Health Promotion and Non-communicable Diseases in the Philippines

Current Status and Priority Policy Interventions and Actions

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Health Justice Philippines
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<th>Description</th>
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<td>BMI</td>
<td>Body mass index</td>
</tr>
<tr>
<td>COH</td>
<td>Commission on Hypertension</td>
</tr>
<tr>
<td>CRD</td>
<td>Chronic respiratory disease</td>
</tr>
<tr>
<td>CSDH</td>
<td>Commission on Social Determinants of Health</td>
</tr>
<tr>
<td>CVD</td>
<td>Cardiovascular disease</td>
</tr>
<tr>
<td>DALY</td>
<td>Disability-adjusted life year</td>
</tr>
<tr>
<td>DepEd</td>
<td>Department of Education</td>
</tr>
<tr>
<td>DILG</td>
<td>Department of the Interior and Local Government</td>
</tr>
<tr>
<td>DM</td>
<td>Diabetes mellitus</td>
</tr>
<tr>
<td>DOH</td>
<td>Department of Health</td>
</tr>
<tr>
<td>DOLE</td>
<td>Department of Labor and Employment</td>
</tr>
<tr>
<td>FAO</td>
<td>Food and Agriculture Organization of the United Nations</td>
</tr>
<tr>
<td>FCTC</td>
<td>Framework Convention on Tobacco Control</td>
</tr>
<tr>
<td>FDA</td>
<td>Food and Drug Administration</td>
</tr>
<tr>
<td>GATS</td>
<td>Global Adult Tobacco Survey</td>
</tr>
<tr>
<td>GYTS</td>
<td>Global Youth Tobacco Survey</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross domestic product</td>
</tr>
<tr>
<td>HL</td>
<td>Healthy Lifestyle</td>
</tr>
<tr>
<td>MDG</td>
<td>Millennium Development Goals</td>
</tr>
<tr>
<td>MMDA</td>
<td>Metro Manila Development Authority</td>
</tr>
<tr>
<td>NCD</td>
<td>Non-communicable disease</td>
</tr>
<tr>
<td>NCDPC</td>
<td>National Center for Disease Prevention and Control</td>
</tr>
<tr>
<td>NCHP</td>
<td>National Center for Health Promotion</td>
</tr>
<tr>
<td>NEDA</td>
<td>National Economic and Development Authority</td>
</tr>
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<td>NGO</td>
<td>Non-Government Organization</td>
</tr>
<tr>
<td>NHIP</td>
<td>National Health Insurance Program</td>
</tr>
<tr>
<td>NNC</td>
<td>National Nutrition Council</td>
</tr>
<tr>
<td>NNS</td>
<td>National Nutrition Survey</td>
</tr>
<tr>
<td>NSO</td>
<td>National Statistics Office</td>
</tr>
<tr>
<td>ONEISS</td>
<td>Online Electronic Injury Surveillance System</td>
</tr>
<tr>
<td>PDP</td>
<td>Philippine Development Plan</td>
</tr>
<tr>
<td>PhilHealth</td>
<td>Philippine Health Insurance Corporation</td>
</tr>
<tr>
<td>PHS</td>
<td>Philippine Health Statistics</td>
</tr>
<tr>
<td>PIDS</td>
<td>Philippine Institute for Development Studies</td>
</tr>
<tr>
<td>PMA</td>
<td>Philippine Medical Association</td>
</tr>
<tr>
<td>SEATCA</td>
<td>Southeast Asia Tobacco Control Alliance</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
<tr>
<td>WPRO</td>
<td>Western Pacific Regional Office of the WHO</td>
</tr>
</tbody>
</table>
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The critical importance of promoting health

Health is one of the most important concerns among Filipinos as each of us strongly values our health and well-being. However, many of us have paid no attention to the countless choices confronting us about the way we live, work and play that can potentially damage our bodies and our minds, or even cost our lives. Oftentimes, it is only when we are sick, injured, disabled or faced with the potential loss of productivity, well-being, or life itself that we truly recognize the importance of health. But health care is never without personal cost, especially in a health system like the Philippines where the means of paying health services is overwhelmingly through out-of-pocket expenditure. Confronted with such situation, a significant majority of our people turn to the government for support. But the reality is, health care, specifically curative and rehabilitative care, requires tremendous resources and presents us with a critical dilemma on how scarce resources will be invested in health and who will get to benefit from those resources. Such condition has brought us to major service gaps and poor access by a large segment of the population, resulting in an ever widening inequity in health. For this reason, health care consistently rate as an important political, economic, social and ethical concern among our national and local leadership.

While the health sector is traditionally given the important role of providing health care, our health care delivery system is favorably biased to managing illness rather than encouraging wellness. Our health financing structure overwhelmingly subsidizes diagnosis and treatment of health problems rather than looking after individuals and families to keep them well over the life cycle. Financing community-based health promotive and preventive activities is not given much importance compared to funding tertiary medical care and acquisition of expensive medical devices and technologies. In particular, the school and the workplace are missed opportunities for promoting health and wellness given the captive audience.

Currently, there is no nationally coordinated structure or mechanism to deliver health promotion services on the scale required to impact significantly on the mitigation of health risks and the prevention of chronic non-communicable diseases (NCDs). While current policy reforms in the health sector to attain universal health care have been linked to major policy actions and programs on poverty reduction, education and welfare, much effort still need to be done. Policies and programs dealing with other critical determinants of health such as the environment, infrastructure, housing, employment,
peace and order, and governance, among others, need further integration and harmonization with health sector policies and actions.

As our country’s economic development improves, societal challenges similarly increase and so do health hazards and risk behaviors among our population. Although we are becoming more aware that some aspects of our modern lifestyle may be detrimental to our health, it is also becoming difficult for more and more people to make healthy choices in the way they work, play and live because of their living conditions and socioeconomic circumstances. Like in many other developing countries, the changing family structures and lifestyle trends in the Philippines have resulted in a considerable change in our health profile. As more people suffer and die from costly chronic degenerative diseases, the government is expected to shoulder ballooning expenses on health care over the years. If nothing is done, a significant portion of our gross domestic product (GDP) would be spent on health, an overwhelming share going to expensive curative and rehabilitative care. Upward pressures on health spending would be persistent, reflecting increased demand brought about by shifting disease patterns.

Efficiencies in health have to be found if we are to improve and sustain our health outcomes in the long run. Now, more than ever, health reforms must embed health promotion strategies and approaches that deliver greater value for money, with the multitude of threat reinforcing the need for a multi-sectoral, whole-of-government and whole-of-society approach to keep our population healthy.

**Epidemiologic transition and shift in the burden of disease**

Our country is currently in an epidemiologic transition. Although great progress has been made in the past several decades to control communicable diseases, their burden as a cause of morbidity is still high. Communicable diseases such as acute respiratory infections, pneumonia, bronchitis, influenza, diarrhea and tuberculosis remain among the leading causes of morbidity in our country (Table 1). On the other hand, chronic non-communicable diseases (NCDs) have emerged as the major causes of mortality (Table 2).

The number of deaths arising from non-communicable causes is steadily rising in the last 35 years, with the greatest increases noted within the last two decades (Figure 1). From 2000 to 2009, diseases of the heart, cerebrovascular diseases and malignant neoplasms were the top three leading causes of registered deaths in the country. Chronic lower respiratory tract diseases, diabetes mellitus, diseases of the kidney (nephritis, nephrosis, and nephrotic syndrome), and accidents and injuries were also among the top ten causes of registered deaths in the country for the same period. Collectively, these account for around 70 percent of the mortalities in the country annually (WHO, 2011b).
### Table 1. Ten Leading Causes of Morbidity
**Philippines, 2000, 2005 and 2008**

<table>
<thead>
<tr>
<th>Cause</th>
<th>2000</th>
<th>2005</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Rate (per 100,000 population)</td>
<td>Number</td>
</tr>
<tr>
<td>1. Acute Respiratory Infection</td>
<td>1,647,178</td>
<td>1840.6</td>
<td></td>
</tr>
<tr>
<td>2. Pneumonia</td>
<td>632,930</td>
<td>809.9</td>
<td>780,199</td>
</tr>
<tr>
<td>3. Bronchitis</td>
<td>700,105</td>
<td>722.5</td>
<td>519,821</td>
</tr>
<tr>
<td>4. Hypertension</td>
<td>279,992</td>
<td>448.8</td>
<td>499,184</td>
</tr>
<tr>
<td>5. Diarrhea</td>
<td>866,411</td>
<td>707.6</td>
<td>434,445</td>
</tr>
<tr>
<td>6. Influenza</td>
<td>502,718</td>
<td>476.5</td>
<td>362,304</td>
</tr>
<tr>
<td>7. TB Respiratory</td>
<td>126,489</td>
<td>134.1</td>
<td>96,497</td>
</tr>
<tr>
<td>8. Acute Febrile Illness</td>
<td></td>
<td></td>
<td>35,381</td>
</tr>
<tr>
<td>9. Diseases of the Heart</td>
<td>52,957</td>
<td>51.5</td>
<td>32,541</td>
</tr>
</tbody>
</table>

*Source: Philippine Health Statistics, 2000, 2005 and 2008*

*Acute respiratory infection was included in the list of notifiable diseases in 2008 only.

**Acute febrile illness was included in the list of notifiable diseases in 2006 only, 2-year average only.

### Table 2. Ten Leading Causes of Mortality
**Philippines, 2000, 2005 and 2008**

<table>
<thead>
<tr>
<th>Cause</th>
<th>2000</th>
<th>2005</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Rate (per 100,000 population)</td>
<td>Number</td>
</tr>
<tr>
<td>1. Diseases of the Heart</td>
<td>60,417</td>
<td>79.1</td>
<td>77,060</td>
</tr>
<tr>
<td>2. Diseases of the Vascular System</td>
<td>48,271</td>
<td>63.2</td>
<td>54,372</td>
</tr>
<tr>
<td>3. Malignant Neoplasm</td>
<td>36,414</td>
<td>47.7</td>
<td>41,697</td>
</tr>
<tr>
<td>4. Pneumonia</td>
<td>32,637</td>
<td>42.7</td>
<td>36,510</td>
</tr>
<tr>
<td>5. Accidents</td>
<td>32,355</td>
<td>42.4</td>
<td>33,327</td>
</tr>
<tr>
<td>6. Tuberculosis, all forms</td>
<td>27,557</td>
<td>36.1</td>
<td>26,588</td>
</tr>
<tr>
<td>7. Chronic Obstructive Pulmonary Diseases</td>
<td>15,904</td>
<td>20.8</td>
<td>20,951</td>
</tr>
<tr>
<td>8. Diabetes Mellitus</td>
<td>10,747</td>
<td>14.1</td>
<td>18,441</td>
</tr>
<tr>
<td>9. Conditions originating in the Perinatal Period</td>
<td>15,098</td>
<td>19.8</td>
<td>12,368</td>
</tr>
<tr>
<td>10. Nephritis, Nephrotic Syndrome and Nephrosis</td>
<td>7,963</td>
<td>10.4</td>
<td>11,056</td>
</tr>
</tbody>
</table>

*Source: Philippine Health Statistics, 2000, 2005 and 2008*
Globally, two out of three deaths are now attributable to NCDs annually, with almost 80 percent of these deaths occurring in low and middle income countries and around 30 percent in people younger than 60 years old. Overall, age-specific death rates from NCDs are nearly two times higher in low and middle income countries than in high income countries (Beaglehole et al, 2011). Also, NCDs often cause chronic disabilities that eventually lead to slow and painful deaths. The total numbers of NCD deaths are rising in almost all countries because of population ageing, social and environmental factors, and behavioral risk factors. In addition to the age-old challenges of controlling communicable diseases, this double burden of disease places a great toll on a country’s health system and weighs down on the economic productivity of society as a whole.

The medical management for patients suffering from conditions such as hypertension, hypercholesterolemia, and hyperglycemia commonly entails lifelong maintenance medication. These drugs often require a significant amount of expenditure for patients, especially those who have had cardiac or cerebrovascular ischemic episodes. Surgical management for cardiac or cerebrovascular infarcts, as well as for cancer, chronic lower respiratory tract diseases and accidents, require much greater expenditure. The burden of these diseases further balloons when the years of productive life lost due to disability or premature mortality are considered. Fortunately, the common risk factors associated with the development of these NCDs are avoidable, and the burdens of these diseases may also be reduced. These identified risk factors include: smoking tobacco products, excessive alcohol consumption, diets high in salt, sugar and fats, lack of physical activity, and obesity. Some accidents are also foreseeable and preventable to a certain extent, whether
these occur at places of residence, places of work, or in public areas, especially traffic-related accidents.

Filipinos need to be made more aware of these potential health risks, and be motivated to modify their behavior accordingly. In order to spare our people from these conditions and the corresponding consequences, they must be provided with the necessary information through health promotion activities. Behavior change communication and key messages for advocacy, which focus on health promotion, risk reduction, disease prevention and early detection, should be composed for, and delivered to, specific targeted populations-at-risk. In the interest of prudent utilization of public funds, such health promotion activities should be implemented according to a standard set of evidence-based criteria.

A review of the present status of selected NCDs and their associated risk factors, as well as the current thrusts to address these, is critical if we are to focus our policies, strategies and interventions toward better health promotion in the country.

