
Municipality of Pateros

Adapted from the WHO Package of Essential Non-communicable Intervention Protocol
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Lastly, to Ms. Ma. Rosario S. Torralba, one of the technical writers who helped in the development of this manual.
### Acronyms and Abbreviations

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
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</thead>
<tbody>
<tr>
<td>BHW</td>
<td>Barangay Health Worker</td>
</tr>
<tr>
<td>BMI</td>
<td>Body Mass Index</td>
</tr>
<tr>
<td>BNS</td>
<td>Barangay Nutrition Scholar</td>
</tr>
<tr>
<td>BP</td>
<td>Blood Pressure</td>
</tr>
<tr>
<td>CeVD</td>
<td>Cerebrovascular Disease</td>
</tr>
<tr>
<td>CHD</td>
<td>Coronary Heart Disease</td>
</tr>
<tr>
<td>CHITS</td>
<td>Community Health Information Tracking System</td>
</tr>
<tr>
<td>CVD</td>
<td>Cardiovascular Disease</td>
</tr>
<tr>
<td>DM</td>
<td>Diabetes Mellitus</td>
</tr>
<tr>
<td>DOH</td>
<td>Department of Health</td>
</tr>
<tr>
<td>ISH</td>
<td>International Society of Hypertension</td>
</tr>
<tr>
<td>LGU</td>
<td>Local Government Unit</td>
</tr>
<tr>
<td>LMIC</td>
<td>Low and Middle Income Countries</td>
</tr>
<tr>
<td>NCD</td>
<td>Non-communicable Disease</td>
</tr>
<tr>
<td>PVD</td>
<td>Peripheral Vascular Disease</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
<tr>
<td>WHO PEN</td>
<td>WHO Package of Essential NCD Interventions</td>
</tr>
</tbody>
</table>
Definition of Terms

**Asthma** – an inflammatory disorder characterized by increased airway hyper-responsiveness manifested by a widespread narrowing of air passages, which may be relieved spontaneously or as a result of therapy. Other clinical manifestations include paroxysm of breathlessness, chest tightness, breathing and coughing.

**Cancer** – growth of abnormal cells in specific parts of the body much faster than normal cells do, thus outliving them and continue to compete for blood supply and nutrients that normal cells need.

**Chronic Obstructive Pulmonary Disease (COPD)** – characterized by airflow limitation that is not fully reversible. It is usually both progressive and associated with abnormal inflammatory response of the lungs to noxious particles or gases.

**Diabetes Mellitus (DM)** – is a group of metabolic diseases characterized by hyperglycemia resulting from defects in insulin secretion, insulin action, or both. The chronic hyperglycemia of diabetes is associated with long-term damage, dysfunction, and failure of various organs, especially the eyes, kidneys, nerves, heart, and blood vessels.

- **Type 1 Diabetes** – usually called juvenile diabetes because it occurs most frequently in children, characterized by absolute lack of insulin due to damaged pancreas, prone to develop ketosis, and dependent on insulin injections. It may result from genetic, environment or may be acquired due to viruses (e.g., mumps, congenital rubella, and chemical toxins – Nitrosamines).

- **Type 2 Diabetes** – it is generally seen in older people although in recent years, more and more young individuals are having it. It is characterized by fasting hyperglycemia despite availability of insulin. Possible causes include impaired insulin secretion, peripheral insulin resistance and increased hepatic glucose production. Usually occurs in older and overweight individuals (80%).

**Elevated Blood Cholesterol** – defined by having cholesterol level higher than normal levels which is either classified as elevated may be at risk (200-239 mg/100 ml) and elevated at risk (≥240 mg/100 ml).

**Hypertension** – a sustained elevation in mean arterial pressure which results from changes in the arterial wall such as loss of elasticity and narrowing of blood vessels, leading to obstruction in blood flow that can damage the heart, kidney, eyes and brain.

**Insulin** – a hormone which finely controls the level of glucose in the body. It works like a key to open the inside of the cell so that glucose can enter. If glucose cannot enter, it cannot provide energy.

**Passive Smoker** – an individual who is exposed to secondhand smoke at home or at the workplace or in any public location.

**Physical Activity** – refers to something that one does at home (e.g., washing of dishes, sweeping the floor, etc.) and things that are done outside the house (e.g., gardening, washing car, etc.) that involve physical movement.

**Risk Factor** – refers to any attribute, characteristic or exposure of an individual which increases the likelihood of developing NCDs. Three common risk factors have been identified to be highly associated as precursors to NCDs: (i) unhealthy diet; (ii) use of tobacco or smoking; and (iii) physical inactivity.

**Screening** – refers to the testing applied to an individual considered to be at high risk for a disease or condition (e.g., pap smear for possible cervical cancer, digital rectal exam for possible prostate cancer, etc.).
**Stepwise Approach** – an information system on NCD risk factors that aims to provide standard yet simple and flexible tool and support collection of core data on the eight key modifiable risk factors which predict the major NCDs.

**Surveillance** – tracks disease and risky behavior, an on-going systematic collection, analysis, and interpretation of health-related data essential to the planning, implementation and evaluation of public health practice, closely integrated with the timely dissemination of these data to those responsible for prevention and control.
INTRODUCTION

Globalization and rapid urbanization has a huge impact on the lifestyles of the entire population. This reality has lead to unhealthier lifestyle and changing environments thus causing a rapid increase on the incidence of non-communicable diseases (NCD) particularly among low and middle-income countries (LMIC). Moreover, several studies demonstrate that LMICs are going through an epidemiological transition as well as double burden of disease, where NCD cases and communicable disease continue to increase simultaneously (WHO, 2006).

In the Western Pacific Region, home to over 26% of the world’s population, NCDs represent 92% of the burden of disease in disability-adjusted life years (DALYs) in high-income countries and approximately 63% among LMICs. Furthermore, LMICs in the Region have more than a quarter of the global total burden of disease in DALYs for malignant neoplasms, and close to a third of the global total in respiratory disorders. They also have a fifth of the global total burden of disease in DALYs for diabetes and CVDs.

Common risk factors underlie NCDs. An estimated 80% of premature heart disease, stroke, and type 2 diabetes, and 40% of cancer, could be avoided through healthy diet, regular physical activity, and avoidance of tobacco use. Globalization and urbanization serve as conduits for the promotion of unhealthy lifestyles (e.g. tobacco and alcohol use, unhealthy diets, and physical inactivity) and environmental changes (e.g. indoor and outdoor air pollution). These common risk factors give rise to intermediate risk factors such as raised blood pressure, raised blood glucose, unhealthy lipid profiles, obesity and impaired lung function. In turn, the intermediate risk factors predispose individuals to the “fatal four” – cardiovascular diseases (heart disease and stroke), cancer, chronic respiratory diseases and diabetes. Figure 1 below aptly describes the causation pathway of major NCDs.

**Figure 1. Causation Pathway of Major NCDs (WHO).**
The Philippines

In the Philippines, hypertension and diseases of the heart remain in the ten leading causes of morbidity. In 2005, hypertension ranked fifth, while diseases of the heart ranked seventh as illustrated in Table 1. Table 2 showed that death from diseases of the heart was still the principal cause of mortality with the rate of 90.4 deaths per 100,000 population. In addition, deaths due to vascular diseases ranked 2nd and diabetes ranked eighth (WHO, 2011).

### Table 1. Main Causes of Morbidity, 2005.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Cause of illness</th>
<th>Rate (*)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Acute lower respiratory tract infection &amp; pneumonia</td>
<td>889.9</td>
</tr>
<tr>
<td>2</td>
<td>Bronchitis/bronchiolitis</td>
<td>722.5</td>
</tr>
<tr>
<td>3</td>
<td>Acute watery diarrhea</td>
<td>707.6</td>
</tr>
<tr>
<td>4</td>
<td>Influenza</td>
<td>476.5</td>
</tr>
<tr>
<td>5</td>
<td>Hypertension</td>
<td>448.8</td>
</tr>
<tr>
<td>6</td>
<td>TB respiratory</td>
<td>134.1</td>
</tr>
<tr>
<td>7</td>
<td>Diseases of the heart</td>
<td>51.5</td>
</tr>
<tr>
<td>8</td>
<td>Malaria</td>
<td>42.3</td>
</tr>
<tr>
<td>9</td>
<td>Chickenpox</td>
<td>35.3</td>
</tr>
<tr>
<td>10</td>
<td>Dengue fever</td>
<td>23.6</td>
</tr>
</tbody>
</table>

(* Deaths per 100,000 population Source: DOH, 2005.

### Table 2. Main Causes of Death, 2005.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Cause of death</th>
<th>Rate (*)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Diseases of the heart</td>
<td>90.4</td>
</tr>
<tr>
<td>2</td>
<td>Diseases of the vascular system</td>
<td>63.8</td>
</tr>
<tr>
<td>3</td>
<td>Malignant neoplasms</td>
<td>48.9</td>
</tr>
<tr>
<td>4</td>
<td>Pneumonia</td>
<td>42.8</td>
</tr>
<tr>
<td>5</td>
<td>Transport accidents</td>
<td>39.1</td>
</tr>
<tr>
<td>6</td>
<td>Tuberculosis, all forms</td>
<td>31.2</td>
</tr>
<tr>
<td>7</td>
<td>Chronic lower respiratory diseases</td>
<td>24.6</td>
</tr>
<tr>
<td>8</td>
<td>Diabetes mellitus</td>
<td>21.6</td>
</tr>
<tr>
<td>9</td>
<td>Conditions originating in the perinatal period</td>
<td>14.5</td>
</tr>
<tr>
<td>10</td>
<td>Nephritis, ephritic syndrome &amp; nephrosis</td>
<td>13.0</td>
</tr>
</tbody>
</table>

(* Deaths per 100,000 population Source: DOH, 2009.

The Municipality of Pateros

The Municipality of Pateros is among the Local Government Units (LGU) in Metro Manila that has been actively participating in combating the effects of NCD. Pateros has been consistently promoting the practice of healthy lifestyle in its five health facilities and its community since 2002. This is in response to the national call for the prevention and control of NCDs. Moreover, Pateros is one of the pilot areas in the project of the Department of Health in collaboration with the World Health Organization (WHO) on “Integrated Community-based NCD Prevention and Control”. In the past decade of its implementation, several accomplishments have been achieved such as the institutionalization of mechanisms and processes such as risk assessment and advocacy on healthy lifestyle, however, a lot of things needs to be done and improved.

Considering the above global and local realities, NCD prevention still remains focused on single risk factors instead of looking into a more comprehensive approach of addressing the disease. Furthermore, modifiable factors of NCD such as the common risk factors (unhealthy diet, physical inactivity, alcohol and tobacco use) should be addressed in order to avoid or at least mitigate incidence of the immediate risk factors (raised blood pressure and blood glucose, abnormal blood lipids, and obesity). In fact if these common and immediate risk factors are eliminated, at least 80% of heart disease, stroke and type 2 diabetes can be prevented (WHO, 2005).

A paradigm shift is necessary in order to attain the greatest impact in preventing NCD, that is the application of a comprehensive risk management rather than treating the risk factors in isolation. Management of NCD is resource-intensive and the cost of treatment is notably high which is not feasible in low-resource settings. Thus, cost-effective and evidence-based interventions need to be applied (WHO, 2002).

“Efficient use of limited resources, access to basic diagnostics and essential medicines, organized medical information and referral systems, and sustainable health care financing mechanisms are essential in the provision of health care to people at risk of NCDs” (WHO, 2010). This can be achieved by integrating NCD interventions in a health system based on primary health care which provides a comprehensive, universal, equitable and affordable health care service.
Individuals with NCD or those at risk of developing NCD require long term care that is “proactive, patient-centered, community-based and sustainable”. Evidences have shown that management of NCD can be addressed in a cost-effective manner through health systems based on Primary Health Care. The WHO PEN interventions is an “innovative and action oriented response to the challenges of combating NCDs in resource constrained settings (WHO, 2010). The Philippines belonging to Low and Middle Income Countries (LMIC) will benefit largely in adopting WHO PEN interventions in combating NCDs.

What is the WHO Package of Essential Non-communicable (PEN) Disease Interventions?

The WHO Package of Essential Non-communicable (PEN) disease interventions is a “prioritized set of cost-effective interventions that can be delivered to an acceptable quality of care even in resource-poor settings”. WHO PEN disease interventions is the minimum standard needed in integrating and advancing care of NCDs in primary health care as well as in ensuring equity in providing health care and achieving universal coverage of health reforms (WHO, 2010).

In a low-resourced setting, selection of cost-effective interventions is particularly difficult when investment in health is limited. This is what the WHO PEN disease interventions wants to address. Table 3 contains the essential technologies and tools for implementing essential NCD interventions in primary health care.

