9% in 2011 to less than 34% in 2031.

(vi) A 30% relative reduction in mean population intake of salt/sodium from 8g/day in 2010 to 5.6 g/day by 2031.

(vii) A 30% relative reduction in inadequate fruit & vegetable intake from 92.6% men, 94.6% women in 2011 to 70% by 2031.

(viii) A 15% reduction of areca nut chewing (baseline to be assessed in next STEPS survey).

(ix) A 25% relative reduction in prevalence of raised blood pressure, i.e., a reduction of hypertension prevalence from an estimated 16.6% in 2011 to less than 12.5% by 2031.

(x) Halt the rise in obesity and diabetes, i.e., maintain the prevalence of obesity at not more than 26% and that of diabetes at not more than 4.7% by 2031.

(xi) A 50% relative reduction in air pollution

a. A 10% reduction in mortality rate attributed to household and ambient air pollution from 25.6 per 100,00 to 23.4 in 2018 per 100,000 by 2031.

b. Prevalence of exposure to second hand smoke in homes, work places and public places in closed settings (e.g., restaurants, hotels, cafés), i.e., reduce the prevalence of exposure from 21.3% of exposure at home and 17.1% at work places to less than 11% and 9% respectively by 2031, baseline to be assessed for exposure in restaurants.

(xii) A 25% reduction in ambient air quality and indoor air quality (PM2.5 particle concentration)- baseline to be measured

(xiii) Above 50% of eligible people receive drug therapy and counseling (including glycemic control) to prevent heart attacks and stroke, i.e. to maintain the proportion of eligible people with hypertension, diabetes and hyperlipidemias receiving drug therapy and counseling for healthy lifestyle above the present baseline values (all above 50%-see section on monitoring) and increase brief intervention for stopping smoking from 15.4% of patients advised to above 50% of patients advised and above 80% of current smokers among the patients.

(xiv) An 80% availability of affordable basic technologies and essential medicines, including generics, required to treat major NCDs in both public and private health facilities

a. % of inhabited islands with health facilities that have pharmacies (baseline to be assessed) (Number of pharmacies (ALL inhabited islands have at least one pharmacy): 339 in 2017)

b. % of health facilities where patients have access to at least 80% of the basic medicines and technologies identified in PEN protocols (baseline to be assessed under the Monitoring activities using basic technologies required under the PEN protocols)

Please refer to Part IV- Monitoring the implementation and outcomes for indicators, sources of information and methods of measuring the target outcomes.

GUIDING PRINCIPLES

The NCD national action plan relies on the following overarching principles and approaches.

Focus on equity: Policies and programs should aim to reduce inequalities in NCD burden due to social determinants such as education, gender, socioeconomic status and migrant status.

Multi-sectoral actions and multi-stakeholder involvement: To address NCDs and their underlying social determinants and risk factors, functioning alliances are needed within the

health sector and with other sectors (such as agriculture, education, finance, information, sports, urban planning, trade, transport) involving multiple stakeholders including government, civil society, academia, the private sector and international organizations.

Life-course approach: A life-course approach is key to prevention and control of NCDs, starting with maternal health, including preconception, antenatal and postnatal care, and maternal nutrition; and continuing through proper infant feeding practices, including promotion of breastfeeding and health promotion for children, adolescents and youth; followed by promotion of a healthy working life, healthy ageing and care for people with NCDs in later life.

Balance between population-based and individual approaches. A comprehensive prevention and control strategy needs to balance an approach aimed at reducing risk factor levels in the population as a whole with one directed at high-risk individuals.

Empowerment of people and communities: People and communities should be empowered to promote their own health and be active partners in managing disease.

Health systems strengthening: Revitalization and reorientation of health care services are required for health promotion, disease prevention, early detection and integrated care, particularly at the primary care level.

Universal health coverage: All people, particularly the poor and vulnerable, should have equitable access to health care, without discrimination, to nationally determined sets of the needed promotive, preventive, curative, rehabilitative and palliative basic health services, as well as essential, safe, affordable, effective and quality medicines and diagnostics without exposing the users to financial hardship.

Evidence-based strategies: Policies and programs should be developed based on scientific evidence and/or best practice, cost-effectiveness, affordability, and public health principles. Appropriate monitoring and surveillance system should be placed for regular monitoring of the progress and results.

Management of real, perceived or potential conflicts of interest: Public health policies for the prevention and control of NCDs should be protected from undue influence by any form of vested interest. Real, perceived or potential conflicts of interest must be acknowledged and managed.

Strategic Priority Actions for NCD prevention and control

The priority activities for the Republic of Maldives are structured around four strategic objectives, each having specific sub- objectives, with activities and sub-activities categorized under these:

1. Strategic Objective 1: Governance
2. Strategic Objective 2: Health promotion and risk factor reduction
3. Strategic Objective 3: Health systems strengthening for early detection and management of NCDs and their risk factors
4. Strategic Objective 4: NCD Surveillance, monitoring and evaluation and research

Implementation of these strategic actions is expected to lead to a reduction in overall mortality from the five main NCDs including mental health and attempts to achieve the goals and targets for NCD prevention and controls. This is a multi-sectoral plan where actions will be implemented in close collaboration with other health programs within HPA and MOH, as well as through the programs of other sectors including government organizations, academia, civil society and private sector.

Strategic Objective 1: Governance

Actions under this area aim to

- increase advocacy,
- promote multi-sectoral partnerships, and;
- strengthen capacity for effective leadership to accelerate and scale-up the national response to the NCD epidemic under the national government.

There are 3 areas under this objective, and the key measures planned are described under these areas:

Objective 1.1: Strengthen advocacy for NCD prevention and control

Objective 1.2 Strengthen national coordination for multi-sectoral action on the prevention and control of NCDs

Objective 1.3: Strengthen national NCD Leadership

Objective 1.1: Strengthen advocacy for NCD prevention and control

Key actions planned under this objective are as follows (Details, timelines and more actions are given in Annex 1. Numbers are activity/sub-activity numbers assigned in the tables.):

- Form a permanent or regular NCD/Health promotion Advocacy network of NGOs and academic institutions, where HPA can regularly update on progress and alert about sudden challenges and threats to stop effective NCD prevention measures and mobilize rapid community response to advocate collectively to overcome these in a quick and timely manner – HPA should lead this network, as recommended by Maldives NCD Alliance and other NGOS. A Viber group could help with regular communication and rapid response to threats.
- Capacity building of NGOs and academia to advocate – including trainings on how to advocate effectively, sharing of resources, latest international developments, policy briefs and IEC material for advocacy, etc.
- Engage universities to advocate for effective NCD prevention and control measures, train and engage students on advocacy for effective NCD prevention and control measures (see roles of universities in Annex 2)

- Step up advocacy to MPs, Social council and Cabinet of Ministers by going to them and presenting on effective NCD prevention and control policy measures and Best Buys
- Engage and build capacity of media to promote healthy lifestyles, advocate for Best Buys policy measures for NCD prevention and control and monitor implementation and industry interference including not accepting partnerships, sponsorships or funding from entities engaged in business or activities that are in conflict with the objectives of this plan.
- Engage private sector for NCD prevention and control and promotion of healthy lifestyles through workplace screenings and healthy lifestyles initiatives, and resource mobilization through partnerships and sponsorships for conducting awareness programs, events promoting healthy lifestyles and NCD prevention activities.
- Mobilize funding from a variety of sources – international and national, not limited to WHO. e.g., Dhiraagu/Ooredoo in providing health information to public through their portals, M-health applications, etc., Allied Insurance in incorporating NCD prevention into their product advertisements and promotional events, Banks and event organizers for organizing healthy events, guided by HPA or health related NGOs using approved guidelines, media partnerships for health promotion.

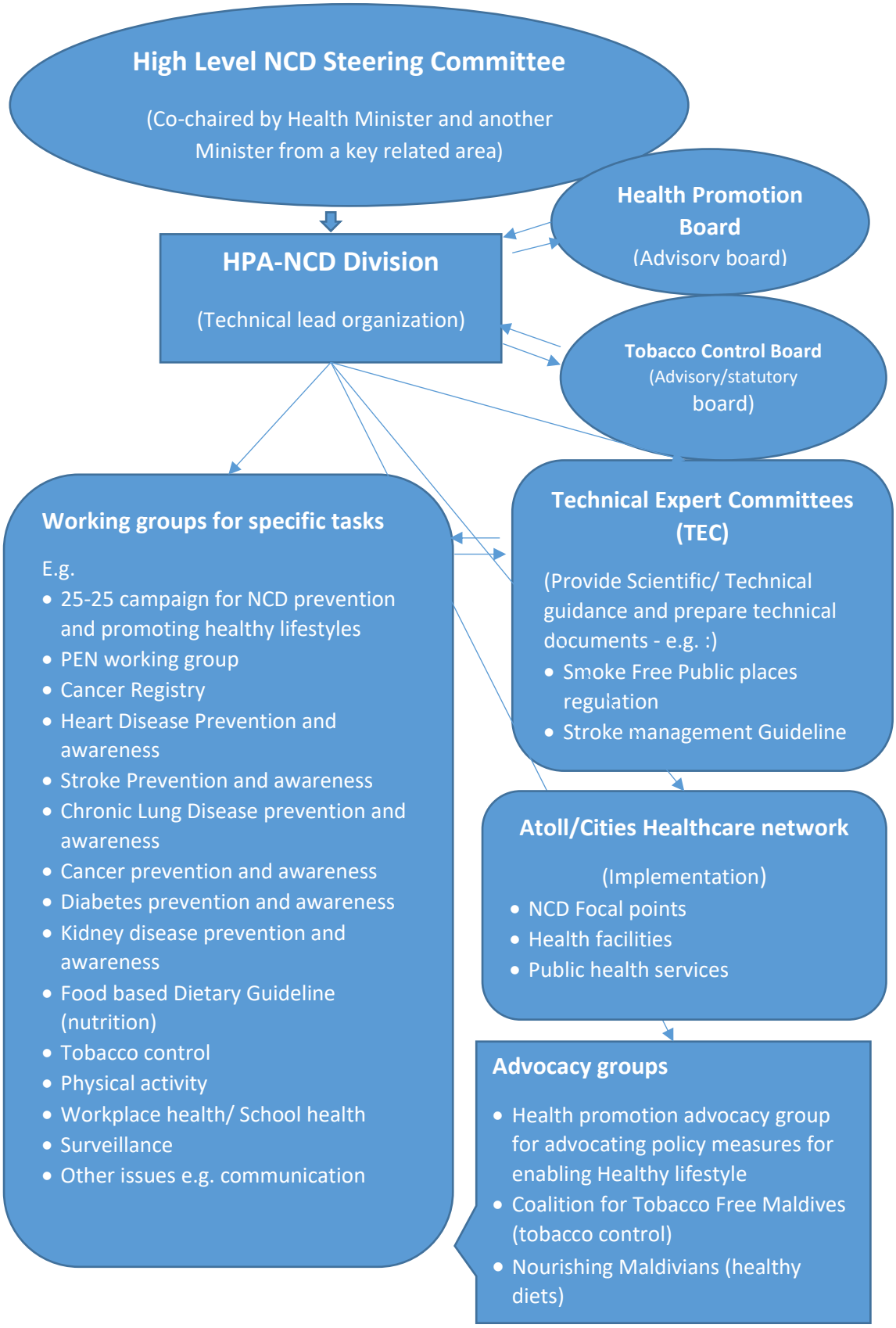
Objective 1.2 Strengthen national coordination for multisectoral action on the prevention and control of NCDs

The NCD prevention and control Unit of HPA is responsible for the national coordination of NCD prevention and control. A High Level NCD Steering Committee is to oversee the multisectoral activities for NCD action plan.

The country needs to have more effective national coordination mechanisms for NCD prevention and control. Higher level political involvement in the coordinating mechanisms is a necessity, and also a stronger secretariat and technical capacity in HPA/MOH to effectively guide and coordinate activities of the High-Level Steering Committee, the health sector network throughout the country, and other relevant sectors and organizations.

Below is a proposed outline for national coordination mechanisms for NCD prevention and control including some existing mechanisms as well as some proposed mechanisms, adopted from the WHO toolkit for preparing NCD MAP:

Figure 11: Proposed structure for national coordination mechanism for NCD prevention and control



The NCD Unit in the Health Protection Agency will be the secretariat to the High Level NCD Taskforce and the coordination point for the Multisectoral NCD Action Plan. One of the key learnings from the past few years from all countries is the need to have a dedicated staff to be Secretariat and ensure ownership and implementation of Multisectoral NCD Action Plan. The current capacity of the Chronic Disease Division is inadequate to perform these functions effectively. The technical and secretarial roles of the HPA NCD program should be ideally separate, and very clearly defined.[27] The NCD Unit therefore needs to be strengthened with additional human resources with the relevant capacities to perform the secretarial, coordination, technical guidance and implementation functions of the national action plan as shown the following:

BOX 1: The key responsibilities of the NCD Division

BOX 1: The key responsibilities of the NCD Unit

As a Secretariat to the Multisectoral High Level NCD Taskforce:

- Call regular meetings of the Multisectoral High Level NCD Taskforce
- Prepare agenda, present issues and document the proceedings and circulate the minutes of the meetings to all stakeholders
- Invite submission of issues to the stakeholders to be included in the meeting
- Invite issue-based presenters from stakeholders when required
- Complete the process of formation of subcommittees and Technical Expert Committees and provide assistance to the subcommittees and TECs
- Prepare national reports related to NCD response and ensure timely submission and follow up with the Office of the President and the Cabinet
- Prepare national reports related to NCD response and conduct proper dissemination of reports to the law makers, donors, UN agencies and other stakeholders

As a coordination point:

- Conduct and coordinate regular progress reviews among the stakeholders
- Conduct stakeholder's annual work planning workshop to develop NCD actions plans and ensure that plans are implemented in line with the Multisectoral NCD Action Plan
- Ensure regular submission of the activity progress reports from stakeholders and compile the reports
- Engage and orient stakeholders on the requirement and format of activity report
- Advice stakeholders on issues related to implementation

As an implementing agency:

- Implement the NCD Action Plan and the various work plans of the NCD unit, its sub-units and MOH

[27] Manju Rani, Sharmin Nusrat and Laura H Hawken. A qualitative study of governance of evolving response to non-communicable diseases in low-and middle- income countries: current status, risks and options, BMC Public Health 2012, 12:877. Available from: http://www.biomedcentral.com/1471-2458/12/877

HIGH LEVEL NCD STEERING COMMITTEE OR TASK FORCE:

A High Level NCD Steering Committee had been constituted under a special directive of the President to oversee the multisectoral activities for NCD action plan. This Taskforce is currently responsible for:

- Guiding stakeholder implementation of multi-year work plans
- Informing the government on the national policy and legal issues related to NCD prevention and control including ways to allocate greater financial resource for NCD response
- Maintaining the momentum and national spirit for NCD response

The High-Level Steering Committee was chaired by the Minister of Health, and constitutes of heads of various institutions including health professionals, media and sports, some of who are political appointees. However, there were no politicians in this committee other than the Minister of Health, and despite the co-chair being the head of the national media service (Public Service Media), the media contributions to NCD prevention and control were limited. This committee is currently not functional, as a fair number of politically appointed institutional heads have changed since the change of government in November 2018. HPA is in the process of re-constituting the High-Level Steering Committee. With the need to accelerate progress in NCD prevention and control, the country needs to have more effective national coordination mechanisms for NCD prevention and control.
Several stakeholders recommend taking the present High Level NCD Steering Committed to a higher level, e.g. a Presidential Task Force of relevant cabinet ministers and institution heads to be chaired by the President or Vice President, with a Steering Committee chaired by the Minister of Health, similar to other countries that have achieved more success in NCD prevention and control[28], in order to obtain a higher level political commitment and better multisectoral involvement of key government agencies. However, as the highest level politicians often have limited time to commit for regular meetings, evidence from other countries show that varying levels of political involvement can be mobilized successfully, thus the country has to adopt the best suited mechanism.[30] Given our present political structures, it seems more practical for Maldives to continue the High Level Steering Committee led by the Minister of Health, while it is recommended to be co-chaired by another minister who can mobilize several other key sectors and the higher political level, such as Minister of Planning & Infrastructure, Minister of Environment, or Minister of Economic Development (Figure 11). It should also be political adequately represented by the parliament, government agencies, civil societies, NGOs and media organizations. Key government organizations in this

[28] Multisectoral coordination mechanisms and responses to noncommunicable diseases in South-East Asia: Where are we in 2018? World Health Organization 2019.

Steering Committee, in addition to the three ministers mentioned above could include Ministries of Housing & Urban Development, Transport & Civil Aviation, Fisheries, Agriculture & Marine Resources, Home Affairs, Finance, Education, Youth, Gender, Islamic Affairs. Independent organizations such as Human Rights Commission of Maldives, Maldives Media Council. Academic representation such as Maldives National University would be useful to include. As Maldives now has a Maldives NCD Alliance, they would be the most appropriate to represent civil society in the High-Level Steering Committee. Steering Committee members should be the highest level and most influential decision makers of the organization who can give the commitment, ideally heads of organizations, but where commitment is not possible, at least the next in line. It is most important that the secretariat for the committee, HPA is strengthened to mobilize the relevant members, provide adequate secretarial support and also provide the necessary technical guidance and support for decision making by the committee.[30]

The Steering Committee or Taskforce will meet once in four months or a minimum of three times a year, and called together as required should a need for an urgent intervention to get political commitment for a high output NCD prevention and control measure be required. Detailed terms of reference of the High Level NCD Steering Committee/Taskforce and the NCD Unit/Secretariat will be approved by the President. The High-Level Steering Committee and the Secretariat will come into function on the day of granting approval by the President.

Advisory Boards:

As agencies embrace the NCD Action Plan, at times stakeholders are likely to face unforeseen policy challenges, legal and implementation issues that need support and wisdom of the many. In such situations, formation of Advisory Boards empowers MOH with problem solving mechanisms through regular inputs from stakeholders and field experts or engaging in cross-sectoral consultations as necessitated by the issue at hand.

The National Health Promotion Advisory Board (HPAB) that was newly formed requires strengthening of capacity and some expertise in the areas of public health and communication for behavioral impact, in order to provide evidence-based advice on plans and actions for effective health promotion. The HPAB also needs to develop a strong scope, mandates, membership and roles of members, including clauses to prevent conflicts of interest.

A fairly well represented Tobacco control Board exists, with a strong legally defined mandate, and may benefit from a member who could contribute from a religious perspective. The TCB has strict rules excluding members who have direct tobacco industry involvement, and also current smokers.

TECHNICAL EXPERT COMMITTEES AND WORKING GROUPS

The NCD Unit as a secretariat will propose formation of technical committees as and when deemed necessary. Constituting a permanent technical committee is not necessary as the issues in NCDs and lifestyle promotion is too diverse to rely on a fixed committee.

HPA also needs to constitute Technical Expert Committees for specific tasks that require technical expertise, such as formulation of regulations, guidelines, technical papers for specific policy measures, etc.

Example of members of the Scientific/Technical Expert Committee (TEC) on the National Lung Disease Control Program:

- National NCD coordinator (NCD unit) – should provide leadership organizationally as well as technically
- Clinical experts in Chronic Lung disease management (including asthma, COPD and TB) from medical school hospitals or national hospital (e.g., Consultant in Respiratory Medicine from IGMH Respiratory Medicine Clinic)
- Pediatrician from a tertiary hospital
- General practitioner with interest in chronic lung disease
- Expert on Tobacco control
- Representative from Environmental health/ Environment ministry
- Social scientist
- Psychologist, psychiatrist or specialist health professional providing care for mental health, alcohol and substance use problems
- Health researcher
- Schools' representative
- Workplace or occupational health representative

It is important that the NCD program of HPA provides the lead not only organizationally, but also technically from a public health point of view in the TEC Committees, as is done by other HPA programs such as Immunization, Emergency Preparedness, etc. E.g., the program and secretariat should be able to provide the committees with the necessary scientific evidence for recommended actions, national statistics and situation analysis, and clear recommendations for evidence-based decision making, and should be able to present these in a manner that enables and promotes evidence-based decision making by the committees. The NCD unit needs to build its capacity to provide this expertise.

Working groups or taskforces are technical groups which are formulated to perform specific tasks relative to the development and implementation of the policy, plans and programs. For

example, groups may be formed for the development of the National Cancer Control Programme or drafting a National Obesity Control Action Plan.

Formation of TECs and Working Groups will be approved by the High Level NCD Taskforce. When an issue can be addressed by a single agency, Taskforce may call upon the designate agency present the issues through an official correspondence singed by the chair/vice chair of the Taskforce. Clear terms of reference with deliverables and time frame for the assignment will be stated in the letter.

Subcommittee will be dissolved by the Taskforce after satisfactorily completing the task. The dissolution will also be officially conveyed through a written correspondence from the chair/vice chair of the High-Level Taskforce.

Atoll Healthcare network

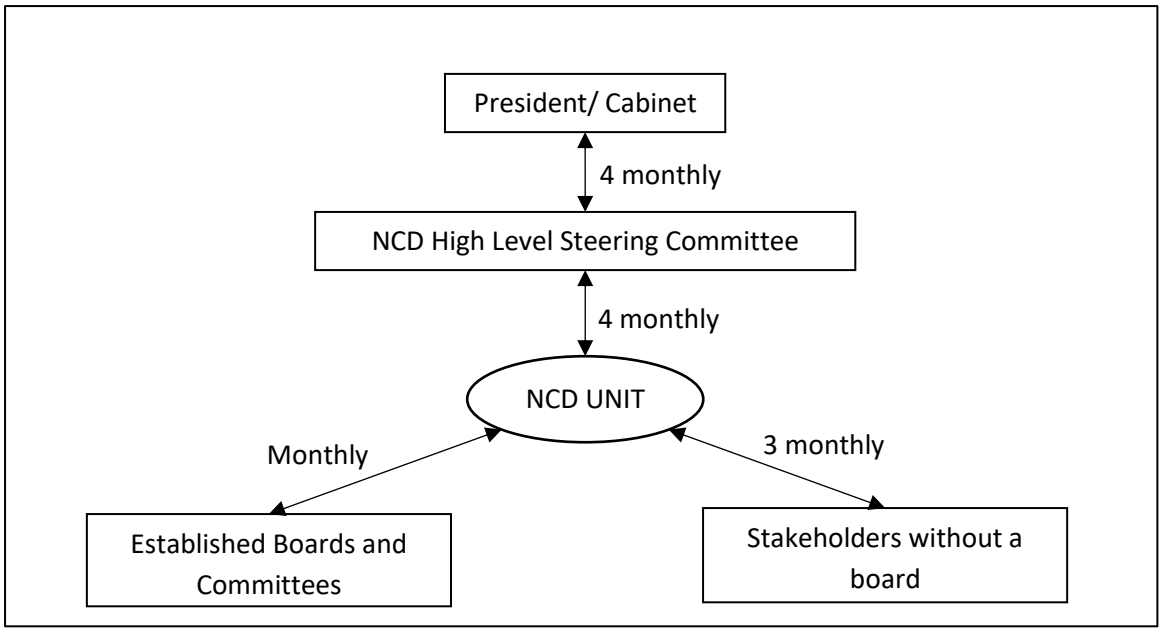
The MOH and HPA have a strong network of health facilities and public health services (Public health units (PHUs) and Dhamanaveshi's, with NCD Focal Points nominated from among the public health services for each atoll, and Male', Hulhumale' and Vili Male'. These are the implementers of the NCD Action Plan, and all other public health and curative services. The capacity of these implementing workforce needs to be built in order to implement the programs in this NCD MAP more effectively and efficiently to meet the targets of NCD prevention and control. They need better and regular trainings, sharing of information, mentoring and monitoring. New technologies to provide these such as internet-based video conference or web conference facilities and Viber groups for communication should be used to overcome the geographical limitations of providing face to face trainings and mentoring.

Details and timelines of activities to improve the coordination mechanisms for NCD prevention and control are given in Annex 1.

APPRAISAL AND CHANNEL OF COMMUNICATION

A proper line of coordination and communication is a necessity to facilitate smooth coordination and timely flow of information. Information flow pertains to tracking the performance of stakeholders through routine submission of progress report to the Secretariat (NCD Unit) and onward submission of information to the President and Vice President. The flow chart in Figure 12 below depicts the channel and frequency of flow of reports from the stakeholders. Also see under Part IV-Monitoring the Implementation.

Figure 12: Appraisal channels and frequency of reporting progress of activities for NCD MAP



Objective 1.3: Strengthen national NCD Leadership

With the huge challenges of combating NCDs, the targets can only be met by investing the best brains available in the country on NCD prevention and control, particularly NCD prevention. Unfortunately, compared to other countries, Maldives is lagging behind somewhat in NCD prevention and control, and despite expertise existing in the country, the Ministry of Health and HPA need to build adequate capacity and retain the expertise required to combat NCDs effectively.

Below are actions to build the capacity of HPA to provide leadership in NCD prevention and the Primary care services under MOH for delivering NCD prevention, screening and treatment services (Details, timelines and more actions are given in Annex 1. Numbers are activity/sub-activity numbers assigned in the tables.):

1.3.1. Review structure of Chronic Diseases Division (NCDD) in HPA to include capacity for health promotion, surveillance and disease-specific prevention measures:

- Skills /areas of qualifications required for NCD/Health promotion:
  - An epidemiologist for NCD Division to plan and focus on evidence-based NCD prevention and control actions and to guide and coordinate surveillance activities and prepare statistical requirements for advocacy and monitoring effectiveness and provide technical guidance and support to the various multi-sectoral coordinating committees and boards (Qualification: Masters in Epidemiology or Public health including modules in epidemiology and biostatistics)
  - One medical doctor with public health background plus clinical experience for disease specific prevention measures and coordinating activities with health care service providers (should have min. 1-2 years of clinical work as a registered doctor in a hospital or supervised setting)
  - Specific degree/masters in Health promotion and training in Communication for Behavioral Impact (COMBI) or Behavioral Change Communication (BCC) for planning behavioral change interventions
  - Sociology/psychology for planning behavioral change interventions

  - Graphic design, video editing, and basic web-design/web maintenance for preparing IEC material in house and maintaining website (public health officer trained in these skills would be most ideal)
- Establish a Health Promotion Unit in NCDD including:
  - a team leader (director) with specific training in health promotion (preferably also COMBI trained),
  - staff (preferably public health professionals trained for these) with skills in web-design/graphic design and basic video production to maintain active website on NCDs, develop basic IEC material on NCD prevention and control and health literacy for social media/mainstream media/print material and regularly share with public and health professionals through established official social media of HPA,
  - one community mobilization coordinator to mobilize community and maintain health promotion and networks (with sociology/psychology degree or PG qualification),
  - one media coordinator for media
- Train one staff in Health promotion (degree / masters' course),
- COMBI training (available through WHO) for at least 2 staff in first year followed by all staff over 3 years
- Dedicated Surveillance staff for NCD surveillance
  - at least 1 staff in NCD unit with responsibility to collect, compile all available NCD surveillance data necessary for advocacy and disease and risk factor monitoring, and update these regularly with ready access when required for various advocacy programs and meetings
  - 2-3 NCD surveillance staff placed in either NCD or Surveillance section of HPA, or HIMRD in MOH to establish and conduct regular NCD surveillance for disease burden and risk factors
- Dedicated staff for Mental Health
  - At least 3 staff with public health background
  - Skills and capacities should include degree/masters in psychology and formal qualifications in psychological counseling
- Relevant programs should have expertise in the area, e.g.
  - Nutrition program should have a Nutritionist in the department
  - Environmental and Occupational Health – should have specialists in Environmental Health, and in Occupational Health
  - Food scientists in MFDA Food section
  - Pharmacists in MFDA Drugs section
  - Staff trained in Biostatistics for Health Information Section in HIMRD

1.3.2. Technologies, infrastructure and material resources development of NCD section / HPA

- Proper functional website and social media (Twitter. FB. YouTube for Videos
- Video Teleconference training facilities to conduct trainings for atolls and islands
- Facilities for IEC material preparation (web, graphics, AV material, etc.)
- Licensed software for graphics, video editing, etc.

