

National Strategic Plan For Non-Communicable Disease

NSPNCD

*Medium Term Strategic Plan To Further Strengthen
The Cardiovascular Diseases & Diabetes Prevention
& Control Program In Malaysia (2010-2014)*

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NCD PREVENTION AND CONTROL

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EXCERPT FROM THE TENTH MALAYSIA PLAN 2011-2015

SHIFTING TOWARDS WELLNESS AND DISEASE PREVENTION

As incomes rise and behaviour changes, certain health risks increase. Sedentary or stressful lifestyles, unhealthy food intake, alcohol and tobacco consumption, lead to higher incidences of chronic conditions such as diabetes, hypertension and cardiovascular diseases. These conditions have significant implications on healthcare costs and drive increasing demand for relatively expensive treatment and long-term rehabilitative care. From 1996 to 2006, Malaysia saw a dramatic increase in the prevalence of behaviour-linked diseases, including a 43% increase in hypertension, 88% increase in diabetes and 250% increase in obesity.

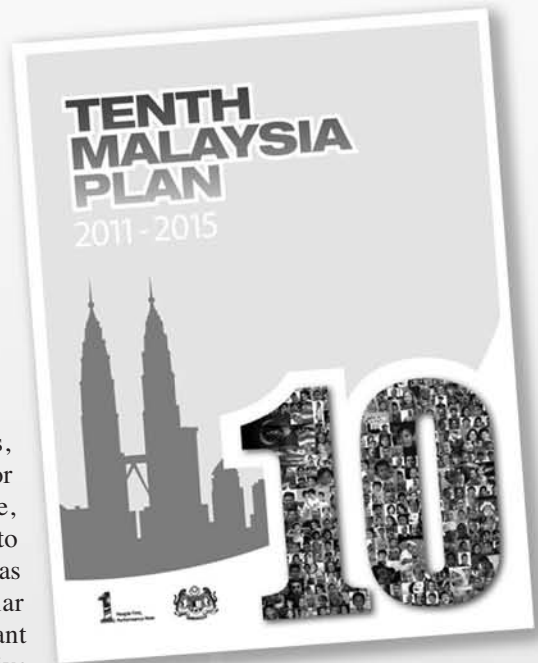
An important initiative in reducing demand for healthcare is by promoting healthy lifestyles. People and communities must play bigger roles in maintaining their health individually and collectively while the Government will create an environment that promotes wellness and healthy living. Aggressive efforts to increase awareness for the practice of healthy living by individuals and communities will be undertaken, including:

- **Expanding the Healthy Lifestyle Campaign**

The campaign, which emphasises healthy eating, physical activity, anti-smoking and mental health, will specifically target school children, adolescents, women and the elderly to ensure better health outcomes; and

- **Encouraging healthy and active lifestyles**

Sports and recreational activities will be promoted to enable people to adopt a healthy and active lifestyle. Existing sports and recreational amenities will be upgraded and the private sector will be encouraged to build new facilities in accessible locations. To instill the active lifestyle culture amongst children, participation in at least one sports activity will be made compulsory for students in schools beginning in 2011.





MESSAGE FROM THE MINISTER OF HEALTH

Malaysians seem to be getting less healthy by the day. It is unfortunate that with our increasing economic development and with our health indices matching those of developed countries, the waistlines of our people are also growing at an alarming rate. We have become less active physically and indulge in unhealthy foods and unhealthy eating habits.

I am very concerned with this unhealthy lifestyle which leads to obesity, because obesity increases the risk of getting diabetes, hypertension, heart attacks, strokes and many other serious disease and health conditions. These diseases are termed “Non-Communicable Diseases” or NCD. Currently, NCD is the main cause of premature deaths among adults in Malaysia.

The disabilities and premature deaths caused by these diseases are occurring amongst the economically productive members of our population. This has put a tremendous strain on our public health care system which is already over-stretched. Malaysia is proud that it is one of the few countries that is able to provide free (or with minimal charge) medical care to the population. However, the increasing medical cost to treat patients with NCD is of serious concern to the government.

We have take action now before the burden of NCD significantly impacts on the economic growth of our nation. We have to act now before the children, our most precious resource, become afflicted with such diseases in early adulthood. This is not the future that we want for Malaysia.

Every one of us has an important role to play in the prevention and control of NCD. As a nation, we must create an environment that is focused on healthy foods, healthy eating habits, and regular and sustained physical activity, where the healthiest choices are accessible to all Malaysians. Children should be active whilst having fun, playing in safe environments in the parks and recreational facilities. Healthy foods should be affordable and accessible. I hope that with increasing knowledge and awareness, more and more Malaysians will demand healthier food options, which will influence marketing trends.

I want Malaysia to be a healthy nation, not just reversing the increasing trend of obesity, but healthy in all aspects of life, be it physical, mental and spiritual well being. To achieve this goal, we must work together to strengthen health promotion and create smart partnership with all stakeholders including civil society, to find creative solutions. This will not be easy, but failure is not an option.

A handwritten signature in black ink, consisting of a large, sweeping loop followed by a series of smaller, connected strokes that end in a small hook.

Dato' Sri Liow Tiong Lai
Minister of Health
Ministry of Health, Malaysia



MESSAGE FROM THE SECRETARY GENERAL

There is now increasing global attention towards the prevention and control of Non-Communicable Disease (NCD). The National Strategic Plan for NCD is in line with the resolutions and mandates made by the World Health Organisation. Malaysia has already pledged support of a United Nations General Assembly Special Sessions on NCD. As a nation, the only way that we can effectively fight this epidemic of NCD is a “whole-of-government” approach. There-in lies the biggest challenge facing the Ministry of Health: How do you get buy-in from other government ministries and department? How can the Ministry of Health convince other government machineries that they have such important roles play in influencing the behaviour of Malaysians in choosing healthy foods and in leading active lives?

The publication of this document is the first step towards getting the involvement of the “whole-of-government” in the prevention and control of NCD in Malaysia. This document outlines the seven strategies that will be adopted not just by the Ministry of Health, but by all relevant stakeholders. The Ministry of Health is fully committed in safe-guarding the health of Malaysians. Yet we cannot fight this NCD epidemic alone. Despite our best efforts thus far, the number of Malaysians who are obese and suffers from heart disease and diabetes continues to increase. It is therefore both timely and necessary for the Ministry of Health to reassess the prevention and control of NCD, and to map out the way forward to manage the situation more effectively and efficiently.

The National Strategic Plan for Non-Communicable Disease calls for concerted efforts in the prevention and control of NCD in Malaysia, with specific focus on NCD risk factors. It highlights the importance of creating a living environment that promotes and facilitates healthy choices for all Malaysians. It is no longer adequate to continue increasing health promotion and health education programmes and activities without changes in our environment. Only then can we achieve and sustain behavioural modification.

Malaysia aspires to be a Developed Nation by 2020 and a Great Nation by 2050. Its greatest asset is the people, we Malaysians. We have to be a Healthy Nation first in order to reach those targets. Hence, we have to act now to prevent our population suffering from disability and premature deaths due to diabetes and heart disease, including our children now once they reach early adulthood. This is the healthy future that we want for all Malaysians.

A stylized, handwritten signature in black ink, consisting of a long horizontal stroke followed by a series of loops and a final vertical stroke.

Dato' Sri Dr. Mohd. Nasir bin Mohd. Ashraf
Secretary General
Ministry of Health, Malaysia



MESSAGE FROM THE DIRECTOR GENERAL OF HEALTH MALAYSIA

There is ample scientific evidence to support the fact that Non-Communicable Diseases (NCD) can be prevented. In Malaysia, the prevention and control program for NCD has been initiated in the late 1980s and further strengthened at the turn of the century. Despite our best efforts, the prevalence of NCD and NCD risk factors continue to rise in Malaysia. The proportion of undiagnosed diabetics and hypertensive patients in the community is also high, even with the increasing availability and accessibility to health screenings.

