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Multisector Strategy in Addressing Noncommunicable Diseases in the Philippines

Valerie Gilbert T. Ulep et al.

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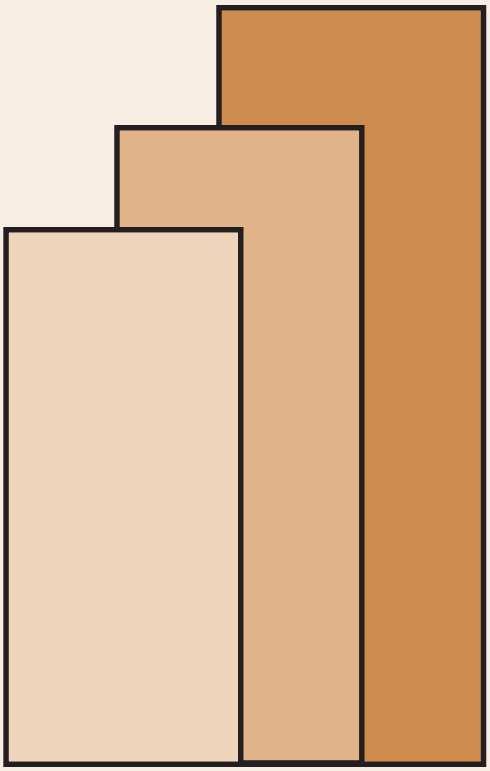

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PHILIPPINE INISTITUTE FOR DEVELOPMENT STUDIES

Multisector Strategy in Addressing Non-communicable Diseases in the Philippines

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Acronyms

ASEAN	Association of Southeast Asian Nations
BHFS	Bureau of Health Facilities and Standards
BHS	Barangay Health Station
BLHD	Bureau of Local Health and Development
BMI	Body Mass Index
CHP	Center for Health Promotion
COD	Cause of Death
COPD	Chronic Obstructive Pulmonary Disease
CPG	Clinical Practice Guidelines
CVD	Cardio-vascular Disease
DepEd	Department of Education
DOH	Department of Health
DOTC	Department of Transportation and Communication
DPWH	Department of Public Works and Highways
DTI	Department of Trade and Industry
FAO	Food and Agriculture Organization of the United Nations
FDA	Food and Drug Administration
FDI	Foreign Direct Investment
HHRDB	Health Human Resource Development Bureau
HPDPB	Health Policy Development and Planning Bureau
IEC	Information and Education Campaign
LGU	Local Government Unit
MMDA	Metro Manila Development Authority
NCD	Non-communicable Disease
NCDPC	National Centers for Disease Control and Prevention
NEC	National Epidemiology Center
NNS	National Nutrition Survey
NSCB	National Statistical Coordination Board
NTRC	National Tax Research Insitute
OECD	Organization for Economic Co-operation and Development
OOP	Out-of-Pocket Expenditures
PCBP	Primary Care Benefit Package
PCPCND	Philippine Coalition for the Prevention and Control of Non-Communicable Diseases
PHIC	Philippine Health Insurance Corporation
RH	Reproductive Health
RHU	Rural Health Unit
SOP	Standard Operating Procedures
TWG	Technical Working Group
WB	World Bank
WHO	World Health Organization
YLL	Years Life Lost

Abstract

This report is a continuation of the discussion paper of the Philippine Institute for Development Studies entitled "Inequalities in Non-communicable Diseases in the Philippines." The first technical paper is an analysis of the current status and social determinants of Non-Communicable Diseases. This report, on the other hand, focuses on potential NCD prevention and control strategies of the Department of Health with wider multi-sector involvement.

This report is divided into five chapters. Chapters I and II discuss the current status of Non-Communicable Diseases and existing policies and programs of the Department of Health. Chapter III introduces the potential roadmap of the NCD prevention and control program of the Department of Health. Chapter IV defines the roles and responsibilities of different bureaus within the health sector. Chapter V outlines the potential framework of the multi-sector strategy of the Department of Health.

Keywords: Non-Communicable Diseases, Multi-sector collaboration, Health system approach, supply and demand-side interventions

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Chapter I: Non-communicable Diseases in the Philippines

I. Introduction

Good health for all populations has become an accepted international goal. But health inequalities between rich and poor remain, while the prospects for future health depend increasingly on the relative new processes of globalization. McMichael & Beaglehole (2000) describe economic globalization as a "mixed blessing" for health. Human resource economics have demonstrated the positive correlation between income per capita and health, but only recently has the literature recognized that health is fundamental to sustained economic growth. Healthier populations have lower mortality and fertility rates and higher labour productivity, and are more inclined to invest in higher levels of skills training for themselves and education for their children, leading to higher permanent incomes, savings rates, and national investment over time (Peralta & Hunt, 2003).

The Philippines is facing a double burden of diseases with the rise of non-communicable diseases along with the country's continuous battle against infectious communicable diseases. Evidences have shown that NCDs influence the country's labour productivity and competitiveness; bring fiscal pressures in the health system; affect the country's health outcomes and introduce high level of impoverishment and catastrophe due to healthcare payments (Nikolic, Stanciole, & Zaydman , 2011; Meiro-Lorenzo, Villafana, & Harrit, 2011).

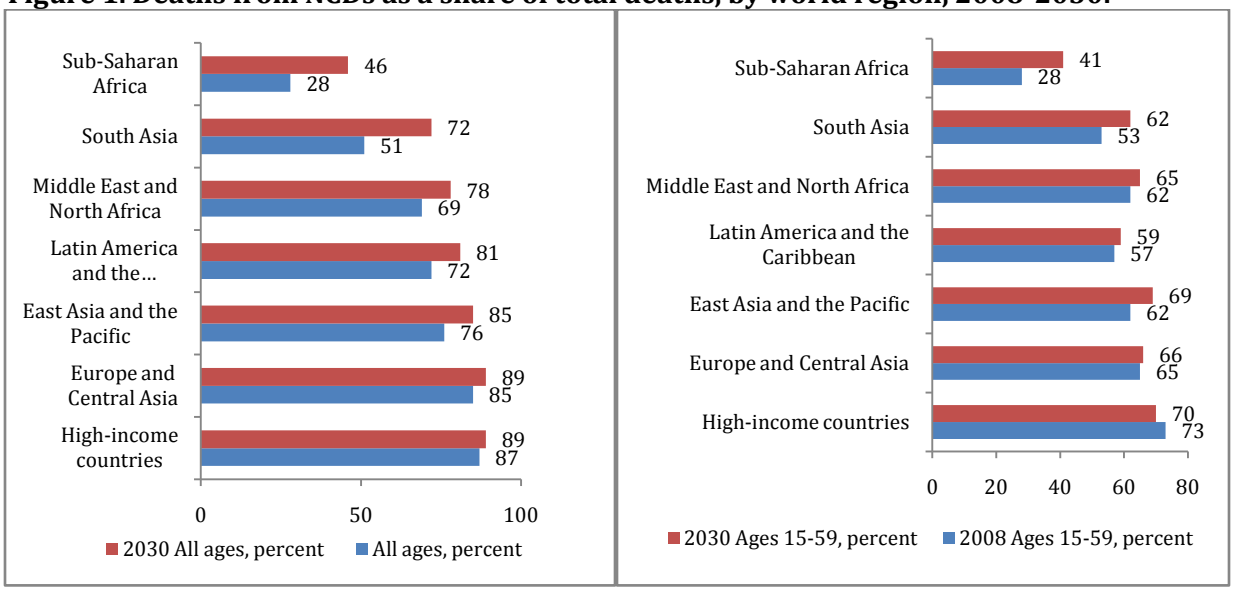
As the country's struggles to control its perennial health problems on infectious diseases and perinatal-related conditions, NCDs are rising rapidly. NCDs are chronic conditions, and their casual links are compounded by myriad and intricate biological and social determinants. Hence, prevention and control interventions are perceived as complex and high-maintenance. Given country's scarce financial resources and limitations of the health system to accommodate the growing cases of chronic related conditions, there is a need for the government to augment its efforts to minimize the threats of NCDs.

II. Mortality and Burden of Disease of NCDs

A number of studies have projected the increase in the number of people affected by NCDs in the coming decades. According to a World Bank report (2011), NCDs are on the rise in middle- and low-income country region and that by 2030, NCDs are expected to account for three quarters of the disease burden in middle-income countries.

Deaths from NCDs in middle- and low-income countries are projected to rise by over 50 percent from an estimated 28 million in 2008 to 43 million by 2030. In East Asia and the Pacific, where the Philippines is located, there will be a 12 percent increase in deaths attributed to NCDs by 2030. The region is also expected to see an 11 percent increase in NCD-related deaths among 15-19 years of the population during the same time period (See Figure 1).

Figure 1. Deaths from NCDs as a share of total deaths, by world region, 2008-2030.



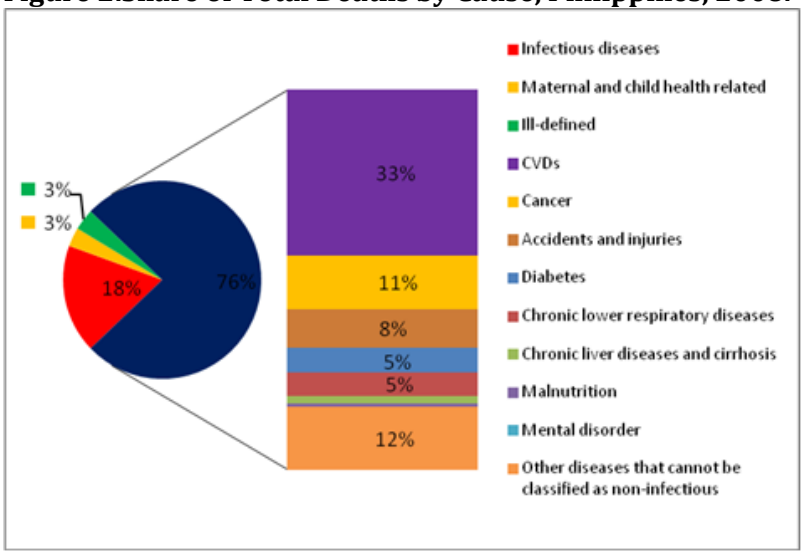
Source: (Nikolic, Stanciole, & Zaydman, 2011)

Figure 1 shows that NCDs present a major and rising challenge in all middle and low-income country regions, including younger and working-age populations. For the 15-59 years of age population, these projections include a decrease of -5 percent in high-income, and increases of 1percent in middle-, and 32 percent in low-income countries (Nikolic et al., 2011). NCDs are increasingly affecting people in the economically productive age-group. People who die from NCDs are in their prime of their productive years. The effects of increased NCD prevalence in the working age population can be detrimental in the attainment of their full potential that will contribute to the growth and productivity of the economy. This rapid rise in NCDs threatens human health and development. The growing challenge looms the lives of millions of people as well as the socioeconomic development of the country in the coming decades.

The population of the Philippines is expected to grow from 94 million in 2011 to 128 million by 2030, with 62 percent coming from ages 15-59 (National Statistical Coordination Board, 2013) . This means that more Filipinos will be exposed to major risk factors of NCDs since this age group is the most-at-risk population based on the recent studies. In addition, this increasing exposure to risk factors among this population will largely affect the highly productive age group – the labour force of the Philippines.

NCDs are already the world's major cause of death, responsible for 36 million deaths in 2008, or 63 percent of the global total, with 78 percent of these deaths occurring in middle- and low-income countries (WHO, 2011). NCDs are the number one cause of death in the Philippines. In 2009, seven of the ten leading causes of deaths are non-communicable in etiology (Ulep, 2012). The four major NCDs in the country are cardio-vascular disease, cancer, chronic obstructive pulmonary diseases (COPDs) and diabetes mellitus. In 2008, these four NCDs account for 54 percent of total deaths in the country (See figure 2). These major NCDs share common risk factors that can be modified to lessen disease burden and prevent premature deaths.

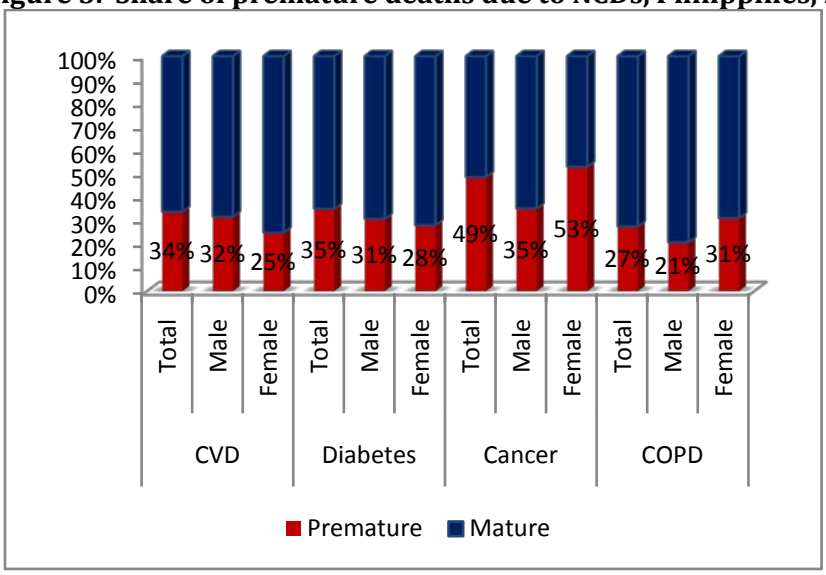
Figure 2.Share of Total Deaths by Cause, Philippines, 2008.



Source: Ulep et al, 2011.

Figure 3 shows the share of premature deaths from NCDs in 2008. Premature deaths have high economic and social implications. Mortality due to NCDs is highly attributed to senility or old age. However, like most emerging economies, there is growing evidence that significant portion of NCD deaths in the country occurred prematurely. Any NCD mortality occurred in the productive years of life (0-60 years old) is considered premature. Early death due to NCD is an important indicator as this relates to modifiable and 'lifestyle-related' risk-factors. In the Philippines, around 30-50 percent of deaths due to NCDs occur before the age of 60 years (Ulep et al, 2011). Accordingly, premature deaths among males and females are estimated to be at 44.4 percent and 35.6 percent, respectively, both 2008 figures (World Health Organization, 2011). NCDs are preventable and premature deaths can be reduced if major risk factors, mainly tobacco use, unhealthy diet, physical inactivity and harmful alcohol intake are controlled.

Figure 3. Share of premature deaths due to NCDs, Philippines, 2008.



Source: Ulep, et al, 2011.

In the Philippines, the trend of premature deaths attributed to NCDs is increasing. The increase in Years Life Lost (YLL) from 1990 to 2010 is very conspicuous in diseases like Ischemic Heart Disease, Stroke, Lung Cancer and Hypertensive Heart Disease. YLL is an indicator used to calculate Burden of Disease. It is quantifies premature mortality by weighting younger deaths more than the older deaths (Institute for Health Metric and Evaluation, 2013).

