

CHAPTER 5

ATTAINING BETTER HEALTH OUTCOMES

5.1. HEALTH-RELATED MDGs

The attainment of the health-related Millennium Development Goals (MDGs) is one of the strategic thrusts of the “Kalusugan Pangkalatan”. MDGs are a set of social objectives that need to be accomplished by 2015 as part of the country’s global commitment. Based on the National Statistical Coordination Board MDG watch, some indicators seem to be on the right track while others show limited progress. This section describes the country’s objectives that are contributory to reaching health-related MDGs by 2015.

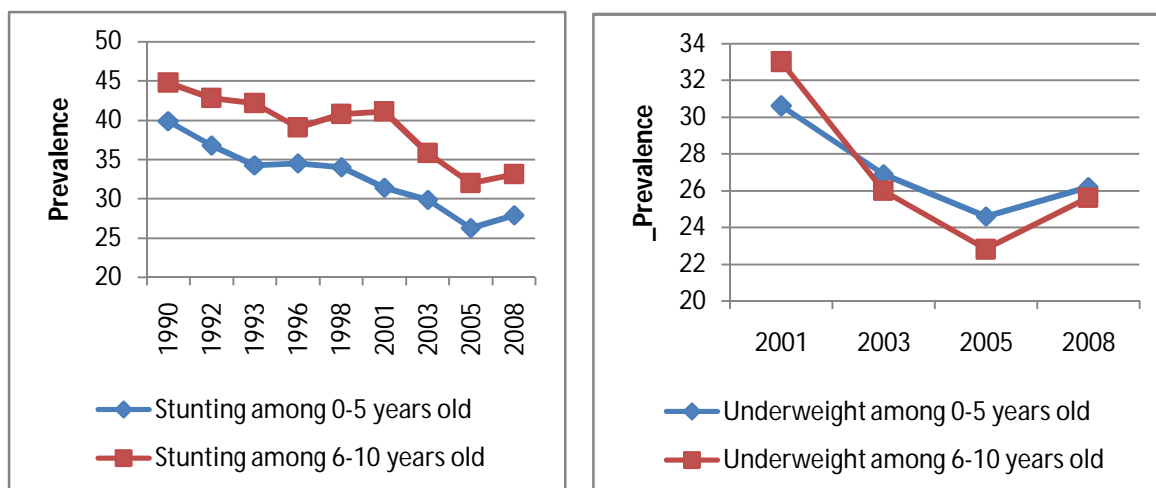
5.1.1. MDG 1: ERADICATE EXTREME POVERTY AND HUNGER

Halve, between 1990 and 2015, the proportion of people who suffer from hunger (Target 1.C)

Many are still suffering from extreme hunger especially in regions with high poverty incidence despite programmatic and policy efforts to contain the gaps in food security. Consequently, a significant proportion of the country’s population especially children are malnourished and underweight.

In different rounds of National Nutrition Survey of FNRI, there is a noticeable improvement in the nutritional status of children aged 0-10 years old from 2001 to 2005. However, there was a noted increase in the prevalence of underweight and stunting in 2008 (see Figure 11). This may be due to the lack of interventions among under-five children after 6 months of age.

FIGURE 11. TRENDS IN MALNUTRITION AMONG CHILDREN, PHILIPPINES, 2001, 2003 AND 2008.



Source: National Nutrition Surveys

Iron Deficiency Anemia (IDA) is the most common form of anemia. In the Philippines, half of infants aged 6 months-12 months have IDA (see **Table 17**). The prevalence significantly declined from 66 percent in 2003 to 58 percent in 2008 (Food and Nutrition Research Institute, 2008). Like infants, pregnant mothers are also at risk for IDA. In 2008, 43 percent of pregnant mothers were diagnosed with IDA, which is a decrease from 44 percent in 2003 (Food and Nutrition Research Institute, 2008). For lactating mothers, the prevalence also decreased from 42 percent in 2003 to 31 percent in 2008 (Food and Nutrition Research Institute, 2008). With regard to Vitamin A Deficiency (VAD), the prevalence of VAD among under-5 children increased from 35 percent to 40 percent in 2003 (Food and Nutrition Research Institute, 2008). However, a significant improvement was observed in the year 2008 (see **Table 18**).

TABLE 17. PREVALENCE OF IRON DEFICIENCY ANEMIA AMONG DIFFERENT DEMOGRAPHIC GROUPS, PHILIPPINES, 1993-2008

Age Group	1993	1998	2003	2008
6- ≤ 1year	49.2	56.6	66.2	55.7
1-5 years old	25.1	29.6	29.6	20.8
6-12 years	42	35.6	37.4	19.8
Pregnant women	43.6	50.7	43.9	42.5
Lactating women	43.0	45.7	42.2	31.4

Source: National Nutrition Surveys

TABLE 18. PREVALENCE OF VITAMIN A DEFICIENCY AMONG DIFFERENT DEMOGRAPHIC GROUPS, PHILIPPINES, 1993-2008

Age Group	1993	1998	2003	2008
6 months-5 years	35.3	38.0	40.1	15.2
Pregnant women	16.4	22.2	17.5	9.5
Lactating women	16.4	16.5	20.1	6.4

Source: National Nutrition Surveys

There are recommended public health practices that would ensure infant and child nutrition. Exclusive breastfeeding is the most effective and economic way of nourishing infants. Many studies have shown the positive health outcomes of optimal breastfeeding on infant nutrition and survival. In the Philippines, the prevalence of exclusive breastfeeding in 2008 is as it was similar to the prevalence in 2003 (33.5 percent and 34 percent, respectively) (National Statistics Office, 2008). No significant improvement was observed.

The country has made significant improvements in reducing the prevalence of micro-nutrient deficiencies. However, other nutrition indicators like stunting and underweight have worsened. The following table summarizes the country's objective in reducing hunger and malnutrition.

NATIONAL OBJECTIVES FOR 2011-2016

OVERALL GOALS:

Protein energy malnutrition and iron deficiency anemia are reduced.
Vitamin A and iodine deficiencies are eliminated as public health problems.
Nutritional risk factors and their health-related effects are managed.

Strategic Objective	Indicator	Data Source	Baseline	2016 Targets
The proportion of people who suffer from hunger and malnutrition are reduced	% Households with per capita intake below 100% dietary energy requirement	FNRI-NNS	66.9 (2008)	32.8
	% Low birth weight infants	NSO-NDHS	19.6 (2008)	<19.6
	% Underweight children under five years old	FNRI-NNS	20.6 (2008)	12.7
	% of Iron Deficiency Anemia (IDA)	FNRI-NNS	Infants: 55.7 (2008) Pregnant: 42.5 (2008)	<40 <40
	% Under-five children with Vitamin A Deficiency (VAD)	FNRI-NNS	15.2 (2008)	<15
	% Children exclusively breastfed until 6 months	NSO-NDHS	34 (2008)	54.75*

* Computed at a rate of 10 percent increase per year

STRATEGIES FOR 2011-2016

- Target the nutritionally at-risk and vulnerable. Priority will be given to areas with high prevalence of under-nutrition and micronutrient deficiencies and to children 0-5 years old, pregnant, and lactating mothers using the CHTs.
- Promote optimum infant and young child feeding practices in various settings to reduce the prevalence of underweight and stunted under-five children
- Adopt and implement appropriate guidelines for the community-based management of acute malnutrition
- Integrate and strengthen nutrition services in the maternal continuum of care (ante-natal, delivery, post-partum care)
- Deliver an integrated package of nutrition services in the school and alternative school system
Increasing the supply and consumption of micronutrients to reduce or maintain the prevalence of vitamin A deficiency and iodine deficiency disorders to levels below public health significance

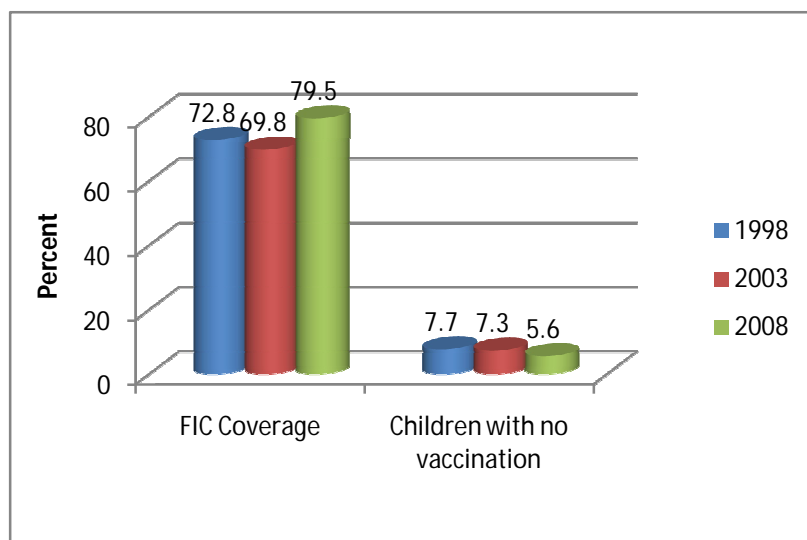
5.1.2. MDG 4: REDUCE CHILD MORTALITY

Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate (Target 4.A)

Many studies suggest that child mortality indicators are the most sensitive markers of the general health care status of a country. According to NSCB, the country's progress in reducing the infant mortality rate is on track, and there is a high chance of meeting the target by 2015. The infant mortality rate decreased from 57 per 1000 livebirths in 1990 to 25 livebirths in 2008 (see table in chapter 1 on child mortality data). However, other components of child mortality like perinatal and neonatal mortality should also be highlighted as they are reflective of the other specific gaps in public health interventions during prenatal care and maternal delivery.

Optimal health practices like breastfeeding, Vitamin A administration, and newborn screening can dramatically decrease infant mortality. In the Philippines, only half of infants are breastfed within the first hour of life despite the promotion of optimal breastfeeding practices in health facilities. The prevalence of early breastfeeding in the years 2003 and 2008 were relatively the same, suggesting no improvement (54 percent vs. 53.5 percent).

FIGURE 12. TREND OF FULLY-IMMUNIZED CHILDREN AND CHILDREN WITH NO VACCINATION, 1998, 2003 and 2008



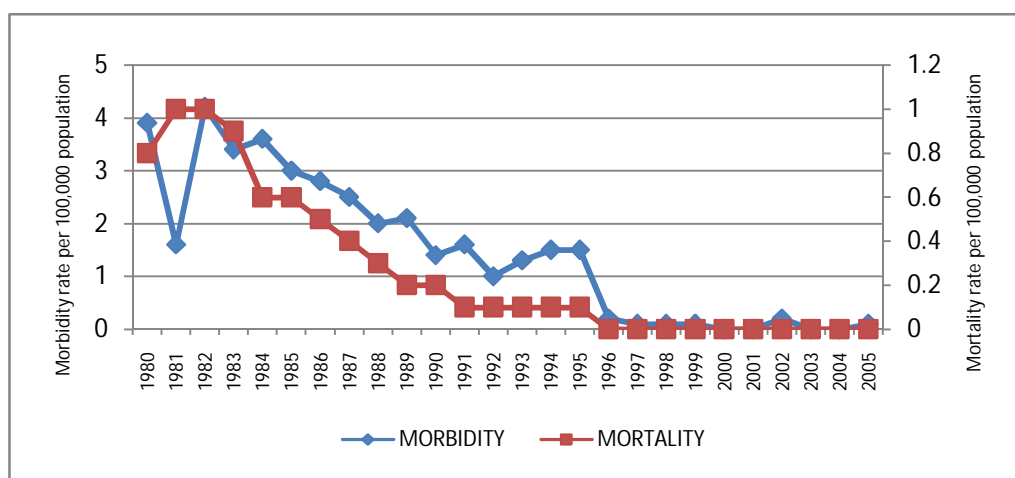
Source: National Demographic and Health Survey, 1998, 2003 and 2008

Vaccination is one of the essential public health interventions. **Figure 12** shows that in the Philippines, 79 percent of children are fully immunized (National Statistics Office, 2008). However, there are 5.6 percent children not administered with any form of vaccination in 2008 (National Statistics Office, 2008). The rate of fully immunized children is low in ARMM, MIMAROPA and Bicol (National Statistics Office, 2008).

Tuberculosis, caused by *Mycobacterium tuberculosis*, is one of the top causes of morbidity and mortality in the country. The risk of developing the disease is highest in children under three years old, but the true scope of the disease among children is unknown. BCG vaccine, given immediately upon birth, provides the greatest possible protection from tuberculosis. BCG coverage among infants is 90.3 percent as reported in the NDHS 2008.

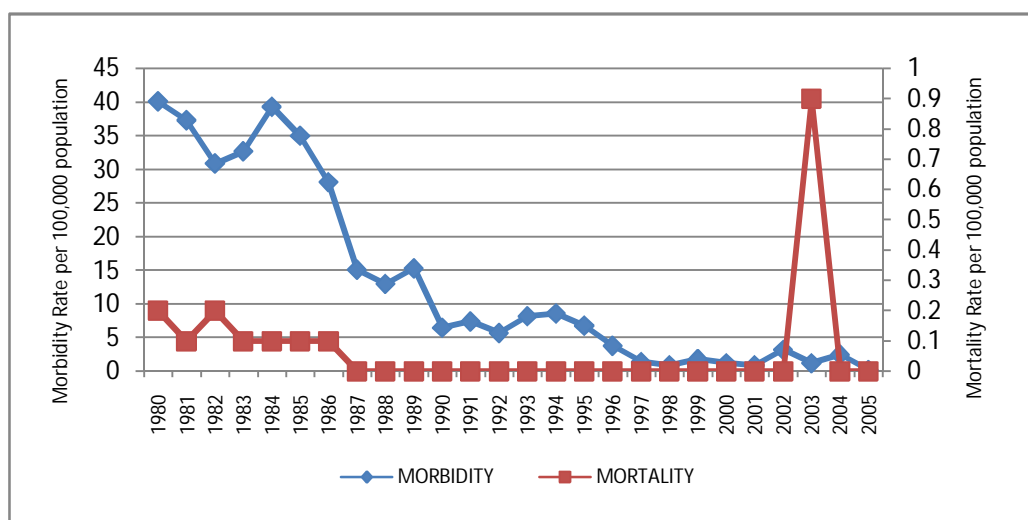
DPT is one of the vaccines that prevent three important diseases: Diphtheria (caused by *C. diphtheria*), Pertussis (caused by *B. pertussis*) and tetanus infection (caused *C. tetani*). The morbidity and mortality rates of these diseases are declining (see **Figures 13-15**). The coverage for the three doses as reported in the NDHS 2008 is 92.5 percent for DPT 1, 89.6 percent for DPT 2 and 85.6 percent for DPT 3 (National Statistics Office, 2008).

FIGURE 13. TRENDS IN DIPHTHERIA MORBIDITY AND MORTALITY, PHILIPPINES, 1980-2005



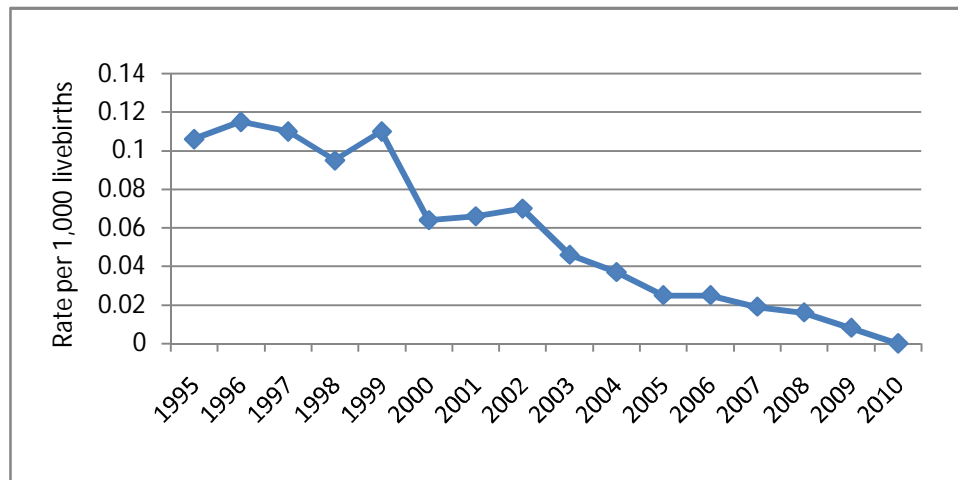
Source: Philippine Health Statistics, 2005

FIGURE 14. TRENDS IN PERTUSSIS MORBIDITY AND MORTALITY, PHILIPPINES, 1980-2005



Source: Philippine Health Statistics, 2005

FIGURE 15. TRENDS IN TETANUS NEONATORUM, PHILIPPINES, 1995-2010

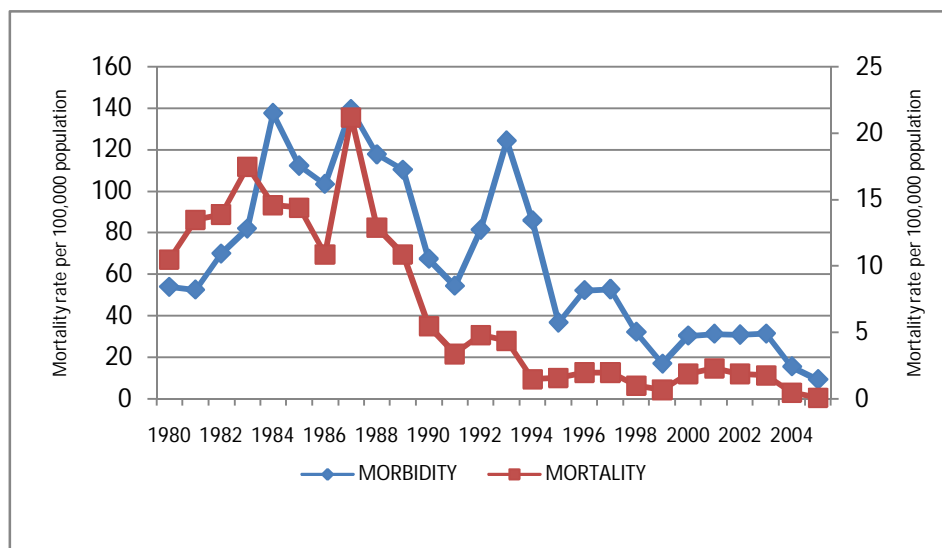


Source: Field Health Service Information System, 1995-2010

OPV vaccination coverage has improved slightly over the three censal periods. However, coverage decreases across the immunization schedule. Given the high coverage rate for polio vaccine, reported cases of acute flaccid paralysis has been limited to the Bicol region with 48 cases reported in 2009. The coverage rates of the three dose periods of OPV vaccine are 92.6 percent, 90 percent and 85 percent, respectively (National Statistics Office, 2008).

Measles or *rubeola* is caused by the measles virus; a single stranded RNA virus of the genus *Morbillivirus*. A decreasing trend for morbidity and mortality rates were also noted but there are periods of resurgence of cases every two to three years due to the build-up of un-immunized children (see **Figure 16**).

FIGURE 16. TRENDS IN MEASLES MORBIDITY AND MORTALITY, PHILIPPINES, 1980-2005



Source: Philippine Health Statistics, 2005

Though the country made significant strides in reducing infant mortality, other child indicators signal policy makers to push for more program and targeted policy efforts to facilitate the decline of child mortality in the country. The table below summarizes the country's objectives in decreasing infant and child mortality.