A situational analysis on NCD prevention and control in Malaysia has shown that most of the programmes and activities on NCD are confined within the public health sector. Also, these programmes and activities appear to be disjointed when it comes to inter-sectoral collaboration. There is also a lack of emphasis on policy and regulatory interventions in creating a health-promoting environment for the Malaysian population. The fact that we live in an obesogenic environment (i.e. an environment that promotes obesity) certainly does not help.

The National Strategic Plan for Non-Communicable Diseases was developed based on current global themes and mandates from the World Health Organization (WHO). It draws references not only from overseas experiences in the prevention and control of NCD and recommendations from WHO, but also from the various "Action Plans" on Non-Communicable Diseases in Malaysia which were developed by experts in the different sectors and disciplines, over the years since the turn of the century.

Now is the time for action. Now is the time to translate what is put into words in documents into practise. Now is the time to operationalise what has been planned. Successful implementation of this Strategic Plan would not be possible without your active participation.

The programmes and activities under NSP-NCD are a combination of strengthening existing ones and establishing several new programmes and activities. There is a need to empower individuals and communities to take on more responsibilities for their own health. Active collaboration and participation of NGOs, professional organisations and civil communities is crucial to achieve this. To start with, each of us must first choose to live in a healthy manner.

The real goal for us a nation is to be a Healthy Nation. Malaysians must be physically, mentally and spiritually fit to live their lives to the fullest. To achieve this goal, we must all work together and be mindful that we are ultimately responsible for our own health and for our future.

A stylized, handwritten signature in dark ink, consisting of a large, sweeping 'L' shape followed by a series of loops and a final horizontal stroke.

Tan Sri Dato' Seri Dr. Mohd. Ismail Merican
Director General of Health Malaysia
Ministry of Health, Malaysia

EXECUTIVE SUMMARY

INTRODUCTION

Cardiovascular diseases, diabetes and their related complications pose a real and significant threat to Malaysia. As a concerted effort to manage this disease at the primary health care level, the National Diabetes Prevention and Control Program was strengthened in the year 2000. Since then, we have made significant progress in the provision of care to our patients, with the establishment of dedicated diabetes service, dedicated diabetes teams and the diabetes resource centres. The time has now come for us to review our progress thus far, and plan towards further improving the health status of our population and expanding the scope of NCD prevention and control, while maintaining current preventive medicine activities, such as promoting the practice of healthy lifestyles and regular screening as well as early risk factor identification and modification.

RATIONALE FOR A NATIONAL STRATEGIC PLAN

It is unfortunate that despite all of the efforts that has been undertaken since the 1990s, the prevalence of NCD and NCD risk factors in Malaysia continues to rise at an alarming rate. A situational analysis on the current NCD prevention and control programmes and activities in Malaysia, using tools provided by WHO, has shown that although Malaysia fulfills most of the indicators, the programmes and activities on NCD are mostly confined within the health sector and appears disjointed when it comes to inter-sectoral collaboration. There is also a lack of policy and regulatory intervention in creating a health-promoting built environment in Malaysia.

At the global and regional level, WHO has already produced several mandates that support the prevention and control of NCD. The documents relevant to Malaysia include:

- i. Global Strategy for the Prevention and Control of Non-Communicable Diseases (2000)
- ii. WHO Framework Convention on Tobacco Control (2003)
- iii. Global Strategy on Diet, Physical Activity and Health (2004)
- iv. Resolution WHA60.23 on Prevention and control of noncommunicable diseases: implementation of the global strategy (2007)
- v. 2008-2013 Action Plan for the Global Strategy for the Prevention and Control of Noncommunicable Diseases (2008)
- vi. Western Pacific Regional Action Plan for Noncommunicable Diseases (2009)

Thus, the NSP-NCD is required for Malaysia to tackle the increasing prevalence of NCD and NCD risk factors more effectively and efficiently. The NSP-NCD will also address the various “deficiencies” in our NCD prevention and control programmes and activities that was noted during the situational analysis.

GUIDING CONCEPTS

The following concepts have been utilised in the formulation of NSP-NCD:

1. Adopting public health concepts particularly from the work of WHO
2. Adopting and adapting the contents all of the various “action plans” on NCD in Malaysia that have been published since the year 2000¹

OBJECTIVES

The general objective of the NSP-NCD is to prevent or delay the onset of CVD and diabetes and their related complications, and to improve their management, thus enhancing quality of life of our population, leading to longer and more productive lives.

The specific objectives are:

1. To raise the priority accorded to NCDs in development work at global and national levels, and to integrate prevention and control of such diseases into policies across all government departments;
2. To establish and strengthen national policies and plans for the prevention and control of NCDs;
3. To promote interventions to reduce the main shared modifiable risk factors for NCDs: tobacco use, unhealthy diets, physical inactivity and harmful use of alcohol;
4. To promote research for the prevention and control of NCDs;
5. To promote partnerships for the prevention and control of NCDs;
6. To monitor NCDs and their determinants, and evaluate progress at the national, regional and global levels.

SEVEN STRATEGIES OF NSP-NCD

The NSP-NCD contains seven strategies:

1. Prevention and Promotion
2. Clinical Management
3. Increasing Patient Compliance
4. Action with NGOs, Professional Bodies & Other Stakeholders
5. Monitoring, Research and Surveillance
6. Capacity Building
7. Policy and Regulatory Interventions

CONCLUSION

The NSP-NCD in Malaysia presents a way to operationalise existing knowledge and current scientific evidence in reducing the burden of CVD and diabetes in Malaysia, while taking into account the national, social, cultural and economic context of Malaysians. It integrates the various frameworks, strategies and action plans addressing specific risk factors and particular diseases into a holistic and definitive approach to NCD prevention and control.

¹ National Strategic Plan For Prevention and Control of Diabetes Mellitus in Malaysia (1999)
Report of the Technical Meeting on National Diabetes Program (2000)
National Workshop on Hypertension Prevention and Control Programme (2001)
Meeting on the Integrated Prevention and Control of Diabetes and Cardiovascular Diseases (2001)
Proceeding – National Workshop on the Stroke Prevention and Control Programme (2001)

1. INTRODUCTION

The prevalence of non-communicable diseases (NCD) and NCD risk factors in Malaysia are increasing at an alarming rate. Although we are making headway in the treatment of chronic diseases, emphasis must also be directed towards primary prevention, early NCD risk factor identification and NCD risk factor intervention (or what is also termed as “clinical preventive services”). Continuing health promotion, especially towards the younger age groups, together with creating a built living environment that supports healthy living, are important in curbing and decreasing the prevalence of NCD; however a more immediate effect can be achieved by targeting intervention at those of highest risk of developing NCD.

In the WHO report “Preventing Chronic Diseases: A Vital Investment”, WHO proposed goal of an additional annual 2% reduction in NCD death rates worldwide between 2005-2015, could mean 9.7 million fewer death in the Western Pacific Region during that period.

1.1 NATIONAL HEALTH GOALS, PRIORITIES & CHALLENGES

The new thrust in the Ninth Malaysia Plan (2006-2010) is “towards achieving better health through consolidation of services”. The emphasis is on sustainability and not on reducing the current health services. There is also a focus on wellness, upgrading and maintenance of existing facilities and equipment, and the quality of healthcare. Two primary and four supporting health goals are set to ensure more efficient and equitable health are being provided. National health priorities are set to target a few selected diseases and risk factors.