Table 1. Causes of Years Life Lost, Philippines, 2010

Disease	1990		2010		% change
	Rank	Years Life Lost	Rank	Years Life Lost	
Lower respiratory tract	1	3690	1	2000	-45.8
Preterm complications	2	1106	4	1088	-1.6
Tuberculosis	3	948	5	846	-10.8
Ischemic heart disease	4	852	2	1642	92.7
Protein-energy malnutrition	5	698	29		
Congenital anomalies	6	642	7	753	17.3
Stroke	7	593	3	1185	99.8
Measles	8	483	23	207	-57.1
Violence	9	374	6	813	117.4
Diarrhea	10	327	8	430	31.5
Neonatal encephalopathy	11	321	9	452	40.8
Meningitis	12	290	19	235	-19.0
Self-harm	13	301	27		
Asthma	14	272	18	245	-9.9
COPD	15	247	21	208	-15.8
Road Injury	16	235	11	416	77.0
Drowning	17	230	17	253	10.0
Typhoid	18	272	15	379	39.3
Lung Cancer	19	202	16	275	36.1
Maternal Disorder	20	186	32		
Liver Cancer	21	169	20	213	26.0
Rheumatic heart disease	22	161	26		
Peptic ulcer	23	153	28		
Mechanical forces	24	154	44		
Hypertensive heart disease	25	140	13	368	162.9
Chronic kidney disease	26	less than 140	12	385	
Cirrhosis	27	less than 140	14	302	
Leukemia	28	less than 140	24	167	
Breast Cancer	29	less than 140	22	181	
Neonatal sepsis	30	less than 140	25	229	

Source: Adapted from the GBD report of Health Metrics and Evaluation

III. Epidemiology of Major NCDs

1. Cardio-vascular diseases (CVD)

Of the total NCDs, almost half are attributed to cardio-vascular diseases. CVD is a group of diseases that involves the heart and vascular system. In 2008, There were 152, 964 deaths due to CVD in the Philippines.

Table 2 shows the frequency of deaths that were classified as CVD. Blockage of blood vessels is the leading cause of mortality under cardio-vascular diseases (e.g cerebro-vascular disease, myocardial infarction). Small portion of the total CVD deaths can be attributed to rheumatic heart disease and other possible forms of congenital disorders. The table also posits a strong possibility of misclassification of the primary cause of death (COD). The high level of ill-defined description of heart diseases and the inclusion of vague COD (e.g. angina pectoris) suggest a better movement to standardize mortality reporting.

Like most of the major NCDs, cardio-vascular diseases are functions of accumulated effects of biological (e.g. genetics), social and environmental risk factors. The known social and environmental risk factors of CVDs are also shared with other non-communicable diseases like diabetes mellitus and certain cancers. These factors include sedentary lifestyle, unhealthy diet, hazardous dinking of alcohol and tobacco use. CVDs are also linked to other physical vulnerabilities like hypertension, high blood sugar and cholesterol and obesity (World Health Organization, 2011).

Table 2. Distribution of CVD deaths by type and sex, Philippines, 2008.

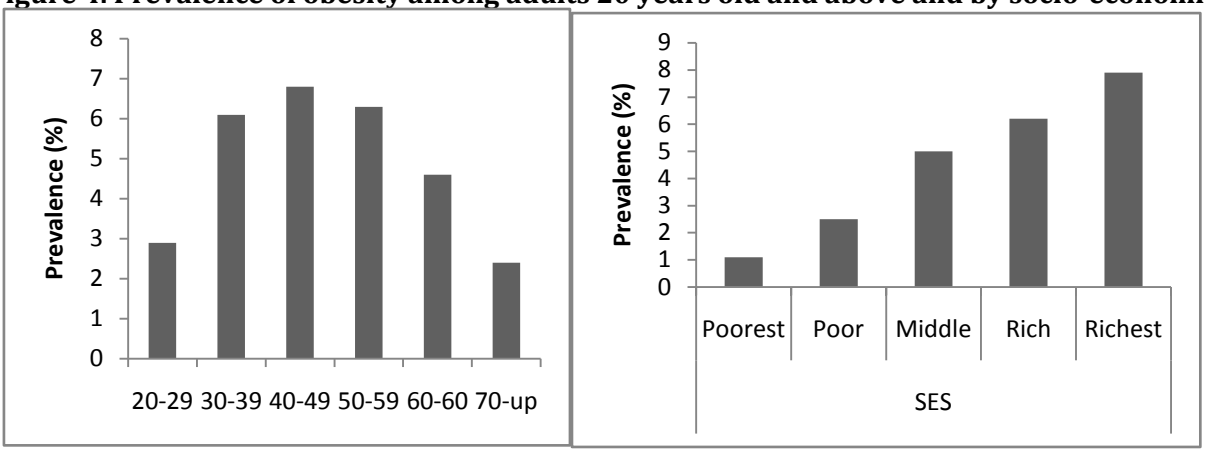
Cardiovascular Disease	Total	Male	Female
Cerebrovascular disease	51,275	28,911	22,364
Acute myocardial infarction	37,199	23,440	13,759
Disease of pulmonary circulation and other heart diseases	19,541	10,332	9,209
Hypertension without heart involvement	18,078	9,959	8,119
Other forms of ischemic heart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

Source: Authors' calculation of NSO Mortality data for 2008

Hypertension, commonly known as high blood pressure, is the leading risk factor for CVD. In 2008, 32.7 of adult Filipinos have high blood pressure. Obesity, resulting from insufficient physical activity and unhealthy diet, is also one of the physiological risk factors that lead to CVD. There is an alarming increase in obesity in both developed and developing countries (World Health Organization, 2011). In the Philippines, the prevalence of obesity is highest among 40-49 years of the population at 6.8 percent. This is closely followed by 50-59 and 30-39 years of the population

with 6.3 and 6.1 percent, respectively. Prevalence of obesity increases along with age then decreases after reaching a certain age period (See Figure 4). Affluence and urbanity have been linked with obesity especially in developing countries. Figure 5 also shows that the prevalence of obesity increases along with socio-economic status and educational attainment, while higher prevalence of obesity was found in urban areas compared to rural areas (Ulep, et al, 2011).

Figure 4. Prevalence of obesity among adults 20 years old and above and by socio-economic

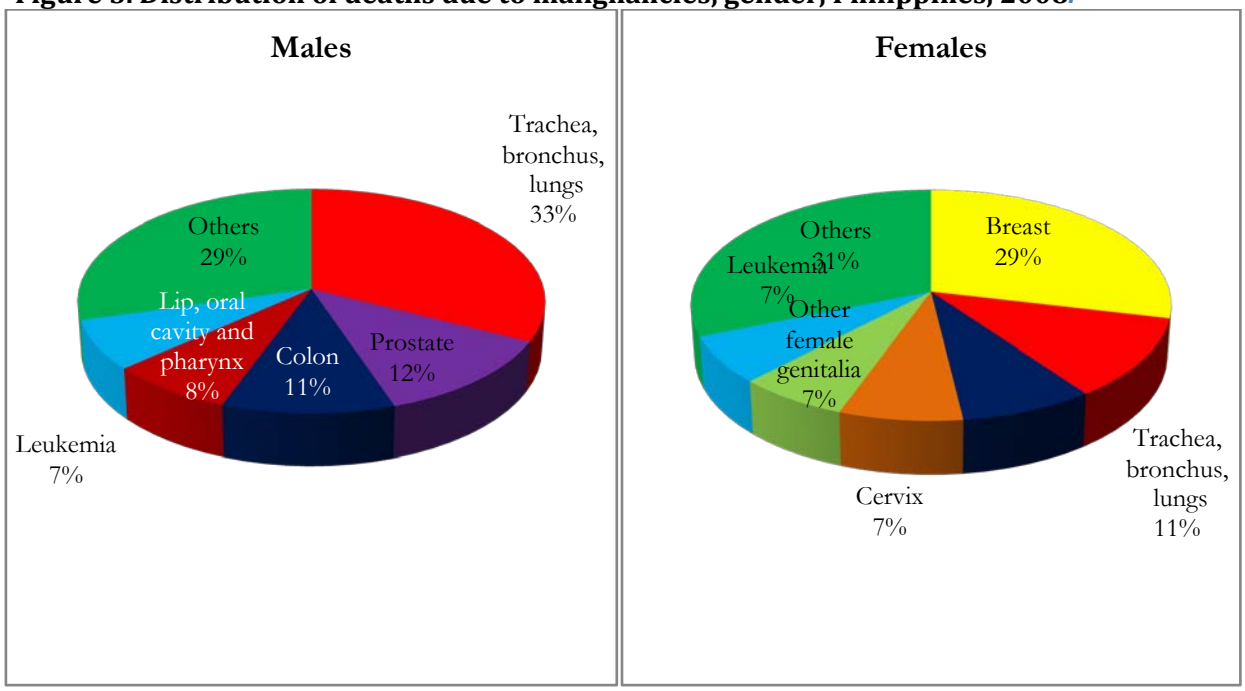


Source: Ulep et al, 2011.

2. Cancer

Cancer (malignant tumours or neoplasms) is a broad group of diseases that affect any part of the body. The feature that makes cancer lethal is the proliferation of abnormal cells beyond their usual location (metastasis). Cancer is responsible for the 7.6 million deaths worldwide in 2008 (World Health Organization, 2011) . In the Philippines, there were 49,047 deaths due to cancer in 2008, up from 44,000 deaths in 2007. Cancer of the respiratory system (trachea, bronchus and lungs), breast and colon are the leading cancers in the country. Cancer of the respiratory system, prostate and colon cancer are predominant among males while cancers of the breast, respiratory system and colon are common among females (Figures 5) (Ulep et al, 2011). Risk factors for cancer include the four shared behavioural factors, i.e. tobacco use, unhealthy diet, insufficient physical activity and the harmful use of alcohol.

Figure 5. Distribution of deaths due to malignancies, gender, Philippines, 2008.



Source: Ulep, et al, 2011.

3. Diabetes mellitus

Diabetes mellitus is a chronic disease that occurs when the human body does not produce enough or cannot effectively use the produced insulin. Insulin is a hormone that regulates the blood sugar. Diabetes accounted for 1.3 million deaths in 2008 (World Health Organization, 2011). In the Philippines, 22,778 deaths were attributed to the disease in 2008. The number of deaths is almost equal for males and females (Ulep et al, 2011).

Type 1 diabetes has strong linkage on genetics while type 2 has similar risk factors and physical vulnerabilities with other NCDs. Type 2 diabetes is strongly associated with modifiable behavioural risk factors such as overweight and obesity, physical inactivity, maternal diabetes, total fat intake, some saturated and trans fats intakes. Obesity doubles the risk of Type 2 diabetes (Ulep et al, 2011; (World Health Organization, 2011).

4. Chronic Lower Respiratory Disease

Chronic Lower Respiratory Diseases (CLRD) encompasses the three major diseases: chronic bronchitis, emphysema and asthma. All CLRD are characterized by shortness of breath caused by airway obstruction. In the previous years, chronic bronchitis and emphysema belong to another sub-group called Chronic Obstructive Pulmonary Disease or COPD.

In the Philippines, approximately 7 percent of the total deaths can be attributed to CLRD, and majority of these can be classified as COPD (60%). It is also necessary to observe the high concentration of mortality in males. Approximately, 69 percent of total CLDR-related deaths occurred in males (Ulep, et al, 2011).

Table 3. Deaths due to Chronic Lower Respiratory Diseases (CLRD), Philippines, 2008

Major Chronic Lung Diseases	Total		Male		Female	
	N	%	N	%	N	%
Other chronic obstructive pulmonary disease*	10,179	47%	7,748	51%	2,431	36%
Status asthmaticus**	4,873	22%	2,852	19%	2,021	30%
Asthma	4,216	19%	2,587	17%	1,629	24%
Emphysema*	2,038	9%	1,676	11%	362	5%
Bronchiectasis*	285	1%	132	1%	153	2%
Unspecified chronic bronchitis*	225	1%	158	1%	67	1%
Bronchitis, not specified as acute or chronic*	37	0%	25	0%	12	0%

**considered as COPD ** considered as asthma*
Source: Authors' calculation of NSO Mortality data for 2008.

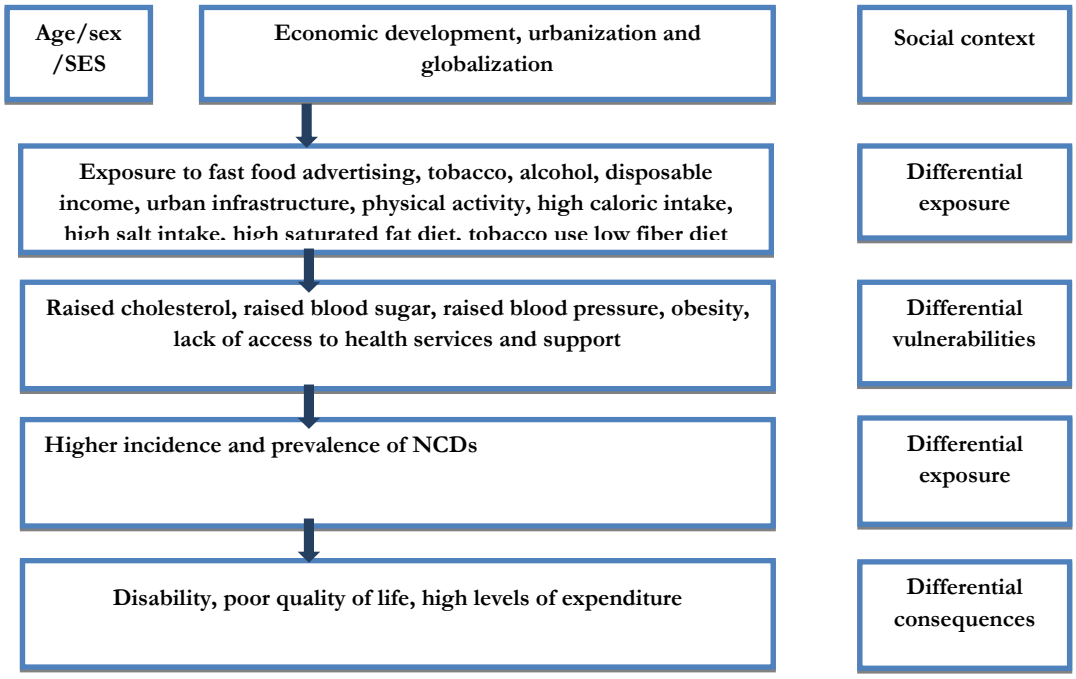
Tobacco smoking is the most important risk factor for chronic bronchitis and emphysema. The higher deaths due to chronic bronchitis and emphysema in males compared to females can be attributed to the higher smoking prevalence in males.

On the other hand, asthma is a chronic inflammatory disorder of the airways, usually associated with airway hyper-responsiveness and variable airflow obstruction that is often reversible. Allergen sensitization is an important risk factor for asthma. However, studies have shown that smoking significantly aggravates the occurrence of asthma (Ulep, et al , 2011).

IV. Understanding the macro-social determinants of NCDs

The growing epidemic and inequality in NCDs can be conceptually organized by the figure below:

Figure 6. Priority public health conditions knowledge network framework of WHO.



Source: World Health Organization

Stuckler (2008) empirically proved the effect of macro-economic and social factors in relation to NCD emergence and inequalities. He identified three important general drivers of NCDs in developing countries: *economic growth, trade flows and technological advancement.* Conceptually, it is hard to isolate these them as they are highly interrelated.

1. Economic growth

The relationship of economic activity and NCDs is complex to understand. However, conditions and processes of economic growth like urbanization, food availability, employment and technology are important contributory factors. As population's income level increases people's behaviour, consumption and expenditure change. Rapid growth open doors to modify a population's risk just as their lifestyle catch up with their new found wealth. This scenario is a growing trend in most emerging economies like China, India, Philippines and other countries in Asia and Latin America (Stuckler, 2008)

a. Changes in lifestyle brought by urbanization

One of the processes related to economic growth is rapid urbanization. In developing Asia, the growth of urbanization is very fast compared to the rich OECD countries (World Bank, 2011). To cope with the fast pace in urban areas, many people resorted to dietary and lifestyle changes. The

burgeoning opportunities in different industries which are highly concentrated in major cities drive many people from rural to urban areas. Consequently, the high urbanization rate will then affect food and lifestyle dynamics. In urban settings where food production is concentrated, manufacturers take advantage of economies of scale. This leads to lower prices which encourage people to eat outside their home. Urbanization may also promote physical inactivity as a result of fast and convenient transport system (Ulep, et al., 2012).

