Annual report 2019

Directorate of Non-Communicable Diseases

Ministry of Health and Indigenous Medical Services

Towards a Healthy Lifestyle

Non Communicable Disease Unit
Ministry of Health

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1. Introduction

1.1 History

Non-Communicable Disease Unit (NCD), Ministry of Health Nutrition and Indigenous Medicine, was established in 1998 under the Deputy Director General (Medical Services I) to plan, implement, monitor and evaluate the national prevention and control programme against emerging epidemic of NCDs in Sri Lanka. Later in 2007 the Deputy Director General/ Non-Communicable Disease (DDG/NCD) was appointed and NCD Bureau was established expanding the human resources and the financial allocations. The Injury Prevention Unit was established in the Directorate in 2010 with the appointment of a Consultant Community Physician to coordinate the implementation of the national injury prevention programme in Sri Lanka.

The National policy and strategic framework for prevention and control of non-communicable Diseases was launched in 2010with a vision of a "Country that is not burdened with chronic non-communicable diseases (NCDs), deaths and disabilities". Annual budget over 800 million rupees is allocated for the implementation of the Prioritized National Action Plan 2018-2020 developed based on the 'National Multi-sectorial Action Plan for the Prevention and Control of NCDs 2016-2020' with technical bodies, Non-Health sectors, Non-governmental organizations and UN organizations.

The post of Medical Officers of Non-Communicable Disease (MONCD) attached to the office of the Regional (district) Director of Health Services (RDHS) was created in 2003 coordinate the implementation of the NCD program in the districts under the guidance of the RDHS and the regional Consultant Community Physician (CCP).

Healthy Lifestyle Centers (HLC) were established in 2011, complying with the strategic guidance on establishing cost-effective screening programs for NCDs. The focus of HLCs was proactive identification of behavioral and other intermediate risk factors, thereby preventing the end-point of cardiovascular Disease (CVD), through timely interventions. Currently there are 1005 functioning HLCs mostly at primary care Institutions providing services to communities. Primary Health care reformation has been initiated and the population was empaneled to primary health care units and Divisional hospitals and an apex hospital is identified as a referral center, to achieve universal health coverage through patient centered and integrated management of NCDs and risk factors of empaneled populations.

1.2 NCD - country situation

The Non-Communicable Diseases (NCDs) — mainly cardiovascular diseases, chronic respiratory diseases, diabetes and cancer — are top killers in the South-East Asia Region, claiming an estimated 8.5 million lives each year. According to WHO, in 2016 estimated deaths due to NCDs in Sri Lanka was 118,700, 83% of the total. The highest proportional mortality rate of 34 % accounted for Cardiovascular Diseases, while 14%, 9% and 8% accounted for cancers, Diabetes and Chronic Respiratory Diseases respectively. The premature mortality (30-70 years) rate in 2016 was 17% with males being affected more (22%) than females (13%) (WHO, 2018).

The common, modifiable risk factors underlying these major NCDs are tobacco use, harmful use of alcohol, unhealthy diet and physical inactivity, leading in clustering effect to the intermediate risk factors like overweight/obesity, raised blood pressure, raised blood sugar and raised blood cholesterol level. In Sri Lanka, among the population between the age of 18-69 years, around 25% were current tobacco users (20% daily users) while 15.8% were current users of smokeless tobacco (11.7% daily users), 45.7% of males use any form of tobacco (35.3% daily users) while 26% use smokeless tobacco (18.9 % daily users Alcohol per capita consumption including recorded and unrecorded, has been increasing over the years with7.7 liters pure alcohol among males in 2016 (after adjusting for tourist consumption). Nearly 18% (both sex) currently drink alcohol, while around 35 % of male aged 18-69 years currently consume alcohol Nearly 30% of the population over the age of 18 years was considered as physically inactive (less than recommended 150 min per week), and it showed that females are more inactive compared to males (37% Vs 21%). As expected, 34% of females were overweight compared to 25% among males. Unhealthy diet is also identified as a main risk factor for developing NCDs and the mean population salt intake, among adults aged over 20 years was 10 g/day which is above the recommended level of 5 g/day. Nearly three fourth of the population do not consume sufficient fruit and vegetables while 26% of the adults 18-69 years always or often eat processed food high in salt.(STEPs, 2015).

Injuries are the 4th cause of total deaths in Sri Lanka and the number one cause of hospitalization over the last 2 decades. Annually, injuries claim about 12000 - 14000 lives of Sri Lankans. In 2019, out of all reported injuries to injury surveillance, mostly admitted due to falls (26%) and most reported injuries occurred at home (48%). Most were affected while travelling (24%). Majority of victims are in the productive age group (15 to 44 years) and it is the number one killer of that age group too. The burden of injuries is projected to increase in next decade as a result in rapid changes in life styles of people due to urbanization, industrialization, mechanization and infrastructure development unless appropriate preventive strategies are not implemented.

1.3 Administrative and technical capacity at national and regional level

1.3.1 Central level

The Directorate of NCD is the focal point in the Ministry of Health and Indigenous Medical Services for the NCD prevention and control program in the country. The directorate has the overall responsibility as the coordinating body for implementing and monitoring of the National Policy for prevention and control of NCDs in Sri Lanka. The directorate also advocates for necessary policy changes, development of strategies and action plans for central and regional level and is involved in monitoring and evaluation of the program throughout the country with multisectoral collaboration.

1.3.2 Provincial and district level

Medical Officer-Non-Communicable Diseases (MO-NCD) is the district level focal point in planning, implementation, monitoring and evaluation of NCD programme. The MO-NCDs work under the administrative purview of the Regional Director of Health Services (RDHS) and the technical guidance is provided by the Regional Consultant Community Physician. As in the administrative hierarchy RDHS is responsible and guided by the Provincial Director of Health Services.

1.4 Scope of the Directorate

The Directorate of NCD is functioning, under the several units, each lead by a Consultant Community Physician.

1.4.1 Planning Unit

Planning Unit facilitates the revision or development of the National NCD Policy, strategic framework, action plan and the monitoring & evaluation plan. The Unit develops the NCD annual action plan and prioritizes the activities in order to utilize the funds effectively from various sources and monitor the progress in implementation of the activities at national and district levels. The Unit is also responsible for human resource need assessment and development and. The conduct of the National NCD council, NCD steering committee, National NCD Advisory Board is coordinated by the planning unit.

1.4.2 Strategic Information Management (SIM) Unit

Strategic Information Management Unit (SIM) maintains and upgrades the Hospital Information Management System (HIMS) for chronic NCD and provides technical guidance to ensure quality of data. Currently establishing NCD mortality and morbidity database with linking e-IMMR and Registrar General' Department is being carried out. The unit is also responsible for conducting research and periodic surveys such as STEPS in collaboration with relevant agencies. The SIM Unit also oversees the implementation and resource development of Healthy Lifestyle Centers. Annual performance appraisal for the Healthy Lifestyle Centers and staff is conducted in collaboration with the regional CCPs and MONCD, and the best performers are awarded annually.

1.4.3 Promotion of healthy diets, advocacy and improving awareness and settings: schools and workplaces

This unit advocates for the prevention of NCDs through promotion of healthy dietary practices at school and work settings. This includes reduction of salt, fat and sugar levels in foods up to the recommended levels and addition of vegetables and fruits in recommended portions in the diet.

Unit coordinates with health sector as well as non- health sector partners in conducting these activities such as development of IEC materials for school children and establishment of 'School Health Corner's. Further it is involved in planning and implementation of mass media campaigns, and awareness campaigns for the general public. Several guidelines were developed on management of NCDs at primary health care settings such as for diabetes, obesity, cardio vascular diseases and chronic respiratory diseases.

1.4.4 Promotion of physical activity, cessation of tobacco use, community empowerment and mobilizing civil society for Hypertension control

This unit advocates on prioritizing and integrating concepts of improving physical activity into policies across all governmental ministries and private sector organizations through evidence-based strategies. Initiatives to improve national level capacity for formulation of regulation and standards to promote physical activities in the country have been taken in collaboration with WHO under RECAP (Global Regulatory & Fiscal Capacity Building program).

Unit also holds technical leadership for capacity building and resource development for promotion of physical activity in the community. Furthermore, various evidence-based strategies for the tobacco cessation among the Sri Lankan population including capacity building, awareness raising, are also carried out in coordination with NATA, Mental Health Directorate, NCCP and other governmental and non-governmental organizations.

The Unit coordinates the project on *multi-intervention strategy to improve NCD care in Sri Lanka;* mobilizing the civil society and private sector to improve the provision of NCD care. In addition, a community empowerment project is being carried out with the Health Promotion Bureau - Happy Village concept.