NATIONAL OBJECTIVES FOR 2011-2016

OVERALL GOAL: Reduction of under-five mortality rate by two-thirds.

Strategic Objective	Indicator	Data Source	Latest Baseline	2016 Targets
Child mortality is reduced	Perinatal mortality rate per 1,000 live births	NSO-NDHS	28 (2008)	18.7*
	Neonatal mortality rate per 1,000 live births	NSO-NDHS	16 (2008)	10
	Infant Mortality Rate per 1,000 live births	NSO-NDHS	25 (2008)	17
	Under-five mortality rate per 1,000 live births	NSO-NDHS	34 (2008)	25.5
Provision of quality services for children is increased	% Newborn initiated breastfeeding immediately after birth	NSO-NDHS	53.5 (2008)	86**
	% Infants initiated complementary feeding at 6 months of age	NSO-NDHS	36.54 (2008)	58**
	% Under 6 years old given Vitamin A	NSO-NDHS	74.8 (2008)	90
	% Newborns screened for metabolic disorders	NIH-NSRC	30 (2010)	100***
Routine immunization coverage is increased	% FIC	NSO-NDHS	81 (2008)	95
	% Measles coverage	NSO-NDHS	79 (2008)	95
	% TT2+	NSO-NDHS	47.7 (2008)	80

*computed based on 2/3 reduction from the baseline

** computed at a rate of 10 percent increase per year

*** computed at a rate of 30percent increase per year

STRATEGIES FOR 2011-2016

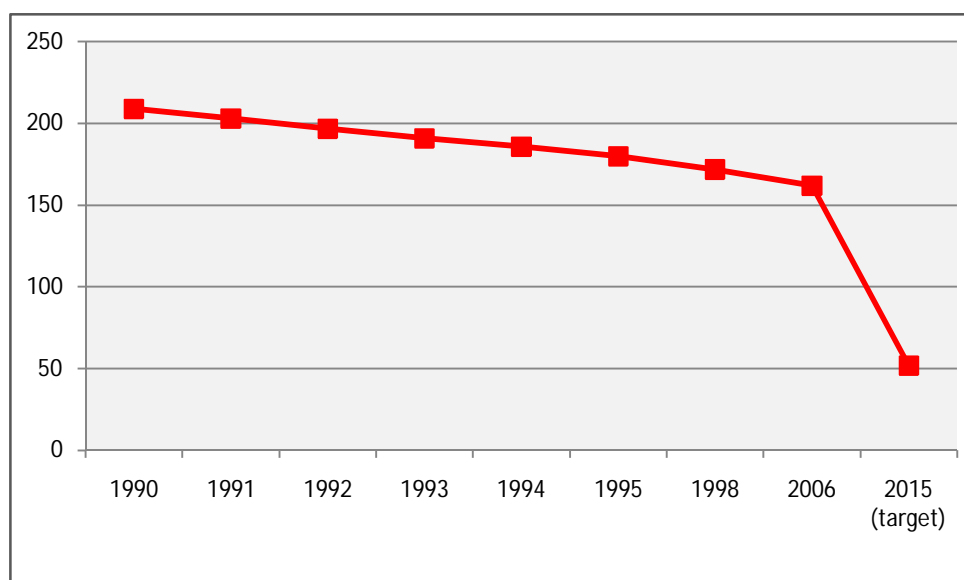
- Promote universal access to the standard child survival package of interventions. Priority will be given to areas with high prevalence of under-five mortality rate using the CHTs.
- Routine vaccination of all infants ages 0-11 months adopting the Reaching Every Barangay strategy
- Supplemental immunization activity either as small scale or large scale immunization
- Enhance the capacity and coordination of the service delivery networks as channels of child survival interventions.
- Create opportunities for communities to overcome barriers to utilization of child survival (CS) services.
- Build the LGU's resolve to adopt and implement the CS Strategy.
- Harmonize efforts of DOH, allied agencies and partners in supporting local delivery of CS services.

5.1.3. MDG 5: IMPROVE MATERNAL HEALTH

Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio (Target 5.A)

Maternal mortality is defined as the death of a woman while pregnant or within 42 days after pregnancy termination. Since this arises from the risks attributable to pregnancy and childbirth as well as from poor quality health care services, this is a strong indicator for health care status. By cautiously examining the trend as shown in **Figure 17**, there was a noticeable decline in maternal mortality ratio from 209 maternal deaths per 100,000 livebirths to 162 maternal deaths per 100,000 livebirths (National Statistics Office, 2007). The MMR is estimated to be at 163 per 100,000 live births as of 2010 (NSCB, 2010).

FIGURE 17: TRENDS IN MATERNAL MORTALITY RATIO, PHILIPPINES, 1990-2006 AND 2015 MDG TARGET



Source: NSO 1993 and 2008; National Demographic and Health Survey 1993 and 2003 and Family planning Survey 2007

The underlying causes of maternal deaths are: delay in taking critical actions, delay in seeking care, delay in making referral and delay in providing appropriate medical management. Other factors that contribute to maternal deaths are: unplanned, mistimed and unwanted pregnancies, poor detection and management of high-risk pregnancies, poor access to health facilities brought about by geographic distance and cost of transportation, and lack of staff competent in handling obstetrical emergencies. Analysis of the causes of maternal deaths shows hypertension and postpartum hemorrhage as the leading causes (**Table 19**).

TABLE 19: PERCENT DISTRIBUTION OF THE MAIN CAUSES OF MATERNAL MORTALITY, PHILIPPINES, 2000 AND 2005

Causes of Maternal Mortality	2000	2005
Hypertension complicating pregnancy, childbirth and puerperium	25.4	29.4
Postpartum hemorrhage	20.3	15.2
Pregnancy with abortive outcome	9.0	8.0
Hemorrhages related to pregnancy	0.1	0.1
Other complications related to pregnancy occurring in the course of labor, delivery and puerperium	45.3	47.3
Total	100.0	100.0

Source: Philippine Health Statistics 2005

In the Philippines, 73 percent of mothers do not want additional children or want to delay pregnancy. However, the mean number of children ever born to a Filipino woman upon reaching the age of 40-49 is four with an average fertility rate of 3.3 in the year 2008 (National Statistics Office, 2008).

The high fertility rate coincides with the low contraceptive prevalence rate of 51 percent among all Filipino women of reproductive age and 70.6 percent among married women. **Figure 18** shows that the highest percentage of contraceptive use belongs to the 35-39 age group while the 15-19 years old group have the lowest percentage of ever using any contraceptive method (National Statistics Office, 2008). **Figure 19** shows the distribution by age according to the type of contraceptive method used.

FIGURE 18: PERCENTAGE OF WOMEN AGE 15-49 WHO HAVE EVER USED ANY CONTRACEPTIVE METHOD, PHILIPPINES, 2008

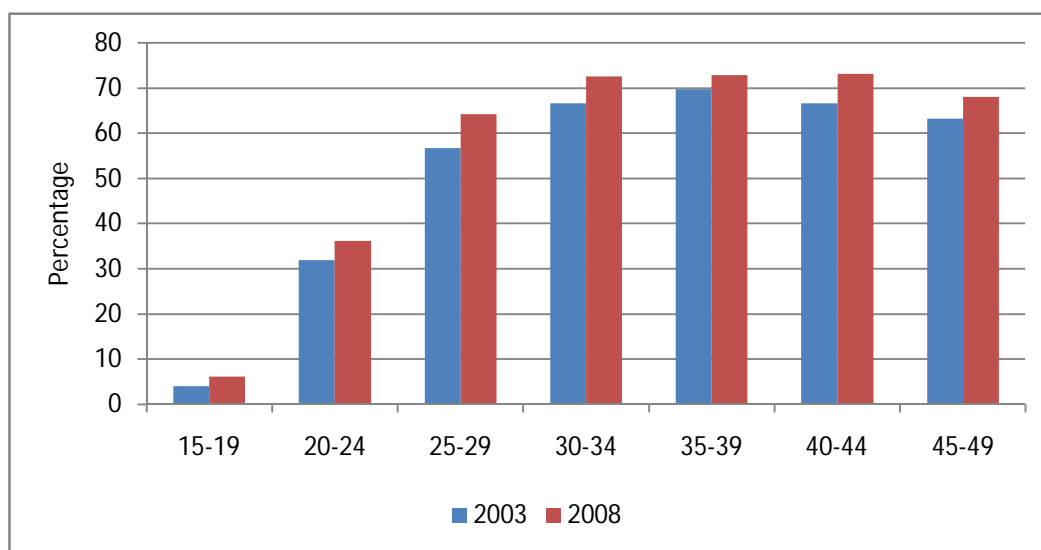
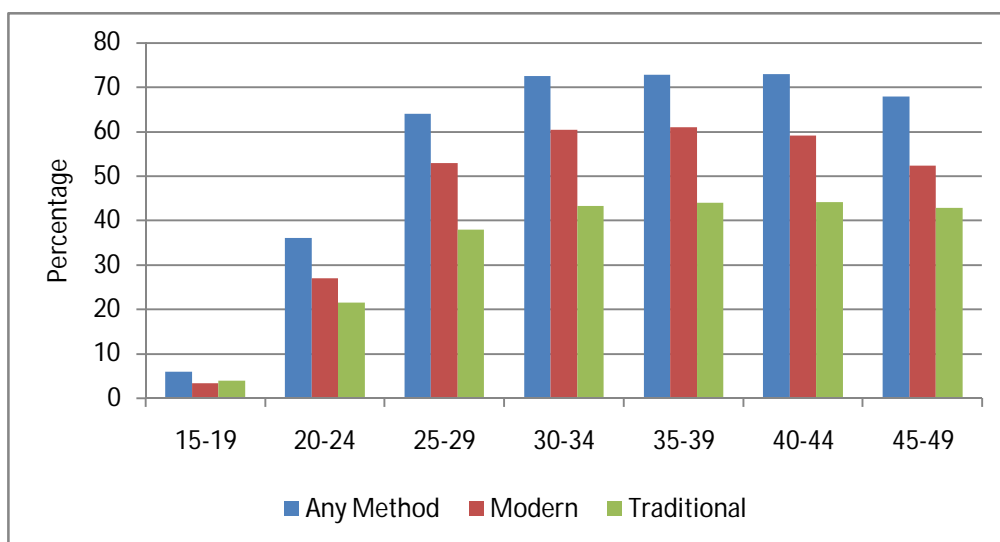


FIGURE 19: PERCENTAGE OF WOMEN AGE 15-49 WHO HAVE EVER USED MODERN AND TRADITIONAL METHOD, PHILIPPINES, 2008



Pregnancy is a physiologic process that has risks to both the mother and the unborn. At greater risk are women below 18 years old and those who are more than 35 years old. Chronic illnesses such as iron deficiency anemia, tuberculosis, hypertension, cardiovascular disorders, and diabetes in pregnancy are risks that could harm both the mother and the unborn.

Table 20 shows that the percentage of pregnant women with at least four prenatal visits increased from 70.4 percent in 2003 to 78 percent in 2008 (National Statistics Office, 2008). In addition, pregnant women who received at least two doses of tetanus toxoid also increased from 37 percent in 2003 to 48 percent in 2008 (National Statistics Office, 2008). The proportion of births attended by health professionals increased from 60 percent in 2003 to 62 percent in 2008 (National Statistics Office, 2008). Still, a significant portion of pregnant women do not have access to prenatal care and professional births attendants, which increase the occurrence of pregnancy-related complications.

TABLE 20. HEALTH-RELATED PRACTICES AFFECTING MATERNAL HEALTH, PHILIPPINES, 1998, 2003 AND 2008

Indicators	1998	2003	2008
% of pregnant women with at least 4 prenatal visits	77	70.4	77.8
% of pregnant women with at least 2 doses of tetanus toxoid	38	37.3	47.7
% of births attended by professional, health providers	56	59.8	62.2
% of women with at least 1 postnatal visit within one week of delivery up to 41 days	43	51.1	90.4*

Source: National Demographic and Health Surveys, NSO

*Postnatal visit in 2008 includes visit up to 41 days

The Philippines needs to fast-track efforts in reducing the maternal mortality (National Economic and Development Authority, 2011). For the country to reduce the MMR from 163 to 52 by 2015 and achieve the MDG 5, wider and more concerted efforts of the government and different stakeholders to implement MCH programs is needed. The following table summarizes the country's objectives in reducing maternal deaths, and improving the well-being of the unborn.

NATIONAL OBJECTIVES FOR 2011-2016

OVERALL GOAL: Improve maternal health and ensure the survival, health and well-being of mothers and their unborn.

Strategic Objective	Indicator	Data Source	Latest Baseline	2016 Targets
Maternal Mortality is reduced	Maternal Mortality Ratio (MMR) per 100,000 live births	NSCB	163 (2010)	50
Provision of quality services for mothers is increased	% Pregnant women with 4 or more prenatal visits	DOH-FHSIS	52 (2010)	90
	% Pregnant women who are nutritionally-at-risk	FNRI-NNS	26.3 (2008)	22.4
	% Deliveries assisted by skilled birth attendants	NSO-NDHS	62 (2008)	90
	% Deliveries in a health facility	NSO-NDHS	44 (2008)	90
	% Contraceptive prevalence rate	NSO-NDHS	51 (2008)	65

STRATEGIES FOR 2011-2016

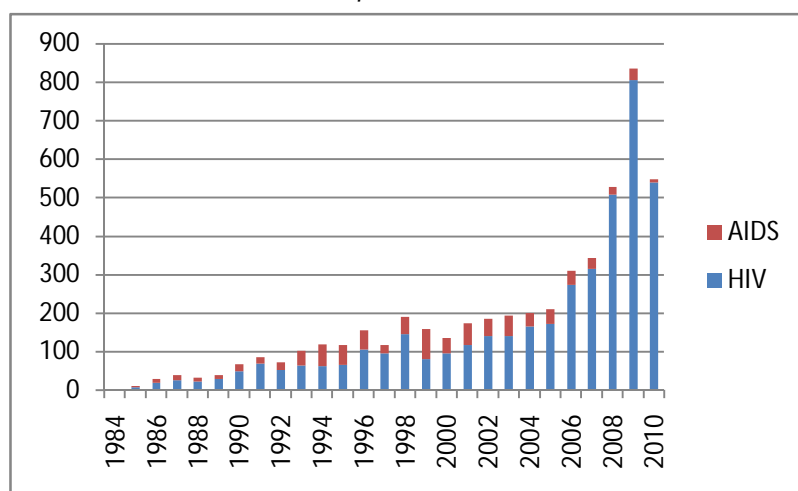
- Provide information on FP-MCH through the CHTs and other organized local efforts
- Ensure availability of reproductive health and other pre-pregnancy services including adolescent health and control of sexually-transmitted infections and HIV prevention services through local public health authorities.
- Increase competencies of health providers in providing comprehensive reproductive health and maternal and child health services.
- Promote facility-based births attended by skilled health professionals catering to the specific needs of the mother and the newborn (Essential Newborn Care).
- Immediate postpartum and postnatal care by skilled health professionals to include immediate and thorough drying, skin-to-skin contact, properly-timed cord clamping, sustained contact for initiation of breastfeeding within the first hour.
- Presence of local capacities for securing reliable, updated and complete information about the use of health services on maternal and child health.

5.1.4. MDG 6: REVERSE THE SPREAD OF HIV/AIDS, MALARIA AND OTHER INFECTIOUS DISEASES

The Millennium Development Goal (MDG) 6 aims to control the most common infectious diseases particularly, tuberculosis, malaria and HIV. These diseases have been hampering social progress in many parts of the world especially in Africa and Asia. In the Philippines, tuberculosis and malaria are still major public health problems especially in certain segments or areas in the country.

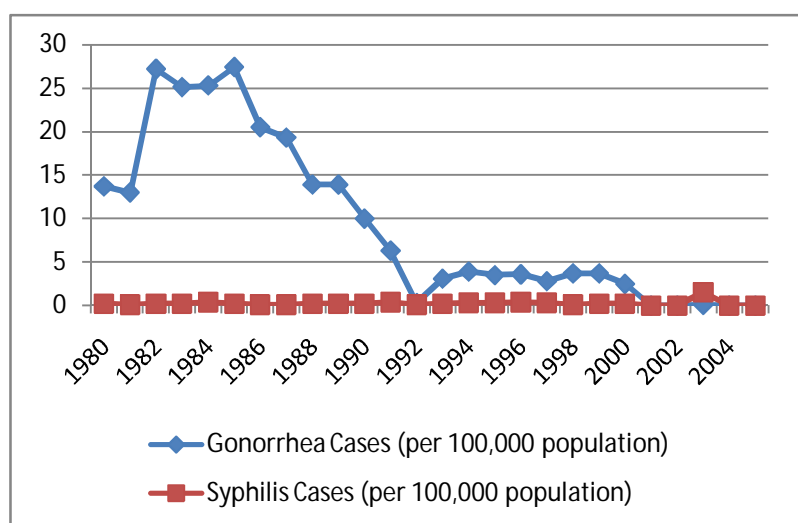
5.1.4.1. *Have halted by 2015 and reversed the spread of HIV/AIDS (Target 6.A)*

FIGURE 20. NUMBER OF HIV AND AIDS CASES, PHILIPPINES, 1984-2010



Source: STI/HIV/AIDS Surveillance Technical Report, PNAC

FIGURE 21. TRENDS IN GONORRHEA AND SYPHILIS MORBIDITY, PHILIPPINES, 1980-2005



The prevalence of HIV in the Philippines is less than 1 percent (Department of Health, 2010). However, noticeable and exponential rise of HIV and AIDS cases in the country for the past years have raised alarming concerns (see **Figure 20**). Over the last two decades, there has been a constant increase of patients diagnosed with HIV and AIDS. In 2010, 539 patients were diagnosed with HIV (Department of Health, 2010). However, given the limitations of the AIDS surveillance and reporting system which upholds voluntary testing and confidentiality, this number may underestimate the real number of HIV and AIDS cases. The growing cases of HIV can be attributed to risky behaviors which include unprotected sex, switching from one partner to another and needle sharing among drug users (Farr & Wilson, 2010).

HIV/AIDS is known to have co-morbidity with other STIs such as gonorrhea, syphilis and herpes. Based on the Philippine Health Statistics 2005, the reported cases of gonococcal infection caused by *Neisseria Gonorrhea* has significantly decreased from 27.4 cases per 100,000 population in 1985 to 0.0 cases per 100,000 population in 2005 (see **Figure 21**). In the case of syphilis, which is caused by *T. pallidum*, the reported cases have constantly remained low (Department of Health, Various years).

The prevalence of HIV is low at the present. Given the continuous trend of increase in the number of HIV cases, it is likely that the HIV prevalence will increase. The country's objective is to maintain the level of cases to less than 1 percent HIV prevalence rate, and to reduce the transmission of HIV virus. The next table summarizes the country's objective in the next 5 years with regard to HIV/AIDS prevention and control.