Table 3. List of Essential Technologies and Tools for Implementing NCD Interventions.

<table>
<thead>
<tr>
<th>Technologies</th>
<th>Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermometer</td>
<td>WHO/ISH Risk Prediction Charts</td>
</tr>
<tr>
<td>Stethoscope</td>
<td>Evidence based clinical protocols</td>
</tr>
<tr>
<td>Blood Pressure Measurement Device*</td>
<td>Flow charts with referral criteria</td>
</tr>
<tr>
<td>Measurement Tape</td>
<td>Patient Clinical Record</td>
</tr>
<tr>
<td>Weighing Scale</td>
<td>Medical information register</td>
</tr>
<tr>
<td>Spacers for Inhalers</td>
<td>Audit Tools</td>
</tr>
<tr>
<td>Glucometer</td>
<td></td>
</tr>
<tr>
<td>Blood Glucose Test Strips</td>
<td></td>
</tr>
<tr>
<td>Urine Protein Test Strips</td>
<td></td>
</tr>
<tr>
<td>Urine Ketones Test Strips</td>
<td></td>
</tr>
<tr>
<td>** Add when resources permit:**</td>
<td></td>
</tr>
<tr>
<td>Nebulizer</td>
<td></td>
</tr>
<tr>
<td>Pulse Oximeter</td>
<td></td>
</tr>
<tr>
<td>Blood Cholesterol Assay</td>
<td></td>
</tr>
<tr>
<td>Lipid Profile</td>
<td></td>
</tr>
<tr>
<td>Serum Creatinine Assay</td>
<td></td>
</tr>
<tr>
<td>Troponin Test Strips</td>
<td></td>
</tr>
<tr>
<td>Urine Microalbuminuria Test Strips</td>
<td></td>
</tr>
<tr>
<td>Tuning Fork</td>
<td></td>
</tr>
<tr>
<td>Electrocardiograph (if training to</td>
<td></td>
</tr>
<tr>
<td>read and interpret</td>
<td></td>
</tr>
<tr>
<td>electrocardiograms is available)</td>
<td></td>
</tr>
<tr>
<td>Defibrillator</td>
<td></td>
</tr>
</tbody>
</table>

* For facilities with non-physician health workers a validated blood pressure measurement device with digital reading is preferable for accurate measurement of blood pressure

** Disposable mouth pieces required. Peak flow meters with one-way flow preferable.

Objectives

To provide a practice manual on conducting risk factor assessment and screening and risk factor modification and reduction by adopting the WHO PEN protocol, WHO/ISH Risk Prediction Charts, WHO Pocket Guidelines for Assessment and Management of Cardiovascular Risk, WHO Protocols for Counseling on Diet, Physical Activity and Smoking Cessation.
To develop an information system for use in the primary health care facility that will allow the collection, storage, processing and communication of information on risk factors and NCDs for the effective management of the delivery of NCD services

Target Users

The manual is primarily intended for the use of physician and non-physician health workers at the primary health care facilities.

Scope and Limitation

In adopting the WHO’s Package of Essential Non-communicable (PEN) Disease Interventions for Primary Health Care in Low Resource Settings, the limited resources available to the Municipality of Pateros only allowed the adoption of the Protocol on the Integrated Management of Hypertension and Diabetes, as these diseases top the leading causes of morbidity and mortality in the municipality. As resources become available, the protocol for COPD and cancers will be included.

The said protocol involves risk factor assessment and screening and the use of the WHO/ISH Risk Prediction Charts and the pocket guidelines on the management of cardiovascular risks.

Additionally, the management of CVD shall focus on the primary prevention, involving the assessment and management of cardiovascular risks in people who have not yet developed clinical manifestation of cardiovascular disease, and secondary prevention, management of people with established coronary heart disease (CHD), cerebrovascular disease (CeVD) or peripheral vascular disease (PVD).

Health facilities and communities both have complementary roles in successfully implementing NCD prevention and control interventions. This manual shall include the minimum resource requirements in managing and operating NCD prevention and control at the facility level such as skilled health staff, a working and functional referral system, availability of basic drugs and medicines as well as equipment or devices needed. Similarly, the same minimum resource requirements at the community level will be discussed.

Health facilities should have the necessary human resource, a working and functional referral system, capacity, knowledge, skills, equipment and medicines in managing NCD whereas the community should have the capability and knowledge or at least important information on NCD in order for them to render its support to the health system, to the sick and to those with risk factors.

It must be clear that this manual does not intend to prescribe that the WHO PEN disease interventions is the single approach that will address the NCD burden faced by the municipality. Its cost-effectiveness and suitability in the Philippine setting still depends on the result of its application and still needs to be established. It must also be noted that this manual is a work in progress. As new approaches continue to evolve, aperture for improvement is always considered.
GUIDELINES IN THE USE OF THE PROTOCOL ON THE INTEGRATED MANAGEMENT OF HYPERTENSION AND DIABETES

The succeeding diagrams summarize the WHO PEN protocol on the integrated management of hypertension and diabetes that was adopted by the Municipality of Pateros in reducing clinical events and premature deaths in people with established cardiovascular disease as well as in those who are at high cardiovascular risk due to one or more risk factors. The protocol involves risk factor assessment and screening and the use of the WHO/ISH risk prediction charts to determine the client's total risk and specific interventions to reduce risk.

Figure 2. The WHO PEN Protocol on the Integrated Management of Hypertension and Diabetes.
Risk Factor Assessment and Screening

“Risk Factor Assessment is the key process of screening individuals for the presence or absence of risk factor/s that expose them to increased likelihood of developing NCDs”. Risk factor assessment involves asking specific questions to determine family history of diseases associated with NCDs, use of alcohol and tobacco, physical inactivity and diet; and the taking of clinical measurements to determine nutritional status, i.e. central adiposity and obesity. (DOH, 2009).

Individuals identified with risk factors need to be further screened for the possible presence of a disease. Risk Screening is the presumptive identification of unrecognized disease or defect by the application of tests, examination or other procedures which can be applied rapidly. The primary goal of risk screening is to detect a disease in its early stages to be able to treat it and prevent its further development. It must be understood that screening is not a diagnostic measure but it is a preliminary step in the assessment of the individual’s chances of becoming unhealthy (DOH, 2009). This involves tests to measure increased blood pressure, blood sugar and cholesterol levels.

Majority of any population is composed of people with low and moderate levels of risk, thus, without population-wide public health prevention and screening efforts, NCDs will persist (WHO, 2007). In preventing the emergence of NCDs, it is important to understand how NCDs develop and identify major common risk factors to these diseases, which become the starting point for determining the appropriate preventive and control interventions to be provided. Thus the assessment and screening among individuals is necessary for early identification and modification of risk factors, and in the overall prevention and control of NCDs.

The NCD Risk Assessment and Screening aim to:

- identify degree of risk for developing NCD
- apply appropriate management of high risk individuals and prevent it from advancing into a NCD (risk reduction); and
- identify those who need further investigation or referral.

WHO/ISH Risk Prediction Charts

The World Health Organization/International Society of Hypertension (WHO/ISH) developed risk prediction charts specific to regions to enable the estimation of total ten-year risk of a fatal or non-fatal cardiovascular events based on age, sex, blood pressure, presence or absence of diabetes,
smoking status and cholesterol level (if available) of a person with no established coronary heart disease, cerebrovascular disease and peripheral vascular disease, and to provide guidance on reducing disability and premature deaths from these diseases in people at high risk.

The aim of the charts is to help low and middle income countries to manage the burden of cardiovascular disease effectively by targeting limited healthcare resources at people who are at high risk of cardiovascular disease. They are useful as tools to help identify those at high cardiovascular risk, and to motivate patients, particularly to change behavior and, when appropriate, to take antihypertensive, lipid-lowering drugs and aspirin. (WHO 2007)

Target Population

The Risk Factor Assessment will be done on clients aged 25 years old and above with no established cardiovascular disease (angina pectoris, coronary heart disease, myocardial infarction, transient ischemic attacks), cerebrovascular disease (CeVD) or peripheral vascular disease (PVD) or have not undergone coronary revascularization or carotid endarterectomy.

For those with established CHD, CeVD or PVD, risk charts will not be necessary to make treatment decisions in them. Refer to Annex 7 for the recommendations to prevent recurrent cardiovascular events.

The Protocol on the Integrated Management of Hypertension and Diabetes will be applied among those assessed with any of the following: above 40 years old, smokers, with central obesity, with raised blood pressure, with raised blood sugar, with history of premature CVD or with history of diabetes or kidney diseases in first degree relatives.

TOTAL RISK ASSESSMENT AND SCREENING, AND RISK MANAGEMENT AT THE HEALTH FACILITY

This section shall provide the service pathway, minimum resource requirements and procedures on the total risk assessment and management at the health facility.

As mentioned in the previous section, the integrated protocol will be applied to the target population. Clients may be involved in any of the three attendance scenarios:

a. Clients who come in for consultation in the health center for complaints related to NCDs
b. Clients who come in for other services (e.g. other complaints, adults who accompany children brought in for immunization, etc.) and

The algorithm illustrated in Figure 3 summarizes the service pathway in the screening and assessment and management of potential clients at risk of NCD.
THE CHRONIC CARE TEAM

- Minimum:
  - Physician
  - Nurse/Midwife (non-physician health worker)

- Desirable to include:
  - Dietician
  - Health Educator
  - Smoking cessation specialist

Roles and responsibilities of the members of the CHRONIC CARE TEAM

The Physician. The physician serves as the team leader and plays a vital role from receiving the referral of NCD cases from the nurse up to management using the WHO PEN protocol. The physician will thoroughly examine the patient with the assistance of the Chronic Care Team and arrange follow-ups to coordinate patient’s care. In cases where the patient requires higher level of care, the physician shall arrange the referral to a higher level of facility for further examination and management.

The Nurse/Midwife. The nurse or midwife shall be responsible for conducting the risk assessment and screening. He/she will assess if the client has probable angina, heart attack, stroke or transient ischemic attack. He/she will also provide counseling on healthy lifestyle.
The Smoking Cessation Specialist. The smoking cessation specialist, who is a physician or non-
physician worker trained on smoking cessation, shall motivate patients to quit smoking
following the protocols on smoking cessation.

The Dietician. The role of Dietician shall be on the modification of the patient’s diet and the
monitoring of the patient’s compliance to dietary management.

The Health Educator. The health educator shall be responsible in providing health information
to the client. The goal of the health education is self-awareness in reducing or modifying risk
factors. The health educator is also expected to utilize different behavioral and psychological
methods or practices to bring out these expected changes. The health educator is likewise
responsible for training the rest of the NCD Chronic Team especially those at the community
level in disseminating health education and promotion messages.

REQUIRED EQUIPMENT OR DEVICES
• Stethoscope
• Blood Pressure measurement device
• Measuring Tape
• Height Board
• Weighing Scale
• Glucometer
• Cholesterol Meter
• Test tube or glass container for the urine
• Solutions or tests strips for checking urine ketones and protein

REQUIRED DRUGS AND MEDICINES
• Thiazide Diuretics
• Beta blockers
• Angiotensin converting enzyme inhibitors
• Calcium Channel blockers (sustained release formulations)
• Reserpine and methyldopa (if the above hypertensive are not available)
• Aspirin
• Metformin

OTHERS
• Referral Facilities
• Maintenance and calibration of Blood Pressure measurement device

Procedures on Risk Factor Assessment and Screening and Risk Management

1. The admitting health worker (Midwife or BNS) shall issue one NCD High-Risk Assessment Facility Form
   per client. (Refer to Annex 1 for the form.)

   1. First, fill out the identifying information.

   Record the date of assessment on the space provided in the format: mm/dd/yyyy.
Date of Assessment: | Birth Date: | Age:
--|---|---
Name: | Civil Status: | Sex:
S | M | C | W | M | F
Address: | Contact Numbers:
Occupation: | Educational Attainment:

◊ Ask for the client’s personal profile: name, birth date, age, civil status, sex, address, contact numbers, occupation and educational attainment.

✍ Record the **Name** in the format: surname, first name and middle name.

✍ Record the **Birth Date** in the format: mm/dd/yyyy.

✍ Record the **Age** in years as of the last birthday.

○ Circle the corresponding letter of the client’s **Civil Status**.

| S | refers to single |
| M | refers to legally married |
| C | refers to common law husband/wife |
| W | refers to widow/widower |

○ Circle the corresponding letter of the client’s **Sex**.

| M | for male |
| F | for female |

✍ Record the **Address** in the format: name of the barangay, street name and house number.

✍ Record the **Contact Numbers** whether landline or mobile phone number.

✍ Record the **Occupation** or job e.g. employee, salesman, carpenter, laundry woman. Write none if he/she doesn’t have a job at the moment.