1.4.5 Injury Prevention Programme

This unit plays a leading role in advocating and multi sectorial coordination for prevention and control of injuries in the country under the guidance of the National Committee on Prevention of Injury (NCPI). Unit implements the prevention and awareness programs under many themes such as home safety, school safety, workplace safety and drowning safety. The national injury surveillance system established at secondary and tertiary care level hospitals maintains the injury mortality and morbidity in the population in a database by linking with e-IMMR and Registrar General' Department. The unit is responsible for carrying out National and district level capacity building programs for health and non- health partners.

1.5 Purpose of producing the annual report

The main purpose of this report is to provide feedback on current functionality and strengths and weaknesses of the NCD programme to its partners. It will also provide a platform for the other related agencies involve in NCD prevention and control activities such as stakeholder ministries, NGOs, International development partners, professional organizations and researchers to learn about the activities carried out by the National and regional level.

1.6 Chronic NCD prevention & control programme

1.6.1 The national policy and Multi Sectorial Action Plan

Government of Sri Lanka identified prevention of NCD as a priority issue in the national health agenda and the National Health Strategic Master Plan 2016-2025. In response to the commitment expressed through political declaration on NCDs, National Policy for Prevention and Control of Chronic Non-communicable Diseases with its strategic framework was formulated in 2010 with a goal "To promote health and well-being of the population by preventing chronic NCDs associated with shared modifiable risk factors, providing acute and long-term care for people with NCDs in an integrated manner, and maximizing their quality of life". Since then the working capacity and plans of the Directorate of NCD is guided by the policy document. As the prevention and control of NCD need a multi-sectorial involvement the 'National Multisectoral Action Plan for the Prevention and Control of NCDs' was developed in 2015 with a vision of a 'country that is not burdened with chronic non-communicable diseases (NCDs), deaths and disabilities and being implemented island wide'. This multisectoral action plan was developed for the period of 2016-2020. The Multisectoral action plan clearly identified and described the role and responsibilities of other health and non-health stakeholders in prevention and control of NCDs. Prioritized action plan for the 2018-2020 was also prepared in order to expedite the attainment of national targets. The multisectoral plan for the period of 2021-2025 and an integrated results-based monitoring framework will be developed in accordance to the revised NCD policy to attain the set national targets.

The MSAP has set up nine national targets related to NCD and their risk factors.

1. A 25% relative reduction in premature mortality from cardiovascular disease, cancer, diabetes, or chronic respiratory diseases
2. A 10% relative reduction in the use of alcohol
3. A 10% relative reduction in prevalence of insufficient physical activity
4. A 30% relative reduction in mean population intake of salt/sodium
5. A 30% relative reduction in prevalence of current tobacco use in persons aged over 15 years
6. A 25% relative reduction in prevalence of raised blood pressure and or contain the prevalence of raised blood pressure
7. Halt the rise in obesity and diabetes
8. A 50% of eligible people receive drug therapy and counseling (including glycemic control) to prevent heart attacks and strokes
9. An 80% availability of affordable basic technologies and essential medicines including generics, required to treat major non--communicable diseases in both public and private facilities

These targets will be achieved through four strategic areas,

1. Advocacy, partnership and leadership;
2. Health promotion and risk reduction;
3. Strengthen health system for early detection and management of NCDs and their risk factors
4. Surveillance, monitoring, evaluation and research.

2. Key activities- Chronic NCD prevention & control

2.1 Advocacy, partnership & leadership

Ministry of Health and indigenous Medical services takes the leadership in coordinating the partnerships between all stake holders towards a coherent national policy response required to attain nationally set targets. The mechanisms are in place both at national and subnational level to ensure the propagation of centrally made decisions to materialize at the grass root level with integrated monitoring framework.

2.1.1 Coordinating mechanism of NCD prevention & control programme

2.1.1.1The NCD Council

Chaired by the Minister of Health is the supreme body imparting political leadership for inter-ministerial and inter-sectoral collaboration and multi-sectorial partnerships for NCD prevention and control, securing political commitment at the highest levels. The council also monitors the progress of implementation of the National NCD policy. Incorporating health to school curriculum, passing regulations on front of pack labeling, were some of the recent collaborations on prevention of NCDs

2.1.1.2 National Steering Committee for Non-communicable Diseases

Chaired by the Secretary Health constitute high level representation from all relevant ministries, government agencies e.g. and development partners including local and international NGOs. Incorporation of NCD information system with the project on primary care system strengthening (PSSP), training of PHMs on NCD prevention using lifestyle approach, appointment of Health promotion Officers, monitoring of NCD prevention activities in school settings (distribution of Api Nirogee Wemu' booklet and establishing of School NCD Corners), strengthening linkages between units within ministry for NCD prevention eg E&OH & NCD units for amending regulations pertaining to Front of Pack Labelling (FOPL), were some of the activities taken up in 2019 and focus was to monitoring the progress of implementation of the MSAP.

2.1.1.3 National Advisory Board for Non-Communicable Diseases (NABNCD)

Chaired by the Director General of Health Services constitute high level technical representation from relevant directorates of the Ministry of Health and involved in providing recommendations based on scientific evaluations for implementation of the MSAP. Integrating screening for NCDs with the annual increment of all employees as a solution for poor male participation at HLCs, establishing web-based data entry system, establishing the National NCD council, possibility of redefining job list of MO/PH to include NCD as a scope were some of the decisions taken in 2019.

2.1.2 Commemoration of special days

The Directorate commemorated the World Heart Day, and World Diabetes Day in 2019. Various programs were organized in collaboration with stakeholders to create awareness among population and to draw the attention of policy makers of impact of health issues for preventable deaths and disabilities due to NCDs. Directorate commemorated the World Heart Day 2019, with Sri Lanka Heart Association and College of Community Physicians of Sri Lanka, by organizing a symposium in parallel to the 1st SEA Regional Group Meeting of the International Epidemiological Association and 14th Annual Academic Sessions of the College of Community Physicians of Sri Lanka, (19th – 21st of September 2019) under theme of the year "Heart Heroes-your heart, my heart, our heart". It was for up skilling of Medical officers (NCD) on prevention, early detection and dietary management in patients with or at risk of cardio-vascular disease at primary health care setting.

2.1.3 Revision of NCD policy

Sri Lanka was one of the countries to adopt the WHO requirements for combatting NCDs in which formulation of national NCD policy (2010-2020) was one of the first initiatives. The Directorate is currently in the process of evaluating and revising the current NCD Policy. Several stakeholder meetings were conducted with relevant Directorates of the Ministry of Health, and Policy implementers at regional level to identify strategies need to be included in the new policy document. The comments from were taken in to consideration Views of non-health sector stakeholders views will also be taken into account when finalizing the new policy document. Based on the revised policy for NCD prevention and control a strategic framework and activity plan will be developed.

2.2 Health promotion and risk reduction

2.2.1 Promoting physical activity

Physical activity is one of the major four risk factors of NCDs. Therefore, improving physical activity was a felt essential need to combat the NCD burden in Sri Lanka.

2.2.1.1 Development of National Guidelines on physical activity

A. For the General Public -Development of the Training of Trainers module with the facilitator guide for primary health care Doctors on "Promotion of Physical activity at Primary Health care level"

The Physical activity and sedentary behaviour guidelines for the general public across the life span had been drafted by the Ministry of Sports in the year 2018. The physical activity promotion Unit of the Directorate of NCD developed a Training of Trainers (ToT) module with the facilitator guide based on the recommendations given by the guidelines developed by the Ministry of Sports. In addition, this ToT module includes relevant recommendations from the World Health Organization and American College of Sports Medicine, adapted to the local setting. This ToT module was developed by the NCD Directorate in collaboration with the Sri Lanka Sports Medicine Association (SLSMA), over several stakeholder meetings of which participants included representatives from the Ministry of Sports, SLSMA, Health Promotion Bureau, Consultant Community Physicians from national and provincial levels, Provincial Directors of Health Services, and Medical Officer-NCDs representing several districts.

This ToT module aims at educating the public health workers on the following: difference between physical activity and exercises; components of physical fitness and benefits of being physically active; national recommendations for physical activity at various age categories across the lifespan; examples for various types of exercises and how to perform those correctly; addressing the myths related to physical activity; and implementing brief interventions based on 5A's and 5R's model for health promotion.

B. For the patients diagnosed with NCDs

Being physically active is important among patients with NCD to slow the progress of the disease and for better psychological well-being. Development of physical activity and dietary guidelines for selected NCDs was initiated in 2019, in collaboration with SLSMA and Sri Lanka Medical Nutritionists' Association (SLMNA). Physical activity and dietary guidelines are being developed for patients with Ischemic Heart Disease, Cerebro-Vascular Accidents, Hypertension, Diabetes, Chronic Kidney Disease, Rheumatological diseases, Chronic respiratory diseases and Obesity over several consultative meetings with the relevant stakeholders and the participants included representatives from Sri Lanka College of Cardiologists, SLSMA, SLMNA, College of Neurologists, College of Physicians, College of Endocrinologists, College of Nephrologists, College of Rheumatologists, College of Respiratory Physicians, College of Community Physicians, Ministry of Sports and Health Promotion Bureau.