NATIONAL OBJECTIVES FOR 2011-2016

OVERALL GOAL: Reduce new STI and HIV infections by 50 percent among the most-at-risk and vulnerable population by 2016

Strategic Objective	Indicator	Data Source	Latest Baseline	2016 Targets
HIV prevalence of less than 1% is maintained	% Prevalence of HIV	DOH-IHBSS	0.57 (2009)	<1.0
STI among MARP is reduced	% Incidence of gonococcal infection among at risk males	DOH-SSESS	11.3 (2009)	5.65*
	% Incidence of NGI among at risk females	DOH-SSESS	12.6 (2009)	6.3*
The transmission of RTIs in the general population and among the vulnerable groups is reduced	Condom use rate	NSO-NDHS	2.3 (2008)	5

* Computed based on 50 percent reduction from the baseline

STRATEGIES FOR 2011-2016

- Expand HIV counseling and testing and enabling people at risk to know their HIV status.
- Maximize prevention in a wide range of activities involving health and other sectors, complemented with the availability and access to essential prophylactic commodities like condoms and ART to prevent mother to child transmission of HIV.
- Scale-up treatment, care and support. For infants, children or adults living with HIV, a comprehensive package of prevention, treatment and care interventions should be made available. Early referral after HIV diagnosis is essential especially pregnant women to prevent MTCT.
- Invest in strategic information. This includes surveillance of HIV and sexually transmitted infections, monitoring and evaluation and continuing research for vulnerabilities and operations researches.

- Strengthen health systems. HIV and AIDS shall be integrated at all possible entry points in the health system. Other activities include the advocacy for the institutionalization of local AIDS councils and training of regional assistance team to provide assistance to LGUs in setting-up/ sustaining local AIDS councils.

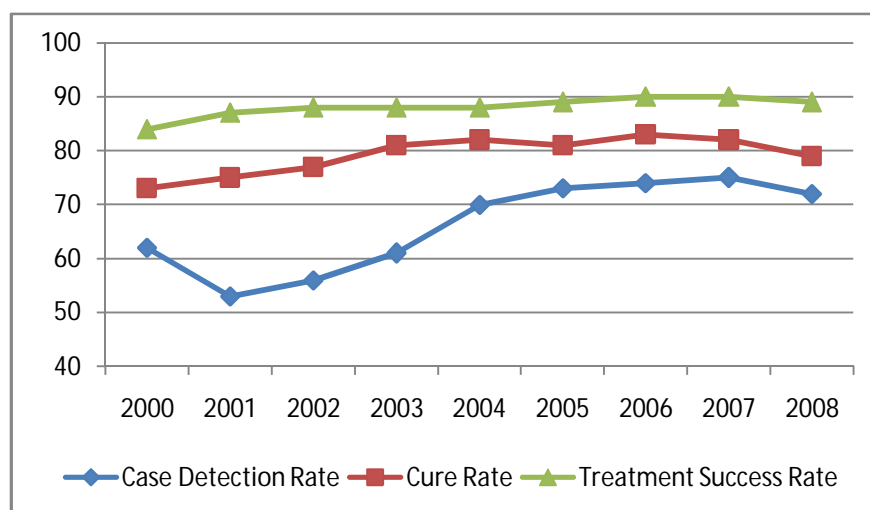
5.1.4.2. Have halted by 2015 and reversed the spread of Tuberculosis (Target 6B)

Tuberculosis is one of the leading causes of mortality and morbidity in the country. In the Philippines, majority of the indicators for TB has decreased through the years with smear positive and culture positive registering the most marked decrease in prevalence as shown in **Table 21**.

TABLE 21. PREVALENCE OF TUBERCULOSIS, PHILIPPINES, 1982, 1997 AND 2007

Indicator	1981-1982	1997	2007
Smear positive TB cases/1,000	6.6	3.1	2.0
Culture positive TB cases/1,000	8.6	8.1	4.7
Radiographic findings suggestive of TB (%)	4.2	4.2	6.3
Multi-drug resistant TB among new case (%)		1.5	2.1
TB symptomatic (%)	17	18.4	13.5
Annual risk of infection (%)	2.5	2.4	2.1

FIGURE 22. TRENDS IN TB CASE DETECTION RATE (CDR) AND CURE RATE (CR), PHILIPPINES, 2000-2008



.MDR TB among new cases has increased slightly after a decade. The noticeable improvement of TB prevalence over the last decade can be attributed to program efforts, particularly the TB DOTS Program. From 2000 to 2008, the case detection rate and treatment success rate increased (see **Figure 22**).

Despite the decline in TB prevalence, this curable and preventable disease is still one of the top causes of morbidity and mortality. The next table summarizes the country's objective in reducing TB morbidity and mortality in the next five years.

NATIONAL OBJECTIVES FOR 2011-2016

OVERALL GOAL: Morbidity and mortality from tuberculosis are reduced.

Strategic Objective	Indicator	Data Source	Latest Baseline	2016 Targets
Mortality rate from TB is reduced	Mortality rate from TB per 100,000 population	DOH-PHS	41 (2007)	33
TB Prevalence rate is reduced	TB Prevalence rate per 100,000	DOH-NTPS	486 (2008)	387
Case detection rate for all forms of TB is increased	% Case detection rate of sputum positive cases	DOH Program Report	73 (2008)	85
Cure rate of new smear positive TB is increased	% Cure rate of sputum positive cases	DOH Program Report	79 (2008)	85
TB treatment success rate is improved	% Treatment success rate	DOH Program Report	89 (2010)	90

STRATEGIES FOR 2011-2016¹

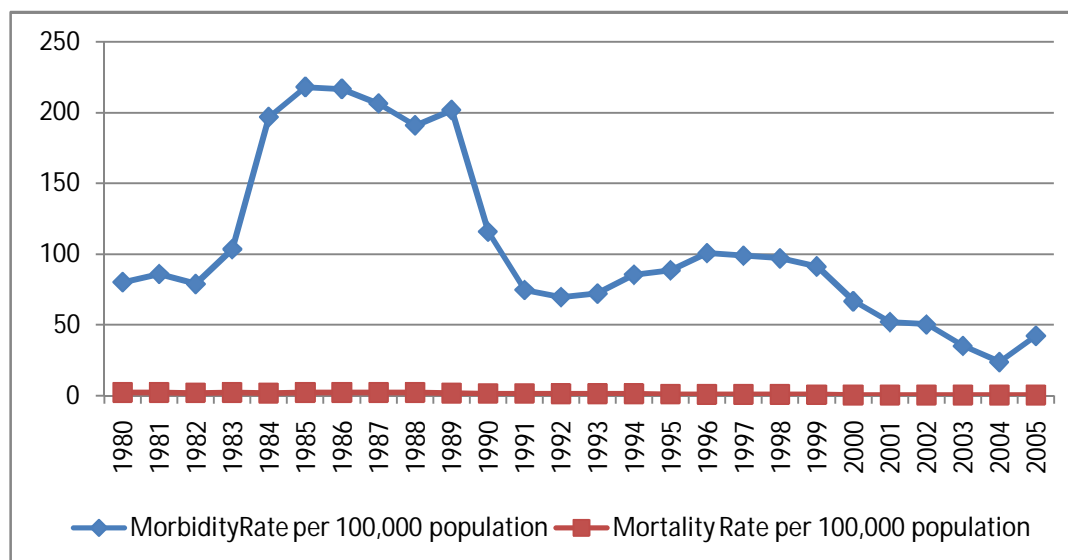
- Localize TB control program implementation. LGUs manage and implement the TB control program within the decentralized health system in support of the health sector reform initiatives.
- Monitor health system performance. Regularly determine the progress in TB control efforts as influenced by the initiatives of public and private institutions and by actions in health system strengthening.
- Engage both public and private TB care providers to adopt DOTS. The development and maintenance of competent workforce for TB control is a key activity of the national TB control program.
- Promote and strengthen positive behavior of communities. The utilization of DOTS services, especially by the poor and marginalized, can still be improved through interventions that facilitate care seeking at DOTS facilities, compliance with diagnostic procedures, and adherence to treatment.
- Address MDR-TB co-infection and needs of vulnerable populations. There is a need to detect most of the MDR-TB cases and ensure that they receive quality-assured second-line anti-TB drugs. It shall target vulnerable populations such as the poor, children, elderly, refugees, inmates and those living in geographically isolated and depressed areas.
- Regulate and make available quality TB diagnostic tests and anti-TB drugs. Availability of quality-assured diagnostic tests and standardized treatment are keys to prompt diagnosis and treatment of TB cases.
- Certify and accredit TB care providers. Seventy (70) percent of DOTS facilities must be DOH/PhilCAT-certified and PhilHealth accredited.
- Secure adequate funding and improve efficiency of fund utilization. Ensure adequate financing for PhilPACT key strategies, particularly in strengthening local implementation of TB prevention and control and efficiency in fund utilization by proper and timely disbursement of funds with tracking mechanism.

¹ Philippine Plan of Action to Control Tuberculosis 2010-2016

5.1.4.3. *Have halted by 2015 and begun to reverse the incidence of malaria and other diseases (Target 6C)*

Malaria is the most common and most persistent mosquito-borne infection in the Philippines although cases and deaths have gone down. Endemic areas are usually rural, hilly or mountainous, and hard to reach. High-risk groups consist of upland subsistence farmers, forest-related workers, indigenous people, settlers in frontier areas, and migrant agricultural workers. Disease transmission is perennial and generally higher during the rainy season.

FIGURE 23. MORBIDITY AND MORTALITY RATE OF MALARIA, PHILIPPINES, 1980-2005



Source: Philippine Health Statistics, 2005

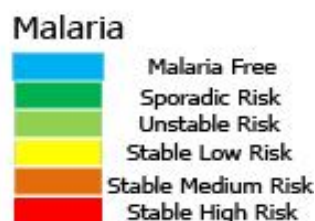
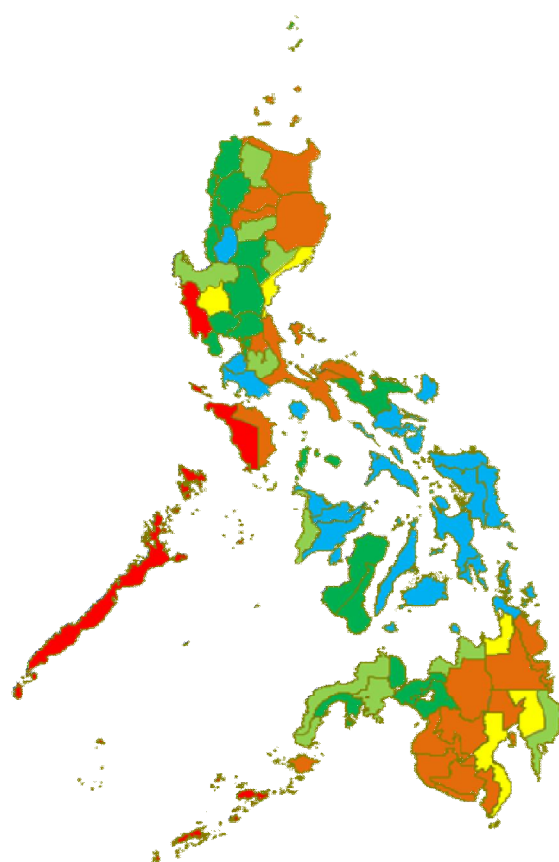
Over the last decades, the morbidity and mortality rates of malaria have been declining as shown in **Figure 23**. The morbidity rate of 80 per 100,000 in 1980 dropped to 42 per 100,000 in 2005, while the mortality rate declined from 2.2 per 100,000 in 1980 to 0.2 per 100,000 in 2005 (Department of Health, 2005).

In 2010, the Malaria Control Program (MCP) introduced the micro-stratification in classifying malaria endemic areas in the country according to the rate of malaria transmission for better tracking of malaria cases, prioritization of endemic areas to be assisted and to ensure more focused interventions.

Definition of Strata	
Stable Risk	With at least 1 <i>barangay</i> that has a continuous presence of at least one indigenous malaria case in a month for 6 months or more at any time during the past three years
a. high	With ≥ 1000 average malaria cases from 2007-2009
b. moderate	With 100 to <1000 average malaria cases from 2007-2009
c. low	With <100 average malaria cases from 2007-2009
Unstable Risk	With at least 1 <i>barangay</i> that has a continuous presence of at least one indigenous malaria case in a month for less than 6 months at any time during the past three years
Epidemic Risk or Sporadic Risk	With at least 1 <i>barangay</i> that has a presence of at least one indigenous malaria case at any time in the past 5 years
Malaria Free	Absence of indigenous malaria case for 5 past years even in the presence of malaria vector



FIGURE 24. MALARIA ENDEMIC PROVINCES PHILIPPINES, 2010



Micro-stratification is based on the rate or degree of malaria transmission classified as: (i) stable risk, (ii) unstable risk, (iii) sporadic/epidemic risk; and (iv) malaria-free. Provinces with stable malaria transmission were further sub-classified into high endemic, moderate endemic and low endemic (Malaria Medium Term Development Plan 2011-2016)

NATIONAL OBJECTIVES FOR 2011-2016

OVERALL GOAL: To accelerate the transition from control to sustained elimination of the disease.

Strategic Objective	Indicator	Data Source	Latest Baseline	2016 Targets
Malaria cases are reduced	Malaria morbidity rate per 100,000 population	DOH Program Report	22 (2009)	6.6
Malaria deaths are reduced	Malaria mortality rate per 100,000 population	DOH Program Report	0.03 (2009)	<0.03
Annual parasite incidence is reduced	Annual parasite incidence (API) per 1,000 endemic population	DOH Program Report	1.7 (2010)	0.8
The number of malaria-free provinces is increased	Number of malaria-free provinces	DOH Program Report	23 (2009)	40

STRATEGIES FOR 2011-2016²

- Ensure universal access to reliable diagnosis, highly effective and appropriate treatment and preventive measures by levelling up focal anti-malaria interventions in stable and unstable risk areas and sustaining provision of anti-malaria diagnostic, treatment and preventive measures in epidemic risk and malaria-free areas, among others.
- Capacitate LGUs to own, manage and sustain the Malaria Control Program in their respective localities which include stratification, zoning and planning; malaria surveillance and response and monitoring and evaluation
- Sustain financing of anti-malaria efforts at all levels of operations by securing government and non-government financial assistance in support to malaria elimination.
- Ensure a functioning quality assurance system for malaria operations by strengthening Quality Assurance System (QAS) for anti-malaria diagnostic and treatment facilities and improve quality of vector control measures.

²(Malaria Medium Term Development Plan 2011-2016)

5.1.5. MDG 7: ENSURE ENVIRONMENTAL SUSTAINABILITY

All through time, water has been held as a life-sustaining element of the earth. Unfortunately, water has also become the source of illness in our country. Recent reports indicate that only 14 million of over 17 million households in the country (82.3 percent) have access to safe water supplies, and only about 13 million (76.8 percent) have sanitary toilets (Department of Health, 2008). However, the World Health Organization (WHO) reports that most of these supplies consist of protected wells, tube wells, communal standpipes, and rainwater harvesting. Only 45 percent of Filipino households (58 percent urban, 23 percent rural) are actually connected to a piped-in distribution system. In an assessment done by the Department of Health (DOH), water samples from improved wells were generally free of fecal contaminations at the source, but most were contaminated at the point of consumption. In fact, 50 percent of them were heavily contaminated (Clasen, 2007).

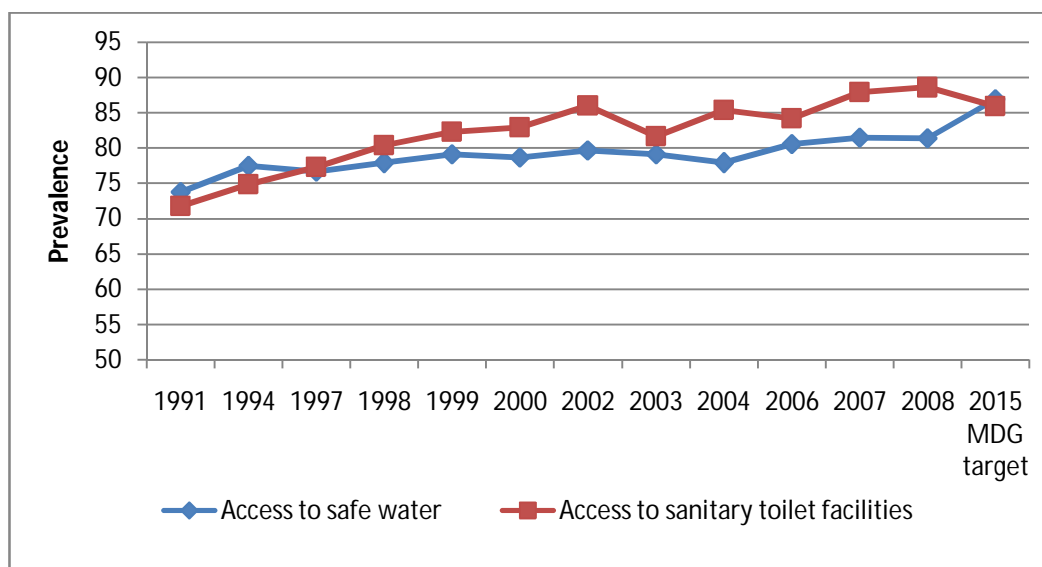
Water and sanitation problems are major environmental health risks. They pose a threat to the entire population causing diarrhea, cholera, typhoid fever, hepatitis A, skin diseases, and dengue fever, among others (Department of Health, 2005)

Recent outbreaks of infectious diseases and disasters such as flooding and droughts impose a heavy burden on the country's health and health and economic resources (Clasen, 2007). Water and sanitation facilities that were destroyed during the typhoons "Ondoy" and "Pepeng" now require rehabilitation.

The proportion of households within 30 minutes from water supply facilities is 95 percent in 2008 and the proportion of households with water supply coming from improved sources is 69.8 percent in the same year (National Statistics Office, 2008). In urban areas, piped water supply is at 38 percent in 2008 while it is just 22 percent in rural areas (National Statistics Office, 2008).

The rate of utilization of toilet facilities with septic tank is still the highest among types of toilet used in the country. In 2008, the percent coverage of households with toilet facilities that flush into septic tanks in urban areas is 66.9 percent, as compared to 40 percent in rural areas (National Statistics Office, 2008).

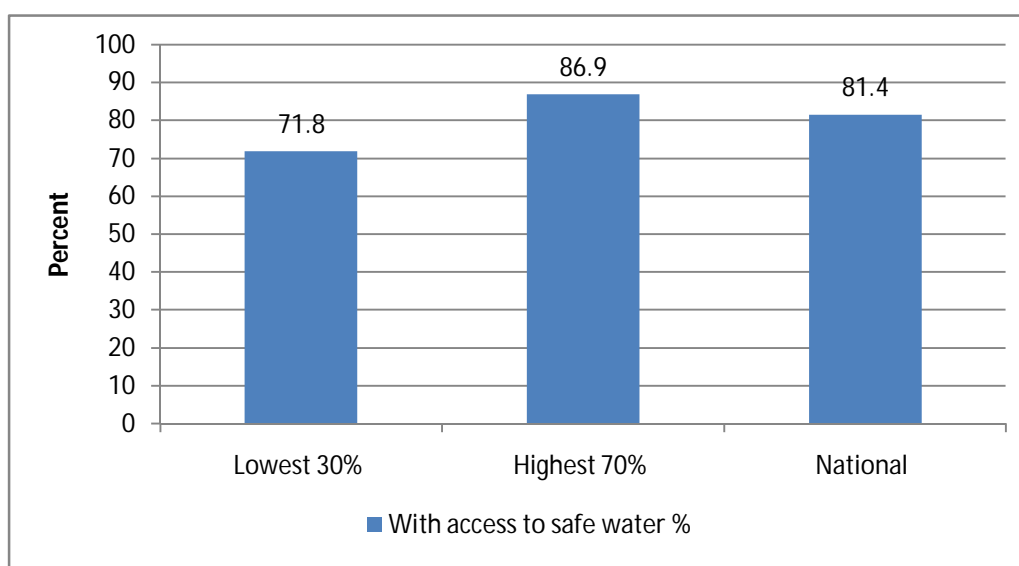
FIGURE 25. TREND IN THE PROPORTION OF THE POPULATION WITH ACCESS TO SAFE DRINKING WATER AND SANITARY TOILET FACILITIES IN PERCENT, PHILIPPINES, 1991-2008



Sources: FIES NSO and APIS, NSO

The trend in the proportion of the population with access to safe drinking water in the country has been improving through the years as shown in **Figure 25**, reaching the levels of 81.4 percent in 2008 which is close to the MDG target of 86.9 percent by 2015. The level of access to sanitary toilet facilities in 2008 of 88.6 percent has already exceeded the MDG target of 85.9 percent by 2015.