1.3.3. Strengthen capacity of public health workforce for the implementation of the NCD Action Plan in the peripheries in the atolls and Male'

- Appropriate HR plans: Develop and finalize the planned career pathway and appropriate remuneration packages for public health professionals centrally (HPA) and in peripheries (primary, secondary and tertiary care levels) so as to retain and build capacity for effective NCD prevention and control (under section 3.3: Strengthening Health system)
    - Note that remunerations for central level staff in HPA should NOT be lower than those of peripheries, as these are the leading professionals guiding the peripheries. Higher qualifications would be ideally required for HPA staff (than those of peripheries) in order to maintain the higher functioning capacity.
    - Public health professionals' remunerations should not be less than other allied health professionals of similar qualifications (degree/masters etc.)
    - Consider up to Master's level (Public Health or Epidemiology) for atoll level as well (could be the head / team leader for public health)
    - Consider having a hospital epidemiologist (masters in epidemiology) for all Tertiary hospitals - for infection control, public health, surveillance and planning of services according to disease patterns in the area
- Develop and finalize the planned career pathway and appropriate remuneration packages for dieticians and counsellors to Integrate services of dieticians and counsellors into health system recruitments and services provided. (under section 3.3: Strengthening Health system)
- 3.2.3 Develop career tracks for health workers' professionals through strengthening postgraduate training, with a special focus on NCDs, in various professional disciplines and career advancement for non-professional staff (under section 3.3: Strengthening Health system)
- Sustain adequate staff in Public Health Units and Dhamanaveshi's
- Review structure and functions of Dhamanaveshi's in the MOH health facilities structure for optimizing functionality - under the atoll / main hospital (see suggestions under section 3.3: Strengthening Health system) Dhamanaveshi function – prioritize as lifestyle and prevention centers, not treating sick people but mainly for public health only
- Involve the Management of the hospital/health facility – importance of public health
- Nurses to be utilized and close gap with public health (e.g., diabetes nurses, nurse educators, palliative care nurses, community nurses, etc.)
- Engage universities and professional education institutions (lecturers) in technical work for NCD prevention and control through collaborations and serving in TEC Committees

1.3.4. Strengthen capacity of workforce for the implementation of the NCD Action Plan through trainings and academic capacity building and teaching/learning programs:

- Identify training requirements for HPA and peripheries
    - Health promotion
    - Communication and media
    - Clinical areas – e.g., PEN, management of NCDs
    - Other areas such as legal, regulatory, etc.
- University health sciences courses to be reviewed and updated to meet capacities required for NCD prevention and control – MNU FHS to lead and HPA to collaborate. Teaching/learning curricula on NCD prevention and control in university programs in Medicine, Nursing, PHC, Psychology and Counseling, Pharmacy and all health professional training courses to be updated to provide knowledge and skills on evidence based NCD prevention in keeping with WHO and adopted national recommendations, guidelines and

protocols. HPA to regularly share all guidelines and protocols with MNU and its teaching faculties. (See roles of academic institutions with details worked out from stakeholder consultations in Annex 3.)

- Teaching of NCD prevention and healthy lifestyles to be incorporated as relevant into teaching of relevant academic courses training non-health professionals such as teachers, hospitality industry, media professionals, lawyers, etc. through the various faculties and courses of MNU and other universities – HPA to initiate communication, conduct meetings / workshops with relevant departments of MNU and form collaborations and working groups for long-term capacity development.
- Public Health Seminars and conferences to build capacity of health professionals on evidence-based methods of prevention of NCDs

1.3.5. Integrate NCDs into social and development agenda (Health in all policies) and development plans and strategies

- Government to include policies to prevent NCDs, particularly in national development and economic policies and plans (including incentivizing healthy industries and creating and facilitating enabling environments for NCD prevention, discouraging trade "investments") and disincentives for industries that promote NCD risk factors, and policies to avoid conflicts of interest (See relevant activities under Objectives 2.1 To 2.6)

1.3.6. Improve mobilization of resources and funding:

- The government needs to prioritize and dedicate funding for NCD prevention in proportion to the size of the problem and work required to be done
- HPA should also explore funding from a wider variety of sources beyond WHO and MOH, including other international agencies and local private sector organizations that do not have conflicts of interest, e.g., banks, insurance companies, etc.
- Engage universities and higher education institutions in NCD prevention and control to mobilize expertise while improving their capacities too.

1.3.7. 1.3.7. Develop disease specific Strategic Control Plans for prevention, early detection and treatment of the 5 main diseases

- National Cancer Control Plan (NCCP)
- National strategic plan for the control of cardiovascular disease (heart disease and stroke)
- National strategic plan for the control of Chronic Respiratory Diseases
- National strategic plan for the control of Diabetes
- National strategic plan for the control of Mental Health

1.3.8. HPA to monitor health promotion activities throughout the country

Strategic Objective 2: Health promotion and risk factor reduction

Actions under this area aim to promote the development of population-wide interventions to reduce exposure to key risk factors. Effective implementation of these actions will lead to reduction in tobacco use; unhealthy diets focusing on increased intake of fruits and vegetables, reduced consumption of saturated fat, salt and sugar; reduction in harmful use of

alcohol; increase in physical activity; and reduction in indoor air pollution, particularly second-hand exposure to tobacco smoke.

Objective 2.1: Reduce tobacco use

Maldives has currently implemented some of the MPOWER measures under the FCTC only partially so far. After a long lag, some progress was made recently after securing a grant from Bloomberg Foundation, which helped to get some human resources for HPA to do the required technical work, build capacity and positive attitude among implementers and gather advocacy to enable passage of the legislature. Progress in implementing MPOWER tobacco control measures include:

- a partial smoking ban since 2012 by a smoking ban regulation under the Tobacco Control Act of 2010
- implementation of Graphic Health Warnings on tobacco packaging covering 90% of the 2 main surfaces and banning sale of single cigarettes since 1st Dec 2019.
- Taxation of cigarettes by 200% of the import CIF value as a Customs import duty. From 2021, other tobacco products are also covered, but tax increases are not adequate to control use. The current taxation structure does not allow higher taxes as in-country taxations are not included at present. GST is taken at standard rate of 6% only depending on the retailer's eligibility for GST.
- A Tobacco free Youth campaign #IChooseLife was conducted in 2015, resulting in renewed government support for tobacco control and the establishment of a new Tobacco Control Board (which had been previously disbanded for almost 2 years after its term ended).

In addition to this,

- Each year MOH gives awards to tobacco free businesses on World No Tobacco Day, creating incentives for good practice
- In 2017 HPA made an attempt to award smoke free homes, but with limited results.

The key actions under the action plan for 2023-2031 are given below in order of priority. Best Buys measures will be prioritized. The activities are in priority order below and of these, numbers 2.1.2 – 2.1.5 are the top-most priorities. (Details, timelines and more actions are given in Annex 1. Numbers are activity/sub-activity numbers assigned in the tables.):

- 2.1.2. Review and revise present partial smoking ban to a comprehensive smoking ban to include all indoor and wider coverage of outdoor public places, workplaces and public transport, Comprehensive ban on smoking in all indoor public places, workplaces and public transport and improved implementation with community involvement clearly defined roles for all implementers, of the - publishing in gazette and implementation - by 2024
- 2.1.2.3. Full ban on water pipe tobacco (shisha/gudugudaa) and ENDS - import, sale and use (as hookah/shisha is a roadblock to implementing full smoking ban in restaurants, and given higher priority following Covid-19, being a significant threat to the spread of communicable diseases including acute respiratory infections (ARI), TB and hepatitis B) – 2024
- 2.1.3.3. Development of new graphic health warnings and messages and revise the requirements and standards appropriately to rotate GHWs annually in the implementation of regulation mandating Graphic health warnings on tobacco packs – by 2024

- 2.1.2.4. Conducting an effective and sustained anti-tobacco mass media campaign – *Tobacco Free Families* campaign in 2023 and 2024 – using methods of communication for behavioral impact (see criteria in Box 1 below)
- 2.1.4. Effective Tobacco taxation – to include ALL tobacco products, incremental taxation to keep up the inflation and economic growth and earmarking percentage of tax for prevention activities. Increase in import duty plus other taxes in total by at least 70% of the maximum retail price on all forms of tobacco products, and earmarking tobacco taxes for health protection and promotion. - 2021 onwards
- 2.1.7.2. Gazette and implement Regulations for registering, licensing and regulating tobacco import and sales – by 2024
- 2.1.5. Formulating, publishing in gazette and enforcing a regulation for comprehensive ban on all forms of TAPS (Tobacco Advertising, Promotion and Sponsorship) including cross border TAPS and any kind of CSR activities by tobacco industry under the TCA – by 2024.
- 2.1.6. Expanding tobacco cessation services through health facilities, drug rehabilitation services schools and counseling and youth outreach services. Establish a national toll-free Quitline and initiate cessation program – by 2023
- 2.1.1.5. implementation of FCTC article 5.3. Stopping tobacco industry interference in government policies as a written policy in MOH and across government institutions – by 2024
- 2.1.7.4. Conduct a tobacco economic study for use in advocacy - 2024
- 2.1.3.8. Implement tobacco free school program to prevent access of tobacco products to minors 2023-2024.
- 2.1.8.1 Ratify the protocol on illicit trade - 2025

Box 2: Characteristics of an effective mass media anti-tobacco campaign

Appropriate Characteristics
Part Of A Comprehensive Tobacco Control Program
Pre-Tested With The Target Audience
Target Audience Research Was Conducted
Aired On Television And/Or Radio
Utilized Media Planning
Earned Media/Public Relations Were Used To Promote The Campaign
Process Evaluation Was Used To Assess Implementation
Outcome Evaluation Was Used To Assess Effectiveness

Source: World Tobacco Atlas:[29]

Objective 2.2: To Promote healthy diets

During the last 5 years, Maldives has achieved significant progress in promoting healthy diets across the life cycle, focusing on salt reduction, increasing intake of fruit and vegetables and reduction of sugars and fats. Progress is seen particularly with public awareness and building capacity of health professionals and teachers. However, many of the policy measures under the Global Strategy of Diet & Physical Activity are yet to be implemented. Below are some of the achievements:

- Guidelines on healthy eating using locally available healthy foods and beverages for all ages ranging from pregnancy, infancy and early childhood (the First 1000 days of life), and adults (Adult Food Based Dietary Guideline (FBDG)), have been prepared and widely disseminated through health facilities and online with assistance from various donor agencies including UNICEF, WHO and FAO. All guidelines include guidance and messaging for salt reduction, adequate fruit and vegetable intake and reduction of sugar and fats.
- A BCC campaign to promote healthy diet in the first 1000 days of life has been developed with assistance from UNICEF and Is currently ongoing.
- A restriction of energy drinks and sugary drinks in schools has been established through an Education Ministry policy following a cabinet decree in 2018.
- Energy drinks and fizzy drinks are currently taxed with a higher import duty than other food and drinks.
- Atoll level programs are conducted to promote breastfeeding and healthy infant and young child feeding practices
- School level programs are conducted by Ministry of Education to promote healthy diets. A guideline on healthy eating for school children has been published in 2018, and information about healthy diets are included in the school curriculum newly introduced during the last 5 years, however, teachers do need more training and confidence on delivering this information to children and parents.

[29] World Tobacco Atlas. Online, available from: https://files.tobaccoatlas.org/wp-content/uploads/pdf/maldives-country-facts-en.pdf

- In 2019, the government began providing healthy breakfast to students at school as a pilot program and plan to expand it to all schools in 2021.
- Agricultural policies promoting fruit and vegetable cultivation are in place, and implementation of Good Agri Practice (GAP) with incentives scheme for improving compliance was begun with the first module on food safety and hygiene.

Below are the key activities under Objective 2.2: To Promote healthy diet. As Maldives has high intake of not only salt, but sugary drinks and fats, and adequate fruit and vegetable consumption is lower than 10% according to STEPS 2011, and the HPA nutrition program has subjectively observed paradoxical behavioral changes with food-related messaging on one nutrient only (e.g. messaging to reduce sugar resulting in higher fat intake, messaging to increase fruit and vegetable leading to people taking diets with mostly fruit only, etc.). Therefore, the HPA nutrition program has decided to focus on integrated guidelines, awareness material and campaigns for healthy diets which prioritize messaging on salt reduction, increasing intake of fruit and vegetables and reduction of sugars and fats as per the WHO recommendations for NCD prevention and control. As reducing areca nut chewing is not addressed by other programs, this is also included under the nutrition program and included in awareness messaging. Thus, all guidelines and awareness materials and programs of planned activities are also aligned with this.

Below are the key priority actions planned, in order of priority. (Details, timelines and more actions are given in Annex 1. Numbers are activity/sub-activity numbers assigned in the tables.) Policy measures recommended under the Global Strategy of Diet & Physical Activity have been prioritized, and the first 6 items below are the highest, must-do priorities:

- 2.2.1.1. Passage and implementation of Food Bill – by 2024
- 2.2.2.1. Passage and implementation of regulations for marketing of food & beverages to children and adolescents – by 2024
- Reduction of salt and trans fats in the supply chain through policies for food formulation (Submit paper to Social Council on reduction of salt and trans fats)
- 2.2.3.1. Nutritional labeling on back and front of pack for both imported and domestically produced packaged foods – by 2023
- 2.2.3. Implement the National Food Based Dietary Guidelines (FBDG) for adults published and
- 2.2.3.1. Conduct mass media BCC campaigns for various age groups of the life cycle
- 2.2.4. Expand taxation of both domestic and imported sugary drinks and specific unhealthy food and beverage products high in salt, trans fats and saturated fats and carcinogens (processed meats) and ultra-processed foods identified by HPA/MFDA by developing and advocating for fiscal policy recommendations
- 2.2.6. Continue Promoting breastfeeding and healthy infant and young child feeding practices through BCC campaign, capacity building of health professionals and strengthening implementation of BMS Code
- 2.2.3. Agricultural policies –
    - 2.3.3.1. Promoting fruit and vegetable cultivation through incentive schemes
    - 2.2.10.5. Introduce disincentives for areca nut cultivation
    - 2.3.3.4. Implementation of Good Agri Practice (GAP) – develop and implement rest of the modules planned - with incentives scheme for improving compliance
- 2.2.10.3. Regulation mandating health warnings on areca nut packaging - by 2025

- 2.2.5. Develop policy measures and guidelines in collaboration with various stakeholders such as food producers, processors, retailers and consumers to promote affordability, availability and acceptability of healthier food products
  - Urban planning measures to facilitate access to fruit and vegetables:
    - Promoting home gardening and community gardening of fruit and vegetables by allocating gardening space for social housing/apartment complexes, building code to include structural allocations for growing potted plants in apartments, such as balconies with adequate safety measures
    - Enabling easy access to healthy foods such as fruit and vegetables at affordable prices – e.g., strategic placement of local markets in close proximity to highly populated areas
    - Utilizing green spaces / tree planting areas in cities for growing fruit trees with multiple outputs of aesthetic value and shade (also discouraging growing of areca nut trees for aesthetic purposes on streets and parks of cities where public can access the fruit easily)
  - To inform all the above policy measures, efforts will be made to enhance monitoring capacity, including: Dietary assessments such as total diet study and STEPS survey to understand dietary habits and practices and estimate intake of salt, fat, sugar, fruit and vegetables, and the key nutrient groups and define Minimum Residual Limits (MRLs).
  - 2.2.10.1. Adapt STEPS survey to assess salt, fat and sugar intake and areca nut consumption
  - 2.3.8. Improving laboratory capacity (in MFDA and through reference laboratories)
  - adaptation of a nutrient profile model for Maldives
- 2.2.10.1 Prepare advocacy briefs and policies on replacement of saturated fat and trans-fat with unsaturated fat using media and public education - Implementing trans-fat elimination policies- (generating evidence and prepare and submit a Social Council paper)
- 2.2.3. Schools, workplace and island level measures for implementing Food Based Dietary Guidelines:
    - FBDG compliant “healthy” restaurant incentives
    - Healthy balanced menus, excluding areca, tobacco, smoke-free
    - Challenge of Fast-food franchise outlets by introducing healthy options

Objective 2.3 Promote physical activity

During the last five years, several activities have been carried out to promote physical activity in Maldives. Successive governments have been highly committed to promoting physical activity. 15 outdoor gyms have been set up by Ministry of Health. Free to use sports grounds have been set-up in several islands by Ministry of Youth & Sports and various other organizations. The government aims to have at least some sports facilities and /or exercise facilities for almost every inhabited island. However, there are some unfortunate instances where unhealthy beverage industry has capitalized on promoting their products by sponsoring or constructing sports grounds in some islands. A lot of investment has been placed in promoting and improving sports in the country. Campaigns to promote physical activity including a multitude of active sports events for public, runs and walks have been widely conducted by the government and various private sector organizations and NGOs. The present government is conducting a campaign branded as “Dhulhaheyo-Hashiheyo campaign” including several such events at regular intervals.

Below are the key priority actions planned, in order of priority. (Details, timelines and more actions are given in Annex 1. Numbers are activity/sub-activity numbers assigned in the tables.) Policy measures for creating enabling environments to increase physical activity with ease and affordability are prioritized.:

- 2.3.1. Formulate and disseminate national physical activity guidelines by HPA – by 2024
- 2.3.2. Urban planning to include measures to promote physical activity through creating enabling environments, include these features in building codes and urban design codes, and include consultation from health sector as a must-do step in urban planning:
    - Improve walkability (also see under Objective 2.5. to Reduce air pollution)
    - Promote bicycle-friendly cities with appropriate facilities such as safe bicycle lanes, and safe parking facilities for bicycles (also see under Objective 2.5. to Reduce air pollution)
    - Improved public transport in the cities of Male, Hulhumale', Addu, Kulhudhuffushi and other cities (also see under Objective 2.5. to Reduce air pollution)
    - Easily accessible exercise areas with minimal cost to the users in Males and major atolls (e.g., free to use sports grounds and outdoor gyms, indoor community gyms)
    - Create more green spaces in cities and islands (e.g., parks providing exercise, with greenery and smoke-free environments included) (also see under Objective 2.5. to Reduce air pollution)
    - Promote Home / community gardening and create enabling environments for gardening, particularly in urban areas (also see under Objective 2.2. To promote healthy diets)
- 2.3.3. Policy measures to improve affordability of physical activity through gyms and sports programs, e.g., tax reductions for such services
- 2.3.4. Carry out physical activity campaigns and social marketing - continue ongoing "Dhulhaheyo Hashiheyo" campaign of the government, and other BCC campaigns to promote physical activity in schools, workplaces and various settings (See details under Objective 2.6)
- 2.3.5. Policy measures for healthy transport to promote physical activity - Formulate and implement Regulations for taxation of motored vehicles and vehicles with high emissions and Regulating vehicles imports / controlling vehicle smoke emissions (see Objective 2.5: Air pollution – activity 2.5.3.)

Objective 2.4: to Reduce alcohol consumption among key population groups

The prevalence of alcohol consumption is low in Maldives among adults as well as adolescents according to the STEPS and GSHS surveys. Three (3/3) Best Buys for Reducing Harmful Use of Alcohol have already been implemented in Maldives since several years:

- High taxes on alcoholic beverages
- Restrictions of alcohol advertising: (all forms of advertising are Illegal)
- Restrictions on physical availability of alcohol: It is illegal to sell alcohol to any Maldivian

While these measures were not actively introduced to reduce NCDs, but for implementing Islamic religious policies, the country has clearly benefitted from these measures, in conjunction with continuing awareness from a religious perspective, resulting in relatively low consumption of alcohol among adolescents and adults, compared to neighboring countries of the SEA region. However, some alcohol consumption exists among resort workers and substance users. While substance use is prevalent at similar rates as alcohol use, it is considered relatively high compared to other countries,

and substance users often consume alcohol as well. All substance uses prevention, treatment and rehabilitation programs under the National Drug Authority currently also concomitantly address alcohol addiction in their interventions.

With Islamic policies highly integrated into the governance of the country, we adopt strategies to reduce total alcohol consumption and increase abstinence rather than restricting interventions only to harmful use. Below are the key priority actions planned. (Details, timelines and more actions are given in Annex 1. Numbers are activity/sub-activity numbers assigned in the tables.):

- 2.4.1. Adoption relevant components of the Global Strategy to Reduce the Harmful Use of Alcohol in the Maldivian context to address use of alcohol
- 2.4.2. Consultation with Ministry of Islamic Affairs to develop messages for public awareness and disseminate these messages integrated into NCD prevention messages.
- 2.4.3. Ensure guidelines, medicines and services are available in health facilities and health professionals trained to detect and treat alcohol intoxication, harmful use and substance use, and for screening and providing brief intervention (PEN package)
- 2.4.4. Improve implementation of alcohol restriction laws and policies by including measures to restrict alcohol consumption by Maldivians at tourist resorts and hotels (e.g. more stringent enforcement of regulations banning Maldivians from consuming and purchasing alcohol, restricting foreigners from taking alcohol bottles outside bars and restaurants in tourist establishments, restrict availability in licensed bars and restaurants of tourist hotels situated near schools and educational institutions.)
- 2.4.5. Restrict or ban alcohol advertising and promotions - Assess prevalence of indirect advertisement of alcohol and alcohol like products in the Maldivian market and take counter-measures to stop indirect advertisement and promotion by food and beverage industry
- 2.4.6. Include thorough assessment of alcohol use and substance use in STEPS survey and GSHS
- 2.4.7. Monitoring drunk driving involving random breath tests through traffic Police

Objective 2.5: To Reduce air pollution

The National Environmental Health Action Plan (NEHAP 2015-2020)[30] was a comprehensive plan covering the key areas of air pollution as well. A national Action Plan on Air Pollutants[31] was recently published in 2019 by the Ministry of Environment, but the main actions were focused on reducing air pollutants in energy production and transport sectors, and was not consulted with Ministry of Health. HPA is currently preparing the Maldives Breathe Life Implementation Plan (2019-2020)[32] for reducing air pollution with technical assistance from WHO. It has been drafted and consulted with stakeholders.

[30] The National Environmental Health Action Plan (NEHAP: 2015-2020) Maldives. Report prepared by ENDEAVOR – Maldives: December 2014

[31] National Action Plan on Air Pollutants: Determining nationally avoided emissions. Ministry of Environment, 2019.

[32] Maldives Breathe Life Implementation Plan (2019-2020) (Draft). Health Protection Agency.

Maldives Green Climate-Smart Hospitals: Policies and Strategies Report[33] was published in 2018, including measures for reducing air pollution in health facilities.

Some key activities to reduce air pollution were identified drawing from these plans and discussion with stakeholders. Below are the key priority actions planned, in order of priority. (Details, timelines and more actions are given in Annex 1. Numbers are activity/sub-activity numbers assigned in the tables.):

- 2.5.1. Implement policy measures for reduction of motored vehicles and reduction of emissions, including:
    - Revise and set vehicle emission standards by Ministry of Environment
    - Formulate and implement Regulations for taxation of motored vehicles and vehicles with high emissions and Regulating vehicles imports / controlling vehicle smoke emissions
    - Improve public transport in the cities of Male, Hulhumale', Addu, Kulhudhuffushi and all cities
    - Promote bicycle-friendly cities with appropriate road safety measures such as safe bicycle lanes, and facilities such as safe parking for bicycles
    - Improve walkability on streets
    - Green spaces (e.g., parks providing exercise, with greenery and smoke-free environments included)
- 2.5.2. Incorporate the policy on smoke-free public places and homes into national action plans for air pollution prevention (HPA EH and MOEnv.) and create awareness and develop appropriate strategies to reduce exposure to second-hand tobacco smoke in households and indoor public places
- 2.5.3. Conduct a study on air pollution in indoor public places and households to measure the extent of indoor air pollution and association with indoor smoking and other sources of indoor air pollution, and regular monitoring of indoor air pollution in key public places with high risk - in collaboration with MNU
- 2.5.3. Monitoring of indoor and ambient air pollution - in collaboration with MNU (see under Objective 4: NCD Surveillance, Monitoring & evaluation and research)
- 2.5.4. Prepare and implement guidelines and standards for industries with air pollution leading to lung disease, such as fiber boat building, preparation of smoked fish, etc. situated close to residential areas in islands.

Objective 2.6: Promote healthy lifestyle behaviors to reduce NCDs in key settings

Several activities have been conducted at community level in islands, schools and workplaces to promote healthy behaviors to reduce NCDs. Some key activities include:

- The ongoing NCD 25 by 25 campaign conducted by HPA since 2018 – this campaign targets mainly youth and young adults and aims to promote health in workplaces, and various community settings at island level. An activity plan has been drawn for the campaign and various events and social media awareness has been conducted, however, mainstream media

[33] Maldives Green Climate-Smart Hospitals: Policies and Strategies Report. World Health Organization and Health Care Without Harm. 2018.

coverage is poor and the campaign lacks, and needs inputs on BCC and health promotion expertise for improving effectiveness. This expertise is currently not available in HPA NCD program.

- Several government organizations and NGOs have taken various measures to promote healthy lifestyles. Significant progress has been made in the education sector under Ministry of Education to promote healthy lifestyles in schools. Components addressing the key behavioral risk factors have been included in school curricula and School Health Officers have received training on these. A Food Guide for school children has been prepared by the Ministry of Education, and this year (2019) government introduced provision of a healthy breakfast in schools as a pilot program. Energy drinks and sugary drinks are banned in schools under a policy by the Ministry of Education. Physical activity is being promoted with a wide promotion of sports activities and introduction of Health and Physical Education within the school curriculum. Schools' environments are smoke free by law under the Smoking ban regulation and Tobacco Control Act.
- Ministry of Youth, Sports and Community Empowerment have also implemented various measures for promoting healthy lifestyles, including healthy events policies, smoke-free environments in youth centers and sports grounds, incorporating skills for reducing tobacco use, choosing healthy diet options and promoting physical activity through their youth peer educator programs and training programs for Sports Councilors and Youth Councilors recently appointed as focal points in each atoll for implementing MYSCE activities.
- Healthy workplace programs and workplace health screening programs are being conducted by NGOs such as Cancer Society of Maldives, Diabetes Society of Maldives, SHE, Tiny Hearts of Maldives, etc. CSM has developed and disseminated a healthy workplace guide for cancer prevention.
- A National Guideline on Occupational Safety and Health (OHS) Maldives has been drafted by Environmental Health program of HPA, which needs inputs from the NCD prevention and control program to incorporate healthy lifestyle measures for NCD prevention in it.