Table 4. Percent of the population living in urban areas, 1970-2010

Country	1970	1980	1990	2000	2010	AGR
World	36.0	39.1	43.0	46.7	50.9	0.9%
OECD	65.0	68.8	72.0	74.6	77.0	0.5%
Philippines	33.0	37.5	48.8	58.5	66.4	1.6%
Indonesia	17.1	22.1	30.6	42.0	53.7	2.7%
Thailand	20.9	26.8	29.4	31.1	34.0	1.1%
Vietnam	18.3	19.2	20.3	24.3	28.8	1.4%
China	17.4	19.6	27.4	35.8	44.9	2.1%
India	19.8	23.1	25.5	27.7	30.1	1.1%

Source: World Bank

b. Non-inclusive growth and the rise of urban poor

In developing countries, there is a growing concern that NCDs is now shifting to the poorer segments of the population. A case in point is the growing non-resilience of the urban poor population. Though there had been significant changes in the domestic economy, inclusive growth seems very elusive as manifested by the growing urban poor population (Table 5). It was established in many studies that urban poor population shares a higher risk of acquiring NCD compared to their counterpart in rural areas. The increasing risk of the urban poor population can be attributed to different factors like higher level of stress due to physical and environmental pollution (e.g. overcrowding and noise), the rampant consumption of unhealthy diet (e.g. pre-cooked food sold in the streets) and the lack of access to health service which hinders early diagnosis (Ulep, et al, 2012).

Table 5. Percentage and frequency of urban poor population, Philippines, 2000 and 2006.

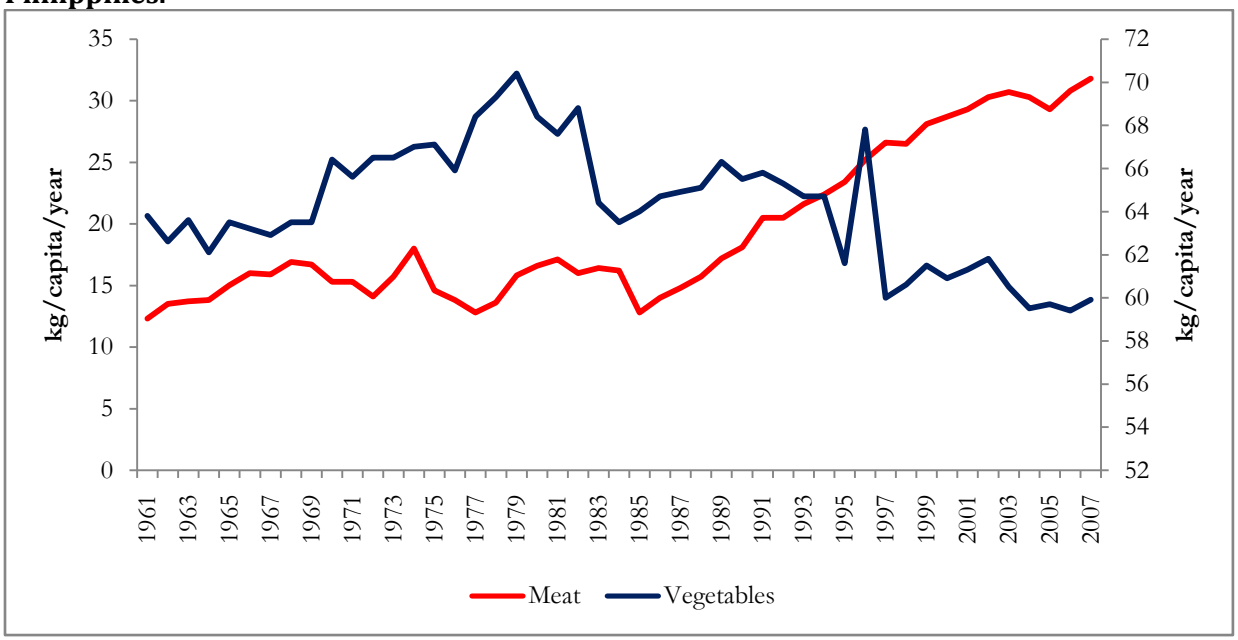
Location	2000		2006	
	% to Population	Number of Poor	% to Population	Number of Poor
Philippines	33.02	25,472,358	32.89	27,589,745
Rural	47.76	18,645,869	48.72	19,663,144
Urban	17.92	6,826,489	19.17	7,926,601
Small Cities	22.14	219,081	29.8	335,990
Large Towns	11.36	450,223	11.62	499,285
Large Cities	15.64	1,947,512	17.56	2,329,661
Large Towns/Cities	14.61	2,397,735	17.24	2,828,946
Metro Manila	7.75	860,934	10.41	1,156,313

**Source: Calculation of Family Income and Expenditure Survey*

c. Dietary transition

The rapid industrialization has changed the methods of production, processing, distribution and marketing of food products. The progression of marketing techniques and practices have led also to a modified dietary preferences and food composition of typical diet. Today, in most countries, there is a noticeable dietary shift towards food high in fat, refined carbohydrates and low-fiber diet. Figure 7 shows the decreasing supply per capita of vegetable products vis-a-vis increasing supply per capita of meat products. Increasing supply per capita was also noticed for animal fats and sweeteners.

Figure 7. Supply kilogram per capita per year of meat and vegetable products, 1960-2007, Philippines.



Source: (Food and Agriculture Organization, 2011)

2. Economic flows and trade

Process in trade has contributory effect on the emergence of NCDs. As the world becomes more globalized and more countries commit to trade liberalization, the landscape of food supply changed drastically. Changes in food supply from traditional to Western and processed food can be driven by different factors. However, in general, the influx of Foreign Direct Investments (FDI) has been very instrumental in changing the type of food available in the market. By definition, FDI is investment of foreign assets into domestic structures, equipment, and organizations. In most cases, as foreign companies acquire large shares and pour significant investments to local food firms, they can now produce, retail and distribute locally and globally accepted products. Conditions for FDI were facilitated through the easing on FDI regulations as part of structural adjustment programs and free trade agreements among countries. FDI has played a critical role in the diet transition as it has especially targeted highly processed foods. There is a close relationship between a rise in FDI and increased investments in processed foods. In most emerging markets like the Philippines, FDI in food industries grew significantly. Though the country is experiencing fluctuations of total value FDI in contrast to many ASEAN countries, food and beverage industry is one of the few industries

that sustained growth from 1980 to 2007. At present, 41 percent of FDI in manufacturing are from food and beverage production.

Table 6. Foreign Direct Investments in manufacturing industry, Philippines. 1980-2007.

Manufacturing Industry	Cumulative FDI Inflows (in million USD)			Percent share		
	80-89	90-99	00-07	80-89	90-99	00-07
Food Products and Beverages	214.5	1,004.0	1,055.8	23	26	41
Chemicals and Chemical Products	246.5	329.2	347.3	27	9	13
Coke, Refined Petroleum	53.6	760.4	270.8	6	20	11
Basic Metals	105.7	198.3	92.4	11	5	4
Machinery, Apparatus, Supplies, Communication equipment		769.3	175.9	0	20	7
Others manufacturing	302.7	748.2	635.0	33	20	25
Total manufacturing	**923.1**	**3,809.5**	**2,577.2**	**100**	**100**	**100**

Source: (Aldaba & Aldaba, 2010)

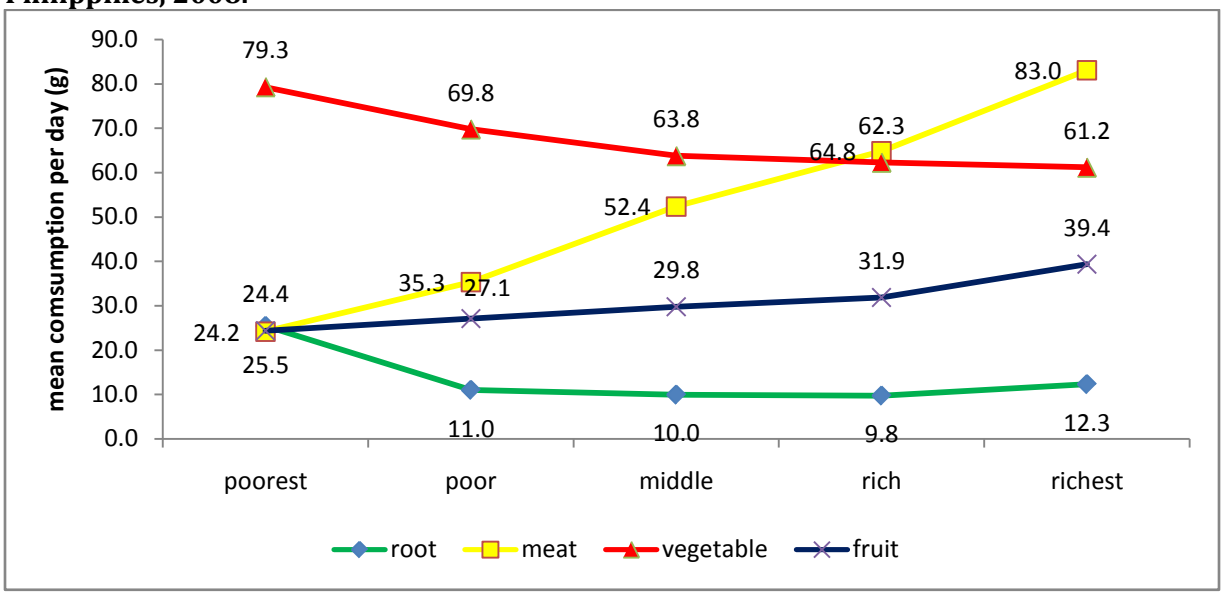
Under the free trade liberazation, countries can now also readily ship goods, materials and services beyond their political and economic boundaries. Undoubltedly, it has positive impact on domestic economy. However, some literature would argue that lowering trade barriers is directly associated with increased imports which then, in most cases, leads to greater availability of goods including tobacco, alcohol and processed foods. In the Philippines, the quantity of import is more than twice the export, ascertaining the country's reliance on imported food items. In addition, there was a significant increase in the quantity of imported food like meat, dairy products and oils in the past two decades. In meat and related preparations, the country imported 41 million kilograms in the early 90's compared to 381 million kilograms in 2010, a 32 percent annual increase. A similar pattern was also observed in other food items especially animal and vegetable fat (Ulep et al, 2012).

V. Major exposures associated with NCDs

The macro-social conditions aforementioned put a population group more at risk to different exposures which eventually lead to higher odds of having NCDs. The major NCDs are known to share common risk factors: consumption of unhealthy diet, smoking, sedantary lifestyle and alcohol consumption.

Dietary and nutrition, as modifiable risk factors occupy prominent position in the prevention and control of NCDs. In the past decade, there was an observable increase in the consumption of unhealthy food items (i.e. saturated oil, meat and sugar), and decrease in the consumption of complex carbohydrates like root crops and vegetables. Analysis of the latest National Nutrtion Surveys reveals higher consumption of unhealthy food item among the richer segments (figure 8). However, synergisitc analysis of urbanity and socio-economic status reveals high consumption of the urban poor of several unhealthy food items including food oil and food outside home which considered to be high in saturated oil and sugar (Ulep et al, 2011).

Figure 8. Mean intake in grams, by major food classification and socio-economic status, Philippines, 2008.



Source: Author's calculation of NNS data, 2008; Principal Component Analysis was used to calculate SES.

Tobacco use is considered as one of the commonly shared risk factors of major NCDs like cardio-vascular disease, certain cancers and diabetes mellitus. Smoking is also linked to chronic obstructive pulmonary disease and injuries. The detrimental effect of smoking is not solely found in smokers. Many studies have also implicated the dangers of second hand smoking on health. In the Philippines, almost 30.9 percent of the adult population are current smokers and 14 percent used tobacco in the past. The prevalence of smoking is significantly higher among the poor adults.

Alcohol is causally linked (to varying degrees) to different cancers, cardio-vascular diseases, liver disease and pancreatitis. In the Philippines, about a quarter of the adult population is alcohol drinkers, and the prevalence is similar across to all socio-economic class (Ulep et al, 2011).

Table 7. Prevalence of current smoking, alcohol drinkers and physical activity, Philippines, 2008.

Characteristics	Category	Smoking	Alcohol drinkers	Adequate exercise
Total		31	26.9	23.7
SES	Poorest	39.9	28.8	26.9
	Poor	36.4	26.6	22.5
	Middle	29.7	28.9	22
	Rich	25.3	26	23.5
	Richest	24.8	24.6	23.1
Urbanization	Urban	28.9	25.8	21.8
	Rural	33.1	28.2	25.1
Educational	no education	41.3	17.5	30.1
Attainment	Elementary	35.1	27.1	25.1
	Secondary	31.5	28.6	23.4
	Tertiary	23.7	25.1	20.9

Source: Ulep, et al, 2012

VI. Major vulnerabilities associated with NCDs

Vulnerabilities occur as a synergistic effect of different exposures. In this paper, three important vulnerabilities are presented: obesity, total blood cholestrol and hypertension. In the Philippines, around 5 percent of the population are now considered to be obese, 10 percent are diagnosed with hypercholesterolemia and 24 percent are considered hypertensive. In several time series analyses, there is an increasing trend of bordeline obesity and total blood cholestrerol.

Disaggregating the prevalence by socio-economic status and other welfare indicators like educational attainment and urbanity reveals positive correlation between obesity and total cholesterol but no discernable correlation in hypertension. In other words, obesity and hypercholesterolemia are more likely to occur among the richer population (Ulep et al, 2011).

Table 8. Prevalence of obesity, hypercholesterolemia and hypertension, Philippines, 2008.

Characteristics	Category	Obesity	Hypercholesterolemia	Hypertension
Total		5.2	10.2	24.2
SES	Poorest	1.1	4.7	21.9
	Poor	2.5	6.7	21.4
	Middle	5	8.1	22.9
	Rich	6.2	12.5	25
	Richest	7.9	17.3	23.2
Urbanization	Urban	5.7	11.9	22.8
	Rural	3.6	8	24.9
Educational	no education	0.5	5.8	19.8
Attainment	Elementary	3.6	8.3	29.8
	Secondary	4.9	9.6	20.6
	Tertiary	6.3	13.1	21.1
Urbanity and SES	Rural poor	1.6	4.2	24.9
	Urban poor	2.4	4.7	22.4

Chapter II: Current initiatives in the Philippines

The Philippines has made considerable efforts in addressing NCDs in the country. The NCD program started in 1986 and operates vertically, from national to the local level. It includes parallel disease-specific programs such as the Philippine Cancer Control Program, the National CVD Prevention and Control Program, and the National Diabetes Mellitus Prevention and Control Program.

Since then, numerous policies and programs which address specific risk factors of NCD succeeded. This chapter discusses current initiatives policies and programs of the Department of Health and other government agencies. This also includes some of the legislative actions of the Philippine Congress.