2.2.1.2 Capacity building on physical activity

A. Training of primary health care Medical Officers on Pre-participation examination and Exercise prescription

It is essential that all primary healthcare Medical Officers be competent and licensed on pre-participatory examination of the individuals prior to participating in any physical activity. Also, as Medical Professionals it is highly important for them to be competent on exercise prescription as well. Thus, a training for all the MO-NCDs and primary healthcare Medical Officers (a total of 100 Medical Officers) were trained on pre-participatory examination and exercise prescription in collaboration with SLSMA. This was a three-day residential programme and each participant was given a thera-band and a gym ball to be utilized during the exercise sessions they conduct in their institution. Also, the participants who successfully completed the programme received a two-year license certificate for pre-participatory examination

B. ToT programme for the primary healthcare Medical Officers

The newly developed ToT module and the facilitator guide on promotion of physical activity at the primary healthcare setting was introduced to and trained all MO-NCDs and one primary healthcare Medical Officer from each district. This training was conducted as a two-day Training of trainers programme, in collaboration with SLSMA. The participants were trained on each type of exercise and they received a CD containing the ToT module and the facilitator guide at the end of the training.

In order to promote physical activity, the Directorate of NCD provides funds based on request to the healthcare institutions that are interested in establishment of gymnasia and a training also being developed in collaboration with the National Institute of Sports Sciences and SLSMA for the instructors of these institutional based gymnasia.

2.2.2 Promoting healthy diet

The unit worked closely with Medical Research Institute and Sri Lanka Medical Nutritionists Association (SLMNA) and other relevant stakeholders, in improving currently practiced "food plate model". Making changes to the currently practiced model was discussed and it is expected to revise it considering portion sizes and different food groups that are being consumed frequently by the public.

2.3 Strengthen health system for early detection and management of NCDs and their risk factors

2.3.1. Healthy Lifestyle Centers

The Healthy Lifestyle Centers (HLCs) were established in the year 2011 fulfilling the strategic guidance on establishing cost-effective screening programmes for NCDs. The focus of HLCs was to proactive identification of behavioral and other intermediate risk factors, thereby preventing the end-point of cardiovascular Disease (CVD), through timely interventions. Currently there are 1005 functioning HLCs mainly located at primary level hospitals (Primary Medical Care Units-PMCU and Divisional Hospitals-DH) providing services to communities. The implementation of the NCD prevention program is technically lead by the Medical Officers of Non-Communicable Disease (MO/NCD) attached to the Regional (district) Directorate of Health Services under the guidance of Regional Consultant Community Physicians.

The main service objective of the HLCs is to reduce the risk of NCDs of people more than 35-year old by detecting risk factors early and improving access to specialized care for those with a higher risk of cardiovascular disease (CVD). The screened clients are managed at HLCs, based on the total-risk approach to assess their 10-year CVD risk.

Participation at HLC

Eligible persons for screening at HLC fall under two categories which includes all persons aged 35 and above and persons between the age 20-34 years having risk factors. Recruitment to clinics is mainly by self-referral following community empowerment and through appointment by public health staff and health volunteers or opportunistic screening.

Conduction of HLC

Clinic sessions are conducted at least once a week with the participation of at least 20 clients per session. Depending on the resources available, some HLCs are conducted with increased frequency. To improve the male participation and to capture the working population, the duration of screening activities of some HLCs are extended up to 6pm and opened on public holidays with the permission and approval of the relevant authorities. Outreach clinics in the community and work place are also conducted by the HLC team. A medical officer or Registered Medical Officer conducts the HLC clinic with the assistance of a Public Health Nursing Office or a Nursing Officer and minor staff members.

Services offered at HLC

A range of services are offered at HLC as listed below.

1. Screening for main Risk factors (Smoking, Alcohol use, Physical Activity, Unhealthy Diet)
2. Screening for Major NCDs (Cardiovascular Disease, Hypertension, Dyslipidaemia, Diabetes, Chronic respiratory disease, Breast cancer, Oral cancer, Cervical Cancer*) *by referral for pap smear to the MOH office
3. Clinical assessments (BMI assessment, Waist circumference, Waist to height ratio, Blood Pressure, Oral Examination, Breast Examination, Cardiovascular disease (CVD) risk assessment)
4. Investigations (Fasting blood sugar or random blood sugar, Total cholesterol, Serum creatinine when available)

5. Referral to appropriate clinic/institution according the health condition
6. Lifestyle modifications

Cessation of smoking, cessation of alcohol use, maintain of correct BMI, engage in regular physical activity, Taking five serving of fruits and vegetables per day, restricting salt consumption, restricting sugar consumption, minimizing consumption of foods containing trans fatty acids are the areas considered for lifestyle modifications to cover the major risk factors of chronic NCDs.

7. Primordial and primary preventive programmes at HLC and Community (Conduction of Health education sessions, exercise programmes, Yoga programmes, Exhibitions on healthy lifestyles or healthy foods, Awareness programmes in other settings-Schools, work place, communities)

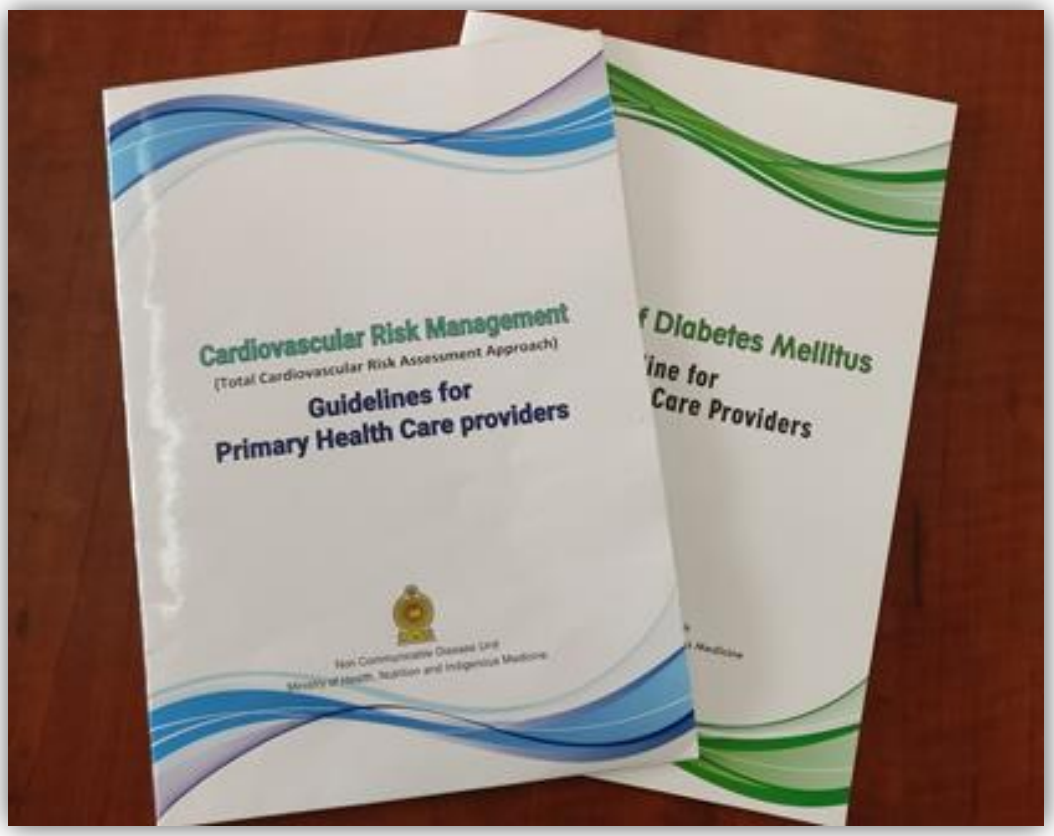
It is expected to increase the current coverage of screening by expanding the services offered and increasing the public awareness on the services offered by HLC in the country.

2.3.2. Strengthening the standards of management for patients with NCD

Unavailability of standard guides to manage individuals with risk factors for NCD and people who have already acquired NCD at the primary level of healthcare provision, were identified as a technical task which should be rectified immediately. The Directorate worked with the relevant stakeholders and service provides including Medical officers in NCD and primary level healthcare providers could develop print and disseminate following guides with the objective of strengthening the primary level healthcare provision to target populations.

1. Cardio vascular risk management guidelines
2. Diabetes Mellitus management guidelines
3. Overweight and obesity management guidelines for primary health care workers

MONCD coordinated the distribution of the materials and provision of technical support to the relevant primary care doctors. Guidelines for management of chronic respiratory diseases have been finalized. Further the unit worked in developing management guidelines for Dyslipidaemia, which will be finalized in the due course to address one of the most prevalent health conditions in Sri Lanka. In addition, unit worked closely with nutrition division and other relevant authorities to finalize the 'front of pack labeling regulations" for packed food items.