Several activities are also planned by HPA, atoll and island level health facilities, and the various other sectors for promoting healthy lifestyles, and also for incorporating NCD prevention policy measures integrated into their own activities. Below are the key priority actions planned, in order of priority. (Details, timelines and more actions are given in Annex 1. Numbers are activity/sub-activity numbers assigned in the tables.):

- Review and re-organize the ongoing awareness campaign for promoting healthy lifestyles - NCD 25-25 Campaign using BCC/COMBI methods with feedback from target groups, re-branding if required and more effective messaging and re-organization of activities with community feedback. As HPA does not have a COMBI trained staff in health promotion and NCD program, technical assistance would be required by external consultancy (by local or international expert/s) (activities detailed under NCD 25-25 campaign include promoting healthy lifestyles in a wide variety of settings including workplaces, schools, sports, leisure and events)
- Integrate promoting the ABCs of healthy lifestyles and evidence-based measures for NCD risk factor control into:
    - all other HPA programs, including Occupational Health, School Health, Reproductive Health, Environmental Health, Communicable Diseases control, Immunization,

Surveillance and Emergency Preparedness programs of HPA, activities of HIMRD and MFDA within the MOH, and
    - schools and educational institutions
    - other sector programs of various government institutions,
    - private sector and
    - civil society

  including school health, workplace health, youth health, various public events and urban planning

  (The table in Annex 1 gives details on these activities and also identifies the lead HPA programs and MOH departments responsible for the various activities. Annex 2 identifies roles for NCD prevention and control and promoting healthy lifestyles for some of the key government organizations and academic institutions.)
- Formulate and disseminate guidelines for Workplace health and healthy lifestyles at work to promote healthy lifestyles in workplaces
- Formulate and disseminate a Healthy Events Guide – there is a need to tap events, as these are very useful to promote healthy behaviors (from lessons learnt from the industries). Partner with event organizers and promote healthy events using the guide.
- Improve public awareness on the key diseases with highest mortality (heart disease, stroke, cancer, asthma, COPD, diabetes, chronic kidney disease), including consequences, prevention, early detection and treatment – develop awareness material and disseminate regularly

Strategic Objective 3: Health systems strengthening for early detection and management of NCDs and their risk factors

Actions under this area aim to strengthen health systems, particularly the primary health care system. Full implementation of actions in this area will lead to improved access to health-care services, increased competence of primary health care workers to address NCDs, and empowerment of communities and individuals for self-care.

Maldives has achieved some progress in NCD prevention and control during this period. Mainly in the areas of Health sector strengthening to treat NCDs, particularly at Primary Health Care (PHC) level, Cancer prevention, healthy diets and physical activity.

- Package of Essential NCD interventions in Primary Health Care (PEN): One of the key successes is the preparation, dissemination, training and implementation of PEN toolkit[34] for integrated management of diabetes and hypertension using a total risk approach to prevent cardiovascular disease (heart attacks and stroke) at Primary Health Care level. PEN is being implemented in 6 atolls at present, and HPA intends to cover all atolls and islands by 2030. Several atoll hospitals and island health centers run NCD clinics regularly providing regular follow-up for people with diabetes, high BP and hyperlipidemias.

Significant progress has also been made in treatment of the major NCDs within Maldives, including PCI for coronary heart disease, cancer chemotherapy, dialysis for chronic renal disease and

[34] Package of Essential Noncommunicable Diseases Programme (PEN Programme) at Primary Health Care. Health Protection Agency, Ministry of Health Maldives, World Health Organization Country Office for Maldives, 2017.

improvements in treating chronic respiratory diseases. Many of these conditions were referred abroad for treatment in the past. This has contributed to save health care costs, and also provide Maldivians with better access to timely treatment. A Mental Health institute was opened in IGMH this year (2019) with a wide range of care including psychiatrists, psychologists, counseling, speech therapy, occupational therapy and social workers, providing therapies many of which were not available in government sector with UHC coverage before.

Two (2/2) Best Buys in Cancer prevention are currently being implemented:

- 1) HPV vaccination was introduced this year (April 2019) for girls 10-14 years age
- 2) Screening women 30-49 years for cervical cancer, referral and treatment through health facilities and mass screening programs:
  Guidance for conducting VIA screening was published by HPA[35] in ….
  Outreach cervical and breast cancer screening programs (consisting of mainly breast examination) were conducted in 2018-2019, covering 4 atolls by HPA (Th., Gdh., Hdh., and Sh. atolls), and several other atolls by NGOs such as CSM and SHE.
  However, at present, only tertiary level health facilities in Male' have walk-in cervical cancer screening through Well Woman Clinics. Colposcopy is available only at IGMH, plus one mobile Colposcopy machine at Dhamanaveshi Male' for outreach programs, thus limiting VIA to outreach programs.
- Mammography for breast cancer screening is functional and available to public in tertiary centers in Greater Male' Region and in most of the Regional Hospitals.
- Several breast cancer screening outreach programs (consisting of mainly breast examination and ultrasound) have been conducted in the atolls and Male' (as workplaces screening programs) by NGOs such as CSM, who conduct annual community and workplace breast cancer screening programs.

Objective 3.1: To improve early detection and effective treatment of people with NCDs or at high risk through a people-centered primary health care approach

Capacity building is direly needed for PHC service. Currently PHC services in most atolls are well organized, however, in some key highly populated areas, there is some disorganization and lack of leadership, leaving service gaps in these large populations. E.g., In Addu, and Kulhudhuffushi, where the Regional hospital is being converted to Tertiary Hospitals, Dhamanaveshi's for providing out of hospital PHC services were established, but the functionality has not been established due to lack of leadership and segregation from the main hospital, which had been otherwise responsible for the rest of the PHC services in the atoll. The services provided by Dhamanaveshi Male' is also not adequate for the population and needs expanding to cover the population of Male', and also needs improving of infrastructure and capacity to provide better NCD screening and PHC level treatment facilities. Given the infrastructure limitations, the current practice of Dhamanaveshi functioning similar to an island Health Center where any out-patient can walk in for consultation has led to the spread of

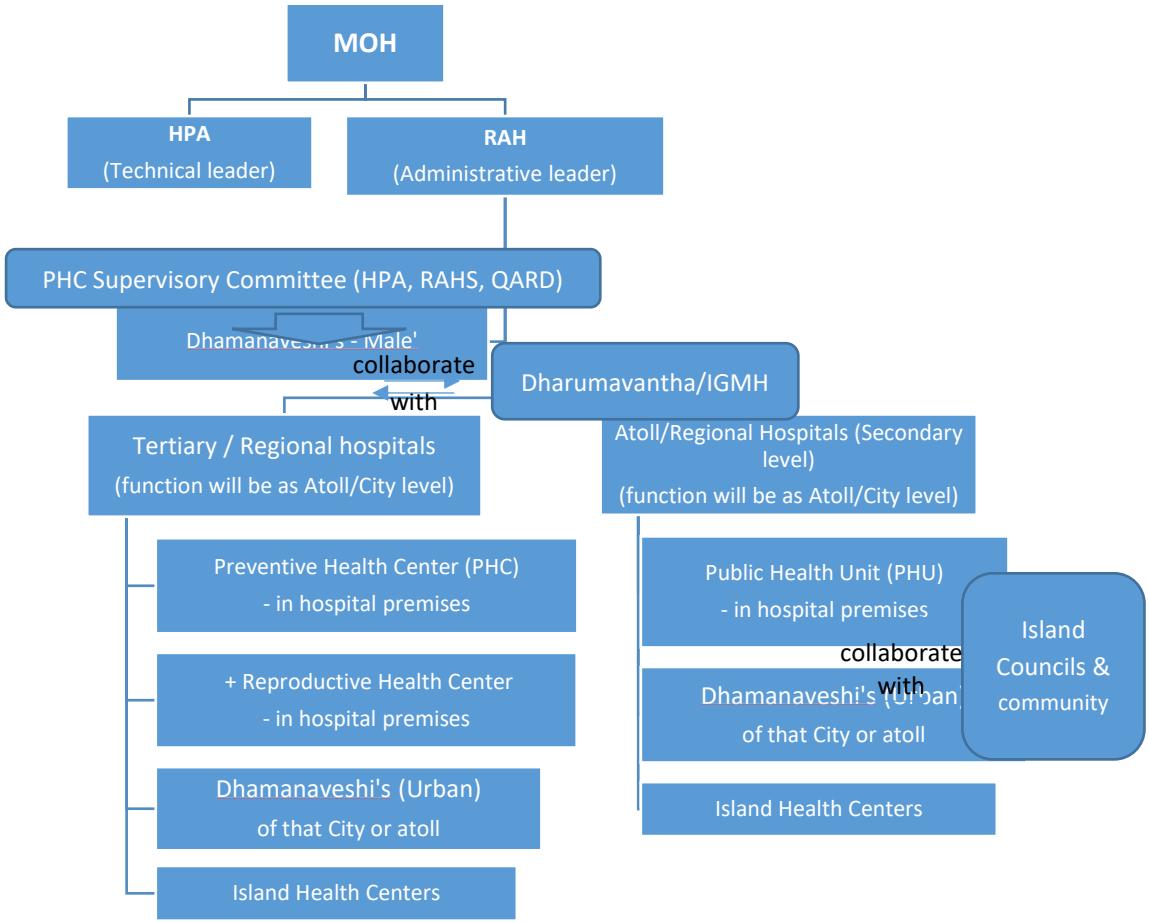
[35] National Cervical Cancer Screening Program in Maldives (National Action plan for Implementation and Strategic Planning). Health Protection Agency, Ministry of Health Maldives. Available from: http://www.health.gov.mv/Uploads/Downloads/Informations//Informations(53).pdf

communicable diseases such as the very common Acute Respiratory Infections among well children and clients seeking preventive services, which needs to be prevented.

A solution for a well functional structure of PHC services in the decentralized system which enables continuous provision of care is needed. Having public health services under non-health organizations such as Island councils had been unsuccessful in the past, leading to catastrophic damages such as the biggest Dengue epidemic in the country in 2011 which was attributed to system breakdown. Therefore, it is strongly advisable to deliver public health services in a decentralize manner through the health sector itself.

Below is a proposed structure for PHC services considering the leadership capacities of the various institutions in the MOH:

Figure 13: Proposed structure for prevention and health promotion services to deliver NCD interventions



It is important that Dhamanaveshi's cover NCD preventive, screening and health promotional services with due priority. Recommendation is to make Dhamanaveshi's as Healthy Lifestyle Centers as is done in countries like India and Sri Lanka with success. DVs can provide a range of preventive health services including immunization, growth & monitoring, maternal and child health services and NCD prevention and screening services. They could ideally run as polyclinics (as is done in Malaysia), with NCD Clinics or specific clinics for the main NCDs such as Diabetic clinics/NCD clinics, Respiratory clinics for patients with chronic respiratory disease, Thalassemia clinics, Well Woman Clinics, etc. with resident specialist

GPs and visiting specialists such as ophthalmologists for retinopathy screening, gynecologists for cervical cancer screening, etc. Staff for Dhamanaveshi's could include Community Health workers, Registered Nurses who function as Community nurses, Specialist General Practitioner (GP) and Medical Officers, who may be mobilized (posted in rotation) from the Regional Hospital. Ideally Dhamanaveshi's are run as satellite public health services under the management of the Atoll hospital or Regional Hospital (be it secondary or tertiary level). This would allow more sustainable mobilization of better-quality clinical staff (doctors and nurses) for preventive services by recruiting them to the hospital and posting them in rotation in the PHC services (since good quality doctors and nurses tend to be more ambitious and prefer working in hospitals than primary care facilities in the long term, while most would be happy to serve as rotational postings in Dhamanaveshis and island HCs). Rotations in PHC services would also familiarize doctors and nurses with practicing the guidelines for management of NCDs and their risk factors such as PEN, tobacco cessation, dietary and physical activity counseling, and thus help to bridge the gap between clinical and public health (preventive) services. Leadership and ownership by the atoll, regional or tertiary hospital in the area can also lead to better mentoring by appointing senior consultant doctors and nurses in the relevant departments to guide the teams in the peripheries, thus helping to get the leading clinicians on board to use the national guidelines, as well as improve mentoring for the PHC services. Even in Male' and Hulhumale', it would be ideal to have a Dhamanaveshi for each Neighborhood (*Avah*) under the management of Dharmavantha hospital (IGMH) and Hulhumale' hospital respectively, where the hospital leads, owns and mentors the PHC services as part of their service provision to their catchment areas.

With the restricted availability of space in Maldives, patients with communicable disease are best catered to in existing hospitals and Health Centers. However, depending on the available resources for an area including structural and human resource considerations, it may be required to accommodate such patients also as outpatients in the facility, in which case a separate entrance and flow for the curative general OPD patients from clients seeking preventive services should be arranged. It would be useful to have Maldives Health Quality Standards (MHQS) for structure and facilities of Dhamanaveshi's and PHU's with appropriate infection control measures to prevent the spread of communicable disease.

Below are the key priority activities planned, in order of priority. The first four main bullet points are absolute priority. (Details, timelines and more actions are given in Annex 1. Numbers are activity/sub-activity numbers assigned in the tables.):

- 3.1.1. Re-orient the structure and functions of Primary health care system to effectively deliver NCD interventions at PHC as per recommendations discussed above, with:
    - Decentralization of health centers and Dhamanaveshi's under the main hospital for the atoll or city
    - Ownership, leadership and mentoring by the atoll hospitals for implementation in atolls and collaboration with island councils for community activities in the islands
    - Involvement of the highest level of health professionals in the area to take leadership and mentor
    - Improve peer coaching at health facility level

    - Urban PHCs - Dhamanaveshi's to be adopted as healthy lifestyle centers to provide principally public health services.
- 3.1.2. Implementing PEN protocols/guidelines for integrated management of Hypertension, Diabetes and Hyperlipidemias - adopted and available and accessible to health professionals at all health facilities
    - Scale up PEN package intervention from two Atolls to all nineteen Atolls and greater Male' area by 2024
    - Update/revisions to PEN protocols (guidelines) and tools in 2020; Develop tools under PEN protocols, disseminate, train health professionals and implement/ use these tools at PHC level including:
        - NCD Clinic booklet for patients for documenting treatment and follow-up
        - educational material on healthy lifestyle and management for NCD patients
        - tools for NCD screening, breast, cervical and oral cancer screening tools
    - Define services and service standards to be provided by NCD clinics
    - Appoint national doctors of consultant level and university lecturers of relevant subject areas as the trainer focal points for NCDs for sustaining the PEN action plan and provide TOT for these trainers.
    - Training of hospital NCD team including doctors, nurses and public health officers in all hospitals and in health centers
    - Disseminate PEN Health Screening tools (including NCD screening for mass screening and workplaces, and cancer screening including breast, cervical, oral cancers and Hep B screening) and Train health professionals in all atolls and Male' to use the tools and conduct screenings and conduct a national NCD screening program throughout all islands – nationwide
    - Develop NCD education module and integrate NCD education in the home visit program of health workers
- 3.1.3. Strengthen basic facilities of primary health care facilities for prevention and early diagnosis of breast cancer, cervical cancer and oral cancer
    - Integrated screening for cervical cancer (VIA / PAP) and breast cancer (breast examination and USS) as outreach camps to be conducted in the remaining atolls for islands where walk in facilities not available (not available in most) in collaboration with NGOs, Dhamanaveshi and hospitals in Male' (IGMH, HH, ADK, TTH)
    - Integrated breast cancer and cervical cancer screening and awareness programs through well woman clinics established in all atolls, workplace screenings and outreach programs
    - Develop and disseminate oral health promotion and oral cancer screening protocol for primary care health workers
    - Train primary care workers on oral cancer screening and promotion of oral hygiene
- 3.1.4 Improve coverage of HPV, hepatitis B, Influenza and relevant vaccinations
    - Continue HPV vaccination for 10–14-year-old girls through EPI program, and introduce vaccine for boys as well as girls by 2024
    - Introduce hepatitis B vaccination for adult high-risk adult groups including health workforce with cost-cover or workplace financing schemes

  - Introduce Hep B screening for cancer screening programs (for unvaccinated adults born before 1993-introduction of infant Hep B vaccination via EPI) with provision of vaccination to those eligible
  - PMTCT for Hep B protocols to be disseminated and practiced in all health facilities for antenatal and perinatal care
  - Hep B vaccines available at all pharmacies and health care facilities, at least secondary level and above
  - Routine annual Influenza vaccination for people with Chronic respiratory disease, Diabetes and CVD
- 3.1.5 Strengthen education and awareness on early detection and treatment of common cancers including breast, cervical oral and colonic cancer and the main NCDs
  - Preparation of relevant patient education materials on the importance of early diagnosis and treatment for the 5 key NCDs (including lifestyle management) for use in health facilities and screening programs Mass media/social media communication on cancer signs and early care seeking and prepare leaflets for cancer education
- 3.1.6. Integrate management of NCDs and lifestyle risk factors into the management of other illnesses and prevention programs
  - RH develop pregnancy education package to educate on key lifestyle measures - particularly tobacco cessation/SHS exposure reduction, physical activity and healthy diet counseling and education and diabetes care in pregnancy and integrate these 3 key lifestyle measures in routine RH counseling programs and maternal and child health programs:
    - Pre-conceptional and pre-marriage counseling (should cover tobacco avoidance/cessation and folic acid supplementation as Must-have priority)
    - Antenatal education (ANC records + educational material) and ANC care (include above 3 key lifestyle measures in the management program of all pregnant mothers as priority)
    - Child health - Postnatal and first 1000 days of life (child health records – to include second-hand smoke exposure, diet and physical activity)
    - First 5 years of life (include queries and basic guidance on second-hand smoke exposure, diet and physical activity in the child Record card and ask and follow-up in routine growth & Developmental assessments)
  - Integrate healthy lifestyle counseling (all 4 risk factors) into Mental health programs and psychological counseling
    - Integrate into formal training programs for psychology and counseling
    - Train existing counselors via CME programs on healthy lifestyle management using PEN protocols
  - Communicable Disease program to integrate healthy lifestyle education and counseling (all 4 risk factors) brief advice for patients with ARI, Influenza and other communicable diseases, HIV/AIDS and TB program for patients with HIV/AIDS and TB, work-permit medical check-ups, migrant health and check-ups and education sessions in preparation for hajj and umra pilgrimage and other educational material and programs

Objective 3.2: to strengthen health care provision for NCDs through hospital/secondary and higher level health facilities – to improve early detection and effective treatment of people with NCDs or at high risk

Health care provision for NCDs in the Secondary and Tertiary services should be expanded and integrated to cover prevention through the entire health system, in accordance with the Best Buys treatment measures for the key NCDs. At present, tertiary hospitals tend to push away preventive services to Dhamanaveshi's or Public Health Units, with doctors and nurses minimizing their roles in prevention. This needs to be changed to include prevention as everyone's responsibility and provide PHC services such as NCD risk factor management and screening at all levels and by all health professionals. It is recommended to decentralize atoll and City level PHC services under the direct purview and supervision of the Atoll, Regional or Tertiary Hospital of the area. This enables resource sharing and mentoring of the PHC staff by the higher-level hospital staff such as Consultant Physicians, Gynecologists, etc. The Atoll, Regional or Tertiary Hospital should conduct outreach NCD clinics, Well-woman clinics, health screening and monitoring programs for the Island HCs as well as the Dhamanaveshi's under them. They may rotate staff such as Medical Officers and nurses on a mid-term basis such as 1-3 monthly, or opt for outreach joint clinics where the hospital and PHC staff work together in collaboration. This would help to strengthen mentoring from the hospital and peer coaching at the PHC level, and the following of published and disseminated guidelines for NCD prevention and control and disease and lifestyle management.

Regular contact with these facilities through an NCD Focal Point, regular sharing of guidelines, incorporating questions from the guidelines in licensing exams, and including the current guidelines in university and professional training programs is key to achieving this.

Figure 14: Model for PHC in a Secondary level Atoll Hospital

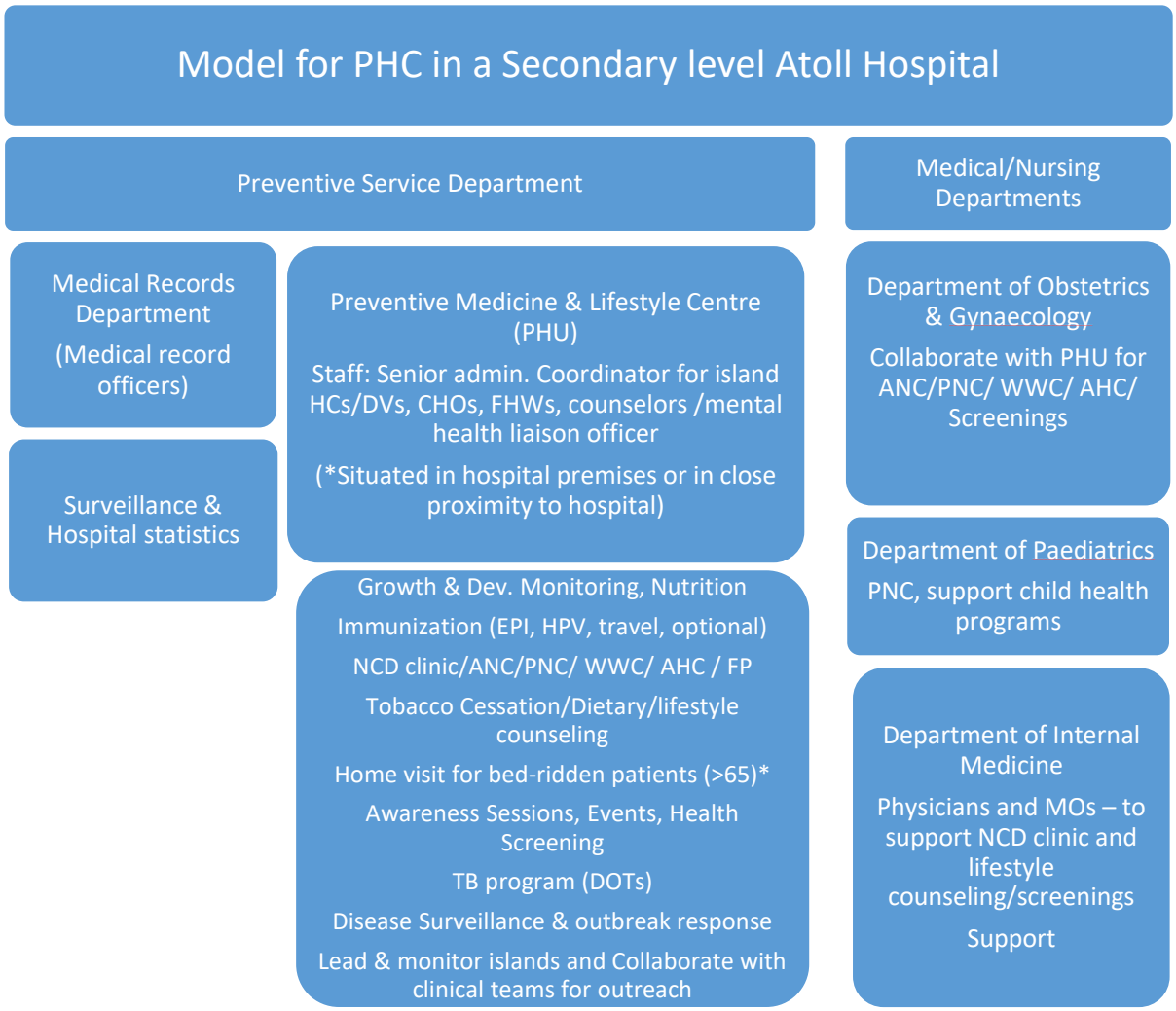
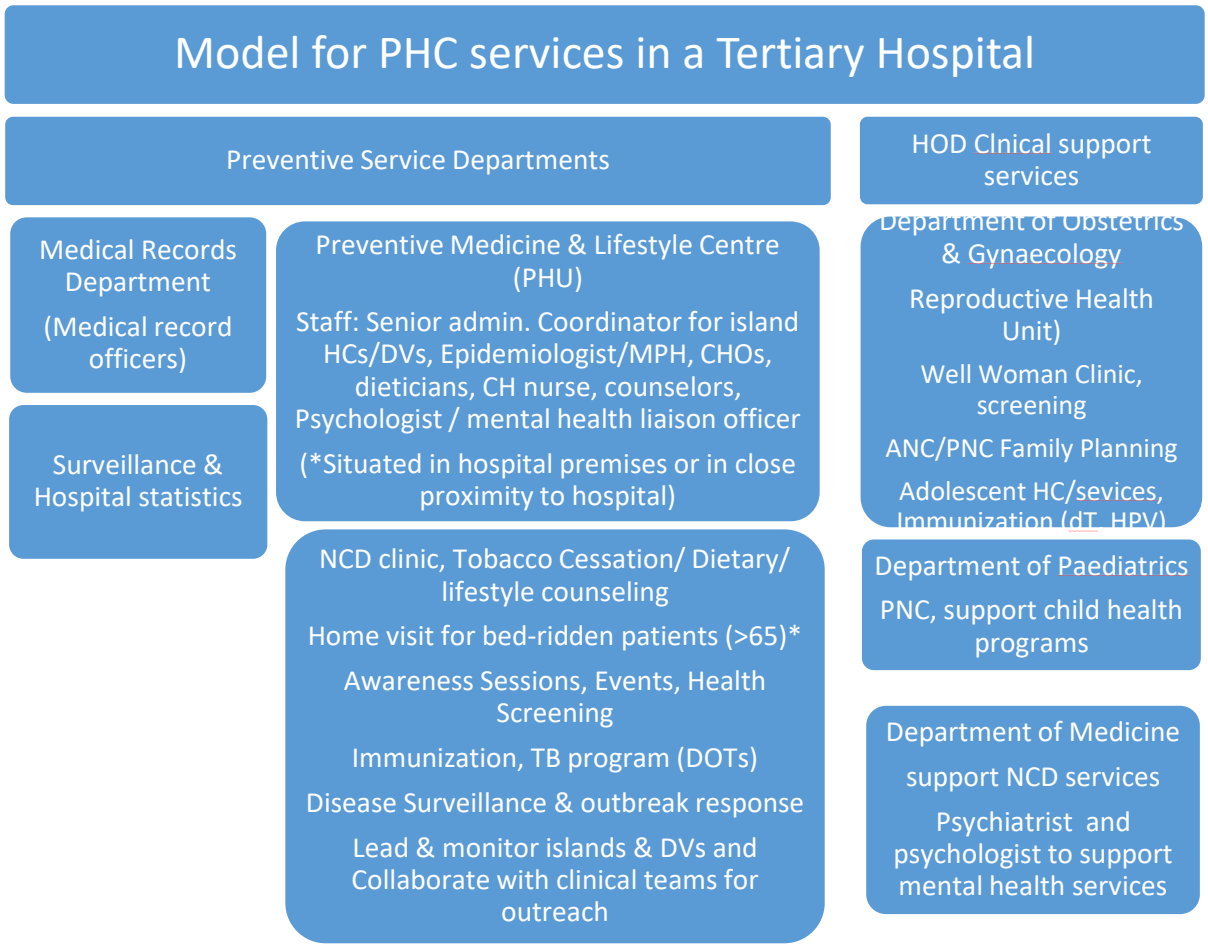


Figure 15: Model for PHC services in a Tertiary Hospital



Specific actions for early detection and management of the main NCDs and risk factors in secondary hospital level and above are listed below. Of these, no. the first 3 items are the top-most priorities. (Details, timelines and more actions are given in Annex 1. Numbers are activity/sub-activity numbers assigned in the tables.):

- Public health units are already established in all secondary level hospitals and to be maintained, and Preventive Medicine Units established in all Tertiary level hospitals to provide Lifestyle counseling (tobacco cessation, dietary, physical activity, stress management) and screening for NCD risk factors (see Figure 12 for a model for PHC services in Secondary level Health Care facilities, and Figure 13 for a model for PHC services in Tertiary level Health Care facilities
- 3.2.1. Prevention and Management of CVDs
    - Cardiac center with Cath-lab for PCI available in Male' (IGMH) and 2 regions-North & South
    - Stroke Centers in IGMH and one regional tertiary center
    - Developing screening guidelines for early detection of hypertension, diabetes and hyperlipidemias under PEN protocols. People 40 years and older will be prioritized for annual screening.