I. Policies that addresses NCDs and their risk factors

1. Tobacco and alcohol

Until 2011, there was no existing policy of the Department of Health that holistically responds to NCDs. Most of the existing policies that were developed in the past address specific risk factors. Among the risk factors, tobacco gained more attention as ascertained by number of policies released by the Department of Health. In addition, most of the legislation passed by Philippine Congress was related to tobacco control. The success of the country on tobacco control can be attributed to decades of arduous advocacies. Table 9 summarizes the existing policies in the control of tobacco. Recently, the Philippine Congress passed the Sin Tax Law which attempts to decrease the consumption of alcohol and tobacco trough taxation. This is in addition to the existing Excise Tax Law passed during the 90's.

Unlike tobacco, there are no solid policies against alcohol. If present, they are highly dependent on laws of local government units. The only national law as enshrined under Section 53 of Republic Act 4136 or also known as Land Transportation Act and Traffic Code controls the use of alcohol to mitigate road-related injuries. Though there are attempts to revise the law in the last Congress.

The WHO proposes that countries craft policies which would restrict and regulate alcohol drinking to vulnerable population. Though underage drinking laws are now in the House and Senate, there is no law that restricts alcohol to other vulnerable population like pregnant women. There is no any law that controls and regulates alcohol promotions and advertising. After exhaustive scanning of policies from 1980-2010, there is no existing comprehensive and specific policy in the side of Department of Health that depicts a national framework with regard to alcohol control.

Table 9. Existing policies related to tobacco

Law	Provisions
Administrative Order No. 56 of 2001: Guidelines on Labeling and Advertising (DOH)	The package of cigarette for sales and distribution within the country should bear the statement: "Warning: Cigarette smoking is dangerous to health." FDA will lead implementing agency in full coordination of DTI.
Republic Act 9211-Tobacco Regulation Act of 2003	Smoking shall be absolutely prohibited in designated public places areas. Prohibitions of retail, sell and distribution in minor. The sale or distribution of tobacco products is prohibited within one hundred (100) meters from any point of the perimeter of a school, public playground or other facility frequented particularly by minors. All tobacco products should include the statement in their packages: "Warning: Cigarette smoking is dangerous to health" Restrictions in print media advertising Total restriction in TV and outdoor advertising is prohibited by 2007. Ban on sponsorship and other forms of tobacco promotions Programs and project under the law: Programs that would help tobacco farmers (e.g. alternative cropping) Smoke-free universities Programs that would help displaced tobacco factory workers Promulgation of Department of Education on the rules and regulations in the incorporation of anti-tobacco programs in curricula.
Administrative Order No 0010 of 2009: Rules and Regulations Promoting a 100% Smoke-free Environment (DOH)	Smoke free environment in all health facilities, DOH and its attached agencies The ban of sales and promotions near areas mentioned. Preferential on non-smokers for plantilla positions
Administrative Order No. 122 of 2003: A Smoking Cessation Program to Support the National Tobacco Control Program and Promotion of Healthy Life (DOH)	DOH supports the WHO Tobacco –Free Initiative DOH shall promote technical assistance to health facilities, LGUs, schools and other agencies supporting the program Guidelines in the conduct of health education about tobacco Building smoke cessation clinics. For DOH hospitals they are incorporated in the outpatient department. Creation of Smokers' Family Support Group
Administrative Order No. 004 of 2007: National Tobacco Control Program (DOH)	DOH is committed in program to eliminate the dependence on tobacco products. Programs that would eliminate second hand smoking (e.g. smoking in public areas) Ensure of public disclosure of the toxic contents of tobacco National and local network building Ensure surveillance of tobacco –related indicators Promotion of research Resource mobilization (e.g. donor funds)
Republic Act 10315 Sin Tax Law of 2012	Increase the tax of tobacco and alcohol

2. Food regulations

The Philippines has diverse food regulations and standards. In general, the Food and Drug Administration and Department of Science and Technology are the key agencies that release pertinent food regulation policies. Due to the inherent wide scope of food regulations, specific and relevant guidelines/policies which the World Health Organization recommends are discussed below:

a. Food-based dietary guidelines and support the healthier composition of food.

   There are a lot of existing guidelines that promotes healthier food composition in the country. One example is the Food Nutrition and Research Institute's Daily Nutritional Guide Pyramid. The Food and Nutrition Research Institute (FNRI) has developed a food pyramid, a simple and easy-to-follow daily eating guide for Filipinos. The food guide pyramid is a graphic translation of the current "Your Guide to Good Nutrition" based on the usual dietary pattern of Filipinos. The usual Filipino diet consists mainly of rice. It contributes to the largest share of carbohydrates in the diet together with bread, corn and root crops such as sweet potato, cassava and "gabi." Though there is no clear policy on how can this be adopted widely.

b. Framework and/or mechanisms for promoting the responsible marketing of foods and non-alcoholic beverages to children (none), in order to reduce the impact of foods high in saturated fats, trans-fatty acids, free sugars, or salt.

   The Department of Health has proposed different mechanisms to promote responsible food marketing. These include food certification to control salt and fats, consolidation of Sangkap Pinoy in "Wise Choice Stamp" using CODEX standard, and the front pack labelling displaying what nutrients are included.

   Regulations on fast foods are still on the advocacy stage. There is no legislation yet to control foods high in saturated fats, trans-fatty acids, or salt. It is still the discretion of these food companies whether they would adhere to the promotion of healthy foods to be offered in their respective food chains.

   There is no agency in the country regulating advertisement of unhealthy foods and beverages except one which is composed of the advertisers themselves. The Philippine Association of National Advertisers (PANA) is a non-stock organization comprising every major industry in the country. Since it is self-regulating, the FDA, even if it has police power, cannot impose what advertisement should not be shown on television, print and other forms of media (except for clinical claims).

   Hence, three problems/challenges arise concerning food regulation. These include the absence of national framework, accountability and conflict of interest. The issue of whether what agency is authorized or legally mandated to monitor and regulate food advertisement must be resolved. Finally, resolution on conflict of interest between the advertisers and the regulating office is equally important.

3. Physical activity

Policies and laws regarding promotion of physical activity are limited. At present, there is no policy or national framework promoting healthy lifestyle through physical activity. Nonetheless, the Department of Health has prepared a draft administrative order on physical activity program adopted form the WHO guidelines. The Department commissioned the University of the Philippines College of Human Kinetics to develop a module on physical activity program for different age group and employment in the context of current Philippine setting. What is lacking, however, is the

provision of suitable program for specific risk factors of NCDs (i.e. physical activity or exercise advisable for people with heart disease, diabetes, etc.).

On the other hand, the Civil Service Commission has issued Memorandum Circular No. 8, s. 2011 reiterating Memorandum Circular No. 38, s. 1992, regarding the Physical and Mental Fitness Program for Government Personnel. The CSC also issued MC No. 6, s. 1995 which requires all agencies to adopt "The Great Filipino Workout" to form part of the National Physical Fitness and Sports Development Program for government employees. The MC specifically provides the allotment of reasonable time for regular physical fitness exercise which is one (1) hour each week for the conduct of health awareness program and twenty (20) minutes daily for wellness or fitness program (MC No. 8, s. 2011, www.csc.gov.ph)..

Policy promoting physical activity is hypothesized to be highly dependent on local government ordinances and private sector initiative. Since it is believed that health promotion is not prescriptive, LGUs can modify, add or remove certain requirement/s to best suit their localities.

II. National framework on NCDs

The Department of Health released the Administrative Order no. 2011-0003 (National Policy on Strengthening the Prevention and Control of Chronic Lifestyle Related Non Communicable Diseases). This landmark policy became the overarching legal basis in the development of a national framework in dealing with 'lifestyle' related diseases. Furthermore, the Department of Health began to consolidate its efforts in addressing NCDs as the Aquino Administration puts emphasis on the need to anchor NCDs prevention (please reed Aquino Health Agenda).

The administrative order provides a framework in implementing integrated and comprehensive program for the prevention and control of NCDs. It emphasizes the need for the government to provide wide-range of services to cover the different stages, from preventive care to palliative care. Specifically, it gives support to the following programmatic and policy efforts; (1) health system strengthening (i.e. health service delivery, health financing and human resource strengthening); (2) collaboration with LGUs and other health sector partner; (3) conduct wide-range of health promotion activities; (4) inclusion of NCDs in the health research agenda; and (5) health information system strengthening.

A technical working group (TWG) was mandated to oversee the implementation of this policy. The TWG is composed of the following offices within the Department; National Epidemiology Center, Health Policy Development and Planning Bureau, National Centers for Disease Prevention and Control and Bureau of Local Health and Development and Philippine Coalition for the Prevention and Control of Non-Communicable Diseases. The director of NCDPC serves as the chairperson of the TWG (Department of Health, 2011).

III. Programs implemented by Department of Health

Table 10 summarizes the current programmatic interventions being implemented by the Department of Health. Though there is no supporting evidence on the level of implementation or success of these interventions.

Table 10. Health promotion programs of the Department of Health

Targets	Program
Healthy lifestyle	• Outstanding Healthy Lifestyle Advocate Award (OHLAA) • Healthy Lifestyle Movement Campaign • Advocacy with DepEd for the inclusion of health lifestyle concepts and messages in the K-12 curriculum • Health Fitness Camp • iFLY Program - (KEEP FIT. LIVE WELL. STAY YOUNG.) a healthy lifestyle program in the workplace
Healthy Diet	• Healthy Canteen Certification Program • Pinggan ng Kalusugan (Healthy Plate) • Voluntary Healthy Food Certification Program • Mandatory Food Labelling • "Belly Gud" for Health (initially the Baywang Challenge) -
Physical activity	• Dance for Health • Galaw Galaw Araw Araw Exercise Video • Banat Ni Lolo, Hirit ni Lola Exercise Video for Senior Citizen
Tobacco control	• Dance for Health • Galaw Galaw Araw Araw Exercise Video • Banat Ni Lolo, Hirit ni Lola Exercise Video for Senior Citizen

Chapter III: Roadmap of Government Actions on Non-communicable Diseases

I. Rationalizing government actions

The primordial role of the government is to improve social welfare. In the Philippines, as the free market fails to address the social objectives like better health outcomes, there is a need for the government to correct the system through plethora of strategic policy/programmatic instruments. Non-communicable diseases are one of the major health problems exacerbated by the realities of free market societies. The following economic concepts justify the need for a stronger government role in NCD prevention and control program (The World Bank, 2011).

NCDs produce negative externalities. Negative externalities occur when a certain behaviour or activity produces high external cost in society. In theory, it is within the powers of the government to execute interventions to eliminate or control them. Behaviour and practices related to NCDs like second-hand smoking and alcohol-related injuries impose high burden to society. This is also true for other 'lifestyle-related' NCDs like diabetes mellitus, cardio-vascular diseases and chronic pulmonary disease. Since they are accompanied by high cost during health care episodes because of their chronicity, they are important drivers of escalating health care costs in the country.

Presence of asymmetric information in lifestyle choices. Many people are not fully aware on the consequences of unhealthy lifestyle like poor diet, smoking, physical inactivity and alcohol intake. Assuming they know the consequences, the lack of available provisions or resources especially for the poorer segments of society would make it impossible for them to practice optimal public health behaviour. Take the case of unhealthy diet, the price of healthy products are relatively expensive compared to the healthy ones. Due to economies of scale in production, prices of processed foods in middle-income country are cheaper and accessible.

Irrational behaviour among vulnerable segments of society. Some segments of the population (i.e. poor and children) do not have the capacity to make rational choices. The lack of maturity to process competing choices among children, and the limited available options among the poor segments hinders them to adapt healthier lifestyle. In emerging economies like the Philippines where significant number of poor families are pulled out from poverty, increasing income does not always translate into better lifestyle choice.

II. Developing Roadmap for NCDs

As noted, the Department of Health and Philippine Health Insurance Corporation had implemented numerous programs and policies to control and prevent NCDs. Despite these efforts, morbidity and pre-mature deaths are rising rapidly. The slow progress can be attributed to different factors. Perhaps the type of policy instruments that the country has implemented may not be sufficient to develop marked effects. Over the years, majority of the country's policy instruments focused heavily on sporadic demand-side interventions (i.e. information and education campaign). However, effective interventions have always been a good mixture of demand and supply-side interventions. It is necessary to note that wide range of bold policy instruments can only be implemented through deep political support and commitment from different agencies and sectors of society.

The Department of Health should intensify its efforts to sustainably harness other government agencies and sectors of society. In the long term, the Department of Health may develop a separate technical and information resource agency, working in partnership with national and local government agencies, program implementers, and community leaders. This multi-sector body will be the leading strategic partner policy and program advocates for the NCD prevention and control program of the country.

1. **Multi-sector models**

Multi-sector collaboration is not new in the prevention and control of NCDs. Based from the experience of other countries, favourable outcomes were noticed when they executed their policy instruments with the support of agencies and sectors outside their ministry of health. Table 11 shows some of the successful multi-sector interventions implemented in some countries.

Table 11. Multi-sector models of selected countries

Intervention	Policy instrument	Scope	Players	Effect
Tobacco Control (Uruguay)	Command and control regulation	Campaign to reduce tobacco use and effects of second-hand tobacco smoke through a 100% smoke free policy in all public places and workplaces.	Decree led and signed by the President of the Republic and supported by the Ministry of Health Popular social support: government launched two widely successful media campaigns to garner public support Ministry of Health inspectors and citizens who collaborated within sectors as observers National Alliance for Tobacco Control, public, private, and civil society	Exposure to second-hand smoke decreased significantly in indoor public places and workplaces. One study focusing on Montevideo showed a reduction in air nicotine concentrations of 91% between 2002 and 2007.
National Sodium Intervention (Argentina)	Education and information Initial non-regulatory partnerships/	National and regional studies on salt use and impacts Dissemination of nutritional guidelines	National Ministry of Health National University of La Plata	A recent study estimated a 15% reduction in dietary salt consumption across Argentina

	voluntary controls Command and control regulation	for healthy salt consumption Bills before parliament to regulate use of salt by food industry Efforts to develop alternative food products containing less sodium	National Institute of Industrial Technology Argentine Federation of Bread and Flour Industries Chamber of Industrial Bakers, Pastry Cooks, and Related Professionals (CIPPA)	would save 60,000 lives over approximately 10 years
Restricting Unhealthy Food Imports – Turkey Tail Meat Import Ban (Samoa)	Command and control regulation	Ban on US turkey tail meat imports in 2007 in an effort to limit NCDs. Turkey tail meat is a highly fatty meat and widely consumed in Samoa by middle- and low-income families due to its low price The Government was also concerned about the lowering of trade barriers resulting in an influx of inferior food imports	Government of Independent Samoa Designed by the Ministry of Revenue and implemented by the Customs Department	Almost half of consumers switched to cheap meats such as chicken and mutton, and about one quarter replaced turkey tails with lower-fat meat or seafood Samoa is under pressure to abandon its turkey-tail import restriction as it negotiates to join the WTO.
Sustainable Transport & Ciclovia (Bogota Colombia)	Command and Control regulation Channel/ nudge regulation	Bogotá has aimed to create a more sustainable transport system by creating a 300 km network of bike paths across the city , upgrading the rapid bus transit system and restricting private cars in the city through several measures	Bogotá Department of Transport Bogotá Department of Recreation Bogotá Police Department Bogotá Mayor's Office	Since the construction of over 300 km worth of bike lanes, bicycle usage has increased 5 times throughout the city and it is estimated between 300,000 and 400,000 trips are made daily via bicycles across the city.