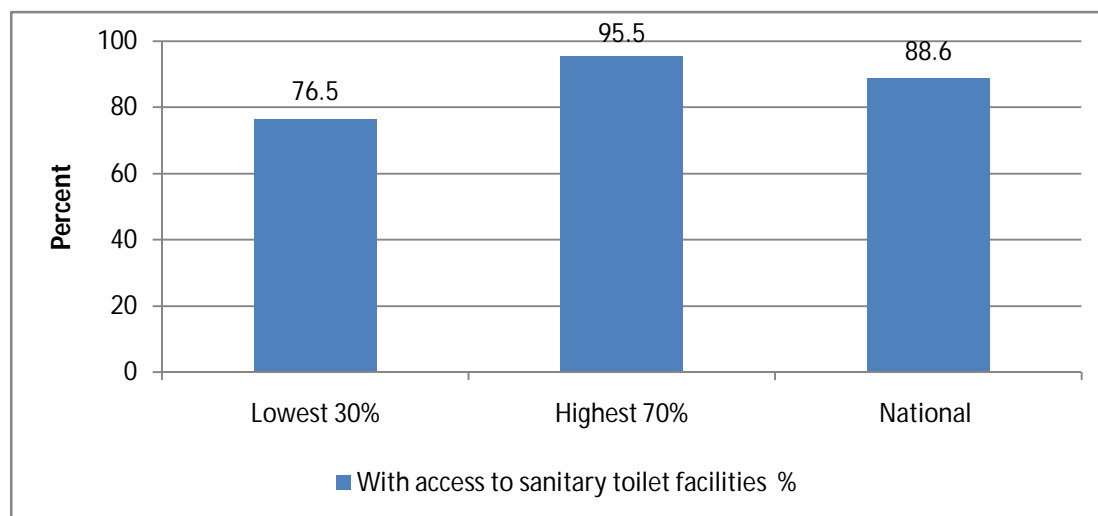
FIGURE 26. ACCESS TO SAFE DRINKING WATER AMONG THE LOWEST 30 PERCENT AND HIGHEST 70 PERCENT INCOME CLASS OF THE POPULATION, PHILIPPINES, 2008



Source: APIS, NSO, 2008

The access to safe drinking water among the 70 percent highest income class (86.9 percent) is notably higher by 15.1 percentage as compared to the lowest 30 percent income class of the population (71.8 percent) (see **Figure 26**). This is also true with access to sanitary toilet facilities which is 95.5 percent among the 70 percent highest income class as compared to 76.5 percent among the lowest 30 percent income class of the population (see **Figure 27**).

FIGURE 27. ACCESS TO SANITARY TOILET FACILITIES AMONG THE LOWEST 30 PERCENT AND HIGHEST 70 PERCENT INCOME CLASS OF THE POPULATION, PHILIPPINES, 2008

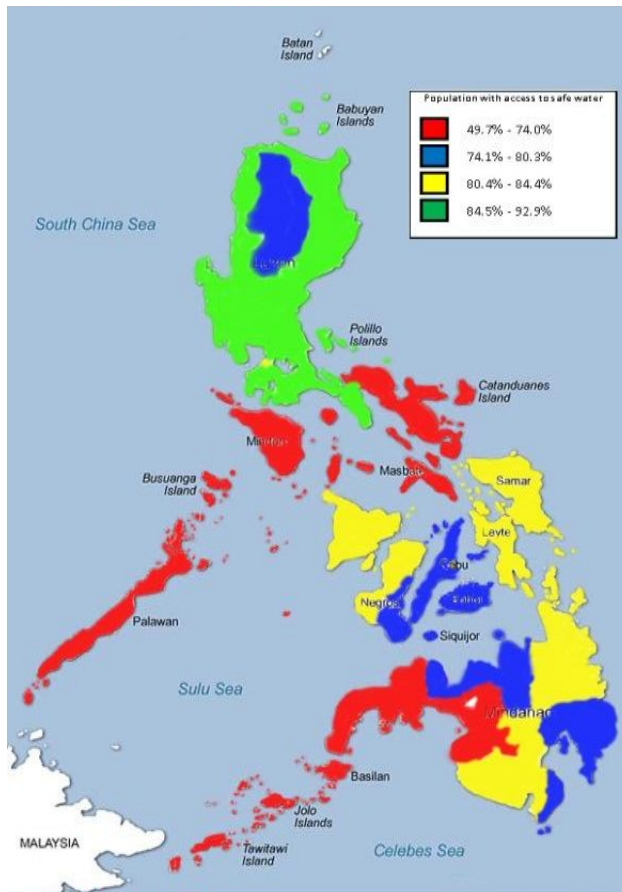


Source: APIS, NSO, 2008

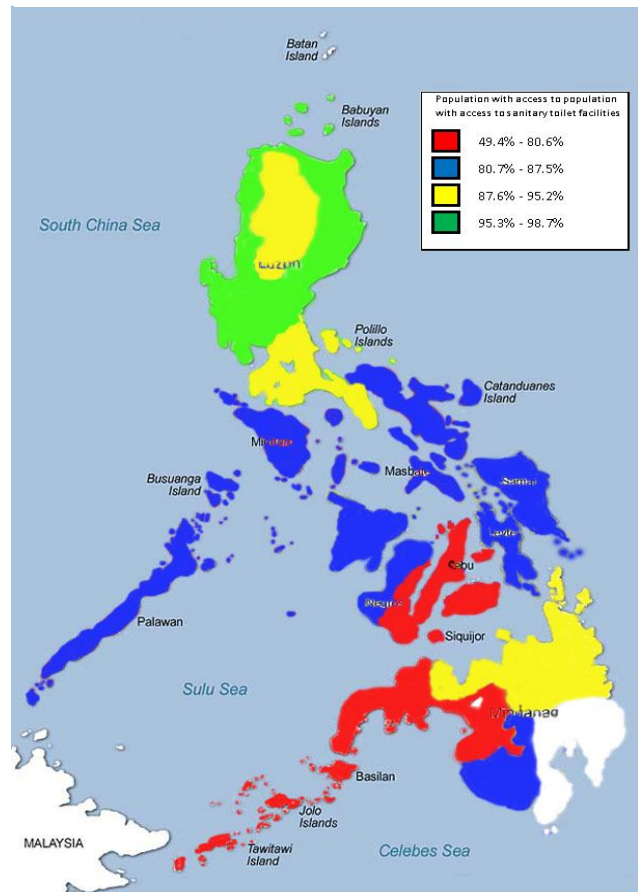
The population with the highest access to safe drinking water is found in Cagayan Valley (92.9 percent) followed by Central Luzon (91.9 percent) and CALABARZON (87.7 percent). In terms of access to sanitary toilet facilities, the population with the highest access is in NCR at 98.7 percent followed by Ilocos Region at 98.4 percent and CALABARZON at 98.2 percent (National Statistics Office, 2008). The ARMM lags behind all regions in access to safe water and sanitary toilet facilities (**Figure 28**).

FIGURE 28. PROPORTION OF POPULATION WITH ACCESS TO SAFE WATER AND SANITARY TOILET BY REGION, PHILIPPINES, 2008

Proportion of population with access to safe water in percent by region, Philippines, 2008



Proportion of population with access to sanitary toilet facilities in percent by region, Philippines, 2008



Over the years, around 80 percent of households have continued to have access to safe water and sanitary toilet facilities. The country's objective is to further increase this proportion to 90 percent of households. The following table summarizes the country objectives in increasing access to safe water and sanitary toilet facilities.

NATIONAL OBJECTIVES FOR 2011-2016

OVERALL GOALS:

Environmental health conditions in the country are improved.
Morbidity and mortality from environmental health hazards are reduced.

Strategic Objective	Indicator	Data Source	Latest Baseline	2016 Targets
Households with access to safe water is increased	% Householdswith access to safe water	NSO-APIS	81.4 (2008)	88
Households with sanitary toilet is increased	% Households with sanitary toilet facility	NSO-APIS	88.6 (2008)	90
	% Households connected to sewer system	NOH Midline Survey	34(2010)	40
	% Households with septic tank desludged for the last 5 years	NOH Midline Survey	23.4(2010)	30

STRATEGIES FOR 2011-2016

- Increase investment in environmental health programs to target the whole population.
- Develop technical assistance packages for stakeholders especially for the LGUs.
- Develop a comprehensive communication package for environmental health concerns. This will support stronger advocacy campaigns that will push for the local and nationwide implementation of environmental laws through sustainable measures like low-cost waste treatment technologies available in the market.
- Strengthen capacity building and collaboration among partners.
- Support environmental infrastructure development projects. This includes construction and upgrading of regional and provincial laboratories for the use of environmental and occupational health programs.

5.2. GOALS FOR OTHER DISEASES

5.2.1. COMMUNICABLE DISEASES

5.2.1.1. Diseases for Prevention and Control

5.2.1.1.1. Soil-Transmitted Helminthiasis and other Parasitoses

Soil-transmitted helminthiasis (STH) and other parasitoses are a group of parasitic infections that commonly occur in areas where sanitation practices are poor. The three major causes of intestinal parasitism in the Philippines are ascariasis or roundworm infection, trichuriasis or whipworm infection, and hookworm infection. In 2009, STH prevalence is 43.7 percent among children aged one to five years old and 44.7 percent among children aged six to twelve years old (Department of Health, 2009).

STH is high in poverty-stricken areas, where there are inadequate sanitary facilities and water supply and poor personal hygiene. Children from ages one to twelve years old are one of the most important population groups affected by these diseases. This age group has the highest prevalence rate and is the greatest source of transmission for the infection. Other population groups at risk are pregnant women, farmers, and indigenous people.

In order to bring down the prevalence rates of STH, mass deworming of school children is being done every January and July each year as part of the "*Garantisadong Pambata*" Campaign. Furthermore, STH control strategies have been integrated into the mass treatment programs for filariasis and schistosomiasis endemic areas. However, only 67 percent of children aged 1-12 years old and only 38.6 percent of IP schoolchildren were dewormed as of 2009 (DOH-DepED and WHO , 2009).

Soil-transmitted helminthes produce varied symptoms including intestinal manifestations (such as diarrhea and abdominal pain) and general malaise and weakness. Hookworms, in particular, can even cause anemia. The effects of these symptoms are detrimental to the child's school performance and to the adult's productivity.

The goal of the STH and Other Parasitoses Control Program is to reduce the STH prevalence among children aged one to twelve years old and reduce the risk of pregnant women, adolescent females and special groups for STH infection.

NATIONAL OBJECTIVES FOR 2011-2016

OVERALL GOAL: Morbidity and other health effects of soil transmitted helminthiasis and other parasitoses are reduced

Strategic Objective	Indicator	Data Source	Latest Baseline	2016 Targets
Prevalence of STH and other parasitoses among children is reduced	% STH cases among 1- 5 years old	Sentinel Surveillance of STH	43.7 (2009)	34.96*
	% STH cases among 6- 12 years old	Sentinel Surveillance of STH	44.7 (2009)	35.76*
Coverage of deworming services is increased	% IP schoolchildren dewormed	Special Study	38.6 (2009)	30.88*
	% Deworming coverage among 1-12 year-old children	DOH-DepED Report	67 (January 2009)	95
Proportion of targeted population with observed healthy practices is increased	% Mothers/ caregivers with 1-12 year old children practicing appropriate personal and food hygiene	Special Study	30 (2004)	75

*Computed at 20 percent reduction from the baseline

STRATEGIES FOR 2011-2016

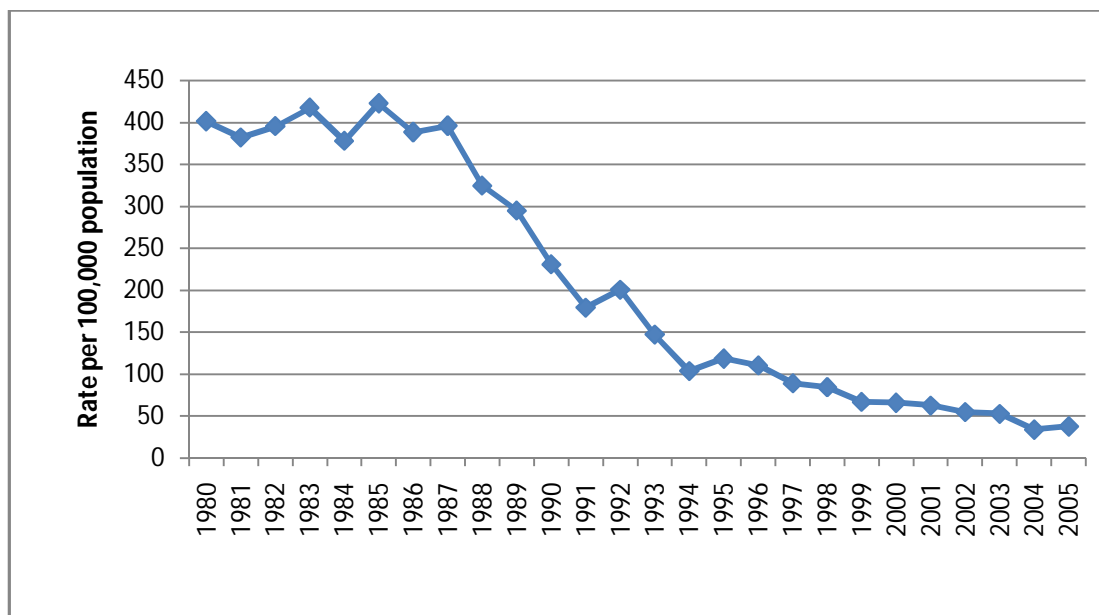
- Local mass deworming integrated with other national programs such as mass treatment for filariasis and schistosomiasis, DepEd and DSWD's CCT programs. Mass deworming should be carried out for at least three consecutive years among the target population.
- Deworming programs integrated with nationwide immunization campaigns, and on a regular or routine basis, with other programs targeting children.
- Advocacy, social preparations and mass media campaign that precede and support the mass treatment schedules.
- Personal hygiene and sanitation practices like hand washing, proper food preparation, proper footwear practices and proper human waste disposal.
- Provision of safe water and sanitation services.

5.2.1.1.2. *Pneumonia and other Acute Respiratory Infections*

Pneumonia and other acute respiratory infections (ARIs) remain a public health concern as one of the top ten leading causes of morbidity and mortality in the Philippines. Pneumonia ranked second among the causes of morbidity in 2010 and fourth among the causes of death in 2005. Mortality due to pneumonia is highest in Western Visayas, Ilocos and Cagayan and lowest in ARMM, Central Mindanao and Western Mindanao (Department of Health, 2012). Acute respiratory infection is the most common cause of morbidity in 2010 (Department of Health, 2012).

The death rate from pneumonia among children under-five years of age declined significantly from 118.69 per 100,000 in the 1995 to 37.99 per 100,000 in 2005 as shown in **Figure 29** (Department of Health, 2005). The morbidity rate among under-five year old children went down from 5,076.17 per 100,000 in 2002 to 1,801.14 per 100,000 in 2010 (Department of Health, 2012). The 2008 NDHS revealed that half of the children below five years of age who had the symptoms of acute respiratory infection were taken to a health facility or health care provider for treatment. This is an 8 percent reduction from the 58 percent reported in the 1998 NDHS. Forty-two percent of them were given antibiotics (National Statistics Office, 2008).

FIGURE 29. TRENDS IN PNEUMONIA MORBIDITY AMONG UNDER-FIVE YEARS OLD, PHILIPPINES, 1980-2005



Source: Philippine Health Statistics 2005

The populations most vulnerable to developing fatal respiratory diseases are the very young, the elderly, and the immuno-compromised. Children below five years of age have the highest risk, especially those belonging to the middle to low economic classes because of their lower capacity to acquire basic needs.

Morbidity is also known to have adverse consequences on children's growth and development, daily activities, and school performance. The program aims to reduce mortality from pneumonia and other acute respiratory infections.

NATIONAL OBJECTIVES FOR 2011-2016

OVERALL GOAL: Mortality from pneumonia and other acute respiratory infections is reduced.

Strategic Objective	Indicator	Data Source	Latest Baseline	2016 Targets
Mortality from pneumonia among children under 5 years old is reduced	Mortality rate from pneumonia per 100,000 under five year old children	DOH-PHS	23.3 (2005)	18.6*
	% Under five year old children with symptoms of ARI who sought treatment from a health facility or health provider	NSO-NDHS	50 (2008)	90
Mortality from pneumonia among older persons is reduced	Mortality rate from pneumonia per 100,000 60-year-old persons and older	DOH- PHS	569 (2005)	540
Mortality from pneumonia among the general population is reduced.	Mortality rate from pneumonia per 100,000 population	DOH-PHS	41.4 (2005)	33*

* computed based on 20 percent reduction from the baseline

STRATEGIES FOR 2011-2016

- CHT promotion of good hygiene and other preventive measures to prevent the transmission of ARI through the CHTs
- Surveillance and monitoring and evaluation
- Timely and appropriate management for pneumonia.
- Ensuring availability of essential IMCI drugs for children below five years of age at the local level.

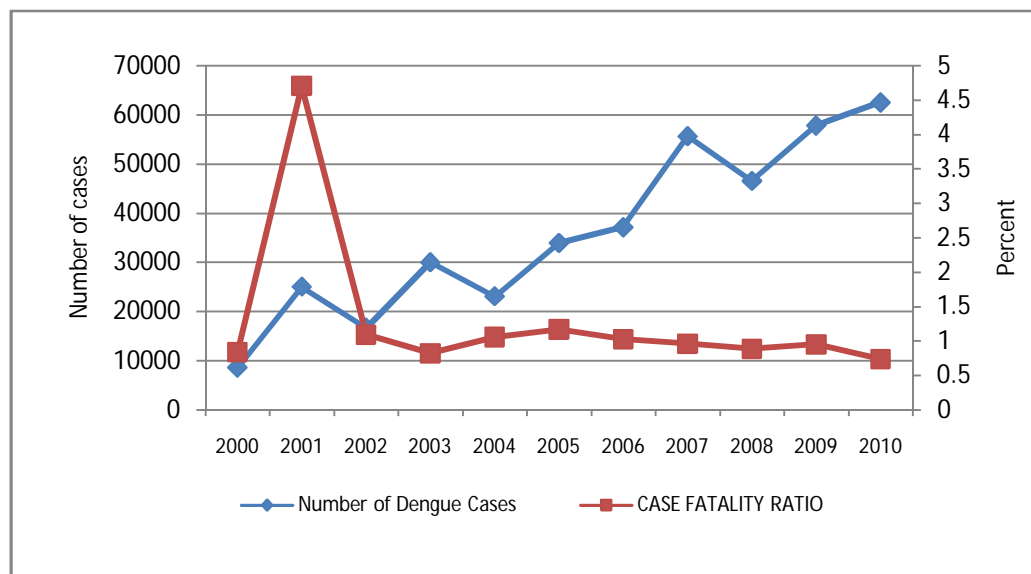
5.2.1.1.3. Dengue

Dengue fever is a viral disease characterized by sudden onset of fever, headache, muscle and joint pain, and rashes. It is potentially fatal especially when the more severe form, dengue hemorrhagic fever (DHF) or dengue shock syndrome (DSS), develops. At present, there is no vaccine to prevent this disease. Despite its risks, dengue has become rather commonplace in endemic tropical countries such as the Philippines. However, with climate change and the rise of urbanization, the disease once associated with

the rainy season is beginning to change its pattern, and is proving to be an even more urgent year long public health problem.