- Clinical management guidelines for management of the following conditions compiled/updated, disseminated, incorporated into licensing exams and available at all hospitals (secondary level and above) and accessible to doctors, nurses and health professionals:
  - Clinical management guidelines for management of Acute coronary syndrome (including treatment of MI with aspirin/clopidogrel, thrombolysis or PCI), stable coronary heart disease,
  - Clinical management guidelines for management of Acute stroke (including iv thrombolysis for ischemic stroke at appropriate facilities), chronic care of stroke patients
  - PEN guidelines for integrated management of Hypertension, Diabetes and Hyperlipidemias adopted and available and accessible to health professionals at all hospitals
- Specialized NCD clinics for patients with Hypertension, Diabetes and Hyperlipidemias offering medical treatment, lifestyle counseling and regular follow-up to be conducted in hospitals – in collaboration with public health Units or Preventive Medicine Units and RHC's at atoll/secondary level and above
- Medical Nutrition (Dietician) services to be made available (free of cost to patient) by trained and licensed dieticians (preferably Maldivian) in all Tertiary level hospitals and secondary level hospitals with ICU facilities

- 3.2.2. Prevention, early detection and Management of Cancers:
  - Expand provision of cancer diagnostics, chemotherapy and palliative care to 4 specialized cancer centers, with diagnostics including CT/MRI facilities and laboratory diagnostics (pathology). Immune-histochemistry and frozen section to be made available at national laboratory (IGMH), and 2 centers for oncosurgery
  - Establish a national cancer hospital for diagnosis and treatment of cancer in Maldives
  - Palliative care including opioid analgesics for pain relief of terminal cancer care to be available at all hospitals – atoll /secondary level and above, and health professionals in these facilities trained to provide palliative care
  - Introduction of cost-covered age-specific cancer screening packages
  - Establishment of Well-woman clinics through Reproductive Health Services at all hospitals – secondary level and above providing walk-in screening for breast, cervical cancer and other preventable cancers, immunization and lifestyle management
  - Mammography/ USG for breast cancer screening and Colposcopy for cervical cancer screening available at tertiary and regional hospitals
  - Dental services with ability to take biopsies for suspected oral cancer to be available at all regional and tertiary hospitals
  - Colonic cancer screening with Fecal occult blood available at hospitals secondary level and above
  - Colonoscopy for colonic cancer screening available at all tertiary hospitals in Male' and 2 regions – North and South
- 3.2.3. Management of chronic respiratory diseases
  - Functional ICU facilities with invasive/non-invasive ventilation available at all Regional/Tertiary level hospitals and above

  - Respiratory Medicine Centers with facilities to assess Pulmonary functions, diagnose and treat TB and Drug-resistant TB and provide non-invasive ventilatory support established in Male' and 2 regions
  - Clinical management guidelines for Asthma and COPD compiled and available and accessible to health professionals at all hospitals
  - Ensuring availability of core treatments and technologies for managing asthma and COPD, particularly inhaled steroids and beta agonists
- 3.2.4. Management of diabetes
  - National Diabetes and Metabolic Center (center of excellence) for management and follow-up of patients with diabetes established in Male' and tertiary hospitals to be developed in 5 regions providing Total risk diabetes management Including lifestyle management, insulin use, foot care, home glucose monitoring for people on insulin and relevant self-care, where patients can be referred from atolls for specialist care and back-referred for continuing care
  - Clinical management Guidelines for managing Diabetes and Gestational Diabetes and its complications using total risk approach, compiled, available and accessible at all hospitals
  - Ophthalmology services to treat diabetic and hypertensive retinopathy with laser photocoagulation available in Male' (incorporate into national eye Health plans)
  - Screening for diabetic retinopathy and Podiatric (Diabetic foot care) services to be integrated into NCD Clinics services in all hospitals
- 3.2.5. management of chronic renal disease
  - Dialysis for End-stage Renal Failure available in Male', Hulhumale' and 6 Regional hospitals
  - Renal transplant service established in Male'
  - Support and follow-up services at the primary level facilities
- 3.2.6 Mental Health:
  - Psychiatrists, psychologist counseling services to be made available in all tertiary hospitals
  - Counseling services to be made available in all atoll level hospitals
  - Mental health Liaison officer to be appointed for each atoll to coordinate mental health activities
  - Mental Health GAP training on diagnosing and managing key mental health conditions conducted annually to cover health professionals at PHC level
- 3.2.7 Management of Thalassemia and its complications at atoll hospital level
  - Ensure availability of national guidelines for management of Thalassemia
  - Arrangements for regular follow-up and management of patients with thalassemia at NCD clinics, or where larger patient numbers, to conduct regular follow-up clinics at atoll hospital level and above (including provision of regular transfusions, iron chelation therapy, lifestyle management (with specific dietary recommendations) and monitoring for complications including diabetes, CCF and appropriate referral)
  - Thalassemia screening tests available at all hospitals in all atolls and Thalassemia DNA test available at IGMH
  - Networking of Blood banks in hospitals of nearby islands at least in Male' for sharing of resources and Blood donor networks to encourage voluntary donations

- Incorporation of steps to discourage smoking /tobacco use before blood donation as part of blood donation protocols.

Objective 3.3: To strengthen health systems for prevention, early detection and management of NCDs and improved access to health services

Below are the key actions planned. (Details, timelines and more actions are given in Annex 1. Numbers are activity/sub-activity numbers assigned in the tables.):

- A sustainable PHC Service delivery structure for sustaining and improving preventive services for NCD prevention and control through the healthcare sector from PHC to tertiary care is needed very much. The above-mentioned models (Sections 3.1 and 3.2 Figures 11-13) for providing prevention and health promotion services through all levels of healthcare services is a key measure for health system strengthening.
- Strengthen healthcare workforce capacity for managing knowledge and skills on NCDs including addressing and the risk factors: Sustainability and capacity building of health professionals is an essential component. Establishing a formal job structure and improving remuneration schemes for public health professionals is a key need to strengthen capacity that already exists in the country, but is subject to brain drain within country unless urgent action is taken.
- Health professional capacities needed for NCD prevention and control in new specialized areas should be identified and relevant professionals recruited to provide these services. E.g., dieticians for clinical as well as public health services in hospitals of Tertiary level and hospitals with ICU facilities, endocrinologists in specialized centers such as IGMH, trained medical and nursing teams for specialized services such as Percutaneous cardiac interventions (PCI), stroke care, palliative care for cancer, diabetes care, ophthalmologists, chiropodists, physiotherapists and occupational therapists for rehabilitation, counselors, clinical psychologists, etc.
- A national integrated health information software platform enabling health professionals to access patient treatment records across all health facilities would be very useful for managing patient with NCD, and following up their treatment during and after referrals and treatment in other centers, in order to keep track of patient treatment in a highly mobile population. Measures to Incorporate NCD risk factor management as part of treatment by incorporating key prompts/ reminders and treatment Advice into doctors'/nurses' notes and other relevant documentation through the software would help immensely.
- Ensuring ready supply of medicines and technology for NCD care is an important measure. Also is a need for arranging continuation of medications for patients with NCDs and risk factors such as hypertension through the Aasandha prescription scheme with checks to prevent overdose or erroneous use of medication.

Objective 3.4: Community-based approaches

Provision of preventive services through community services such as schools, NDA and drug rehabilitation services, community based mental health services, particularly for early detection in schools, home visits for screening, prevention, health promotion and for integrated management of

chronic care for patients with disability and elderly, environment and occupational health services needs to be expanded.

Activities are detailed in the tables in Annex 1.

- Strengthen capacity of NCD prevention services in schools
    - Train school health officers to provide tobacco cessation, dietary counseling and physical activity guidance for students, and provide these services in-school
    - Build capacity and career pathways for School health officers to improve capacity and acceptability of their work among parents and teachers
- Provision of NCD prevention services in youth centers
    - Integrate healthy lifestyle promotion including prevention of tobacco use, healthy diets and physical activity in life skill education for outreach programs for youth
    - Integrate lifestyle counseling including tobacco cessation, diet and physical activity in youth counseling services provided through youth centers
    - Train atoll/island youth counselors and sports counselors for promoting healthy lifestyle and early detection of risk factors and referral for treatment and establish links with atoll/island health facility NCD Focal points for support and referral
- Integrate NCD prevention services into services for managing substance use:
    - Train counselors of one Community Service Center, six detox centers, and one methadone clinic to integrate tobacco cessation*, healthy diets and physical activity into their counseling and treatment services
    - Revise SOPs and treatment protocols to include tobacco cessation in assessment and treatment and implement tobacco cessation as an integrated part of treatment for substance use disorders
    - Revise SOPs to include healthy diet and physical activity in the management of clients and implement it as an integrated part of management of substance use disorders
    - Train core trainers in NDA to train counselors and prevention counselors to incorporate tobacco prevention into substance use prevention programs
- Develop patient education/self-care guidelines for prevention and control of NCDs (e.g., patient treatment booklets with self-care information provided to patients, and fliers for diabetes, COPD, Cancers and other chronic diseases to provide at the health facility during consultation)
- Encourage the formation of community coalitions and patient groups, and build their capacity:
    - Promote Diabetes support groups and Cancer Support Group and train patients to engage as peer counselors in Male and other islands,
    - Engage people with NCDs as advocates and peer outreach programs in areas of high need

Strategic Objective 4: NCD Surveillance, monitoring and evaluation, and research

This area includes key actions for strengthening surveillance, monitoring and research. The desired outcome is to improve availability and use of data for evidence-based policy and NCD program development.

This is an area that is in dire need of strengthening.

Below are the key priority actions planned, in order of priority. (Details, timelines and more actions are given in Annex 1.)

Objective 4.1: NCD Surveillance

There is no dedicated unit for NCD surveillance in MOH or HPA yet. HPA Surveillance unit is dedicated only to communicable disease surveillance at present, and needs more capacity in order to accommodate NCD surveillance. HPA has attempted to collect and maintain statistics on NCD prevalence through health facilities, but with little success. Some progress has been made, including:

- A national Cancer Registry was established in HPA in 2018 and data of cancer patients is being collected from health facilities that are providing cancer treatment.
- Adoption and use of DHIS software for collecting morbidity and mortality statistics from health facilities with assistance from WHO, trainings for Medical Records staff on data entry and doctors on ICD coding and death certification conducted, and the database introduced to health facilities by Planning and International Health (HIMRD) Division of MOH in 2019. This department collects statistics from the Vital Registration System (VRS) and mortality and morbidity (disease burden) statistics from health facilities.

Below are the key priority actions planned for NCD Surveillance, in order of priority. (Details, timelines and more actions are given in Annex 1. Numbers are activity/sub-activity numbers assigned in the tables.):

4.1.1. Institutionalize NCD surveillance by creating an NCD surveillance unit in HPA (within either NCD Division or Surveillance/Epi and Emergency preparedness Division) to undertake NCD surveillance

Recruit additional three staff for surveillance, with an additional epidemiologist for the Chronic Diseases Division (see section 1.3. on Strengthening NCD leadership for details)

4.1.2.

4.1.2.1. Mapping of the statistics required for NCD monitoring, planning and advocacy with sources (e.g., HIMRD, DNR, MBS (MNPHI), Atoll NCD clinics and cessation clinics, Aasandha, MOE school health surveys, annual student health screening reports, Customs, Police, MOED, MOEE, MOFA, etc.), regularly collect available updates of surveys and reports from the various sources and prepare a repository of reports for regular use – by NCD program

4.1.3. Strengthen collection and analysis of data for monitoring NCD disease burden (currently collected by HIMRD Division) to add:

- analysis of premature mortality from the main disease categories and main 5 NCDs and psychiatric conditions from VRS,
- hospitalization LOS through the DHIS,
- health care costs by top 5 disease categories through Aasandha

4.1.4. Develop cancer registry further to include risk factor profiles as well as disease and treatment information and establish electronic cancer registry by obtaining and adopting CanReg software.

4.1.5. Sustain population-based surveillance by continuing integrated risk factors surveys among adults (WHO STEPs Survey) and among adolescents (GSHS) every 3 to 5 years and Integrate surveillance for NCDs into national health surveys and routine statistics

4.1.5.1. STEPS survey for NCD risk factors among adults to be accelerated to 2021; include in STEPS survey more thorough assessment for consumption of fruit and vegetables, salt, fats and sugary drinks, areca nut chewing, and all tobacco products, alcohol use, substance use, physical activity components on walkability and availability of enabling environment for bicycle riding and exercise, and metabolic risk factors including hyperlipidemias, proportion of diabetes and hypertension diagnosed, controlled and received lifestyle interventions and other relevant questions to measure indicators, targets and outcomes of the NCD MAP to be included.

4.1.5.2. and 3. For children and adolescents: GSHS and nationwide School health screenings to include tobacco, alcohol, substance use, physical activity, dietary practices, particularly consumption of fruit and vegetable, salt, fats, sugary drinks, BMI, exposure to advertisement and promotions of unhealthy foods and tobacco and outcomes of policy interventions to reduce NCD risk factors.

4.1.5.4. Integrate surveillance for NCDs into national health surveys and routine statistics collection for collecting statistics for advocacy:

- Customs import statistics and taxes for tobacco, sugary drinks and other unhealthy commodities
- Taxes and fines from MIRA
- Mandating sales statistics by regulations for registration of tobacco importers and distributers, sugary drinks importers and distributors
- Expenditure and consumption surveys among public, including products of tobacco, alcohol and foods, particularly fruit and vegetables, sugary drinks and foods high in salt and fats and trans fats: in collaboration with National Bureau of Statistics
- Fires caused by smoking or lit cigarettes: MNDF Fire & Rescue Department
- Surveillance and monitoring of ambient air quality and indoor air quality and association with indoor smoking: MNU (Using air quality monitors)

Objective 4.2: Monitoring & evaluation

Monitoring & Evaluation is an area requiring additional strengthening in order to implement the activities of the NCD MAP efficiently and accelerate NCD prevention and control. While the NCD program has been monitoring the progress, it is a very challenging task, and some of the targets and indicators for the previous NCD MAP are yet to be assessed formally. Monitoring needs to go hand in hand with mentoring, for which HPA and MOH need to build their capacity for mentoring, as well as get adequate human resources and equipment/material resources to conduct close monitoring.

Below are the key priority actions planned for Monitoring & Evaluation, in order of priority. (Details, timelines and more actions are given in Annex 1. Numbers are activity/sub-activity numbers assigned in the tables.)

4.2.1. Strengthen monitoring for NCD prevention and control and the MAP in HPA and MOH, by inter-department collaboration between HPA, RAHS, QARD and the various programs of HPA

- Prepare specific monitoring tools to measure the targets and indicators under the NCD MAP by December 2021
- Collect information for monitoring using these tools from relevant organizations
- Conduct monitoring along with mentoring in atolls through teleconference and visits to atolls and islands
- Strengthen staff capacity for effective monitoring and mentoring

4.2.3. Design and conduct evaluation of NCD interventions periodically:

- six monthly progress reviews and meetings among stakeholders to discuss ways forward
- Conduct mid-term evaluation in 2025 and end line evaluation in 2030, publish, disseminate to key stakeholders and review activities, at end line review to develop new NCD MAP for next 5 years

4.2.5. Strengthen and conduct regular monitoring of specific NCD prevention and control measures:

- Introduce compliance monitoring program for tobacco control regulations using modern technologies for reporting, recording and responding, e.g., Viber group monitoring
- Monitoring compliance to food standards, nutritional labeling and MRL in food content
- Monitoring of Industry interference with public health measures: in collaboration with ACC, HRCM, TM

Objective 4.2: Research

Maldives is yet to develop a research culture. While there is ongoing research on NCD, most are student research, that are limited to observational studies assessing knowledge and attitudes to various risk factors. Students of Masters courses are now gradually exploring policy research areas. However, there is a lack of operational research evidence on NCD burden, costs, risk factors and effectiveness of control measures to support advocacy for introducing evidence-based NCD prevention and control measures.

Below are the key priority actions planned for Research on NCDs, in order of priority. (Details, timelines and more actions are given in Annex 1. Numbers are activity/sub-activity numbers assigned in the tables.):

- 4.3.1 Develop, implement and monitor a priority national research agenda for prevention and control of NCDs
  - Institute a national technical working group to discuss future research priorities for NCDs and their risk factors
- 4.3.2 Strengthen national capacity for research and development by establishing collaborations with universities and trainings
  - Establish long-term collaborations with universities (particularly state universities such as MNU, MIU) for capacity building in research, including updating NCD research priorities regularly and planning and conducting trainings for MOH capacity building.
  - Train National Health Research Council on NCD ethical issues
  - Training on operational research from MNU research for HPA and health and other faculties including FHS, School of nursing, School of Medicine, etc.
- 4.3.3 Strengthen collaboration between national and regional research centers

  - Mapping of other organizations conducting NCD related research that can be mobilized for research (e.g., universities, educational institutions, MBS (MNPHI), other ministries, NGOs, etc. (health and non-health), share research needs identified and mobilize these organizations for conducting research.
  - Arrange collaborations/ study visits for national researchers to visit regional research centers to acquire NCD research development skills
- 4.3.4. Conduct specific collaborative researches on NCD risk factors
  Some areas useful to conduct research on NCDs and their risk factors include:
  - Research on NCDs and their risk factors, including STEPS survey, cross-sectional studies and longer-term cohort studies
  - Health Economic and Policy research
  - Media research:
    - types of media used, different viewing times and patterns by audiences of different age groups / social groups
  - Assessing effectiveness of activities/interventions for NCD prevention and control implemented in Maldives
  - Studies and Laws and regulations for NCD prevention and control: identifying effective regulations and effective methods of implementation, assessing effectiveness in achieving targets, compliance and identifying methods to improving compliance
  - Consumption patterns and consumer preferences
  - A total diet study: by MFDA+HPA in collaboration with MNU
  - Survey on walkability and availability of enabling environment for bicycle riding in Male', greater Male' and selected key cities and atoll capitols
  - Studies on indoor air quality in indoor public places (esp. restaurants) and homes and the association with indoor smoking
  - Religion (Islamic perspectives on NCD risk factors)
  - History/Culture/traditions
    - Origins/time of introduction of unhealthy habits (to look for hints that make them unpopular, e.g., late introduction, people died young, etc.)
    - Historical details of healthy behaviors in history to popularize
  - Sociology
    - Behavioral change impacts/examples

PART III- MANAGEMENT FRAMEWORK

The implementation of the Multisectoral Action Plan requires engagement of relevant stakeholders from the government, non-government bodies and private sectors. NCD prevention and control being a multidimensional and cross cutting in nature, effective mechanisms are required to coordinate for a successful implementation of the Action Plan.
The NCD program of the health promotion and chronic diseases Division of HPA will technically lead, coordinate and monitor the implementation of the NCD Action Plan, while the Ministry of Health and the High Level NCD Steering Committee will lead the implementation.
Annex 1 gives a matrix of activities by Strategic objectives including timelines and process indicators.

ROLE OF STAKEHOLDERS

Roles of key ministries and stakeholders are noted under "Responsible organizations" in the matrix of activity tables in Annex 1 (by activity). Annex 2 gives specific roles for key government institutions and academic institutions by institution, for ease of identifying, as the tables in Annex 1 maybe too complex. The action plan will remain flexible to include any partners not envisaged or included at the time development of the plan, or to revise changes in roles of stakeholders in future.

PART IV- MONITORING THE IMPLEMENTATION AND OUTCOMES

HPA (NCD program) will be overall responsible for monitoring implementation of the NCD MAP. As health facilities are under RAHS Division in MOH, and monitored by QARD, a NCD MAP monitoring committee including HPA (NCD program), RAHS, QARD and the other key programs of HPA that play a lead role in the NCD MAP, such as Nutrition program, Environmental Health, Reproductive Health.

The performance of Ministry of Health and other stakeholders will be monitored by the Office of the President through routine submission of progress report to the Secretariat (NCD Unit) and onward submission of information to the President and Vice President. The flow chart in *Figure 12* under Strategic Objective 1 shows the flow of monitoring and reporting to HPA MCD Unit from among the stakeholders and from MOH to the President/Vice President.

Monitoring plans have been prepared and some monitoring tools are available. These need to be updated to measure target outcomes and indicators for the revised NCD MAP (2023-2031).

MONITORING AND MEASURING THE ACHEIVEMENT OF TARGETS AND OUTCOMES

The first step in monitoring is for HPA NCD unit to clearly identify baselines for the specific targets that are not currently available. A monitoring form will be developed to include the new targets as well.

The following will be the main targets to achieve by 2030 under the NCD MAP and the indicators to measure the outcomes:

Table 4: NCD Targets, Indicators for monitoring and methods of measuring

Targets for 2025	Indicator	Baseline value (2015)	Target value (2030)	Sources and methods for measuring /assessing
(i) Premature mortality from cardiovascular diseases, cancers, diabetes, chronic	a. Mortality attributed to NCDs (proportional mortality)	84% (in 2018)[36]	60%	VRS, modeling by WHO
	b. Mortality rate attributed to cardiovascular disease, cancer, diabetes or chronic respiratory disease per 100,000 population by 25%	To be calculated	25% relative reduction	VRS, analyzed by HIMRD

[36] World Health Organization - Noncommunicable Diseases (NCD) Country Profiles, 2018. Available from: https://www.who.int/nmh/countries/mdv_en.pdf?ua=1

respiratory diseases, chronic renal diseases and psychological diseases - a 25% relative reduction	c. Proportional Mortality due to NCDs – reduce by 25%	75%	56%	
	d. Risk of premature death from CVD, cancer, diabetes, chronic respiratory disease between age 30 and exact age 70 (%)	16% (in 2014)[39]	12%	From VRS data tables shared to WHO and estimated by WHO
(ii) Suicide mortality – 25% reduction	a. Suicide mortality rate (per 100 000 population)	3.25 per 100,000 (2017) 39	2.4; maintain <3 per 100,000	Police stats and VRS – can be calculated by HIMRD, also to be sent to WHO
(iii) Tobacco use – 30% reduction	a. age standardized prevalence of current tobacco smoking, adults aged 15+ (%)	25.7% (2020 STEPS)	18%	STEPS
	b. men (%)	35.6%	24.9%	STEPS
	c. women (%)	7.6%	5.3%	STEPS
(iv) Harmful use of alcohol – 10% relative reduction	a. Total alcohol per capita consumption, adults aged 15+ (liters of pure alcohol/year) – 10% relative decrease	3 (2016 WHO) [39]	2.7	STEPS
	b. Prevalence of alcohol use among adults (%)	<5% (2020)	Maintain <1%	STEPS
	c. Prevalence of alcohol use among adolescents (13-17 years)	4 (2009 GSHS)	3.6	GSHS
(v) Physical inactivity - 25% relative reduction	a. Physical inactivity, adults aged 15+ (%)	50 (2020 STEPS)	37.5	STEPS
(vi) Salt/Sodium intake – 30% relative reduction	a. Mean population salt intake, adults aged 20+ (g/day)	8.8 g/day (2TEPS 2020)	5.6 g/day	STEPS
(vii) Inadequate Fruit & vegetable intake – 30% reduction	a. % population adults 15+ not eating adequate fruits and vegetables daily	92.6% men, 94.6% women (STEPS 2020)	70%	STEPS
(viii) Areca nut chewing – 15% reduction	b. areca nut chewing – among adults 15+ (%)	56.2% (STEPS 2020)	47.7%	STEPS

(ix) Raised blood pressure - 25% relative reduction	a. Age standardized prevalence of Raised blood pressure (SBP≥140 or DBP≥90, adults aged 18+ (%)	13.6% (STEPS 2020)	10.2	STEPS
(x) Diabetes – halt the rise	a. Prevalence of Raised blood glucose, adults aged 18+ (%)	14 (STEPS 2020)	<14	STEPS
(xi) Obesity – halt the rise	a. Prevalence of Obesity, adults aged 18+ (%)	20 (STEPS 2020)	<20	STEPS
	b. Obesity, adolescents aged 13-17 (%)	4.9 (GSHS 2009)	<5	GSHS
(xii) Air pollution – significant relative reduction	1) Mortality rate attributed to household and ambient air pollution per 100,000 population – relative reduction by 10%	25.6 per 100,000 (2018 WHO)	23.4	WHO – modeling of deaths from air pollution related disease (ARI in children <5yrs, IHD, stroke, COPD and lung cancer in adults>25yrs) and exposure of the population to air pollutants (for outdoor/ ambient: annual mean concentration of PM2.5 particulate matter, for indoor/ household: proportion of population relying primarily on polluting fuels for cooking)
	2) Ambient (outdoor) air pollution – 25% reduction			
	a) Exceedance of WHO guidelines level for annual PM2.5 concentration in ambient air (proportion)	To be measured	25% reduction	Air quality monitors through MNU
	b) No. of vehicles registered / in use in the country	To be measured	10% reduction	Stats from Transport Authority
	3) Indoor and Household air pollution – 50% reduction			
	a) Population exposed to second-hand Tobacco smoke at home, adults 15+ (%)	33.9% (2020 STEPS)	23%	STEPS
	b) Population exposed to second-hand Tobacco smoke at home, children of Grade 1 (%)	40% (parental smoking – Grade 1 screening 2016)	20%	GSHS

	c) Population exposed to second-hand tobacco smoke at work, adults 15+ (%)	10.4% (2020s STEPS)	8.55%	STEPS
	d) Population exposed to second-hand tobacco smoke in enclosed public places, adults 15+ (%)	To be measured	25% reduction	STEPS
	e) Population with primary reliance on solid fuels for cooking	<1% (2017 MDHS)	Maintain <1%	STEPS
(xiii) Drug therapy to prevent heart attacks and strokes	1) Proportion of population at high risk for CVD (>30%) or with existing CVD (%)	To be measured	10% reduction	STEPS
	2) Proportion of high-risk persons receiving any drug therapy and counselling to prevent heart attacks and strokes (%)	To be measured	>50% for all sub-components below	STEPS
	a) Proportion of people with CVD risk >30% who are on anti-platelet (aspirin or clopidogrel) and lipid lowering drugs	To be measured	>50%	STEPS
	b) Hypertension:			
	i) Currently taking drugs prescribed by doctor among those diagnosed	17% (2011 STEPS)	>50%	STEPS
	ii) Advised by health professional or health worker to stop smoking	15.4% (2011 STEPS)	>50% of smokers	STEPS
	iii) Advised by health professional to reduce salt intake	55.5% (2011 STEPS)	Maintain >55%	STEPS
	iv) Advised by health professional to lose weight	53.8% (2011 STEPS)	Maintain >54%	STEPS
	v) Advised by health professional do more exercise	60.2% (2011 STEPS)	Maintain >60%	STEPS
	c) Diabetes:			
	i) Currently taking oral drugs or insulin prescribed for diabetes among those previously diagnosed	oral drugs 63.2% Insulin 19.4%	>50%	STEPS

		(2011 STEPS)		
	ii) Advised by health professional worker to stop smoking	To be measured	>50%	STEPS
	iii) Advised by health professional to reduce salt intake	To be measured	>50%	STEPS
	iv) Advised by health professional to lose weight	To be measured	>50%	STEPS
	v) Advised by health professional do more exercise	To be measured	>50%	STEPS
	2) Proportion of people diagnosed with diabetes and hypertension who are controlled		>50%	STEPS
	a) Diabetes: % controlled	5.3% (2020 STEPS)	>50%	STEPS
	b) Hypertension: % controlled	8.8% men, 9.8% women (2020 STEPS)	>50%	STEPS
	3) Proportion of primary health care centers reported as offering CVD risk stratification (using CVD risk calculation charts or online calculators)	To be measured	>80%	M&E forms for health facilities, using PEN tools
	4) Reported having CVD guidelines that are utilized in at least 50% of health facilities	50% (2016 WHO) [39]	>50%	
(xiv) Essential NCD medicines and basic technologies to treat major NCDs	1) Number of essential NCD medicines reported as "generally available" at PHC level	7 out of 10 (2016 WHO) [39]	8 out of 10 (>80%)	M&E forms using PEN tools to identify essential medicines and technologies, administered to health facilities through atoll NCD focal points
	a) % of inhabited islands with health facilities that have pharmacies (baseline to be assessed) (Number of pharmacies (ALL inhabited islands have at least one pharmacy): 339 in 2017)	To be measured	>80%	

	b) % of health facilities where patients have access to at least 80% of the basic medicines and technologies identified in PEN protocols	To be measured	>80%	
	2) Number of essential NCD technologies reported as "generally available" at PHC level	4 out of 6 (2016 WHO) [39]	5 out of 6	

HPA NCD program will gather baseline indicators for measuring the achievement of the above targets and outcomes in collaboration with HIMRD, WHO and relevant departments and organizations as soon as possible, within the year 2021, and then reassess for outcome indicators in 2030.