**Lifestyle-related non-communicable diseases**

Lifestyle-related NCDs are similar in many ways. First, it is difficult to reverse the state of health of an individual who has acquired any or a combination of these diseases. Unlike communicable diseases, which have specific causative biologic agents and specific treatment to cure the disease, lifestyle-related NCDs are caused by a combination of factors that has yet rendered cure almost impossible. Once acquired, the person affected suffers the disease for the lifetime and can be alleviated only through a combination of behavioral, clinical, and non-medical interventions. Second, every individual is bound to experience one of these diseases to a certain degree after reaching a certain age. The onset and progression of these diseases depend on factors that are influenced by the person’s socioeconomic and physical environment and by his genetic predisposition and personal behaviors and practices. Third, the onset and progression of these diseases are brought by many shared risk factors such as unhealthy diet, stressful and sedentary lifestyle, smoking and alcohol abuse. Together with the interplay of the individual's genetic and physical endowment and exposure to environmental hazards and other risks, these factors increase a person’s susceptibility to developing lifestyle-related NCDs (DOH, 2005).

**Cardiovascular diseases**

Cardiovascular disease (CVD) is a broad term that describes a range of diseases that affect the heart and blood vessels and includes conditions like coronary artery disease, myocardial infarction, congenital heart disease, congestive heart failure, hypertension, stroke and arrhythmias, among others. The development of CVDs is multi-factorial. Some
CVDs are acquired and some are inherited. The most common risk factors associated with these diseases include smoking, unhealthy diets that are high in salt and fats, and physical inactivity. According to WHO, cardiovascular diseases are also linked to other vulnerabilities such as high blood sugar, high blood cholesterol, and obesity.

Diseases of the heart and the vascular system have been rising for the past decades and remain to be the top leading causes of mortality in 2008. In 1980, CVD mortality was 60.8 deaths per 100,000 population. This increased to 79.1 deaths per 100,000 population in 2000 and rose further to 101.9 deaths per 100,000 population in 2008 (PHS, 2008). Hypertension and diseases of the heart are also the fourth and ninth leading causes of morbidity, respectively. They are the only NCDs in the ten leading causes of morbidity.

Data from the National Statistics Office (NSO) showed that in 2008, among CVDs that were reported as the cause of death, over 90 percent were caused by cerebrovascular diseases, acute myocardial infarction, diseases of the pulmonary circulation, hypertension, and other forms of ischemic heart disease. The National Nutrition Survey (NNS) conducted in the same year reported an increase in the prevalence of hypertension from 22.5 percent in 2003 to 25.3 percent in 2008. A study by the Philippine Institute for Development Studies (PIDS), Inequities in Non-communicable Diseases, showed the distribution of CVD deaths in the country (Ulep et al, 2008) (Table 3).

<table>
<thead>
<tr>
<th>Type of Cardiovascular Disease</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cerebrovascular disease</td>
<td>28,911</td>
<td>22,364</td>
<td>51,275</td>
</tr>
<tr>
<td>Acute myocardial infarction</td>
<td>23,440</td>
<td>13,759</td>
<td>37,199</td>
</tr>
<tr>
<td>Disease of pulmonary circulation and other heart diseases</td>
<td>10,332</td>
<td>9,209</td>
<td>19,541</td>
</tr>
<tr>
<td>Hypertension without heart involvement</td>
<td>9,959</td>
<td>8,119</td>
<td>18,078</td>
</tr>
<tr>
<td>Other forms of ischemic heart disease</td>
<td>7,842</td>
<td>7,538</td>
<td>15,380</td>
</tr>
<tr>
<td>Complications and ill-defined description of heart disease</td>
<td>2,695</td>
<td>2,763</td>
<td>5,458</td>
</tr>
<tr>
<td>Chronic rheumatic heart disease</td>
<td>884</td>
<td>1,223</td>
<td>2,107</td>
</tr>
<tr>
<td>Atherosclerosis</td>
<td>889</td>
<td>1,217</td>
<td>2,106</td>
</tr>
<tr>
<td>Aortic aneurysm and dissection</td>
<td>343</td>
<td>211</td>
<td>554</td>
</tr>
<tr>
<td>Angina pectoris</td>
<td>255</td>
<td>185</td>
<td>440</td>
</tr>
<tr>
<td>Other diseases of arteries and arterioles</td>
<td>237</td>
<td>184</td>
<td>421</td>
</tr>
<tr>
<td>Other and unspecified disorders of circulatory system</td>
<td>141</td>
<td>66</td>
<td>207</td>
</tr>
<tr>
<td>Hypertension with heart involvement</td>
<td>58</td>
<td>38</td>
<td>96</td>
</tr>
<tr>
<td>Venous thrombosis and embolism</td>
<td>30</td>
<td>23</td>
<td>53</td>
</tr>
<tr>
<td>Acute rheumatic fever</td>
<td>26</td>
<td>23</td>
<td>49</td>
</tr>
</tbody>
</table>

Cancer

Many biological, chemical, radioactive and other naturally occurring and synthetic substances have been linked to the development of cancer, but the most common predisposing factors are associated with behavioral risk factors that include smoking, excessive alcohol consumption, unhealthy diets that are low in fiber but high in protein, fat and nitrates, physical inactivity, and obesity. Environmental and occupational exposures to carcinogenic substances are also identified as major contributory factors to the development of cancers.

In the Philippines, reported cases and deaths from cancer have been increasing. In 1980, cancer mortality was 32 deaths per 100,000 population. In 2000, this increased to 47.7 deaths per 100,000 population and to 51.1 deaths per 100,000 population in 2008 (PHS, 2008). Mortality data from NSO (2008) showed that males and females had slightly different proportions with regard to the primary site of the malignancy reported as the cause of death (Table 4).

Table 4. Distribution of the Leading Cancer Deaths by Type and Sex
Philippines, 2008

<table>
<thead>
<tr>
<th>Type of Malignant Neoplasm</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
<th>Rate (per 100,000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trachea, bronchus and lung</td>
<td>5,793</td>
<td>2,130</td>
<td>7,923</td>
<td>8.8</td>
</tr>
<tr>
<td>Breast</td>
<td>51</td>
<td>5,394</td>
<td>5,445</td>
<td>6.0</td>
</tr>
<tr>
<td>Colon</td>
<td>1,918</td>
<td>1,520</td>
<td>3,438</td>
<td>3.8</td>
</tr>
<tr>
<td>Leukemia</td>
<td>1,283</td>
<td>1,242</td>
<td>2,525</td>
<td>2.8</td>
</tr>
<tr>
<td>Prostate</td>
<td>2,196</td>
<td>-</td>
<td>2,196</td>
<td>2.4</td>
</tr>
<tr>
<td>Lip, oral cavity and pharynx</td>
<td>1,391</td>
<td>779</td>
<td>2,170</td>
<td>2.4</td>
</tr>
<tr>
<td>Bone and articular cartilage</td>
<td>805</td>
<td>633</td>
<td>1,438</td>
<td>1.6</td>
</tr>
<tr>
<td>Cervix uteri</td>
<td>-</td>
<td>1,406</td>
<td>1,406</td>
<td>1.6</td>
</tr>
<tr>
<td>Lymphatic tissue</td>
<td>776</td>
<td>616</td>
<td>1,392</td>
<td>1.5</td>
</tr>
<tr>
<td>Stomach</td>
<td>807</td>
<td>562</td>
<td>1,369</td>
<td>1.5</td>
</tr>
<tr>
<td>Other female genital organs</td>
<td>-</td>
<td>1,254</td>
<td>1,254</td>
<td>1.4</td>
</tr>
<tr>
<td>Uterus</td>
<td>-</td>
<td>1,125</td>
<td>1,125</td>
<td>1.2</td>
</tr>
</tbody>
</table>

Source: Philippine Health Statistics, 2008

Of the registered male mortalities with an identifiable primary site, cancers of the respiratory system, the prostate, and the colon accounted for the vast majority. For females, cancers of the breast, the respiratory system, and the colon are predominant. The leading cancers among children are the leukemias. In general, cancer of the respiratory system (trachea, bronchus and lungs), breast and colon are the leading types of cancers among Filipinos (Figure 2).
Diabetes mellitus

Diabetes mellitus (DM) is classified into two types. DM type 1 results from the body’s failure to produce insulin and usually sets in among the young population groups. DM type 2 is secondary to decreased activity of the insulin produced which results in increased blood sugar level and usually sets in among the older age groups. The behavioral risk factors commonly associated with DM type 2 include smoking, diets high in trans-fatty acids, high saturated fatty acids, high glycemic load, lack of physical activity, and obesity (single most important). Once diagnosed to have DM, the person will have the disease for life. There is no known cure for the disease but management can start with lifestyle modification by reducing intake of sweet and fatty foods, avoiding smoking, alcohol and stress, and doing regular physical exercises to maintain normal body weight.

The mortality trend for DM is rising progressively. From 3.4 deaths per 100,000 population in 1980, it rose to 14.1 deaths per 100,000 population in 2000 thereby entering the ten leading causes of deaths during the decade. In 2008, deaths from DM further increased to 25.2 deaths per 100,000 population to become one of the fastest rising death rates among NCDs (PHS, 2008). The 2008 NNS also reported that prevalence rates for DM type 2 increased progressively from age 30 years and peaked among the age groups 50-59 and 60-69 years. The same survey showed higher prevalence of DM type 2 among the more affluent segment of the population residing in urban areas. The 2012 PIDS paper by Ulep, et al likewise showed that diabetes cases in 2008 were higher among the richest segment of the population and among those who obtained tertiary education. The cases were likewise higher in urban than in rural areas (Table 5).
Table 5. Prevalence of Diabetes Mellitus among Adults 20 Years Old and Above by Socioeconomic Status, Urbanization and Education
Philippines, 2008

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Category</th>
<th>Male %</th>
<th>Female %</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Philippines</td>
<td></td>
<td>4.0</td>
<td>5.5</td>
<td>4.8</td>
</tr>
<tr>
<td>Socioeconomic Status</td>
<td>Poorest</td>
<td>1.4</td>
<td>2.2</td>
<td>1.8</td>
</tr>
<tr>
<td></td>
<td>Poor</td>
<td>2.2</td>
<td>3.9</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>3.0</td>
<td>3.9</td>
<td>3.5</td>
</tr>
<tr>
<td></td>
<td>Rich</td>
<td>5.4</td>
<td>7.1</td>
<td>6.4</td>
</tr>
<tr>
<td></td>
<td>Richest</td>
<td>6.7</td>
<td>9.1</td>
<td>8.1</td>
</tr>
<tr>
<td>Urbanization</td>
<td>Urban</td>
<td>4.5</td>
<td>6.4</td>
<td>5.6</td>
</tr>
<tr>
<td></td>
<td>Rural</td>
<td>2.9</td>
<td>4.6</td>
<td>3.7</td>
</tr>
<tr>
<td>Educational Attainment</td>
<td>No education</td>
<td>1.7</td>
<td>3.6</td>
<td>2.6</td>
</tr>
<tr>
<td></td>
<td>Elementary</td>
<td>2.9</td>
<td>6.0</td>
<td>4.6</td>
</tr>
<tr>
<td></td>
<td>Secondary</td>
<td>3.9</td>
<td>4.9</td>
<td>4.4</td>
</tr>
<tr>
<td></td>
<td>Tertiary</td>
<td>4.7</td>
<td>5.8</td>
<td>5.3</td>
</tr>
</tbody>
</table>


**Chronic respiratory diseases**

The most common morbid conditions suffered by Filipinos are respiratory diseases. Acute respiratory infection, acute lower respiratory tract infection and pneumonia, as well as bronchitis and bronchiolitis were the top three leading causes of morbidity in 2008. During the same year, pneumonia and chronic respiratory diseases (CRDs) were the major causes of death due to respiratory causes (Table 6).

Table 6. Distribution of Deaths due to Respiratory Diseases by Type and Sex
Philippines, 2008

<table>
<thead>
<tr>
<th>Type of Respiratory Disease</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
<th>Rate (per 100,000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pneumonia</td>
<td>19,463</td>
<td>20,244</td>
<td>39,707</td>
<td>43.9</td>
</tr>
<tr>
<td>Chronic Lower Respiratory Diseases</td>
<td>15,181</td>
<td>6,678</td>
<td>21,859</td>
<td>24.2</td>
</tr>
<tr>
<td>Other Diseases of the Respiratory System</td>
<td>1,153</td>
<td>840</td>
<td>1,993</td>
<td>2.2</td>
</tr>
<tr>
<td>Pneumonitis</td>
<td>985</td>
<td>902</td>
<td>1,887</td>
<td>2.1</td>
</tr>
<tr>
<td>Influenza</td>
<td>60</td>
<td>68</td>
<td>128</td>
<td>0.1</td>
</tr>
<tr>
<td>Acute Bronchitis and Bronchiolitis</td>
<td>58</td>
<td>41</td>
<td>99</td>
<td>0.1</td>
</tr>
<tr>
<td>Acute Respiratory Infections</td>
<td>47</td>
<td>49</td>
<td>96</td>
<td>0.1</td>
</tr>
<tr>
<td>Pneumoconioses and Chemical Effects</td>
<td>7</td>
<td>3</td>
<td>10</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Source: Philippine Health Statistics, 2008
Chronic respiratory diseases (CRDs) include asthma and other chronic obstructive pulmonary diseases (COPDs) like chronic bronchitis and emphysema. CRDs are adverse results of one or more risk factors that include environmental pollutants like smoke (tobacco smoke as the single most important), allergens and noxious fumes. Other factors that may worsen CRDs include emotional stress, fatigue, extreme temperature and humidity changes, infections, endocrine changes and genetic predisposition.