2.4 Surveillance, monitoring, evaluation, and research

2.4.1 Chronic NCD surveillance system

2.4.1.1 Screening for chronic NCD

Screening for chronic NCDs is conducted in healthy lifestyle centers. During the year 2019, up to the third quarter, the eligible population screened included 40-65 years aged adults. However, from third quarter onwards, the eligible population screened includes the 35 years and above age group. Hence, the 35 years and above age group is considered as the target population eligible for screening, which is 40% of the mid-year population. Estimated mid-year population for the year 2019 is used for the calculation of target population. At the national level 605,148 participants from the target population are screened during the year 2019. Table 1 shows the cumulative number of eligible participants screened from the year 2011 to 2019.

Table 1: Cumulative number of eligible participants screened from the year 2011 to 2019

Year	Eligible participants screened (%)	Cumulative number of eligible participants screened	Cumulative % of eligible participants screened from the target population[1]
2011	131,144 (2.6 %)	131,144	2.6 %
2012	203,939 (4.0%)	335,083	6.6%
2013	336,446 (6.6%)	671,529	13.2%
2014	383,161 (7.5%)	1,054,690	20.7%
2015	391,260 (7.7%)	1,445,950	28.4%
2016	540,535 (10.6%)	1,986,485	39.0%
2017	493,965 (9.7%)	2,480,450	48.7%
2018	511,438 (10.0%)	2,991,888	58.8%
2019	605,148 (6.9%)	3,597,036	40.6%

[1] This percentage is calculated from the cumulative number of all eligible participants screened from the year 2011 to 2019. Target population of 40-65-year age group is calculated from the total population as indicated by 2012 Census, up to the year 2018 (5,089,860). For the year 2019, 35 years and above group is calculated from the total population as indicated by 2012 Census (8,856,356).

Figure 1 shows the distribution of percentage of eligible participants screened by district in 2019 while in Figure 2 depicts the distribution of percentages of eligible male and female participants screened by district in 2019.A total number of 435,816(72.0%) females and 169,332 (28.0%) of males were screened during the year 2019 in Sri Lanka.

Figure 1: Distribution of percentage of eligible participants screened by district in 2019

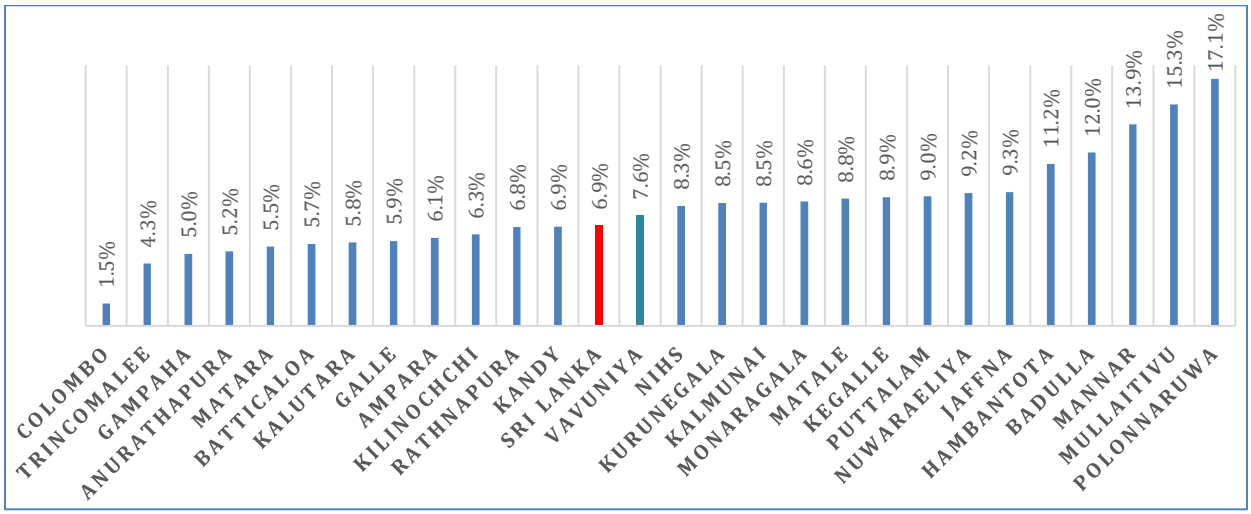


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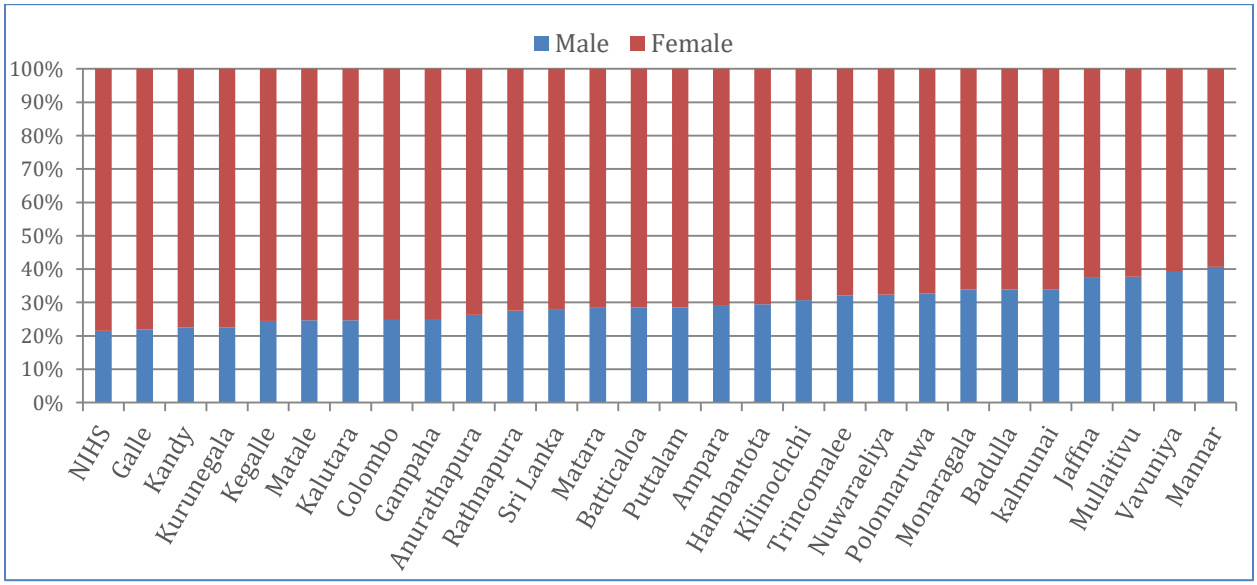
Figure 2: Distribution of percentage of eligible male and female participants screened by district in 2019

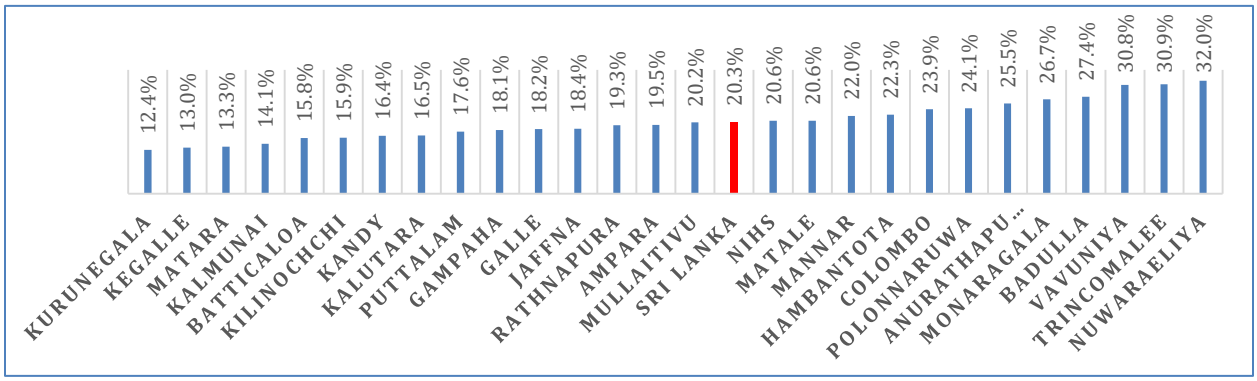


2.4.1.2. Screening of Risk Factors

Tobacco Smoking

Out of the total eligible population screened, 5.9 % (n=37,004) were tobacco smokers[2]. From the eligible male population screened 35,961(20.3%) were tobacco smokers while among the eligible female population screened only 1,043 (0.2%) were tobacco smokers.