✍ Record the **Educational Attainment** as follows:

**None** refers to “unschooled” or having no attendance in any formal education

**Elementary** refers to attendance in grade school, regardless of completion of any grade in elementary school

**High School** refers to completion of grade school and attendance in high school, regardless of completion of any year in high school

**College** refers to completion of high school and attendance in vocational school, college or university, regardless of completion of any year

**Post-graduate** refers to completion of college and attendance in post-graduate school
2. Next, fill out the box about the client’s Family History.

◊ Ask the client if he/she has first degree relative (father, mother or siblings) with hypertension, stroke, heart attack, diabetes, asthma, cancer and/or kidney disease and check (√) the corresponding box – Yes or No.

<table>
<thead>
<tr>
<th>Family History</th>
<th>Does patient have 1st degree relative with</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypertension</td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td>Stroke</td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td>Heart Attack</td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td>Diabetes</td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td>Asthma</td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td>Cancer</td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td>Kidney Disease</td>
<td>□ Yes □ No</td>
</tr>
</tbody>
</table>

Note: □ Shaded box means the client is at risk.

3. Next, assess the client’s Smoking (Tobacco/Cigarette) status.

◊ Ask the client whether he/she smokes or not and if he/she is exposed to second-hand smoke at work and/or at home. If the client has stopped smoking, ask when he/she quit smoking. Check (√) the corresponding box/ies.

<table>
<thead>
<tr>
<th>Smoking (Tobacco/Cigarette)</th>
<th>□ Never smoked □ Stopped more than a year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>□ Current smoker □ Stopped less than a year</td>
</tr>
<tr>
<td></td>
<td>□ Passive Smoker</td>
</tr>
</tbody>
</table>

4. Next, assess the client’s Alcohol Intake.

◊ Ask if he/she regularly consumes alcoholic beverages and check the corresponding box. To determine if the client has an Excessive Alcohol Intake, ask if he/she had 5 drinks in one occasion in the past month then check (√) the corresponding box.

<table>
<thead>
<tr>
<th>Alcohol Intake</th>
<th>□ Never consumed □ Yes, drinks alcohol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excessive Alcohol Intake</td>
<td>In the past month, had 5 drinks in one occasion</td>
</tr>
<tr>
<td></td>
<td>□ Yes □ No</td>
</tr>
</tbody>
</table>
5. Next, assess if the client consumes **High Fat/High Salt Food Intake**.

◊ Ask the client if he/she eats processed/fast foods (e.g. instant noodles, hamburgers, French fries, fried chicken skin, etc.) and ihaw-ihaw (e.g. isaw, adidas, etc.) weekly. Check (✓) the corresponding box.

<table>
<thead>
<tr>
<th>High Fat/High Salt Food Intake</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eats processed/fast foods (e.g. instant noodles, hamburgers, French fries, fried chicken skin, etc.) and ihaw-ihaw (e.g. isaw, adidas, etc.) weekly</td>
</tr>
<tr>
<td>Yes</td>
</tr>
</tbody>
</table>

6. Next, assess the client’s **Dietary Fiber Intake**.

◊ Ask the client if he/she consumes at least 3 servings of vegetables and/or at least 2-3 servings of fruits daily which are the recommended number of servings. Check (✓) the appropriate boxes.

<table>
<thead>
<tr>
<th>Dietary Fiber Intake:</th>
</tr>
</thead>
<tbody>
<tr>
<td>At least 3 servings of vegetables daily</td>
</tr>
<tr>
<td>At least 2-3 servings of fruits daily</td>
</tr>
</tbody>
</table>

7. Next, assess the client’s **Physical Activity**.

◊ Ask if the client does at least 2 ½ hours a week of moderate intensity physical activity which is recommended to achieve desired health benefit. Check (✓) the corresponding box.

<table>
<thead>
<tr>
<th>Physical Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does at least 2 ½ hours a week of moderate-intensity physical activity</td>
</tr>
</tbody>
</table>

8. Next, using the adult height board, take the client’s height in centimeters and record in the space provided. Using the beam balance (Detecto weighing scale) take the client’s weight in kilograms and record. Then compute for the Body Mass Index (BMI) to determine **Obesity** using the formula below:

\[
\text{Weight (in kg)} \div \text{Height (in cm)} \div \text{Height (in cm)} \times 10,000 = \text{BMI}
\]

<table>
<thead>
<tr>
<th>Obesity</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMI</td>
</tr>
<tr>
<td>Ht. (cm)</td>
</tr>
</tbody>
</table>
Classify the client’s BMI based on the following:

<table>
<thead>
<tr>
<th>Classification</th>
<th>BMI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underweight</td>
<td>≤ 18.5</td>
</tr>
<tr>
<td>Healthy weight</td>
<td>18.6 – 22.9</td>
</tr>
<tr>
<td>Overweight</td>
<td>≥ 23.0</td>
</tr>
<tr>
<td>At Risk</td>
<td>23.0 – 24.9</td>
</tr>
<tr>
<td>Obese I</td>
<td>25.0 – 29.9</td>
</tr>
<tr>
<td>Obese II</td>
<td>≥ 30.0</td>
</tr>
</tbody>
</table>

If the client has a BMI of more than or equal to 23.0, check (✓) the shaded box - for at risk.

9. Next, using a non-extensible/non-stretchable tape measure that is placed around the waist (unclothed), standing with the abdomen relaxed, arms at the sides and feet together, take the client’s waist circumference in centimeters and record on the space provided to determine Central Adiposity.

Two suggested points for waist measurement are recommended:

- At the level of the umbilicus. However with this method, in the very overweight people, the “umbilicus” level may be quite low
- Mid way or between the last rib and the supra iliac crest, which is preferred because of more stable landmarks.

Classify the client’s waist circumference based on the following:

<table>
<thead>
<tr>
<th>Sex</th>
<th>Waist Circumference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not at risk</td>
</tr>
<tr>
<td>Male</td>
<td>&lt; 90 cm</td>
</tr>
<tr>
<td>Female</td>
<td>&lt; 80 cm</td>
</tr>
</tbody>
</table>

If the client’s waist circumference falls under at risk, check (✓) the shaded box - for at risk.
10. Next, take the client’s Blood Pressure (make sure he/she is fully rested for at least 5 minutes) and record on the space provided. Take the second blood pressure after 2 minutes and record. Then compute for the average systolic and diastolic reading.

<table>
<thead>
<tr>
<th>Average Systolic and Diastolic reading</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systolic 1st reading</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Systolic 2nd reading</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diastolic 1st reading</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diastolic 2nd reading</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**HOW TO COMPUTE FOR THE AVERAGE:**

1. Add the Systolic 1st reading and 2nd reading, and then divide by 2. Record on the space provided.
2. Add the Diastolic 1st reading and 2nd reading, and then divide by 2. Record on the space provided.

Classify the client’s blood pressure based on the following:

<table>
<thead>
<tr>
<th>Average BP in mmHg</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 120</td>
<td>Normal</td>
</tr>
<tr>
<td>120 - 139</td>
<td>Pre Hypertension</td>
</tr>
<tr>
<td>140 - 159</td>
<td>Stage 1 Hypertension</td>
</tr>
<tr>
<td>≥ 160</td>
<td>Stage 2 Hypertension</td>
</tr>
</tbody>
</table>

If blood pressure is above or equal to 120/80, check (✓) the shaded box - for at risk.

The most accurate and reliable technique for indirect blood pressure measurement is the auscultatory method. It is important that BP apparatus are calibrated regularly for accurate measurement.

11. Lastly, write your complete name and signature and direct the client to the nurse for the risk screening procedures if any of the following are present:

- Age greater than 40 years
- Tobacco/Cigarette Smoking
- Central Adiposity
- Raised Blood Pressure
- Diabetes
- Family History of Hypertension, Stroke or Heart Attack
- Family History of Diabetes or Kidney Disease
If none of the preceding is present, provide information on healthy lifestyle (healthy diet, physical activity and avoidance of exposure to tobacco), and advise the client to return after one year for a follow-up risk assessment.

II. The nurse shall perform the following screening procedures:
- Blood Glucose, if needed
- Blood Lipids (on all clients)
- Urine Ketones, if needed
- Urine Protein (on all clients)

1. First, determine the presence or absence of Diabetes.

◊ Ask the client if he/she was diagnosed as having diabetes and check (✓) the corresponding box. If yes, ask if he/she is taking any medications and check (✓) the corresponding box. If No or Do not know, ask if he/she has symptoms of Polyphagia, Polydipsia or Polyuria and check (✓) the corresponding box – Yes or No.

### Presence or absence of Diabetes

1. Was patient diagnosed as having diabetes?
   - Yes
   - No
   - Do not know

   If Yes, with medications
   - without medications
   \[\text{and perform Urine Test for Ketones}\]

   If No or Do not know, proceed to question 2

2. Does patient have the following symptoms?

   - Polyphagia
   - Polydipsia
   - Polyuria

   If two or more of the above symptoms are present, perform a blood glucose test.

### Polyphagia refers to excessive eating
Polydipsia refers to excessive thirst
Polyuria refers to excessive passage of urine

2. Perform a blood glucose test, if needed, to determine Raised Blood Glucose with the use of a glucometer.

### Blood Glucose Test

The following procedures were based from the purchased equipment of the municipality – Easy Touch® GCU Blood Glucose/Cholesterol/Uric Acid Multi-Function Monitoring System.

Insert the code key from the test strip vial. Each test strip vial contains one code key. Make sure the number on the code key matches the code number on the vial of the test strips you use.
Take one strip from the vial and close the vial quickly. The test strips can be damaged when they are not capped and stored properly.

Insert the test strip into the test strip slot on the meter. The meter will first display code number, then the blood symbol along with date. When the screen shows blood symbol, clean the client's finger with alcohol swab and let it dry completely.

Place the puncturer on the client's finger. The best puncture site is on the side of fingertip, because it has the best blood supply. Press the trigger on the puncturer and lift it up then get a drop of blood.

Put the drop of blood on the side of the test strip target area. The blood will be absorbed and cause the target area to turn red. The testing reaction starts when the meter beeps and will start to count down 6 seconds.

After 6 seconds, the screen will display measured glucose value. Record the glucose value on the space provided.

◊ Ask the client when the last meal was taken. If this was at least 8 hours ago, circle FBS, otherwise circle RBS. If the client's FBS is greater than or equal to 126 mg/dL or RBS of greater than or equal to 200 mg/dL, check (√) the shaded box - for at risk.

3. Perform a blood lipids test on all clients to determine Raised Blood Lipids using a cholesterol meter.

Blood Lipids Test

The following procedures were based from the purchased equipment of the municipality – Easy Touch ® GCU Blood Glucose/Cholesterol/Uric Acid Multi-Function Monitoring System.

Insert the code key from the test strip vial. Each test strip vial contains one code key. Make sure the number on the code key matches the code number on the vial of the test strips you use.

Take one strip from the vial and close the vial quickly. The test strips can be damaged when they are not capped and stored properly.
Insert the test strip into the test strip slot on the meter. The meter will first display code number, then the blood symbol along with date. When the screen shows blood symbol, clean the client’s finger with alcohol swab and let it dry completely.

Place the puncturer on the client’s finger. The best puncture site is on the side of fingertip, because it has the best blood supply. Press the trigger on the puncturer and lift it up then get a drop of blood.

Put the drop of blood on one side or the other side of the test strip target area. The blood will be absorbed and cause the target area to turn red. The testing reaction starts when the meter beeps and will start to count down 150 seconds.

After 150 seconds, the screen will display measured cholesterol value. Record the cholesterol value on the space provided.

If client’s blood cholesterol is more than or equal to 200 mg/100 ml, check (✓) the shaded box - for at risk.

4. Perform urine test for protein on all clients to determine the presence or absence of Urine Protein using urine strips. Collect urine in a clean and dry container or test tube and test immediately.

**Urine Test for Protein**

The following procedures were based from the purchased testing strips of the municipality – CLINISTIK ® URS-4 S Reagent Strips for Urinalysis
Immerse the reagent area of the strip in the urine specimen and remove immediately. Run the edge of the strip against the rim of the container to remove the excess urine.

Hold the strip up horizontally and compare the result on the strip with the color chart on the bottle label closely.

Take the result according to the time specified on the color chart (See below). Protein can be read at any time within 60 seconds after dipping and record on the space provided. Color changes beyond 2 minutes are of no diagnostic value.

If traces or an amount of urine protein is found, check (✓) the shaded box - for at risk.

5. Perform urine test for ketones on newly diagnosed diabetic clients to determine the presence or absence of Urine Ketones using urine strips. Collect urine in a clean and dry container or test tube and test immediately. The urine test for ketones may be performed on the same urine specimen for the urine test for proteins.

**Urine Test for Ketones**

The following procedures were based from the purchased testing strips of the municipality – Teco Diagnostics URS-10 Urine Reagent Strips for Urinalysis.