Figure 30 shows that between 2004 and 2007, dengue cases in the country steadily increased from 23,040 cases to a peak of 55,639 cases. In September 2009 it peaked again to 57,819 cases (World Health Organization, 2010). The case fatality rate for dengue fever decreased from 1.17 percent in 2005 to 0.74 percent in 2010 (World Health Organization, 2010). The availability of funding enabled campaigns to run all year long beginning in 2007, as compared to relegation of campaigns to the Dengue Awareness Month in previous years.

FIGURE 30. TRENDS IN DENGUE CASES AND CASE FATALITY, PHILIPPINES, 2000-2010



Source: WHO DengueNet Database, 2011

The vector easily proliferates in congested urban areas where access to water and sanitation is poor, and residents are constrained to adopt various water storage practices. Additional risk factors for dengue hemorrhagic fever include immune status and type of infecting virus. Persons previously infected with one or more types of dengue virus are thought to be at greater risk for developing DHF if infected again (US Army Public Health Command, 2010). Acute Hemorrhagic Fever (Dengue Hemorrhagic Fever) cases were high in Davao, Zamboanga Peninsula, Cagayan Valley and CALABARZON in 2009 (Department of Health, 2009).

An affected individual may lose up to ten days of school or work due to ambulatory or hospital care. Similarly, caretakers must devote work hours to patient care. Economic productivity is further reduced by direct and indirect costs including medication, hospital care, and income lost by the household due to

illness. Moreover, national interest is compromised by dengue outbreaks that discourage tourists (Suaya, Shepard, & Beatty, 2006).

The Dengue Control Program works to lower the incidence of dengue fever in the country by intensifying its advocacy on vector control and by redirecting its focus to school children. The success of the program relies on changing behaviors and targeting young persons may result in good preventive habits. Educating those most at risk prevents disease and its more severe forms. With the help of agencies operating within schools, the morbidity and mortality of dengue will decrease.

NATIONAL OBJECTIVES FOR 2011-2016

OVERALL GOAL: Reduction of morbidity and mortality from dengue infection

Strategic Objective	Indicator	Data Source	Latest Baseline	2016 Targets
Morbidity from dengue infection is reduced	Incidence of dengue cases per 100,000 population	WHO-DengueNet Database	0.6 (2009)	<0.6
Mortality from dengue fever is reduced	% Dengue case fatality rate	WHO-DengueNet Database	0.9 (2009)	< 0.9

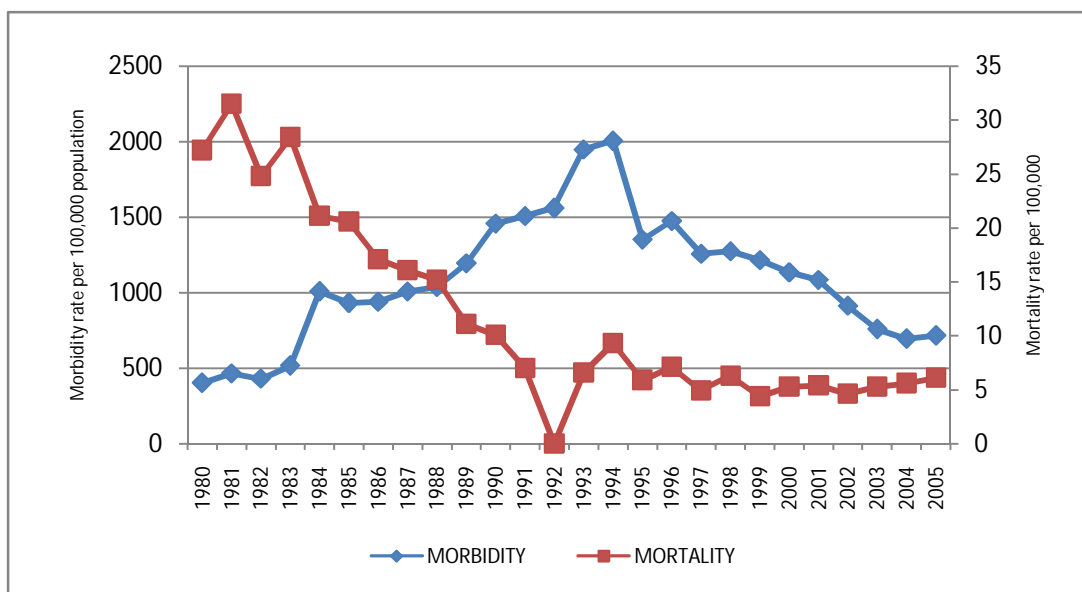
STRATEGIES FOR 2011-2016

- Timely mass media and community-based information campaigns on dengue control.
- Early diagnosis and quality clinical care for dengue cases at all levels of care. This is achieved by continuing the training of clinic-based and hospital-based health care providers and improving the case referral networks.
- Risk-reduction interventions such as environmental sanitation and removal of mosquito breeding places, specifically during the peak season for the disease.

5.2.1.1.4. Food-borne and Water-borne Diseases

Food-borne and water-borne diseases are usually manifested as diarrhea, which is second to pneumonia as the leading cause of morbidity in the Philippines. At present, both the Field Health Services Information System (FHSIS) and the Philippine Health Statistics (PHS) show a generally decreasing trend in the morbidity rate of diarrhea. PHS shows a decrease from 759.3 cases per 100,000 population in 2003 to 716.4 per 100,000 population in 2005 (Department of Health, 2005). However, the mortality rate slightly increased from 5.3 per 100,000 population in 2003 to 6.1 per 100,000 population in 2005 (Department of Health, 2005) (see **Figure 31**).

FIGURE 31. TRENDS IN DIARRHEA MORBIDITY AND MORTALITY, PHILIPPINES, 1980-2005



Source: Philippine Health Statistics, 2005

Several notable outbreaks of food and water-borne diseases occurred in 2008. There were a total of 2,500 typhoid cases and 800 cholera cases during that year (Department of Health, 1980-2010). Four hundred thirty-six cases of acute bloody diarrhea (ABD) were reported from sentinel sites nationwide. Seventy-seven hepatitis A cases and 79 cases of paralytic shellfish poisoning were also reported (Department of Health, 2008).

This group of diseases is usually caused by infectious organisms like viruses, bacteria and parasites. However, some forms are secondary to chemical food poisoning (which will be discussed separately under the environmental health hazards). These diseases are transmitted from person to person via soiled hands and via food and water contaminated by human waste through the oral-fecal route. The incidence of food-borne and water-borne diseases peaks during the rainy season and is usually high in areas where sanitation and hygienic practices are poor.

The goal of the Food and Water-borne Diseases Prevention and Control Program is to reduce the morbidity rate and eliminate deaths due to diarrhea. The program also aims to reduce the number of all typhoid, paratyphoid, and cholera outbreaks to one per year. Since the occurrence of food and water-borne diseases is essentially related to economic and socio-cultural factors, the program recognizes that outbreaks will persist unless underlying social ills are corrected. Along with poverty comes the prevalence of infectious diseases. However, if specific interventions are employed, a drastic reduction of bacterial and parasitic infections can also be expected.

NATIONAL OBJECTIVES FOR 2011-2016

OVERALL GOALS:

Morbidity and mortality from food-borne and water-borne diseases are reduced.
Outbreaks of food-borne and water-borne diseases are reduced.

Strategic Objective	Indicator	Data Source	Latest Baseline	2016 Targets
Morbidity and mortality rates due to food-borne and water-borne diseases are reduced	Morbidity rate from diarrhea per 100,000 population	DOH-FHSIS	288.7 (2010)	230
	Mortality rate of diarrhea per 100,000 population	DOH-PHS	6.1 (2005)	No deaths
Number of FWBD outbreaks is reduced or eliminated	Number of typhoid, paratyphoid and cholera cases as confirmed by the DOH	DOH Surveillance Report	2008 data: Cholera: 800 cases Typhoid: 2,500 cases	Zero outbreak per year

STRATEGIES FOR 2011-2016

- Regulate and monitor food and water sanitation practices at the local level through enforcement of national and local legislations, application of appropriate technical standards and participation of non-government agencies.
- Sustain inter-agency collaboration to fast-track sanitation infrastructure development in poor urban areas and in rural areas with low access to safe water and sanitation facilities.
- Promote personal hygiene, food and water sanitation practices and the principles of environmental health.
- Promote the use of ORS in the management of diarrhea to prevent dehydration, especially among infants and children.
- Promote breastfeeding and other good feeding practices for infants and children
- Continue training of health personnel in the early diagnosis and treatment of food-borne and water-borne diseases
- Continue nationwide information campaign for the prevention and control of food-borne and water-borne diseases.

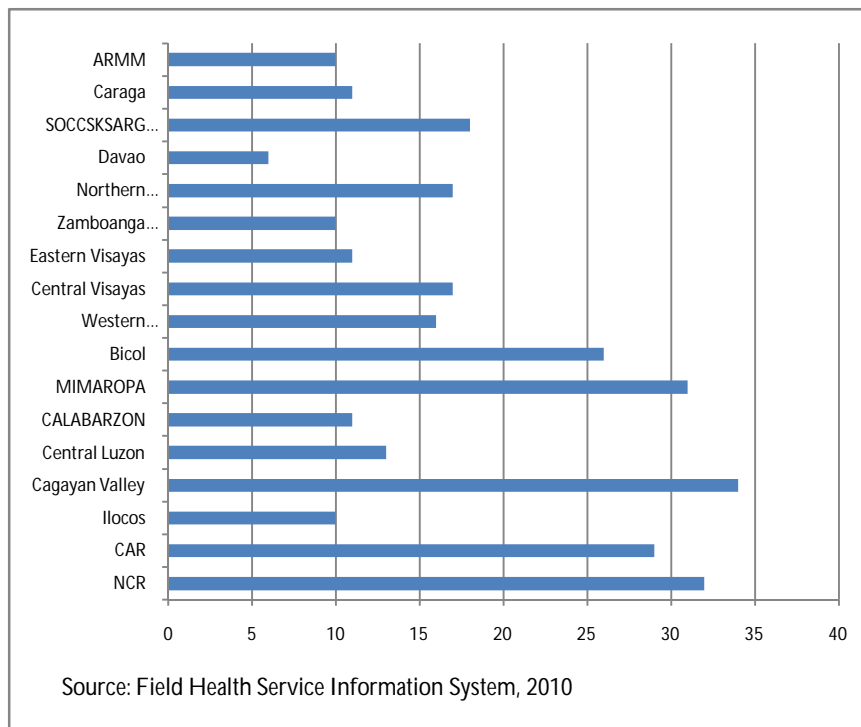
5.2.1.1.5. *Dental and Periodontal Infections*

Oral health is an essential component of general health, and is a major determinant of the quality of life. Unfortunately, oral disease continues to be a serious public health problem in the Philippines. Dental and oral diseases create a silent epidemic, placing a heavy burden on Filipino schoolchildren.

The 2006 National Oral Health Survey (NOHS) revealed that 97.1 percent of six-year-old and 82 percent of 12-year-old children suffer from tooth decay. More than four out of every five children of this

subgroup manifested symptoms of dentinogenic infection. In addition, 78.4 percent of twelve-year-old children suffer from dental caries and 49.7 percent of the same age group manifested symptoms of dentinogenic infections (Department of Education, 2006). The severity of dental caries, expressed as the average number of decayed teeth indicated for filling/extraction or filled permanent or temporary teeth (DMFT) was 8.4 DMFT for the six-year-old age group and 2.9 DMFT for the twelve-year-old age group (Department of Education, 2006).

**FIGURE 32. PROPORTION OF ORALLY FIT CHILDREN (12-71 MOS OLD)
BY REGION, PHILIPPINES, 2010**



Filipinos bear the burden of gum diseases early in their childhood. According to the 2010 FHSIS Report, the proportion of orally fit children is only 17 percent with the highest at Cagayan Valley (34 percent) and lowest in Davao Region (6 percent) (see **Figure 32**). On the other hand, 74 percent of twelve-year-old children suffer from gingivitis

(Department of Education, 2006). Poor oral health poses detrimental effects on school performance and on success in later life. In fact, children who suffer from poor oral health are 12 times more likely to have restricted-activity days (US Government Accountability Office, 2000). In the Philippines, toothache is a common ailment among schoolchildren, and is the primary cause of absenteeism from school (Araojo, 2003). If not treated early, these children become susceptible to irreversible periodontal disease as they enter adolescence and approach adulthood.

In general, tooth decay and gum diseases do not directly cause disability or death. However, these conditions can weaken bodily defenses and serve as portals of entry to other more serious and potentially dangerous systemic diseases and infections. Serious conditions include arthritis, heart disease, endocarditis, gastro-intestinal diseases, and ocular-skin-renal diseases. Aside from physical deformity, these two oral diseases may also cause disturbance of speech significant enough to affect work performance, nutrition, social interactions, income, and self-esteem.

The program therefore aims to reduce the prevalence rate of dental caries and periodontal disease to improve the oral health not only of children but of the general population.

NATIONAL OBJECTIVES FOR 2011-2016

OVERALL GOAL: The oral health of the general population is improved.

Strategic Objective	Indicator	Data Source	Latest Baseline	2016 Targets
Prevalence of dental caries is reduced	% Prevalence rate of dental caries	National Monitoring and Evaluation Dental Survey (NMEDS) or National Oral Health Survey for Children (NOHS)	97 (6 years old) (2006)	71.3
			82 (12 years old) (2006)	60.28
Prevalence of periodontal disease is reduced	% Prevalence rate of gingivitis among 12 year old children	NMEDS or NOHS	74 (2006)	54.4
The proportion of Orally Fit Children (OFC) 12-71 months old is increased	% Orally Fit Children 12-71 months old	DOH- FHSIS	17 (2010)	5*

*computed at 20 percent reduction annually from the baseline

STRATEGIES FOR 2011-2016

- Formulate policy and regulations to ensure the full implementation of OHP. Develop standards for oral health services.
- Expand the Oral Health Program to include other age groups
- Explore the development of an outpatient benefit package for oral health. Develop financing schemes for oral health applicable to other levels of care (fee for service, cooperatives, network with HMOs).
- Provide adequate dental personnel and build up highly motivated health professionals and trained auxiliaries to manage and provide quality oral health care
- Ensure delivery of quality oral health services. Upgrade dental services unit at all levels of care
- Provide relevant, timely and accurate information management system for Oral Health and enhance existing system of reporting and recording forms
- Design and implement grant assistance mechanism for high performing LGUs (Awards and incentives) or identify areas for priority assistance.

5.2.1.2. Diseases for Elimination

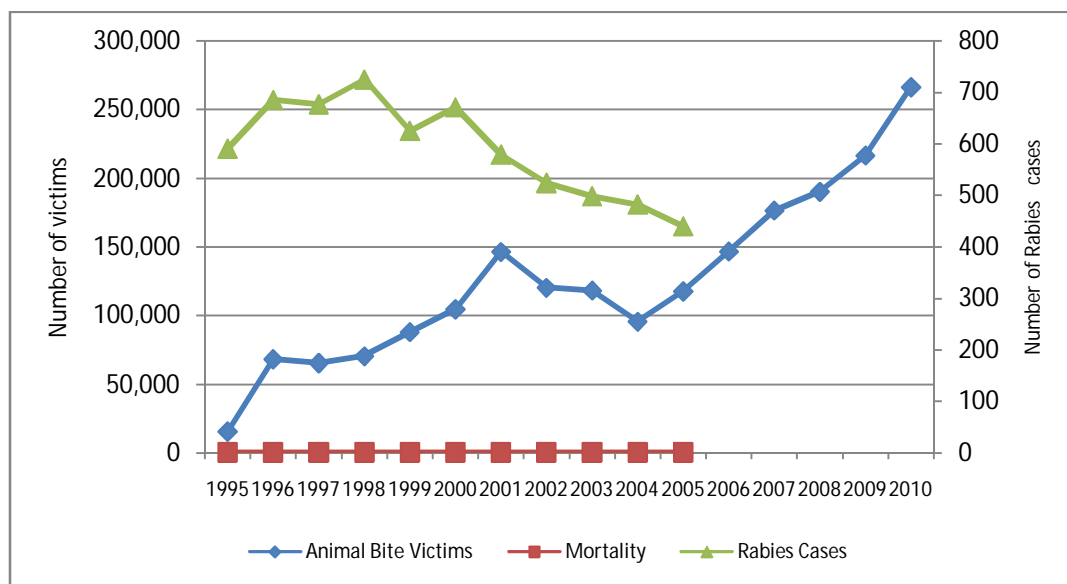
5.2.1.2.1. Rabies

The Philippines has consistently ranked among the top 10 countries with human rabies death. Rabies is one of the most acute of fatal infections. It is the cause of 200 to 300 deaths reported each year, more than half (59.3 percent) of which are children under 15 years old (National Statistics Office, 2008). In

2008, the top six provinces with the most number of human rabies cases include Isabela, Camarines Sur, Cagayan, Nueva Ecija, Iloilo, and Camarines Norte (Department of Health, 2008).

The number of animal bite victims increased in the past five years as shown in **Figure 33**, with 216,569 cases reported in 2009 (Department of Health, 1980-2010). Fifty-nine percent was recorded in Luzon, 24 percent in Visayas, and 17 percent in Mindanao (Lopido). However, rabies cases in the country have significantly decreased in the past few years. In 2005, the Department of Health registered a total of 440 rabies cases nationwide (Department of Health, 1980-2010). In 2008, the figure dropped to 248, posting a 43 percent difference in a span of 3 years. The mortality rate due to rabies also decreased from 0.9 per 100,000 population in 2000 to 0.5 per 100,000 population in 2005 (Department of Health, 2005).

FIGURE 33. TRENDS IN ANIMAL BITE VICTIMS AND RABIES CASES, PHILIPPINES, 1995-2010



Source: PHS, 2005 and National Center for Disease Prevention and Control, DOH, 2010

Rabies poses economic burdens to the victims and the country. The highest financial expenditure is the cost of rabies post-exposure prophylaxis. In addition to the expense of rabies biologicals are the expenditures for physician and hospital, the loss of income as a result of a physical visit to a clinic, and the emotional and psychological impact of post-exposure prophylaxis.

The goal of the National Rabies Prevention and Control Program is to eliminate human rabies in the Philippines and to declare the country rabies-free by the year 2020. As of 2010, there are five areas declared as rabies-free (Siquijor, Batanes, Camotes Island, Apo Island and Malapascua Island) (Department of Health, 1980-2010).

NATIONAL OBJECTIVES FOR 2011-2016

OVERALL GOAL: To eliminate rabies and declare the Philippines Rabies-free by 2020.