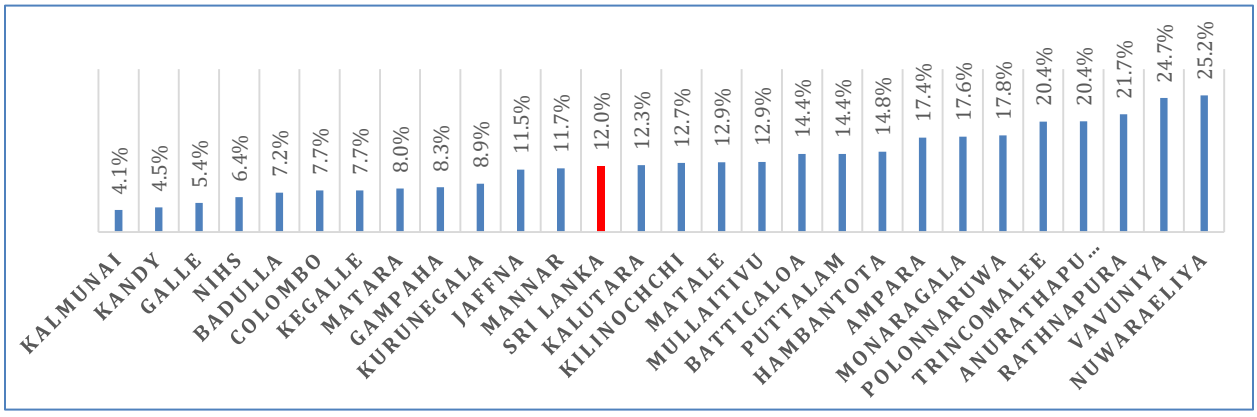
Figure 3: Distribution of percentage of male smokers among the total eligible male population screened by district in 2019



Chewing Tobacco (with or without betel)

Among the eligible population screened 75,484 (12.0%) chew tobacco (with or without betel)[3]. 25.6% (n=45,248) males and 6.7% (n=30,236) females chew tobacco among the respective eligible populations screen.

Figure 4: Distribution of percentage of participants chewing tobacco among the eligible population screened in the districts in 2019



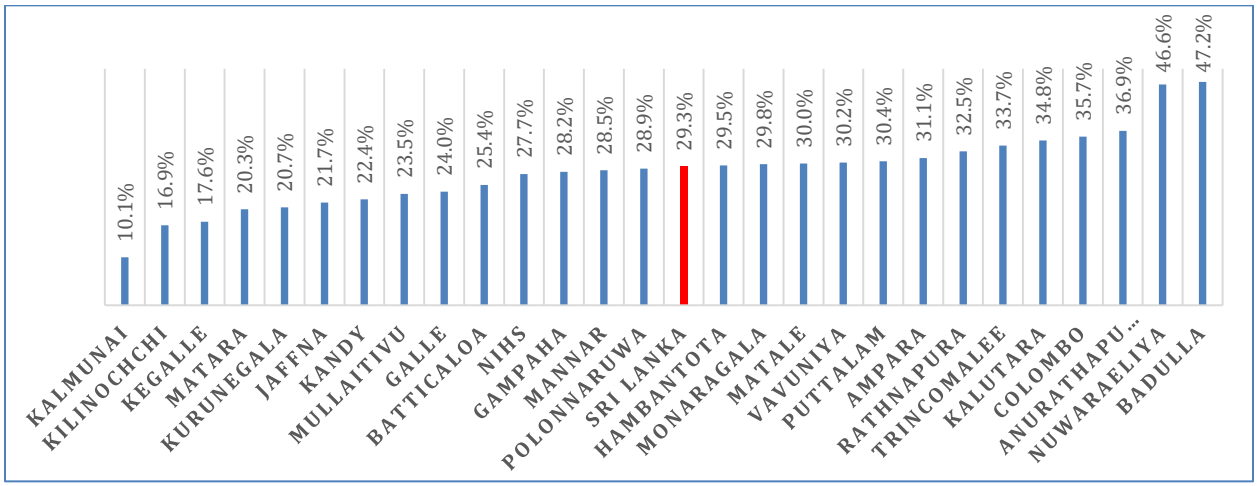
[2] Current tobacco smokers or those who have quitted tobacco smoking less than a year before the assessment were considered as tobacco smokers. Since tobacco smoking among females was very low, the percentage of male smokers out of the eligible males screened is described to prevent the underestimation of the prevalence of smoking where the majority of eligible screened were females

[3] Current tobacco chewers (with or without betel) and those who had quitted tobacco chewing within a year of the assessment were considered as tobacco chewers.

Alcohol use

Of the eligible population screened 8.5% (n=53,153) were alcohol users[4]. There were 0.3% (n=1,363) female and 29.3% (n=51,790) male alcohol users among the respective eligible populations screened.

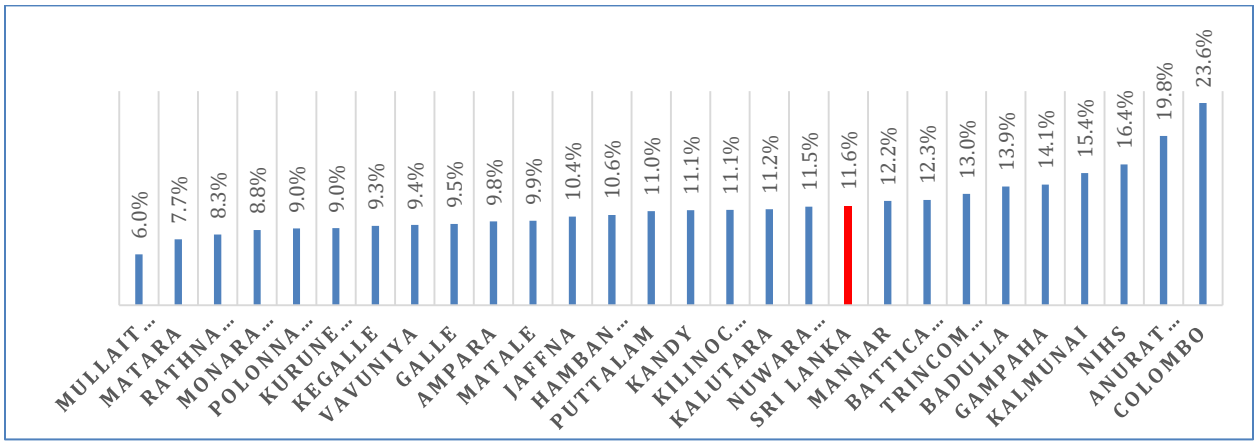
Figure 5: Distribution of percentage of male alcohol users among the eligible males by the districts in 2019



Overweight and obesity

Of the eligible population screened 175,021(30.1%) and 67,526(11.6%) were found to be overweight[5] and obese[6] respectively. Prevalence of obesity was 8.8% (n=15,719) among males and 12.7% (n=51,807) among females screened.

Figure 6: Distribution of percentage of participants with obesity among the eligible population screened by districts in 2019



[4] Current alcohol users and those who had quitted alcohol use within a year of the assessment were considered as alcohol users

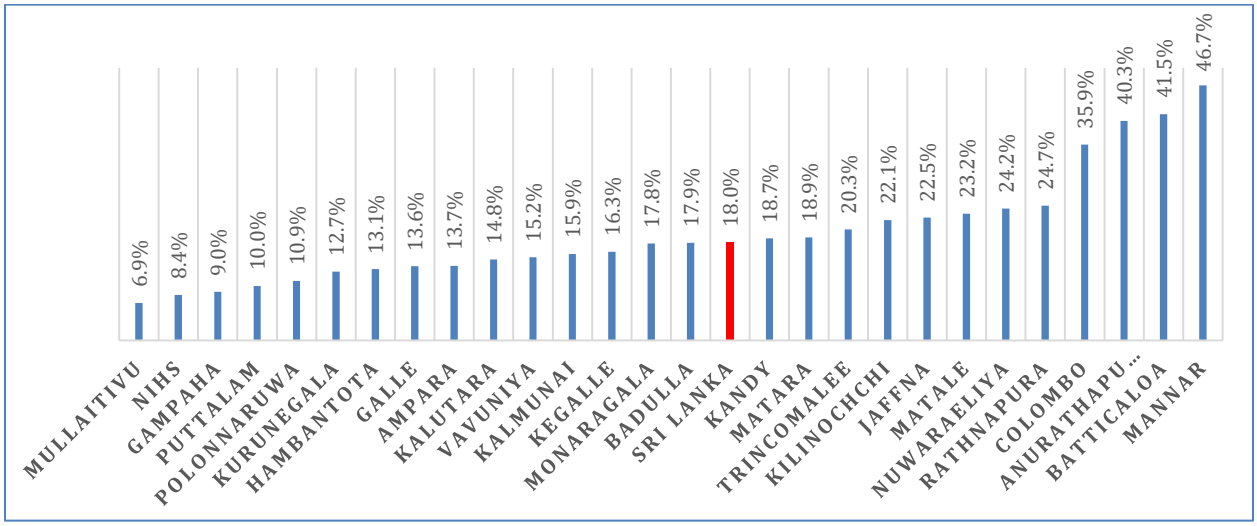
[5] BMI between 25 to 29.9 kg/m^2 is considered as overweight.