The mortality trend for CRDs is gradually increasing from 12.3 deaths per 100,000 population in 1980, it increased to 20.8 deaths per 100,000 population in 2000 and to 24.2 deaths per 100,000 population in 2008 (PHS, 2008). Mortality data from the NSO showed that in 2008, CRDs such as chronic bronchitis and emphysema accounted for almost five percent of all registered deaths. Smoking tobacco products and prolonged repeated exposure to second-hand smoke have been attributed as the risk factors that predominantly triggered the worsening of these diseases. Based on estimates, CRDs account for 81 percent of NCD mortality among males, and 32.5 percent among females (WHO, 2011b). These trends may continue to rise if the risk factors for these diseases remain unabated.

**Accidents and injuries**

Accidents are unintentional, unexpected and undesirable events while injuries are either intentional or unintentional events that result in damage or harm to a person (DOH, 2005). Most accidents and injuries can be avoided. Their effects can be reduced through measures like road safety education, installation of adequate walkways, streetlights, signages, and home safety management. In high-income countries, road traffic injuries, self-inflicted injuries and interpersonal violence are the three leading causes of death among those aged 15 to 44 years. In the same age group, there are twice as many suicides and three times as many traffic-related deaths as homicides.

In the Philippines, accidents of all types, including road traffic crashes, ranked fifth among the causes of mortality in all ages. An abrupt increase of the mortality rate from accidents has been observed from 18.7 deaths per 100,000 population in 1980 to 42.4 deaths per 100,000 population in 2000 and to 39.3 deaths per 100,000 population in 2008 (PHS, 2008). Transport accidents top the list of deaths from accidents, followed by drowning and submersion, falls and exposure to forces of nature, smoke and fire (Table 7).

There is a wide variation in the number and rate of traffic accidents among the different regions in the country (Table 8) but there may be underreporting in most areas. In recent years, an abrupt increase in the incidence of traffic accidents from motorcycle crashes has been noted. Cases, however, remain underreported particularly for minor motorcycle accidents. Injuries due to physical assaults and violence also remain underreported, especially if it involves domestic violence perpetrated by a family member.
Table 7. Distribution of Deaths due to Accidents by Type and Sex
Philippines, 2008

<table>
<thead>
<tr>
<th>Type</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
<th>Rate (per 100,000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport accidents</td>
<td>5,673</td>
<td>1,662</td>
<td>7,335</td>
<td>8.1</td>
</tr>
<tr>
<td>Accidental drowning and submersion</td>
<td>2,586</td>
<td>865</td>
<td>3,451</td>
<td>3.8</td>
</tr>
<tr>
<td>Accidental falls</td>
<td>1,282</td>
<td>619</td>
<td>1,901</td>
<td>2.1</td>
</tr>
<tr>
<td>Exposure to forces of nature</td>
<td>358</td>
<td>127</td>
<td>485</td>
<td>0.5</td>
</tr>
<tr>
<td>Exposure to smoke, fire and flames</td>
<td>204</td>
<td>149</td>
<td>353</td>
<td>0.4</td>
</tr>
<tr>
<td>Accidental poisoning and exposure to noxious substances</td>
<td>145</td>
<td>67</td>
<td>212</td>
<td>0.2</td>
</tr>
<tr>
<td>Other accidents and late effects of transport and other accidents</td>
<td>1,961</td>
<td>488</td>
<td>2,449</td>
<td>2.7</td>
</tr>
</tbody>
</table>

Source: Philippine Health Statistics, 2008

Table 8. Transport Accidents by Region
Philippines, 2008

<table>
<thead>
<tr>
<th>Region</th>
<th>Number</th>
<th>Rate (per 100,000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCR</td>
<td>451</td>
<td>4.0</td>
</tr>
<tr>
<td>CAR</td>
<td>88</td>
<td>5.4</td>
</tr>
<tr>
<td>Region 1</td>
<td>579</td>
<td>11.6</td>
</tr>
<tr>
<td>Region 2</td>
<td>424</td>
<td>13.0</td>
</tr>
<tr>
<td>Region 3</td>
<td>963</td>
<td>9.9</td>
</tr>
<tr>
<td>Region 4A</td>
<td>898</td>
<td>7.9</td>
</tr>
<tr>
<td>Region 4B</td>
<td>173</td>
<td>6.0</td>
</tr>
<tr>
<td>Region 5</td>
<td>485</td>
<td>8.8</td>
</tr>
<tr>
<td>Region 6</td>
<td>548</td>
<td>7.5</td>
</tr>
<tr>
<td>Region 7</td>
<td>640</td>
<td>9.5</td>
</tr>
<tr>
<td>Region 8</td>
<td>286</td>
<td>6.7</td>
</tr>
<tr>
<td>Region 9</td>
<td>266</td>
<td>8.1</td>
</tr>
<tr>
<td>Region 10</td>
<td>469</td>
<td>11.2</td>
</tr>
<tr>
<td>Region 11</td>
<td>470</td>
<td>11.1</td>
</tr>
<tr>
<td>Region 12</td>
<td>309</td>
<td>8.3</td>
</tr>
<tr>
<td>Region 13</td>
<td>225</td>
<td>9.2</td>
</tr>
<tr>
<td>ARMM</td>
<td>46</td>
<td>1.3</td>
</tr>
</tbody>
</table>

Source: Philippine Health Statistics 2008

In the workplace, more than one third of injuries are caused by stepping on, striking against, or being struck by objects (excluding falling objects), and more than one fourth
are due to machines and equipment used by workers (DOLE, 2010). In addition, workplace injuries are also caused by falls, being caught in between objects, over-exertion or strenuous movement, and contact with or exposure to extreme temperature, harmful substance, radiation, or electric current.

**Shared behavioral risk factors for non-communicable diseases**

The emergence of chronic NCDs is influenced by common lifestyle behaviors and risk factors that are potentially modifiable. These risk factors include tobacco use, foods high in saturated fats, trans-fatty acids, salt and sugar (especially in sweetened drinks), physical inactivity, and the harmful consumption of alcohol. Collectively, they are the underlying causes of more than two-thirds of new cases of NCDs and the main reasons for the increasing risk of complications among people with NCDs.

Globally, tobacco use alone accounts for one in six deaths resulting from NCDs, and everyday around 15,000 people die from tobacco-related diseases. Consumption of foods high in saturated fats, trans-fatty acids, salt and sugar is the cause of at least 14 million deaths or 40 percent of all NCD deaths annually, with overconsumption of salt causing up to 30 percent of all cases of hypertension. Likewise, physical inactivity causes around 3 million or 8 percent of all NCD deaths per year. Alcohol consumption leads to 2.3 million deaths each year, 60 percent of which are due to NCDs. It also contributes to other adverse health, social and economic effects not just for the people who drink. Concomitantly, changes in the broader social and economic environment have resulted in the risk factors for NCDs becoming more widespread (Beaglehole et al, 2011).

In our country, an increasing rate of these risk factors has been noted in the last decade. Ninety percent of adult Filipinos have at least one or more risk factors for CVDs, CRDs, diabetes mellitus, and cancers (NNS, 2003). It has also been noted that expenditures on tobacco and alcohol contribute to household poverty, and that NCDs disproportionately affects the poor. NCDs can lead to medical expenditures that impoverish poor households and the resulting loss of productivity from such illnesses further perpetuates health and economic inequities. Poor households have few choices about healthy living, healthy foods and good exercise, especially if they live in unsafe, congested informal settlements. Unless an integrated and comprehensive response to tackle common shared risk factors is put in place, NCDs in our country will continue unabated.

**Tobacco use**

Tobacco use constitutes the leading cause of preventable deaths worldwide among men, and increasingly among women in developed and developing countries. Forms of
exposure include active smoking, inhaling second-hand tobacco smoke and smokeless tobacco. According to WHO (2012), tobacco use is the world’s foremost cause of death and disability killing nearly six million people annually. Tobacco use causes 2.6 percent of the total death and disease burden, with an estimate that for every 1,000 tons of tobacco produced, about 1,000 people will eventually die. The increasing use of tobacco may result in eight million deaths annually by the year 2030 unless urgent action is taken. If the current trends continue, tobacco will kill about one billion people in this century.

In the Philippines, tobacco use contributes to or aggravates eight of the ten leading causes of deaths, namely, diseases of the heart, diseases of the vascular system, malignant neoplasms, pneumonia, tuberculosis, chronic lower respiratory diseases, diabetes mellitus, kidney diseases, and disease conditions originating in the perinatal period. Four major smoking-related diseases (lung cancer, cerebrovascular, coronary artery and chronic obstructive pulmonary diseases) account for an estimated 6-8 percent of all deaths in the Philippines (Tobacco in the Philippines Country Profile, July 2010). According to the Tobacco and Poverty Study in the Philippines (Baquilod et al, 2006), the economic costs, which include health care costs and productivity losses from deaths and illnesses from these four smoking-related diseases, range from US$2.86 billion to US$6.05 billion (PhP120 billion to PhP254 billion based on exchange rate of PhP42.00 to US$1.00).

The National Nutrition Survey conducted in 2003 revealed that the overall smoking prevalence rate among adults 20 years old and over was 34.8 percent, with smoking prevalence among males at 56.3 percent and among females at 12.1 percent. Smoking rate was higher among the least educated group (46 percent) than those with higher education (31 percent); higher among the younger age group (35.7 percent) than among the older age group (27.6 percent); higher among low income groups (41 percent) as compared to high income groups (26 percent); and higher among the employed (43 percent) versus the unemployed (22 percent).

Results of the Global Adult Tobacco Survey (GATS) Country Report of 2010 revealed that 28.3 percent (17.3 million) of the country’s population aged 15 years old and above currently smoke, of which, 47.7 percent or 14.6 million are men while 9.0 percent or 2.8 million are women. There were 13.8 million daily smokers in the Philippines (11.7 million men and 2.1 million women). Accordingly, 27 percent of adults aged 45 to 64 years old are daily smokers, followed by adults aged 25 to 44 years (26.4 percent). Among young adults aged 15 to 24 years old, 14 percent are daily smokers (Table 9). Based on educational background, the proportion of daily smokers is highest among those with no education (32.6 percent), followed by those with elementary education (29.9 percent). The proportion of daily smokers is lowest among those with college education or higher at 12.8 percent (Table 10). Based on urban-rural residence and income quintiles, the proportion of daily smokers is highest among rural residents in the lowest income quintile (30.2 percent) and lowest among urban residents in the highest income quintile (11.3 percent) (Figure 3).
Table 9. Percentage Distribution of Adults 15 Years and Older Who are Currently Daily, Occasional, or Non-Smokers, by Age Group
Philippines, 2010

<table>
<thead>
<tr>
<th>Age Group (in years)</th>
<th>Smoking Status (in percent)</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Daily Smoker</td>
<td>Occasional Smoker</td>
<td>Non-Smoker</td>
<td></td>
</tr>
<tr>
<td>15 – 24</td>
<td>14.0</td>
<td>6.8</td>
<td>79.2</td>
<td></td>
</tr>
<tr>
<td>25 – 44</td>
<td>26.4</td>
<td>5.6</td>
<td>68.0</td>
<td></td>
</tr>
<tr>
<td>45 – 64</td>
<td>27.0</td>
<td>4.3</td>
<td>68.7</td>
<td></td>
</tr>
<tr>
<td>65 and above</td>
<td>20.5</td>
<td>7.1</td>
<td>72.4</td>
<td></td>
</tr>
</tbody>
</table>

Source: Philippines Global Adult Tobacco Survey, 2010

Table 10. Percentage Distribution of Adults 15 Years and Older Who are Currently Daily, Occasional, or Non-Smokers, by Education
Philippines, 2010

<table>
<thead>
<tr>
<th>Educational Level</th>
<th>Smoking Status (in percent)</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Daily Smoker</td>
<td>Occasional Smoker</td>
<td>Non-Smoker</td>
<td></td>
</tr>
<tr>
<td>No formal education</td>
<td>32.6</td>
<td>7.8</td>
<td>59.6</td>
<td></td>
</tr>
<tr>
<td>Elementary</td>
<td>29.9</td>
<td>7.1</td>
<td>63.0</td>
<td></td>
</tr>
<tr>
<td>Secondary</td>
<td>20.7</td>
<td>5.8</td>
<td>73.5</td>
<td></td>
</tr>
<tr>
<td>Post-secondary</td>
<td>17.5</td>
<td>6.0</td>
<td>76.5</td>
<td></td>
</tr>
<tr>
<td>College or higher</td>
<td>12.8</td>
<td>3.3</td>
<td>83.9</td>
<td></td>
</tr>
</tbody>
</table>

Source: Philippines Global Adult Tobacco Survey, 2010

Figure 3. Percentage of Daily Smokers by Residence and by Income Quintile
Philippines, 2010

Source: Philippines Global Adult Tobacco Survey, 2010
From a gender perspective, GATS showed that daily smoking among women increased with age, with 1.7 percent of women aged 15 to 24 years old smoking daily compared to 15.3 percent of women aged 65 years and above. Women with no formal education (19.2 percent) and those with elementary education (10.8 percent) had a propensity to smoke daily compared to those who finished high school or college. Women in rural areas in the lowest income quintile (10.5 percent) were likely to smoke daily compared to women in the highest income quintile (2.7 percent).

The Philippines Global Youth Tobacco Survey (GYTS) conducted in 2007 among Filipino youths aged 13 to 15 years old revealed that 46.2 percent of students had smoked cigarettes, of which, 58.2 percent were males and 34.7 percent were females. A total of 21.7 percent of students surveyed currently smoked cigarettes, with 29.3 percent among males and 13.8 percent among females, while 13.6 percent of those who never smoked are most likely to start smoking the following year.