(Rabies is eliminated as a public health problem at less than 0.5 cases per million population)

Strategic Objectives	Indicator	Data Source	Latest Baseline	2016 Targets
Number of deaths due to rabies is reduced	Mortality rate from rabies per 1,000,000 population	NSO	2.8 (2008)	Less than 1.5
PEP completion rate among cases is increased	% Post-Exposure Prophylaxis (PEP) completion	DOH - Program report - PEP registry	<70 (2008)	90
RIG coverage is increased	% Rabies Immunoglobulin (RIG) coverage	DOH - Program report - PEP registry	25 (2008)	40
Percentage of animal bite victims that practice washing of bite sites with soap and water is increased	% Bite victims who washed the bite site with soap and water	DOH - Program report - PEP registry	37 (2008)	90
Number of rabies-free areas is increased	Number of rabies-free areas	DOH Program report	5 (2010)	10

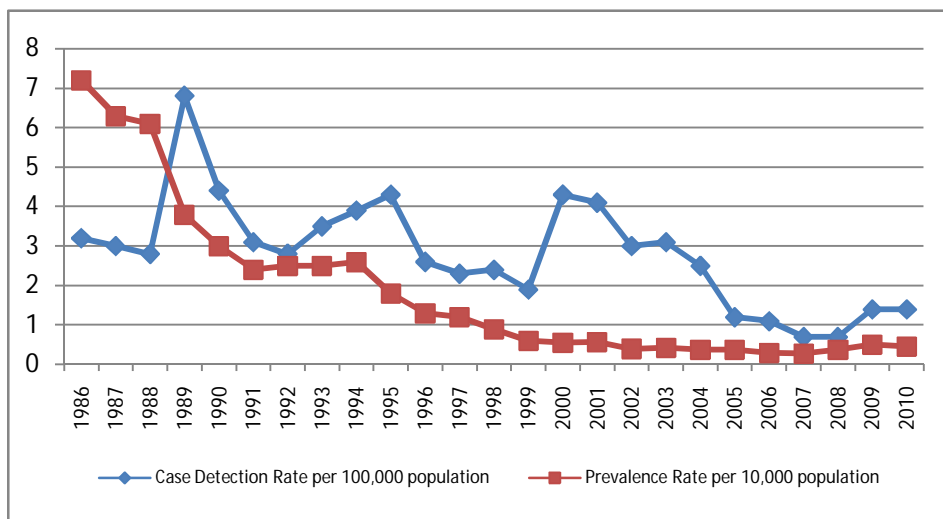
STRATEGIES FOR 2011-2016

- Ensure rabies exposed patients have access to Post-Exposure Prophylaxis (PEP)
- Ensure rabies exposed patients receiving PEP complete the recommended PEP regimen
- Intensify social and behavioral change communication campaign on Responsible Pet Ownership (RPO) and on the immediate and proper management of animal bites.
- Collaborate with all stakeholders to improve dog vaccination coverage

5.2.1.2.2. Leprosy

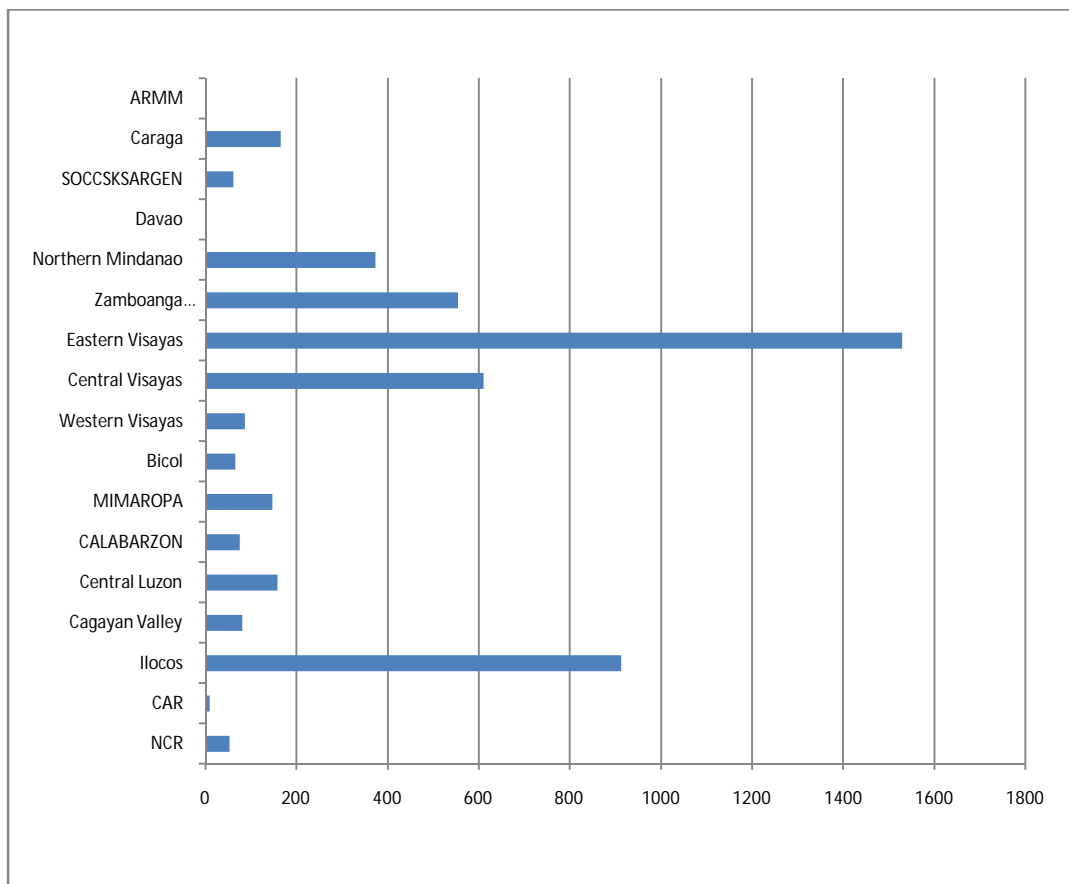
Since 1998, the national prevalence rate of leprosy has consistently been less than one per 10,000 population. However, the Philippines has the highest prevalence of leprosy among the countries in the Western Pacific Region. In 2010, the prevalence rate of leprosy is 0.46 percent (4,737 total cases), higher than the rate in 2008 (Department of Health, 2008) (see **Figure 34**). Less than 2 percent of the cases have Grade 2 deformities (Department of Health, 2008). The number of new cases have been fluctuating within the last 5 years, with a decline in 2007 but increasing in 2009 and 2010. The regions with the highest prevalence of leprosy are Eastern Visayas, Ilocos, Zamboanga Peninsula, Central Visayas and Northern Mindanao (see **Figure 35**).

FIGURE 34. TRENDS IN PREVALENCE AND CASE DETECTION RATE OF LEPROSY, PHILIPPINES, 1986-2010



Source: CDR source is DOH; prevalence rate computed from FHSIS and WHO WER

FIGURE 35. LEPROSY CASES BY REGION PHILIPPINES, 2010



Source: Field Health Service Information System, 2010

Leprosy brings about several problems – lowered quality of life and psycho-socio-economic burdens to the patient, the family and the community. These are compounded by social stigma, discrimination and human rights issues. In effect, finding of new cases becomes more difficult, thereby hindering utilization of free Multiple Drug Therapy (MDT) in the Rural Health Units. Spreading awareness about the disease and treatment is the next challenge for the Leprosy Program in order to eliminate leprosy as a public health problem in endemic areas and to achieve the goal of a “leprosy-free” country. The main goal of the program is to sustain the low prevalence status, to develop strategies for early detection at the subnational level, to treat current cases to prevent further disability, to screen contacts to reduce stigma and discrimination, and to help restore dignity to those affected.

NATIONAL OBJECTIVES FOR 2011-2016

OVERALL GOAL: Leprosy is eliminated as a public health problem in endemic areas
(Leprosy is eliminated as a public health problem at a level of one case per 10,000 population)

Strategic Objective	Indicator	Data Source	Latest Baseline	2016 Targets
Leprosy in endemic areas is eliminated	% Prevalence rate of leprosy	DOH Program report	0.35 (2008)	<0.35
	Number of endemic provinces	DOH-FHSIS	2008 data: Province – 5; City – 4; Municipality – 6;	7 endemic areas
	% Case detection rate	DOH Program report	2.47 (2008)	1.8
	% Treatment completion	DOH Program report	85 (2008)	90

STRATEGIES FOR 2011-2016

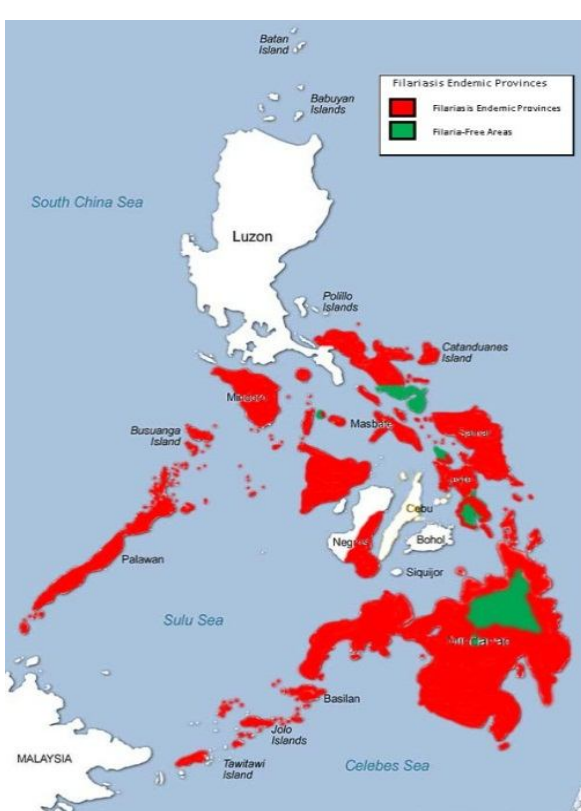
- Ensure the availability of adequate anti-leprosy drugs or multiple drug therapy (MDT) nationwide through the DOH as these are not available in the market.
- Prevent and reduce disabilities from leprosy through Rehabilitation and Prevention of Impairments and Disabilities (RPOID). This entails capability building of health workers in quality diagnosis and case management of leprosy cases, including the prevention and management of impairments and disabilities.
- Improve case detection and post-elimination surveillance system using the WHO protocol in all LGUs targeted for leprosy elimination and in areas where elimination (less than one case per 10,000 population) has been achieved. This will ensure timely reporting and recording of leprosy cases as well as quality monitoring and evaluation at all levels.
- Integrate leprosy control in other health services at the local level especially in endemic areas.
- Strengthen collaboration with partners and other stakeholders in the provision of services and for social mobilization and advocacy activities for leprosy.

5.2.1.2.3. *Filariasis*

Lymphatic Filariasis (LF) puts at risk more than a billion people in 83 countries and affects more than 120 million people globally, with over one-third becoming severely disfigured and disabled. In the Philippines, 43 out of 80 provinces are endemic for the disease, with over 28 million people living in these areas (Department of Health, 1980-2010). Majority of those affected are the marginalized groups living in remote, rural, and oftentimes inaccessible areas. The endemic provinces are classified and are identified based on the elimination level set by the WHO, which are: a microfilaria rate (MFR) of less than 1 percent; and an antigen rate of less than 1 percent per Implementing Unit (IU).

FIGURE 36. FILARIA ENDEMIC PROVINCES, PHILIPPINES, 2010

Filarial-Free Areas, Philippines, 2010



Source: National Center for Disease Prevention and Control, DOH, 2010

The use of mass drug administration (MDA) in eliminating the disease has so far been effective in some provinces such as Southern Leyte, Sorsogon, Biliran, Bukidnon, Romblon, Agusan del Sur and Dinagat Island. The success in these areas is mainly due to the collaboration of health professionals, community health workers, local government units, and other sectors who worked together to implement the program. However, majority of the endemic provinces still have not reached the target MDA coverage rate of 85 percent, with most only achieving a coverage rate of 60 percent (Department of Health, 1980-2010). This is mainly due to the lack of awareness and understanding about LF and its elimination.

Filariasis was a neglected disease in the past. But, with the global call for eliminating filariasis as a public health problem, the DOH heeded and responded. The primary goal of the National

Filariasis Elimination Program (NFEP) is for LF to be eliminated as a public health problem by 2015. This is considered to be accomplished when the prevalence rate of microfilaremia is less than 1 percent. Similarly, the program aims to control and reduce the morbidity by alleviating the sufferings and disability caused by the disease's clinical manifestations.

NATIONAL OBJECTIVES FOR 2011-2016

OVERALL GOAL: Elimination of filariasis as a public health problem through a comprehensive approach and universal access to quality health services

Strategic Objectives	Indicator	Data Source	Latest Baseline	2016 Targets
Filariasis in endemic areas is eliminated	Number of provinces that have reached elimination level	DOH Program report	7 (2010)	12
	% Mass Drug administration Coverage (MDA Coverage)	DOH Program report	70 (2009)	85
Disability management and prevention for patients with chronic complications is implemented	Number of LF patients with chronic complications provided with disability management	DOH Program report	To be determined	All validated LF patients provided disability management

STRATEGIES FOR 2011-2016

- Strengthen surveillance system to quickly identify other endemic areas and sustain elimination status of provinces/cities that have reached elimination level
- Sustain coverage of MDA in all established endemic provinces/cities to at least 85 percent
- Ensure provision of quality services to include MDA drugs
- Integrate training on disability prevention with leprosy
- Strengthen program performance by empowering LGUs for a community-based implementation
- Implement Integrated Vector Management

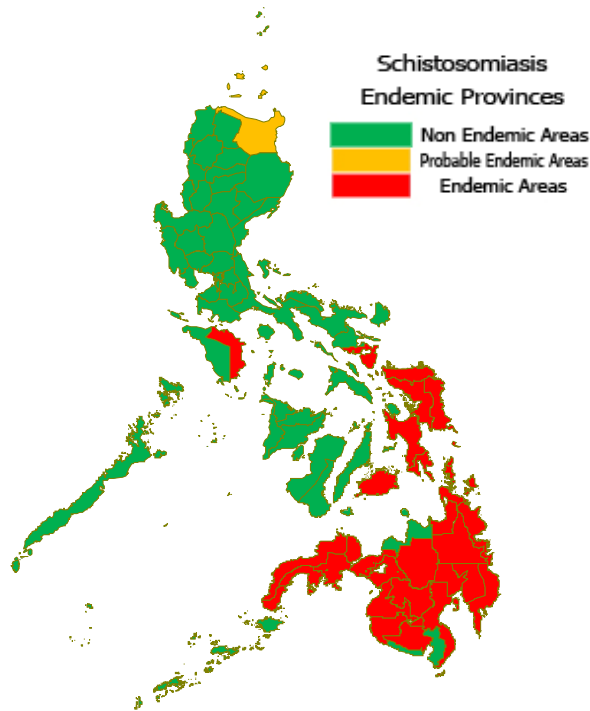
5.2.1.2.4. *Schistosomiasis*

Schistosomiasis remains to be a public health burden in endemic provinces in the Philippines. Worldwide, an estimated 207 million people living in 74 countries are infected by *Schistosoma spp.*, about 120 million of whom are symptomatic. It causes severe disability to about 20 million people and an estimated 280,000 deaths each year (L. Chitsulo, 2000). *S. japonicum* known to be endemic in China, Indonesia, and the Philippines (L. Chitsulo, 2000).

In the Philippines, the 2008 National Prevalence Survey revealed a national prevalence of 2.5 percent (Department of Health, 2008). In 2008, the morbidity rate due to schistosomiasis, by passive surveillance, has risen to 10 percent from 6.6 percent of the previous year (Department of Health, 2008). The survey also shows that more males than females are affected with a male to female ratio of 1.7 and a prevalence rate peaking at 15 to 49 years of age (Department of Health, 2008). Distribution of schistosomiasis is influenced by the presence of the snail intermediate host, environmental sanitation, access to safe water,

health services, and local infrastructure – factors often associated with poverty (Huang & Manderson, 2005). Similarly, the source of livelihood affects the disease distribution.

FIGURE 37. SCHISTOSOMIASIS ENDEMIC PROVINCES, PHILIPPINES, 2010



Source: Department of Health 2010

Schistosomiasis is endemic in twelve (12) regions covering 28 provinces, 190 municipalities and 20 cities as shown in **Figure 37** (Department of Health, 1980-2010). Two additional municipalities: Gonzaga, Cagayan (Region 2) and Calatrava, Negros Occidental (Region 6) were recently identified as schistosomiasis endemic areas in 2004 and 2006, respectively, through identification of indigenous cases and infected *Oncomelania hupensis quadrasi* snail vector (Velasco, et al., 2005) (Department of Health, 2007).

In high to moderate endemic provinces, the goal is to eliminate morbidity through mass chemotherapy

of the exposed population (ages 5-65) to progressively reduce the prevalence of schistosomiasis to less than one percent.

On the other hand, in areas within the elimination levels of below 1 percent, gains must be sustained through strengthened active surveillance of human and snail vectors, infection control (treatment of all cases found), transmission control (sanitation and hygiene along with improve access to health facilities, safe water supply, water sealed toilets, ordinances to control animal hosts), mass treatment of school children, and quality control of laboratory and laboratory staff.

NATIONAL OBJECTIVES 2011-2016

OVERALL GOAL: Schistosomiasis is eliminated as a public health problem in all endemic provinces (Schistosomiasis is considered eliminated as a public health problem if the prevalence rate is reduced to less than 1 percent for at least five consecutive years)

Strategic Objective	Indicator	Data Source	Latest Baseline	2016 Targets
Schistosomiasis in endemic areas is eliminated	% Prevalence rate of schistosomiasis	Special Survey	2.5 (2008)	<2.5
	Number of provinces that have reached elimination level	DOH Program report	0 (2010)	5
Coverage of mass treatment is increased in endemic provinces	% Coverage in mass treatment of exposed population (5-65 years old)	DOH Program report	To be determined	85

STRATEGIES FOR 2011-2016

- Shift from control to elimination strategies. The progress of the schistosomiasis elimination program will be demand-driven and depends highly in the commitment of communities and local governments.
- Develop the capacity of local health personnel and stakeholders in the elimination of schistosomiasis and improve the implementation of schistosomiasis initiatives through building of networks and linkage with collaborating institutions and program partners.
- Ensure the availability of reliable information, financial support and logistics crucial to schistosomiasis elimination through collaboration with other national agencies and international donors.
- Secure presidential directives, local legislation and international support necessary to eliminate schistosomiasis from the country.
- Intensify surveillance of human cases and surveillance of snail vector through environmental mapping of areas with positive snail colonies. Conduct of rapid epidemiologic surveys in response to suspected cases in new areas.

5.2.1.3. Emerging and Re-emerging Infections

The surge of infectious diseases has remained over the years as one of the leading causes of death and disability worldwide. It continues to pose a major challenge to human progress and survival. Outbreaks of new and old infectious diseases sporadically emerge, magnifying the global burden of infections. Emerging infections are newly identified or drug-resistant infections whose incidence in humans has increased within the past two decades, or whose incidence or geographic range threatens to increase in the near future. Re-emerging infections are those that have resurged secondary to the reappearance of a (previously) known infectious disease.

In the past five years, the A(H1N1) virus was the only major emerging infection witnessed in the Philippines. Despite the high number of fatality and contact cases reported in other countries, the Philippines remained relatively swine flu-free. With a total of 5,212 A(H1N1) cases monitored in the country in 2009, the country's case fatality rate was 0.6 percent, remaining well below the global case fatality rate which was at 1.2 percent (Department of Health, Various years).