[6] BMI of 30 kg/m^2 or above is considered as obese.

High Blood pressure[7]

Of the eligible population screened, 109,018(18.0%) had high blood pressure. Among the participants screened 18.5% (n=74,485) females and 20.7% (n=34,533) males had high blood pressure among the respective eligible populations screened.

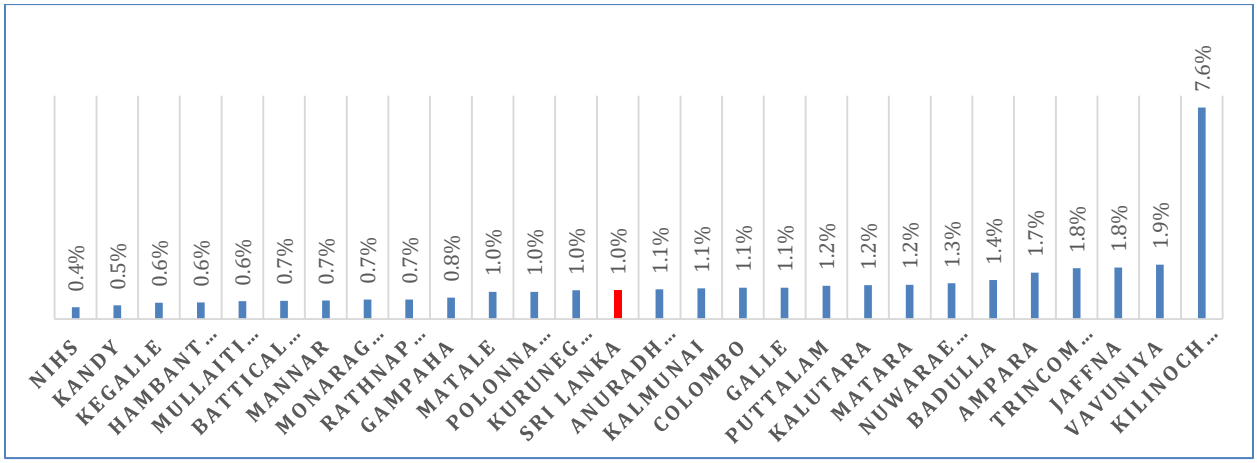
Figure 7: Distribution of percentage of participants with high blood pressure among the eligible population screened by districts in 2019



Risk of Cardiovascular disease ≥ 20%

The 10-year cardiovascular risk is estimated using WHO/ISH Cardiovascular Risk Prediction Chart. Cardiovascular Risk is categorized as <10%, 10% to <20%, 20% to <30% and ≥30%. During 2019, among the eligible participants screened 6,196 (1.0%) were found with cardiovascular risk ≥20%.

Figure 8: Distribution of percentage of participants with cardiovascular risk ≥20% among the population screened by districts in 2019



[7] Blood pressure of ≥140/90mmHg was considered as high blood pressure.

2.4.2 National & district NCD reviews

The implementation of the NCD prevention program is technically lead by MONCD attached to the Regional Directorate of Health Services (RDHS). Directorate of NCD, monitors the implementation of the NCD prevention and control programme at regional level through quarterly and annual reviews. Furthermore, annual and quarterly district NCD reviews are conducted in every district by the district NCD team led by the MONCD with all Healthy Lifestyle (HLC) team members.

National NCD reviews

Monitoring of the HLC performance is reviewed at the national NCD reviews. The coverage, timeliness, accuracy and completeness of data submitted, status of NCD risk factors among people screened at HLC and preventive and promotive actions taken by the districts according to the national NCD policy strategic areas are reviewed. In addition, HLC supervisions of conducted by the MO NCDs and the NCD district reviews conducted by the MO NCDs were also evaluated. Supervision of selected HLCs in the district where the national NCD review was held was another special activity conducted in parallel to the NCD review. All district MO/NCDs were involved for this activity and was followed by feedback session of the supervisions with the HLC Medical Officers. This was known to upgrade the quality of services offered by the HLCs and to increase the motivation of the HLC staff. Three quarterly reviews were conducted for the first, second and third quarters and for the year 2019 with the participation of all MO NCDs and the regional and provincial consultant community physicians (CCPs).

District NCD reviews

Directorate provides the technical guidance of conducting the district NCD reviews. The Director and CCPs at national level participated at selected annual district levels providing technical advice for the issues arising at district level.

2.4.3 HLC evaluation

Routine supervisions are conducted by the district MONCD and RDHS. In addition, to promote the performance of HLCs, the national level assessment was conducted in 2019. However, the annual award ceremony to reward the best performing HLCs in each district could not be held in 2019 due to unavoidable circumstances, As the first stage, the Medical Officers in charge (MOIC) of the HLC did a self-assessment and sent to the Directorate of NCD. There were 273 submissions representing 25 districts. All submitted questionnaires, which were complete and timely, were ranked within the district by a team at the Directorate of NCD. The top ten HLCs in each district were assessed through a marking scheme by a district assessment team led by the MONCD Directorate of NCD conducted the national level assessment. by visiting the HLCs which has obtained the highest mark in each district.

2.5 Injury prevention programme

2.5.1 National Policy

The National policy and strategic framework on injury prevention and management in Sri Lanka, 2016, was launched in 2017. Directorate of NCD is considered as the National focal point for implementing the National Injury Policy in the country

Six strategies have been identified to achieve the policy objectives

1. Strengthen coordinated action for injury prevention.
2. Raise awareness on gravity of the injury problem and prevention of injuries.
3. Maintain and recommend legislative and regulatory mechanisms supporting injury prevention.
4. Empower community and stake holders to design and develop safe environments.
5. Strengthening the organization capacity to provide optimum post event care and rehabilitation of injury victim.
6. Strengthen the injury information system and promote research.

Directorate of NCD works closely with many other directorates within the Health Ministry and other Ministries, Departments, Authorities, private sector and with many Non-Governmental Organizations (NGOs) to conduct preventive programmes. The MO-NCD is the focal point for implementation of the programme in the district with the Medical Officers of Health (MOH) who conduct the programme at grass root level. These activities are technically guided by district and provincial Consultant Community Physicians (CCPs) attached to Regional Director of Health Services (RDHS) and Provincial Director of Health Services (PDHS) respectively.

2.5.1.1 Strengthen coordinated action for injury prevention

A. National Committee for Prevention of Injuries (NCPI):

The national high level multi-sectoral coordinating body on injury prevention chaired by the Director General of Health Services helps to enhance coordination mechanism and to ensure integration of injury prevention efforts with multi-sectoral collaboration. Ministries, departments, authorities, professional bodies, academia, national and international agencies, NGOs and also private sector relevant for injury prevention are members of the committee. Usually it meets once in 3 months. However, in 2019, the committee met only twice.
In 2019, several important decisions were taken in terms of prevention of different types of injuries.

1. Technical standards related to speed control humps developed by the Road Development Authority, shared with the Ministry of Local Governments and Provincial Councils
2. Road safety and vehicle modifications after registration, LED and large bill boards placed by the roads
3. Establishing parking places in highways and main roads and identify safe parking areas for heavy vehicles to mitigate driver fatigue and sleepiness
4. Lighting at pedestrian crossings
5. Adding questions on first aid to the question paper given at the time of issuing the driving license
6. training driving instructors on first aid
7. Getting the assistance of field officers attached to Divisional Secretariat in some of the activities related to injury prevention

B. Injury prevention working groups

These are established under NCPI and chaired by the Director/NCD to plan related activities. Several working groups have been established to work on different areas such as road safety, child safety, home safety, water safety (drowning prevention), pre-hospital care, injury surveillance. The main decisions taken at the working groups are further discussed at the NCPI. In 2019, only road safety, water safety, child/ home safety and pre hospital care working groups met.

C. Drafting the Multi-sectoral Acute NCD (Injury) action plan 2021 -2025

Based on the strategies identified in the injury policy, developing a Multi-sectoral Action Plan was initiated in 2019. Five consultative meetings were conducted to develop action plan template and three multi-sectoral meetings were conducted in 2019 to identify the relevant activities for each area of the action plan.

D. Integration of NCD programme in to current public health (PH) programme

Three discussions were held in 2019 to explore the possibility to integrate injury prevention to the current programme conducted by Public Health Inspectors (PHII) as there is no authorized officer at the grass root level (at Medical Officer of Health - MOH division level) to implement the injury prevention programme, and

E. Involvement of Social service workers at divisional level in implementation of the injury prevention programme.

Involvement of the social service workers have been considered as a solution for the implementation of injury prevention programme at the divisional level. One day eye opening session on injury prevention and first aid was conducted for 29 district social service offices in August to make them aware about the injury prevention programme.