Completely immerse reagent areas of the strip in fresh, well-mixed urine. Remove the strip immediately to avoid dissolving out the reagent areas.

While removing, touch the side of the strip against the rim of the urine container or test tube to remove excess urine. Blot the lengthwise edge of the strip on an absorbent paper towel to further remove excess urine and avoid running over.

Compare each reagent area to its corresponding color block on the color chart and read at the times specified (e.g. ketone at 40 seconds and protein at 60 seconds). Proper read time is critical for optimal results.
Obtain results by direct color chart comparison (see below) and record on the space provided. Changes in color after 2 minutes are of no diagnostic value.

**Presence of Urine Ketones**

- Yes
- No

Urine Ketone Date taken

Perform Urine Test for Ketones if the client is diabetic or has raised blood glucose.

### III. After the screening procedures, the nurse will interview the client using the Questionnaire to Determine Probable Angina, Heart Attack, Stroke or Transient Ischemic Attack

<table>
<thead>
<tr>
<th align="left">Questionnaire to Determine Probable Angina, Heart Attack, Stroke or Transient Ischemic Attack</th>
</tr>
</thead>
<tbody>
<tr>
<td align="left"><strong>Angina or Heart Attack</strong></td>
</tr>
<tr>
<td align="left">1. Have you had any pain or discomfort or any pressure or heaviness in your chest? <em>Nakakaramdam ka ba ng pananakit o kabigatan sa iyong dibdib?</em></td>
</tr>
<tr>
<td align="left">2. Do you get the pain in the center of the chest or left chest or left arm? <em>Ang sakit ba ay nasa gitna ng dibdib, sa kaliwang bahagi ng dibdib o sa kaliwang braso?</em></td>
</tr>
<tr>
<td align="left">3. Do you get it when you walk uphill or hurry? <em>Nararamdaman mo ba ito kung ikaw ay nagmamadali o nagalakad nang mabilis o paskyot?</em></td>
</tr>
<tr>
<td align="left">4. Do you slowdown if you get the pain while walking? <em>Tumitingil ka ba sa pagalakad kapag sumakit ang iyong dibdib?</em></td>
</tr>
<tr>
<td align="left">5. Does the pain go away if you stand still or if you take a tablet under the tongue? <em>Nawawala ba ang sakit kapag ikaw ay di kumilos o kapag naglalagay ka ng gamot sa ilalim ng iyong dila?</em></td>
</tr>
<tr>
<td align="left">6. Does the pain go away in less than 10 minutes? <em>Nawawala ba ang sakit sa loob ng 10 minuto?</em></td>
</tr>
<tr>
<td align="left">7. Have you ever had a severe chest pain across the front of your chest lasting for half an hour or more? <em>Nakaramdam ka po ba ng pananakit ng dibdib na tumagal ng kalahating oras o higit pa?</em></td>
</tr>
</tbody>
</table>

If the answer to Questions 3 or 4 or 5 or 6 or 7 is YES, patient may have angina or heart attack and needs to see the doctor.

| Stroke and TIA  | Yes  | No |
| Stroke and TIA  | Yes  | No |

8. Have you ever had any of the following: difficulty in talking, weakness of arm and/or leg on one side of the body or numbness on one side of the body? *Nakaramdam ka na ba ng mga sumusunod: hirap sa pagasanita, panghihiina ng braso at/ka ng binti o pamamanhid ng kalahating bahagi ng katawan?*  | Yes/Oo | No/Hindi |

If the answer to Question 8 is YES, the patient may have had a TIA or stroke and needs to see the doctor.

12. Lastly, write your complete name and signature. Turn over the client to the physician for risk stratification and risk management.

**IV. Regardless of the client’s degree of risk, the nurse or midwife or non-physician health worker shall provide routine counseling on healthy lifestyle specifically on diet and physical activity. Refer to**
Annex 2 and 3. If the client is a smoker, the smoking cessation specialist shall provide the intervention on cessation of tobacco.

V. Following Action 3 of the Protocol on the Integrated Management of Hypertension and Diabetes, the physician shall refer the client to the next level facility if any of the following conditions are present:

1. Blood Pressure of ≥140 (systole) or ≥90 mmHg (diastole) in people below 40 years old (to exclude secondary hypertension)
2. Known heart disease, stroke, TIA, DM, kidney disease (for assessment as necessary)
3. Angina, claudication
4. Worsening heart failure
5. Raised Blood Pressure ≥140/90 (in DM above 130/80 mmHg) in spite of treatment with 2 or 3 agents
6. Any proteinuria
7. Newly diagnosed diabetes with urine ketones 2+ or in lean person of below 30 years old
8. DM with fasting blood glucose >14 mmol/l despite maximal metformin with or without sulphonylurea
9. DM with severe infection and/or foot ulcers

VI. If none of the referral criteria above is present, the physician shall determine the total risk of the patient using the WHO/ISH Risk Prediction Charts to guide him/her on the specific preventive actions and with what degree of intensity.

How do you use the charts (See Figures 4, 5, 6, 7) to assess cardiovascular risk? (Pocket Guidelines for Assessment and Management of Cardiovascular Risk, WHO 2007)

1. First make sure that you select the appropriate charts.
2. If blood cholesterol cannot be measured due to resource limitations, use the charts that do not have total cholesterol.
3. Before applying the chart to estimate the 10 year cardiovascular risk of an individual, the following information is necessary
   • Presence or absence of diabetes
4. Once the above information is available proceed to estimate the 10-year cardiovascular risk (Action 4 in the protocol) as follows:

Step 1 Select the appropriate chart depending on the presence or absence of diabetes

Step 2 Select male or female tables

Step 3 Select smoker or non-smoker boxes

Step 4 Select age group box (if age is 50-59 years select 50, if 60-69 years select 60 etc)

Step 5 Within this box, find the nearest cell where the individual’s systolic blood pressure (mm Hg) and total blood cholesterol level (mmol/l) cross. The colour of this cell determines the 10 year cardiovascular risk.

A person who has diabetes is defined as someone taking insulin or oral hypoglycaemic drugs, or with a fasting plasma glucose concentration above 7.0 mmol/l (126 mg/dl) or a postprandial (approximately 2 hours after a main meal) plasma glucose concentration above 11.0 mmol/l (200mg/l) on two separate occasions. For very low resource settings urine sugar test may be used to screen for diabetes if blood glucose assay is not feasible. If urine sugar test is positive a confirmatory blood glucose test need to be arranged to diagnose diabetes mellitus.

- Gender
- Smoker or non-smoker

All current smokers and those who quit smoking less than 1 year before the assessment are considered smokers for assessing cardiovascular risk.

- Age
- Systolic blood pressure (SBP)

Systolic blood pressure, taken as the mean of two readings on each of two occasions, is sufficient for assessing risk but not for establishing a pretreatment baseline.

- Total blood cholesterol (if in mg/dl divide by 38 to convert to mmol/l).

The mean of two non-fasting measurements of serum cholesterol by dry chemistry, or one nonfasting laboratory measurement, is sufficient for assessing risk.
Figures 4 and 5. WHO/ISH Risk Prediction Chart. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, total blood cholesterol, smoking status and presence or absence of diabetes mellitus.

Risk Level

| <10% | 10% to <20% | 20% to <30% | 30% to <40% | ≥40% |

### WPR B People with Diabetes Mellitus

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>MALE</th>
<th>FEMALE</th>
<th>SBP (mmHg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td><img src="chart1" alt="Chart for Male Non-Smokers" /></td>
<td><img src="chart2" alt="Chart for Female Non-Smokers" /></td>
<td>180</td>
</tr>
<tr>
<td></td>
<td><img src="chart3" alt="Chart for Male Smokers" /></td>
<td><img src="chart4" alt="Chart for Female Smokers" /></td>
<td>160</td>
</tr>
<tr>
<td>60</td>
<td><img src="chart1" alt="Chart for Male Non-Smokers" /></td>
<td><img src="chart2" alt="Chart for Female Non-Smokers" /></td>
<td>140</td>
</tr>
<tr>
<td></td>
<td><img src="chart3" alt="Chart for Male Smokers" /></td>
<td><img src="chart4" alt="Chart for Female Smokers" /></td>
<td>120</td>
</tr>
<tr>
<td>50</td>
<td><img src="chart1" alt="Chart for Male Non-Smokers" /></td>
<td><img src="chart2" alt="Chart for Female Non-Smokers" /></td>
<td>180</td>
</tr>
<tr>
<td></td>
<td><img src="chart3" alt="Chart for Male Smokers" /></td>
<td><img src="chart4" alt="Chart for Female Smokers" /></td>
<td>160</td>
</tr>
<tr>
<td>40</td>
<td><img src="chart1" alt="Chart for Male Non-Smokers" /></td>
<td><img src="chart2" alt="Chart for Female Non-Smokers" /></td>
<td>180</td>
</tr>
<tr>
<td></td>
<td><img src="chart3" alt="Chart for Male Smokers" /></td>
<td><img src="chart4" alt="Chart for Female Smokers" /></td>
<td>160</td>
</tr>
</tbody>
</table>

### WPR B People without Diabetes Mellitus

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>MALE</th>
<th>FEMALE</th>
<th>SBP (mmHg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td><img src="chart1" alt="Chart for Male Non-Smokers" /></td>
<td><img src="chart2" alt="Chart for Female Non-Smokers" /></td>
<td>180</td>
</tr>
<tr>
<td></td>
<td><img src="chart3" alt="Chart for Male Smokers" /></td>
<td><img src="chart4" alt="Chart for Female Smokers" /></td>
<td>160</td>
</tr>
<tr>
<td>60</td>
<td><img src="chart1" alt="Chart for Male Non-Smokers" /></td>
<td><img src="chart2" alt="Chart for Female Non-Smokers" /></td>
<td>140</td>
</tr>
<tr>
<td></td>
<td><img src="chart3" alt="Chart for Male Smokers" /></td>
<td><img src="chart4" alt="Chart for Female Smokers" /></td>
<td>120</td>
</tr>
<tr>
<td>50</td>
<td><img src="chart1" alt="Chart for Male Non-Smokers" /></td>
<td><img src="chart2" alt="Chart for Female Non-Smokers" /></td>
<td>180</td>
</tr>
<tr>
<td></td>
<td><img src="chart3" alt="Chart for Male Smokers" /></td>
<td><img src="chart4" alt="Chart for Female Smokers" /></td>
<td>160</td>
</tr>
<tr>
<td>40</td>
<td><img src="chart1" alt="Chart for Male Non-Smokers" /></td>
<td><img src="chart2" alt="Chart for Female Non-Smokers" /></td>
<td>180</td>
</tr>
<tr>
<td></td>
<td><img src="chart3" alt="Chart for Male Smokers" /></td>
<td><img src="chart4" alt="Chart for Female Smokers" /></td>
<td>160</td>
</tr>
</tbody>
</table>
Figures 6 and 7. WHO/ISH Risk Prediction Chart. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, smoking status and presence or absence of diabetes mellitus.

Risk Level: 
- <10%
- 10% to <20%
- 20% to <30%
- 30% to <40%
- ≥40%

### WPR B People with Diabetes Mellitus

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>MALE</th>
<th>FEMALE</th>
<th>SBP (mmHg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>NON-SMOKER</td>
<td>SMOKER</td>
<td>180</td>
</tr>
<tr>
<td></td>
<td>160</td>
<td>140</td>
<td>120</td>
</tr>
<tr>
<td>60</td>
<td>NON-SMOKER</td>
<td>SMOKER</td>
<td>180</td>
</tr>
<tr>
<td></td>
<td>160</td>
<td>140</td>
<td>120</td>
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<td>50</td>
<td>NON-SMOKER</td>
<td>SMOKER</td>
<td>180</td>
</tr>
<tr>
<td></td>
<td>160</td>
<td>140</td>
<td>120</td>
</tr>
<tr>
<td>40</td>
<td>NON-SMOKER</td>
<td>SMOKER</td>
<td>180</td>
</tr>
<tr>
<td></td>
<td>160</td>
<td>140</td>
<td>120</td>
</tr>
</tbody>
</table>

### WPR B People without Diabetes Mellitus

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>MALE</th>
<th>FEMALE</th>
<th>SBP (mmHg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>NON-SMOKER</td>
<td>SMOKER</td>
<td>180</td>
</tr>
<tr>
<td></td>
<td>160</td>
<td>140</td>
<td>120</td>
</tr>
<tr>
<td>60</td>
<td>NON-SMOKER</td>
<td>SMOKER</td>
<td>180</td>
</tr>
<tr>
<td></td>
<td>160</td>
<td>140</td>
<td>120</td>
</tr>
<tr>
<td>50</td>
<td>NON-SMOKER</td>
<td>SMOKER</td>
<td>180</td>
</tr>
<tr>
<td></td>
<td>160</td>
<td>140</td>
<td>120</td>
</tr>
<tr>
<td>40</td>
<td>NON-SMOKER</td>
<td>SMOKER</td>
<td>180</td>
</tr>
<tr>
<td></td>
<td>160</td>
<td>140</td>
<td>120</td>
</tr>
</tbody>
</table>
5. Record the risk code on the patient’s record. See Annex 4 for the Patient’s Record. (The non-physician health provider may later apply the colored sticker corresponding to the risk code over the heart on the patient’s record.)