The Ebola Reston Virus emerged in pigs from the last quarter of 2008 until the first quarter of 2009 (Department of Health, Various years). Surveillance studies were carried out in Pangasinan and Bulacan, where most of the animal cases had been reported. Studies revealed that a number of people had been infected; however, none of them presented any signs of illness.

Cases of Meningococcemia and Japanese Encephalitis have also been reported in some areas. These infections have thus far remained endemic to certain areas and have not caused disease outbreaks. On the other hand, the country witnessed a leptospirosis epidemic outbreak after Typhoon Ondoy hit the Philippines on September 2009. Leptospirosis cases went up to 4,326 in two months after the typhoon, reaching an average of 65 cases of hospital admissions in a day until the end of November (Department of Health, Various years).

The inherent unpredictability of emerging and re-emerging infections creates a gap between planning and concrete action. The program's policies can only be implemented once a disease has been identified; even then, the program can only be proactive to the extent of preparedness. The rest of the time, the program remains reactive, able to devise an attack plan only when the disease has arrived.

As in most developed countries, infectious disease problems are related to changing lifestyles, technical advancements that lead to increased susceptibility to infectious disease agents, incomplete immunization programs resulting in changes in the age distribution of susceptible population, and emergence of new agents of disease. The program needs to monitor factors that contribute to the spread of diseases, such as human demographics and behavior, technology and industry, economic development and land use, international travel and commerce, microbial adaptation and change, breakdown of public measures, and human vulnerability.

NATIONAL OBJECTIVES FOR 2011-2016

OVERALL GOAL: Emerging and re-emerging infections are reduced.

Strategic Objective	Indicator	Data Source	Latest Baseline	2016 Targets
Death or casualty from any emerging and re-emerging infections are prevented.	% Case fatality ratio	DOH surveillance report	Avian flu case fatality rate: 0 Influenza A(H1N1) case fatality rate: 0.6 (2009)	0

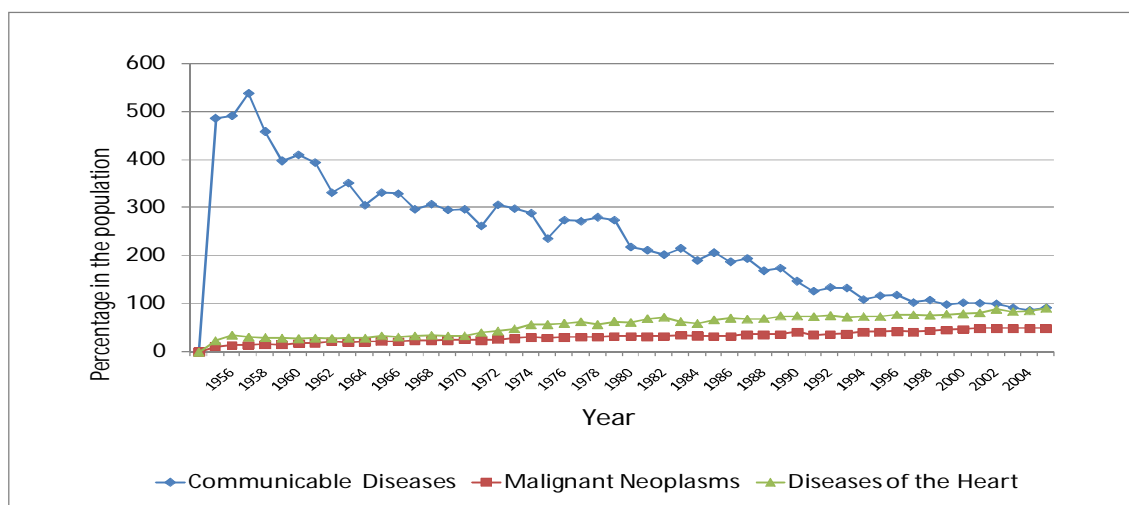
STRATEGIES FOR 2011-2016

- Isolate all cases of emerging and re-emerging infections
- Contact tracing and quarantine for any emerging and re-emerging infection are implemented
- Pre-emptive planning and organizing at national, regional, provincial, city or municipal levels to ensure preparedness for emerging infections with potential for causing high morbidity and mortality, with efforts to integrate prevention and control measures that are applicable for Avian flu, A(H1N1) and other emerging infections.
- Integrate surveillance of emerging infections with existing surveillance systems for other diseases.
- Train adequate health personnel of the national and local governments and other partner organizations for surveillance, response and management of diseases outbreaks.
- Secure adequate resources and develop systems to mobilize these efficiently when outbreak occurs.

5.2.2. PREVENTION AND CONTROL OF NON-COMMUNICABLE DISEASES

Infectious and pregnancy-related morbidities are still major health problems in the country. However, there is a noticeable epidemiologic shift from infectious to non-communicable diseases (NCDs) over the years (see **Figure 38**). NCDs are a broad classification of medical conditions which are non-infectious in nature. In general, they have relatively slow and long prognosis compared to infectious diseases.

FIGURE 38. MORTALITY TRENDS OF COMMUNICABLE DISEASES, MALIGNANT NEOPLASM AND DISEASES OF THE HEART: NUMBER & RATE/100,000 POPULATION, PHILIPPINES, 1955-2005



Source: Philippine Health Statistics, 2005

In 2005, seven of the ten leading causes of death were non-communicable in etiology. The death rates from malignant neoplasm and diseases of the heart have continued to increase through the years while the cumulative death rate from infectious causes has been decreasing over time (Department of Health, Various years). The continuous dominance of NCDs as the leading cause of death is expected to continue in the next few years.

5.2.2.1. Lifestyle-related diseases

The surge of chronic lifestyle-related non-communicable diseases (LRNCD) in the Philippines is no longer a looming epidemic but a real one. In fact, 90 percent of adult Filipinos have at least one or more risk factors for cardiovascular diseases, chronic respiratory diseases, diabetes mellitus, and cancers (Food and Nutrition Research Institute).

While the Philippines continue to suffer the double burden of communicable and non-communicable diseases, the number of deaths and disabilities due to LRNCDs are far greater than those due to infectious and parasitic diseases. In 2005, 49.9 percent of total deaths were caused by LRNCDs, with diseases of the heart and vascular system constituting almost one-third (30.8 percent) of all deaths across the nation (Department of Health, 2005). Unless an integrated and comprehensive response is established in local communities, LRNCDs will persist as a major burden to the country's public health.

LRNCDs are linked by common risk factors. These risk factors include tobacco use, unhealthy diet, physical inactivity, and alcohol use. The close association among risk factors provides the Department of Health an opportunity to prevent LRNCDs through interventions against these modifiable behavioral risk factors. Recent evidence supports that the prevention of these risk factors is the most cost-effective way of controlling these diseases. A successful public health program aimed at the elimination of these risk factors is presumed to decrease the prevalence of heart disease, stroke, and type-2 diabetes by 80 percent and prevent over 40 percent of cancer cases across the nation (Department of Health, 2009).

The causes of NCDs are multi-factorial in nature. However, majority of NCDs have malleable risk factors that are highly related to lifestyle. Diet interventions among adults are advocated primarily for the control of cardiovascular diseases and diabetes mellitus. Obesity prevalence among the different age groups is on the rise as shown in **Table 22**. Obesity among adults aged 40 to 59 years old and older persons aged 60 years old and above is 6.6 percent and 5.2 percent respectively (Food and Nutrition Research Institute, 2008).

TABLE 22. COMPARATIVE DATA ON OBESITY AMONG DIFFERENT AGE GROUPS, PHILIPPINES, 2008

Age Groups	Nutritional Status (% Obese)
Children 0-5 years old	2.0
Children 6-10 years old	1.6
Adolescents 11-19 years old	4.6
Adult 20-39 years old	4.5
Adult 40-59 years old	6.6
Older persons 60 years old and over	5.2

Source: National Nutrition Survey, FNRI, 2008

The National Nutrition Survey of 2008, as shown in **Table 23**, revealed that the mean total cholesterol of Filipino adults is still within normal levels but has increased from 159.2mg/dl in 1998 to 186.8mg/dl. The proportion of adults with high cholesterol level (over 240mg/dl) increased from 4 percent in 1998 to 10.2 percent in 2008 (Food and Nutrition Research Institute, 2008). The percentage of adults with high triglycerides level (≥ 400 mg/dl) increased drastically from 0.8 percent in 1998 to 14.6 percent in 2008 (Food and Nutrition Research Institute, 2008). The mean fasting blood sugar (glucose) or FBS level of Filipinos slightly increased from 87.9mg/dl in 1998 to 88.1mg/dl in 2008 (Food and Nutrition Research Institute, 2008). Adults with high FBS level of more than 125mg/dl increased from 3.9 percent in 1998 to 4.8 percent in 2008 (Food and Nutrition Research Institute, 2008).

TABLE 23. PREVALENCE OF NUTRITIONAL RISKS AND BLOOD EXAMINATION PARAMETERS RELATED TO DEGENERATIVE DISEASES, PHILIPPINES, 2008

Nutritional Risk Blood Examination Parameters	1998	2003	2008
High Total Cholesterol	4.0	8.5	10.2
High LDL Cholesterol	2.0	11.7	11.8
Low HDL Cholesterol	65.4	54.2	64.1
High and Very High Triglycerides	0.8	0.7	14.6
High Fasting Blood Sugar Levels	3.9	3.4	4.8

Source: National Nutrition Survey, FNRI, 1998, 2003 and 2008

The intake of vegetable per capita per day has slightly decreased from 111 g/day in 1987 to 110 in 2008 (Food and Nutrition Research Institute, 2008) (see **Table 24**). However, the consumption of fruits has decreased drastically from 107 g/day in 1987 to only 54 g/day in 2008 (Food and Nutrition Research Institute, 2008). This means that the information and education campaigns have not resulted to improvements in the consumption of vegetables and fruits through the years. Tobacco smoking and alcohol intake shall be discussed more thoroughly under the section on substance abuse.

TABLE 24. PER CAPITA VEGETABLES AND FRUITS INTAKE PER DAY, PHILIPPINES, 1987, 1998 AND 2003

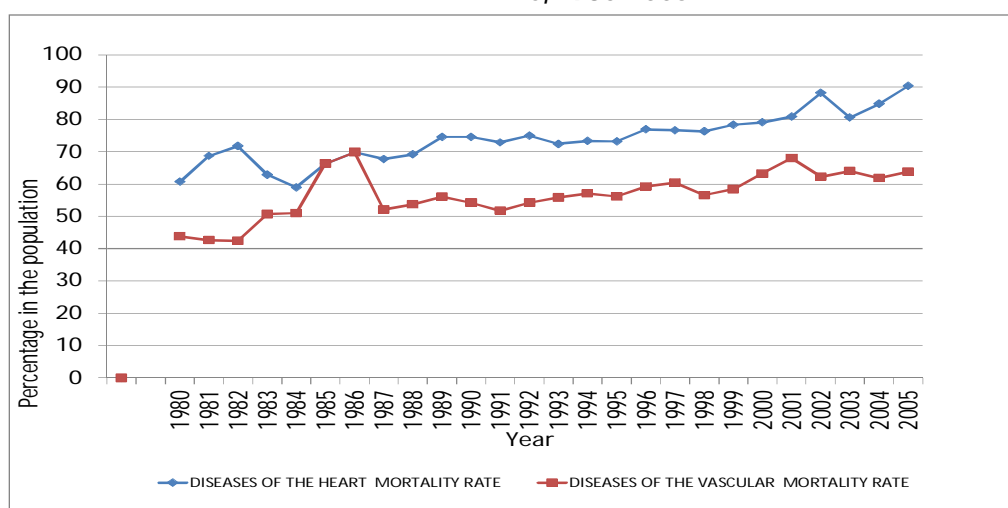
Food Taken	1987	1998	2003	2008
Vegetable (g/per day)	111	106	111	110
Fruits (g/per day)	107	77	54	54

Source: National Nutrition Surveys, FNRI, 1987, 1998 and 2003

5.2.2.1.1. Heart Disease and Diseases of the Cardiovascular System

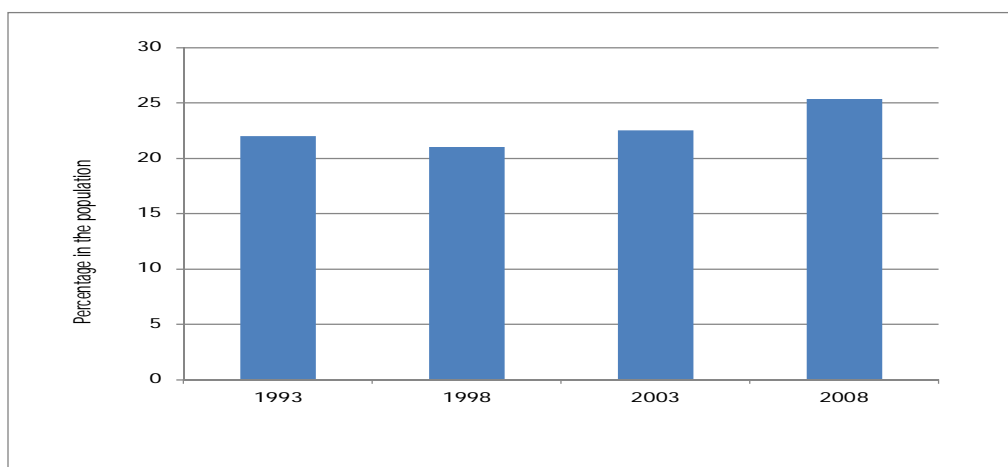
The mortality rate from Heart Disease and Diseases of the Vascular System has been increasing through the years as shown in **Figure 39** with mortality rates in 2005 reaching 90.4 and 63.8 deaths per 100,000 population respectively (National Statistics Office, 2008). In the span of 10 years, the prevalence of hypertension has increased 20 percent from its rate in 1998 (National Statistics Office, 2008) (see **Figure 40**).

FIGURE 39. TRENDS IN HEART DISEASE AND DISEASES OF THE VASCULAR SYSTEM MORTALITY, PHILIPPINES, 1980-2005



Source: Philippine Health Statistics, 1985 to 2005

FIGURE 40. TRENDS IN THE PREVALENCE OF HYPERTENSION, PHILIPPINES, 1993-2008



Source: National Nutrition Survey, 2008

5.2.2.1.2. *Diabetes Mellitus*

In 2008, the prevalence of diabetes mellitus among adults, as indicated by the high fasting blood sugar, has increased 23 percent since 1998 (Food and Nutrition Research Institute, 2008) (**Table 25**).

TABLE 25. PREVALENCE OF HIGH FASTING BLOOD SUGAR (FBS) AMONG ADULTS, PHILIPPINES, 1993, 2003 AND 2008

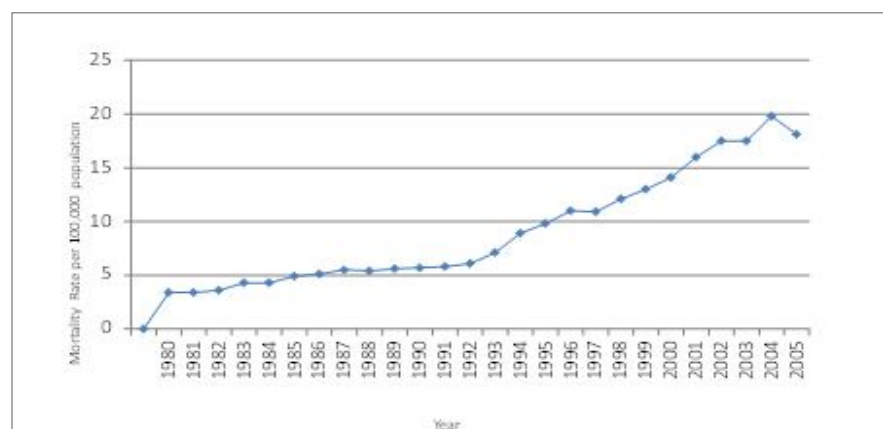
Year	% Prevalence of High Fasting Blood Sugar
1998	3.9
2003	3.4
2008	4.8

Source: National Nutrition Survey, FNRI, 1998 2003 and 2008

Figure 41 shows the mortality rate from DM increased significantly. From 9.8 deaths per 100,000 population in 1995, it almost doubled to 18.1 deaths per 100,000 population in 2005

(Department of Health, Various years). The prevention and control of the different risk factors in the development of this disease should be intensified and persons with a family history of diabetes mellitus should undergo lifestyle modification.

FIGURE 41. TRENDS IN DIABETES MELLITUS MORTALITY PER 100,000 POPULATION, PHILIPPINES, 1980-2005

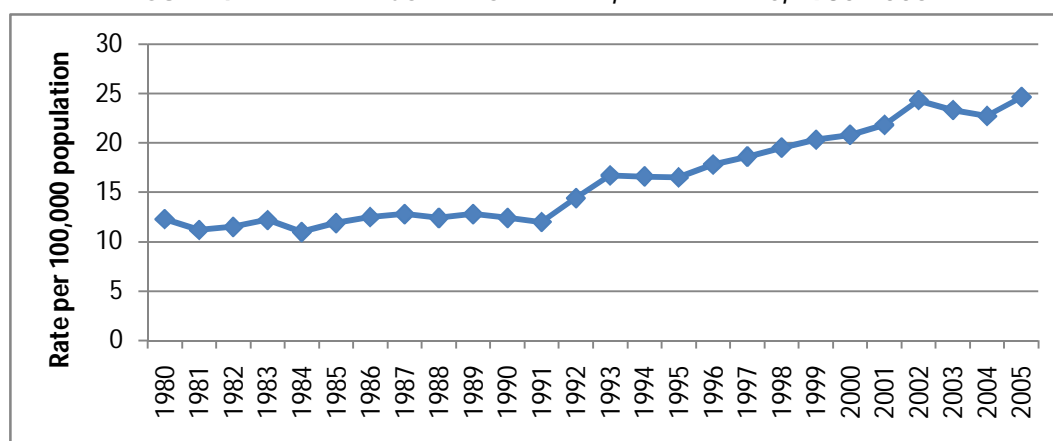


Source: Philippine Health Statistics, DOH, 1980-2005

5.2.2.1.3. Chronic Obstructive Pulmonary Diseases (COPD)

The mortality trend for COPD has slowly increased from 12.3 deaths per 100,000 population in 1980 to 24.6 deaths per 100,000 in 2005 (Department of Health, Various years) (see **Figure 42**). It is one of the diseases related to tobacco use. This may continue to increase if the risk factors for this disease remain unabated.

FIGURE 42. TREND IN COPD MORTALITY, PHILIPPINES, 1980-2005



Source: Philippine Health Statistics, DOH, 2005

5.2.2.1.4. Malignant Neoplasm

Many different types of cancers have been identified. In 2005, the most common sites of reported deaths from cancer in the Philippines are: trachea, bronchus and lung (8.5 deaths per 100,000 population); breast (5.3 per 100,000); and colon (3.1 per 100,000) (Department of Health, 2005) (see **Table 26**). Among males, the leading sites are the lungs, prostate, colorectal area and liver. Among females, the leading sites are the breast, uterus, cervix and lungs. Among children, the leading cancers are the leukemias and lymphomas.