F. Other special activities done

1. Provided technical guidance and recommendations in developing the Road Safety Commission Act in the event of transforming Road Safety Council to Road Safety Commission by the transport ministry
2. Provided technical guidance and recommendations in developing the protection of rights of good Samaritans
3. Provided technical guidance in developing the 'Management of plant poisoning in Sri Lanka' and leaflets, which were developed by the National Poison Centre, the National Hospital of Sri Lanka
4. Provided technical support in developing National strategic plan on adolescent and youth Health by the Family Health Bureau
5. Provided technical support in developing mother support group training module by the Health Promotion Bureau

2.5.1.2 Raise awareness among stakeholders and public on injury prevention and empower them on design and develop safe environments

1. Conducted one training programme for provincial and district CCPs and district MONCDs on injury prevention programme in March in 2019.
2. Provided technical assistance and feedback on the injury prevention district action plans.
3. Development of Home safety check list – under the home safety programme, 1.5 million home safety check lists were printed and 775000 were distributed among houses with an ante natal mother or a child less than 5 years of age.
4. Develop the WHO Bi regional status report for drowning prevention in South East Asia and Western Pacific Regions as the National Data Coordinator (NDC) with the assistance of many governmental and non-governmental organizations and submitted to WHO.

A. Safe community programme

This community based programme was initially piloted as an injury prevention programme. But now the scope has been widened to address the other aspects of health too. This is a very good example for multi-sectoral involvement not only in NCD activities but for many health related programmes.

Currently Gampaha district is conducting the programme efficiently with the direct supervision of District Secretary and the RDHS.

1. A team from NCD unit and MONCDs visited one of the Safe Communities established in Gampaha district in 2019 to oversee the success of the programme.
2. In July 2019, District secretaries were addressed at the routine meeting conducted at the Ministry of Public Administration chaired by the Hon. Minister and the Secretary regarding the importance of establishing Safe communities in the respective districts.
3. Additionally, in 2019, attended two reviews meetings organized by RDHS Gampaha with District Secretariat and technical meetings conducted in establishing 3rd round of safe communities in Gampaha District.

B. National Injury prevention week

This was launched in 2016 to empower community to identify the injury risks in their own environments and to take prompt actions to prevent them from injuries. This is conducted for 5 days from 1st Monday to 1st Friday of month of July. In 2019, this was conducted for the 4th successive time from 1st - 5th of July. A media conference was organized by the Health Promotion Bureau to aware the public through print and electronic media regarding the importance of prevention of injuries. Each day has been identified for a specific theme Day 1 – Transport safety (road and rail track safety), Day 2 – Work place safety, Day 3 – Home safety which also includes elderly care home safety, Day 4 – Preschool safety, Day 5 – School safety). A number of other sectors such as universities, local authorities, District secretariats have also conducted different activities at their office premises and also at community level. Further, Sri Lanka Police has conducted special law enforcement programmes during the week.

2.5.1.3 Strengthening post-event care

Directorate of NCD has launched this programme in 2016 with the assistance of experts in First aid, aiming to train at least one person from each house on the basic first aid. Management of poisoning and eye injuries at the primary care level were developed in 2019. As requested by the Department of Motor Traffic (DMT), unit has conducted two district level trainings of driving instructors registered at the DMT on first aid.

2.5.2 Surveillance, monitoring, evaluation and research

2.5.2.1 National Injury Surveillance

National Injury Surveillance was launched in 2016 as sentinel site surveillance (Government secondary and tertiary care institutions). Few specialized institutions such as maternity hospitals, National cancer institute, Maharagama, National Institute of Mental Health etc also considered even though they do not directly provided outpatient or inpatient care for injured. It consists of four components: (1) Outpatient surveillance. (2) Inpatient (inward) surveillance, (3) Death surveillance -Death notification, Death investigation and review (4) Injury related transfer surveillance. Except death investigation and review, all the other components are being done by the sentinel sites. The draft formats for injury death investigations and review were developed in 2019. All components were monitored and evaluated at provincial reviews. Except the injury related transfer surveillance, all the other components were monitored at central level.

Following table shows the number of institutions, which conducted the injury surveillance in 2019

Table 2: Number of institutions conducted the injury surveillance in 2019

	Sentinel			Non-sentinel
	Non specialized (n=110)	Specialized (n=8)	Total (n=118)	
Out patient	87 (79.1%)	1 (12.5%)	88 (74.6%)	8
Inpatient	100 (90.9%)	3 (37.5%)	103 (87.3%)	20
Death notification	55 (50.0%)	0 (00.0%)	55 (46.6%)	3

Out of 110 non specialized sentinel sites, 10 hospitals did not conduct a single component of injury surveillance in 2019.
Following table shows the total number of data reported in 2019

Table 3: Total number of reported in each component in 2019

Component		Number reported
Morbidity	Out patient	99,463
	In patient	252,526
Mortality		1,359

Following figures shows the number reported for morbidity (figure 1) in 2017, 2018 and 2019 and for mortality in 2018 and 2019 (figure 2)

Figure 9: Trends in reporting of morbidity in 2017, 2018 and 2019 [8]

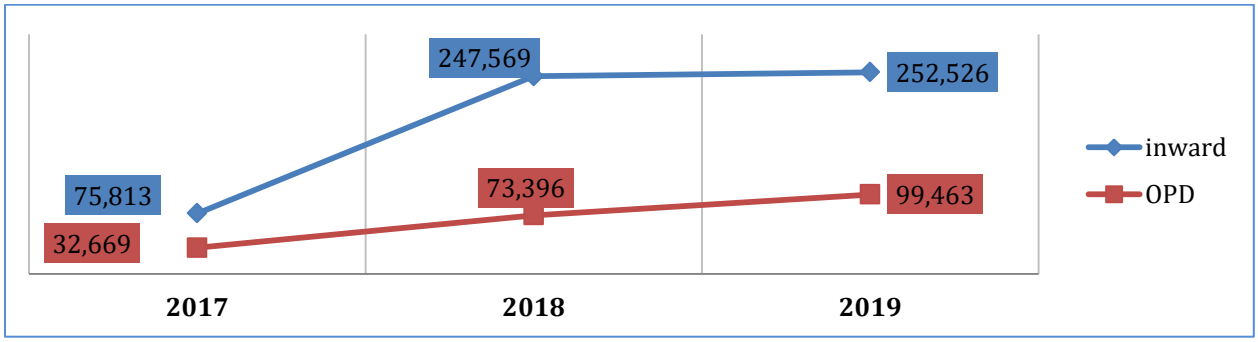
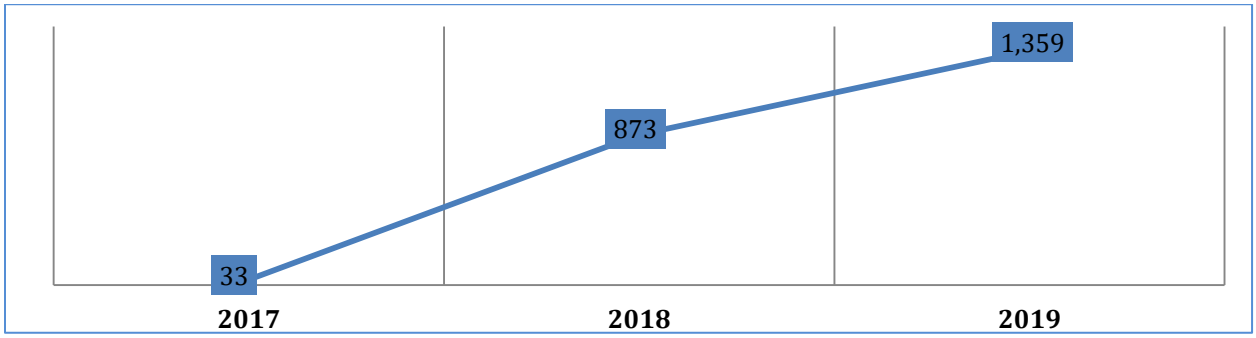


Figure 10: Number reported for mortality in 2017, 2018 and 2019



The hospital performance in reporting of injuries both morbidity and mortality have been gradually increased over the time.

A. Training to ensure the quality of data entry and analysis at district and hospital level

Medical officers, Nursing officers, Medical Record Officers and Data entry operators working in injury surveillance attached to RDHS offices and hospitals conducting injury surveillance were trained on data entry and analysis related to injury surveillance. Two programmes were conducted in September for 220 officers.

[8] As inward data is reported through the IMMR, hospitals cannot report the exact number of admissions by 31st of December in a given year as entering data to IMMR may get delayed due to number of reasons. Duration taken to complete the data entry for a given year may vary from hospital to hospital. As a result, a more comprehensive data could only be obtained towards the end of the following year. Hence the number shown for 2019 for inward admissions is less than the true number admitted in 2019.