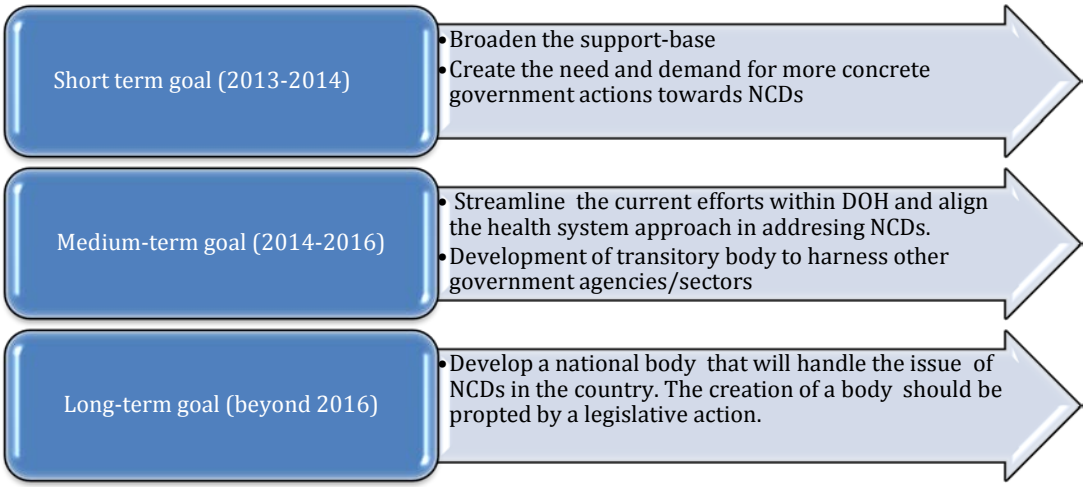
Adapted from: Meiro-Lorenzo, Villafana, & Harrit, 2011

2. Key action points towards sustainable multi-sector collaboration

Unlike most countries which adhere to risk factor or disease-specific multi-sector collaboration, the proposed long-term collaboration should encompass the creation of a national body composed of the Department of Health and relevant agencies underpinned by legislation.

The creation of an independent multi-sector body or commission is not walk in the park. It entails high level political lobbying and advocacy for this to materialize. Antecedently, the Department of Health should strengthen its current delivery structure while mobilizing key activities towards the achievement of the long term goal. There are precedent activities to be accomplished in the short to medium term. The establishment of a body that is sustainable entails tedious and longer process as it requires legislative action. Figure 9 demonstrates the potential short, medium and long- term goals.

Figure 9. Roadmap for NCD Prevention and Control Management



a. Short-term goal: Broadening the support base and demand creation

Before the development of concrete and expanded NCD control and prevention plan (i.e. multi-sector framework), the Department of Health should implement a massive communication campaign that would facilitate public awareness. Public awareness will result into wider political support and steady financial stream from the government and donor agencies. It is important to understand that most of the existing models use in the control and prevention of NCDs (i.e. regulation, subsidies, and legislation) is complex and require high political capital for them to be implemented in the medium to long term. Hence, it is more strategic to initiate the campaign by harnessing public and political support. As a strategy, the communication plan should be anchored on the following ideas:

Declare NCD as a public health problem. NCDs are perceived as a personal health issue rather than a public health problem. This can be attributed to the fact the NCDs are highly related to lifestyle choices. However, in poor and middle-income countries like the Philippines, NCDs may not be driven by rational choices; instead, these may be underpinned by limited or absence of healthier

options. There is also limited government intervention that supposed to make the general public become more aware on the consequences of their behaviour. Hence, the Department of Health should not package NCD as a lifestyle-related problem as this may exacerbates inactions and ineptness. NCDs should be positioned as consequences of social inequity and inaccessibility to basic welfare and health services so multiple responses will kick-in.

NCD as an epidemic. The Department of Health should package NCDs as an epidemic that needs immediate action. For the longest time, because of its chronic and slow prognosis, NCD programs and policies were developed without sense of urgency. Declaring it as an epidemic that poses enormous threat to social and economic productivity can be an innovative way to create public awareness and harness support from different government agencies and other sectors.

NCD as a development and poverty issue. NCDs are perceived as diseases of the wealthy. Though certain indicators show higher prevalence of these diseases (and some risk factors) among the richer quintile, the emphasis should be the higher rate of NCD mortality and morbidity among the poor. It must be conveyed that as the country's domestic economy expand, the burden of NCDs shifts towards the poorer segment. This kind of disease pattern was observed in most developing countries in the last decade. Hence, the communication plan should position NCDs as poverty and a social issue that needs government intervention.

So what are the strategic actions for the development of communication plan?

Consult public relations and advertising firms in the development communication plan. The Department of Health should tap the expertise of advertising and public relations firm in the development of general communication plan for the advocacy. Given the complexity of NCDs as a health problem, modern advertising and communication techniques must be used to bring awareness more effectively. The communication plan should stipulate strategic and innovative approaches in disseminating appropriate message to general population and policy makers. The following approaches should be included in the communication plan:

- Use of mainstream media. The communication plan should specify actions in using wide-range mainstream media as a major conduit of advocacy. Greater penetration in television, radio, print and social network creates more discussions and debates on NCDs. The Department of Health should also invest more on public service announcements (PSAs) on television and radio. More importantly, it should also review successful advocacy models (i.e. RH and sin tax bills) that can be adapted in NCDs advocacy.
- Tap on celebrity profiles/personalities as ambassadors. Celebrity personalities are strong marketing emissaries. They are considered as strong agents for behaviour change activities especially for pre-identified market segments.
- Conduct more public events .The Department of Health should organize more events that directly or indirectly advocate healthy lifestyle. This can be in the form of conferences and forums tackling NCDs. It can also sponsor sport events as one of the interactive ways to advocate (i.e. fun runs). It can also collaborate with the private sector and other agencies in organizing events as this can be a strategic approach to start a partnership.

Conduct more macroeconomic research on NCDs. Research studies that tackle non-communicable diseases and their potential impact on domestic economy, poverty, labour and productivity are scarce. The Department of Health (with the close coordination of the academe and research organizations) should provide more empirical evidence on the encompassing effects of NCDs on society. These kinds of research are powerful materials during policy discussions and debates.

These will also serve supporting materials in advocating higher level of policy instruments (i.e. legislation).

Conduct stakeholder mapping. One of the core activities prior to the expansion of NCD prevention and control programs is the assessment of awareness, interest and commitment levels of relevant stakeholders. Low interest and commitment hamper the legislation and implementation of key policy instruments and interventions on NCDs. The results stakeholder mapping will help program mangers devise and customise key action points to harness them.

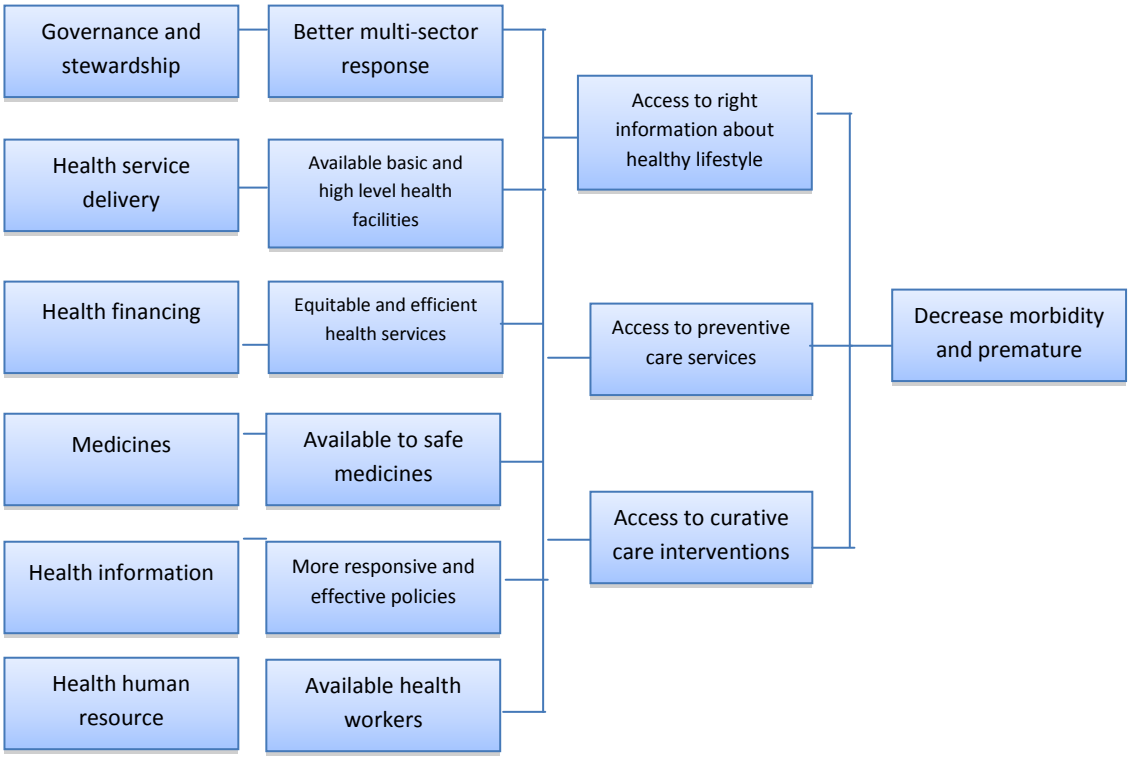
Stakeholders involved in NCDs prevention and control, include different bureaus of the Department of Health, Philippine Health Insurance Corporation, other government agencies, hospital groups, private health providers, donors and food industry.

b. Medium-term: streamlining DOH actions through health systems approach

Another crucial step in the long-term development of a sustainable body or commission with the involvement of other agencies or sectors is to first streamline the NCD prevention and control efforts within the Department of Health.

Arguably, policies and program can be strengthened by mobilizing the different building blocks of the health system as this is the only way to deal with NCDs in an efficient and effective manner. As a holistic strategy, NCDs prevention and control program must be anchored within the ambits of health system: (1) governance and structures; (2) health financing; (3) health service delivery; (4) health information; (5) medicine and (6) human resources. Effective prevention and control of NCDs should be underpinned by collaborative efforts and synchronized interventions fostered from each domain.

Figure 10. Action points within each domain of health system in achieving national objectives



Governance and stewardship. The World Health Organization defines governance as "a wide-range of steering and rule-making related function carried out by governments/decision makers as they achieve national health policy objectives that are conducive to universal health care" (WHO, 2012). Beyond management and policy development, governance and stewardship also covers multi-sector actions to promote equitable and efficient health care services.

In the prevention and control of NCDs, strategic actions related to governance and stewardship should be explored, specifically facilitation of multi-sector collaboration as part of the long term goal.

Health financing. Health financing covers the following: (1) modes of paying healthcare services; (2) distribution and allocation of funds; and (3) action plans to reduce financial catastrophe and impoverishment.

The strategy for NCDs within health financing system should articulate activities that will provide fiscal support to key intervention points: (1) structures in financing preventive care interventions; (2) scope of cost-effective curative care interventions; (3) strategies in controlling demand or behaviour through social insurance; (4) financing health service delivery; and (5) strategies to promote policy instruments that utilize regulation (i.e. taxation).

Health service delivery. Health service delivery covers networks of government and private health facilities. The quality, quantity and distribution of health facilities can impact accessibility and utilization of basic and advance health care services.

The strategy for NCDs within the health service delivery should cover the following areas: (1) mechanism for government and private primary care facilities in executing primordial and primary preventive care programs; and (2) activities that will augment hospitals to deliver higher level of care (i.e. curative and rehabilitation programs).

Health Information. Health information covers the administrative and technical abilities of the health system to collect and analyse administrative and survey data for policy refinement and development. Effective health information will capacitate policy makers to determine effective interventions that are needed.

The strategy for NCDs within health information system should cover the following areas: (1) mechanisms to monitor the status of NCDs in the country; and (2) mechanisms to evaluate current and existing NCD programs.

Human resources. Human resources refer to the pool of labour force in the health sector. It covers the availability and distribution of physicians, nurses and other allied health professionals who can deliver specific health services.

The strategy for NCDs within human resource system should cover the following areas: (1) mechanism to capacitate primary health care providers to deliver primordial and preventive care services; and (2) mechanism to address scarcity of doctors who can attend curative care interventions.

Medicines. Access to safe medicines improves disease prognosis. Given the chronic nature of NCDs, this domain should also tackle innovative approaches in making medicine and diagnostic procedures continuously available to patients. Under this domain, the strategy should cover the following areas: (1) mechanisms to access to outpatient drugs and diagnostics; and (2) mechanisms that would make decrease financial catastrophe.

The goal is to prepare the whole health system face the problem of non-communicable diseases at different levels, from primordial to curative phases, and this can only be done by organizing these stakeholders and giving them specific roles to perform. In general, most of the suggested roles of these agencies cover their current functions and responsibilities.

To keep all stakeholders working and running, six technical working groups (TWGs) should be developed covering all the domains: (1) governance and stewardship; (2) health financing; (3) health service delivery; (4) medicines; (5) health information; and (6) human resources. Each TWG should develop action plans and implements them to achieve a common objective. However, to bind all the six TWG, an overarching TWG ('mother TWG') must also be developed.

Ideally, the secretary of Department of Health should assemble high level officials from the agency; it may also necessary to include senior advisors. Pragmatically, since a TWG was already created by virtue of the AO 2011-003, this can retained but should be expanded.

The specific function of the mother TWG should monitor and evaluate the activities of the six 'sub-TWG'. The DOH-Centres for Disease Control and Prevention will serve as the secretariat. The secretariat should provide all the administrative requirement of the mother TWGs. The following table outlines the potential members of each TWG.

The creation sub-TWGs according by health system domain is advantageous because it facilitates division of labour and delineates accountabilities. This mechanism also ensures that all the features

of the health system are covered. Each TWG should include external technical consultants from donor agencies and academia as advisers on a regular basis.