6. Perform a complete physical examination and record findings. Based on assessment, make a diagnosis and record. Also record other significant findings and laboratory results.

![Patient's Record Form]

**DIAGNOSIS & ASSOCIATED CLINICAL CONDITIONS:**
- With cardiovascular risk factors only
- Essential hypertension
- Secondary Hypertension
- Diabetes
- Renal disease (albuminuria >3g/L, creatinine >177μmol/L or 2mg/dL)

**PHYSICAL EXAMINATION:**
- Palpation of heart
- Palpation of peripheral pulses
- Palpation of abdomen
- Auscultation of heart
- Auscultation of lungs
- If DM, sensation of feet and foot pulses

**OTHER SIGNIFICANT FINDINGS/LABORATORY RESULTS:**
VII. Following Action 5 of the Protocol, the physician is guided by the following in managing the client’s risks:

- All individuals with persistent raised Blood Pressure $\geq 160/100$ mmHg should be given antihypertensive treatment
- All patients with established diabetes and cardiovascular disease (coronary heart disease, myocardial infarction, transient ischaemic attacks, cerebrovascular disease or peripheral vascular disease); if stable, should continue the treatment already prescribed and be considered as with risk of $>30\%$
- All individuals with total cholesterol at or above 8 mmol/l (320 mg/dl) should be given lifestyle advise and statins

### If Risk is $<20\%$:
- Counsel on diet, physical activity, smoking cessation
- If risk is $<10\%$, follow up in 12 months
- If risk is $10$ to $<20\%$, follow up every 3 months until targets are met, then 6 to 9 months thereafter

### If Risk is $20$ to $<30\%$:
- Counsel on diet, physical activity, smoking cessation
- Persistent Blood Pressure $\geq 140/90$ mmHg (in DM $\geq 130/80$ mmHg) consider a low dose of one of the drugs: Hydrochlorothiazide 25-50mg daily; Enalapril 5-20mg daily; Atenolol 50-100mg daily or Amlodipine 5-10mg daily
- Follow up every 3 to 6 months

### Additional Actions for Diabetes Mellitus:
- If despite a diabetic diet, fasting blood glucose is raised start on Metformin
- Titrate Metformin to target glucose value
- Give advice on foot care
- Follow up at least every 3 months
- If resources allow, give a Statin to those $\geq 40$ years old even if cardiovascular risk is low
- Refer for eye examination every 2 years

### If Risk is $>30\%$:
- Counsel on diet, physical activity, smoking cessation
- Persistent Blood Pressure $= 130/80$ mmHg should be given of one of the drugs: Thiazide, ACE inhibitor, beta-blocker, calcium channel blocker
- Give a Statin
- Follow up every 3 months
**Recommendations** for prevention of cardiovascular disease in people with cardiovascular risk factors (according to individual total risk)\(^{a}\)

<table>
<thead>
<tr>
<th>10 year risk of cardiovascular event</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;10%</td>
<td><strong>Risk &lt;10%</strong></td>
</tr>
<tr>
<td>10% to &lt;20%</td>
<td><strong>Risk 10% to &lt;20%</strong></td>
</tr>
<tr>
<td>20% to &lt;30%</td>
<td><strong>Risk 20% to &lt;30%</strong></td>
</tr>
<tr>
<td>≥30%</td>
<td><strong>Risk ≥30%</strong></td>
</tr>
</tbody>
</table>

When resources are limited, individual counselling and provision of care may have to be prioritized according to cardiovascular risk.

**Risk <10%**
Individuals in this category are at low risk. Low risk does not mean “no” risk. Conservative management focusing on lifestyle interventions is suggested\(^{b}\).

**Risk 10% to <20%**
Individuals in this category are at moderate risk of fatal or non-fatal vascular events. Monitor risk profile every 6–12 months.

**Risk 20% to <30%**
Individuals in this category are at high risk of fatal or non-fatal vascular events. Monitor risk profile every 3–6 months.

**Risk ≥30%**
Individuals in this category are at very high risk of fatal or non-fatal vascular events. Monitor risk profile every 3–6 months.

\(^{a}\) For levels of evidence and grades of recommendations see reference 1.
\(^{b}\) Excluding people with established CHD, CVD and peripheral vascular disease.
\(^{c}\) Policy measures that create conducive environments for quitting tobacco, engaging in physical activity and consuming healthy diets are necessary to promote behavioral change. They will benefit the whole population. For individuals in low risk categories, they can have a health impact at lower cost, compared to individual counselling and therapeutic approaches.

---

**SMOKING CESSATION**

All nonsmokers should be encouraged not to start smoking.

All smokers should be strongly encouraged to quit smoking by a health professional and supported in their efforts to do so. (1++, A)

It is suggested that those who use other forms of tobacco be advised to stop. (2+, C)

<table>
<thead>
<tr>
<th>Risk</th>
<th>Nicotine replacement therapy and/or nortriptyline or amfebutamone (bupropion) should be offered to motivated smokers who fail to quit with counselling. (1++, B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20% to &lt;30%</td>
<td></td>
</tr>
<tr>
<td>≥30%</td>
<td></td>
</tr>
</tbody>
</table>
### Antihypertensive Drugs

All individuals with blood pressure at or above 160/100 mmHg, or lesser degree of raised blood pressure with target organ damage, should have drug treatment and specific lifestyle advice to lower their blood pressure and risk of cardiovascular disease. (2++, B)

All individuals with blood pressure below 160/100 mmHg, or with no target organ damage need to be managed according to the cardiovascular risk (10 year risk of cardiovascular event <10%, 10 to <20%, 20 to <30%, ≥30%)

<table>
<thead>
<tr>
<th>Risk</th>
<th>Individuals with persistent blood pressure ≥140/90 mmHg should continue lifestyle strategies to lower blood pressure and have their blood pressure and total cardiovascular risk reassessed every 2–5 years depending on clinical circumstances and resource availability.</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;10%</td>
<td></td>
</tr>
<tr>
<td>10% to &lt;20%</td>
<td>Individuals with persistent blood pressure ≥140/90 mmHg should continue lifestyle strategies to lower blood pressure and have their blood pressure and total cardiovascular risk reassessed annually depending on clinical circumstances and resource availability.</td>
</tr>
<tr>
<td>20% to &lt;30%</td>
<td>Individuals with persistent blood pressure ≥140/90 mmHg who are unable to lower blood pressure through lifestyle strategies with professional assistance within 4–6 months should be considered for one of the following drugs to reduce blood pressure and risk of cardiovascular disease: thiazide-like diuretic, ACE inhibitor, calcium channel blocker, beta-blocker. A low-dose thiazide-like diuretic, ACE inhibitor or calcium channel blocker is recommended as first-line therapy. (1++, A)</td>
</tr>
</tbody>
</table>

### Dietary Changes

All individuals should be strongly encouraged to reduce total fat and saturated fat intake. (1+, A)

Total fat intake should be reduced to about 30% of calories, saturated fat to less than 10% of calories, trans fatty acids intake should be reduced as much as possible or eliminated and most dietary fat should be polyunsaturated (up to 10% of calories) or monounsaturated (10–15% of calories). (1+, A)

All individuals should be strongly encouraged to reduce daily salt intake by at least one third and, if possible, to <5 g or <90 mmol per day. (1+, A)

All individuals should be encouraged to eat at least 400 g a day of a range of fruits and vegetables as well as whole grains and pulses. (2+, A)

### Physical Activity

All individuals should be strongly encouraged to take at least 30 minutes of moderate physical activity (e.g. brisk walking) a day, through leisure time, daily tasks and work-related physical activity. (1+, A)

### Weight Control

All individuals who are overweight or obese should be encouraged to lose weight through a combination of a reduced-energy diet (dietary advice) and increased physical activity. (1+, A)

### Alcohol Intake

Individuals who take more than 3 units of alcohol* per day should be advised to reduce alcohol consumption. (2++, B)

---

* One unit (drink) = half pint of beer/lager (5% alcohol), 100 ml of wine (10% alcohol), spirits 25 ml (40% alcohol)
## Antihypertensive Drugs

<table>
<thead>
<tr>
<th>Risk ≥30%</th>
<th>Individuals with persistent blood pressure ≥130/80 mmHg should be given one of the following drugs to reduce blood pressure and risk of cardiovascular disease: thiazide-like diuretic, ACE inhibitor, calcium channel blocker, beta-blocker. A low-dose thiazide-like diuretic, ACE inhibitor or calcium channel blocker is recommended as first-line therapy. (1++, A)</th>
</tr>
</thead>
</table>

Evidence from two recent meta-analyses indicates that for treatment of hypertension, beta-blockers are inferior to calcium-channel blockers and ACE inhibitors in reducing the frequency of hard endpoints. In addition, beta-blockers are less well tolerated than diuretics. Most of this evidence comes from trials where atenolol was the beta-blocker used.

Reducing blood pressure by 10–15/5–8 mmHg with drug treatment reduces combined CVD mortality and morbidity by about one-third, whatever the pretreatment absolute risk. However, applying this recommendation will lead to a large proportion of the adult population receiving antihypertensive drugs. Even in some high-resource settings, current practice is to recommend drugs for this group only if the blood pressure is at or above 160/100 mmHg.

## Lipid-Lowering Drugs (Statins)

All individuals with total cholesterol at or above 8 mmol/l (320 mg/dl) should be advised to follow a lipid-lowering diet and given a statin to lower the risk of cardiovascular disease. (2++, B)

All other individuals need to be managed according to the cardiovascular risk as follows (10 year risk of cardiovascular event <10%, 10 to <20%, 20 to 30%, ≥30%)

<table>
<thead>
<tr>
<th>Risk &lt;10%</th>
<th>Should be advised to follow a lipid-lowering diet.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk 10 to &lt;20%</td>
<td>Should be advised to follow a lipid-lowering diet.</td>
</tr>
<tr>
<td>Risk 20 to &lt;30%</td>
<td>Adults &gt;40 years with persistently high serum cholesterol (&gt;5.0 mmol/l) and/or LDL cholesterol &gt;3.0 mmol/l, despite a lipid-lowering diet, should be given a statin. (1++, A)</td>
</tr>
<tr>
<td>Risk ≥30%</td>
<td>Individuals in this risk category should be advised to follow a lipid-lowering diet and given a statin. (1++, A) Serum cholesterol should be reduced to less than 5.0 mmol/l (LDL cholesterol to below 3.0 mmol/l) or by 25% (30% for LDL cholesterol), whichever is greater.</td>
</tr>
</tbody>
</table>

## Hypoglycaemic Drugs

Individuals with persistent fasting blood glucose >6 mmol/l despite diet control should be given metformin. (1++, A)

Reducing cholesterol level by 20% (approximately 1 mmol/l) with statin treatment would be expected to yield a coronary heart disease mortality benefit of 30%, whatever the pretreatment absolute risk. However, applying this to the general population may not be cost effective. It will lead to a large proportion of the adult population receiving statins. Even in some high-resource settings, current practice is to recommend drugs for this group only if serum cholesterol is above 8mmol/l (320 mg/dl).

There are no clinical trials that have evaluated the absolute and relative benefits of cholesterol lowering to different cholesterol targets in relation to clinical events.
Record the interventions provided to the client on the lower half of the Patient’s Record. Set the return date based on guidelines and record.

For clients with risk of above 20%, prescribe their attendance to health education classes. See Annex 8 for the session guides for health education. For clients prescribed with medications, issue a patient’s passbook. Refer to Annex 9. Lastly, write your name and signature.
VIII. The following shall guide the health providers during the client’s second visit:

**Assess:**
- Waist circumference *
- Palpation of heart, peripheral pulses and abdomen
- Auscultation heart and lungs
- Blood pressure
- Fasting or random plasma glucose (DM= fasting>=7 mmol/L (126 mg/dl) or random>=11.1 mmol/L (200 mg/dl))
- Urine protein
- Test sensation of feet and foot pulses if DM

**Follow referral criteria for all visits under Action 3**

Estimate the 10-year cardiovascular risk using the WHO/ISH risk prediction charts.