PROCESS MONITORING OF THE WORK PLAN

The national M& E protocol for the Multisectoral National NCD Action Plan will be finalized through a stakeholder meeting and seek endorsement of the High-Level Taskforce. NCD Steering Committee. The Steering Committee will monitor the progress of activities through HPA NCD Unit, which should be technically responsible for monitoring. The Steering Committee should report to the Cabinet or Presidential Taskforce on a 6 monthly basis. All stakeholders will be accountable for their work plans. HPA will seek responsible NCD Focal points from all stakeholder organizations for coordination, leading the implementation and monitoring. For institutions outside the health sector, this may be the "Health Focal Point" for all health issues, or a member of the health team of the organization. The work plan will be integrated within their sectoral plans.

Monitoring will be done together with mentoring and providing feedback and guidance. In order to track the implementation progress, stakeholder meetings will be held in the first quarter for orientation, and three-monthly activity progress reports will be collected by the NCD Unit/Secretariat at the end of March, June, September and December. Meetings will be held with the progress reports 6 monthly to actively review progress and provide feedback and guidance. Monitoring forms for activity reporting will be developed by a small Working Group consisting of HPA technical staff and selected key stakeholders. Stakeholders will be oriented on the coordination protocol and reporting format. During the subsequent years of implementation, any new coming members will also be oriented on the coordination protocol and reporting format.

The NCD Unit will review the progress and provide feedback within the 14 working days of the receipt of activity reports. The feedback will include the progress against the set indicators, and suggestions on how to improve activities for achieving the targets. Two-way feedback will be provided through stakeholder meetings and teleconference with atoll and city health facility NCD Focal points. Monitoring visits will be conducted to atolls for monitoring and mentoring some key activities, such as PEN implementation.

The progress for 2030 will be measured through few critical process indicators and short term and medium-term outcome indicators. The key indicators are defined for each risk factor, diseases and other service delivery areas. Process and short-term indicators are aimed towards mid-term plan (2025) and the medium term and few long-term indicators are expected to be achieved by 2030. The

majority of the long-term indicators should be achieved by 2030, along with those indicators for the targets for 2030.

Indicators for each activity and sub-activity are detailed in the matrix of activities and timelines in Annex 1. A summary of critical indicators to be used for tracking the progress of the Multisectoral NCD Action Plan along their means of verifications and key assumptions are described in the detailed tables in Annex 2.

CRITICAL FACTORS OF THE ACTION PLAN

Several factors are critical to the success of the Action Plan as listed below. Faltering of one or more of these factors will severely risk the success of the Action Plan. These factors must be therefore closely managed at every stage of implementation.

- Political stability and commitment of the government to evidence-based NCD prevention and control is positive and sustained
- Proposed legislation and regulations to support policies are endorsed
- The Health Promotion & Chronic Diseases (NCD) Division in HPA/MOH is strengthened with the required strength of capable staff to lead the implementation of NCD prevention and control effectively
- Other stakeholders including the enforcement agencies are empowered with adequate knowledge and resources and effectively participate in implementing the NCD action plan
- Proposed boards/ committees are diligently able to meet and function
- Annual work planning and review exercises are conducted routinely
- Adequate financial resources are committed
- WHO and other donors provide continued partnership, support and guidance at the country level

REFERENCES AND DOCUMENTS CONSULTED

There are no sources in the current document.

Documents consulted are referenced at the bottom of each page. In addition to the documents referenced in relevant places above, the following documents were also consulted.

1. WHO NCD MAP tool, available from:
http://apps.who.int/ncd-multisectoral-plantool/home.html
http://apps.who.int/nmh/ncd-map-toolkit/developing/tool-template.html
2. WHO toolkit for evaluating NCD MAP, available from:
http://apps.who.int/nmh/ncd-map-toolkit/evaluating/tool-framework.html
http://apps.who.int/nmh/ncd-map-toolkit/evaluating/tool-steps.html
3. WHO. Tackling NCDs: "Best buys" and other recommended interventions for the prevention and control of noncommunicable diseases. 2017. WHO reference number: WHO/NMH/NVI/17.9 Available from: https://www.who.int/ncds/management/best-buys/en/ and https://www.who.int/ncds/management/WHO_Appendix_BestBuys.pdf
4. WHO, World Economic Forum. From Burden to “Best Buys”: Reducing the Economic Impact of Non-Communicable Diseases in Low- and Middle-Income Countries. 2011. REF: 100811
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8. National Food Based Dietary Guideline Implementation Plan. Health Protection Agency, Ministry of Health (unpublished)

9. First 1000 days SBCC strategy Final Endorsed Version_6.8.2018. Health Protection Agency, Ministry of Health
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11. National Action Plan for Air Pollution. Ministry of Environment
12. NCD 25-25 Campaign plans. NCD program, Health Protection Agency, Ministry of Health. Unpublished
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20. Global Action Plan for the prevention and control of noncommunicable diseases 2013-2020
21. Tobacco Control Act (Law 15/2010), Maldives
22. School Health Policy 2011, Ministry of education and Ministry of Health and Family, Republic of Maldives
23. National Standard for Labelling (Draft), MFDA-FCD STAN 4-2014
24. Government Strategic Action Plan (SAP) 2019
25. UN SDGs

ANNEX 1: Activities for the implementation of the NCD MAP 2023-2031

(Matrix included with this Action plan - attached)

ANNEX 2: INDICATORS FOR PROCESS MONITORING OF THE NCD MAP WORK PLAN

Table 5: Indicators and means of verification (Mov) for Strengthening NCD Governance

Process	Short term indicators	Medium term indicators	Long term indicators
Strengthening advocacy through community-based organizations	Formation of an NCD/Health promotion Advocacy network of NGOs and academia (MoV: active Viber group, TOR for the network and its members)	NGOs and academia actively advocate for NCD Best Buys measures using effective methods (Mov: no. of official letters sent, social media posts, position papers published, petitions, contributions to online newspaper articles, appearances on TV/radio programs, advocacy spots)	Implementation of NCD Best Buys policy measures prioritized in NCD MAP (See tables below)
	Capacity building workshops held (Mov: no. of advocacy training workshops held for NGOs and academia)		
Capacity building of media for promoting healthy lifestyles and NCD prevention	Media sensitization workshops, training workshops held, Media briefs, IEC material prepared (Mov: no. of workshops, no. of IEC material/media briefs prepared)	Qualitative improvement of media depiction of NCDs and risk factors and media promoting healthy lifestyles (Mov: Questions on exposure to tobacco/ unhealthy food promotions in STEPS survey, no. of media programs per year covering segments on NCD prevention or risk factors though media survey – by MMI/ Journalism students)	Improved public knowledge, attitudes and practice of healthy lifestyles (STEPS survey, GSHS)
Strengthening national coordination for NCD prevention and control	Establishment of multi-sectoral High level NCD Steering Committee or Taskforce with higher leadership by VP or co-chaired by a minister who is able to mobilize several other sectors (MoV: MOH/HPA: High level Committee meeting minutes)	Functional high-level committee, conducting regular productive meetings and making evidence-based decisions for NCD prevention and control (MoV: Meeting minutes)	Implementation of NCD Best Buys policy measures prioritized in NCD MAP (See tables below)
	Establishment/ sustaining of Advisory Boards, TECs, working	Functioning Advisory Boards, TECs, working groups providing	Implementation of NCD Best Buys measures

Process	Short term indicators	Medium term indicators	Long term indicators
	groups for implementing the various activities (Mov: TORs, appointee lists/letters/meeting minutes)	evidence-based decisions and outputs (Mov: minutes of board meetings, finalized/ published regulations, standards, guidelines, IEC material)	prioritized in NCD MAP (See tables below)
Strengthening of HPA capacity for secretariat functions for coordinating and providing technical support to the boards, committees, working groups and advocacy groups and health and other sector focal point networks	Adequate staff with appropriate capacities identified and in-service, adequate facilities identified and mobilized (Mov: HPA NCD program)	Committees, boards, TECs, working groups and advocacy groups actively functioning and satisfied with support provided by secretariat, timely and professional documentation of minutes and output documents, provision of technical documents such as current research evidence and available guidance for perusal and decision making (Mov: meeting minutes, feedback from members)	Implementation of NCD Best Buys measures prioritized in NCD MAP (See tables below)
Strengthening of HPA capacity for NCD prevention and control leadership and implementing effective NCD prevention and control measures	HPA structure of Chronic Diseases Division (NCDD) includes an epidemiologist and units for Health Promotion and NCD Surveillance with adequate staff possessing relevant skills identified in the section, the staff are recruited, Appropriate equipment and facilities for effective communication and health promotion procured (Mov: HPA)	Staff are retained and functional, facilities available and functional, Implementation of activities in NCD MAP in process, appropriate technical guidance provided for boards, committees and other sectors, evidence-based advocacy briefs published and disseminated, effective IEC material produced and disseminated, HPA website functional. (Mov: HPA DG, website/social media, feedback from members of boards and committees)	Implementation of NCD Best Buys measures prioritized in NCD MAP (See tables below)
	Relevant training provided for staff		

Table 6: Tobacco control indicators and means of verification (Mov)

Process	Short term indicators	Medium term indicators	Long term indicators
Graphic health warnings with annually rotating warnings and ban of single cigarettes implemented	Regulation gazette with this requirement included (already in Jan 2019), New warnings developed and Standards/ guideline/ requirements document updated with these and other loopholes covered and gazette (Mov: gazette document) Pictorial warning and packaging of tobacco products seen in the market (good compliance), Compliance check program through decoy purchase attempts for tobacco laws as a quality improvement tool (Mov: analysis of compliance rates from regular compliance check operations by HPA and number of violations by Police and MIRA software)	Public awareness about health effects through pictorial warning on tobacco packages Demand for quit services - number of people seeking services to quit smoking from health facilities (Mov: Assessment through STEP survey and GSHS by inclusion of questions on GHW, KAP surveys with questions relating to GHWs and ban of single cigs - mobilizing university student research, Cessation service monitoring reports of HPA)	Prevalence of tobacco use among adolescent and adults (Mov: STEPS and GSHS)
Revision of present partial smoking ban regulation to a Comprehensive ban on smoking in all indoor public places, workplaces and public transport, educational and health institutes and improved implementation (Mov: Gazette revised regulation and guidelines)	Decrease of smoking in public places, work places, restaurants and waiting areas to board public transport (Mov: analysis of compliance check operations and fine collection software of Police/MIRA by HPA, KAP studies via student research by universities) Intense enforcement operation program for compliance checks in smoke free zones and designated smoking	Exposure to second hand tobacco smoke by children and adults in public places, health facilities, educational institutions, public transport and workplaces decreased (Mov: School Health Screening reports, GSHS, STEPS, KAP studies by university students) STEPs survey indicator on % of adults reporting exposure to SHS in public places.	Prevalence of tobacco use among adolescent and adults (Mov: STEPS and GSHS) Number and proportion of deaths and admission LOS due to heart disease, stroke, respiratory diseases (particularly asthma/COPD) (Mov: Maldives Health Statistics from health facilities and VRS analyzed and published by HIMRD)

Process	Short term indicators	Medium term indicators	Long term indicators
	areas mobilizing various implementers and volunteers (Mov: Written work plans/SOPs for police, HPA/public health units, City/ Island Councils and volunteers for joint enforcement activities, compliance check reports of operations, compliance and violations analyzed via Police/ MIRA software)	Number and proportion of Deaths and admission LOS due to heart disease, stroke, respiratory diseases (particularly asthma/COPD) (Mov: Maldives Health Statistics from health facilities and VRS analyzed and published by HIMRD annually)	
Conducting an effective and sustained anti-tobacco mass media campaign – Tobacco Free Families campaign (Mov: Annual reports of HPA, High Level NCD taskforce, FCTC implementation reports sent to WHO)	Health professionals, NGOs, academic institutions and schools actively engaging in advocating for tobacco smoke free households, schools, educational institutions, work places and public places, Mass media and social media campaign material broadcast/published and seen by public (Mov: Annual reports of HPA, KAP studies by university students)	Exposure to second hand tobacco smoke by children and adults in public places, health facilities, educational institutions, public transport including waiting areas and workplaces decreased (Mov: School Health Screening reports, GSHS, STEPS, KAP studies by university students, PM25 air pollution levels at public places such as restaurants and transport waiting areas)	Prevalence of tobacco use among adolescent and adults (Mov: STEPS and GSHS)
Revision of tobacco taxation policies (Mov: Recommendation by TCB/MOH sent to relevant ministries (MO Finance / Citizens Majlis), Publication of tobacco taxation policy document/ legislature)	Highest tobacco tax rates to apply to ALL tobacco products (including shisha, ENDS, and smokeless tobacco products), Tobacco product prices increase significantly Incremental tobacco tax and import duty collection adjusted to inflation and economic growth with a target of 70% taxes as a percent of final prices by year 2021 onwards	Tobacco consumers reporting reducing/ quitting tobacco use due to high cost (Mov: Survey questionnaire adapted for STEPS and GSHS collected five yearly) Demand for quit services - number of people seeking services to quit smoking from health facilities (Mov: Cessation service monitoring reports – HPA)	Prevalence of tobacco use among adolescent and adults (Mov: STEPS and GSHS)

Process	Short term indicators	Medium term indicators	Long term indicators
	Earmarking percentage of tax for prevention activities (Mov: Annual Govt. budget reports, Annual revenue report of Customs)		
Regulations for registering, licensing and regulating tobacco import and sales gazette and implemented (Mov: gazette regulation)	Regulation gazette, License issued for imported products License issued for packaging and sales for local businesses I keeping with regulation Licenses cancelled or temporarily suspended in case of any violation of tobacco control regulations by the party Regular compliance checks conducted by implementing organizations (Mov: compliance checks, reports of HPA, MFDA, MED and other sectors)	Products entering the market are well known by MOH in advance and any new product identified before going to market, MOH able to regulate new products better (Mov: Licensing authority (MFDA) and HPA/TCB reports) Exposure of adolescents to new tobacco products (Mov: GSHS/GYTS survey, KAP studies by university students)	Prevalence of tobacco use among adolescent and adults (Mov: STEPS and GSHS)
Formulating, publishing in gazette and enforcing a regulation for comprehensive ban on all forms of TAPS (Tobacco Advertising, Promotion and Sponsorship) including cross border TAPS and any kind of CSR activities by tobacco industry under the TCA (Mov: gazette regulation)	Regulation formulated and published in gazette (Mov: gazette publication of regulation) Regular compliance checks and operations mobilizing various implementers and volunteers (Mov: Written work plans/ SOPs for MFDA/ Customs/ MED/ MIRA, HPA/ public health units, City/ Island Councils and volunteers for joint enforcement activities, compliance check reports of operations, compliance and violations analyzed via	Reduced exposure of adolescents and adults to TAPS (Mov: GSHS, STEPs survey - questions added)	Prevalence of tobacco use among adolescent and adults (Mov: STEPS and GSHS)

Process	Short term indicators	Medium term indicators	Long term indicators
	MFDA/ Customs/ MIRA software)		
Strengthening tobacco cessation	Initiate cessation program and capacity building of health professional in health facilities, schools, youth centers and substance use rehabilitation services in all atolls for tobacco cessation (Mov: HPA reports, no. of trainings held and no. of participants trained, health facility cessation service monitoring reports of HPA)	Establish national toll free Quitline (Mov: STEP survey indicator on % of tobacco smokers advised by HW to quit smoking; percentage of adults that have heard about quit line or used it.)	Prevalence of tobacco use among adolescent and adults (Mov: STEPS and GSHS)
Implementation of FCTC article 5.3. Stopping tobacco industry interference in government policies as a written policy in MOH and across government institutions	Circular sent to govt. organizations by MOH/PO, Policy document gazette Advocated by NGOs (Mov: gazette document, reports)	Compliance by govt. organizations and NGOs (Mov: compliance checks through NCD MAP monitoring reports)	
Ban of shisha and ENDS	Banning regulation gazette and publicized, Implemented and compliance checks conducted (Mov: compliance check reports and analysis for violations via Police/MIRA software)	Access to shisha or ENDS products reported by adolescents and adults (Mov: GSHS/GYTS survey, KAP studies by university students)	Prevalence of tobacco use among adolescent and adults (Mov: STEPS and GSHS)

Table 7: Indicators for promotion of healthy diet and means of verification (Mov)

Process	Short term indicators	Medium term indicators	Long term indicators
Passage and implementation of Food Bill	Gazette publication of Food Act (Mov: gazette document)		Age standardized mean population intake of salt (sodium chloride) per day in grams in persons aged 18+ years
Passage and implementation of regulations for marketing of food & beverages to children	Gazette and implementation of regulation (Mov: gazette regulation, publication and public announcement of	Decreased advertisement of non-alcoholic beverages high in sugar and foods high in salt, saturated	

Process	Short term indicators	Medium term indicators	Long term indicators
and adolescents (Mov: gazette regulation)	requirements for food advertisements) Compliance/ number of violations (Mov: MFDA reports)	fatty acids, trans fat or sugar (Mov: Study of advertisement in media by HPA/NGOs/university students)	Population achieving recommended level of servings of fruits and vegetables Consumption of food containing trans-fat and hydrogenated vegetable oil Mean population consumption of free sugars Prevalence of areca nut chewing among adults and adolescents Prevalence of obesity and being overweight (Mov: STEPS, GSHS surveys)
Adoption of policies to reduce food products high in salt, trans fats and hydrogenated vegetable oils in food supply (Mov: Published policy documents)	Policy paper re-submitted and presented to Social Council for advocating to establish government policy (Mov: submitted Social Council paper) Monitoring of food contents of salt and saturated fatty acids and trans-fat levels (Mov: Annual market inspection reports of MFDA/HPA)	Decrease market availability of food products with high content of salt, trans fat and hydrogenated oils (Mov: Annual market inspection reports of MFDA/HPA)	
Nutritional labeling on back and front of pack for both imported and domestically produced packaged foods	Regulation for packaging and labeling of food products revised/ updated with requirements for nutritional labeling on back and front of pack and gazette (Mov: gazette regulation) MFDA laboratory capacity upgraded to test for nutritional content required under regulation (Mov: reports of MFDA) Compliance for nutritional labeling at import and retail market (Mov: MFDA annual reports of stats on import compliance checking, annual market inspection reports by MFDA/MED, stats of violations and fines by MIRA stats, market surveys by university students)	Increase awareness of salt, free sugar and fat content of diets consumed in population (Mov: STEPS, GSHS surveys)	
Adoption of national dietary recommendation for all age groups and for different conditions and information integrated into national BCC & mass media campaign (Mov: Published mass	BCC for promoting diet low in salt, fats, sugar and high in fruit and vegetables as integrated healthy diet campaigns for adults, school children and youth conducted (Mov: Awareness material and messaging published on websites/social media, airtime for promoting healthy diets and	Increase awareness of dietary recommendations in population (Mov: STEPS and GSHS and midterm and end line evaluation reports)	

Process	Short term indicators	Medium term indicators	Long term indicators
media and BCC strategy)	healthy lifestyle, Activity reports of HPA, MOUs with media) Implement the Adult Food Based Dietary Guidelines (FBDG) published (Mov: IEC material produced, no. of trainings held and no. of participants trained, HPA Activity reports)		
Expand Taxation of both domestic and imported sugary drinks and identified specific unhealthy food and beverage products high in salt, trans fats and hydrogenated vegetable oils and carcinogens (processed meats) and ultra-processed foods identified by HPA/MFDA	Published taxation policy and tax rates (Mov: publication in gazette) Annual statistics of Customs and MIRA on tax collected (Mov: Customs and MIRA statistics) Price of commodities taxed (Mov: Market survey by university students/MED, Income Expenditure Survey by MBS (MNPHI))	Consumption of sugary drinks (reduced), consumption of other foods identified: salt, trans fats and saturated fats, hydrogenated vegetable oils and processed meats (Mov: Income expenditure survey, STEPS)	
Mandating Health warnings on areca nut packages	Regulation mandating health warnings (preferably graphic) on packages of areca nut containing products gazette and implemented (Mov: gazette regulation, reports of compliance checks for package warnings in retain market)	Awareness of the risks of areca nut use among adolescents and adults (Mov: KAP survey by university students, Prevalence of areca nut chewing among adolescents and adults (Mov: GSHS, STEPS survey - added questions, KAP survey by university students)	
Implement Agricultural incentives for fruit & vegetable cultivation, and for Good Agricultural Practice; and disincentives for areca nut cultivation and production	Policy papers submitted to Social Council, decisions made, policy published in gazette (Mov: Published Policy documents in gazette/, published public notices/news detailing incentive schemes in official govt. websites	Increased production and availability of local fruit and vegetables, reduced prices (Mov: market survey, annual reports of MOFAMR)	
Urban planning measures to facilitate	Easy access to local markets in cities	Increased availability and access to fruit and	

Process	Short term indicators	Medium term indicators	Long term indicators
access to fruit and vegetables	Home gardening of fruit and vegetables increased Growing of fruit trees in streets of cities increased (Mov: City Council reports for Male', Hulhumale, Addu, Kulhudhufushi, household surveys by City councils)	vegetables for people living in cities (Mov: household surveys by City councils, surveys by university students)	

Table 8: Indicators for physical activity promotion and means of verification (Mov)

Process	Short term indicators	Medium term indicators	Long term indicators
Develop and disseminate national physical activity guidelines for all age groups in various settings (Mov: Print/ online documents of national physical activity guidelines)	Dissemination of guidelines and messages on social media and other media programs (Mov: BCC and mass media campaign strategy annual report) No. of trainings held for health professionals, no. of professionals trained, health professionals' awareness of physical activity recommendations (Mov: post-training assessments and reports - HPA)	Awareness on the recommendations of physical activity among people of all age groups (school children, youth and adults (Mov: Mid-term evaluation report of BCC and mass media campaign and STEPs and GSHS)	Prevalence of insufficient physical activity among children and adolescents defines as less than 60 minutes of moderate to vigorous intensity activity daily Age standardized prevalence of insufficient physical activity persons aged 18+years (defined as less than 150 minute of moderate-intensity activity per week, or equivalent)
Incorporate urban structural designs that enable physical activity in Male' city, Hulhumale', Addu, Kulhudhuffushi and other developing urban settings (Mov: Building Codes, SOPs and work plans of MHUD, MNPI, LGA, City councils and Island councils)	MOH/HPA and a health NGO to be represented in Urban Planning committee established at MHUD/MNPI. Urban structural requirements that enable physical activity to be included in long term design plans, Building Code and Urban design codes/requirements. (Mov: Building Code, Urban design requirements documents published) Urban design promoting walkability and bicycle use – no. of cities and atoll capital islands with adequate bicycle lanes and bicycle parking facilities, no. of pedestrian designated streets (walking only) in Male' city and overcrowded islands (Mov: Activity and progress reports of MHUD/ MNPI Urban Planning Committee and City/ Island councils)	Streets conducive for pedestrians and bicycle riding in main cities (Mov: STEPS survey - added questions Walkability and bicycle friendliness survey) No. of islands and city neighborhoods with free to access sports or exercise facilities People participating in regular physical activity at public grounds and swimming areas increased	

Process	Short term indicators	Medium term indicators	Long term indicators
	No. of islands and city neighborhoods with free to access sports grounds, parks or exercise facilities (Mov: MYSCE report, Physical verification of sites) No. of homes/ apartments that have allocated space or permission to do home gardening (Mov: survey by City/island councils) *Public transport	(Mov: Annual assessment report/ survey on use of public grounds by Councils/HPA)	
Policy measures to improve affordability of physical activity through gyms and sports programs, e.g., tax reductions for such services	Paper on Taxation recommendations submitted to Cabinet and Majlis (Mov: paper submitted) Passage and inclusion of taxation recommendations by govt. (Mov: Taxation policy documents published in gazette)	Affordability of gyms and exercise facilities improved (Mov: Income expenditure survey by MBS (MNPHI), market survey by university research students)	
Continue ongoing "Dhulhaheyo Hashiheyo" campaign of the government, and other BCC campaigns to promote physical activity	BCC campaign with social media awareness and Events conducted (reports of relevant ministries and MOH/HPA)	Weekly Physical activity (practices) improved (Mov: STEPS survey)	
Assumptions: Greater leadership by school systems, City Council and Ministry of Urban Development and Infrastructure and funds available for health promotion			