**Alcohol consumption**

Alcohol use is entrenched in many cultures and societies and a source of pleasure to many. However, the increasing consumption of alcohol has emerged as a major public health problem. The harmful use of alcohol is associated with more than 60 types of diseases and other health conditions, including mental disorders and suicide, several types of cancer, cirrhosis, as well as injuries as a result of driving while intoxicated, family disruption and aggressive behavior. Crimes against persons particularly on women and children, including properties have been brought about by alcohol intoxication. It is also associated with other high-risk behaviors such as unsafe sex and substance abuse.

Some two billion people globally consume alcoholic beverages, but the cost to health is high. According to conservative estimates, 76.3 million people experience alcohol-use disorders (WHO, 2004b). The World Health Report of 2002 stated that detrimental consumption of alcohol is accountable for four percent of the total disease burden and 3.2 percent of all premature deaths (WHO, 2007c). This would mean 58.3 million disability-adjusted life years (DALYs) and 1.8 million deaths. Basically the risk is approximately in the same order as tobacco which accounts for 4.1 percent of disease burden globally.

The Philippine country profile on alcohol consumption showed that Filipinos, ages 15 years and above, consumed a total recorded per capita of 3.75 liters of pure alcohol in 2001 (Figure 4) and it increases by an average of 10 percent every year (WHO, 2004c). Filipinos ranked only third to Thais and Japanese in terms of alcohol consumption in the Asian region.
Results of a survey conducted by DOH and UP in 2001 revealed that the total rate of regular drinking among Filipinos was 11.1 percent (13 percent among males and 5.9 percent among females). Regular drinking was defined as drinking on four days or more per week. The survey also revealed that 38.9 percent of Filipinos are occasional alcohol drinkers, and 4.8 percent are heavy drinkers (6.6 percent among males and 1.3 percent among females). Heavy drinking was defined as having more than 12 drinks on an average drinking day. Likewise, the prevalence of alcohol use among Filipino youth is 39 percent with males (66.5 percent) twice more likely than females (33.5 percent) to drink alcohol. Seven out of ten youth drinkers are light drinkers (70 percent), almost three out of ten are moderate drinkers, and only 4 percent are heavy drinkers (WHO, 2004a). According to the 2003 World Health Survey, the total mean value of pure alcohol consumed per day among drinkers was 4.8 grams, with 6.1 grams among males and 2.0 grams among females.

Beer (78.5 percent), liquor consisting of rum, gin, whisky, basi and lambanog (70.6 percent), and wine, tuba, cocktails (42.4 percent) are the most common alcohol beverages consumed by Filipinos. The major reasons why Filipinos drink are the following: to socialize (45.5 percent), to de-stress and unburden (23.8 percent), and to be happy and gain pleasure (17.5 percent) (Vicla Labajo, 2010). Drinking is still more acceptable among young males, and those likely to drink are those who are not living with their parents, whose parents approve of drinking, who frequent social gatherings or parties, bars and discos and those who do not normally take part in any sport activity. An average Filipino family spends one percent of its income on alcoholic beverages. For moderate and heavy drinkers, it can go up as high as 20 percent (FIES, 2004).
Sketchy reports are available but data on the extent of alcoholism or alcohol abuse in the country is limited and scarce, and no official statistics is available. However, the end results of alcoholism are evident in the communities and homes. Alcoholism is a growing concern in the cultural and social life in the Philippines but only a few alcohol-related cases had been recorded and admitted in hospitals. The basic issue is that alcoholism is not considered a medical problem and most Filipinos do not yield to treatment even if their conditions are persistent. Public awareness of the problems caused by the harmful use of alcohol is low or almost completely lacking in the country. Closely related to this is the low level of involvement of the community and non-governmental organizations in advocacy and in responding to the problem. More efforts at government, societal and individual levels are still needed to address the alcohol abuse problem.

**Unhealthy diet and obesity**

Numerous studies have shown that the primary risk factors for NCDs have shifted from being significantly genetic in nature to environmental and individual lifestyle factors. According to WHO, the role of diet and nutrition in the occurrence of NCDs is well-established. Thus, diet and nutrition can be modified to prevent and control NCDs.

The 2007 study conducted by the Council on Hypertension (COH) showed that body mass index (BMI) of 25-29 is highest among those in Metro Manila at 36 percent of the general adult population (Sison et al, 2007). On the other hand, BMI equal to or more than 30 was highest in Northern Mindanao at 10 percent of the general adult population. BMI of 25 and over are highest among Filipino women. Among those with BMI of 25 and over, 25 percent are males while 28 percent are females; while among those with BMI of 30 and over, four percent are males while seven percent are females. The COH also found that mean waist circumference of the total adult population is at 82 cm, with that for males being higher (at 82.75 cm) than that for females (81.3 cm). Among those below 18 years old, mean waist circumference is at 70.26 cm. In the same age group, the findings showed a higher measurement among males (at 71.09 cm) than females (69.17 cm).

The 2010 WHO Global Status Report on Non-Communicable Diseases estimated that 24.6 percent of Filipino males and 28.4 percent of Filipino females aged 20 years old and above are overweight. On the other hand, the national prevalence rate of obesity is pegged at 5.2 percent, disaggregated as 3.7 percent among males and 6.6 percent among females. Obesity is also higher among the richest quintile (7.9 percent) compared to the poorest quintile (1.1 percent); higher among urban population (5.7 percent) than among rural population (3.6 percent); and higher among those with tertiary education (6.3 percent) than those with no education (0.5 percent) (Ulep et al, 2012) (Tables 11 and 12).
Table 11. Prevalence of Obesity among Adults 20 Years Old and Above by Age Group and by Sex
Philippines, 2008

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>Male %</th>
<th>Female %</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Philippines</td>
<td></td>
<td>3.7</td>
<td>6.6</td>
<td>5.2</td>
</tr>
<tr>
<td>Age Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-29</td>
<td></td>
<td>2.2</td>
<td>3.6</td>
<td>2.9</td>
</tr>
<tr>
<td>30-39</td>
<td></td>
<td>4.9</td>
<td>7.3</td>
<td>6.1</td>
</tr>
<tr>
<td>40-49</td>
<td></td>
<td>5.0</td>
<td>8.4</td>
<td>6.8</td>
</tr>
<tr>
<td>50-59</td>
<td></td>
<td>4.2</td>
<td>8.0</td>
<td>6.3</td>
</tr>
<tr>
<td>60-69</td>
<td></td>
<td>2.4</td>
<td>6.4</td>
<td>4.6</td>
</tr>
<tr>
<td>70+</td>
<td></td>
<td>1.2</td>
<td>3.2</td>
<td>2.4</td>
</tr>
</tbody>
</table>


Table 12. Prevalence of Obesity among Adults 20 Years Old and Above by Socioeconomic Status, Urbanization and Education
Philippines, 2008

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Category</th>
<th>Male %</th>
<th>Female %</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Philippines</td>
<td></td>
<td>3.7</td>
<td>6.6</td>
<td>5.2</td>
</tr>
<tr>
<td>Socioeconomic Status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poorest</td>
<td></td>
<td>0.8</td>
<td>1.5</td>
<td>1.1</td>
</tr>
<tr>
<td>Poor</td>
<td></td>
<td>1.1</td>
<td>3.8</td>
<td>2.5</td>
</tr>
<tr>
<td>Middle</td>
<td></td>
<td>4.5</td>
<td>5.5</td>
<td>5.0</td>
</tr>
<tr>
<td>Rich</td>
<td></td>
<td>6.6</td>
<td>5.9</td>
<td>6.2</td>
</tr>
<tr>
<td>Richest</td>
<td></td>
<td>6.6</td>
<td>8.9</td>
<td>7.9</td>
</tr>
<tr>
<td>Urban</td>
<td></td>
<td>5.1</td>
<td>6.2</td>
<td>5.7</td>
</tr>
<tr>
<td>Rural</td>
<td></td>
<td>2.7</td>
<td>4.5</td>
<td>3.6</td>
</tr>
<tr>
<td>Educational Attainment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No education</td>
<td></td>
<td>0.9</td>
<td>0.0</td>
<td>0.5</td>
</tr>
<tr>
<td>Elementary</td>
<td></td>
<td>2.4</td>
<td>4.6</td>
<td>3.6</td>
</tr>
<tr>
<td>Secondary</td>
<td></td>
<td>3.5</td>
<td>6.3</td>
<td>4.9</td>
</tr>
<tr>
<td>Tertiary</td>
<td></td>
<td>6.8</td>
<td>5.8</td>
<td>6.3</td>
</tr>
</tbody>
</table>


Based on NNS (2008), Filipinos aged 20 years and above have a mean salt intake of 3.3 grams per day. It must be noted that among the different age groups, salt intake is highest among Filipinos aged 70 years and above, for both male and female. Salt intake is also noted to be highest among the poorest segment of the population, (consuming about 13 grams of salt per day), among those living in the rural areas (at 5.8 grams per day), and among those with no education (at 10 grams per day).
The same survey showed a mean intake of 31 grams of fruits among Filipino males and females aged 20 years and above. More fruit intake is observed among females, and among those aged 50-59 years old. Fruit consumption is likewise highest among the richest segment of the population (39.4 grams per day) and those who reached tertiary education (39.6 grams per day). It is lowest among the poorest segment of the population (24.4 grams per day). Fruit intake in urban and rural areas is almost equal, at 29.3 grams and 32.7 grams, respectively. Vegetable intake among Filipinos, on the other hand, is at an average of 67 grams per day. Males tend to eat more vegetables than females, showing an intake of 75.3 grams and 58.9 grams, respectively. Like fruit consumption, vegetable consumption is higher among those aged 50-59 years old. However, unlike fruits, vegetables are consumed mostly by the poorest segment of the population at 79.3 grams per day; by those living in the rural areas at 78 grams per day, and by those who reached elementary education.

*Physical inactivity*

According to WHO, physical activity is defined as any bodily movement produced by skeletal muscles that require energy expenditure. It is done as part and parcel of playing, working and recreational activities. This includes walking, cycling for transport, dancing, traditional games and pastimes, gardening and housework as well as sports and deliberate exercise. Exercise is a subcategory of physical activity that is planned, structured, repetitive and purposeful (WHO, 2008). This is best achieved by incorporating into daily life any deliberate activity that makes you breathe harder and feel warmer. It could range from brisk walking, biking, aerobics, dancing, to wall and rock climbing. Sports are physical activities that are usually governed by rules and often engaged competitively.

Frequent and substantial forms of physical activity in adults are key determinants of energy expenditure, and thus fundamental to energy balance and weight control. It further reduces the risk of hypertension, coronary heart disease, stroke, diabetes, breast and colon cancer, depression and the risk of falls; and improves bone and functional health. The health benefits of physical activity are well known. Regular moderate physical activity promotes mental, physical and social well-being and helps prevent illness, disability and obesity. It also contributes to more productive citizens and workers.

According to WHO, physical inactivity is the fourth leading risk factor for global mortality, which equates to around six percent of deaths attributed to physical inactivity. Globally, around 31 percent of adults aged 15 and over were insufficiently active in 2008 (28 percent among males and 34 percent among females). Approximately 3.2 million deaths each year are attributable to insufficient physical activity. Likewise, physical inactivity is estimated to be the main cause for approximately 21 to 25 percent of breast and colon cancers, 27 percent of diabetes and approximately 30 percent of ischemic heart disease burden (WHO, 2008). The lack of physical activity is one of the risk factors listed in cancer deaths worldwide.
Physical inactivity is considered as a major contributor to the rising prevalence of overweight and obesity worldwide (WHO, 2007a). Taken all together, raised BMI and physical inactivity account for an attributable fraction of 19 percent of breast cancer mortality and 26 percent of colorectal cancer mortality (Danaei et al., 2005). Overweight and obesity account for 40 percent of endometrial (uterus) cancer. Overweight, obesity and physical inactivity collectively account for an estimated 159,000 colon and rectal cancer deaths per year, and 88,000 breast cancer deaths per year.

In its 2010 Global Status Report on Non-Communicable Diseases, WHO reported (using crude adjusted estimates) that 20 percent of Filipino males and 25.7 percent of Filipino females are insufficiently active. Results of the NNS in 2003 and 2008 illustrated that almost the entire adult Filipino population has low levels of physical activity during leisure time, occupational and domestic activities, as well as in the use of passive modes of transportation (Table 13). It was noted that Filipino women are less active in all domains of physical activity compared to Filipino men.

<table>
<thead>
<tr>
<th>Physical Inactivity Domains</th>
<th>2003 %</th>
<th>2008 %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Males</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupational</td>
<td>67.0</td>
<td>76.3</td>
</tr>
<tr>
<td>Travel-related</td>
<td>91.0</td>
<td>93.8</td>
</tr>
<tr>
<td>Leisure time physical activity ≤ 2 times per week</td>
<td>90.0</td>
<td>89.1</td>
</tr>
<tr>
<td><strong>Females</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupational</td>
<td>82.1</td>
<td>76.2</td>
</tr>
<tr>
<td>Travel-related</td>
<td>94.3</td>
<td>95.2</td>
</tr>
<tr>
<td>Leisure time physical activity ≤ 2 times per week</td>
<td>95.5</td>
<td>95.7</td>
</tr>
</tbody>
</table>


It has been cited that levels of physical inactivity are partly due to insufficient participation in physical activity during leisure time and an increase in sedentary behavior during occupational and domestic activities. Likewise, an increase in the use of "passive" modes of transport has also been associated with declining physical activity levels. Furthermore, the increasing urbanization has resulted in several environmental factors such as: violence, high-density traffic, low air quality, pollution, and lack of parks, sidewalks and sports or recreation facilities, all of which caused to discourage participation in physical activity. To balance the effects of urbanization, a population-based, multi-sectoral, multi-disciplinary, integrated and culturally relevant approach is called for to ensure that increased physical activity is instilled in every population.
Road traffic accidents

Road traffic accidents are classified as those which occurred or originated on a way or street open to public traffic, which resulted in one or more persons being killed or injured, and in which at least one moving vehicle was involved. These injuries therefore include collisions between vehicles and persons, animals or fixed obstacles. Single vehicle accidents, in which one vehicle alone (and no other road user) was involved, are also included. Worldwide, road traffic injuries are the leading injury-related cause of death and burden of disease in males. For females, road traffic injuries are the leading injury-related cause of death. By the year 2020 it is expected that road traffic crashes will account for the third highest cause of the global burden of disease, jumping from its ranking of ninth in 2000 (Matibag, 2002).