**If Risk is <20%:**
- Follow up in 12 months and reassess cardiovascular risk
- Counsel on diet, physical activity, smoking cessation

**If Risk is 20 to <30%:**
- Continue as in Action 5 and follow-up every 3 months

**If Risk is still >30%:**
- After 3 to 6 months of prescribed interventions at first visit, refer to next level facility.

**Advice to Patients and Family:**
- Avoid table salt and reduce salty foods such as pickles, salty fish, fastfood, processed food, canned food and stock cubes
- Have your blood glucose level, blood pressure and urine checked regularly.

**Advice specific for Patients with Diabetes:**
- If on any diabetes medication that may cause blood glucose level to go too low, advise the patient to carry sugar or sweets with them
- If feasible, have an annual eye check-up
- Avoid walking barefoot or without socks
- Wash feet in lukewarm water and dry well especially between toes
- Do not cut calluses or corns, nor use chemical agents on them
- Regularly check one’s feet everyday and if a problem or injury is seen, advise the patient to go see a health worker for proper assessment and referral

Record the results of re-assessment and the interventions provided to the client on the Patient’s Follow-up Record. See Annex 5. Set the return date based on guidelines and record. Lastly, write your name and signature.
RISK ASSESSMENT AND MANAGEMENT IN THE COMMUNITY

This section shall provide the service pathway, minimum resource requirements and procedures on risk assessment and management during outreach activities in the community.

SERVICE PATHWAY

The algorithm illustrated in Figure 8 summarizes the service pathway on the risk assessment and management of potential clients at risk of NCD in the community.

Figure 8. NCD Risk Assessment at the Community Level.

THE NCD COMMUNITY TEAM

- 1 Midwife or non-physician health worker
- 1 Barangay Nutrition Scholar (BNS)
- at least 2 Barangay Health Workers (BHW)

Roles and responsibilities of the members of the NCD Community Team

The NCD Community Team is the first link of these clients to the health facility and to the referral network. For the assessment and the referral system to fully achieve its purpose, the NCD Community Team need to be trained well on using the Risk Assessment Form and in properly communicating the NCD program message to the community.

The NCD Community Team shall be responsible for:
- Initial risk assessment of the targeted population
- Advocating for NCD prevention and healthy lifestyle in the community
- Referring clients with risks to the health facility

The Midwife. The Midwife shall serve as the Team Leader of the NCD Community Team. The Midwife will also be responsible for organizing the community outreach activities. This will be done at least once a month or more often depending on the size of the population.

Actions to be taken by the Midwife:
1. Administer the NCD High-Risk Assessment Form – obtain client’s identifying information, history and measurements (blood pressure and waist circumference)
2. Address the risk factors identified by providing counseling to clients who have risk/s
3. Refer at risk clients to the health facility
4. Promote and advocate the practice of healthy lifestyle in the community

The Barangay Nutrition Scholar. The Barangay Nutrition Scholar (BNS) shall assist the Midwife in identifying individuals who might be at risk of NCDs. The BNS is also responsible for advocating the practice of healthy lifestyle in the community and in encouraging individuals to visit the health center if NCD symptoms become evident.

The Barangay Health Worker. The Barangay Health Worker (BHW) shall be responsible for informing the community on the activities and services offered by the health facilities on the prevention and control of NCD. They are also responsible for encouraging the community in participating in healthy lifestyle activities.

REQUIRES EQUIPMENT OR DEVICES
- Stethoscope
- Blood Pressure measurement device
- Measuring Tape

OTHERS
- Referral Facilities
- Maintenance and calibration of Blood Pressure measurement device

Procedures on Risk Factor Assessment and Management in the Community

I. Issue one NCD High-Risk Assessment Community Case Finding Form (See Annex 6) per identified client.

1. First, fill out the identifying information.

   ✐ Record the date of assessment on the space provided in the format: mm/dd/yyyy.

   Date of Assessment: | Birth Date: | Age:
   --- | --- | ---
   Name: | Civil Status: | Sex:
   Address: | Contact Numbers: |
   Occupation: | Educational Attainment:

   ☑ Ask for the client’s personal profile: name, birth date, age, civil status, sex, address, contact numbers, occupation and educational attainment.

   ✐ Record the Name in the format: surname, first name and middle name.

   ✐ Record the Birth Date in the format: mm/dd/yyyy.

   ✐ Record the Age in years as of the last birthday.
○ Circle the corresponding letter of the client’s **Civil Status**.

| S | refers to single |
| M | refers to legally married |
| C | refers to common law husband/wife |
| W | refers to widow/widower |

○ Circle the corresponding letter of the client’s **Sex**.

| M | for male |
| F | for female |

资源共享 the **Address** in the format: name of the barangay, street name and house number.

资源共享 the **Contact Numbers** whether landline or mobile phone number.

资源共享 the **Occupation** or job e.g. employee, salesman, carpenter, laundry woman. Write none if he/she doesn’t have a job at the moment.

资源共享 the **Educational Attainment** as follows:

- **None** refers to “unschooled” or having no attendance in any formal education
- **Elementary** refers to attendance in grade school, regardless of completion of any grade in elementary school
- **High School** refers to completion of grade school and attendance in high school, regardless of completion of any year in high school
- **College** refers to completion of high school and attendance in vocational school, college or university, regardless of completion of any year
- **Post-graduate** refers to completion of college and attendance in post-graduate school

2. Next, fill out the box about the client’s **Family History**.

资源共享 Ask the client if he/she has first degree relative (father, mother or siblings) with hypertension, stroke, heart attack, diabetes, asthma, cancer and/or kidney disease and check (✓) the corresponding box – Yes or No.

<table>
<thead>
<tr>
<th>Family History</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does patient have 1st degree relative with</td>
</tr>
<tr>
<td>Hypertension</td>
</tr>
<tr>
<td>Stroke</td>
</tr>
<tr>
<td>Heart Attack</td>
</tr>
<tr>
<td>Diabetes</td>
</tr>
<tr>
<td>Asthma</td>
</tr>
<tr>
<td>Cancer</td>
</tr>
<tr>
<td>Kidney Disease</td>
</tr>
</tbody>
</table>

**NOTE:**
- Shaded box means the client is at risk
3. Next, assess the client’s **Smoking (Tobacco/Cigarette)** status.

◊ Ask the client whether he/she smokes or not and if he/she is exposed to second-hand smoke at work and/or at home. If the client has stopped smoking, ask when he/she quit smoking. Check (√) the corresponding box(es).

<table>
<thead>
<tr>
<th>Smoking (Tobacco/Cigarette)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never smoked</td>
</tr>
<tr>
<td>Current smoker</td>
</tr>
<tr>
<td>Passive Smoker</td>
</tr>
</tbody>
</table>

4. Next, assess the client’s **Alcohol Intake**.

◊ Ask if he/she regularly consumes alcoholic beverages and check the corresponding box. To determine if the client has an **Excessive Alcohol Intake**, ask if he/she had 5 drinks in one occasion in the past month then check (√) the corresponding box.

<table>
<thead>
<tr>
<th>Alcohol Intake</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never consumed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Excessive Alcohol Intake</th>
</tr>
</thead>
<tbody>
<tr>
<td>In the past month, had 5 drinks in one occasion</td>
</tr>
</tbody>
</table>

| Yes | No |

5. Next, assess if the client consumes **High Fat/High Salt Food Intake**.

◊ Ask the client if he/she eats processed/fast foods (e.g. instant noodles, hamburgers, French fries, fried chicken skin, etc.) and ihaw-ihaw (e.g. isaw, adidas, etc.) weekly. Check (√) the corresponding box.

<table>
<thead>
<tr>
<th>High Fat/High Salt Food Intake</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eats processed/fast foods (e.g. instant noodles, hamburgers, French fries, fried chicken skin, etc.) and ihaw-ihaw (e.g. isaw, adidas, etc.) weekly</td>
</tr>
</tbody>
</table>

| Yes | No |

6. Next, assess the client’s **Dietary Fiber Intake**.

◊ Ask the client if he/she consumes at least 3 servings of vegetables and/or at least 2-3 servings of fruits daily which are the recommended number of servings. Check (√) the appropriate boxes.

<table>
<thead>
<tr>
<th>Dietary Fiber Intake:</th>
</tr>
</thead>
<tbody>
<tr>
<td>At least 3 servings of vegetables daily</td>
</tr>
<tr>
<td>At least 2-3 servings of fruits daily</td>
</tr>
</tbody>
</table>
7. Next, assess the client’s Physical Activity.

◊ Ask if the client does at least 2 ½ hours a week of moderate intensity physical activity which is recommended to achieve desired health benefit. Check (✓) the corresponding box.

<table>
<thead>
<tr>
<th>Physical Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does at least 2 ½ hours a week of moderate-intensity physical activity</td>
</tr>
</tbody>
</table>

8. Next, using a non-extensible/non-stretchable tape measure that is placed around the waist (unclothed), standing with the abdomen relaxed, arms at the sides and feet together, take the client’s waist circumference in centimeters and record on the space provided to determine Central Adiposity.

Two suggested points for waist measurement are recommended:

- At the level of the umbilicus. However with this method, in the very overweight people, the “umbilicus” level may be quite low
- Mid way or between the last rib and the supra iliac crest, which is preferred because of more stable landmarks.

<table>
<thead>
<tr>
<th>Central Adiposity</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waist circumference (cm)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Classify the client’s waist circumference based on the following:

<table>
<thead>
<tr>
<th>Sex</th>
<th>Waist Circumference</th>
<th>Not at risk</th>
<th>At risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>&lt; 90 cm</td>
<td>≥ 90 cm</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>&lt; 80 cm</td>
<td>≥ 80 cm</td>
<td></td>
</tr>
</tbody>
</table>

If the client’s waist circumference falls under at risk, check (✓) the shaded box - for at risk.

9. Next, take the client’s Blood Pressure (make sure he/she is fully rested for at least 5 minutes) and record on the space provided. Take the second blood pressure after 2 minutes and record. Then compute for the average systolic and diastolic reading.

<table>
<thead>
<tr>
<th>Raised Blood Pressure</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systolic 1st reading</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diastolic 1st reading</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Systolic and Diastolic reading</td>
<td>/</td>
<td></td>
</tr>
</tbody>
</table>
Classify the client’s blood pressure based on the following:

<table>
<thead>
<tr>
<th>Average BP in mmHg</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systolic</td>
<td>Diastolic</td>
</tr>
<tr>
<td>&lt; 120</td>
<td>&lt; 80</td>
</tr>
<tr>
<td>120 - 139</td>
<td>80 - 89</td>
</tr>
<tr>
<td>140 - 159</td>
<td>90 - 99</td>
</tr>
<tr>
<td>≥ 160</td>
<td>≥ 100</td>
</tr>
</tbody>
</table>

If blood pressure is above or equal to 120/80, check (✓) the shaded box - for at risk.

II. After completing the risk assessment, the Midwife is guided by the following to determine the Action that should be taken:

Refer client to the health center for risk screening if with any of the following:
- Age greater than 40 years
- Tobacco/Cigarette Smoking
- Central Adiposity
- Raised Blood Pressure
- Diabetes
- Family History of Hypertension, Stroke or Heart Attack
- Family History of Diabetes or Kidney Disease

1. If the client falls under any of the criteria above, check (✓) the corresponding box and record the date and time of the client’s appointment. Explain the reason for the referral, the name and address of the referral health center, and the date and time of the client’s appointment to the client.
2. Also, give a referral card (see below) to every client who is referred to the health center.

3. If the client assessed has no risk, **give health information** on the practice of healthy lifestyle – healthy diet, regular physical activity and avoid exposure to cigarette smoke. Check (√) the box ‘given health information’.