Table 9: Indicators for prevention and control of alcohol use

Process	Short term indicators	Medium term indicators	Long term indicators
Developing socially acceptable messages on alcohol abstinence for public awareness	Key Messages identified by HPA in consultation with health professionals, NGOs, and target groups, Discussions held with Ministry of Islamic Affairs to adopt socially acceptable messages in keeping with Islamic religious teachings (Mov: meeting minutes, developed messages and IEC material) IEC material developed and disseminated	Population awareness on the risks of alcohol consumption and alcohol abstinence (Mov: STEPS, GSHS surveys)	Prevalence of alcohol use/harmful use reduced, increased alcohol abstinence among adults and adolescents. (Mov: STEPS, GSHS)

Process	Short term indicators	Medium term indicators	Long term indicators
Adopt of relevant components on Global Strategy on Reducing Harmful Use of Alcohol (Mov: Published policy document)	Increase educational programs on alcohol abstinence among young people (Mov: Annual activity reports of stakeholders compiled by NCD Unit)	Population awareness on alcohol abstinence policy (Mov: STEPS survey)	Prevalence of alcohol use/harmful use reduced, increased alcohol abstinence among young people. (Mov: STEPS, GSHS) Incidence of deaths from alcohol intoxication reduced (Mov: Maldives Health Statistics by PHI)
Guidelines and services made available in health facilities and health professionals trained to detect and treat alcohol intoxication, harmful use and substance use, and for screening and providing brief intervention	Protocols for alcohol use included in PEN package Treatment guidelines for alcohol intoxication, harmful use and substance use prepared and available for use in all health facilities. Treatment protocols for alcohol dependence available and practiced in Drug rehabilitation facilities under NDA (MoV: published guidelines, monitoring reports from health facilities complied by HPA NCD unit)	Improved detection and treatment of alcohol intoxication and harmful use, through health facilities and drug rehabilitation facilities	Prevalence of alcohol use and harmful use reduced, increased alcohol abstinence. (Mov: STEPS) Incidence of deaths from alcohol intoxication reduced (Mov: Maldives Health Statistics by PHI)
Monitoring/ reducing drunk driving through traffic Police	% of Alcohol breath tests tested positive annually,	Alcohol involved road accidents and alcohol-involved crime (Mov: Published joint annual report of HPA and police)	Reduced mortality from road traffic accidents (Mov: Maldives Health Statistics)
Measures to restrict alcohol consumption by Maldivians at tourist resorts and hotels	Legislature restricting foreigners from taking alcohol bottles outside bars and restaurants in tourist establishments, restricting availability in licensed bars and restaurants of tourist hotels situated near schools and educational institutions (Mov: legislature published in gazette)	Alcohol consumption among resort workers and youth 15+ reduced (STEPS survey)	Prevalence of alcohol use/harmful use reduced, increased abstinence. (Mov: STEPS, GSHS)

Table 10: Indicators to Reduce Air pollution

Process	Short term indicators	Medium term indicators	Long term indicators
Policy measures for reduction of motored vehicles and reduction of emissions	Vehicle emission standards revised and published by MoEnv. (Mov: published standards) Regulations for taxation of motored vehicles and vehicles with high emissions and for Regulating vehicles imports / controlling vehicle smoke emissions formulated and gazette. (Mov: gazette regulation) Availability and adequacy of public transport in the cities of Male, Hulhumale', Addu Kulhudhuffushi and all cities, including time taken to travel between 2 fixed destinations (Mov: survey by City councils for adequacy and public satisfaction with public transport) Urban design promoting walkability and bicycle use – no. of cities and atoll capital islands with adequate bicycle lanes and bicycle parking facilities, no. of pedestrian designated streets (walking only) in Male' city and overcrowded islands (Mov: Activity and progress reports of MHUD/ MNPI Urban Planning Committee and City/ island councils) No. of populated islands / City neighborhoods with at least one large green space (e.g., parks providing exercise, with greenery and smoke-free environments included)	No. of vehicles compliant with safe emission standards (Customs statistics) Streets conducive for environment-friendly transport such as walking and bicycle riding in main cities, Time taken to travel between 2 fixed destinations (Mov: STEPS survey - added questions Walkability and bicycle friendliness survey)	Ambient air pollution levels (PM2.5 particle levels) in main cities reduced
Incorporating policy on smoke (including tobacco smoke)-free public places and homes into national action plans for air pollution prevention (HPA EH and MOEnv.)	Environmental Health and Air pollution Action Plans contain integrated activities promoting smoke-free public places and homes (Mov: Action Plans, policy documents) Compliance of Smoking bans implementation – (Mov: compliance reports of HPA/ Police/ MIRA)	Proportion of indoor public places that are maintained as fully smoke-free (compliance to smoking bans) (Mov: compliance reports of HPA/ Police/ MIRA) Proportion of homes that are free from tobacco smoke, cooking smoke or any other smoke (Mov:	Indoor air pollution levels (PM2.5 particle levels) in key indoor public places and social housing buildings reduced

Process	Short term indicators	Medium term indicators	Long term indicators
		household survey such as MDHS, STEPS questions added)	
Conduct a study on air pollution in indoor public places and households to measure the extent of indoor air pollution and association with indoor smoking and other sources of indoor air pollution - in collaboration with MNU	Study proposal written, funds sought and mobilized, study conducted by MNU, results presented in academic sessions, advocacy forums and media, and study results published in peer reviewed journal, shared with HPA/MOH for further advocacy. (MoV: publications of study results in journal and media, policy papers based on or quoting/referencing study)	Improved awareness of sources of indoor air pollution in Maldives among public and politicians (MoV: STEPS, Tweets of MOE and key politicians, policy papers referencing study)	Indoor air pollution levels (PM2.5 particle levels) in key indoor public places and social housing buildings
Regular Monitoring of ambient and indoor air pollution - in collaboration with MNU	Technical committee formed and places selected for indoor and ambient air pollution monitoring, considering public health impact and available resources, guidelines for monitoring developed (MoV: Guideline including key places and methods of monitoring) Equipment placed / fixed and monitoring established (MoV: regular measurements of PM2.5 particle levels)	Ambient and Indoor air pollution levels (PM2.5 particle levels) in key outdoor and indoor public places	Ambient and Indoor air pollution levels (PM2.5 particle levels) in key outdoor and indoor public places
Guidelines and standards for industries leading to lung disease related with air pollution such as fiber boat building, and preparation of smoked fish close to residential areas in islands	Guidelines and standards prepared (Mov: published document) Trainings conducted for implementation of guidelines (MoV: No. of trainings held; no. of persons trained)	Compliance to guidelines	Ambient air pollution levels (PM2.5 particle levels)

Table 11: Indicators for Promote healthy behaviors to reduce NCDs in key settings and means of verification (Mov)

Process	Short term indicators	Medium term indicators	Long term indicators
Formulate and disseminate	Guidelines for Workplace health and healthy lifestyles at work	Healthy workplace policies implemented	Reduction in prevalence of

Process	Short term indicators	Medium term indicators	Long term indicators
guidelines for Workplace health and healthy lifestyles at work	published and disseminated by print and soft via MOH/HPA websites and social media (MoV: published guideline) Trainings conducted for health professionals and workplace HR teams on implementing the guidelines for creating awareness at workplaces (MoV: No. of trainings held; no. of persons trained) No. of workplace health awareness activities conducted (MoV: no. of activities, no. of workplaces covered, no. of people covered)	(MoV: no. of workplaces implementing selected policies from the guidelines – e.g., smoke free workplaces, healthy canteen, area for physical activity, safe bicycle parking)	tobacco use among adults and young people, Increase in physical activity, Decrease in obesity Decrease of sugar, salt and fat consumption Increase of fruit and vegetable consumption (MoV: STEPS survey, GSHS)
Formulate and disseminate a Healthy Events Guide	Healthy Events Guide published and disseminated by print and soft via MOH/HPA websites and social media (MoV: published guideline) Trainings conducted for health professionals, island council staff on implementing the guidelines (MoV: No. of trainings held; no. of persons trained) No. of awareness activities conducted to promote healthy events (MoV: no. of activities, no. of event organizers and workplaces covered, no. of people covered)	No./percentage of healthy events and healthy media franchise programs with following features: - smoke-free and actively discouraging tobacco use, - encouraging healthy eating, - encouraging physical activity, - no unhealthy sponsorships (MoV: No./percentage of healthy events and healthy media franchise programs)	
Review and re-organize the ongoing - NCD 25-25 Campaign using BCC/COMBI methods with feedback from target groups, re-branding if required and more effective messaging and activities.	Consultant hired. Review of NCD 25-25 Campaign conducted and revised plan using COMBI methods prepared, suggestions from target groups and stakeholders collected, brand, IEC material and activities identified and prepared with target group inputs. New campaign launched and conducted MoV: campaign reports, IEC material, access to campaign material and messaging on social	Increased public awareness, improved attitudes and improved practice of healthy lifestyles (MoV: KAP study, on key NCD risk factors among target population: tobacco use, reduction of second-hand smoke exposure, physical activity, intake of fruit and vegetables, foods	

Process	Short term indicators	Medium term indicators	Long term indicators
	media and mainstream media, pre- and post-survey of target behaviors to change, i.e., tobacco use, reduction of second-hand smoke exposure, physical activity, intake of fruit and vegetables, foods high in sugar, salt, fats and areca nut chewing)	high in sugar, salt, fats and areca nut chewing, STEPS survey, GSHS)	
Healthy lifestyle promotion in schools (Mov: Annual work plans targeting healthy lifestyle promotion)	Physical activity programs integrated into curriculum as school wide policy and practice to achieve national physical activity recommendations at school setting (Mov: Annual progress report of MOE)	School children are aware and engage in physical activity promoting sessions at school (Mov: GSHS)	
Conduct healthy lifestyle programs at workplace (Mov: Signed MoUs of participating stakeholder and HPA)	Number of organizations integrating work place healthy lifestyle promotion in key corporate and government settings (Mov: Activity reports of the pilot workplaces)	More workers involved in physical activity at work place (Mov: Evaluation report on piloting work place healthy lifestyle promotion in five selected organizations)	
Integrate promoting the ABCs of healthy lifestyles and evidence-based measures for NCD risk factor control into other relevant HPA programs	Inclusion of addressing the main NCD risk factors in Maldives (tobacco use and second-hand smoke exposure, healthy diets, physical activity and mental health in public awareness messaging, health professional guidelines and policy measures of other HPA programs, particularly: - ARI prevention - Reproductive health including pre-marital counseling, antenatal education programs, maternal and child health - Environmental health and air pollution (MoV: IEC material, guidelines and policy documents)	Improved public awareness and attitudes towards key healthy lifestyles for preventing NCDs (MoV: STEPS survey, GSHS)	
Improve public awareness on the key diseases with highest mortality (heart disease, stroke, cancer, asthma,	IEC Material for public on Heart disease, stroke, cancer, asthma, COPD, diabetes, chronic kidney disease produced and disseminated (MoV: IEC material published on HPA website/social media and print)	Improved public awareness of the top 5 NCDs and how to prevent these diseases, screen for early detection and improve	Reduced mortality from Heart Disease, Stroke, cancer, asthma, COPD, diabetes, chronic kidney

Process	Short term indicators	Medium term indicators	Long term indicators
COPD, diabetes, chronic kidney disease), including consequences, prevention, early detection and treatment	Awareness conducted regularly every year on Awareness days for these diseases (World Heart Day, World Cancer Day, World Asthma Day, COPD Day, World Diabetes Day, World Kidney Day and World Stroke Day) (MoV: reports of activities conducted and IEC material published on HPA website/social media and print)	outcomes with regular treatment and follow-up with health professionals, (MoV: KAP survey by university students) Improved healthy lifestyle practices (MoV: STEPS survey, GSHS) Increased no. of people screening for NCDs (MoV: Health screening data and reports) Improved compliance to treatment (MoV: NCD clinic statistics)	disease. (MoV: Maldives Health Statistics of MOH – analyzed by HIMRD)

Table 12: Indicators for early detection and management of NCDs and their risk factors and means of verification (Mov)

Process	Short term indicators	Medium term indicators	Long term indicators
Re-orient the structure and functions of Primary health care system to effectively deliver NCD interventions at PHC	Availability of NCD clinics and supportive services for NCD risk factor management – No. of atolls and cities where following services are available and functioning in health facilities of PHC and secondary/tertiary care level: - NCD clinic or diabetic clinics / asthma-COPD clinics - tobacco cessation counseling services, - dietary counseling services - Well woman clinics No. and % of PHC facilities (Health centers and Dhamanaveshi's) providing holistic NCD treatment including risk factor management and regular follow-ups according to PEN package, no. of centers effectively running NCD clinics with regular follow-up. No. and % of Dhamanaveshi's having the required staff with necessary	Improved access for treatment of NCDs and their risk factors and reduced service gaps – % of patients with NCDs on regular treatment, % unable to consult for 1 month beyond the due date, % patients who missed more than 2 days of medication due to unable to get regular medicines on time % of patients received timely risk factor management counseling, No. of clients seeking tobacco cessation counseling, % who received counseling, % on waitlist for more than 1 month, No. of clients seeking dietary advice/ counseling, % who	Universal health coverage and equitable access to prevention, early detection and treatment of NCDs Reduction in premature mortality, and reduced hospital admission and LOS from the main NCDs - CVDs (heart disease and stroke) - Cancer - Chronic respiratory diseases - Diabetes - Chronic renal diseases - Mental health (MoV: Maldives Health Statistics from

Process	Short term indicators	Medium term indicators	Long term indicators
	capacities to effectively provide NCD services (includes Medical Officers, public health staff, and nurses) No. and % of PHC facilities having adequate resources for providing NCD services No. of PHC facilities with arrangements for referral with appropriate mechanisms for NCD patients No. and % of PHC facilities where staff are mentored and have access to a health professional with higher capacity to receive guidance for managing patients with NCD at the PHC facility itself No. and % of PHC facilities where staff are peer coaching is conducted No. of patients with diabetes, hypertension, hypercholesterolemia receiving regular treatment from NCD clinics No. of patients and clients received tobacco cessation services No. of patients and clients received dietary counseling No. of persons screened for NCDs through the health facility (walk-in plus camps/outreach programs) (MoV: HPA's annual monitoring reports of health facilities by HPA/MOH QARD – monitoring conducted using PEN assessment tools)	received counseling, % on waitlist for more than 1 month, (MoV: HPA/MOH (HIMRD/QARD) monitoring stats collected from Health facility service and activity reports, community surveys – student research) Improved control rates for diabetes and hypertension and improved quality of life, increased abstinence (quit rates) among tobacco users, increased fruit & vegetable intake, reduced intake of salt, sugar, fats and improved weight among obese and overweight, increased level of physical activity, increased alcohol abstinence rates (Mov: Clinic activity reports, health facility annual reports on service statistics, Three yearly clinical audit reports in health facilities by HPA/MOH QARD) No. of new patients with diabetes, hypertension, hypercholesterolemia, tobacco use, overweight, CVD risk >30% and suspected cancer of breast, cervix and oral cavity who are detected and referred for treatment and mean age of detection (MoV: STEPS survey, Screening reports/Annual report of HPA, health facilities and NGOs conducting screenings)	PHI, WHO country status reports from World Health Reports) Improvement in cancer survival rates MoV: Calculated using stats from National Cancer Registry, Masters level student research) Reduced govt. healthcare expenditure for treating the above 6 diseases (MoV: National Health Accounts, Aasandha)
Implementing PEN guidelines for integrated management	No. of atolls where Health professionals in health facilities trained for PEN and no. of trainings held, no. of people trained (MoV: HPA reports of trainings)	No. or NCD patients treated and counselled using PEN protocol Improved control rates for diabetes and hypertension	

Process	Short term indicators	Medium term indicators	Long term indicators
of Hypertension, Diabetes and Hyperlipidemias and NCD risk factors in all health facilities (Mov: MOHG training activity reports)	No. of atolls where PEN is implemented in health facilities, no. of atolls having NCD Clinics, % of health facilities using PEN protocols, % of centers where guidelines are available, easily accessible and use is actively promoted, % of health facilities were health professionals skilled on PEN intervention (Mov: Three yearly clinical audit report by HPA/MOH QARD) No. of health screenings and cancer screenings conducted per year using PEN protocols and tools (MoV: Screening reports/Annual report of HPA, health facilities and NGOs conducting screenings)	and improved quality of life, increased abstinence (quit rates) among tobacco users, increased fruit & vegetable intake, reduced intake of salt, sugar, fats and improved weight among obese and overweight, increased level of physical activity, increased alcohol abstinence rates (Mov: Clinic activity reports, health facility annual reports on service statistics, Three yearly clinical audit reports in health facilities by HPA/MOH QARD) No. of new patients with diabetes, hypertension, hypercholesterolemia, tobacco use, overweight, CVD risk >30%, and suspected cancer of breast, cervix and oral cavity who are detected and referred for treatment, mean age of detection, CVD risk status at detection (MoV: STEPS survey, MDHS, Screening reports/Annual report of HPA, health facilities and NGOs conducting screenings)	
Strengthening basic facilities of primary health care facilities for prevention and early diagnosis of breast, cervical and oral cancers	No. of atolls where well –Woman clinics are run effectively in at least main hospitals) No. of health facilities providing breast, cervical and oral cancer screening services No. of regions where mammography is available and functioning No. of atolls where colposcopy is available for cervical cancer screening (Mov: MOHG activity reports) No. of atolls where health professionals trained, no. of trainings held, no. of health professionals trained (MoV: HPA monitoring reports, annual reports)	Increase uptake of eligible women for routine breast cancer and cervical screening programs, no. and % who are detected (positive on screening) and referred for treatment, mean age of detection (Mov: Annual WWC screening records of MOH for women aged 30-49 screened for cervical cancer) Number of people screened for oral cancers at health centers, no. and % who are detected (positive on	Reduction in premature mortality from cancers in general and specifically breast, cervical and oral cancer (MoV: Maldives Health Statistics from PHI, WHO country status reports from World Health Reports) Improvement in cancer survival rates

Process	Short term indicators	Medium term indicators	Long term indicators
		screening) and referred for treatment, mean age of detection, (Mov: Annual activity reports on oral cancer screening – HPA and MOH HIMRD/QARD)	MoV: Calculated using stats from National Cancer Registry, Masters level student research) Reduced govt. healthcare expenditure for treating cancer, particularly breast, cervical and oral cancer
Improve coverage of HPV, hepatitis B, Influenza and relevant vaccinations	HPV vaccination coverage among 10–14-year-olds (HPA immunization coverage reports) Hepatitis B vaccination coverage for children and high-risk adults - health professionals, dialysis patients (Mov: HPA immunization coverage reports, clinical audit in Dialysis units in health facilities) Influenza vaccine coverage for patients with chronic respiratory disease and CVDs	HPV vaccination coverage among 10–14-year-olds (HPA immunization coverage reports) Hepatitis B vaccination coverage for children and high-risk adults - health professionals, dialysis patients (Mov: HPA immunization coverage reports, clinical audit in Dialysis units in health facilities) Influenza vaccine coverage for patients with chronic respiratory disease and CVDs	Reduction in incidence of cervical cancer, liver cancer Reduction in premature mortality, and reduced hospital admission and LOS from: - Cancer - CVDs (heart disease and stroke) - Chronic respiratory diseases
Integration of management of NCDs and lifestyle risk factors into the management of other illnesses and prevention programs	• RH: the 3 key lifestyle measures (tobacco avoidance/cessation, healthy diets and physical activity) integrated into routine RH counseling and awareness programs and maternal and child health programs: ○ Pre-conceptional and pre-marriage counseling (covers tobacco avoidance/cessation and folic acid supplementation as Must-have priorities) ○ Antenatal education (ANC records + educational material) and ANC care (include above 3 key lifestyle	No. of patients receiving services for healthy lifestyle within the identified service areas: • tobacco cessation • No. of persons receiving dietary counseling • Physical activity counseling • Psychological counseling Quit rates for tobacco use % of overweight/obese persons achieving healthy BMI	Reduction in premature mortality, and reduced hospital admission and LOS from: - Cancer - CVDs (heart disease and stroke) - Chronic respiratory diseases and respiratory diseases (overall) - Diabetes

Process	Short term indicators	Medium term indicators	Long term indicators
	measures in the management program of all pregnant mothers as priority) ○ Child health - Postnatal and first 1000 days of life (child health records –include key messages on second-hand avoiding smoke exposure, diet and physical activity) ○ First 5 years of life (include queries and basic guidance on avoiding second-hand smoke exposure, diet and physical activity in the child Record card and ask and follow-up in routine growth & Developmental assessments) • healthy lifestyle counseling (all 4 risk factors) integrated into Mental health programs and psychological counseling ○ included in client management protocols ○ included in training programs ○ No. of trainings conducted for health professionals ○ No. of people trained • Communicable Disease program: healthy lifestyle education and counseling (3 key lifestyle measures (tobacco avoidance/cessation, healthy diets and physical activity, and alcohol use where it is a risk factor)) included in all treatment guidelines and awareness material for patients with: ○ ARI, Influenza and other communicable diseases ○ TB ○ HIV/AIDS ○ work-permit medical check-ups and migrant health ○ check-ups and education sessions in preparation for hajj and umra pilgrimage (MoV: guidelines, protocols, IEC materials produced and published by HPA, reports on trainings conducted, Annual reports of HPA)	(MoV: service stats from health facilities collected by HPA/HIMRD, health facility annual reports)	- Perinatal mortality and NICU admissions

Process	Short term indicators	Medium term indicators	Long term indicators
Guidelines for management of the key NCDs implemented	Clinical management guidelines for management of the following conditions compiled/updated, disseminated, incorporated into licensing exams and available at all hospitals (secondary level and above) and accessible to doctors, nurses and health professionals: • PEN guidelines for integrated management of Hypertension, Diabetes and Hyperlipidemias • Clinical management guidelines for management of Acute coronary syndrome (including treatment of MI with aspirin/clopidogrel, thrombolysis or PCI), stable coronary heart disease, • Clinical management guidelines for management of Acute stroke (including iv thrombolysis for ischemic stroke at appropriate facilities), chronic care of stroke patients • Clinical management guidelines for management of Asthma and COPD • Diabetes and Gestational Diabetes and its complications using total risk approach • oIncorporation of steps to discourage smoking /tobacco use before blood donation as part of blood donation protocols. (MoV: MOH website for published guidelines, audit of availability, accessibility and utilization of guidelines in health facilities)	Availability, accessibility and utilization of guidelines in health facilities (PHC, secondary, tertiary levels) (MoV: MOH website for published guidelines, audit of availability, accessibility and utilization of guidelines in health facilities)	Reduction in premature mortality, and reduced hospital admission and LOS from: - CVDs (heart disease and stroke) - Cancer - Chronic respiratory diseases and respiratory diseases (overall) - Diabetes Improvement in cancer survival rates Reduction of cost of care for the key NCDs: - CVDs (heart disease and stroke) - Cancer - Chronic respiratory diseases and respiratory diseases (overall) - Diabetes - Chronic renal failure - Mental health - Thalassemia
Essential treatments for key NCDs at secondary and higher-level facilities	• Cardiac center with Cath-lab for PCI available in Male' (IGMH) and 2 regions-North & South • Stroke Centers in IGMH and one regional tertiary center • No. and % of atoll/secondary level and above where Specialized NCD clinics for patients with Hypertension, Diabetes and Hyperlipidemias offering medical treatment, lifestyle counseling and regular follow-up to be conducted in	Service utilization (no. and %, Service gaps – no. I waitlist, average time from wait-listing to receiving service, no. of Referrals due to lack of services: % of patients received timely risk factor management counseling, No. of clients seeking tobacco cessation counseling, % who received counseling, % on	

Process	Short term indicators	Medium term indicators	Long term indicators
	hospitals – in collaboration with public health Units or Preventive Medicine Units and RHC's • % of Tertiary level hospitals and secondary level hospitals with ICU facilities where Medical Nutrition (Dietician) services available (free of cost to patient) by trained and licensed dieticians • cancer diagnostics, chemotherapy and palliative care to 4 specialized cancer centers, with diagnostics including CT/MRI facilities and laboratory diagnostics (pathology). Immune-histochemistry and frozen section to be made available at national laboratory (IGMH), and 2 centers for oncosurgery • % of hospitals where Palliative care including opioid analgesics for pain relief of terminal cancer care is available – atoll /secondary level and above • No. of health professional trained in palliative care • No. and % of tertiary and regional hospitals where Mammography/ USG for breast cancer screening and Colposcopy for cervical cancer screening available • No. and % of Regional/Tertiary level hospitals and above where Functional ICU facilities with invasive/non-invasive ventilation available • Ophthalmology services to treat diabetic and hypertensive retinopathy with laser photocoagulation available in Male' • Screening for diabetic retinopathy and Podiatric (Diabetic foot care) services to be integrated into NCD Clinics services in all hospitals • Dialysis for End-stage Renal Failure available in Male', Hulhumale' and 6 Regional hospitals • Renal transplant service established in Male'	waitlist for more than 1-month, average time from wait-listing to receiving services, No. of clients seeking dietary advice/ counseling, % who received counseling, % on waitlist for more than 1 month, No. of clients screening for NCDs and cancers (breast and cervical in particular) from health facilities, % of patients with mental illness on regular treatment, % unable to get appointments for treatment or therapies for >1 month beyond the due date, % patients who missed more than 1 week of medication due to inability to get regular medicines on time Improved control of: - Diabetes - Hypertension - Asthma and COPD - Thalassemia (MoV: health facility activity reports, service statistics collected by HIMRD, NCD monitoring stats collected by HPA) Cost of care for the key NCDs: - CVDs (heart disease and stroke) - Cancer - Chronic respiratory diseases and respiratory diseases (overall) - Diabetes - Chronic renal failure - Mental health - Thalassemia (MoV: Health facility service stats collected by HIMRD, Aasandha stats on referrals and cost)	

Process	Short term indicators	Medium term indicators	Long term indicators
	• No. and % of tertiary hospitals with Psychiatrists, psychologist counseling services • No. and % atoll level hospitals with Counseling services available • No. of health professionals trained in Mental Health GAP training on diagnosing and managing key mental health conditions annually • Thalassemia screening tests available at all hospitals in all atolls and Thalassemia DNA test available at IGMH • Arrangements for regular follow-up and management of patients with thalassemia at NCD clinics or regular follow-up clinics at atoll hospital level and above (including provision of regular transfusions, iron chelation therapy, lifestyle management (MoV: MOH Annual reports, services stats collected from health facilities by HIMRD, health facility reports)	Better quality of life for cancer patients receiving opioid analgesics (Mov: Three yearly clinical audit report)	
Strengthening healthcare workforce capacity for managing knowledge and skills on NCDs including addressing and the risk factors	Formal job structure and improving remuneration schemes for public health professionals established and implemented (MoV: Civil Service Commission reports, MOH HR, publication in govt. gazette) Improved retention of public health staff with higher capacities: no. of staff with Masters in HPA in service for over 1 year, no. of public health staff with BSc and Diploma level in health facilities in atolls and islands in service for over 1 year (MoV: stats of human resources for health from MOH HR/HPA) Health professionals with capacities needed for NCD prevention and control identified and recruited to provide services: - dieticians for clinical and public health services in all Tertiary	Improved retention of public health staff with higher capacities: no. of staff with Masters in HPA in service for over 3 years, no. of public health staff with BSc and Diploma level in health facilities in atolls and islands in service for over 3 years (MoV: stats of human resources for health from MOH HR/HPA) Improved service delivery - no. of patients utilizing these services mentioned, particularly preventive services such as NCD clinics, tobacco cessation, dietary counseling - service gaps- average waiting time to receive service, no. in waitlist	Reduction of NCD risk factors: Tobacco use Salt intake Sugar intake Fruit and vegetable consumption (increased) Increased physical activity Reduction in obesity Reduction in premature mortality, and reduced hospital admission and LOS from: - CVDs (heart disease and stroke) - Cancer - Chronic respiratory diseases and respiratory diseases (overall)