Table 12. Composition of Technical Working Groups

Technical Working Group	Potential Members of the TWGs
Health Governance and Stewardship	Health Policy Development and Planning Bureau; Centres for Health Promotion; National Nutrition Council; Centres for Disease Prevention and Control; external consultants on governance; representatives from medical society
Health Financing	Health Policy Development and Planning Bureau; Centres for Disease Prevention and Control; Philippine Health Insurance Corporation; health financing expert; donor agencies
Health Service Delivery	Health Policy Development and Planning Bureau; Centres for Disease Prevention and Control; Philippine Health Insurance Corporation; Bureau of Local Health Development; health financing expert; donor agencies
Human Resources	Health Human Resource Development Bureau; Centres for Disease Prevention and Control; Bureau of Local Health Development; health service delivery experts
Medicines	Philippine Health Insurance Corporation; National Centers for Disease Prevention and Control; National Centre for Pharmaceutical Management; Food and Drug Administration
Health Information	National Epidemiology Centre; MIS; Philippine Health Insurance; National Centres for Disease Prevention and Control ; IT consultants

Table 13. Operational objectives of different domains of the health system in achieving outcome objectives

			Operational Objectives					
Country outcome objectives	**Objectives on risk factors**	**Objectives on vulnerability factors**	**Health financing**	**Service delivery**	**Health information**	**Governance**	**Medicine**	**Human resources**
Decrease pre-mature deaths due to NCDs **Decrease the prevalence of diabetes** **Decrease the incidence of selected cancers** **Decrease the prevalence of hypertension** **Decrease the prevalence of obesity** **Decrease the prevalence of hypercholesterolemia**	Decrease prevalence of smoking Decrease the prevalence of unhealthy diet Decrease the prevalence of sedentary lifestyle Decrease the prevalence of alcohol consumption	**Preventive care** Increase awareness of healthy lifestyle Increase provision of proper infrastructure (i.e. urban planning) **Curative care** Increase the utilization of primary or preventive care services Decrease out-of-pocket expenditures attributed to NCDs	**Preventive care** Expansion of health insurance benefits covering preventive care program Facilitate/advocate the passage of policy instruments that utilizes taxation **Curative care** Expansion of catastrophic benefits covering cardio-vascular diseases, diabetes, COPD Enhance provider-payment mechanisms to correct behaviour and demand	**Preventive care** Capacitate government primary care facilities to delivery preventive care programs Harness private sector to deliver preventive care programs **Curative care** Enhance the capacity of government hospitals to attend severe cases of non-communicable diseases	Enhance the capacity of DOH and PhilHealth to monitor the status of NCDs (and their risk factors) using existing survey, insurance, administrative data Conduct more research on the following areas: a. Evaluation of existing NCD programs b. Macro-economic studies on NCDs	Start the ground work for multi-sector collaboration Develop wide-range of policies and guidelines.	Development of policies that would increase the access of cost-effective drugs for: a. Hypertension b. Hypercholesterolemia c. Cardio-vascular disease d. COPD Capacity of health facilities to screen and diagnose NCDs, particularly cancer and diabetes.	Enhance the capacity of health workers to deliver primary and preventive care programs at the primary care facility levels Enhance the system to address the misdistribution of physicians that offer specialized care for NCDs

Chapter V: Health Systems Strategies

I. Governance and Stewardship

Governance and stewardship cover the abilities of the health system to achieve national objectives through effective policy and decision-making. They also encompass the structures and mechanisms of the system in harnessing relevant stakeholders to facilitate the implementation and adaption of programs and advocacies.

A holistic strategy on NCDs should contain action points that are covered under the tenets of governance and stewardship: (1) ensure sustainable and continuous development of NCDs prevention and control policies, and (2) start the ground work in the multi-sector collaboration. These two important activities direct policy makers in achieving the desired health outcomes.

1. Development of NCD policies and guidelines

Policies and programs to be developed should be anchored to an overarching principle on how the country should address NCDs. This is necessary as this principle determine important fiscal and operational issues: (1) value of programmatic investments; (2) optimal mode of allocating resources to support prevention and control programs; and (3) efficient intervention points to be targeted. In any policy decision that the country should developed on NCDs, the following two important general directions must be taken into account:

Policies on NCDs prevention and control must be primary care-oriented. Primary prevention programs are population or individual-based interventions that usually target healthy segments of the society. Their main goal is to avert the negative health effects from occurring by promoting lifestyle change (Chao, 2008). The World Health Organization had identified the following risk factors of NCDs which can best addressed through primary prevention program: unhealthy diet, alcohol consumption, sedentary lifestyle and tobacco smoking. Evidence suggests that strong preventive programs that target these four risk factors significantly reduce premature deaths attributed to NCDs. Studies have shown that more than 50 percent of the NCD burden could be prevented through key health promotion and disease prevention of the four risk factors aforementioned (The World Bank, 2011).

Primary preventive programs are known as the most cost-effective interventions against NCDs. A study conducted in six-middle income countries reveal that prevention programs targeting the four major risk factors can only cost 0.39 percent to 4 percent of the total health expenditure (The World Bank, 2011). Another study in China conducted by World Bank suggests that individual and population-based interventions that contain anti-smoking, anti-cholesterol anti-alcohol interventions would cost about US$220 per high risk individual annually and could lower the estimated NCD burden by 50 percent (The World Bank, 2011).

Curative care policies must be cost-effective. Preventive care program is the most cost-effective intervention against NCDs. Studies have shown that effective preventive program can dramatically decrease NCD-attributed mortality of up to 40 percent. However, it is still necessary for the government to provide wide-range of cost-effective curative interventions. NCD patients are prone to severe financial catastrophe and impoverishment because of the constant care that these diseases require.

Cost-effectiveness should always be the primordial criterion in choosing interventions under curative phase of these diseases (i.e. laboratory diagnosis, screening test, maintenance drugs, and hospital procedures). In the Philippines, there is no available mechanism that assesses which interventions are cost-effective and appropriate at the local setting. Currently, neither the Philippine Health Insurance Corporation nor the Department of Health perform rigorous health technology assessment program to evaluate existing interventions available in the market.

Policies should promote equity. Programs and policies on NCDs should address the needs of lower-income groups and vulnerable population. It must be preferentially oriented in meeting the health needs of people who are currently experiencing access problems (due to distance, financial constraints, social exclusion, etc.).

Inadequate and unsynchronized policies often lead to erratic and checked implementation of programs. Over the past two decades, the Department of Health had issued several administrative orders and guidelines on the prevention and control of NCDs. However, there are important elements that have not been established:

- The Department of Health had issued the Administrative Order #2011-0003 or the national policy in strengthening the prevention and control of lifestyle-related non-communicable diseases. The policy acknowledges the growing problem of NCDs in the country; outlines the key malleable risk factors optimal enough for policy and programmatic space; and gives general context on the general interventions points which was based on the natural course of the diseases.

  The administrative order is a good starting point. However, it does not elaborate a national action plan on how each risk factor should be addressed. An effective policy framework for NCDs should include an action plan for each of the following intervention areas: alcohol, tobacco, unhealthy diet, physical inactivity, screening and curative care intervention.

- Incomplete clinical practice guidelines or standard treatment for the major NCDs and their risk factors. These guidelines should cover primary and curative care interventions actionable in a low cost-setting. The World Health Organization has developed numerous guidelines, but it is still murky if these guidelines are now adopted or endorsed. It is necessary for the government to customize and adapt them locally.

  Clinical Practice Guidelines (CPGs) for curative and preventive care are instrumental in introducing reforms in the health financing and health service delivery systems. Ideally, the Philippine Health Insurance Corporation should use the CPGs developed by DOH as basis for estimating the optimal cost of care to be covered. Given the high variance of health care cost, the amount of reimbursement should be based on the optimal standard of care

Hence, the Department of Health, as the lead agency responsible in the development of policies and standards, should develop or consolidate the following guidelines in the short to medium term:

- Clinical Practice Guidelines for the preventive care of diabetes, hypertension and cancer. These CPG's must be suitable in a low-cost setting environment and adaptable at the RHU level. CPGs for curative care intervention for diabetes, top cancers, hypertension, COPD and stroke. TH DOH should promote the usage of these guidelines to PhilHealth and medical societies. It may also necessary to put the CPGs in accessible source so health providers (i.e. DOH website).

- Action plan to make programs and interventions more long-term and directional. A specific action plan must be developed on the following areas:

  Alcohol - A good starting point of a policy framework for alcohol regulation is to define what 'alcohol' is. Though there are international guidelines, most countries adapt variable cut-off levels. In Hungary for example, only the drinks with 5 percent alcoholic concentration are considered as 'alcohol' far beyond from the standard definition of other European countries and WHO which was pegged at 2 percent. In the Philippines, it may be ideal if it adopts the definition of existing laws (i.e. sin tax). Policy-makers must also determine the recommended amount of alcohol to consume as this has implications on packaging the message for advocacy.

  Programmatic and policy instruments for alcohol control and regulation should also be included in the action plan. Though the implementation is beyond the capacity and jurisdiction of the DOH, it should elaborate all policy instruments as this would serves as a guide during inter-agency advocacy. Table 14 the following demand and supply instruments that can adapted by DOH for inter-agency advocacy:

Table 14. Potential policy instruments for alcohol

Policy Instruments	Remarks
Taxation	(sin tax law already passed)
Marketing controls	Restrictions on TV, print or billboard adverts Sports sponsorship restrictions
Risky environment	Drink-driving: blood alcohol limits and enforcement Workplace restrictions Restrictions on drinking in parks and streets
Young people	Minimum legal age to buy alcohol in bars Minimum age in shops
Market restrictions	Off-license sales restrictions – days, hours, places, density

  Unhealthy diet - The action plan on unhealthy diet should start by identifying food products that needs regulation and control. It should stipulate the specific policy instruments that can be used to regulate or control a specific type of 'food' products. Some products need strict supply-side regulation, while others can only be realistically addressed through demand-side interventions.

  Specifically, the action plan must recommend programmatic and policy instruments that can be adopted in the regulation of unhealthy diet. Similar to alcohol regulation, the implementation of key policy instruments is not the sole responsibility of the DOH; hence, the action plan must articulate all key policy options as a guide during inter-agency advocacy.

Table 15. Potential policy instruments for unhealthy diet.

Food products	Specific item	Policy Instruments
Food flavor/ingredient/component	Trans fat	Demand-side regulation (through labeling)
	Salt in food	Supply-side regulation of salt in food (i.e. processed food and fast food).
	Sugar in food	Demand-side regulation (through labeling)
Processed/readily available food	Processed foods (i.e. can goods, dairy products)	Demand-side regulation (through labeling)
	Restaurants	Demand-side regulation (through marketing/advertising regulations) Supply-side regulation through monitoring of salt and trans fat content Demand-side regulation (through transparency of food contents)
	Soft drinks and sugar-loaded drinks (i.e. ice tea)	Supply-side regulation (through marketing/retail control in specific areas, i.e. canteens in public schools) Supply-side regulation through taxation Supply-side regulation through monitoring sugar content of soft drinks
Vegetables	Increase supply in markets	Increase supply of vegetables in the market by subsidizing the every input of the food supply chain: (1) inputs into agricultural production; (2) agricultural production ;(3) primary food storage and processing; and (4) distribution, transport, and trade.

Physical inactivity - The important component of an action plan on physical inactivity should include government-supported interventions/programs that would facilitate the development of an environment suitable for physical activity. Based on the practices of different countries, provision for physical infrastructure and space are the most popular interventions to promote physical activity. Demand-side intervention can be effective for capture population like work places and schools.

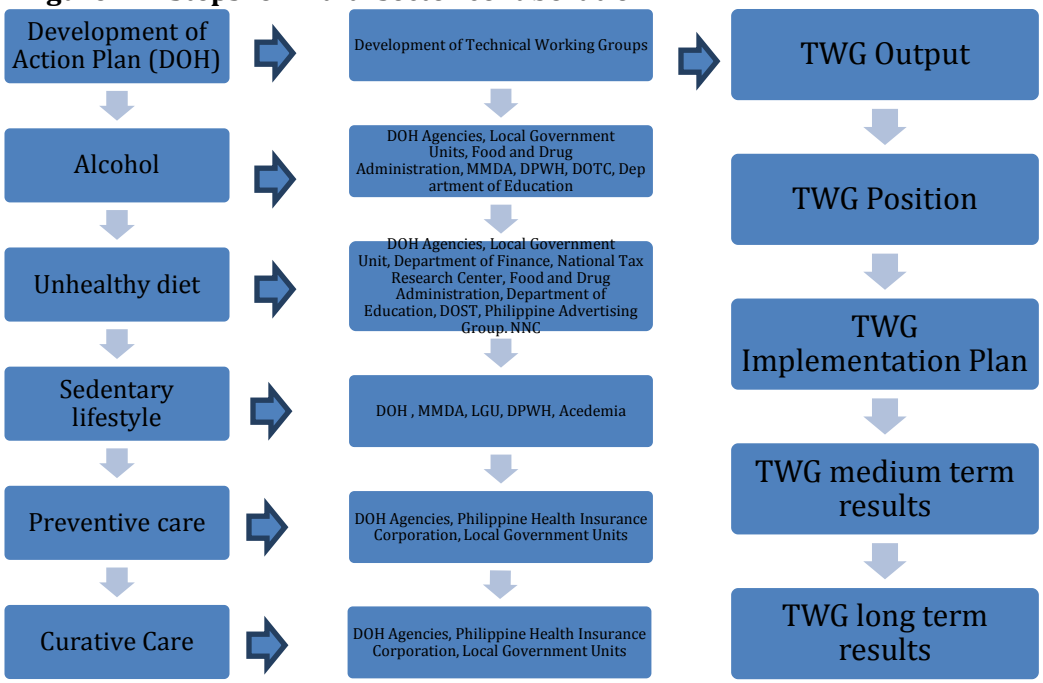
Table 16. Potential policy instruments for physical inactivity

Policy Instruments	Remarks
Supply-side interventions	Provisions for walkable ways, parks and bike lanes
Demand-side interventions	Population-based programs that will promote physical activity in schools and workplaces

2. Groundwork for multi-sector collaboration

Under governance and stewardship, one of the medium-term goals is to create multi-sector transitionary technical working groups as precedent of a legislated multi-sector collaboration which is the long-term goal. The goal of the TWGs is to develop and implement unified goals before it solidified and sustained by a legislated body. Figure 14 shows the action plan for the ground work of multi-sector collaboration:

Figure 11. Steps for multi-sector collaboration



The Department of Health should start developing strategic action plans for each of the five main key areas: (1) alcohol; (2) unhealthy diet; (3) sedentary lifestyle; (4) individual preventive care interventions; (5) curative care. As noted in the previous section, the action plan should clearly stipulate the position of the DOH, and the potential demand and supply interventions that should be ideally adopted. These documents will serve as materials during multi-sector advocacy.

With the stewardship of the Department of Health, a technical working group (TWG) for each of the key five areas should be assembled. The technical working group will be headed by a representative from the Department of Health. The goal should cover the following:

- Disseminate and validate the actions plans developed by DOH with the presence of other relevant sectors concerns.
- Identify the workable interventions and gather more inputs from the other sectors on how this can be enhanced or expanded.
- Develop goals that need to be accomplished by the TWGs, and how these goals should be achieved.
- Developed short and long-term measurable objectives.

The TWGs should be made sustainable through strong tie between the high-level officials of the Department of Health and relevant agencies. The DOH should also seek mechanism to formalize the TWGs through Memorandum of Agreements and development of incentive schemes (i.e. issuances of honoraria, etc.).

As soon as the TWGs are organized, the TWGs should make sure the following are developed and articulated:

- TWG position - Though the Department of Health developed the action plan, the other members of the TWG should be amenable to the interventions to be pushed or implemented. It is necessary that the group should have one voice on a particular issue.
- Identify the responsibilities of different sectors - The implementation plan should clearly stipulates (1) the demand and supply interventions to be pushed; (2) the specific goal of the TWGs in general, and the goal of each TWG members; (3) the specific accountabilities to be implemented of the TWG in general, and the accountabilities of each TWGs; (4) timelines of implementations and (5) monitoring and evaluation plan. The following templates can be used by the TWGs in developing implementation plan.
- Develop blueprint to push for more sustainable multi-sector body that tackles NCDs.

Table 17. Skeleton of the implementation plan for alcohol

Technical Working Group	TWG Position	Agencies involved	Goals	Accountabilities	Measuring inputs
TWG on Alcohol	Stricter implementation of alcohol among drivers Stricter regulation of alcohol in schools and workplaces Stricter regulation of marketing practices	Department of Health	Increase the body of local literature on alcohol. Researches should be focus more on consumption and supply rather than clinical	Commission more studies on alcohol Develop IEC materials to be used by DEPED , MMDA and DPWH Lobby for national policy instruments that restricts that access of alcoholic products on children and women (i.e. l	Policy notes and research outputs that would support advocacy
		League of LGU	Increase the number of LGUs with alcohol regulation	Mandate all members to pass ordinance that stipulates the following: (1) alcohol ban in schools; (2) alcohol ban in government offices; (3) alcohol ban during government events; (4) restricts alcohol companies to collaborate with LGUs and (5 Alcohol ban in minors.	Number of LGUs with ordinances on alcohol control
		Food and Drug Administration; Department of Trade and Industry	Well-regulated manufacturing and marketing practices of alcohol	Monitor manufacturing and marketing practices of alcohol products. Guidelines should be within the boundaries of existing national laws and mandate of FDA. Lobby for legislation	Presence of a guideline in monitoring alcohol (trade, manufacture and retail of alcohol).
		Department of Education	Increase the awareness among the youth on the detrimental effects of alcohol	Mandate all public schools to augment their IEC campaign on alcohol consumption	Number of schools that adapted healthy lifestyle as part of curriculum
		DPWH, MMDA and DOTC	Decrease the number of vehicular accidents due to alcohol	Develop and implement monitoring system in detecting drivers under the influence of alcohol	

Table 18. Skeleton of the implementation plan for unhealthy diet.