Primary goals:

- Prevent and reduce disease burden
- Enhance healthcare delivery system

Supporting goals:

- Optimise resources
- Enhance research and development
- Manage crisis and disasters effectively
- Strengthen health information management system

Beyond ensuring what have been carried out in the Eight Malaysia Plan will be maintained, the Ninth Malaysia Plan also gave more emphasis in reducing the prevalence of the following top disease priorities and its related risk factors:

- Ischaemic heart diseases
- Mental illness
- Cerebrovascular diseases and stroke
- Road traffic injuries
- Cancers
- Asthma and chronic obstructive pulmonary diseases
- Diabetes mellitus
- Infectious diseases of major public health problems, such as dengue, HIV/AIDS etc.

The risk factors that shall be given more emphasis are:

- Tobacco
- Blood pressure

- Overweight
- Cholesterol
- Physical inactivity
- Stress
- Alcohol
- Other factors which influence the infectious diseases of major public health concern.

In achieving the Vision for Health and the Mission of the Ministry of Health, the activities carried out by the health sector shall be in line with the eight goals of the health services i.e. wellness focus, personalised information, person focus, self-care, seamless care, customised care, high quality care and care close to home. The Vision for Health empowers individuals, families and communities, emphasises wellness and care as well as achieving an enhanced quality of life. Maintaining wellness has been identified as the way forward for the Malaysian health system and the wellness paradigm is the foundation in the design and planning of healthcare in the country.

In the yet to be published Malaysian National Health Policy (MNHP), there are three policy objectives:

MNHP1 : To improve the health status and quality of life of the Malaysian population through lifelong wellness and reducing the levels of morbidity and mortality i.e. overall disease burden.

MNHP2 : To improve the capacity of the Malaysian health sector through stakeholder participation and optimising use of resources in a more effective manner.

MNHP3 : To improve the Malaysian health industry's innovativeness and competitiveness in the local, regional and global health arena.

One specific policy directly addresses NCD:

MNHP1.1 : The disease burden attributed to leading NCD such as ischaemic heart disease, cancers, cerebrovascular diseases, asthma and diabetes shall be decreased by at least 10% respectively over the next 15 years, without neglecting other non-communicable diseases.

1.2 NCD EPIDEMIC IN MALAYSIA

In Malaysia, NCD (cardiovascular diseases, diabetes, cancer, mental illness and injury related conditions) are the major health burden of the country. According to the Disease Burden Study conducted in the year 2004 (using 2000 data) that took into account both mortality and morbidity, the eight leading burden of disease in Malaysia, ranked from the highest to the lowest are ischaemic heart disease followed by mental illness, cerebrovascular disease/stroke, road traffic injuries, cancers, asthma & chronic obstructive pulmonary diseases, diabetes mellitus and certain infectious diseases of major public health problems such as dengue, HIV/ AIDS and others.

Current data also shows that NCD and NCD risk factors are increasing at an alarming rate in Malaysia, as evidenced by the two latest main nationwide population-based surveys:

- i. The Third National Health and Morbidity Survey 2006
- ii. The First Malaysian NCD Risk Factor Survey 2005/2006

1.3 MALAYSIA'S RESPONSE TO THE EPIDEMIC

In Malaysia, diabetes was chosen as the entry point in our action for NCD prevention and control. Efforts first started in late 1980s, following the publication of the findings of the First National and Health Morbidity Survey (NHMS I) in 1986. The turning point came during a meeting on the National Diabetes Programme held in Ipoh in January 2000. The objectives of this meeting were to: (i) review the existing organisation of the National Diabetes Programme; (ii) to review the existing services at various service levels; (iii) to prepare operational and services policies and training manuals; (iv) to improve record, monitoring, surveillance, evaluation and as well as (v) to review and propose appropriate health promotion and health education materials and activities. The outcome of this meeting was then presented at the KPK Khas meeting (Special Meeting with the Director General of Health) on 10 February 2000. The proposal was accepted in principal with some modifications.

However, it is also important to acknowledge that traditional approaches that target single diseases are inadequate to prevent and control NCD. The development of a comprehensive, integrated approach that targets all major common NCD risk factors for cardiovascular diseases (CVD) and diabetes are therefore crucial. Acknowledging the need and importance of such integration, Malaysia welcomed the WHO regional mandate, the 'Regional Plan for Integrated Prevention and Control of Cardiovascular Diseases and Diabetes For the Western Pacific Region 1998-2003', with customisation to suit local needs. Subsequently, a meeting on 'The Integrated Prevention and Control of Diabetes and Cardiovascular Diseases' was held in Awana Genting in October 2002, jointly organised by MOH and WHO. The objectives of this meeting were to develop national policies, identify appropriate strategies and to formulate a plan of action for the Integrated Prevention and Control of CVD and Diabetes.

2. POLICY STATEMENT

Prevention, control and management of Cardiovascular Disease and Diabetes will be made accessible for all population with participation in partnership with various stakeholders and integrated into the social, economic and environmental systems to establish a robust platform for effective reduction of these diseases.

3. OBJECTIVES

3.1 GENERAL OBJECTIVE

To prevent or delay the onset of CVD and diabetes, and their related complications, and to improve their management, thus enhancing quality of life of our population, leading to longer and more productive lives.

3.2 SPECIFIC OBJECTIVES

Objective 1

To raise the priority accorded to NCD in development work at global and national levels, and to integrate prevention and control of such diseases into policies across all government departments

Objective 2

To establish and strengthen national policies and plans for the prevention and control of NCD

Objective 3

To implement interventions to reduce the main shared modifiable risk factors for NCD: tobacco use, unhealthy diet, physical inactivity and harmful use of alcohol

Objective 4

To promote research for the prevention and control of NCD

Objective 5

To promote partnerships for the prevention and control of NCD

Objective 6

To monitor NCD and their determinants, and evaluate progress at the national, regional and global levels

4. STRATEGIC APPROACH FOR MALAYSIA

WPRO WHO recognises seven strategic action areas (Figure 1) along an intervention pathway that corresponds to the NCD causation pathway, and is recommending a comprehensive approach that simultaneously seeks to effect change at three levels i.e.:

1. At the environmental level, through policy and regulatory interventions;
2. At the level of common and intermediate risk factors, through population-based lifestyle interventions; and,
3. At the level of early and established disease, through clinical interventions targeted at high-risk individuals.

In addition, advocacy, research, surveillance and evaluation, leadership, inter-sectoral partnerships and community mobilisation, and health systems strengthening underpin each of these levels where action is needed.