Process	Short term indicators	Medium term indicators	Long term indicators
	hospitals and hospitals with ICU facilities, - endocrinologists in specialized centers such as IGMH, - trained medical and nursing teams for Percutaneous cardiac interventions (PCI), - trained medical and nursing teams for stroke care, - trained medical and nursing teams for palliative care for cancer - trained medical and nursing teams for diabetes care - ophthalmologists - chiropodists - physiotherapists and occupational therapists for rehabilitation - counselors, clinical psychologists and mental health professionals (MoV: stats of human resources for health from MOH HR/RAHS/QARD)	- improved quit rates in tobacco cessation clinics and NCD clinics - improved BMI (% of normal BMI) - increase in no. of breast, cervical and oral cancers detected Improved control of: - Diabetes - Hypertension - Asthma and COPD - Thalassemia (MoV: health facility activity reports, service statistics collected by HIMRD, NCD monitoring stats collected by HPA) Increased abstinence and quit rates among tobacco users, increased fruit & vegetable intake, reduced intake of salt, sugar, fats and improved weight among obese and overweight, increased alcohol abstinence rates (Mov: Clinic activity reports, health facility annual reports on service statistics, Three yearly clinical audit reports in health facilities by HPA/MOH QARD)	- Diabetes - Mental illness and Suicide
A national integrated health information system (HIS) software platform enabling health professionals to access patient treatment records across all health facilities and	National HIS developed including features that enable good treatment practices, such as: - visibility of existing chronic disease diagnoses in patient profile - Measures to Incorporate NCD risk factor management in treatment: key prompts/ reminders in treatment Advice into doctors' notes /nurses' notes and other relevant documentation - Prompting / appointments and reminders for Follow-ups and regular check-ups - Enabling Referrals and Follow-up after referrals	Improved follow-up and control of NCDs - Diabetes - Hypertension - Asthma and COPD - Thalassemia Improved quality of life of cancer patients (MoV: health facility activity reports, monitoring statistics collected by HPA)	

Process	Short term indicators	Medium term indicators	Long term indicators
enabling holistic management	(MoV: MOH project reports, IGMH reports) HIS implemented at all health facilities in govt. sector, expanded to private sector also. (MoV: MOH annual reports, Audit of health facilities) Utilization of the HIS for NCD management (% of health professionals using the HIS for risk factor management, arranging follow-ups, arranging referral, tracking management after referral) (MoV: Audit of HIS usage and end user feedback collected by MOH QARD/IS depts)		
Ensuring ready supply of medicines and technology for NCD care	Availability of basic medicines, tests, equipment/devices and tools for managing NCDs (identified in PEN protocols) at health facilities of all levels. MoV: clinical audit Timely refill of stocks at pharmacies (Mov: Annual stock monitoring assessment at pharmacy outlets, prescription audit and patient interviews by MFDA/HPA) System for continuation of medications for patients with NCDs and risk factors such as hypertension through the Aasandha prescription scheme with checks to prevent overdose or erroneous use of medication (MoV: Aasandha annual reports, Pharmacy Audits)	Non-interrupted refill of NCD drugs and supplies by patients - % of patients who got all medicines without stock out for >2 days / >1 week. patients who missed more than 1 week of medication due to inability to get regular medicines on time (Mov: clinical audits, patient feedback (student research) Improved control rates for diabetes and hypertension and hypercholesterolemia	Reduction in premature mortality, and reduced hospital admission and LOS from the main NCDs - CVDs (heart disease and stroke) - Cancer - Chronic respiratory diseases - Diabetes - Chronic renal diseases - Mental health (MoV: Maldives Health Statistics from PHI, WHO country status reports from World Health Reports)
Improving access and universal coverage for NCD prevention services	Preventive services and mental health treatments covered by Aasandha: - Tobacco cessation counseling - Treatments and medication for tobacco cessation, harmful use of alcohol, and substance abuse - Dietician consultation and counseling - NCD screening packages (inclusive of health education and prevention)	Improved access for treatment of NCD risk factors, screening and mental health and reduced service gaps – % of patients received timely risk factor management counseling, No. of clients seeking tobacco cessation counseling, No. of clients seeking dietary advice/ counseling,	Reduction on overall healthcare expenditure, and categorical costs on: - CVDs (heart disease and stroke) - Cancer - Chronic respiratory diseases - Diabetes

Process	Short term indicators	Medium term indicators	Long term indicators
	- Well woman clinic package (inclusive of health education and prevention) - Psychological counseling - Psychological assessment and therapies (MoV: list of Aasandha covered services on Aasandha website, Aasandha annual reports)	No. of clients screening for NCDs and cancers (breast and cervical in particular) from health facilities, % of patients with mental illness on regular treatment, (MoV: HPA/MOH (HIMRD/QARD) monitoring stats collected from Health facility service and activity reports, clinical audits, community surveys – student research)	- Chronic renal diseases - Mental health Reduction in premature mortality, and reduced hospital admission and LOS from the main NCDs - CVDs (heart disease and stroke) - Cancer - Chronic respiratory diseases - Diabetes - Chronic renal diseases - Mental health (MoV: Maldives Health Statistics from PHI, WHO country status reports from World Health Reports)
Community based approaches			
Strengthening capacity of NCD prevention services in schools	No. of schools where school health officers are trained to provide tobacco cessation, dietary counseling and physical activity guidance for students, No. of school health officers trained per year No. of schools providing these services (tobacco cessation, dietary counseling and physical activity guidance for students) in-school (MoV: Reports of Education Ministry) o Career pathways for School health officers aligned with public health career pathway (structure) prepared, passed and implemented (MoV: CSC reports, structure published in govt. gazette)	Reduction of NCD risk factors among children and adolescents ≤15 years • Tobacco uses and exposure to second hand smoke • Salt intake • Sugar intake • Fruit and vegetable consumption (increased) • Increased physical activity • Reduction in obesity • Alcohol consumption • Substance use • Suicidal thoughts (MoV: GSHS)	Reduction of NCD risk factors among children and adolescents ≤15 years • Tobacco uses and exposure to second hand smoke • Salt intake • Sugar intake • Fruit and vegetable consumption (increased) • Increased physical activity • Reduction in obesity • Alcohol consumption • Substance use • Suicide and self-harm attempts

Process	Short term indicators	Medium term indicators	Long term indicators
			(MoV: GSHS, STEPS, DNR, Maldives Police Service)
Provision of NCD prevention services in youth centers	• Healthy lifestyle promotion including prevention of tobacco use, healthy diets and physical activity integrated into life skill education for outreach programs for youth – no. of programs conducted including these components • lifestyle counseling including tobacco cessation, diet and physical activity integrated into youth counseling services provided through youth centers – no. of youth centers in islands providing these services • No. of atoll/island youth counselors and sports counselors trained for promoting healthy lifestyle and early detection of risk factors and referral for treatment, no. of trainings held • No. of islands where links established between youth center and atoll/island health facility NCD Focal points for support and referral	Reduction of NCD risk factors among young people 15-25 years • Tobacco uses and exposure to second hand smoke • Salt intake • Sugar intake • Fruit and vegetable consumption (increased) • Increased physical activity • Reduction in obesity • Alcohol consumption • Substance use • Suicidal thoughts (MoV: GSHS, STEPS)	Reduction of NCD risk factors among young people 15-25 years • Tobacco uses and exposure to second hand smoke • Salt intake • Sugar intake • Fruit and vegetable consumption (increased) • Increased physical activity • Reduction in obesity • Alcohol consumption • Substance use • Suicidal thoughts, suicide and self-harm attempts (MoV: GSHS, STEPS, DNR, Maldives Police Service)
Integrating NCD prevention services into services for managing substance use	• SOPs and treatment protocols for clients undergoing treatment for substance use revised to include: - tobacco cessation in assessment and management - healthy diet and physical activity in assessment and management (Note: alcohol use is already included under substance use rehabilitation programs in Maldives, but the above 3 risk factors are not integrated) • Tobacco cessation, healthy diet and physical activity included as an integrated part of treatment for substance use disorders implemented • No. of centers where counselors are trained and no. of counselors	• Improved treatment success rate for abstinence from substance use • Reduced relapse rate of substance use • Reduced tobacco uses among former substance users and those undergoing rehabilitation programs • Improved nutritional status and BMI among former substance users and those undergoing rehabilitation programs • Improved physical activity among former substance users and those undergoing rehabilitation programs • Improved mental wellbeing among former substance	Reduction of premature deaths from substance use, alcohol use and suicide

Process	Short term indicators	Medium term indicators	Long term indicators
	trained from Community Service Centers, detox centers, methadone clinics to integrate tobacco cessation*, healthy diets and physical activity into their counseling and treatment services, • No. of Core trainers in NDA trained to train counselors and prevention program staff on integrating tobacco prevention into substance use prevention programs (MoV: monitoring reports from NDA)	users who quit, and those undergoing rehabilitation programs • Improved stress and mental wellbeing among their families (MoV: Pre- and post-treatment assessments, follow-up assessments/Surveys among youth who have completed rehabilitation programs)	
Developing patient education/self-care guidelines for prevention and control of NCDs	• NCD Patient treatment booklets with self-care information developed provided to patients followed up at NCD Clinics • Information leaflets/fliers on diabetes, COPD, Cancers and other chronic diseases developed, disseminated online, printed and available at health facilities, provided to patients at consultation (MoV: access to these materials)	Improved knowledge, attitude and practice of healthy behavior and medical treatment of NCDs (MoV: student surveys) Improved control of diabetes, hypertension and hypercholesterolemia (MoV: Health facility statistics, STEPS survey)	Reduction in premature mortality, reduced hospital admission, LOS from the main NCDs: - CVDs (heart disease and stroke) - Cancer - Chronic respiratory diseases - Diabetes - Chronic renal diseases - Mental health (MoV: Maldives Health Statistics from PHI, WHO country status reports from World Health Reports) Improved quality of life among people with these NCDs (MoV: study/survey) Improved cancer survival rates (analysis from Cancer registry)
Encouraging the formation of community coalitions and patient groups, and build their capacity	• Diabetes support groups formed and functioning in major islands, patients trained to engage as peer counselors for diabetes in Male and other islands • Cancer Support Group and • patients trained to engage as peer counselors for cancer in Male and other islands, • People with NCDs and members of support groups engaged as advocates and peer outreach programs in areas of high need	Improved knowledge, attitude and practice of healthy behavior and medical treatment of NCDs (MoV: student surveys) Improved control of diabetes, hypertension and hypercholesterolemia (MoV: Health facility statistics, STEPS survey) Improved cancer survival and reduced relapse rates (analysis from Cancer registry)	

ANNEX 3: Roles of government organizations and academic institutions in the implementation of the NCD MAP

A. Roles of government organizations in the implementation of the NCD MAP and relevant departments in HPA that guide and coordinate with these institutions

General roles of ALL government institutions and independent bodies:

- Promoting healthy lifestyles (ABCs) at workplace through fun activities and screening programs and enabling workplace policies (e.g., establishing smoke-free workplaces, encouraging staff to quit smoking at job interviews/appraisals, ensuring healthy canteens/availability of healthy food and drinks at workplaces, facilities and arrangements to promote physical activity at work, e.g., taking stairs, safe bicycle parking facilities, staff exercise/sports facilities at or near the workplace)
- Implementation of institution policies to avoid conflict of interest from unhealthy industries that pose threats to health from NCDs – e.g., accepting donations, sponsorships, etc. from unhealthy industries (tobacco promotion in any form – is illegal under Tobacco Control Act 2010; institutional policies to avoid sponsorships and donations from industries marketing energy drinks, sugary drinks, areca nut and other unhealthy commodities)
- Measures to avoid investing in businesses that promote unhealthy commodities and NCD risk factors (e.g., tobacco, energy drinks, areca nut, sedentary lifestyle (e.g., gaming centers with only sitting-to-play facilities))
- Include health considerations and consult with MOH/HPA on measures to minimize health impacts on any major activities and action plans for national development

Organization	Roles and Activities	HPA/MOH department providing guidance	Tasks to do by HPA/ MOH
MOEd	➢ Promoting Healthy lifestyle ABCs in schools through Curriculum and extra-activities, including building capacity of teachers to deliver healthy lifestyle messages and promote healthy lifestyles ➢ Creating enabling environments in school: smoke-free environments, healthy canteens and availability of healthy foods/limit unhealthy foods, promoting physical activity over sedentariness ➢ Include detection of NCD risk factors and unhealthy lifestyle habits in School Health Screening ➢ Building capacity of School Health Officers to provide lifestyle education and early detection of unhealthy lifestyle habits and lifestyle counseling	HPA NCD/ Nutrition /RH	➢ Share guidance and recommendations by HPA ➢ Collaborations for awareness and training, ➢ Technical assistance from health sector for conducting trainings

Organization	Roles and Activities	HPA/MOH department providing guidance	Tasks to do by HPA/ MOH
	(including tobacco cessation and dietary counseling) for school children ➢ Tobacco Free Schools program to prevent access of tobacco products to minors		
MHEd	➢ School leavers – awareness sessions – career guidance/ study guidance programs and IEC material to include importance of healthy lifestyle for success ➢ Student loans to include covering study programs on prevention and health promotion	HPA NCD, Nutrition, RH	➢ HPA to share guidance with MHED, ➢ Developing and sharing messages, arranging educators from health sector for programs conducted by MHEd.
MoGFSS	➢ Elderly – Ranveyla – healthy ageing for elders to include all aspects in ABCs of healthy lifestyle (tobacco cessation and SHS prevention, healthy diet. physical activity and mental health) ➢ Programs for parents of school children (preparation: as caregivers) ➢ Children- Child protection (child abuse laws to include deliberate exposure to tobacco smoke, giving tobacco and drugs to children, or keeping these accessible to children, and poor provision of nutritional needs as an offence) ➢ Women – awareness generation on harmful effects of tobacco and SHS, areca nut, tobacco control laws as women's right to health protection, areca nut, sugary drinks, marketing tactics targeted at women ➢ Women's orgs – active in many islands to be mobilized for health promotion and protection – mobilize for promoting healthy lifestyles, compliance checks on violation of tobacco control laws, TAPS ➢ Women empowerment programs to include business incentives for businesses that promote healthy lifestyles, e.g., agriculture, exercise, and disincentives for unhealthy businesses (Note: no business incentives should be offered for tobacco trade in any form under Tobacco Control Act)	HPA NCD / RH	➢ HPA to share pen package for messaging ➢ Assist technically to incorporate ABCs of healthy lifestyle into all health awareness programs

Organization	Roles and Activities	HPA/MOH department providing guidance	Tasks to do by HPA/ MOH
	➢ Programs for persons with disabilities (PWDs) to include ABCs of healthy lifestyle (tobacco cessation and SHS prevention, healthy diet. physical activity and mental health) ➢ Integrate tobacco cessation and lifestyle counseling into psychological counseling services for individuals		
MYSCE	➢ Youth counselors appointed to each atoll – tasks include counseling and phone counseling – to include healthy lifestyle counseling or referral ➢ Sports counselors (SC's) appointed for promoting physical activity at island level – to be regularly given orientation by MYSCE, including healthy lifestyle (by HPA). Tasks include setting up of sports grounds, outdoor gyms, moodhu kasrath and other physical activity programs ➢ Sports – healthy lifestyle to increase performance ➢ National sports teams (e.g., football, volley, basketball, teams, athletes, etc.) to be mobilized as champions for healthy lifestyle (e.g., Tobacco free Champions, Champions of healthy diets, mental health, etc.) ➢ Youth Health Café: providing services such as counseling, physical activity, awareness programs – to integrate NCD prevention (e.g., tobacco cessation, healthy diet, physical activity into holistic counseling, NCD components in health screening, etc. ➢ Youth peer education/leadership programs – life skills to include age-appropriate awareness and advocacy for enabling healthy lifestyles (ABCs), including tobacco free schools and educational institutes, choosing healthy food and drinks, providing healthy choices for youth, industry influence, etc. ➢ Career guidance/development programs – integrate healthy lifestyle ABCs	HPA (NCD/ RH)	➢ HPA to provide guidance: o To share IEC material on healthy lifestyle and guidelines on PEN, tobacco cessation and FBDG for use by MYSCE o To assist MYSCE to integrate components on healthy lifestyle in trainings for YCs, SCs, youth volunteers, etc., when needed, to arrange health sector resource persons to conduct collaborative trainings (in Male' as well as atolls through public health personnel) ➢ - To assist in establishing Youth Health Cafés and training staff/ volunteers

Organization	Roles and Activities	HPA/MOH department providing guidance	Tasks to do by HPA/ MOH
	➢ Youth Enterprise/SME schemes – to exclude tobacco, areca, ED, carcinogens, (in collaboration with MOED) ➢ Events – as platform for promoting healthy lifestyles (ABCs) – e.g., Hafthaares, musical and entertainment shows, etc. ➢ Gyms, yoga classes, etc. – to provide special rates for youth, free offers, etc. ➢ Parenting classes – to include components on – promoting healthy lifestyle (ABCs) for adolescents: e.g., tobacco cessation and smoke free homes and environments for children's serious risks of areca nut consumption and how to prevent, providing healthy diet choices, enabling physical activity, dealing with substance use, tobacco use, early mental health problems, etc. among children and adolescents ➢ Community based orgs (island level NGOs, youth groups and sports groups) – to be mobilized for health promotion and protection – mobilize for promoting healthy lifestyles, compliance checks on violation of tobacco control laws, TAPS		
MOFAMR	➢ Food safety –Good Agricultural Practice (GAP) standards and implementation ➢ Agricultural incentives for fruit and vegetable cultivation and fisheries ➢ Disincentives for areca nut cultivation and industry ➢ Educational programs for farmers on nutrition and shifting away from areca nut cultivation	HPA Nutr. / MFDA / HPA NCD	➢ GAP – food hygiene modules developed and being introduced, other modules including rational use of pesticides and chemicals to be developed, farmers trained and implemented. ➢ Disincentives for areca nut have to be worked on technically and then taken to political level
MOEnv	➢ Air pollution – national action plan with HPA (indoor air pollution - tobacco smoke exposure and smoke-free environments should be included for ambient air pollution – policy measures to reduce motor vehicle emissions through enabling environments - given in NCD MAP - to be included)	HPA EH*/ NCD	➢ HPA to actively guide and engage MOEnv ○ request to include tobacco smoke exposure and smoke-free environments, policy measures for reducing vehicle emissions and other measures

Organization	Roles and Activities	HPA/MOH department providing guidance	Tasks to do by HPA/ MOH
	➢Occupational risk factors – again enabling environments: smoke-free workplaces, healthy canteens, bicycle parking and exercise space in workplace should be included under occupational safety measures ➢Policies to avoid conflicts of interest through influence of industries promoting unhealthy products – e.g., avoid receipt/use of donations of dust-bins with tobacco promotions (with ash trays and product logos)		identified in NCD MAP under the national Action Plan for Air Pollution ➢ share plans, communicate concerns, and engage MOEnv in integrating implementation
AG (Attorney General's Office)	➢Legal recommendations and facilitation of passage of effective regulations for NCD prevention and control (Best Buys measures identified and prioritized in the relevant sections) ➢Attend civil court cases – defend public health interests as priority vs. business profits to unhealthy industries ➢Sensitize legal professionals on health and environment to bring them on board (strict liability) ➢Legislative agenda – to include key (Best Buys) legislature for NCD prevention and control - with MOH inputs and support from other stakeholders ➢Mobilize Public involvement – for advocacy to introduce legislature, and to improve compliance during implementation	HPA NCD, Nutr, EH, MOH HIMRD	➢ Conduct sensitization programs for lawyers and judges on legislative priorities for NCD prevention and control, tactics of unhealthy industries and the health and economic implications of resulting NCDs by HPA/MOH ➢ Engage AGO in boards and technical groups working on NCD prevention and control legislative measures ➢ Send formal written recommendations for legislative agenda to AGO
President Office	➢Policy decisions on NCD prevention (see NCD Best Buys), inclusion of NCD prevention and control in govt. Strategic Action Plan (SAP) ➢Appropriate engagement in NCD prevention and control leadership such as monitoring progress of MOH, membership/co-chairing in NCD high level committee, etc. ➢Investing (foreign "investments") in unhealthy commodities such as tobacco, ED, areca nut, sugary drinks – to be avoided govt. policies ➢Trade agreements to exempt unhealthy commodities from receiving	HPA (NCD), MOH-HIMRD	➢ MOH to engage PO, through regular communications ➢ Report to PO on activities and progress of NCD MAP and support required ➢ Engage PO technical / policy level in relevant NCD prevention and control committees – esp. High-level steering committee

Organization	Roles and Activities	HPA/MOH department providing guidance	Tasks to do by HPA/ MOH
	undue benefits in order to protect public health ➢ Taxation of unhealthy products (tobacco ED. Sugary drinks, remove sugar subsidy)/subsidization of healthy products – fruit and vegetables, agriculture, etc. tax incentives/discounts for healthy businesses (e.g., gyms, restaurants compliant with full smoking bans, etc.), disincentives such as higher GSTs for unhealthy businesses – e.g., restaurants with smoking areas/ shisha lounges, areca nut production and trade, sedentary video game parlors, etc.		
MOF (Finance)	➢ Investing (foreign investments) in unhealthy commodities such as tobacco, ED, areca nut, sugary drinks – to be avoided through govt. policies and appropriate trade communications ➢ Aids/donations – avoid unhealthy products/services ➢ Taxation (*led by MOF) of unhealthy products & services (tobacco, energy drinks. Cancer causing products (areca nut, processed meats), sugary drinks/sugar/high sugar foods, motor vehicles /subsidization of or zero tax on healthy products and services (Fruit & Veg, whole meal grains and flours, organic products, healthy & smoke-free restaurants, gyms), remove sugar subsidies and subsidize Fruit & Veg instead. ➢ Consider financial incentives such as tax discounts or lower rates for good practice and good compliance with regulations ➢ Adequate Budget allocation for health promotion and public health strengthening, particularly investing in public health (See Best Buys) (MOH) – includes proper remuneration of public health professionals and increasing capacity of public health workforce to cater to the increased work required to combat NCDs (this is an investment as	HPA NCD, DG/DDG, MOH HR, MOH Finance	➢ HPA to initiate, guide relevant ministries, sensitize public and advocate on taxation of sugary drinks, etc. revision of “essential food items” in keeping with current dietary recommendations. ➢ HPA to follow-up with MOF on the progress of 20M budget for AWARENESS on tobacco, supari and sugary drinks under manifesto/SAP

Organization	Roles and Activities	HPA/MOH department providing guidance	Tasks to do by HPA/ MOH
	it has been shown to reduce the huge financial costs of treating these NCDs)		
MED	➢Trade policies for NCD prevention and control (see Best Buys) ➢Trade agreements and trade negotiations (*led by MED) - International trade agreements should not compromise health protection of Maldivians – unhealthy products like tobacco, areca nuts should be exempted from receiving benefits ➢Investing (foreign investments) in unhealthy commodities like tobacco, ED, areca nut, sugary drinks – to be avoided/ exempted through govt. policies and appropriate trade communications ➢Taxation of unhealthy products & services /subsidization of healthy products and services ➢Incentivization of healthy businesses locally – e.g., SME loan schemes to prioritize / tax incentives/free advertisement on websites for: gyms, exercise and sports centers/schools, etc., agriculture ➢Implementation of trade policies and regulations for NCD prevention and control ➢Single window project – for businesses/imports - WIP ➢Data sharing for surveillance	HPA NCD/ Nutr/ MFDA	➢ MOH should clearly identify the needs to MED, ➢ HPA to engage MED on their roles through written communications, discussions and through membership in boards and technical groups for NCD prevention and control. ➢ To follow up with MED on list of “Investments” – does it contain tobacco? – Should remove tobacco from list to stop NEW “investments”.
MOFA(Foreign)	➢International reporting on trade, human rights, etc. to include country policies for NCD prevention and control, e.g., that Maldives is party to FCTC and the requirements for tobacco import and trade, food safety and (in future when implemented) nutritional labeling requirements, trade policies to reduce air pollution, etc. ➢FCTC implementation – o MPOWER implementation o Article 5.3 (measures to stop tobacco industry interference in govt. policies) o Ratification of the protocol to eliminate illicit trade of tobacco	HPA (NCD)/ MOH HIMRD	➢ MOH should clearly identify the needs to MOFA, Health Minister should be made aware ➢ HPA NCD to initiate and guide – communicate to HIMRD, ➢ PIIR to communicate with MOFA/ external organizations

Organization	Roles and Activities	HPA/MOH department providing guidance	Tasks to do by HPA/ MOH
	➢ Transparency and appropriate trade communications to provide timely information to potential business investors regarding govt. policies for NCD prevention and control ➢ International trade negotiations – (led by MED) – Health Minister should be on board ➢ Investing (foreign investments) in unhealthy commodities like tobacco, ED, areca nut, sugary drinks – to be avoided (led by MED) / exempted through govt. policies and appropriate trade communications ➢ Mobilize Foreign aids, grant funds, scholarships, etc. for NCD prevention and control		
Majlis idhaaraa	➢ Policy decisions – ○ Food Bill, ○ Taxation of unhealthy products & services /subsidization of healthy products and services ➢ Healthy workplace at majlis – smoke-free, healthy food, exercise promoting, annual health screening for majlis members	HPA NCD, Nutr, EH	➢ Initiate and communicate with relevant organizations ➢ Prepare advocacy briefs and advocate, mobilizing NGOs and academia ➢ Work on ways to open communications, e.g., via offering health screening by DV or NGO
MTCA (Min. of Transport and Civil Aviation)	➢ Planning Enabling environments for promoting physically active and environmentally friendly transport: ○ Improve walkability, ○ Improve cyclability (in designing of streets and highways) and provide safe bicycle parking, ○ improve public transport systems ○ restriction of motor vehicle imports (overall, as well as high emission vehicles)/ increased taxation ○ integrate NCD prevention measures with Road Safety measures ○ multi-sectoral stakeholder discussions held by MTCA to <u>always</u> include health sector (HPA at central level, health facilities in atolls/islands) ○ Implement Smoking ban in all public vehicles	HPA EH (lead) / NCD	➢ HPA to actively write to MTCA requesting to involve HPA and engage in plans and follow-up, ➢ HPA to share all relevant plans and guidelines of HPA with MTCA ➢ Engage MTCA as members in technical working groups of HPA