4. Lastly, write your complete name and signature on the space provided.
ANNEXES

ANNEX 1. NCD High-Risk Assessment (Facility Form)

ANNEX 2. Guidelines on Healthy Diet

ANNEX 3. Guidelines on Physical Activity

ANNEX 4. Patient’s Record (First Visit)

ANNEX 5. Patient’s Record (Follow-up Visit)

ANNEX 6. NCD High-Risk Assessment Community Case Finding Form

ANNEX 7. Management of People with established CHD, CeVD or PVD (Secondary Prevention)

ANNEX 8. Health Education Session Guides

ANNEX 9. Patient’s Passbook
### ANNEX 1. NCD High-Risk Assessment (Facility Form)

<table>
<thead>
<tr>
<th>ID No.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of Assessment:</td>
<td>Birth Date:</td>
</tr>
<tr>
<td>Name:</td>
<td>Civil Status:</td>
</tr>
<tr>
<td>Address:</td>
<td>Contact Numbers:</td>
</tr>
<tr>
<td>Occupation:</td>
<td>Educational Attainment:</td>
</tr>
</tbody>
</table>

#### Family History
- Does patient have 1st degree relatives with:
  - Hypertension
  - Stroke
  - Heart Attack
  - Diabetes
  - Asthma
  - Cancer
  - Kidney Disease

#### Smoking (Tobacco/Cigarette)
- Never smoked
- Current smoker
- Passive smoker

#### Alcohol Intake
- Never consumed
- Yes, drinks alcohol
- Excessive Alcohol Intake

#### High Fat/High Salt Food Intake
- Eats processed/fast foods (e.g., instant noodles, hamburgers, fries, fried chicken skin, etc.) and sugary drinks (e.g., soda, soft drinks) weekly

#### Physical Activity
- Does at least 2 1/2 hours a week of moderate-intensity physical activity

#### Presence or absence of Diabetes
- Was patient diagnosed as having diabetes?
  - Yes
  - No
  - Do not know
- If Yes, with medications
  - Yes
  - No
  - Do not know
- If Yes, perform urine test
  - Yes
  - No
  - Do not know
- Raised Blood Glucose
  - Yes
  - No
  - Do not know

#### Questionnaire to Determine Probable Angina, Heart Attack, Stroke or Transient Ischemic Attack
1. Have you had any pain or discomfort in your chest?
   - Yes
   - No
   - Do not know
2. Do you get pain in the center of the chest or left chest or left arm? Ang sakit ba sa iyong kalbing ng marulang isuwat?
   - Yes
   - No
   - Do not know
3. Do you get it when you walk uphill or hurry?
   - Yes
   - No
   - Do not know
4. Do you slow down if you get the pain while walking?
   - Yes
   - No
   - Do not know
5. Does the pain go away if you stand still or if you take a tablet under the tongue?
   - Yes
   - No
   - Do not know
6. Does the pain go away less than 10 minutes?
   - Yes
   - No
   - Do not know
7. Have you ever had severe chest pain across the front of your chest lasting for half an hour or more?
   - Yes
   - No
   - Do not know

#### If the answer to Questions 3 or 4 or 5 or 6 or 7 is YES, patient may have angina or heart attack and needs to see the doctor.

#### Stroke and TIA
8. Have you ever had any of the following: difficulty in talking, weakness of arm and or leg on one side of the body or numbness on one side of the body? Nakakaramdam kona ba ng ngipin o ngipin sa isang bahagi ng katawan?
   - Yes
   - No
   - Do not know

#### If the answer to Question 8 is YES, patient may have had a TIA or stroke and needs to see the doctor.

### Questionnaire to Determine Presence of Diabetes
- Presence of Urine Ketones
  - Yes
  - No
  - Do not know
- Presence of Urine Protein
  - Yes
  - No
  - Do not know

### Questionnaire to Determine Presence of Urine Protein
- Presence of Urine Protein
  - Yes
  - No
  - Do not know
The Nutritional Guidelines for Filipinos as recommended by the Food and Nutrition Research Institute will be utilized in promoting healthy diet in this manual. Seven out of the ten guidelines are directly associated with prevention of NCDs which shall be the center of discussion in this guide for a healthy diet.

Healthy diet is a balance of food intake which involves energy balance and healthy weight, limits energy intake from total fats and shift fat consumption away from saturated fats to unsaturated fats and towards the elimination of trans-fatty acids, increase consumption of fruits and vegetables, and legumes, whole grains and nuts, limit the intake of free sugars and limit salt/sodium consumption from all sources.

Promoting proper nutrition or a healthy diet is essential in the prevention of major non-communicable diseases, particularly cardiovascular diseases, diabetes mellitus and cancer. It is known that diet high in calories and fats increase the risk to cardiovascular diseases while diets low in fiber and complex carbohydrates increases the risk of cancer and diabetes.

Nutrition Counseling is a more individualized health education and addresses the specific problem of the client. Clients found with nutrition-related problems that lead to NCDs such as obesity, increased fat intake, increased intake of salt and/or processed and instant foods and inadequate dietary fiber will be educated and counseled.

Provide specific information and assist the person to modify his/her risk. Take note of the following guide as you educate or counsel the client on their nutrition-related problems:

Aim for Ideal Body Weight
If client is found to be overweight or obese, he/she should be helped to get back to his/her desirable body weight and maintain it at this level. Maintaining a desirable body weight entails the following:

- Recognize eating pattern by keeping a food diary
- Observing helpful diet practices such as not losing weight too fast or eating small portions of food slowly to end up eating less
- Regular exercise to accompany change in eating habits to make weight reduction more effective

Building Healthy Nutrition-related Practices
Encourage client to consume adequate and well-balanced diet and adopt desirable food and nutrition practices

- Eat variety of foods everyday
- Maintain children’s normal growth through proper diet and monitor growth regularly
- Consume fish, lean meat, poultry or dried beans
- Eat more vegetables, fruits and root crops
- Eat foods cooked in edible/cooking oil daily (preferably vegetable oil)
- Use iodized salt but avoid excessive intake of salty foods
- Consume milk, milk products and other calcium rich foods
- Eat clean and safe food
- Avoid drinking alcoholic beverages

Choose Food Wisely
Advise client to select the proper kind of food to eat especially processed foods by giving careful attention to their labels. Advise them how to interpret the nutrition facts in the food labels. They must take note also of the freshness of the food while checking out on the kinds of additives that were used.

Break-off fast food
Remind clients that the key to breaking a bad habit is to replace it with new, positive one. Be guided by the following steps in helping clients break any bad habit.
• Help them define the bad habit. Be sure to describe a bad habit in a specific manner. For example, instead of saying “I don’t eat very well”, describe a specific behavior that demonstrates the problem; “I eat too much potato chips”.

• Assist client set a goal. A goal describes the behavior to be substituted for the bad habit. It should be specific and clear and should have a realistic deadline. It should also emphasize doing something, e.g. for snacks, choose foods low in fat, such as fruit and low-fat cheeses. If a goal is broad, it should be broken into sub goals.

**Design with the client an action plan**

a) Monitor the bad habit. Spend a week carefully observing and recording bad habit

b) Write the plan. Describe in detail the specific day-to-day changes to reach goals. The plan should be a gradual, step-wise process.

c) Keeping a record. Record new behavior daily, including setbacks.

Advise client to seek support from family members and friends. Family and friends should keep an eye on the client’s progress, and keep a handy list of the benefits of new behavior. Surroundings should be structured to support efforts. Should extensive nutrition counseling be required, refer the client to the nutritionist for further action.
**ANNEX 3. Guidelines on Physical Activity**

Being physically active helps with controlling weight, raising good cholesterol, and reducing blood pressure and risk of diabetes and some types of cancer. Physical activity also improves psychological well-being, including gaining more self-confidence and higher self-esteem.

**Recommended physical activity guidelines for adults**

All healthy adults aged 18 to 65 yr need moderate-intensity aerobic (endurance) physical activity for a minimum of 30 minutes on five days each week or vigorous intensity aerobic physical activity for a minimum of 20 minutes on three days each week. Combinations of moderate- and vigorous-intensity activity can be performed to meet this recommendation. For example, a person can meet the recommendation by walking briskly for 30 minutes twice during the week and then jogging for 20 min on two other days.

Moderate-intensity aerobic activity, which is generally equivalent to a brisk walk and noticeably accelerates the heart rate, can be accumulated toward the 30-min minimum by performing bouts each lasting 10 or more minutes. Vigorous intensity activity is exemplified by jogging, and causes rapid breathing and a substantial increase in heart rate. In addition, every adult should perform activities that maintain or increase muscular strength and endurance a minimum of two days each week. Because of the dose-response relation between physical activity and health, persons who wish to further improve their personal fitness, reduce their risk for chronic diseases and disabilities or prevent unhealthy weight gain may benefit by exceeding the minimum recommended amounts of physical activity.

The recommendation for older adults is similar to the updated ACSM/AHA recommendation for adults, but has several important differences including: the recommended intensity of aerobic activity takes into account the older adult’s aerobic fitness; activities that maintain or increase flexibility are recommended; and balance exercises are recommended for older adults at risk of falls. In addition, older adults should have an activity plan for achieving recommended physical activity that integrates preventive and therapeutic recommendations. The promotion of physical activity in older adults should emphasize moderate-intensity aerobic activity, muscle-strengthening activity, reducing sedentary behavior, and risk management.
### PATIENT'S RECORD

#### PHYSICAL EXAMINATION:

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Normal</th>
<th>Abnormal, specify</th>
</tr>
</thead>
<tbody>
<tr>
<td>Palpation of heart</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Palpation of peripheral pulses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Palpation of abdomen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auscultation of heart</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auscultation of lungs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If DM, sensation of feet and foot pulses</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### ANNEX 4.

#### PATIENT'S RECORD

**Name:**

**Health Insurance:**
- Wala
- 4Ps
- Regular
- Voluntary (IP)
- Retired

**CURRENT MEDICATIONS:**

**DIAGNOSIS & ASSOCIATED CLINICAL CONDITIONS:**
- With cardiovascular risk factors only
- Essential hypertension
- Secondary Hypertension
- Diabetes
- Renal disease (albuminuria >3g/L, creatinine >177µmol/L or 2mg/dL)
- Congestive heart disease
- Coronary heart disease
- Peripheral vascular disease
- Cerebrovascular disease
- Hypertensive retinopathy
- Others, specify

**TARGET ORGAN DAMAGE:**
- Left ventricular hypertrophy
- Microalbuminuria (0.2-3g/L)
- Others, specify

**OTHER SIGNIFICANT FINDINGS/LABORATORY RESULTS:**

**MANAGEMENT:**

<table>
<thead>
<tr>
<th>Counselling on:</th>
<th>Drug</th>
<th>Dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking cessation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight Control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol Intake</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others, specify</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Others, Referral:**

**HealthWala**

**Sponsored Insurance:**
- Regular
- Voluntary (IP)
- Retired

**PhilHealth ID# _________________________**

**Private/HMO**
## PHYSICAL EXAMINATION:

<table>
<thead>
<tr>
<th>Examination</th>
<th>Normal</th>
<th>Abnormal, specify</th>
</tr>
</thead>
<tbody>
<tr>
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## OTHER SIGNIFICANT FINDINGS/LABORATORY RESULTS:

- ID No.
- Name:

## MANAGEMENT:

<table>
<thead>
<tr>
<th>Counselling on:</th>
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<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol intake</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others, specify</td>
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<td></td>
</tr>
</tbody>
</table>

Others/Referral:
# ANNEX 6. NCD High-Risk Assessment Community Case Finding Form

**NCD HIGH-RISK ASSESSMENT**  
(Community Case Finding Form)

<table>
<thead>
<tr>
<th>Date of Assessment:</th>
<th>Birth Date:</th>
<th>Age:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
<td>Civil Status:</td>
<td>Sex:</td>
</tr>
<tr>
<td></td>
<td>S M C W</td>
<td>M F</td>
</tr>
<tr>
<td>Address:</td>
<td>Contact Numbers:</td>
<td></td>
</tr>
<tr>
<td>Occupation:</td>
<td>Educational Attainment:</td>
<td></td>
</tr>
</tbody>
</table>

## Family History
Does patient have 1st degree relative with:
- Hypertension (Yes/No)
- Stroke (Yes/No)
- Heart Attack (Yes/No)
- Diabetes (Yes/No)
- Asthma (Yes/No)
- Cancer (Yes/No)
- Kidney Disease (Yes/No)

## Smoking (Tobacco/Cigarette)
- Never smoked
- Current smoker
- Stopped > a year
- Stopped < a year
- Passive Smoker

## Alcohol Intake
- Never consumed
- Yes, drinks alcohol

## Excessive Alcohol Intake
In the past month, had 5 drinks in one occasion
- Yes
- No

## High Fat/High Salt Food Intake
Eats processed/fast foods (e.g. instant noodles, hamburgers, fries, fried chicken skin, etc.) and ihaw-ihaw (e.g. isaw, adidas, etc.) weekly
- Yes
- No

## Dietary Fiber Intake:
- 3 servings of vegetables daily
- 2-3 servings of fruits daily

## Physical Activity
Does at least 2 1/2 hours a week of moderate-intensity physical activity
- Yes
- No

## Presence or absence of Diabetes
Was patient diagnosed as having diabetes?
- Yes
- No
- Do not know

## Central Adiposity
Waist circumference (cm)
- Yes
- No

##Raised BP
- Systolic 1st reading
- Diastolic 1st reading
- Systolic 2nd reading
- Diastolic 2nd reading
- Average Blood Pressure

## Action:
- Referred to health center
- Given Health Information

Assessment done by: ____________________________

Printed Name and Signature

---

*Manual on the PEN Protocol on the Integrated Management of Hypertension and Diabetes*
ANNEX 7.