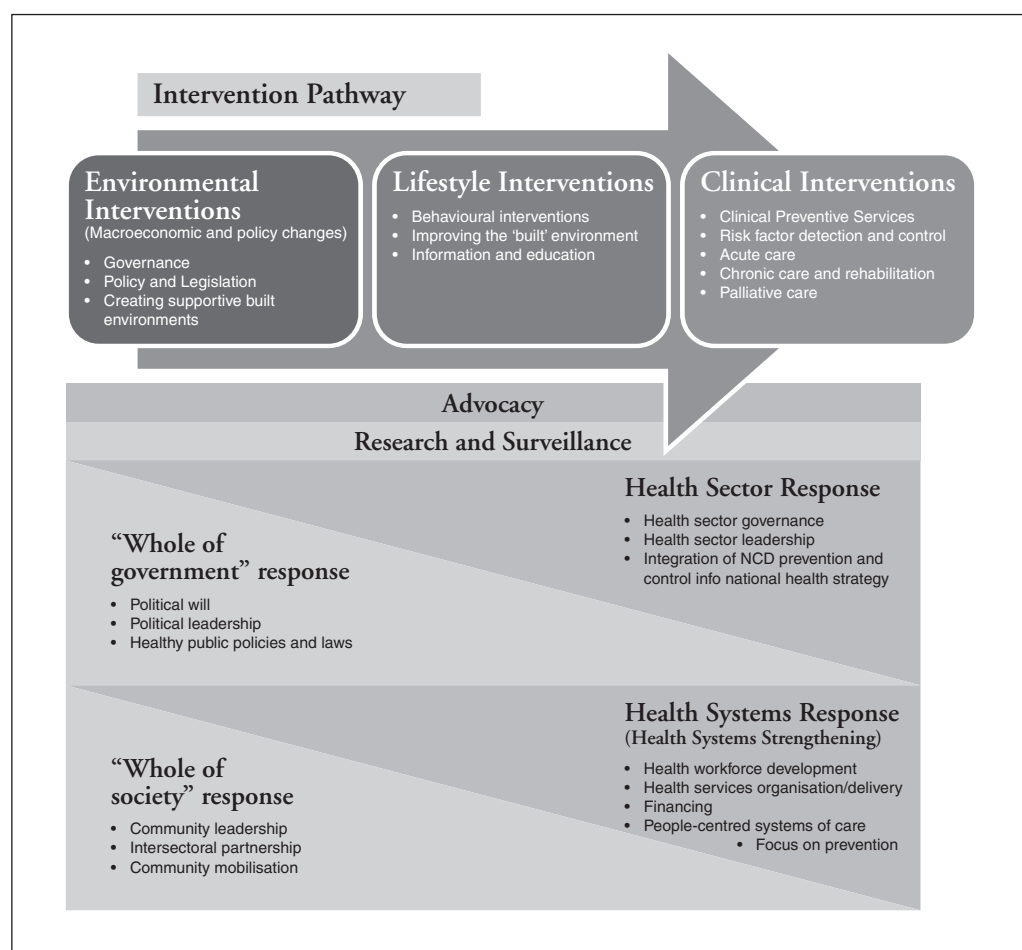


Figure 1 WPRO WHO Seven Strategic Action Areas for the Prevention and Control of NCD

Environmental (macroeconomic, structural and policy) interventions address the broad determinants of NCD risk. Lifestyle interventions impact on the common modifiable risk factors, and, to a certain extent, the intermediate risk factors for chronic disease. Clinical interventions effect change at the level of intermediate risk factors and overt disease. Environmental and lifestyle interventions target the entire population, while clinical interventions target high-risk individuals. Surveillance, research and advocacy are needed throughout the risk continuum, as they fulfill an essential supporting function to the other action areas.

Action on the broad determinants largely fall outside of the direct reach of the health sector, but the health sector plays a role in advocacy and partnering with other sectors to effect change. Thus, the set of interventions on the left side of the intervention pathway requires a predominantly ‘whole of government’ and ‘whole of society’ approach. On the other end of the intervention pathway, clinical interventions rely heavily on the health system for service delivery. Population-based lifestyle interventions represent an area of overlap, requiring both a “whole of government /society” approach and health system involvement.

In reality, governmental and societal action at the macro level has impacts on clinical practices, and, correspondingly, the health sector plays a role in determining policies at the macro level; the diagram attempts to portray the relational dynamics of these two approaches. Hence, to address the entire spectrum of chronic disease causation, political/community leadership, inter-sectoral partnerships, community mobilisation and health systems strengthening are critical.

This framework emphasises the requirement for comprehensive approaches that encompass and address the various levels of determinants and risks for NCD. It highlights the importance of a balance between “healthy choices” and “healthy environments” because it recognises that supportive environments are needed to empower healthy choices. It also re-distributes responsibility across the whole of society, with government, health sector, the private sector, non-governmental organisations, communities, families and individuals all sharing accountability for putting in place the necessary elements that promote healthy lifestyles and quality care for NCD.

5. SEVEN STRATEGIES FOR MALAYSIA

National policies in sectors other than health have a major bearing on the risk factors for NCD because the broad determinants of NCD largely fall outside of the health domain. The health sector however plays a role in advocacy and partnering with other sectors to effect change. In order to achieve behavioural change, a built environment that supports healthy living is essential to empower healthy choices. Actions must also utilise a life-course approach, starting with maternal health and pre-natal nutrition, pregnancy outcomes, exclusive breastfeeding, and child and adolescent health, reaches children at schools, adults at workplaces and other settings, and the elderly; and encourages a healthy diet and regular physical activity from young into old age.

In line with the seven strategic action areas contained in the Western Pacific Regional Approach to Operationalise the Global Action Plan for the Prevention and Control of NCD, Malaysia's own framework for operationalising the National Strategic Plan for Non-Communicable Diseases will be based on the following **Seven Strategies**:

1. Prevention and Promotion
2. Clinical Management
3. Increasing Patient Compliance
4. Action with NGOs, Professional Bodies & Other Stakeholders
5. Monitoring, Research and Surveillance
6. Capacity Building
7. Policy and Regulatory Interventions

A myriad of stakeholders have to be actively involved, both in creating policies and legislations to create a health promoting built environment and also in implementing the programmes to prevent and control NCD in Malaysia, as listed below:

1. Ministry of Health
2. Private clinics, private hospitals and all health care facilities under other various departments and ministries
3. Ministry of Education
4. Ministry of Higher Education
5. Ministry of Youth and Sports
6. Ministry of Agriculture and Agro-based Industry
7. Ministry of Transport
8. Ministry of Information
9. Ministry of Domestic Trade, Co-operatives and Consumerism
10. Ministry of Housing and Local Governments
11. Ministry of Women, Family and Social Affairs
12. Ministry of Rural and Regional Development, Malaysia
13. Ministry of Human Resources
14. Professional organisations and bodies related to health, physical activity, exercise and healthy eating
15. Non-governmental organisations related to health, physical activity, exercise and healthy eating

16. Community-based organisations
17. Private media sector, advertising sector and industries
18. Foods, drinks and food-service industries
19. Physical activity industries

5.1 STRATEGY ONE: PREVENTION AND PROMOTION

Health promotion continues to play a pivotal role in the prevention of NCD. Media and social marketing to promote healthy lifestyles and to increase knowledge and awareness of NCD risk factors will be strengthened. Current workplace-based and community-based demonstration programmes to empower individuals at high risk or with chronic diseases to develop health literacy, take on self-care responsibilities and become a resource for themselves and others in disease prevention and management will be further expanded. NCD prevention and control interventions will be incorporated into the 'Healthy Settings' approach; this will include expanding the school health services to include nutrition and exercise promotion, cardiovascular risk and early intervention.

Key Activities

1. Strengthening existing content & creating new content for health promotion addressing the main diabetes (NCD) risk factors; unhealthy eating and physical inactivity (other NCD risk factors will also be included). The main messages are:
 - i. Increase the awareness of overweight and obesity as a major public health threat
 - ii. Inculcate healthy eating habits among Malaysians
 - iii. Inculcate active living (physical activity) / exercise among Malaysians
 - iv. Increase the awareness of other NCD risk factors and importance of early and regular screenings (family history, smoking status, mental stress, alcohol abuse, dyslipidaemia, hypertension and elevated blood glucose)
 - v. Increase the awareness of Malaysians on total cardiovascular risks
2. Intensifying media campaigns using television, radio and printed media, and use of new approaches (e.g. via social networking on the internet).
3. Strengthening of the School Health programmes to include a component involving the family and community, in both health education and health-promoting activities, with emphasis on:
 - i. Increase and re-orient physical education in the curricula
 - ii. Promote extracurricular physical activity
 - iii. Improve access to healthy food at schools
 - iv. Increase barrier to unhealthy food at schools
 - v. School-based NCD risk factor screening & intervention

This includes strict enforcement of existing healthy food policies and provisions at schools and school canteens. The Ministry of Health needs to revise existing and develop new guidelines, manuals and training modules for all of the activities.