Data from the 2011 DOH Online Electronic Injury Surveillance System (ONEISS) showed the number of cases from injuries due to external causes (Figure 5). Out of the reported 41,331 cases, transport or vehicular accidents top the list with a total of 13,594 cases (33 percent). This is almost twice the number of injuries from mauling, the second top external cause of injury, with 7,944 cases.

According to the most recent data published by the WHO (2011), road traffic accidents are the second leading cause of deaths due to injuries in the Philippines, representing 8,175 fatalities or 1.94 percent of all mortalities (only deaths due to injuries from acts of violence ranked higher). The economic burden of each fatality was estimated to be around PhP 3.5 million or around 26.8 billion pesos for the reported fatalities collectively.
(De Leon et al, 2005). Among the reasons for road traffic accidents reported by the NSO (2012), the majority are caused by driver errors, mechanical defects, speeding, and bad overtaking. Driver errors are widely thought to be due to fatigue or lack of sleep.

**Social determinants in the development of NCDs**

Conditions of daily life which include, among others, the distribution of income, power, goods and services; access to health care and education; conditions of work and homes; rural or urban settings constitute the social determinants of health. All are critical in defining health inequities and consequently shaping health outcomes (CSDH, 2008). Examining health issues from the social determinants’ perspective makes possible the recognition of the root causes of health problems, specifically in the context of health promotion and the prevention and control of NCDs. There is a need to focus not only on the extremes of income poverty but on the opportunity, empowerment, security and dignity that disadvantaged people want in rich and poor countries alike (Marmot, 2006). Take for example heart disease. It is not only caused by genetic factors, but also by behavioral determinants such as tobacco use, unhealthy diet and physical inactivity. Furthermore, it is also influenced by the natural and built environments and the social and economic conditions in which the person live.

The country’s national policies have increasingly emphasized more socially inclusive, equitable and sustainable growth strategies with efforts to narrow domestic development gaps through creation of jobs and growth of incomes and through improved social security among the marginalized groups (NEDA, 2011). However, there is a need to reinforce the inter-relationship of these policies with current health care policy reforms and other related social policies that enhance the health, well-being and productivity of the population. Such approach is critical as the country’s current demographic, social and health transitions, together with emerging economic and environmental threats, such as the global financial crisis and climate change, combine to create great challenges to our social and economic development. These conditions have both direct and indirect implications on our response to the people’s health needs, to the development and strengthening of our health system, and to the attainment of better health outcomes among our population.

**Development gaps and inequities in health**

While much of the Philippines continues to experience acceptable levels of economic growth, there is great regional diversity in the level and distribution of development in terms of economic growth, social condition and human development indicators. Inequities vary widely along several parameters such as income, geographic areas, urban-
rural divides, ethnicity, gender, and other factors. Inequities also translate into widening disparities in access to basic services such as health, education, housing and sanitation, employment and social security, among others. Such underlying determinants influence personal decisions to take risky behaviors such as smoking, harmful use of alcohol, unhealthy diet, physical inactivity, or by constraining health-seeking behavior. Other determinants of health also include environment and infrastructure, which create or ameliorate direct risks or limit the ability of the poor to seek health care and practice healthy behavior.

High and rising inequities in many regions of the country have direct negative consequences on health. It is highly recognized that poor, vulnerable and marginalized groups have a higher burden of disease. Similarly, these groups together with those living in rural and far-flung areas have worse access to and lower utilization of health services (WHO, 2009c). Furthermore, there is ample evidence that social factors, including education, employment status, income level, gender and ethnicity have a marked influence on how healthy a person is. In all countries, whether high-income or low-income, there are wide disparities in the health status of different social and income groups. The lower an individual’s socio-economic position, the higher their risk of poor health. This is never more pronounced than among poor and vulnerable patients that require expensive long-term care for the management and control of chronic NCDs. These groups, among all other groups, face the greatest financial, geographical, and socio-cultural barriers to equitable access to health services.

Financial barriers are most evident when health services depend largely on out-of-pocket payment during the time of need and where mechanisms for risk-pooling and pre-payment are weak. Indirect costs such as transport fare, food expenses and lost wages incurred while seeking care are additional barriers to access. Geographical barriers due to difficult terrain or remoteness of some areas and the lack of health personnel in dangerous areas or distant health facilities are major factors for accessing health services. The poor and marginalized tend to live in the least-served areas, which also suffer the worst environmental conditions. Socio-cultural factors associated with poverty, ethnicity, cultural differences, gender, poor education and other social conditions create barriers to seeking or receiving adequate care. Poor responsiveness of the health system can also be a problem. Abusive health workers, inconvenient working hours, inadequate supply of medicines, and lack of equipment are but some of the critical barriers, even where health facilities are available (WHO, 2009c). Accessibility of health goods and services based on distance, cost, and actual and perceived quality, consequently determines health outcomes.

**Population growth and population ageing**

The Philippines today faces a critical demographic challenge. We are still experiencing high levels of fertility and population growth, and we are also facing a gradual shift
toward an ageing population. Although progress has been noted in the past decades, our population is still growing at a rate of 1.9 percent annually. This means that around 1.8 million babies are added to the population yearly. While the total fertility rate (the total number of children born per woman) has also declined to 3 children per woman, it is still higher than most countries in the region. With the total population of 92.3 million people in 2010, the Philippine population is estimated to hit 100 million by 2015. While the country has a young population, with a median age of 23.4 years, the proportion of older persons 60 years old and above is growing from 6.0 percent in 2000 to 6.8 percent in 2010. As the population continues to increase, population density rose from 255 people per square kilometer in 2000 to 308 in 2010 (NSO, 2012). Based on World Bank (2012) estimates, urbanization has also rapidly increased in the country, with 58.5 percent of the population living in urban areas in 2000 to 66.4 percent in 2010.

The demands placed on health systems by a rapidly growing population are difficult to meet. The key issue is whether the nature and pattern of population growth is linked to the creation of productive employment and whether the wider social policy approach supports adequate investment on people through basic services such as education and health to reap the product of this demographic dividend. Furthermore, an ageing population inevitably leads to more complex health problems. As more people live longer, chronic and debilitating NCDs become more manifest, with its consequent demands that the health system may find difficult to respond. While this issue may be less important for our country in the short-term, there is likely to be a growing popular pressure on our government to respond to the special needs of the elderly. The implications in the long-term for a low-middle income country like the Philippines will be particularly challenging in terms of the financing, organization, and delivery of health and other social services for the ageing population.

**Urbanization and migration**

Associated with demographic changes are development processes that lead to migration and urbanization. The rapid growth in population, coupled with unplanned and uncontrolled urbanization and unrestrained rural to urban migration can strain public services, damage the environment and health, and exacerbate poverty and inequality. Although rural to urban migration occurs because people are drawn to better opportunities in urban centers, local services and amenities may come under severe strain. Migrants tend to find employment in the informal sector, joining an already large segment of the market, leading to an excess in labor supply that exacerbates unemployment. Unmitigated influx of people results in increased disparities in living conditions and expansion of slum areas in urban centers.

Poorly managed urban settings can lead to increased exposure to unhealthy and risky behaviors and conditions. As an example, urban development encourages the use of motor vehicles with its consequent emissions of air pollutants and greenhouse gases that
contribute to climate change. The physical activity levels of people living in cities are also impacted by the quality of sidewalks, pedestrian safety and neighborhood security. The lack of good housing, social services or recreational facilities, or poorly designed road networks and traffic systems can contribute to a stressful lifestyle, social isolation, physical inactivity, and road traffic-related injuries that further aggravate the burden of NCDs (WHO, 2011a). Such conditions have greater negative consequences for the poor and marginalized groups living in informal settlements than the more affluent sectors in urban areas.

As urban living becomes the way of life for most people, the scale of urban problem may seem expansive and unmanageable. However, urban areas can be beneficial to most people and provide a healthy living environment. They can contribute to improvement of health outcomes through their various material, service provision, cultural and aesthetic attributes. The improvements in morbidity and mortality in highly urbanized countries such as Japan and Singapore provide good evidence to the potential health-promoting attributes of modern cities (CSDH, 2007). Better housing, access to safe water and good sanitation, efficient waste management systems, safer neighborhoods, food security, and access to services such as education, health, welfare and child care are critical social determinants of health that can be addressed through good urban planning and governance. As an example, a key urban development policy that positively affects public health is the promotion of non-motorized transportation options such as walking and cycling. Such a policy works to encourage physical activity, improve air quality, and could also reduce traffic accidents (WHO, 2009b). It is therefore critical to create decent living conditions to mitigate the impact of urbanization to population health.

**Employment and work conditions**

The pattern of economic development in our country has failed to create sufficient decent employment to adequately raise living standards and enhance social security for the vast majority of our people. Overwhelming numbers of our workforce are in informal, unstable, hazardous, or vulnerable employment. When access to health care is dependent on out-of-pocket expenditure or work-related social insurance or employer-provided health services, large numbers of Filipino workers in the informal sector become excluded from even basic health coverage. The challenge in expanding social health insurance coverage is strongly related to the extent of labor market informality.

On the other hand, the more protected and formal employment has generally been the main route to access secure health care, through sufficient regular income to pay for mostly out-of-pocket health expenditure or to participate in private health insurance, or through employment-based forms of social health insurance. In the absence of such conditions, access to health care for many informal workers, the underemployed and the unemployed and their families is at best uncertain, depending largely on the perpetually inadequate health care provided by the government.
Another major challenge to health is the workplace environment. Jobs in the informal sector, such as agricultural workers, local vendors, laborers in small enterprises, domestic workers and workers in home or cottage industries, among others, are especially vulnerable to physical, biological and chemical hazards in the workplace. But more than these hazards, the nature of employment contracts or the instability of work itself pose major health risks from the psychosocial and economic hazards associated with insecure job, exploitation and lack of labor protection. Furthermore, women, more specifically working mothers, are often the most vulnerable and particularly disadvantaged by their employment status. The relationship between employment status and work conditions with risk behaviors and health outcomes had been established. Unstable employment and poor working conditions have direct impacts on the prevalence of occupational illnesses, accidents and injuries and have other indirect impacts on social and economic conditions.

**Natural and built environment**

The natural and built environments are key determinants of the health and well-being of our people. The built environment comprises all areas and components of our ecosystem that are strongly influenced by humans. This includes land-use patterns, transport systems, urban design, green spaces and all buildings and spaces that are created by people. In contrast, the natural environment comprises components of our ecosystem without massive human intervention and includes natural resources, soil, vegetation, water, air, climate, and all natural phenomena occurring therein. The natural and built environments are interrelated and occur in a continuum, reasons why there is hardly any place that can be called an absolutely natural environment. Thus, the built environment is the principal -- one might almost say the ‘natural’ -- human environment. How the built environment, such as homes, schools, workplaces, parks, neighborhoods, communities and cities, is designed, built and used has a profound impact on our health and our natural environment (Hancock, 2007).

The built environment has direct and indirect impact on the natural environment. Development patterns and practices, especially in urban areas, affect environmental quality with their influences on geography and climate, land use, water and air quality, sanitation and waste management, mobility, and habitation (EPA, 2001). Geographic location and climate change are connected essentially to health such that they influence the peoples’ susceptibility to natural disasters like storms, typhoons, floods, drought, fires, landslides or earthquakes with their consequent outcomes such as physical injuries and trauma, mental stress and other illnesses. Climate change related impacts are already evident in situations such as heat waves causing heat strokes and vulnerability to illnesses such as dengue and malaria carried by mosquitoes and leptospirosis carried by rodents in floods, to name a few. The most adverse impacts of climate change are likely to increase health risks though its bearings on living conditions, food security, water and sanitation, among others. The burden will be most heavy on the urban poor and children.
Furthermore, housing conditions in which the poor, marginalized and transitory settlers in urban areas lived are considered health hazards. Makeshift sanctuaries found along riverbanks, mountain slopes and hillsides, under the bridges or highways present grave scenarios for ill health among its residents. Coupled with unsanitary conditions, overcrowding, lack of space for recreation and physical activities, inadequate road and transport systems, poor air and water quality, insufficient social services and other amenities, residents would be most prone to infectious diseases, respiratory problems, mental health conditions, accidents and injuries, and stressful lifestyles that lead to NCDs.

**Current response to non-communicable diseases and risk factors**

Issues surrounding NCDs and other health risk factors have been getting their much needed attention not just from the government, but from non-government organizations, international development partners, and the private sector as well. Different government agencies and institutions demonstrate their support to the cause by developing and implementing their own policies and programs in support of the national goal of preventing and controlling NCDs. Likewise, NGOs and international development partners have thrown in their share, reaching more people at the national level down to the communities, while the private sector increasingly invests in wellness and healthy lifestyle programs for their employees and in reaching out to the communities through activities in support of their corporate social responsibility.