Technical Working Group	TWG Position	Agencies involved	Goals	Accountabilities	Measuring inputs
TWG on unhealthy diet	Regulate the use of trans fat Regulate the use of salt Cut-down the consumption of processed food and fast food Increase supply of vegetables	Department of Health/National Nutrition Council/Food and Nutrition Research Institute	Increase the body of local literature on unhealthy diet. It should cover trans-fat, salt, processed and fast food. Studies should focus on demand and supply rather than clinical.	Commission more studies that tackle unhealthy food items.	Policy notes and research outputs that would support advocacy
		League of LGU	Increase the consumption of vegetable products Increase the awareness in local communities on the detrimental effects of salt, sugar and processed foods.	Promote "vegetable gardening" in barangays. Develop incentive mechanism (i.e. technical and financial support) to barangays to adopt vegetable gardening. Population-based programs at the grass-root levels; organize barangay-level nutrition campaign targeting mothers in communities.	Number of barangays with "vegetable gardening" project Number of barangays with population-based programs targeting strategic segments.
		Food and Drug Administration	Decrease the use of trans-fat and salt in manufactured or processed food. Decrease the exposure of children to fast-food advertising Increase transparency in food products	Guidelines in regulating the use of trans-fat and salt in manufacturing food products Guidelines in regulating fast-food advertising in television. Promote nutritional labelling in processed food and restaurants.	Developed guidelines
		Department of Trade and Industry	Assure that processed foods in the market are safe and within the prescribed of	Guidelines and implementation plans to police salt and trans-fat	Developed guidelines and implementation plans; office order

			salt and trans-fat contents.		
		Department of Education	Decrease the supply of unhealthy diet in schools	Mandate all public and private schools to prohibit processed snacks, softdrinks and sugar-loaded drinks (i.e. ready-to-drink ice teas). Include healthy diet in public school curriculum.	Develop guidelines and implementation plans; office order Developed curriculum
		Department of Agriculture	Increase the supply of vegetables in the market	Conduct feasibility studies in subsidizing production of vegetables	Research papers and policy notes to support advocacy
		Department of Finance/National Tax Research Institute	Decrease the consumption of unhealthy diet through taxation	Conduct research/feasibility to determine optimal tax for unhealthy products (i.e. fast food) Lobby for national policy instruments that restrict that access of alcoholic products on children and women.	Research papers and policy notes to support advocacy

Table 19. Skeleton of the implementation plan for physical inactivity

Technical Working Group	TWG Position	Agencies involved	Goals	Accountabilities	Measuring inputs
TWG on physical inactivity	Promote physical activity in children Promote Physical activity among employees	Department of Health	Available guidelines/standards for physical activity which different agencies can adapt/implement	Develop guidelines on physical activity for different ages.	Developed guidelines for standard implementation
		Department of Public Works with the coordination of LGUs	Available physical infrastructure in schools and communities that would promote exercise	Promote physical fitness by increasing safe routes for kids to walk and ride to school; by revitalizing parks, playgrounds, and community centres. Invest more on infrastructure that would encourage physical activity (i.e. bike and walk lanes)	More budget allocated on physical infrastructure
		Department of Education	Increase the number of children engaging in sports and physical activity	Provide opportunities in schools to add more physical activity into the school day, including additional physical education classes, before–and afterschool programs.	Number of schools that actively adapted school-based programs on physical activity
		Department of Labour	Increase the number of employees engaging in sports and physical activity	Provide opportunities in workplaces to provide rooms that encourages employees to exercise (i.e. gym membership)	Number of establishments that adapted physical activity programs

II. Health financing

Financing non-communicable diseases mirrors the general capacity of health system to provide financial risk protection as most of the total causes of death and confinement are attributed to non-communicable diseases. The health financing strategy should underline two most important issues: (1) financing primary care interventions and (2) financing curative care interventions to avoid catastrophic payments.

1. Financing primary and curative care interventions

The government is expected to provide primary and primordial care in rural health units and barangay health stations. Public primary facilities are generally subsidized by the local government units. Private hospitals and clinics can also deliver primary care services, and they are usually availed through out-of-pocket or private insurance.

As an alternative source of financing, the Philippine Health Insurance Corporation started to cover outpatient services through the Primary Care Benefit Package 1 (PCB). Based on PCB launched in 2012, it covers important basic services to diagnose and screen non-communicable diseases (i.e. ascetic acid test for HPV, clinical breast exam, smoke cessation, body measurement, digital rectal exam and clinical chemistry). It is also planning to expand the benefit by covering maintenance drugs (i.e. cardio-vascular drugs). However, at this point, the PCB package can only be availed by sponsored program members in accredited RHUs.

Table 20. Services of Primary Care Benefit

Primary care services	Diagnostic examination	Medicines
Consultation Visual inspection with ascetic acid Regular BP measurement Breastfeeding education program Periodic clinical breast examination Counseling for smoke cessation Body measurement Digital rectal exam	Complete Blood Count Urinalysis Fecalysis Sputum microscopy Fasting Blood Sugar Lipid profiles Chest X-ray	Asthma and nebulization services AGE with no or mild dehydration URTI/Pneumonia (mild) UTI

In the Philippines, there is no available data on NCD sub-accounts that would properly determine the sources of NCD expenditure. However, there is a strong assumption that NCD sub-accounts may depict similar picture to the total health accounts of country which high level of OOP expenditures still dominates the main source of financing.

With the attempt to lessen the high level of OOP, the country finances health providers through direct government subsidy and social health insurance, a supply driven approach. This approach describes the health financing system as 'schizophrenic' as the country has not achieved a single-payer system.

2. Strategies for financing preventive care interventions

The country finances primary care services through supply-driven approach which is to channel the funds through direct local government subsidy in RHUs and BHSs. This system may have contributed to the following problems in public care facilities:

- The government subsidies are not enough to cover the operating cost of public primary care facilities. Because of the limited resources, primary care services on NCDs are most of the time side-lined because lack of human resources or skills to perform diagnostics or screening procedures which are vital components in NCD prevention and control programs.

- It did not create incentives among health providers to improve the quality of their primary care services. Historically, there has always been lack of rapport and trust in RHUs and BHS due to lack of quality and capacity, an important element in provider-consumer relationship in primary care.

- The conventional approach of the country in channelling primary care services through supply-side may have created complacent and uncompetitive primary care structure.

To strengthen the country's primary care system, there is a need to incentivize primary care facilities to perform. This can be done by empowering the demand-side and allow local governments to perceive the profit-maximizing potential of primary care facilities which would help to augment their revenue stream. The economic approach of demand-driven system aims competition, consumerism and market processes to move the supply-side (i.e. health facilities, health human resources) and become more efficient (Netherlands Ministry of Health, Welfare and Sports, 2004).

In the past, the programmatic and policy efforts of the Philippine Health Insurance Corporation are highly focused on curative care. It is high time to explore covering preventive care.

- Expand the benefits to cover NCD preventive care; this includes diagnostics, screening and outpatient medicines. It may also plausible to cover not only individual preventive care, but also population-based NCD preventive care programs through capitation.

- Primary care benefits should also cover the private sector. This will promote competition in the market. The PCB package should also be reconfigured in such a way that it allows patients to be enlisted in a health provider (whether public or private) of their choice whether they are sponsored or non-sponsored members. The current model of PCP which allows providers pre-determine the families it will cover may exacerbate equity; discourages rapport building between patient and health provider; and the mobility of the population may derail continuity of care. As a remedy, to those patients already assigned to a specific health provider, it would be practical to put expiration of their relationship so it allows flexibility of patients to transfer to other provider if necessary. It is noteworthy that the expansion of PCB to private providers and the provision to allow patients to choice their provider may create competition and may lead to closure of some inefficient and dysfunctional RHUs or other government primary care facilities.

- Promote fiscal autonomy in primary care facilities to create enough space and incentives among health providers and workers.

- Develop a system in the social insurance system that will penalize or incentive members to adhere to healthy living. This could be done by imposing co-payments to diseases that are noted to be lifestyle-related. This will correct the behaviour of consumers, and make them responsible for their own health. Table 20 shows some of the potential policy instruments that can be adopted:

Table 21. Potential conditions/diseases that can be subjected to co-payments

Diseases/conditions	Rationale
COPD	Co-payment scheme should be imposed to consumers with Chronic Obstructive Pulmonary Disease but smoked tobacco regularly in the last 3 years.
Cardio-vascular diseases	Co –payment should be imposed to patients with cardio-vascular disease but smoked tobacco regularly in the last three years.
Injuries	The following can be applied for injuries: Accidents due to alcohol consumption should not be covered by insurance Accidents due to risky-behavior should not be covered (i.e. driving without helmet, police report showing that the patient committed any violation).

3. Strategies for financing curative care programs

Curative phase of NCDs is highly catastrophic because of the chronic and continuous medical requirement. The country's strategy on the curative component of NCDs should be anchored on the existing programs and policies of the government in expanding financial risk protection.

In the last three years, the Philippine Health Insurance Corporation has been streamlining the depth of benefit design and provider payment mechanism to facilitate the reduction of OOP. The no-balance billing policy and catastrophic Z benefit package are the two landmark policies of the Corporation that would potentially cut-down OOP during hospitalization. The no balance billing policy mandates all hospitals to provide zero co-payment for sponsored program members. Currently, out of the twenty case rates (diseases/procedures) which subjected for no-balance billing policy, majority are non-communicable diseases. The catastrophic Z benefit, a special type of case rate covers four non-communicable diseases (kidney transplant, childhood leukemia, breast cancer and prostate cancer) that are known to cause high financial catastrophe.

The strategy should underscore programmatic and policy efforts that would further enhance the aforementioned benefit package and how patients with such conditions can gain more access to these benefits. In this light, the Department of Health and Philippine Health Insurance Corporation can adapt the following strategies:

- Assess and monitor the case rates. The case rate per disease was calculated based on the average cost. However, the optimal case rate should be estimated by taking into account the high variation of medical cost across providers, geographical location and patient socio-economic status; it should also be anchored on clinical practice guidelines. Without considering cost variation of every disease, it might create negative implications on the quality and utilization patterns.

- Develop a system to promote adoption of no-balance billing policy. There is no concrete policy in place on how PhilHealth obliges hospitals to adapt the no-balance billing policy. At the current system, hospitals are not mandated to.

- Expand the catastrophic Z benefits to cover other major NCDs. As noted, only four diseases or procedures are included in the Z benefit package. However, it is necessary for the PhilHealth to cover other NCDs specifically NCDs like diabetes and certain cardio-vascular diseases. However, since these diseases require continuous medical care, the Corporation should calculate the most optimal case rate for these two types of diseases as they might pose serious implications in PhilHealth's fiscal capacity.

- Develop clinical practice guidelines for PhilHealth. As noted in the earlier section, the Department of Health as a policy and regulating body is to develop clinical practice guidelines (CPGs) for cancers, cardio-vascular diseases, COPD and diabetes. These CPGs should be used by PhilHealth to determine the optimal care needed; this has implications in the calculation of optimal benefit package.

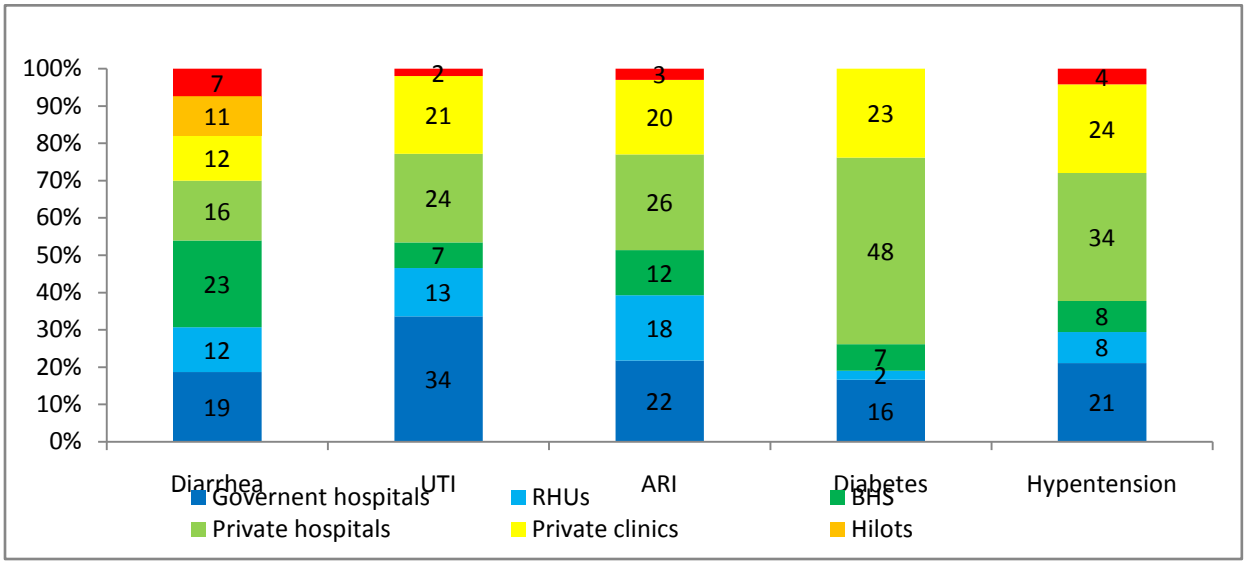
III. Health service delivery

The delivery of services related to non-communicable diseases is anchored on the general capacity of the health system to provide equitable access o to preventive and curative care interventions. The strategy for health service delivery should tackle the following issues: (1) capacitate public primary care facilities (i.e. RHUs and BHSs) to deliver primordial and preventive care; (2) harnessing private primary health care facilities; and (3) capacitating the curative.

At the current health system, primary care facilities play an important role: they serve as the initial point of contact of individuals (or community) on health service. Without effective primary care facilities, the whole system erodes; population-based programs become impossible to execute.