4. Strengthening of the Workplace-based Health programmes, in both health education and health-promoting activities, with emphasis on:
 - i. Promoting physical activity
 - ii. Improve access to healthy food & increase barrier to unhealthy food
 - iii. Workplace-based NCD risk factor screening & intervention
5. Strengthening of the Community-based Health programmes, in both health education and health-promoting activities, with emphasis on:
 - i. Promoting physical activity
 - ii. Improve access to healthy food & increase barrier to unhealthy food (e.g. Kafeteria Sihat and Pasaraya Sihat, or Healthy Cafeteria and Healthy Supermarket)
 - iii. Community-based NCD risk factor screening & intervention

5.2 STRATEGY TWO: CLINICAL MANAGEMENT

This involves strengthening health service delivery system, at primary and secondary levels, clinical practice guidelines and evidence-based decision support tools to ensure the appropriate and timely screening, diagnosis and treatment of chronic diseases.

Key Activities

1. To ensure that all health facilities are equipped with the minimum clinical equipments and tools for assessment and management of diabetes, obesity and other NCD risk factors, as specified in SOPs. This includes increasing the coverage of laboratory investigations.
2. Create a system for supervision of all medical practitioners in appropriate and quality clinical management (diabetes and its related complications), to ensure in-line with CPGs and related SOPs:
 - i. Direct observation of work processes
 - ii. Review of case notes
3. Increase the usage of CPGs and SOPs by continuous professional development for all health care personnel involved with patient care. And increase the availability and ease of use of CPGs and SOPs by creating different formats.
4. Reinforcement of importance of screening for diabetes-related complications:
 - i. Screening done as per CPG
 - ii. Regular training and reinforcement of messages for all health practitioners
5. Strengthen obesity (and other NCD risk factors) intervention programmes at all levels of care.
6. Strengthening & expansion of the rehabilitation services of diabetes related complications (e.g. stroke, amputees) at all levels (including community level).

5.3 STRATEGY THREE: INCREASING PATIENT COMPLIANCE

Patients with chronic diseases play a major role in managing their chronic diseases and influencing the level of control and outcome. It is important to establish a partnership between patients and their families together with the health care teams. The traditional role of patients as passive recipients of health no longer holds true.

Self-management programmes have been shown to reduce the severity of symptoms, improve confidence, resourcefulness and self-efficacy of patients with chronic diseases. It should therefore be advocated and supported through effective patient education. Health care workers must ensure that patients and their families have adequate information and skills to manage their chronic conditions. This concept highlights a new paradigm in the current clinical practice because it requires effective communication skills, behavioural change techniques, patient education and counselling skills of health care professionals and workers to care for patients with NCD.

Key Activities

1. Development of inter-personal health education programmes at all MOH health care facilities.
2. Development of self-guided intervention packages to help patients with NCD and NCD risk factors and their families to monitor and manage their disease or condition.
3. Ensure that all health facilities have an NCD Resource Centre, staffed by appropriately trained diabetes educators or suitably trained health care personnel, and equipped with equipments, tools and IEC materials as specified in SOP / guidelines.
4. Specifically for diabetes, making available subsidised glucometers for Self Monitoring of Blood Glucose (SMBG).

5.4 STRATEGY FOUR: ACTION WITH NGOS, PROFESSIONAL BODIES & OTHER STAKEHOLDERS

Population-based lifestyle interventions require a ‘whole-of-society’ response. Political and community leadership, partnerships and community mobilisation are essential to ensuring acceptance and popular support for NCD prevention and control. The underlying determinants of NCD are outside of the exclusive purview of the health sector, and partnerships across sectors are necessary to effectively address these determinants. Resources for prevention and control are limited; partnerships and collaboration can facilitate resource leveraging to augment national health budgets for chronic diseases. Furthermore, policy and population based interventions require the cooperation and acceptance of society. Finally, the people-centred health care framework promotes empowering communities and individuals to fully participate in health decision-making, and this principle is particularly relevant in the control and prevention of chronic diseases.

Key Activities

1. Foster multi-sectoral partnerships and encourage stakeholder participation in developing, implementing and evaluating NCD prevention and control interventions.
2. Develop and implement an advocacy campaign that is consistent with and supportive of the national action plan for NCD prevention and control.
3. Actively advocate to national, state, district and local community leaders, and other partners (e.g. industries), to enhance their awareness of the magnitude of the NCD burden, to engender their commitment for instituting effective measures to prevent and control chronic diseases and their risk factors, and to ensure the inclusion of relevant strategies into policies and agreements.
4. Coordination with all relevant stakeholders for the implementation of programmes and activities at the grass root level, which includes health camps, seminars, workshops, talks and other training programmes.
5. Identification and involvement of all relevant stakeholders in strengthening Community-based health programmes in the promotion of healthy diet and physical activity.
6. Continue to collaborate with the food industries (including food technologists and retailers) to increase the production and promotion of low fat, low sugar foods.
7. Intensify physical activity programmes in the community e.g. brisk walking & exercise groups.
8. Continue to establish partnerships with the media and advertising industries to promote the messages of healthy eating and being active, together with factual information on obesity and weight reduction. This includes engaging presenters/hosts and celebrities to use the 'celebrity status' as 'role models' for healthy eating and being physically active.

5.5 STRATEGY FIVE: MONITORING, RESEARCH AND SURVEILLANCE

Research and surveillance perform a vital function across the intervention pathway for NCD prevention and control. Research into the economic costs of NCD, the cost-effectiveness and cost-benefits of prevention strategies, and other health economics analyses supply powerful arguments for instituting policy and regulatory interventions to reduce NCD burden. Prevalence studies for both risk factors and chronic disease conditions provide critical information on which to base priority setting and the selection of specific population and clinical interventions for particular communities and target groups. Surveillance data, collected over time, also give an indication of the effectiveness of interventions on population risk factor and disease end-points.

Evaluation studies complement surveillance data by examining efficacy, cost-effectiveness and impact more thoroughly. Behavioural studies and applied research, including community-based participatory research, result in greater understanding of the behavioural change process, which is fundamental to prevention. Medical studies offer the evidence

base for clinical approaches to disease management. For greatest utility, research across communities and countries should utilise standardised methodologies, instruments, and indicators, to permit comparisons and broad applicability of lessons learned.

Key Activities

1. Implement a system to monitor degree of control and quality of management of diabetes patients at health care facilities.
2. Nation-wide implementation of a National Diabetes Registry.
3. Nation-wide implementation of Behavioural Surveillance Survey (BSS) on healthy eating habits, level of physical activity and exercise of Malaysians. BSS will form one of the two backbones for the monitoring and evaluation on the progress and effectiveness of NSP-NCD.
4. Nation-wide implementation of NCD Risk Factor Surveillance, looking at selected NCD and NCD risk factors amongst Malaysians. Together with the BSS, it will form the mechanism for the monitoring and evaluation on the progress and effectiveness of NSP-NCD.
5. Encourage research in Diabetes, Obesity and NCD risk factors, including aspects of:
 - i. Health economics of population-based interventions
 - ii. Novel approaches for behavioural modifications
 - iii. Novel approaches for clinical management

5.6 STRATEGY SIX: CAPACITY BUILDING

There is a need to continually improve the skills, knowledge and attitude of all health care personnel, both in primary care and hospital settings, to deal with the challenge of chronic disease management. This can be done through continuous professional development training courses, conducted especially at the local level. Availability of trained paramedics is critical to support successful implementation of NCD management programmes. There should be a constant effort to increase the number of nurses and assistant medical officers especially trained in the management of NCD.