**Programs and projects of the Department of Health**

The prevention and control of lifestyle-related NCDs was traditionally addressed through separate and distinct public health programs. The DOH implements these programs vertically with policies, protocols, and interventions that targeted a particular disease. This disease-based approach was implemented in all local government units in the early 1990s with some limited successes. Some of these programs include the following:

*Diabetes Mellitus Prevention and Control Program.* This program has five components: health promotion and education, manpower development and capabilities strengthening, service delivery, monitoring and evaluation, and research. With health promotion and education, DOH acknowledges the importance of interpersonal collaboration in order to educate the public on the nature and extent of the disease, including the need for early detection and management.
**Occupational Health Program.** This program aims to promote and protect the health and well-being of the working population through improved health, better working conditions and workers' environment.

**Cardiovascular Disease Prevention and Control Program.** This program aims to reduce morbidity, mortality and disability due to CVDs through an integrated and comprehensive program. The program targets three major health promotion settings: community, school and workplace. Multi-sectoral actions on CVDs involving both public and private sectors are also part of the program.

**Smoking Cessation Program.** This program aims to promote and advocate smoking cessation in the Philippines through training, advocacy, health education, and other related services targeting smoking cessation.

**Violence and Injury Prevention Program.** The DOH, in collaboration with other stakeholders, undertakes advocacy, information and education, political support, and inter-sectoral collaboration on accident and injury prevention, patterns, and factors associated with incidence of accidents and injuries to policy makers, government agencies, civil societies, people's organizations, and the general public.

The DOH also conducts separate and distinct health promotion campaigns at the national, regional and local levels. It develops materials to support the programs on NCDs and other health risks. Specifically, the materials and campaigns produced and conducted include the following:

- No Smoking Month
- Ekersisyong Pangkalusugan para sa Lahat
- Cancer Awareness Month
- Heart Month
- Hypertension Day
- Burn Injury Awareness and Prevention Month
- Kontra Paputok
- Red Orchid Award (Anti-Tobacco Award)
- HL (Healthy Lifestyle) to the Max
- Poison Prevention Week
- Nutrition Month
- National Disability Prevention and Rehabilitation Week
- National Diabetes Awareness Week
- Obesity Prevention and Awareness Week
- Drug Abuse Prevention and Control Week

Various DOH Medical Centers and Specialty Hospitals such as the National Kidney and Transplant Institute (NKTI), the Philippine Heart Center (PHC), and the Lung Center of the Philippines (LCP) are also conducting separate health promotion activities and
clinical outreach programs specifically related to specialized care of kidney, heart and lung diseases.

Prompted by the WHO Global Strategy for the Prevention and Control of Non-Communicable Diseases, the Philippines transitioned to support an integrated and comprehensive program for the prevention and control of lifestyle-related NCDs. This shift evolved from the understanding that a comprehensive national NCD prevention and control program should be integrated across all levels of health care and should espouse a top to bottom commitment to implementation and sustainability. The integrated approach is recognized as an innovation to reduce mortality, morbidity, and disability from lifestyle-related NCDs. Implemented through the promotion of healthy lifestyles, the approach focuses on addressing the common risk factors that lead to NCDs. Specifically, it aims to promote healthy diet, regular and adequate physical activity, tobacco control, avoidance of alcohol use, and good stress management. The integrated approach, with its leading campaign on Healthy Lifestyle, was launched in 2003 with the tagline “Mag HL Tayo”.

The government’s approach to lifestyle-related NCDs continuously evolved as the nation faced an ever-growing challenge. A pioneering approach called the Integrated Community-Based NCD Prevention and Control Project was introduced. The project promoted social preparation, community organization, social mobilization on healthy lifestyle promotion, policy formulation and legislation, training of health workers, and mobilization of schools as centers for healthy-lifestyle practices. In 2005, the national government responded to the growing prevalence of NCDs by declaring the period 2005 to 2015 as the Decade of Healthy Lifestyle, and urged all sectors of government and civil society to join hands and strengthen the support for preventive intervention against causal risk factors deeply entrenched in the social and cultural framework of our society. It encouraged politicians, media, and other stakeholders to provide Filipinos with environments supportive of a healthy lifestyle.

In addition, the DOH introduced the MDGmax Initiative as a deliberate strategy to reach the national goals of reducing deaths from lifestyle-related NCDs by an annual two percent reduction until 2015. In 2009, the DOH also revitalized and repackaged its healthy lifestyle campaign into a new brand called “HL to the MAX” Campaign. It sought to promote a healthy lifestyle among Filipinos by advocating seven vital, yet simple, healthy practices:

- No smoking
- Don’t drink alcohol
- No to illegal drugs
- Eat low-fat, low-salt, high-fiber diet
- Prevent hypertension and diabetes
- Do physical activity
- Manage stress
In 2011, in support of the goals for Universal Health Care, the National Policy on Strengthening the Prevention and Control of Chronic Lifestyle-Related NCDs through Administrative Order (AO) No. 3, series of 2011, was signed by the Secretary of Health. The administrative order pushes for the development of a national program and plan of action on the prevention and control of NCDs. The policy encompasses the conduct of health research, promotion and advocacy activities, and is guided by the following principles:

- The country shall adopt an integrated, comprehensive and community based response for the prevention and control of chronic, lifestyle-related NCDs.
- Health promotion strategies shall be intensified to effect changes that would lead to a significant reduction in mortality and morbidity due to chronic lifestyle-related NCDs.
- Complementary accountabilities of all stakeholders must be ensured and actively pursued in the implementation of an integrated, comprehensive and community based response to chronic lifestyle-related NCDs.

In addition, with the enactment of the Food and Drug Authority (FDA) Act of 2009, FDA now has increased authority and mandate to regulate consumer products and implement stricter policies on issues such as marketing of food products, product labeling, and tobacco regulation. FDA has also been empowered to seize and hold in custody any food, cosmetic products, and pharmaceutical items found to be violating existing rules and regulations, and those that will be found unsafe for public consumption. On tobacco regulation, FDA now examines nicotine levels or any substance in cigarettes that push people to smoke more, and implements an administrative order requiring graphic health warnings on cigarette packs.

Moreover, the DOH-attached National Nutrition Council (NNC) conducts several programs to promote nutrition and healthy lifestyle. This includes planting of vegetables in schools (together with DepEd), conferring National Nutrition Awards to outstanding LGUs, and sponsoring several TV and radio programs for public education on good nutrition, among many other initiatives.

Despite the inception of innovative programs, the DOH still faces important challenges ahead. In particular, the absence of a specific line item for lifestyle-related NCD prevention and control in the local government health budget limits the implementation of appropriate health interventions at the local level. Furthermore, reimbursements for medical expenditures on lifestyle-related NCDs from the National Health Insurance Program, while available, remain very limited. Finally, the growing prevalence of lifestyle-related NCDs compels the DOH to seek good curative interventions in addition to the prevailing preventive measures in the control of this mounting public health problem.
Programs and projects of other government agencies

Other agencies and institutions of government have provided support to the national efforts to promote health and control NCDs and their associated risk behaviors. Some of these initiatives include the following:

Department of Education (DepEd)

In partnership with donors and NGOs, DepEd regularly conducts activities that promote school health and nutrition, and the control and prevention of NCDs. DepEd also supports Presidential Proclamation 958 that declares 2005 to 2015 as the Decade of Healthy Lifestyle.

Department of the Interior and Local Government (DILG)

In support to Presidential Proclamation 958, DILG advocates “Perfect 10” lifestyle program to prevent NCDs, and urges all local chief executives to support the campaign. The advocacy program promotes “Perfect 10” steps:

• Eat a variety of nutritious food every day, with less salt, sugar, and fats
• Drink eight to 10 glasses of water daily
• Rest and sleep for seven to nine hours every night
• Breathe clean air and say no to smoking and prohibited drugs
• Exercise every day, get enough sunlight, be physically active and maintain normal weight
• Manage stress, relax, and pray
• Maintain personal hygiene and good grooming
• Keep a clean household and practice waste management
• Consult a physician and go for a health check-up
• Be a role model, give good examples, and take care of your family and friends

Department of Labor and Employment (DOLE)

Aside from occupational health and safety issues, DOLE also addresses lifestyle-associated diseases of Filipino workers. Most recently, DOLE recognized diseases associated with the lifestyles of Business Processing Outsourcing (BPO) industry employees.

Metro Manila Development Authority (MMDA)

MMDA’s enforcement of smoking ban in partnership with 17 Metro Manila local government units has been supported by DOH and other agencies such as DILG. As of February 2012, MMDA apprehended a total of 20,525 smokers across Metro Manila.
The Congress of the Philippines enacted Republic Act No. 8750 (Seat Belts Use Act of 1999) which requires vehicle manufacturers to install seat belt devices in all their manufactured vehicles and compels the driver and front seat passengers of a public or private motor vehicle to wear or use their seat belt devices while inside a running vehicle on any road or thoroughfare. Congress also enacted Republic Act 8191 (The National Diabetes Act of 1996) which prescribes measures for the prevention and control of diabetes in the country and mandates the creation of the National Commission on Diabetes. Furthermore, several bills addressing NCDs and other health risks (ranging from road accidents, to firecrackers, to occupational health) are currently filed in both Houses of Congress. Most pertinent to the issue of health promotion is Senate Bill 1918 (An Act Establishing a National Health Promotion Institute to Mainstream Health Promotion in the Philippine Health Care System, Providing for a Health Promotion Fund and for Other Purposes) which proposes the creation of a Health Promotion Institute that will be funded by tobacco and alcohol taxes.

Armed Forces of the Philippines (AFP)

Officers of the Armed Forces of the Philippines (AFP) need to pass the physical fitness test (PFT) in order to get promoted. Noting the alarming trend of officers dying from NCDs, particularly CVDs, the AFP compelled its officers to be physically fit at all times, aside from strictly enforcing the PFT as a policy.

Programs and projects of NGOs and international development partners

Supported by resources that generally come from grants and from self-generated funds, civil society organizations, through their own initiative and in partnership with international development agencies, have made outstanding contributions to support programs and projects on NCDs and health promotion. Some of these programs and projects are described as follow:

Healthy Cities Initiative, Alliance for Healthy Cities

The Alliance for Healthy Cities is an international network composed of cities and organizations that aims to protect and enhance the health of city dwellers through an approach called “Healthy Cities.” The Healthy Cities approach was initiated by the WHO to help city dwellers cope with the adverse effects of urbanization on health.

HealthPro, USAID Philippines

HealthPRO is a five-year USAID Philippines project to support health-related behavior change communication (BCC) activities in the country. It provides technical assistance to
the DOH National Center for Health Promotion to develop BCC strategies for priority programs, to design and implement interventions, to support health events and to build capacities of local health education and promotion officers. HealthPRO also collaborates with the DOH Regional Offices, other USAID cooperating agencies and NGOs in providing an integrated package of technical assistance to local government units that include: (a) strategic communication planning; (b) developing easy to understand, audience-centered, evidence-based, accurate, and socially and culturally appropriate health messages; (c) enhancing use of interpersonal communication, social mobilization, mass media, traditional and emerging technologies; and (d) evaluating and sustaining the quality of local health promotion initiatives.

*Healthy Lifestyle Society of the Philippines*

The Healthy Lifestyle Society of the Philippines (HLSP) is an advocacy group with the aim of promoting the five components of healthy lifestyle, namely: regular exercise, smoking cessation, balanced diet, stress management and weight management.

*Philippine Coalition for the Prevention and Control of Non-Communicable Diseases*

The Philippine Coalition for the Prevention and Control of Non-Communicable Diseases (PCPCNCD) is a national coalition composed of 40 organizations working for the prevention and control of NCDs.

*Philippine Medical Association*

The Philippine Medical Association (PMA) partnered with the DOH to address the rising epidemic of chronic non-communicable diseases through health promotion campaigns in all forms of media.

*Employers’ Confederation of the Philippines*

As a firm believer of corporate social responsibility, the Employers’ Confederation of the Philippines (ECOP) continues to develop and implement special projects on healthy lifestyle promotion programs among workers and their families.

*FCTC Alliance Philippines*

The FCTC Alliance Philippines (FCAP) is a non-stock, non-profit, non-governmental organization advocating for a tobacco-free society. It is the only organization in the Philippines that effectively addresses tobacco issues in a holistic manner by mobilizing its coalition of organizations. Its network reaches religious and media organizations as well as prestigious associations of health professionals. As the NGO member of the Inter-Agency Committee on Tobacco, FCAP works with the WHO and DOH.
Southeast Asia Tobacco Control Alliance

The Southeast Asia Tobacco Control Alliance (SEATCA) is a multi-sectoral alliance established to support ASEAN countries in developing and putting in place effective tobacco control policies. It responds to a grave need to fast track tobacco control policies in Southeast Asia. It leads the Southeast Asia Initiative on Tobacco Tax Project which aims to provide policymakers with research-based evidence of the effectiveness of improved tobacco tax systems with higher rates and sustainable funding mechanisms.

HealthJustice

HealthJustice is a non-governmental organization founded in 2008 that aims to bridge the gap between public health and law to enable Filipinos to make informed and empowered health choices. The organization is committed to be the leading resource in research and capacity-building for priority public health policies. In 2012, HealthJustice received the prestigious Bloomberg Award for Global Tobacco Control. The organization is the country partner of SEATCA in the initiative to improve tobacco tax system and establish health promotion in the Philippines.

Episcopal Diocese of Northern Philippines

The Episcopal Diocese of Northern Philippines (EDNP) was recently chosen as one of the five winners of the Second Outstanding Healthy Lifestyle Advocacy Awards which aims to prevent and control NCDs in the country. EDNP implemented healthy lifestyle programs such as Healthy Lifestyle Advocacy through Health Sunday Celebration, No Smoking Campaign, Liquor Ban, Junking Junk Foods, Health Assistant Plan, Organic Food Production (which includes herbal and vegetable gardening in mission schools, organic farming demonstration projects), and environment protection.