Another consequence of dysfunctional primary care system is the lack of gatekeeping process which would lead to congestion of patients in high-level hospitals. This perennial problem is very common in many government hospitals. In general, the limited capacity of the primary care system in the country may have veered many patients to bypass low level facilities which ideally should have the capability to treat simple cases (Lavado, 2011). Figure 11 shows that majority of patients with NCDs (particularly diabetes and hypertension) who visiting health facilities on an outpatient basis utilizes hospitals instead of primary care facilities

Figure 12. Place of visit, by disease, Philippines, 2008



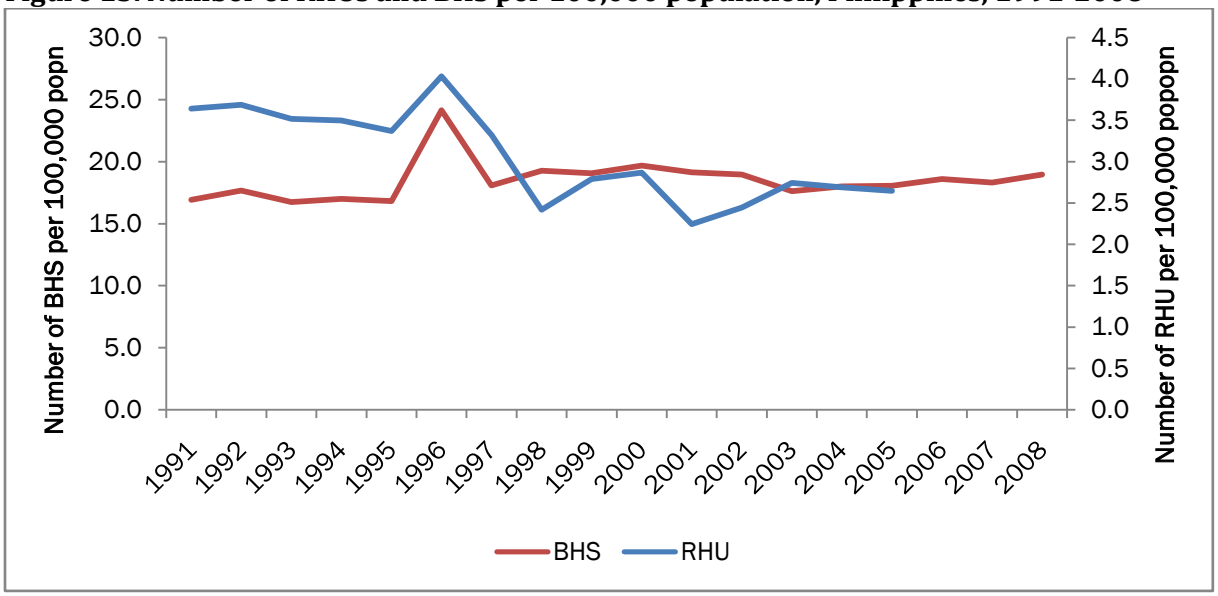
Source: Author's calculation of National Demographic and Health Survey 2008

The low prioritization of primary care in the country is also reflected in the decreasing supply of government primary care facilities like rural health units and barangay health stations relative to the growing population. It would have been ideal to analyze if the private clinics compensates the decreasing supply of government primary care facilities. However, there is no available data on private clinics (see figure 12).

Specifically, the capacity of most government primary care facilities to delivery essential health services has been bleak over the years. It is important to note that the success of primary care system involves rapport and trusting relationship between the primary care providers and

community as this has implications on continuity and compliance of care. The lack of health personnel, drugs and supplies are some of the major issues which made the relationship of government primary care providers and consumer fragile (Ali, Lu, Boatel, & Nakabubo, 2007).

Figure 13. Number of RHUs and BHS per 100,000 population, Philippines, 1991-2008



Source: (National Statistical Coordination Board and Department of Health, 2010 for the number of RHUs and BHS); (World Bank Data, 2011 for the time series population)

The general strategy under health service delivery should focus on capacitating primary care facilities, especially the public sector to deliver primordial and preventive care for NCDs. The following can be adapted by the technical working group:

- Expansion of the primary care benefits package. Like most strategies under health financing, the goal is to promote the Primary Care Benefit Package. This is one of the best ways to capacitate and incentivize public primary care facilities to expand their services. Under the PCB package, RHUs are obliged to provide services that are necessary in the screening and diagnosis of some NCDs.

- Expand the primary care package to the private sector. The Philippine Health Insurance Corporation should also expand the Primary Care Benefit Package to the private sector. In the short term, the corporation should start offering the PCB package to private health providers and expand the benefits to non-sponsored program members. The PCB package should also be reconfigured in such a way that it allows patients to be enlisted in a health provider (whether public or private) of their choice whether they are sponsored or non-sponsored members. The current model of PCP which allows providers pre-determine the families it will cover may exacerbate equity; discourages rapport building between patient and health provider; and the mobility of the population may derail continuity of care. As a remedy, to those patients already assigned to a specific health provider, it would be practical to put expiration of their relationship so it allows flexibility of patients to transfer to other provider if necessary. However, it is noteworthy that the expansion of PCB to private providers and the provision to allow patients to choice their provider may create

competition and may lead to closure of some inefficient and dysfunctional RHUs or other government primary care facilities.

IV. Human resources

The fundamental element in the delivery of NCD prevention and control is the availability of human resources who can provide primordial and preventive care. In the Philippines, the perennial problem of misdistribution and scarcity of health workers at the primary care facilities hampers the execution of basic services. Forty percent (40%) of those who needed care failed to go to health facilities because of the lack of health providers. Moreover, the lack of health providers is just one of the problems; lack of skills poses a greater concern especially in dealing with non-communicable diseases. The current dynamics of health workers in rural health units and barangay health stations suggest that they are more adept in dealing with infectious diseases and maternal child conditions.

The strategy under human resources should focus more on following: (1) misdistribution and scarcity of health workers at the primary care facilities; and (2) updating the skills of primary health workers in dealing with non-communicable diseases (i.e. diagnosis). The following are strategies that should be promoted:

- Tap the private health sector to augment human resources. This demand-driven approach is anchored on the strategies under health service delivery and financing. PCB-accredited private primary care providers will expand the base of health workers who can deliver basic healthcare services stipulated in the PCB package (services for both infectious and non-infectious).

  In a demand-driven health system, the provision of health services heavily relies on market forces. It anticipated that supply-side (i.e. health providers) will move once there is a perceived demand from consumers However, even though the government attempts to empower the consumers through social insurance, market failure may still occur. Though there is obvious demand for healthcare, the market may not be able to move supply-side because of several reasons. For example, the country's complex geographical and economic conditions hinder private health providers to set-up health facilities despite the presence of demand because of high direct and indirect cost. Hence, it is necessary for PhilHealth implement innovative ways to stimulate the health market especially in areas with hard geographic and economic conditions. Table 20 shows some of the potential strategies in addressing market failures.

Table 22. Potential strategies in addressing market failure

Strategy	Remarks
Primary care package	Contract-out the primary care package to private or non-government organization targeting highly organized (employment) groups. In areas with low supply penetration due to market failure, it may necessary to contract-out primary care package to non-government organization or private entities so it can provide primary care package in these areas. The government may want also to directly subsidize public primary care facilities in these areas, but the subsidy should capacitate these facilities to absorb primary care package. Either way, the government should conduct cost-benefit analysis to understand which of the potential mechanism is more beneficial for the government.
Incentive schemes	The corporation can provide financial incentive for health providers working in geographically-isolated areas.

- Offer training programs in the diagnosis of NCDs. The Department of Health should offer training courses for primary care workers on the following areas: basic cancer screening and counselling (e.g. smoke cessation and food and nutrition counselling). Training programs should be contracted-out to the private sector for efficiency. As part of accreditation requirements, the Philippine Health Insurance should also require all health providers to undergo training programs to ensure quality and standard care.

  The Department of Health should also provide standard operating procedures (SOPs) for interventions that are currently offered in the PCB. SOPs should be adoptable in a low cost and local setting.

V. Health information

The health information system will provide information support to all programmatic and policy efforts of the other domains of the health system. Based from the suggested framework of the World Health Organization, tracking NCDs and their risk factors should be integrated in the current health information of the country.

The strategy under health information should focus in maintaining and generating of up-to-date data from surveys and surveillance system. It should also encompass capacity building among stakeholders; different stakeholders should have the skills not only to collect data but to analyse and present them. Data from surveillance system are important materials in aiding policies and advocacies. The following are the key action points.

- Develop a group within the Department of Health. In the Philippines. Health information with regard to NCDs is quite fragmented. There is no active surveillance data arising from local government units and health care facilities (especially hospitals). To facilitate routine collection, analysis and presentation of NCD-related indicators, a committee or group

should be developed. Ideally, it should be composed of officers from NEC and NCDPC. It may also be idea if the team publishes an annual report all related to NCDs as their deliverables.

The group should exhaust all potential data source. Table 21 are some of the major indicators that can be used.

Table 24. Type and source of data needed in monitoring NCDs

Type of data	Agencies involved	Data source	Remarks
Mortality data	National Statistics Office	Death Registry	Currently, the NSO is providing the Department of Health on mortality regularly.
Morbidity	Private and Government hospitals	Hospital Statistical Reports	The Department of Health collect Hospital Statistical Reports from hospitals. However, they are not processed nor analysed.
Nutrition and anthropometric data	Food and Nutrition Research Institute	National Nutrition Survey	FNRI perform the survey every 5 years
Insurance and utilization data	Philippine Health Insurance Corporation	Claims data	Not regularly used to monitor healthcare utilization
Primary care data	RHUs and private clinics	Administrative data	Some indicators are not measured in FHSIS

Moreover, the Department of Health should push for the inclusion of NCDs indicators in national plans. This would ascertain the status of NCD as a national concern that needs immediate action.

VI. Essential medicines/devices

It is impossible to reduce the burden of non-communicable diseases without equitable access to medicines. The Philippines was not known to have one the highest medicines Asia. As a response, the country had introduced landmark policy instruments to control the price of medicine. Policies that would promote generics and the use of price control were legislated have been successfully enacted.

Though there are stringent policy instruments currently in place to control the price of medicines, access remains a perennial problem. In fact, more 60 percent of the out-of-pocket expenditures can be accounted to medicines; higher percentage share was noticed among the lower segments of society.

The strategies under the essential medicines should support for the general program of the government in facilitating the access of cheap and effective medicines.

- As noted under the strategies under governance and stewardship, the different bureaus of the Department of Health specifically NCDPC, NCDPC, NCPAM and HPDPB should develop clinical practice guidelines for both curative and preventive care interventions.

- The Department of Health and Philippine Health Insurance Corporation should further expand their benefits on medicines specifically outpatient drugs for CVDs, diabetes and respiratory drugs (i.e. insulin, asthma inhalers, aspirin and anti-hyperlipidaemia drugs). The Philippine Health Insurance Corporations should develop a mechanism to make sure that patients are compliant and have sustainable access.

- Expand the promotion of policies that favour lower cost generics and competition through the collection and dissemination of independent data on availability and prices of various treatment alternatives to ensure most cost-effective choices.

- Expand the promotion of existing standard assessment tools to measure and report the availability, price, affordability and use of essential medicines and technologies for NCDs.

Chapter VI: Establishing national body: a long term goal

I. Rationalizing the development of multi-sector body

In the long term, the Department of Health should explore the possibility of establishing a body that its main function is to promote programs and policies on NCDs that needs multi-sector action, As noted in the earlier sections, though there are attempts to coalesce with other agencies, this may not be sustainable and effective. The existing delivery structure within the DOH cannot accommodate or hold sustainable multi-sector involvement. The creation of multi-sector body or commission underpinned by legislation is advantageous than the status quo because of several reasons:

Sustainability. The creation of a body (or commission) on NCDs will immune the continuous implementation of policies and program from any disruption due to political transiency within and outside the Department of Health. It is important to understand that convening leaders of different agencies are hard to without any legislative actions or underpinnings.

Accountability. A body or commission with legal mandate will create accountability. Hence, the implementation of NCDs programs within the jurisdiction of agencies involved will be continuous.

Continuous funding. Since the body or commission will be independent from Department of Health and has a separate line item in the General Appropriations Act, this will ensure continuous funding from the national government. Continuous funding will then drive continuous implementation of programs and policies.

II. Structure of the multi-sector body

A national commission underpinned by legislation may be the most sustainable mechanism to harness sectors and agencies outside the Department of Health. Ideally, the commission should be headed by a board. As noted below, the Secretary of Health will be the chairman, and the head of other agencies will serve as members.

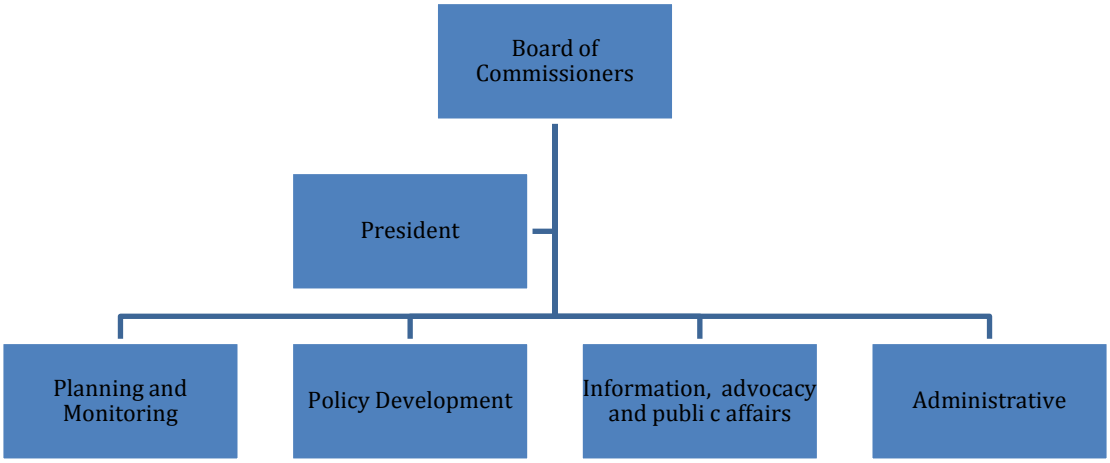
Chairman: Secretary of the Department of Health

National Economic and Development Authority
Department of Trade and Industry
Department of Finance
Department of Interior and Local Government
Department of Agriculture
Department of Public Works and Highways
Depart of Transportation and Communication
Metro Manila Development Authority
College of Public Health, University of the Philippines
Philippine Medical Association
Philippine Health Insurance Corporation
Department of Education
Department of Labor and Employment
2 representatives from the private sector

The role of the board of commissioners is to set the overall direction of the agency to achieve the goal. It is also the responsibility of the commission to hire the president who will responsible for hiring all of the other employees and overseeing the day-to-day operations.

The commission should have the following core departments: (1) planning and monitoring; (2) policy development; (3) Information, advocacy and public affairs; and (4) administrative. These departments should be the frontline in executing the two main functions of the commission: policy development and advocacy (see Figure 13).

Figure 14. Potential Structure of the Multi-sector Body/Commission



III. Functions of multi-sector body/commission

The function of the commission is not to shift the function of Department of Health. Instead, it will serve as a complementary body that develop and advocates programs and policies that needs multi-sector actions. To delineate, the Department of Health should focus primarily in the development and implementation of individual-based interventions (i.e. development of outpatient and inpatient packages; processes related to the delivery of primary and high level of care in RHUs and hospitals). On the other hands, the multi-sector body should be more focused on the development of policies and programs (including advocacy) at the primordial or population-based interventions.

Specifically, the table below should be the delineation of functions of Department of Health and the national body to be developed:

Table 25. Accountabilities of Department of Health and Multi-sector body

Department of Health	Multi-sector Body
• Monitor and evaluate the current NCD status of the country. • Coordinate with Philippine Health Insurance and Food and Drug Administration for the continuous development, monitoring and evaluation of outpatient and inpatient benefit packages for NCDs. • Continuous development of policies and guidelines and standards for treatment for NCDs • Continuous development and implementation of policies to ensure the quality of primary and high level health facilities.	• Develop policies that would compel agencies to implement specific NCD-related programs and interventions. • Develop programs and interventions that specific agency can adopt. • Advocate demand and supply-side interventions to national government stakeholders.

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