In addition, members of other stakeholders involved will also need to be adequately trained to enable them to become active partners with the MOH and actively advocate for the prevention and control of NCD in the various settings of schools, workplaces and the community.

Key Activities

1. Training of all categories of health care staff for health promotion and prevention in the following areas:
 - i. Healthy eating
 - ii. Staying active (physical activity / exercise)
 - iii. Obesity
 - iv. Smoking cessation
 - v. Screening of NCD risk factors (including total cardiovascular risks)

2. Training of teachers and members of Parents-Teachers Association to raise awareness of the issue of increasing obesity and other NCD risk factors in children (under School Health Programme), with emphasis on:
 - i. NCD risk factors (in particular obesity)
 - ii. Prevention and management of childhood obesity
 - iii. Healthy eating & physical activity / exercise

This includes additional training for implementation of school-based programmes for NCD risk factor management. MOH is responsible for producing the necessary guidelines, manuals and training modules.

3. Training of members of the community in healthy eating, physical activity and exercise, obesity and total cardiovascular risk (NCD risk factors). Panel Penasihat Kesihatan could be used as the starting point. NGOs will also feature prominently. To identify core group of trainers (can be members of the community and NGOs). This includes additional training for implementation of community-based programmes for NCD risk factor management. MOH is responsible for producing the necessary guidelines, manuals and training modules.
4. Training of employers to raise awareness on prevention and control of diabetes and obesity (and other NCD risk factors), with emphasis on:
 - i. Economics of a healthy workforce
 - ii. Prevention and management of obesity (and other NCD risk factors)

This includes additional training for implementation of work-place based programmes for NCD risk factor management. MOH is responsible for producing the necessary guidelines, manuals and training modules.

5. Conduct courses for media workers, particularly copywriters and TV/radio hosts to promote health and counter misinformation. Core group of trainers to be identified. MOH is responsible for producing the necessary guidelines, manuals and training modules.

5.7 STRATEGY SEVEN: POLICY AND REGULATORY INTERVENTIONS

Malaysia has in place many policy recommendations relevant to NCD prevention and control as listed below:

- a. National Nutrition Policy and the National Plan of Action for Nutrition of Malaysia (2006-2015)
- b. Food Act 1983 and Food Regulations 1985
- c. National Sports Policy
- d. Agriculture Policy
- e. Strategy for the Prevention of Obesity - Malaysia
- f. National Adolescent Policy
- g. National Policy for Elderly
- h. National Health Policy for Elderly
- i. Convention on the Rights of the Child
- j. National Policy for Women

- k. National Youth Policy
- l. Education Act 1996

Opportunities to merge NCD prevention and control into related health and non-health policy areas, such as those that address urban development (e.g. Healthy Cities), poverty alleviation, and sustainable development needs to be identified and utilised. There is also a need to establish economic policies that reinforce healthy lifestyle choices through pricing, taxation, subsidies and other market incentives.

Key Activities

1. Adopt and fully implement existing policy recommendations relevant to NCD prevention and control.
2. Development of a National Physical Activity Policy together with the Ministry of Youth and Sports. This may involve reviewing the National Sports Policy (1988) to meet the objectives of NSP NCD.
3. Incorporate nutrition and physical activity policy statements and programmes in the development plans of all relevant ministries and agencies.
4. Promotion of availability of fresh local fruits and vegetables, via subsidies for farmers, and to hold more regular fairs (e.g. Malaysian Agriculture, Horticulture & Agrotourism (MAHA) show in all states).
5. To continue to regulate and decrease the content of salt and sugar in all processed food and drink, via regulations and self-regulation by industries.
6. To increase the availability of facilities in the community to promote physical activity and exercise in a safe environment, e.g. public parks, public sports complexes, jogging and cycling paths, and public gymnasiums.
7. Expansion of an efficient public transport system throughout Malaysia, and policies to limit the use of private transportation in the city centres to promote the use of public transport which will encourage physical activity.
8. Expansion of the compulsory regular NCD risk factor screening for all employees age 40 years and above.

5.8 ROLES FOR KEY GOVERNMENT MINISTRIES

The roles of other key ministries in Malaysia are outlined in Table 1 below. They all have to be actively involved, both in creating policies and legislations to create a health promoting built environment and also in implementing the programmes to prevent and control NCD in Malaysia.

Table 1 Roles For Key Ministries

No.	Ministry	Possible role in NCD prevention and control
1.	Ministry of Education	• Health education and promotion on NCD and NCD risk factors in schools • Enforcement of health-promoting environments • School-based NCD risk factor intervention programmes
2.	Ministry of Higher Education	• Health education and promotion on NCD and NCD risk factors in institutes of higher learning • Enforcement of health-promoting environments • Institution-based NCD risk factor intervention programmes • Research on Behavioural determinant on NCD risk factors
3.	Ministry of Youth and Sports	• Promotion of physical activity and exercise in the community as a component of NCD risk factor intervention, in terms of expertise, public facilities and programmes in the community and workplaces
4.	Ministry of Agriculture and Agro-based Industry	• Increase the availability of fresh vegetables and fruits to Malaysians at affordable prices to increase consumption
5.	Ministry of Information, Communication, Arts and Culture	• Media campaigns on NCD prevention & control • Regulation of advertisements on unhealthy food/drinks, in particular targeting children
6.	Ministry of Domestic Trade, Co-operatives and Consumerism	• Promotion of 'healthier food/drink' as the affordable and better alternatives for Malaysians • Putting up barriers to unhealthy food/drinks, via regulations fiscal measures
7.	Ministry of Housing and Local Governments	• Enforcement of existing policies and regulations that creates a healthier living environment that promotes physical activity and exercise
8.	Ministry of Transport	• Expansion of an efficient public transport system throughout Malaysia, and policies to limit the use of private transportation in the city centres to promote the use of public transport which will encourage physical activity

No.	Ministry	Possible role in NCD prevention and control
9.	Ministry of Women, Family and Social Affairs	• Promotion of community participation in community-based NCD risk factor intervention programmes and implementation of these programmes
10.	Ministry of Rural and Regional Development, Malaysia	• Promotion of community participation in community-based NCD risk factor intervention programmes and implementation of these programmes
11.	Public Services Department	• Enforcement of compulsory health screenings for all government servants as per criteria • Utilisation of obesity status and other related health status as a criteria for employment and promotion in the government sector
12.	Ministry of Human Resources	• Expansion of the policies enforced by the Public Services Department as described above towards the private sector

6 MONITORING AND EVALUATION OF NSP-NCD

Epidemiological data from developed countries have shown that changes in the prevalence of NCDs such as diabetes and hypertension occur over a period of 10 to 15 years after intervention. While we need to continue to monitor the prevalence of selected NCD and NCD risk factors in Malaysia at close and regular intervals, process measures will also be required to monitor the implementation of the many action plans executed by the various stakeholders.