Programs and projects of the private sector

Some of the private sector initiatives in the prevention and control of NCDs and the promotion of healthy lifestyle are as follow:

Healthy Ü (Healthy University)

Healthy Ü (or Healthy University) aims to set up a healthy university model and to promote De La Salle University (DLSU-Dasmariñas) as the model for such. Healthy Ü is the University’s attempt to be a “Health Promoting School.” A Health Promoting School is a place where all members of the school work together to give its students, faculty and staff with programs and activities that promote health protection. The initiative aims to reduce non-communicable disease factors such as unhealthy eating habits, lack of exercise, alcohol drinking, smoking, and eating too much sugar, fatty and salty food.
Novartis

Novartis’ “Making Health a Lifestyle” program consists of the internal “Be Healthy Initiative” and the external Kaagapay-World Hypertension Day annual campaigns. The “Be Healthy Initiative” is a group-wide initiative that helps Novartis employees worldwide adopt and stick to a healthy lifestyle. It is anchored on four pillars of healthy living: regular exercise, healthy diet, accurate up-to-date health information, and maintaining health at work.

Health promotion as a strategic approach to prevent NCDs

It has been established that the onset and progression of chronic NCDs are brought by many shared risk behaviors. The interplay of such risk behaviors with the socio-economic, environmental, political and other determinants of health further increases a person’s susceptibility to developing lifestyle-related NCDs. It has also been noted that NCDs disproportionately affects individuals who are poor and that expenditures by the poor on tobacco, alcohol and other risk behaviors can exacerbate household poverty. Also, expenses for treating chronic debilitating diseases can lead to further impoverishment not only of poor households but also of an overwhelming number of middle income families with the resulting loss of productivity from such illnesses further widening the economic divide.

As more people suffer and die from costly chronic NCDs and brought into poverty as a consequence, the government is expected to shoulder the tremendous cost of treating NCDs. If nothing is done, a significant proportion of the government budget as well as the social insurance funds would be spent on specialized tertiary care for patients with NCDs. Upward pressures on health spending would be persistent. It is critical, therefore, that efficiencies in health have to be found if we are to improve and sustain our health outcomes in the long run. Unless a strong, integrated and comprehensive health promotion approach is instituted as a critical response to protect health and prevent the onset of risky behaviors, the surge of NCDs will continue unabated. Now, more than ever, health reforms must embed health promotion policies and investments that deliver greater value for money if we are to curb the NCD epidemic. Adopting such health promotion policies might largely pay for themselves through reduction of health care costs in the future.

The Ottawa Charter (1986) defined health promotion as the process of enabling people to increase control over, and to improve, their health. It put emphasis on the fundamental conditions and resources necessary for attaining health such as peace, shelter, education, food, income, a stable eco-system, sustainable resources, social justice and equity. The
prerequisites and prospects for health, therefore, cannot be ensured by the health sector alone. Health promotion demands coordinated action by the national and local governments, by other social and economic sectors, by nongovernmental and voluntary organizations, by professional groups, by industry and by the media. More so, individuals, families and communities also have a major responsibility in the pursuit of health.

Further, the Bangkok Charter (2005) emphasized health promotion as an approach to address the critical determinants of health and health inequities. The Charter highlighted health promotion as a core function of public health and contributes to the work of tackling communicable and non-communicable diseases and other threats to health. It appealed for governments, in collaboration with other organizations and sectors, to allocate resources for health promotion and initiate appropriate plans of action.

In spite of this, examining current efforts of the Philippine government in health promotion reveal its bias for the more visible and politically expedient priorities for curative care. In essence, the government commits less than one per cent of the health budget to health promotion and NCD prevention efforts which has the greatest potential to resolve the problems that consume a major proportion of our health expenditure (i.e., generally, hospital-based curative and rehabilitative care for chronic and catastrophic NCDs, for which there is no cure, anyway).

In 2011, only PhP 153.9 million of the total PhP 31.8 billion national budget for health was allocated for health promotion programs under the DOH National Center for Health Promotion (NCHP) (Table 14 and Figure 6). Also, only PhP 35.8 million was allocated for policy and program development, capacity building and technical assistance for NCD prevention and control programs under the DOH National Center for Disease Prevention and Control (NCDPC) during the same year.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Budget of DOH</th>
<th>DOH Budget for NCD Prevention Programs</th>
<th>DOH Budget for Health Promotion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Amount (in PhP)</td>
<td>Percent (of DOH budget)</td>
<td>Amount (in PhP)</td>
</tr>
<tr>
<td>2007</td>
<td>11,398,771,000</td>
<td>25,236,000</td>
<td>0.22%</td>
</tr>
<tr>
<td>2008</td>
<td>18,912,010,000</td>
<td>51,377,000</td>
<td>0.27%</td>
</tr>
<tr>
<td>2009</td>
<td>23,666,655,000</td>
<td>26,377,000</td>
<td>0.11%</td>
</tr>
<tr>
<td>2010</td>
<td>24,649,765,000</td>
<td>35,849,000</td>
<td>0.14%</td>
</tr>
<tr>
<td>2011</td>
<td>31,828,616,000</td>
<td>35,849,000</td>
<td>0.11%</td>
</tr>
</tbody>
</table>

*Source: Department of Health Budget, 2011*
Figure 6. Budget of the DOH National Center for Health Promotion by Expense Class, 2007-2011

Source: DOH National Center for Health Promotion, 2011

On the global stage, however, the WHO has positioned health promotion as a strategic approach to combat the ever-increasing prevalence of lifestyle-related NCDs and their underlying social determinants. WHO has recommended the adoption of the framework shown below, which utilizes a comprehensive approach that simultaneously seeks to effect change along three major areas: (1) at the environmental level, through governance, policy and regulatory interventions and the creation of supportive environments; (2) at the level of common risk factors, through population-based lifestyle interventions; and (3) at the level of clinical interventions, through preventive services, early detection and screening, and acute, chronic and palliative care (WHO, 2010a). To support change at these three levels, additional actions are needed in four other key areas: (1) advocacy, (2) research, surveillance and evaluation, (3) leadership, multi-sectoral partnerships and community mobilization, and (4) health system strengthening, especially at the primary health care level.
Key action points

Several key action points are critical in the prevention and control of NCDs within the context of a health promoting political, social, economic and physical environment. These key action points are grouped into three major strategic thrusts: (1) **strengthening health system response to NCDs**, on the basis of scaling up current efforts in health reforms linked to the six building blocks of a functional health system; (2) **prioritizing key behavioral interventions** focused on the shared and modifiable risk behaviors and practices that have direct impact on the reduction of NCDs; and (3) **raising the priority for multi-sectoral action** by reframing the policy debate and action at the highest political level and strengthening governance and management support at the operational level through a whole-of-government, whole-of-society approach.

**Strengthening health system response to NCDs**

During the 1990s, health interventions to combat NCDs in our country were designed as vertical programs focused on single diseases. Emphasis had been on individual clinical care interventions rather than on population-based health interventions. In 2003, however, an integrated approach for the prevention and management of NCDs anchored on healthy lifestyle strategies was introduced by the DOH. The implementation of the new approach entails a core range of interventions consisting of health promotion, primary prevention, early detection and screening, training of health care workers, efficient referrals, clinical interventions, disease surveillance and monitoring. Through the years, the integrated approach to NCDs has evolved to include multi-sectoral involvement within and outside of the health sector at both national and local level.

Arguably, an effective response to lifestyle-related NCDs demands long-term planning, multi-sectoral responses, and sustained investments over a long period of time. Programs for combating chronic debilitating diseases are highly dependent on a well-functioning and equitable health system, more so than some other population-based health interventions. Such a dependency results from the need for long-term and sustained coordination between sectors and at all levels across a continuum of health promotion, prevention and care. The delivery of a comprehensive package of interventions for NCDs places considerable leadership demands on the health sector and substantial operational constraints on the health systems. Such responsibility requires strengthening of the different components of the health system to better respond to the growing concerns on lifestyle-related NCDs.
**Financing**

Limitation of financial protection, combined with the long-term nature of lifestyle-related NCDs, puts patients and their families at especially high risk of incurring catastrophic healthcare costs, especially those who are already poor. Financial capacity is a major determinant for personal decision to access care for chronic diseases. The prospect of impoverishment is a disincentive to health-seeking behavior and contributes to poor treatment adherence (Samb et al, 2010). Therefore, effective delivery of a comprehensive package of NCD interventions is highly dependent on a good health-financing system that can raise adequate funds, and effectively pool and allocate such resources in ways that ensure people can access health services and are protected from impoverishment as a result of having to pay for them.

**Key action points:**
- Develop financing scheme for low-cost health promoting public policies and actions through earmarked national taxes on tobacco, alcohol, sweetened drinks and other unhealthy products
- Develop financing and provider payment schemes for population-wide primary care interventions such as screening, early detection and behavior change counseling
- Rationalize financing and provider payment schemes for acute high-cost in-patient medical and surgical care and for chronic high-cost medical interventions
- Develop financing and provider payment schemes for specialized ambulatory diagnostic and treatment procedures and outpatient maintenance drugs

**Service delivery**

Delivery of health services that are accessible, equitable, safe, and responsive to the needs of users is essential if any proven strategy for prevention and control of lifestyle-related NCDs is to have an effect on improving population health outcomes. Chronic disease conditions, however, often fail to receive adequate support because of a combination of insufficient access and poor quality of health services. Prevention of chronic diseases needs strategies that are coordinated across sectors to promote health and wellbeing (Samb et al, 2010). Therefore, good health outcomes can only be attained if effective, efficient, and high-quality personal health care and public health interventions to combat NCDs are delivered to those who need them across a continuum that encompass primary, secondary and tertiary levels of care.

**Key action points:**
- Develop infrastructure and capacity for monitoring behavioral risk factors, screening and early detection, preventive care and long-term ambulatory care for NCDs at the primary health facilities
• Strengthen capacity for counseling, advocacy, adherence support and other related health promotive services at the primary level of care
• Develop an integrated approach, strong referral system and networking mechanisms across the continuum of care
• Improve inter-sectoral coordination, planning, monitoring and information sharing at national and local levels, and among public and private service providers

**Human resource**

Health promotion and NCD prevention, care and management bring heavy demands on the health workforce due to the range of health interventions and the duration of health care for chronic diseases (Samb et al, 2010). Trained and capable primary care health workers are specially needed to bring services closer to the community. They play a crucial role in the management of risk behaviors through counseling, advocacy and adherence support. They also act as the first line providers of preventive care, early detection and screening services, case referral, and support for long-term ambulatory and home-based care. They are also expected to lead inter-sectoral health promotion strategies and mechanisms for networking with other sectors. On the other hand, highly trained specialists are also needed to provide tertiary care services. This skills-mix needs to be organized effectively to ensure delivery of services, especially to underserved and vulnerable population groups.

Key action points:
• Deploy sufficient and well-trained primary level health workforce specifically to unserved and underserved areas
• Build capacity for primary level health providers on critical skills such as counseling and identification of risk behaviors, screening and early detection, primary level clinical interventions, etc.
• Deploy highly specialized tertiary care professionals in strategic regional and provincial referral facilities
• Develop skills for health promotion, advocacy and networking at all levels of the health system
• Strengthen support mechanisms for the retention of health professionals such as acceptable working conditions and incentives, appropriate facilities and reliable supplies, and a well-functioning supervision and referral systems

**Pharmaceuticals and other health products**

Access to cost-effective health interventions for NCDs is often limited by the affordability and availability of essential medicines needed for chronic care and long-term treatment modalities. This is especially true in health systems like the Philippines where long-term
out-patient management of chronic conditions are generally funded through out-of-pocket expenditures. Although medicines needed for basic NCD interventions have been identified and included in the essential drug list, and policies and strategies for making these medicines more affordable, available, and accessible have been developed, a more formidable challenge remains. Supply chain management to ensure efficient distribution of medicines and health products remains deficient. In terms of effective treatment and management of chronic diseases where constant supply is needed, this situation becomes more critical. Similarly, rational use of health products and technologies remains problematic.

Key action points:
- Ensure implementation of national drug policies, specifically those that pertain to quality, rational use, and access to essential drugs
- Strengthen supply chain management to prevent stock interruptions of critical drugs and medicines for the management of NCDs
- Strengthen regulatory infrastructure and mechanisms to ensure quality and affordability of medicines and health products for the prevention and control of NCDs
- Ensure availability and affordability of multi-drug combination regimen for people identified in primary care as being at high risk of NCDs, or for patients who have already had a clinical event

Health information

Several data sources have been used to provide information on NCDs and the risk behaviors associated with them. These sources include regular and special population surveys, the civil registration system, and specific chronic disease registries. With these data sources for NCDs remaining fragmented, development of evidence-based policies and strategies on NCDs are hindered. Many of the constraints relate to the reliability, timeliness, and accurateness of the data available, the appropriateness and comparability of the indicators used, and the methods of analysis, interpretation, and dissemination of information. Additionally, the health information systems that exist do not include indicators relevant to the development of policies and programs responsive to NCDs and their associated risk behaviors. Disease surveillance systems for NCDs have not been integrated into the national health information system, which generally is limited to communicable diseases.