Organization	Roles and Activities	HPA/MOH department providing guidance	Tasks to do by HPA/ MOH
MNPHI (Min. of National Planning, Housing & Infrastructure)	➢City/island planning for enabling environments: ○ smoke-free environments, ○ healthy transport- safe bicycle parking, and walkability, public transport ○ Green spaces ○ cultivation of fruit and vegetables in cities/islands (e.g., suitable fruit trees lining streets and parks (exempt areca nut), providing gardening areas for social housing/apartment complexes) ➢Housing planning/building codes for enabling environments: ○ Mandate smoke-free indoors for all public buildings, commercial buildings and shared ownership buildings with common areas, ○ healthy transport- safe bicycle parking, and walkability on pavements near homes ○ home gardening of fruit and vegetables (e.g., potted plants) – building code to enable adequately safe spaces such as balconies, terraces etc. ➢ consult/involve health sector in preparation of plans and regulations ➢ improve inter-sector communication	HPA EH (lead) / NCD	➢ Prepare guidance documents defining requirements clearly ➢ Communicate with MNPHI on actions needed and initiate discussions, share guidance docs ➢ Promote concepts among public and politicians by advocacy and awareness ➢ Prepare advocacy documents and share/present to MHINP and higher-level policy makers ➢ Advocate to public and politicians, mobilize NGOs and academia in advocacy
Male' City Council/HDC/ Addu City Council	➢Implementing enabling environments in Male' City/Hulhumale': ○ smoke-free environments/Male' City, ○ healthy transport-walkability, cyclability, safe bicycle parking, improved public transport ○ access to affordable fruit and vegetables - strategic placement of local markets in highly populated areas ○ cultivation of fruit and vegetables – providing home gardening space for social housing, growing fruit trees for aesthetic/shade purposes in streets, parks (avoiding areca nut trees in these places	HPA NCD/ EH CD/MFDA (food safety)	➢ Initiate communication ➢ Prepare guidance material and advocacy documents and share ➢ Advocate to public and politicians, mobilize NGOs and academia in advocacy

Organization	Roles and Activities	HPA/MOH department providing guidance	Tasks to do by HPA/ MOH
	➢ implementation of regulations for NCD prevention and control – e.g., tobacco control regulations, food safety, BMS code, future regulations for restricting advertisements of unhealthy products ➢ Use of resources to educate public – TVs, billboards, etc. for NCD prevention messages ➢ consult /involve health sector		
LGA (Local Govt. Authority)	➢ implementation of regulations – esp. commercial establishments – tobacco control laws, food labeling, etc.	HPA NCD/ EH	➢ Initiate communication ➢ Prepare guidance material and advocacy documents and share ➢ Advocate to public and local politicians through atoll public health network, mobilize local youth, women's orgs, NGOs and academia in advocacy
MOHA (Home Affairs)	➢ Prisons ○ Awareness generation and sensitization of law enforcers on tobacco control laws ○ make smoke-free for prisoners and guards, ○ ban provision of tobacco to prisoners and guards ○ tobacco cessation support to prisoners and prison staff ○ prisoners should get continuing NCD medications through family ○ encourage physical activity ○ healthy balanced meals (low salt/fat/sugar, more vegetables) ○ cultivation of vegetables and fruit ➢ Police, other implementers of smoking ban/tobacco laws ➢ Workplace health and screening programs ➢ Awareness programs for youth, island level community leaders – (invite MOH/HPA but very poor response (2-3 a year) – prevention and screening opportunities ➢ National events – for messages, healthy events ➢ Administrative councils – LGA, - require capacity (staff) and guidance for	HPA NCD/ CD (HIV/TB prog)	➢ Initiate communication. ➢ Need to communicate separately with relevant sub-departments: ○ Maldives Police Service ○ LGA ○ Maldives Correctional services (Inspector of Prisons) ○ National events section ➢ Provide guidance on actions required ➢ Facilitate public health participation to promote healthy lifestyles via atoll PHUs in atoll level activities conducted by MOHA

Organization	Roles and Activities	HPA/MOH department providing guidance	Tasks to do by HPA/ MOH
	implementing regulatory measures and including health promotion and NCD prevention in their routine work and social activities		
MPS (Maldives Police Service)	➢Strengthen implementation of tobacco control laws, including trainings and TOT for capacity building, use of community friendly methods and techniques, etc. throughout atolls ➢Explore roles of Environmental Police in controlling Air pollution and tobacco control laws ➢Include ABC in exercise programs and youth awareness programs ➢Workplace health programs (include ABC), and screening programs, establish smoke free environments (Polatte)) ➢Medical services to include lifestyle counseling and NCD clinics	HPA NCD/ EH	➢ Lead and communicate with relevant organizations to implement ➢ Include in EH plans
Maldives Customs Service (MCS)	➢Implementation of tobacco control regulations, taxation of unhealthy products (tobacco, ED, sugary drinks, etc.) ➢Check illicit trade of tobacco, ENDS	HPA NCD	➢ Lead and communicate with relevant organizations to implement ➢ Provide guidance
MOD (Defense) / MNDF	➢Fire prevention – to include messages on smoking, Surveillance data needed for tobacco control ➢Exercise /" moodhu kasrath" programs to include quit smoking (full ABC) ➢Medical services to include lifestyle counseling and NCD clinics ➢Internal workplace policies to promote healthy lifestyles (ABCs) among personnel	HPA NCD / EPR/IHR	➢ Lead and communicate with relevant organizations to implement ➢ Incorporate in HPA plans and IEC material
NDMA	➢Displaced persons in disaster: ➢Ensure people with NCDs get timely supply of regular medications ➢Accepting Donations – clear policy to exclude unhealthy products such as (tobacco, areca nut, energy drinks, fizzy drinks, junk food, etc.) ➢Avoid conflict of interest – e.g., donations and CSR from tobacco industry, energy drink industry, etc. ➢	HPA EPR (lead)/ NCD	➢ HPA has to provide guidance for NDMA, ➢ lead and communicate with relevant organizations to implement ➢

Organization	Roles and Activities	HPA/MOH department providing guidance	Tasks to do by HPA/ MOH
ACC	➢ Monitoring for corruption activity by unhealthy industries such as tobacco, ED, sugary drinks, etc. ➢ Educating public about how tobacco industry and other unhealthy industries bring (e.g., Bithufangi) ➢ Medicines quality ➢ Roadworthiness/vehicle imports	HPA NCD/ EH/ Nutr/ MFDA	➢ Lead and communicate with relevant organizations to implement ➢ Provide awareness / guidance on what actions are needed, what are the breaches and examples
HRCM	➢ Monitoring for corruption activity by unhealthy industries such as tobacco, ED, sugary drinks, etc. ➢ Implementation of public health regulations and health measures for prevention ➢ Education of public: o Annual Human Rights (HR) Quiz to include questions on rights and NCD prevention (in collaboration with HPA) o	HPA NCD/ EH/ Nutr/ RH/ MFDA	➢ HPA to send questions for HRCM Quiz ➢ Provide awareness / guidance for HRCM on HR related to prevention and public health, what actions are needed to protect public health (prepare advocacy docs, meetings, awareness sessions, etc.)
MOT (Tourism)	➢ Audits of resorts – MOT looks for smoking ban implementation in restaurants (as per present regulation), restaurant food safety and health-as per present regulations, staff accommodation for occupational health and safety) ➢ Incentivize healthy resorts, Guest houses and Safaris: o Promote tobacco free Maldives o Free advertisement of smoke-free resorts and guest houses, safaris and restaurants, and those serving healthy food and drinks on tourism websites o Concessions for fully smoke-free guest-houses/safaris/resorts o Incentivize restaurants providing healthy food at affordable prices o Disincentives for shisha lounges, such as higher taxes, or a licensing fee and gradually ban them (as they are a serious threat to the health of tourists) o Incentives for gyms and sports promoting physical activity in tourist establishments	HPA NCD, Nutr	➢ MMPRC to be involved in incentivizing by free advertising for fully smoke-free restaurants, smoke free rooms, healthy restaurants, etc.

Organization	Roles and Activities	HPA/MOH department providing guidance	Tasks to do by HPA/ MOH
	➢ Implementation of tobacco control law in restaurants of tourist establishments, including no advertisements directly or indirectly through menus, photos on websites, etc., no sale of single cigs ➢ Prevent / disincentivize "investing" (foreign investments) in unhealthy commodities like tobacco (e.g., shisha lounges), ED, areca nut, sugary drinks, etc.		
MCST (Min. of Communication, Science & Technology)/ NCIT	➢ Health systems (HIS) to incorporate NCD information (MOH has to send request if needed – inadequate resources at present), ➢ Use of IT for health education in peripheries ➢ (software development at cost) ➢ Govt. ministry websites standardization (development) ➢ E-community program for providing awareness for small islands (run by island council) (SAARC Dev. Fund) Fuvamulah – IT park / hub ➢ Knowledge Foundation – knowledge hub (a year later - 2021) ➢ Comprehensive ban on all forms of TAPS in all media	HPA NCD. /MOH IT	➢ MOH has to send request for assistance on HIS if needed ➢ Need proper information databases with sharing of info (e.g., vaccination status, etc.) -? NCIT
MIA (Min. of Islamic Affairs)	➢ Messaging on alcohol for public to be discussed between HPA and MIA ➢ Need to address Trade of unhealthy commodities like tobacco, areca, ED, cancer-causing substances, sugary drinks ➢ Provide expert advice/ recommendations (Lafaa dhinun) – need Islamic directives/fatwahs on trade of unhealthy commodities above, second-hand smoking & smoke free public places ➢ Educational programs e.g., Khuthba, Dharus, etc. to include messaging on social responsibilities and trade of unhealthy commodities, in addition to healthy lifestyles individuals to reduce NCD risk (all 3 main components- tobacco, SHS, healthy diets, physical activity), mental health, etc.	HPA NCD / Nutr. / RH	➢ Initiate and communicate with relevant organizations to implement

Organization	Roles and Activities	HPA/MOH department providing guidance	Tasks to do by HPA/ MOH
	➢ Halaal certification ➢ Healthy Ramadan, hajj pilgrimage, etc. promote healthy lifestyles in relation to events/activities of religious significance, e.g., tobacco cessation in Ramadan / preparation for hajj, healthy diets and physical activity in Ramadan, etc.		
MACH (Min.of Arts, Culture & Heritage)	➢ Measures to promote healthy lifestyles through tradition and "sagaafee" activities ➢ Measures to break cultural links of /avoid promoting tobacco, areca nut use ➢ Need research and accurate information on the history of introduction of tobacco, alcohol, areca nut use and unhealthy substances to find ways of educating public on negative aspects / "uncool factors" (e.g. Portuguese – introducing these, early deaths among kind who used these, etc.) ➢ Tobacco free heritage sites	HPA NCD/ Health promo	➢ Initiate and communicate with relevant organizations to implement
Maldives Bureau of Statistics (MBS (MNPHI))	➢ Assist MOH in generation and validation of mortality rates for given years, including: ○ premature mortality rates (mortality below age 70 yrs.) ○ Premature mortality by ICD (main) category ➢ Incorporate NCD and NCD risk-factor related questions into surveys (HIES, Economic survey, DHS and other national surveys) ➢ Household income and expenditure survey (HIES) – include spending on various tobacco products including purchase at restaurants, shisha, etc., analyses spending on fruit & vegetables, areca nut products, energy drinks, sugary drinks, foods high in salt and fats and trans fats, etc. - average and percentage in proportion to total expenditure on food ➢ Surveillance of pricing and consumption of tobacco, areca nut,	Health Info section of HIMRD (MOH)/ HPA (NCD)	➢ Lead and communicate with relevant organizations to implement / include in research and statistics. Start communications 1 year before planned surveys. ➢ HPA NCD to prepare guidance and list of stats required from surveys and communicate with Health Information Section of HIMRD ➢ HIMRD to communicate with MBS (MNPHI) **Note: Timings of surveys by MBS for collaborating:** • HIES every 5 yrs. – last 2019, next ~2024. • Population & Housing + census – planned 2024, every 10 yrs.

Organization	Roles and Activities	HPA/MOH department providing guidance	Tasks to do by HPA/ MOH
	energy drinks, etc. under trade/ economic surveillance		• Economic census – planned 2024 with population & housing census

B. Roles of academic institutions in the implementation of the NCD MAP and relevant departments in HPA that coordinate with these institutions

General roles of ALL academic institutions and independent bodies:

- **Main role: CAPACITY BUILDING**
- Contribute to national technical capacity/expertise (e.g., Technical Committees, advisory boards, etc.)
- ***Incorporating relevant teaching in curricula
- Grassroot level education and advocacy (for public) through student assignments
- Advocacy through university activities (large youth population!): forums, events, etc.
- Research – Surveillance (surveys participation)
- Promoting healthy lifestyles (ABCs) at study and work through fun activities and screening programs and creating enabling environment through healthy university/workplace policies (smoke-free college/workplace (NO designated smoking areas at all!), encouraging to quit – cessation services through health services??), healthy canteens/availability of healthy food, student orientation programs
- Policies to avoid conflict of interest – donations, sponsorships, etc. from unhealthy industries (tobacco - illegal under TCA)
- Collaboration/partnerships with HPA (Technical expertise, technical work-e.g., preparation of IEC material, guidelines, etc., research)
- Universities to directly work with WHO to access funding and technical assistance for NCD prevention

General tasks for HPA to do in order to engage academic institutions:

- Routinely share and update all guidelines and tools with universities for use in teaching/learning
- HPA to engage universities in technical work through collaborations, membership in TEC Committees, advisory boards, and MOUs for long-term collaboration
- Build capacity of universities by providing international training opportunities and exposure through study visits etc. for university lecturers engaged in work with HPA.
- HPA (NCD) to initiate and coordinate with all Schools, faculties and departments and courses of MNU that need to incorporate relevant teachings related to NCD prevention. Organize an initial stakeholder meeting with relevant departments of MNU and main universities to share and further develop tasks defined in NCD Action Plan.

Organization	Roles	Tasks to do by HPA/ MOH
	➢	
MNU-FHS	➢ Expand NCD curriculum for PHC courses. Include: ○ NCD policies and programs (national and international) – as mandatory to know course content for ALL students of all level of courses, more detailed for PHC Degree and MPH students	➢ HPA to upload all NCD and NCD risk factor management guidelines on website. ➢ HPA to specifically share with health sciences teaching faculties all NCD related guidelines on PEN, tobacco cessation, Food Based Dietary

Organization	Roles	Tasks to do by HPA/ MOH
	○ Key healthy lifestyle (ABCS) measures for NCD prevention at community level and individual level ○ Knowledge/skills in Behavioral change communication (BCC)/ COMBI methods ○ Work with all courses in FHS (PHC, Pharmacy, Psychology, Counseling, Health management, Occupational Health, etc.) as relevant to incorporate teaching/learning of knowledge and skills needed to implement current clinical guides for total risk approach to managing patients and clients into teaching: PEN protocols, tobacco cessation, Food Based Dietary Guideline (FBDG), and other relevant guidelines ○ Assignments/community projects/ practical experience in community and hospitals to include/focus on NCD prevention and advocacy ○ Conduct awareness on NCD prevention to the community through student projects and practical activities ➢ Research on NCD risk factors, effectiveness of control measures, operational research – funded research by lecturers + encourage student research ➢ Involve in national capacity building for NCD prevention – conduct or provide resource persons to conduct trainings for non-university health professionals, non-health stakeholders and volunteers.	guideline (FBDG), any other NCD related prevention or treatment guidelines, and update universities regularly on releasing or updating any guidelines. ➢ Provide training opportunities on NCD prevention for lecturers, Guest lecturer and technical experts ➢ Sharing NCD surveillance data for analysis ➢ Identify areas of need for NCD related research and communicate to university and FHS. ➢ HPA NCD program to provide visiting lecturer to update students on national NCD prevention programs ➢ HPA to form collaboration with FHS for capacity building on NCD prevention programs.
MNU-School of Nursing,	➢ Expand NCD curriculum for Diploma, Degree, Masters courses to include following: ➢ NCD prevention and control policies and programs (national) – mandatory to know for ALL students of all level of courses (for national-HPA visiting lecturer can brief on programs, for international, mandatory task to search WHO/CDC for effective NCD prevention measures and describe briefly) ➢ For all courses as relevant: Incorporate teaching/learning to provide knowledge and skills to implement current clinical guides for total risk approach to	➢ HPA to specifically share with health sciences teaching faculties all NCD related guidelines on PEN, tobacco cessation, Food Based Dietary guideline (FBDG), any other NCD related prevention or treatment guidelines, and update universities regularly on releasing or updating any guidelines. ➢ Provide training opportunities on NCD prevention for lecturers ➢ Identify areas of need for NCD related research and

Organization	Roles	Tasks to do by HPA/ MOH
	managing patients and clients into teaching: PEN protocols, tobacco cessation, FBDG and any other NCD related guidelines. ➢ Behavioral change communication (BCC)/ COMBI (briefly) ➢ Include/ expand assignments/community projects to focus on NCD prevention and advocacy ➢ Research on NCD risk factors, effectiveness of control measures, operational research – funded research by lecturers + encourage student research ➢ When assigning students to study available research on healthy lifestyle recommendations, guide them to search WHO recommendations, the available national guides for Maldives, and recommendations of CDC, NHS, World Heart Federation, World Cancer Federation, etc. which base their recommendations on systematic reviews and research, instead of searching Pubmed for individual research articles. ➢ Involve in national capacity building for NCD prevention – conduct or provide resource persons to conduct trainings for non-university health professionals, non-health stakeholders and volunteers.	communicate to university and SN. ➢ HPA NCD program to provide visiting lecturer to update students on national NCD prevention programs ➢ HPA to form collaboration with SN for capacity building and conducting of NCD prevention programs through teaching / learning activities.
School of Medicine	➢ NCD prevention and control policies and programs (national and international) – mandatory to know for ALL students of all level of courses (for national-HPA visiting lecturer can brief on programs, for international, mandatory task to search WHO/CDC for effective NCD prevention measures and describe briefly) ➢ For all courses as relevant: Incorporate current clinical guides for total risk approach to managing patients and clients into teaching: PEN protocols, tobacco cessation, FBDG, and any other national NCD related guidelines ➢ Behavioral change communication (BCC)/ COMBI (basic concepts) ➢ Include assignments/community projects to focus on NCD prevention and advocacy	➢ HPA to specifically share with health sciences teaching faculties all NCD related guidelines on PEN, tobacco cessation, Food Based Dietary guideline (FBDG), any other NCD related prevention or treatment guidelines, and update universities regularly on releasing or updating any guidelines. ➢ Provide training opportunities on NCD prevention for lecturers ➢ Identify areas of need for NCD related research and communicate to university and SM. ➢ HPA NCD program to provide visiting lecturer to update students on national NCD prevention programs

Organization	Roles	Tasks to do by HPA/ MOH
	➢Research on NCD risk factors, effectiveness of control measures, operational research – funded research by lecturers + encourage student research ➢When assigning students to study available research on healthy lifestyle recommendations, guide them to search WHO recommendations, the available national guides for Maldives, and recommendations of CDC, NHS, World Heart Federation, World Cancer Federation, etc. which base their recommendations on systematic reviews and research, instead of searching Pubmed for individual research articles. ➢Involve in national capacity building for NCD prevention – conduct or provide resource persons to conduct trainings for non-university health professionals, non-health stakeholders and volunteers.	➢HPA to form collaboration with SM for capacity building and conducting of NCD prevention programs through teaching / learning activities.
IUM, MNU-FIS (Islamic studies)	➢Research on Islamic perspective on unhealthy lifestyle, unhealthy products: tobacco, areca nut, cancer causing foods, energy drinks, etc. in addition to alcohol ➢Research on Islamic perspective/rulings on trade of unhealthy commodities, Govt. / public responsibilities to protect children and youth from these risks ➢Incorporating key relevant information on NCD risk factors into curricula and teaching/learning activities of students ➢Educating public – Deliver awareness to public on tobacco, alcohol, substance abuse, mental health including both individual and societal responsibilities - involve health sector for guidance ➢Advocacy for healthy lifestyles, mental health and NCD prevention ➢Provide guidance to health sector on appropriate messaging on alcohol and other NCD risk factors in keeping with Islamic principles	HPA (NCD program) to initiate communication with IUM and MNU-FIS and form collaborations to implement these activities
MNU-Faculty of Education, NIE (MOE)	➢To build capacity of students to teach NCD related curricular content to school children ➢Include NCD risk factor prevention components in the Education curricula ➢Share existing guidelines e.g., School Food Guide, FBDG, teacher guides	HPA (NCD program) to initiate communication with MNU and form collaborations to implement these activities with the relevant departments Identify areas of research needed for NCD prevention and control

Organization	Roles	Tasks to do by HPA/ MOH
	available from CDC, etc. and incorporate into teaching/learning ➢ Capacity building and CPD for existing teachers in schools to build confidence in teaching/delivering curricular content on NCD prevention and healthy lifestyles (ABCs) to students	and communicate with university and departments.
MNU-Faculty of Arts (Journalism, Visual arts courses), Maldives Media institute	➢ Incorporate into teaching – methods of promoting healthy lifestyle (ABCs) ➢ Assignments on creative production, etc. to include creative ways of promoting the ABCs of healthy lifestyle ➢ Collaborations with HPA to produce educational material through students ➢ Journalism Ethics to include awareness on industry influence and avoiding indirect advertisement through AV/online/print media productions, news articles, etc., promoting health (not unethical!) ➢ Policies to avoid unhealthy sponsorships (targeted) ➢ Media research ○ type of media used, different viewing times etc. by different age groups / social groups ○ effective methods of promoting health through various media, comparisons with successful countries ➢	HPA (NCD program) to initiate communication with MNU and form collaborations to implement these activities with the relevant departments Identify areas of research needed for NCD prevention and control and communicate with university and departments.
MNU-Faculty of Arts (law, political sciences courses)	➢ Incorporating in teaching/learning: ○ Laws and regulations to control NCDs ○ NCD prevention and control policies and Best Buys Research on their effectiveness and legal factors that improve effective implementation (other successful country case studies compared with Maldivian case studies)	HPA (NCD program) to initiate communication with MNU and form collaborations to implement these activities with the relevant departments Identify areas of research needed for NCD prevention and control and communicate with university and departments.
MNU-Faculty of Hospitality & Tourism studies, Cooks Guild	➢ Incorporating in teaching/learning ○ Promoting healthy foods & beverages, tasty/interesting recipes, cookery programs, competitions, etc. ○ Promoting health in hospitality industry ○ Limiting use of unhealthy “fast” foods in recipes ○ Policies to avoid unhealthy sponsorships (targeted) ○ Promoting ABCs and enabling environments in hospitality industry	HPA (NCD program) to initiate communication with MNU and form collaborations to implement these activities with the relevant departments Identify areas of research needed for NCD prevention and control and communicate with university and departments.

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	(e.g. Incentives for fully smoke-free restaurants (no shisha too!), non-smoking rooms, ways to promote the concepts among public/customers promoting healthy diets and physical activity ➢ Research: effective methods of promoting healthy foods, physical activity and smoke-free environments in hospitality industry	
MNU research center (RAR)	➢ Research on NCD policies, implementation of policy actions, NCD burden studies, ecological studies on effects of risk factor reduction with implementation of key policy measures ➢ More quantitative studies – Case control, cohort studies in addition to STEPS survey ➢ Collaborative research with HPA/MOH (e.g. STEPS survey, DHS), operational research ➢ Generating Statistics for advocacy through research ➢ RAR to take lead and facilitate NCD related research in other faculties, schools and departments of MNU – share identified priority areas for research with other faculties and follow-up on any research conducted and published or presented, share relevant publications/abstracts and progress with HPA on a regular basis.	➢ HPA (NCD program) together with MOH HIMRD (Health Info section) to initiate communication with MNU and form collaborations to implement these activities with MNU RAR. ➢ Identify areas of research needed for NCD prevention and control and communicate with university and RAR. ➢ Develop collaboration (through MOU or suitable means) with MNU RAR for regular sharing of priority research needs, which of these were conducted and research findings/publications between RAR and HPA/MOH.
MNU-Students	➢ Developing written University policies for creating enabling environments for healthy lifestyle (e.g. smoke free environments, healthy canteens and adequate facilities for physical activity, e.g. safe bicycle parking, indoor sports areas, etc.) and avoiding conflicts of interest (e.g. policies to avoid funding and collaborations with unhealthy industries such as tobacco, energy drinks, unhealthy food industries, etc. avoiding advertently or inadvertently promoting unhealthy commodities and practices in university activities), ➢ disseminating to students, staff and all concerned, and ➢ ensuring implementation	HPA (NCD) to initiate and coordinate with MNU to incorporate relevant teachings related to NCD prevention and university policies for promoting healthy lifestyle among students and teachers.

Organization	Roles	Tasks to do by HPA/ MOH
MNU-Quality	➢Overall coordination and implementation of general measures mentioned above throughout the university ➢Ensure updated teaching/learning on NCDs in all faculties and courses identified above	HPA (NCD) to initiate and coordinate with MNU to incorporate relevant teachings related to NCD prevention and university policies for promoting healthy lifestyle among students and teachers.
Villa College, MI college	➢Incorporating NCD prevention and healthy lifestyle (ABCs) in teaching/learning ○ Expand NCD curriculum for PHC/MPH ○ NCD policies and programs – mandatory to know ○ For all courses as relevant: Incorporate current clinical guides for total risk approach to managing patients and clients into teaching: PEN protocols, tobacco cessation, FBDG ○ Assignments/community projects to focus on NCD prevention and advocacy ➢Research on priority NCD topics – more quantitative studies ➢Work collaborations – e.g. graphics students for preparing IEC material	➢HPA (NCD program) to initiate communication with colleges and form collaborations to implement these activities. ➢Identify areas of research needed for NCD prevention and control and communicate with the colleges.
Dhivehi Bahuge Academy	➢Incorporating NCD prevention and healthy lifestyle (ABCs) in teaching/learning ➢Awareness programs for members of DBA and Dhivehi language scholars, teachers and artistes to remove examples of unhealthy practices used in teaching of Dhivehi language (e.g. tobacco use, areca nut chewing, etc.) and use healthy lifestyle examples instead ➢Research on History/Culture/traditions needed to promote healthy lifestyles: ○ Origins/time of introduction of unhealthy habits (to look for facts that make them unpopular, e.g. late introduction, people died young, etc.) ○ Details of healthy behaviors in history to popularize (e.g., healthy foods, fruit/vegetable/ less oily foods, active lifestyle, etc.) ➢Collaborative work for effectively promoting healthy lifestyles and NCD prevention: ○ Poems (Lhen), songs, drama, stories, etc. for public awareness and promotion	➢HPA (NCD program) to initiate communication with Dhivehi Bahuge Academy and form collaborations to implement these activities. ➢Conduct meetings / programs with Dhivehi Bahuge Academy to reach and involve scholars and artistes ➢Identify areas of historical research needed for NCD prevention and control and communicate with the academy, form collaborations with relevant departments.