In addition, a more immediate outcome measure in the form of positive changes in behaviour towards healthy eating and increased levels of physical activity and exercise amongst Malaysians can be monitored via Behavioural Surveillance Survey (BSS). The Malaysian National Health and Morbidity Surveys (NHMS) are done every ten years. This interval is too long to closely monitor the progress of NSP-NCD. Therefore, a smaller nation-wide survey looking at NCD and NCD risk factors conducted every two years using a smaller sample size will augment the NHMS. The indicators are summarised in **Table 2** below:

Table 2 Indicators For Monitoring And Evaluation Of NSP-NCD

No.	Type of indicator	Type of indicator	Implementing agency	Frequency
1.	Process	Indicators and targets to be determined by all stakeholders to directly monitor the implementation of their various programmes and activities (e.g. number of activities, coverage of activities, number of participants etc.)	Each respective stakeholders	Annually
2.	Outcome	Behavioural Surveillance Survey: behaviours related to healthy eating, level of physical activities / exercise and regular health screenings	Institute of Health Behavioural Research	Every two years
3.	Outcome	NCD Risk Factor Surveillance: selected NCD and NCD risk factors	Institute of Public Health	Every two years

Two of the indicators from the NCD Risk Factor Surveillance will be used as **the main indicators** and shall be the Key Performance Index (KPI) for the Ministry of Health i.e. prevalence of obesity and diabetes. The indicators and targets are shown in **Table 3** below.

Table 3 Key Performance Index For NSP-NCD In Malaysia

No.	NHMS III (2006)	Proposed Target* (2016)
Age group	≥18 years	≥18 years
Diabetes Mellitus	11.6%	<13.6%
Age group	≥18 years	≥18 years
Obesity (BMI ≥27.5kg/m²)	26.2%	<33.7%

* **Note on projections** (conservative estimates) up to year 2016 with the implementation of NSP-NCD. The estimates are made on the assumption that the rate of increase in prevalence will be halved with effective intervention of NSP-NCD:

- i. Diabetes: Increase in prevalence of **0.2%** per year
- ii. Obesity: Increase in prevalence of **0.75%** per year

7 OPERATIONALISING THE STRATEGIES

Implementation of the NSP-NCD requires the engagement of all relevant stakeholders from within the government, non-governmental and private sectors. It is important to acknowledge that a substantial portion of the activities in this national strategic plan out outside the mandate of Ministry of Health. Therefore an integrated approach is essential for effective implementation of the plan.

At the highest and national level, NSP-NCD proposes the creation of a “Cabinet Committee for A Health Promoting Environment”, chaired by The Right Honourable Deputy Prime Minister of Malaysia. The proposed terms of reference of this committee is shown in **Table 4**, while the proposed composition of this committee is shown in **Table 5**.

Table 4 Proposed Terms Of Reference, “Cabinet Committee for A Health Promoting Environment”

No.	Terms of Reference
1.	To determine policies that creates a living environment which supports positive behavioural changes of the population towards healthy eating
2.	To determine policies that creates a living environment which supports positive behavioural changes of the population towards active living

Table 5 Proposed Composition, “Cabinet Committee for A Health Promoting Environment”

No.	Membership of Committee
1.	Deputy Prime Minister (Chairman)
2.	Minister of Health
3.	Minister of Education
4.	Minister of Information, Communication, Arts and Culture
5.	Minister of Rural and Regional Development
6.	Minister of Agriculture and Agro-based Industry
7.	Minister of Youth and Sports
8.	Minister of Human Resource
9.	Ministry of Domestic Trade, Co-operatives and Consumerism
10.	Minister of Housing and Local Governments
11.	Minister of Women, Family and Social Affairs

Secretariat: Disease Control Division, Ministry of Health

7.1 STRATEGY ONE: PREVENTION & PROMOTION

No.	Programmes/Activities	Proposed progress indicators & Target
1.	Strengthening existing content & creating new content for health promotion addressing the main diabetes (NCD) risk factors; unhealthy eating and physical inactivity (other NCD risk factors will also be included) Main messages: i. Increase the awareness of overweight and obesity as a major public health threat ii. Inculcate healthy eating habits among Malaysians iii. Inculcate active living (physical activity) / exercise among Malaysians iv. Increase the awareness of other NCD risk factors and importance of early and regular screenings (family history, smoking status, mental stress, alcohol abuse, dyslipidaemia, hypertension and elevated blood glucose) v. Increase the awareness of Malaysians on total cardiovascular risks	Number of new content made available annually
2.	Media campaigns using television, radio and printed media: i. Use of appropriate media ii. Increase frequency (repetitive) iii. Focused messages (see item (1) above)	Optimum frequency by type of media
3.	Use of new approaches for media campaigns e.g. through children's programmes content, or internet (in particular YouTube and social networking applications e.g. Facebook)	Optimum frequency by type of media
4.	Strengthening of the School Health programme to include a component involving the family and community, in both health education and health-promoting activities, with emphasis on: i. Increase and re-orient physical education in the curricula ii. Promote extracurricular physical activity iii. Improve access to healthy food at schools (e.g. Kantin Sihat) iv. Increase barrier to unhealthy food at schools v. School-based NCD risk factor screening & intervention (particularly obesity)	All activities under the School Health programme have updated guidelines, manuals and training modules Number of schools implementing an NCD risk factor intervention programme

No.	Programmes/Activities	Proposed progress indicators & Target
5.	Strengthening of the Workplace-based Health programme, in both health education and health-promoting activities, with emphasis on: i. Promoting physical activity ii. Improve access to healthy food & increase barrier to unhealthy food iii. Workplace-based NCD risk factor screening & intervention	All activities under the Workplace-based Health programme have updated guidelines, manuals and training modules Number of workplaces implementing an NCD risk factor intervention programme
6.	Expansion and strengthening of community-based demonstration health programmes or projects in both health education and health-promoting activities, with emphasis on: i. Promoting physical activity ii. Improve access to healthy food & increase barrier to unhealthy food iii. Community-based NCD risk factor screening & intervention	All activities under the Community-based Health programme have updated guidelines, manuals and training modules Number of community-based NCD risk factor intervention programme per district

7.2 STRATEGY TWO: CLINICAL MANAGEMENT

No.	Programmes/Activities	Proposed progress indicators & Target
1.	To ensure that all health facilities are equipped with the minimum clinical equipments and tools for assessment and management of diabetes, obesity and other NCD risk factors, as specified in SOPs. This includes increasing the coverage of laboratory investigations	Completeness of investigations for diabetes patients via Diabetes Clinical Audit
2.	Create a system for supervision of all medical practitioners in appropriate and quality clinical management (diabetes and its related complications), to ensure in-line with CPGs and related SOPs: i. Direct observation of work processes ii. Review of case notes Use of sampling methodology, with a written report of findings and remedial actions done at regular intervals	System in place Annual report from states, annually
3.	Increase the usage of CPGs by transforming messages contained in the Diabetes and Obesity CPG (and other relevant and related CPGs) into different formats that are more user friendly (e.g. desktop versions, table calendar, table flipcharts)	New formats made available
4.	Reinforcement of importance of screening for diabetes-related complications: i. Screening done as per CPG ii. Regular training and reinforcement of messages for all health practitioners	Number of training sessions conducted annually
5.	Strengthening obesity (and other NCD risk factors) intervention programme at all levels of care (e.g. weight management)	Number of facilities with the obesity intervention programmes
6.	Strengthening & expansion of the rehabilitation services of diabetes related complications (e.g. stroke, amputees) at all levels (including community level) This includes development of SOPs / guidelines / manuals / training modules for health facilities and community level	Number of facilities with rehabilitation services

7.3 STRATEGY THREE: INCREASING PATIENT COMPLIANCE

No.	Programmes/Activities	Proposed progress indicators & Target
1.	Expansion of the coverage of inter-personal health education programmes, including diet consultations, at all MOH health care facilities	Coverage of inter-personal health education programmes at MOH health care facilities
2.	Development of self-guided intervention packages to help patients with NCD and NCD risk factors and their families to monitor and manage their disease or condition	Audit of the use of these 'self-monitoring' booklet or self-guided intervention packages
3.	Ensure that all health facilities have an NCD Resource Centre, staffed by appropriately trained diabetes educators or suitably trained health care personnel, and equipped with equipments, tools and IEC materials as specified in SOP / guidelines	Number of health facilities with NCD Resource Centres
4.	Specifically for diabetes, making available subsidised glucostrips for Self Monitoring of Blood Glucose (SMBG)	Coverage of availability of subsidised glucostrips