B. Special injury survey during festival seasons

A special survey has been conducted to inform injuries reported during festival seasons especially related to New Year seasons since 2018. Details of injuries are obtained from patients treated at the emergency treatment units of the sentinel sites identified in the National injury surveillance. Year-end new year season starting from 31st of December to 1st of January and Sinhala and Tamil new year season starting from 11th April to 15th of April are considered for the special survey. Only 21 and six hospitals sent reports to the NCD unit in 2019 related to the special survey conducted during Sinhala-Tamil New year (n=1353) and year end New year (n=287) season respectively.
The injury pattern during these two special festival seasons (figures11, 12) was different from to that of the normal pattern reported throughout the year. Usually, falls were the leading mechanism of injury admitted to hospitals and animal bites were the leading mechanism treated at outpatient departments. But transport injuries were the leading injury mechanism during both special seasons and falls became the second leading mechanism.

Figure 11: Leading mechanisms of injuries reported during Sinhala – Tamil New Year season (n=1353)

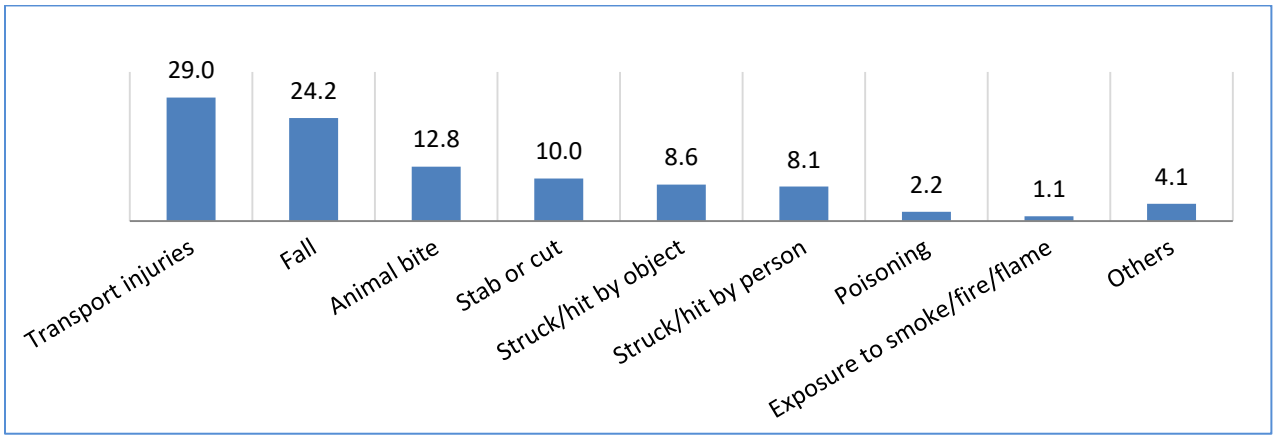
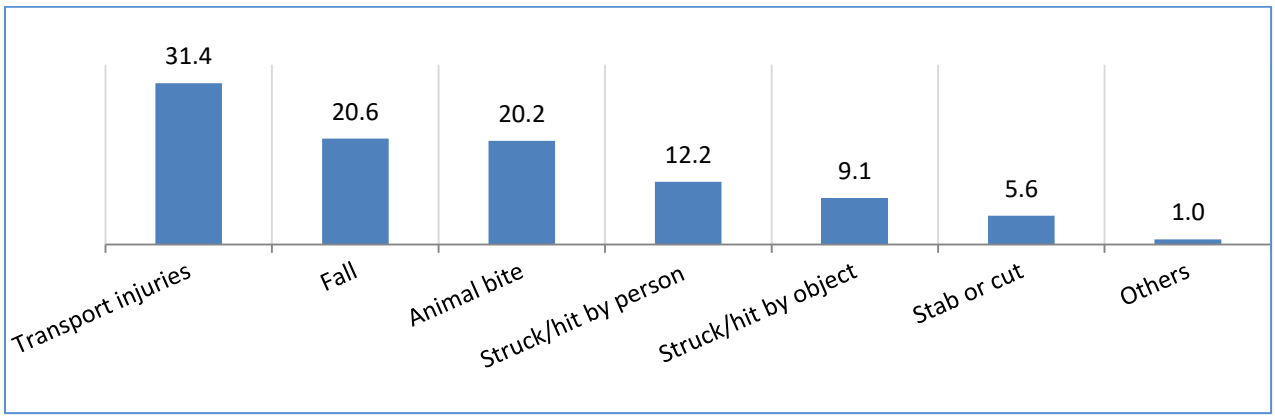


Figure 12: Leading mechanisms of injuries reported during year end survey (n=287)



2.5.2.2 Monitoring and evaluation

The overall injury prevention programme is monitored at National level at the National Committee for Prevention of Injuries (NCPI) and at quarterly and annual national NCD reviews and District level programmes are monitored, at district quarterly NCD review of respective districts

National injury surveillance

- **At national level**– The 3rd National injury surveillance was organized by the Directorate of NCD in March 2019 at Bandaranaike International Memorial Conference Hall (BMICH), this was the 1st time that the best performances of the hospitals were rewarded.

- **At provincial level -** Two rounds of provincial injury surveillance reviews are conducted in each year to review provincial, district and hospital level performances. The performances of the previous year and the 1st quarter of the current year are assessed in the 1st round, and performances of the first three quarters are reviewed in the 2nd round. In 2019, both rounds were completed; 1st round in May – June and 2nd round in November – December, 2019.

- **At District level and hospital level -** District reviews are organized by the RDHS and hospital reviews are organized by both the RDHS and relevant hospitals.

Annual Injury report for 2018 was prepared based on the National injury surveillance data.

2.5.2.3 Research

The Directorate of NCD funded injury related research on "Risk Factors, Prehospital care, health seeking patterns and functional outcomes of adolescents with upper limb fractures aged 10 – 19 years attended selected government hospitals in Colombo district" conducted by a Community Medicine (MD) trainee to fulfill requirements to obtain the Community Medicine (MD) degree was successfully completed.

3. Challenges

We have to face several challenges at national level and regional level in implementation of the nation al NCD prevention and control programme. Some challenges are due to the epidemiological and demographic transition taken place in the country. The increase in elderly population which result of the demographic transition in country requires providing healthcare for more people with NCDs. The socio-economic changes taken place within the country e.g. unplanned urbanization, change in life style of people have led to increase prevalence of NCD related risk factors such as unhealthy diet, physical inactivity, harmful use of alcohol and smoking. As a country we are working together to overcome these challenges with the support of all relevant stakeholders. The National program is faced with many challenges in implementing and monitoring the NCD prevention and control activities at national and regional level (e.g. Lack of trained human resources lack of multisectoral involvement, unavailability of a web-based system to collect mortality and morbidity data related to NCDs and screening affecting the planning process in national and regional level).

Our team

Dr. Champika Wickramasinghe (DDG/NCD)
Dr. Vindya Kumarapeli (Director/NCD)
Dr. V.T.S.K. Siriwardana (Former Director/NCD)
Dr. Parameshwaran Ananthan (Former Deputy Director)
Dr. S.K.Yapa Bandara (Former Deputy Director)
Dr. H.M.J.P. Vidanapathirana (Former Deputy Director)
Dr. S.R.H.P. Gunawaradana (CCP)
Dr. T.L.S.S. Sirithunga (CCP)
Dr. A.I.P. Samarasinghe (CCP)
Dr. P.A.S. Senarathna (CCP)
Dr. Y.M. Samarakoon (CCP)
Dr. I.A. Talagala (CCP)
Dr. S.A.H.D. Jayasekara (Registrar-Community Medicine)
Dr. I.P.Welgama (Registrar-Community Medicine)
Dr. S.D. Nawarathne (Registrar-Community Medicine)
Dr. Yamani Senarathne (MO-NCD)
Dr. W.R.L. Nilaweera (MO-NCD)
Dr. H.K.K.R.P Hewawasm (MO-NCD)
Dr. F.T.N. Marikkar (MO-NCD)
Ms. I.R.C.T. Menike (Staff Assistant)
Ms. Priyangani Dias (PPA)
Mr. Indika Beddewela (DO)
Mrs. Kumari Wijeekoon (DO)
Mr. Nishantha Kumara (DA)
Mrs. M.S.N. Fernando (PHMA)
Ms. H.H.J. Madushani (PHMA)
Ms. A.L. Aarisa (PHMA)
Mr. Anura Lakshman (Driver)
Mr. J.M.C. Karunarathna (Driver)
Mr. Nuwan Kumara (Driver)
Mr. Upali Senarathna (SKS (Ordinary))
Mr. D.M. Ubesena (SKS)
Mr. Ruchira Sadakelum (SKS)
Mrs. Chithra Gunarathna (SKS)