Management of People with established CHD, CeVD or PVD (Secondary Prevention)

People with established cardiovascular disease (angina pectoris, CHD, myocardial infarction, transient ischaemic attacks, CeVD or peripheral vascular disease or after coronary revascularization or carotid endarterectomy) are at very high risk of developing recurrent cardiovascular events. Use of risk charts is no longer applicable to make treatment decisions in them. The subsequent recommendations are suggested to prevent recurrent cardiovascular events by reducing their cardiovascular risk.

<table>
<thead>
<tr>
<th><strong>Lifestyle Advice</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Intensive lifestyle advice should be given simultaneously with drug treatment</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Smoking Cessation</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>All individuals with established CHD and/or CeVD should be strongly encouraged to stop smoking by a health professional and supported in their efforts to do so.</td>
</tr>
<tr>
<td>Cessation of other forms of tobacco use in individuals with established CHD and/or CeVD is recommended.</td>
</tr>
<tr>
<td>Nicotine replacement therapy should be offered to individuals who continue to smoke at least 10 cigarettes a day or more, who are likely to be markedly nicotine dependent. The use of antidepressants for smoking cessation is not generally recommended for patients with CHD and/or CeVD.</td>
</tr>
<tr>
<td>Non-smoking people with CHD and/or CeVD should be advised to avoid exposure to second-hand tobacco smoke as much as possible.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Dietary Changes</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>All individuals with CHD and/or CeVD should be given advice to adopt a pattern of diet which is likely to reduce the risk of recurrent vascular disease.</td>
</tr>
<tr>
<td>Total fat intake should be reduced to &lt;30% of calories, saturated fat to &lt;10% of calories and trans fatty acids should be reduced as much as possible or eliminated; most dietary fat should be polyunsaturated (up to 10% of calories) or monounsaturated (10-15% of calories).</td>
</tr>
<tr>
<td>All individuals should be strongly encouraged to reduce daily salt intake by at least one-third and, if possible, to &lt;5 grams or &lt;90 mmol per day.</td>
</tr>
<tr>
<td>All individuals should be encouraged to eat, at least 400 grams a day, of a range of fruits and vegetables, as well as whole grains and pulses.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Physical Activity</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular light to moderate intensity physical exercise is recommended for all subjects recovering from major CHD events (including coronary revascularization).</td>
</tr>
<tr>
<td>Supervised programs of exercise should where feasible be offered to all subjects recovering from major CHD events and CeVD events.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Weight Control</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>In patients with cardiovascular disease who are overweight or obese, weight loss should be advised through the combination of a reduced energy diet and increased physical activity.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Alcohol Intake</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Individuals who take more than 3 units of alcohol (one unit (drink) = half pint beer/lager (5% alcohol), 100 ml of wine (10% alcohol), spirits 25 ml (40% alcohol) per day should be advised to reduce alcohol consumption.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Antihypertensive Drugs</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood pressure reduction should be considered in all patients with established CHD, particularly with a blood pressure level above 140/90 mmHg. Lifestyle factors (particularly high alcohol intake) should be addressed first and if blood pressure is still above 140/90 mmHg, drug treatment is indicated. When beta blockers and ACEI (angiotensin converting enzyme inhibitors) cannot be given, or in diuretic is likely to reduce risk of recurrent vascular events.</td>
</tr>
</tbody>
</table>
### Antihypertensive Drugs

Blood pressure reduction should be considered in all patients with previous TIA or stroke to a target of <130/80-85 mmHg.

### Lipid Lowering Drugs

Treatment with statins is recommended for all patients with established CHD. Treatment should be continued in the long term, probably lifelong. Patients at high baseline risk are particularly likely to benefit.

Treatment with a statin should be considered for all patients with established CeVD, especially if they also have evidence of established CHD.

Monitoring of blood cholesterol levels is not mandatory. A total cholesterol of less than 4.0 mmol/l (152 mg/dl) and LDL-cholesterol of less than 2.0 mmol/l (77 mg/dl), or a reduction of 25% in total cholesterol and 30% in LDL-cholesterol, whichever achieves the lower absolute risk level, may be desirable goals.

Other lipid lowering agents are not recommended, either as an alternative to statins or in addition to them.

### Hypoglycemic Drugs

Secondary prevention of CHD, CeVD and PVD is important in patients with diabetes, whether type 1 or type 2. Individuals with persistent fasting blood glucose >6 mmol/l despite diet control should be given metformin and/or insulin as appropriate.

### Antiplatelet Drugs

All patients with established CHD should be treated with regular aspirin in the absence of clear contraindications. Treatment should be initiated early and continued lifelong.

All patients with a history of transient ischaemic attack or stroke presumed due to cerebral ischaemia or infarction should be treated with long-term (probably lifelong) aspirin in the absence of clear contraindications.

### Following Myocardial Infarction An ACEI

ACE inhibitors are recommended in all patients following myocardial infarction, which should be initiated as early as possible and continued long-term, probably lifelong. The benefits of treatment are particularly great among patients with impaired left ventricular function.

### Following Myocardial Infarction A Beta Blocker

Treatment with beta-blockers is recommended in all patients with a history of myocardial infarction and those with CHD who have developed major left ventricular dysfunction leading to heart failure. Treatment should be continued for a minimum of 1-2 years after MI and probably lifelong, unless serious side effects occur. Beta-blockers are probably beneficial in patients with angina, although robust data are lacking.

### Anticoagulant Treatment

Long term anticoagulation is not recommended in patients with a history of stroke or TIA who are in sinus rhythm.

Long term anticoagulation is recommended for patients with a history of stroke or TIA who are in atrial fibrillation, at low risk of bleeding and in whom treatment with anticoagulants can be safely monitored. In circumstances in which anticoagulant monitoring is not possible, or if patient cannot take anticoagulants, treatment with aspirin should be offered.

### Coronary Revascularization

CABG (coronary artery bypass graft) surgery should be considered as an adjunct to optimal medical treatment including aspirin, lipid lowering treatment, ACE inhibitors and beta-blockers) in those patients at moderate and high risk who are considered likely to have left main stem or triple vessel disease.

PTCA (percutaneous coronary angioplasty) should be considered for relief of angina symptoms in patients with refractory angina who are already receiving optimal medical treatment.

### Carotid Endarterectomy

Carotid endarterectomy reduces the risk of recurrent stroke and death among patients with a previous TIA or non-disabling stroke in patients with severe ipsilateral carotid stenosis (70-99%) and possibly in patients with moderate degrees of stenosis (50-69%) though not in milder degrees of stenosis.

### Drugs that are not Recommended

On the basis of current evidence, treatment with type 1 anti-arrhythmics, calcium channel blockers, antioxidant vitamins, folate and hormone replacement therapy are not recommended for CHD or CeVD patients.
ANNEX 8. HEALTH EDUCATION SESSION GUIDES

Promoting Good Nutrition

**Learning Objectives:** At the end of the session, the participants should be able to:
1. Discuss three basic food groups and its functions
2. Enumerate healthy nutrition practices
3. Recognize a balanced meal and discuss its importance
4. Discuss how to choose food wisely

**Materials:**
- Food models of the three basic food groups
- Flipchart Nutritional Guidelines for Filipinos and Nutrition practices
- Poster of a balanced diet

**Activity:**
1. Discuss to the participants about the three basic food groups, i.e. Go or energy-giving, Grow or body-building and Glow or body-regulating foods and the function of each food group. Show the display of food models and actual food items and ask them which of the food groups is contained in each food item.
2. Using a flipchart discuss the Nutritional Guidelines for Filipinos and emphasize key messages related to healthy lifestyle.
3. Explain a balanced meal and its importance to maintain an ideal body weight and to prevent healthy lifestyle related diseases. Ask the participants to give examples of a balanced meal.
4. Ask the participants what they look for when choosing a food item or meal. Discuss how to read food labels and enumerate several tips to choose food wisely.
5. Ask for clarifications and wrap up the session.

Promoting Physical Activity

**Learning Objectives:** At the end of the session, the participants should be able to:
1. Discuss the importance and benefits of having a regular physical activity
2. Demonstrate simple exercise routine
3. Give examples of recommended physical activity for specific age group

**Materials:**
- Flipchart Physical Activity
- Physical Activity/Hataw Exercise Video
- Brochure on Recommended Physical Activity for specific age group

**Activity:**
1. Ask the participants what comprises their day, what are their physical activities and how much time do they allot doing these. Define what physical activity is and discuss its importance. Emphasize the benefits of having a regular physical activity and give tips on how to incorporate physical activity in daily living.
2. Short a short video on physical activity/Hataw exercise and let the participants follow.
3. Discuss and give examples of recommended physical activity for different age groups.
4. Ask for clarifications and wrap up the session by asking several participants on what kind of physical activities will they now incorporate in their daily living.
Promoting Smoking Cessation

Learning Objectives: At the end of the session, the participants should be able to:
1. Discuss the harmful effects of smoking cigarette/tobacco
2. Define active and passive smoking
3. Enumerate at least five diseases related to smoking
4. Discuss the benefits of smoking cessation

Materials:
- Flipchart on smoking
- Poster of smoker’s body
- Video clippings
- Brochure on smoking cessation

Activity:
1. Ask the participants who among them are smokers or are exposed to cigarette smoke at home or in the workplace. Begin by discussing how much a cigarette cost and how much they can save a month/year and compare this to more important things if they quit smoking.
2. Discuss what is active and passive smoking and proceed to discuss the harmful effects of smoking cigarette/tobacco. Show the smoker’s body and enumerate the different diseases related to smoking.
3. Show video clippings on smoking and ask the participants for feedback.
4. Next, explain that there’s good news, which is the risk of developing a disease related to smoking are reduced when one quits smoking. Discuss the benefits of smoking cessation.
5. Ask for clarifications and wrap up the session by encouraging the smokers to come to a smoking cessation clinic.
ANNEX 9. PATIENT’S PASSBOOK

Municipality of Pateros
i keep my heart healthy

ID No.

Family History
Does patient have 1st degree relative with:
- Hypertension
- Stroke
- Heart Attack
- Diabetes
- Asthma
- Cancer
- Kidney Disease

Cardiovascular Risk

Treatment Regimen

Date | Name of Drug | Poseology

BLOOD PRESSURE MONITORING

Date | 1st Reading | 2nd Reading | Average

**FOOD PYRAMID**

- Fats, Oils, and Sweets: Use Sparingly
- Calcium, Vitamin D, Vitamin B-12 Supplements
- Milk, Yogurt, and Cheese Group: 3 Servings
- Meat, Poultry, Fish, Dry Beans, and Nuts Group: 2 Servings
- Vegetable Group: 3 Servings
- Fruit Group: 2 Servings
- Fortified-Cereal, Bread, Rice, and Pasta: 6 Servings
- Water: 8 Servings

**Mga gabay sa wastong nutritionyan (Recommended guidelines for good nutrition):**

- Kumain ng luto’t-bang pagkain araw-araw dahil wala lang isang pagkain na nakapaghigayng isang gabi ng sustansya kahalagangan ng ating katawan.
- Sundin ang Food Pyramid upang makasiguro na sapag ka-isang tao na dapat bang pagkain. Tingnan ang kabilang pauna.
- Uminom ng di baba sa 3 basong tubig at marami ng likid araw-araw.
- Kumain ng 5 sukatan ng gulay at 2 sukatan ng prutas araw-araw. Ang mga ito ay matalas sa vitamina, mineral at fiber.
- Kumain ng isda, karne na walang taba, manok at beans.
- Bawasan ang pagkain ng mataba at malatag o mamacinta, asukal, asin, mga maaaring mang inaatakan.
- Ilagay o pasilangan ang pagkain namin sa pananig para mahalal at magalat ng katawan.
- Iwasaan ang processed foods kagaya ng instant noodles, tocino, longganisa, corned beef at hotdog at mga luyaw-luyaw na kagaya ng saw, tenge ng badoy, bituke ng manok, at iba pa.

**PHYSICAL ACTIVITY PYRAMID**

- Ang regular na physical activity ay nasa labas ng mangingisda ng maging isang sa heart at sa mga mag-aktibidad.
- Cardiovascular disease
- Stroke
- Type 2 Diabetes
- Colon cancer
- Breast cancer
- Mga gabay ng regular at moderate-intensity physical activity na hindi babangis sa 30 minuto kada araw, limang araw sa loob ng isang linggo. Kabilang dito ang:
  - paglalakad ng malinis
  - pag-ekyat sa reglar
  - pagtira ng pagtira
  - pagbabangis
  - pagbabanta
  - kalisteniko
- Sa bawat isang oras na paz-uyo sa trabaho, inirekomendado ang 2 minuto sa pagkikilos tulad ng paglalakad, pag-ekyat sa pagtira at pag-unahin-unahin.

**SMOKER'S BODY**

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**Drug Supply**

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**Attendance of Client to Health Education Classes**

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<th>Session Topic</th>
<th>Staff Signature</th>
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**Attendance of Family Member to Health Education Classes**

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