7.4 STRATEGY FOUR: ACTION WITH NGOS, PROFESSIONAL BODIES & OTHER STAKEHOLDERS

No.	Programmes/Activities	Proposed progress indicators & Target
1.	Foster multi-sectoral partnerships and encourage stakeholder participation in developing, implementing and evaluating NCD prevention and control interventions	Number of formalised 'partnership agreements' between different sectors
2.	Develop and implement an advocacy campaign that is consistent with and supportive of the national action plan for NCD prevention and control	Implementation of advocacy campaigns
3.	Actively advocate to national, state, district and local community leaders, and other partners (e.g. industries), to enhance their awareness of the magnitude of the NCD burden, to engender their commitment for instituting effective measures to prevent and control chronic diseases and their risk factors, and to ensure the inclusion of relevant strategies into policies and agreements	Inclusion of components of NCD prevention and control in relevant policies
4.	Coordination with all relevant stakeholders for the implementation of programmes and activities at the grass root level, which includes health camps, seminars, workshops, talks and other training programmes	Coverage of programmes and activities on NCD prevention in the community
5.	Identification and involvement of all relevant stakeholders in strengthening Community-based health programmes in the promotion of healthy diet and physical activity	Coverage of community-based health programmes
6.	Continue to collaborate with the food industries (including food technologists and retailers) to increase the production and promotion of low fat, low sugar foods	Availability of healthier choice food for consumers
7.	Intensify physical activity programmes in the community e.g. brisk walking & exercise groups	Number of activities implemented Coverage per population
8.	Continue to establish partnerships with the media and advertising industries to promote the messages of healthy eating and being active, together with factual information on obesity and weight reduction. This includes engaging presenters/hosts and celebrities to use the 'celebrity status' as 'role models' for healthy eating and being physically active	Number of formalised partnerships and agreements

7.5 STRATEGY FIVE: MONITORING, RESEARCH & SURVEILLANCE

No.	Programmes/Activities	Proposed progress indicators & Target
1.	Implement a system to monitor degree of control and quality of management of diabetes patients at health care facilities	Diabetes Clinical Audit: proportion of patients with HbA _{1c} <6.5%
2.	Nation-wide implementation of a National Diabetes Registry	Annual report
3.	Nation-wide implementation of Behavioural Surveillance Survey (BSS) on healthy eating habits, level of physical activity and exercise of Malaysians. BSS will form one of the two backbones for the monitoring and evaluation on the progress and effectiveness of NSP-NCD	Implementation and report published
4.	Nation-wide implementation of NCD Risk Factor Surveillance, looking at selected NCD and NCD risk factors amongst Malaysians. Together with the BSS, it will form the mechanism for the monitoring and evaluation on the progress and effectiveness of NSP-NCD	Implementation and report published
5.	Encourage research in Diabetes, Obesity and NCD risk factors, including aspects of: i. Health economics of population-based interventions ii. Novel approaches for behavioural modifications iii. Novel approaches for clinical management	Number of scientific paper / reports published

7.6 STRATEGY SIX: CAPACITY BUILDING

No.	Programmes/Activities	Proposed progress indicators & Target
1.	Training of all categories of health care staff for health promotion and prevention in the following areas: i. Healthy eating ii. Staying active (physical activity / exercise) iii. Obesity iv. Smoking cessation v. Screening of NCD risk factors (including total cardiovascular risks)	Coverage of training
2.	Training of teachers and members of Parents-Teachers Association to raise awareness of the issue of increasing obesity and other NCD risk factors in children (under School Health Programme), with emphasis on: i. NCD risk factors (in particular obesity) ii. Prevention and management of childhood obesity iii. Healthy eating & physical activity / exercise This includes additional training for implementation of school-based programmes for NCD risk factor management. MOH is responsible for producing the necessary guidelines, manuals and training modules	Coverage of training
3.	Training of members of the community in healthy eating, physical activity and exercise, obesity and total cardiovascular risk (NCD risk factors). To use Panel Penasihat Kesihatan as the starting point. NGOs will also feature prominently. To identify core group of trainers (can be members of the community and NGOs). This includes additional training for implementation of community-based programmes for NCD risk factor management. MOH is responsible for producing the necessary guidelines, manuals and training modules	Coverage of training
4.	Training of employers to raise awareness on prevention and control of diabetes and obesity (and other NCD risk factors), with emphasis on: i. Economics of a healthy workforce ii. Prevention and management of obesity (and other NCD risk factors) This includes additional training for implementation of work-place based programmes for NCD risk factor management. MOH is responsible for producing the necessary guidelines, manuals and training modules	Coverage of training

No.	Programmes/Activities	Proposed progress indicators &Target
5.	Conduct courses for media workers, particularly copywriters and TV/radio hosts to promote health and counter misinformation. Core group of trainers to be identified. MOH is responsible for producing the necessary guidelines, manuals and training modules	Coverage of courses

7.7 STRATEGY SEVEN: POLICY & REGULATORY INTERVENTIONS (TO CREATE SUPPORTIVE ENVIRONMENTS)

No.	Programmes/Activities	Proposed progress indicators & Target
1.	Adopt and fully implement existing policy recommendations relevant to NCD prevention and control	Number of policy recommendations implemented
2.	Development of a National Physical Activity Policy together with the Ministry of Youth and Sports. This may involve reviewing the National Sports Policy (1988) to meet the objectives of NSP NCD	Policy approved by Cabinet Committee
3.	Incorporate nutrition and physical activity policy statements and programmes in the development plans of all relevant ministries and agencies	Inclusion of nutrition and physical activity policies & programmes in development plans
4.	Promotion of availability of fresh local fruits and vegetables, via subsidies for farmers, and to hold more regular fairs (e.g. Malaysian Agriculture, Horticulture & Agrotourism (MAHA) show in all states)	Availability of fresh local fruits and vegetables
5.	To continue to regulate and decrease the content of salt and sugar in all processed food and drink, via regulations and self-regulation by industries	Reaching low target salt and sugar content in all processed food and drinks
6.	To increase the availability of facilities in the community to promote physical activity and exercise in a safe environment, e.g. public parks, public sports complexes, jogging and cycling paths, and public gymnasiums	Coverage of facilities
7.	Expansion of an efficient public transport system throughout Malaysia, and policies to limit the use of private transportation in the city centres to promote the use of public transport which will encourage physical activity	Coverage on the use of public transport via surveys (Audit, or survey using BSS)
8.	Expansion of the compulsory regular NCD risk factor screening for all employees age 40 years and above	Coverage of screening at specified intervals

8 CONCLUSION

The burden of CVD and diabetes in Malaysia is largely an unnecessary burden. The weight of current scientific evidence demonstrates that a significant proportion of NCD and premature deaths from NCD can be averted through prevention, lifestyle modification and the judicious control of a few common risk factors that underlie the major categories of chronic disease.

The NSP-NCD in Malaysia presents a way to operationalise existing knowledge and current scientific evidence in reducing the burden of CVD and diabetes in Malaysia, while taking into account the national, social, cultural and economic context of Malaysians. It integrates the various frameworks, strategies and action plans addressing specific risk factors and particular diseases into a holistic and definitive approach to NCD prevention and control. The Ministry of Health will continue to enhance smart partnerships with other government agencies and other stakeholders to further reinforce CVD and diabetes prevention and control programme and activities in Malaysia.

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