Key action points:
- Revise existing field health service information system to integrate indicators and other relevant data needed for NCDs and their associated risk behaviors
- Include data sets for NCDs and risk behaviors in regular national demographic and health surveys
• Develop an integrated and nationally representative chronic disease registries in tertiary care facilities
• Develop appropriate indicators and generation of relevant and regular data on health promotion, social determinants and health inequities

**Governance**

Appropriate decentralization of health management and democratization of health through the active participation of the community and of service users has a positive effect on access to and uptake of health services (Samb et al, 2010). Such an approach must be backed up by a functional governance structure at national and local levels involving both the public and private sectors and supported by sufficient resources. Involvement of the community in NCD prevention and control programs is a critical component of governance because of the long-term support needed by patients, which is generally delivered by family members and care-givers who are outside of the formal health system. Community participation and empowerment are also crucial for health promotion strategies that involve multi-sectoral and multi-level efforts.

**Key action points:**
- Strengthen local government and community level involvement in health promotion and provision of health education, advocacy, patient support, and extended ambulatory health care interventions
- Strengthen local government and community involvement in planning and implementation of health services and inter-sectoral coordination and support
- Build capacity for local level management of health interventions such as early detection and monitoring of risk factors, provision of long-term care, sustained supply of drugs, and behavior change interventions
- Improve central level management of drug procurement, technology assessment and regulation, and policy and standards development
- Establish community links and social networks to strengthen participation and empowerment at the community level, especially for health promotion strategies
- Empower patients to take personal responsibility for behavior change interventions and specific aspects of their own care through self-management programs

**Prioritizing key behavioral interventions**

The United Nations High-Level Meeting on Non-Communicable Diseases held in New York in September 2011 has generated a remarkable opportunity to build a global movement against premature death and preventable morbidity and disability from NCDs. The high level meeting has identified NCDs as the emerging barrier to development goals including poverty reduction, health equity, economic stability, and human security
(United Nations, 2011). The WHO Western Pacific Region and its member countries have supported this global call for action and have reiterated their response to tackle this growing concern by emphasizing key interventions that are essentially cost-effective and focused on the shared and modifiable risk behaviors and practices that have direct impact on the reduction of NCDs.

*Tobacco control*

The reduction of tobacco consumption is one of the most important component of any national policy on the prevention and control of NCDs. An important outcome from the UN High-Level Meeting on NCDs is the renewed resolve to accelerate the full implementation of all aspects of the FCTC. Full implementation of four critical strategies in the FCTC will have immediate health and economic benefits: bans on direct and indirect tobacco advertising, tobacco tax and price increases, smoke-free environments in all public and work places, and large clear graphic messages on tobacco packaging (WHO, 2010c). The National Tobacco Control Strategy for 2011-2016 has set the goals and strategies to attain the lowest possible prevalence of tobacco use and to attain the highest level of protection from tobacco smoke (DOH, 2012).

Key action points:
- Promote and advocate for the full implementation of the WHO Framework Convention on Tobacco Control (FCTC)
- Mobilize and empower policy makers, advocates and communities for public action to promote legislation and policies on tobacco control, tobacco taxes and price increases, and creation of alliances and partnerships
- Strengthen organizational capacity of the tobacco control program for investment planning and resource management, leadership and human resource development, knowledge management, public awareness and advocacy, and smoking cessation and tobacco dependence treatment
- Strengthen governance and regulatory mechanisms for the enforcement of bans on tobacco advertising, promotion and sponsorship including protection of public policies and interests from interference by the tobacco industry

*Salt reduction*

There is strong evidence that too much salt consumption is a major factor in increasing blood pressure and therefore cardiovascular diseases. Population-wide strategies for reducing salt consumption are deemed more cost-effective than other blood pressure prevention, control and treatment regimen (WHO, 2010a). As the consumption of processed food rises among the population, strategies for salt reduction should include a change in food industry norms to reduce addition of salt in food products. WHO and FAO recommend the consumption of less than 5 gm of sodium chloride (or 2 gm of sodium)
per day, while ensuring that the salt is iodized. The overall goal is population-wide reduction of dietary salt intake.

Key action points:
- Develop a salt reduction policy that is coherent with national policies and action plans on food and nutrition, health promotion and chronic disease prevention
- Institute regulatory mechanisms (such as voluntary guidelines, self-regulation and statutory regulation) to lower salt in food products
- Monitor dietary salt intake and the impact of dietary habits on salt consumption to support development of more effective policies and interventions

Reduction of harmful use of alcohol

Alcohol-related harms are directly influenced by policies related to pricing, marketing, and availability of alcohol (Anderson et al, 2009). Similar with tobacco concerns, alcohol promotion and advertising needs effective legislation to reduce harmful use of alcohol. Legislative measures that regulate drink-driving and impose interventions for at-risk drinkers are also helpful in modifying individual risk behaviors. Effective monitoring and control are also critical in situations where large volumes of alcohol are produced informally or illegally and where production and consumption generally remain unrecorded. Another strategic point in reducing harmful use of alcohol is to increase the proportion of alcohol beverages that is taxed and to impose a taxation scheme based on alcohol content (Beaglehole et al, 2011).

Key action points:
- Ensure adequate public awareness of the health and social consequences of the harmful use of alcohol
- Develop national public health-oriented, evidence-based alcohol policies
- Establish an alcohol taxation and pricing system with the aim to reduce alcohol consumption
- Regulate the marketing of alcoholic beverages, including advertising, promotion and sponsorships
- Reduce drink-driving by instituting and enforcing a maximum legal blood alcohol content level
- Enforce and apply legislation, regulations and policies for the sale and consumption of alcoholic beverages
- Enable easy access to early intervention, treatment and rehabilitation programs for people with alcohol-related problems and support for their families
- Provide systems to collect and analyze relevant data
Promotion of healthy diets

Promotion of foods low in saturated fats, trans-fatty acids, salt and sugar, particularly sugar-sweetened drinks, will lead to wide ranging health benefits such as prevention and control of overweight and obesity, CVDs, some forms of cancer, and dental problems (Beaglehole et al, 2011). Prevention of overweight and obesity especially among children should be given high priority since they are likely to stay overweight and obese into adulthood and more likely to develop NCDs. Likewise, the promotion of increase in consumption of fruits and vegetables ensures an adequate intake of most micronutrients, dietary fibers and a host of essential non-nutrient substances. In addition, increased consumption of fruits and vegetables can help displace foods high in saturated fats, sugar and salt (WHO, 2010a).

Key action points:
- Institute fiscal methods to increase the tax and price of foods high in saturated and industrially produced trans-fatty acids, salt and sugar, including sweetened drinks
- Regulate the marketing, advertising and promotion of unhealthy food products and sweetened drinks, especially to children, adolescents and young adults
- Ensure appropriate labeling and health warnings on food products, especially processed foods and sweetened drinks
- Increase promotion and awareness of the role of fruits and vegetables in the prevention of NCDs
- Increase fruit and vegetable consumption through essential public health, agriculture and fiscal actions

Promotion of physical activity

Along with socioeconomic changes, living environments have changed, leading to more sedentary lifestyles. Physical inactivity is becoming increasingly prevalent especially in urban centers. It is estimated to cause around 25 percent of breast and colon cancers, 27 percent of diabetes and about 30 percent of ischemic heart disease burden (WHO, 2010a). National policies to promote physical activity should target change in a number of sectors other than health, including transport, urban planning, public works, housing, education and labor, among others. The Department of Health should take the lead in forming partnerships with other key agencies and other public and private stakeholders to draw up a common agenda and workplan to promote physical activity.

Key action points:
- Develop and implement national guidelines for levels of physical activity for health
- Develop national policy for the promotion of physical activity, targeting change in a number of other sectors
Ensure a safe and enabling environment for physical activity through urban planning and environmental policies
Ensure transport policies include support for active, non-motorized modes of transport
Ensure labor and workplace policies to support physical activity in the workplace
Ensure school policies to support the provision of opportunities and programs for physical education and activity
Encourage sports, recreation and leisure facilities to take up the concept of sports for all
Explore fiscal policy that may support participation in physical activity

Promotion of road safety

Road transportation supports a critical lifeline to socio-economic development by facilitating the movement of people, goods and services across the country (WHO, 2009a). An effective and efficient road transport system allows better access to social services and provides greater opportunities for expanding markets and creating jobs, which in the long run, results in better health outcomes for the population. Conversely, poorly managed and poorly maintained road transport system causes a significant burden on health due to increase in road traffic injuries, respiratory diseases brought by air pollution, stress from traffic congestion and noise pollution, and physical inactivity resulting in NCDs. Therefore, it has become apparent that governments should prioritize the goal of preventing and controlling the ever-rising incidence of road traffic injuries. The UN Global Plan for the Decade of Action for Road Safety 2011-2020 provided five critical activities to attain this goal (WHO, 2011c).

Key action points:
- Strengthen institutional capacity to improve road safety management
- Improve the safety of road networks for the benefit of road users, specifically the most vulnerable groups such as pedestrians, bicyclists and motorcyclists
- Improve vehicle safety through harmonization of relevant global standards and mechanisms to accelerate the uptake of new technologies which impact on safety
- Develop comprehensive programs to improve road user behavior to increase seatbelt and helmet wearing, and reduce drink-driving, speeding and other risks
- Improve health and other related systems to provide appropriate emergency treatment and longer-term rehabilitation for crash victims

Raising the priority for multi-sectoral action

The risk of developing many chronic diseases is strongly determined by social factors. Efforts to address these factors need an inter-sectoral response that can engage partners outside the health sector, such as education, finance, housing, public works, environment
and labor. Such efforts also involve engaging with the private sector, either to seek allies in the struggle against chronic diseases, or to tackle those that are the cause of the problem (e.g., the tobacco industry, the alcohol industry, the food and beverage industry, etc.). Furthermore, turning current knowledge and evidence on health and its social determinants to reframe and bring the policy debate into a more committed political action and a more concerted management support system at the operational level is expected to create a health promoting environment.

Reframing the policy debate and action at the highest political level

To raise the issue of health promotion and prevention of NCDs and their common risk factors at the political level, three strategic approaches are recommended: (1) reframe the debate to emphasize the societal determinants of disease and the interrelation between chronic disease, poverty, and development; (2) mobilize resources through a cooperative and inclusive approach to development and by equitably distributing resources on the basis of avoidable mortality; and (3) build on emerging strategic and political opportunities, such as the World Health Assembly 2008–13 Action Plan and the UN General Assembly High Level Meeting on NCDs held in September 2011 (Geneau et al, 2010). Of particular importance is the adoption of the political declaration of the High-level Meeting by the Heads of State and Government. The adoption of the declaration reflects the highest international political support for the prevention and control of NCDs. It signals the recognition of the problem at the global stage and prompts member states to take more decisive policies and actions to combat NCDs. It also creates opportunities for international development communities to reinforce the global movement for the prevention of NCDs.

Key action points:

- Adopt a whole-of-government, whole-of-society and health-in-all-policies approach in the development of policies and strategic actions for health promotion and NCD prevention and control
- Emphasize poverty reduction and human development in the overall development goals
- Create health promoting environments and put emphasis on the social and economic causes of NCDs and their associated risk factors
- Pursue co-benefits and common causes among different sectors in tackling health issues and risk factors
- Utilize surveillance of NCDs and risk factors for evidence-based policies and advocacies and for raising political awareness and commitment
- Support local coalitions and participation of local, national and international development partners and civil society organizations
Creating opportunities and strengthening support at the operational level

Opportunities and support at the operational level become tangible if reinforced by three basic conditions that are critical to a sustainable program for promoting health and combating NCDs: (1) a comprehensive national policy and strategic plan of action instituted through multi-stakeholder involvement and ownership; (2) a dedicated organization backed up by a clear mandate, strong organizational structure, and effective management support systems; and (3) a sustainable financing structure with appropriate mechanisms for resource generation, allocation and accountability. At the local level, a comprehensive approach to program implementation should include critical actions related to environmental interventions, lifestyle or behavioral interventions, and clinical interventions to prevent and control NCDs. Embedded in these interventions are mechanisms for monitoring and assessing program performance.

Key action points:
- Adopt the healthy settings approach within the broader context of a multi-sectoral and system-wide approach to strategic policy and program development
- Pursue the development of appropriate institutional arrangements, governance structures and management support systems for health promotion and NCD prevention
- Strengthen leadership and political commitment for creating health promoting environments at national and local levels
- Develop human resources, physical infrastructures and service delivery capacities for implementing health promotion and NCD prevention programs and strategies
- Develop appropriate and sustainable financing mechanisms for health promotion and NCD prevention (through annual budgetary outlay, earmarked funds from sin taxes, retention of self-generated income, or through a combination of several financing mechanisms)
- Strengthen mechanisms for knowledge generation and monitoring of performance for better transparency and accountability

Every effort must now be made to include the emerging and growing concerns related to lifestyle-related NCDs and their associated behavioral risk factors within the agenda for strengthening health systems, and to promote the need for health system reforms among health promotion and NCD advocates. A shared agenda is critical to build a health system that is responsive to the evolving health needs of our people. The policy reforms that are expected to follow can encourage greater appropriateness, relevance, and efficiency in health care financing; in the delivery of health services; in the production and deployment of health workers; in the procurement and distribution of essential medical products; in the generation of critical health information; and in the management and governance of the health sector.

National and local governments, international development partners and civil society and private stakeholders should draw their attention to the strong but neglected link between
NCDs, their associated risk behaviors, and development. The rising prevalence of NCDs is, in general, a failure of the development response. The strategic approach to health promotion and NCD prevention requires complex, multifaceted and multi-sectoral interventions that go beyond the health sector based on the need to tackle a wide range of social determinants. The most decisive approach toward this direction is the reduction of poverty and inequities in health. Multi-sectoral efforts to combat NCDs can only advance if health promotion is linked to the overall development agenda.
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