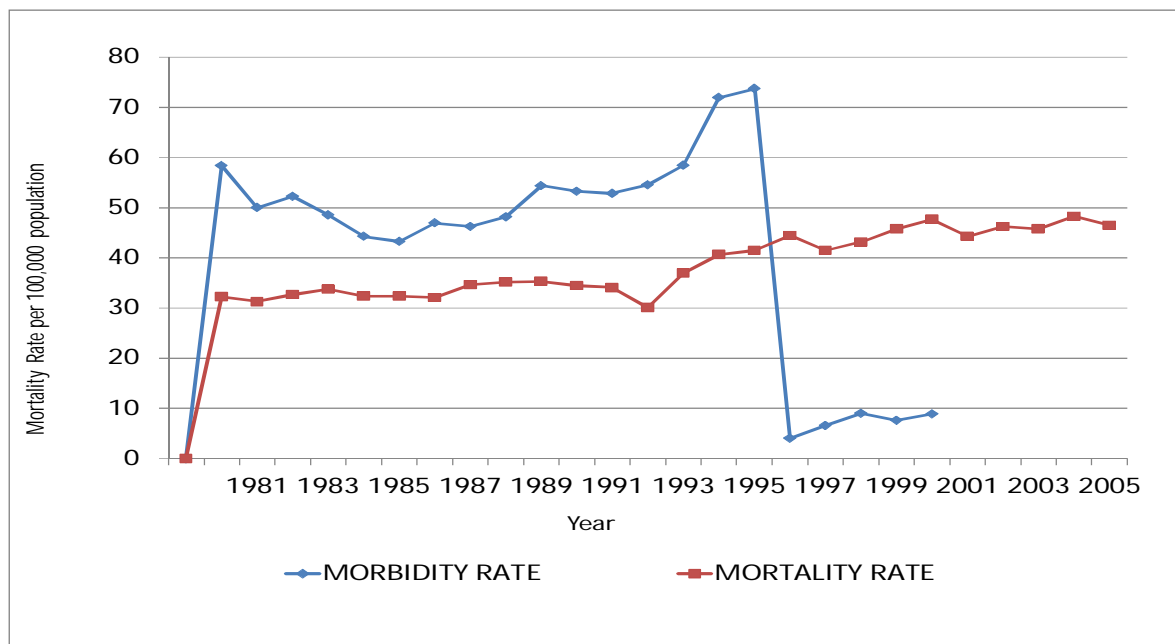
TABLE 26. MORTALITY RATES OF LEADING CANCER SITES, PHILIPPINES, 2005

RANK	SITE OF MALIGNANT NEOPLASM	MORTALITY RATE* (PER 100,000 POPULATION)
1	Lung, trachea and bronchus	8.5
2	Breast	5.3
3	Colon	3.1
4	Leukemia	2.8
5	Lip, oral cavity and pharynx	2.4
6	Prostate	2.1
7	Stomach	1.7
8	Uterus	1.5
9	Lymphatic tissue	1.3
	Cervix uteri	1.3
10	Malignant neoplasm of other female genital organs	1.2

Source: *computed based on data from Philippine Health Statistics, DOH, 2005

The reported cases of malignant neoplasms have been increasing up to 1995 but an abrupt decrease in the number of cases was noted in 1996 due to a change in the system of reporting (**Figure 43**). Malignancies were removed among the notifiable diseases in the Field Health Service Information System (FHSIS) in 2001. The morbidity rates have remained underreported thereafter. On the other hand, the trend for reported deaths from all kinds of malignant neoplasms has been increasing over the years, reaching 46.5 per 100,000 in the year 2005 (Department of Health, Various years).

FIGURE 43. TRENDS IN CANCER MORBIDITY AND MORTALITY, PHILIPPINES, 1980-2005



Source: Philippine Health Statistics, DOH, 2005

The Integrated Non-communicable Lifestyle-related Disease Prevention and Control Program envisions to improve the quality of life for all Filipinos by ensuring that LRNCD quality prevention and control services are accessible to all Filipinos, especially to the vulnerable and at-risk population. The objectives of the program are: to reduce the exposure of population to risks related to LRNCDs; and to increase the proportion of LRNCD cases given appropriate treatment and care. This will eventually lead to the reduction of morbidity and mortality from lifestyle-related diseases and the improvement of the quality of life of those who are suffering from such diseases.

NATIONAL OBJECTIVES FOR 2011-2016

OVERALL GOAL: Morbidity and mortality from lifestyle-related diseases are reduced and the quality of life of those who are suffering from such diseases is improved.

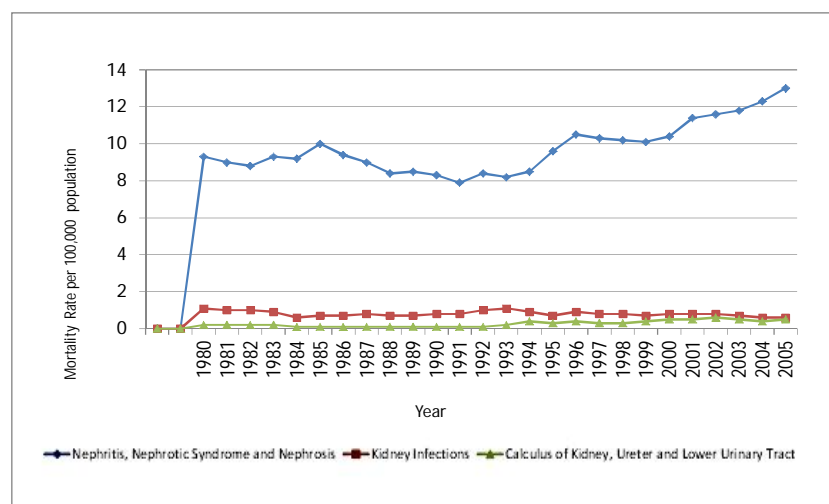
Strategic Objective	Indicator	Data Source	Latest Baseline	2016 Targets
Mortality from degenerative or lifestyle-related diseases is reduced.	Mortality rate from heart diseases per 100,000 population	NSO-PSY	84.8 (2008)	75*
	Mortality rate from vascular diseases per 100,000 population	NSO-PSY	61.8 (2008)	55*
	Mortality rate from diabetes mellitus per 100,000 population	DOH-PHS	21.6 (2005)	19*
	Mortality rate from COPD per 100,000 population	DOH-PHS	24.6 (2005)	22*
	Mortality rate from all forms of malignant neoplasm per 100,000 population	DOH-PHS	48.9 (2005)	43*
Morbidity from diseases of the heart and vascular system is reduced.	% Prevalence rate of raised blood pressure	FNRI-NNS	25.3 (2008)	22*
	% Prevalence of diabetes mellitus	FNRI-NNS	4.8 (2008)	<4.8
Early detection and screening for degenerative or lifestyle-related diseases are increased.	% Women 18-65 years old who have one Pap smear or visual acetic acid screening at least every 3 years	DOH-NOH Midline Survey	8.8 (2010)	35
Risk factors associated with lifestyle-related diseases are reduced.	% Prevalence rate of adults with high fasting blood sugar	FNRI-NNS	4.8 (2008)	4.3 *
	% Prevalence rate of high total serum cholesterol among adults	FNRI-NNS	10.2 (2008)	9*
	% Percentage of overweight and obese among adults	FNRI-NNS	26.6 (2008)	23.5*
	Mean population intake of salt per day in grams	FNRI-NNS	3.3 (2008)	<3.3
	Mean one-day per capita fruits and vegetables intake in grams 1. Fruits 2. Vegetables	1. FNRI-NNS 2. WHO Report	1. 54g (2008) 2. 110g	400 grams of fruits and vegetables
	% Prevalence of adults with high physical inactivity	FNRI-NNS	60.5 (2008)	50.8

STRATEGIES FOR 2011-2016

- Implement sound, long-term and sustained Healthy Lifestyle promotion programs using community-based approaches, with DOH supplementing local campaigns with regular mass media campaigns and CHED improving medical and paramedical curricula in the area of healthy lifestyle and behavior modification.
 - Promote information, education and advocacy campaigns in the reduction of risk factors, early detection and management, and improvement in the quality of life of people with lifestyle-related diseases.
 - Expand the capacity of primary health care facilities on health promotion, screening, early diagnosis and early management of LRDs.
- Translate and implement provisions of the tobacco laws as local ordinances and develop community infrastructure supportive of healthy lifestyle (sports centers, green parks, smoking cessation clinics, etc.).
- Pursue training of clinicians and other frontline health care providers in health promotion, screening, early diagnosis, treatment, rehabilitation and palliative care.
- Support and implement financial risk protection measures for persons with lifestyle-related diseases by lowering the cost of essential drugs and provision of better social health insurance benefit packages.
- Other strategies:
 - Manage risk behaviors and risk factors by establishing more smoking cessation clinics, finding and treating more patients with rheumatic heart disease, providing more training opportunities for diet counseling and smoking cessation programs, and organizing and counseling for healthful physical activities.
 - Strengthen networking and collaboration among GOs, NGOs and various stakeholders to ensure sharing of technologies, resources and expertise and to maximize efforts towards the prevention and control of lifestyle-related diseases.

5.2.2.2. Diseases of the kidney and the urinary tract

FIGURE 44. TRENDS IN KIDNEY DISEASE MORTALITY, PHILIPPINES, 1980-2005



Mortality trends for diseases of the kidney and urinary tract are generally increasing (see **Figure 44**). Kidney diseases killed more than 11,000 Filipinos in 2005. It is the tenth most common cause of mortality in the country (Department of Health, 2005).

The mortality rate for nephritis, nephrotic syndrome and nephrosis in 2005 was 13 deaths per 100,000

population (Department of Health, 2005). Kidney infections and calculi at any portion of the urinary tract had mortality rates of 0.6 and 0.5 deaths per 100,000 population, respectively, during that same year (Department of Health, 2005).

Among the kidney diseases, the most dreaded outcome is end-stage renal disease (ESRD), which requires either lifetime dialysis or kidney transplant. Without any of the two, ESRD is fatal.

Both dialysis and kidney transplant cause significant morbidity and financial burden to the patient. Dialysis involves being hooked up to a machine for a few hours for most days of the week while kidney transplant involves immuno-suppression which makes the patient vulnerable to infections.

Despite this, the incidence and prevalence of ESRD continue to rise as reflected in the dialysis registry. The prevalence of dialysis patients with ESRD is now 10,052, of which 7,589 are new cases identified in 2008 (Department of Health, 2008). However, it is important to note that these figures are only those captured by the dialysis registry and does not include patients unable to seek medical attention to get the necessary treatment or to directly undergo a kidney transplant. The real extent of ESRD in the country is still unknown.

ESRD cases must be prevented especially when caused by preventable causes like diabetes mellitus and hypertension. The country must be knowledgeable of kidney diseases, their causes, signs and symptoms, and preventive measures.

NATIONAL OBJECTIVES FOR 2011-2016

OVERALL GOAL: Morbidity and mortality from kidney diseases are reduced and the quality of life of those who are suffering from such diseases is improved.

Strategic Objective	Indicator	Data Source	Latest Baseline	2016 Targets
Deaths from kidney diseases are reduced	Mortality rate from kidney diseases per 100,000 population	DOH-PHS	13.0 (2005)	10
Incidence of ESRD is reduced	Incident cases per 100,000 population	Philippine Renal Disease Registry	8.39 (2008)	4

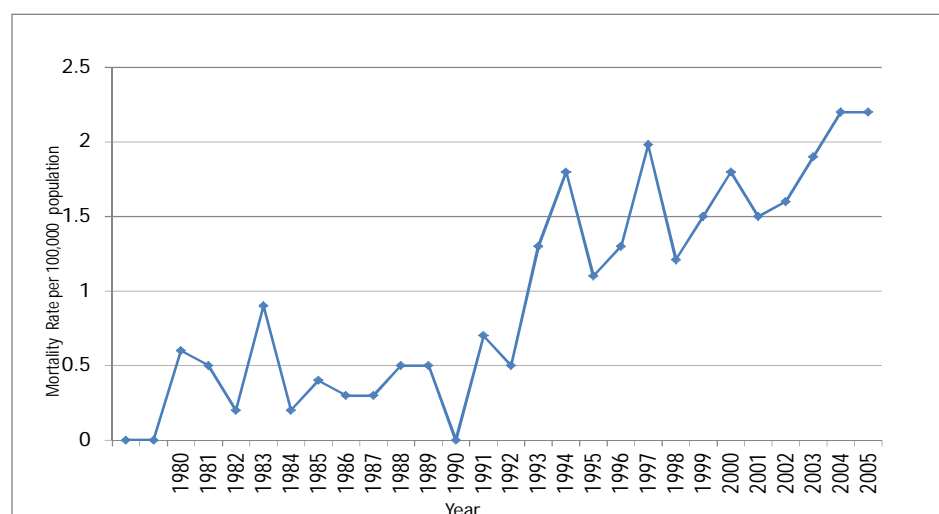
STRATEGIES FOR 2011-2016

- Integrate program on prevention of ESRD with the healthy lifestyle program of DOH
- Promote healthy lifestyle (promote physical activity and maintenance of normal body weight, prevent excesses in food, drinks and alcohol intake, and avoid smoking and substance abuse, etc.).
- Strengthen research and development and renal disease information system towards identifying high risk groups, preventable risk factors, effective preventive measures and behavioral influences for early detection and successful case management.
- Institute and campaign for better insurance benefit packages that are responsive to the needs of ESRD patients.
- Ensure collaboration and partnership among stakeholders in the prevention and control of kidney and urinary tract diseases and the promotion of quality of life and financial protection of persons with ESRD.
- Intensify and improve data collection on renal disease registry, compliance of medical practitioners and knowledge, attitude and practices (KAP) of the public regarding renal diseases

5.2.2.3. Mental Health and Mental Disorders

WHO estimates that 800,000 people commit suicide every year, 86 percent belonging in low- and middle-income countries. In the Philippines, there is an increasing trend of mortality rate from suicide and self-inflicted injuries which has reached a level of 2.2 deaths per 100,000 population in 2005 (Department of Health, 2005) (see **Figure 45**). Mental and behavioral disorders were identified to be part of the 17 Cause Groups of Mortality showing 1,061 affected individuals (males - 824; females - 237) with total deaths of around 0.2 percent of the population affected (Department of Health, 2005). A more recent report from WHO showed alarming percentages on mortality from neuropsychiatric disorders affecting more females than males.

FIGURE 45. TRENDS IN MORTALITY RATE FROM SUICIDE AND SELF-INFLICTED INJURIES, PHILIPPINES, 1980-2005



Source: Philippine Health Statistics, DOH, 2005

There is no existing system for reporting mental health cases in the country and epidemiological studies are fragmented and there is lack of updated data when it comes to mental health. In the year 2000, NSO reported that mental illness is the third most common form of disability after visual and hearing impairments (National Statistics Office, 2000). It was documented from the same survey that the prevalence rate of mental illness in the Philippines was at 88 cases per 100,000 population (National Statistics Office, 2000).

In 2004, data revealed that 0.7 percent of total households have a family member with mental disability (DOH-SWS, 2004), while a 2006 study conducted by the DOH that was limited to government employees revealed that 32 percent of respondents (n=327) have experienced a mental health problem in their lifetime (Department of Health, 2006). Among the most prevalent diagnoses were specific phobias (15 percent), alcohol abuse (10 percent), and depression (6 percent). Males were most likely to have substance-related problems than females. The DOH study concluded that mental health problems were significantly

associated with the following factors: ages 20-29 years, big families, and low educational attainment. Data from the 2006 study showed that the overall prevalence of mental health problems in National Capital Region was 32 percent, with a co-morbidity rate of 12 percent for other mental disorders (Department of Health, 2006).

Among patients diagnosed and treated, schizophrenia was the most frequent diagnosis, followed by mood disorders. On the other hand, outpatient facilities received more patients with diagnoses of substance abuse and neurotic disorders.

The economic burden of mental health is seen in the costs handled by the household. As mental illness becomes chronic, more losses in terms of economic opportunities are experienced. Government expenditure directed to mental health is 5 percent, majority (95 percent) of which goes to operations, mental hospital maintenance and personnel salary (Department of Health, 1980-2010). The Philippine Health Insurance Corporation recently covered mental disorders but restricted this only to patients with severe mental disorders confined over a short duration. At this time, there are no data to say that mental disorders are also covered by health maintenance organizations.

NATIONAL OBJECTIVES FOR 2011-2016

OVERALL GOAL: Mental health is promoted in the general population, the risks and prevalence of mental disorders are reduced, and the quality of life of those who are suffering from such conditions is improved.

Strategic Objective	Indicator	Data Source	Latest Baseline	2016 Targets
Prevalence of mental illness is reduced	Prevalence of mental disorders per 100,000 population	NSO-PSY	88 (2000)	< 88
	% Households with family member having any form of mental disorder	SWS and DOH Study	0.7 (2004)	< 0.7
Mortality from suicide and intentional self-harm is reduced	Mortality rate from suicide and intentional self-harm per 100,000 population	DOH-PHS	5.58 (2005)	2.5

STRATEGIES FOR 2011-2016

- Intensify health promotion and advocacy to include the conduct nationwide awareness on mental health, mental disorder (e.g. depression and suicide) prevention and control through schools, community and government offices
- Build capacity of health workers in community diagnosis on mental health (knowledge, attitude and practices) and its risk factors, early identification, management of new cases/relapse cases and proper referral system.
- Expand the provision of mental health services through public-private partnership

- Develop policy and legislation for the enhancement of mental health program
- Encourage research culture and capacity development on mental health
- Establish database and information system and improvement of the Monitoring and evaluation system for mental health
- Develop model programs for mental health
- Develop/ upgrade health facilities for mental health

5.2.2.4. Substance Abuse

The abuse of tobacco and alcohol is included among the predisposing factors for the development of non-communicable or lifestyle related diseases. The abuse of addictive substances such as "*shabu*" (Methamphetamine hydrochloride) is also directly linked towards the development of mental illness and disorders. Alcohol and drug abuse are often linked in the perpetration of petty and heinous crimes among individuals and the disruption of peace and order in the communities in general.

5.2.2.4.1. Alcoholism

Filipinos consume approximately 4 liters of pure alcohol per head. The trend of the recorded adult per capita consumption (age 15 and above) in the Philippines generally continued to increase from 1961 (≈ 0.75 liters of pure alcohol) to 2004 (3.75 liters of pure alcohol). The latest figures, however, masks higher figures in 1996 (6.77 liters) and in 2003 (4.8 liters) (World Drink Report in WHO Global Status Report on Alcohol, 2004).

The 2010 Midline Survey for the National Objectives of Health showed that one-third of all household members are alcohol beverage drinkers. The highest prevalence of alcohol intake was seen among adults (42.8 percent), followed by adolescents (31.3 percent), the elderly (27.2 percent) and children (14.1 percent) (Department of Health, 2009) (see **Table 27**).

Compared to the 2000 data, the prevalence of alcohol intake among adolescents remained the same; decreased slightly for adults and increased slightly for the elderly. However, children that are alcohol drinkers have increased significantly.

TABLE 27. PREVALENCE OF ALCOHOL BEVERAGE DRINKERS IN PERCENT, PHILIPPINES, 2000 AND 2010

Age Group	2000	2010
Adolescents	30	31.3
Adults	46	42.8
Elderly	22	27.2
Children	-	14.1

Source: BOS-NOH, 2000, and NOH 2005-2010 Midline Survey, DOH, 2008

Many Filipinos who suffer from alcohol dependence and abuse do not consider it as a medical problem; hence, they refuse to seek treatment even if their condition is chronic. Alcohol rehabilitation centers have lower admission rates in contrast to institutions treating drug dependency. It is for this reason that most cases go undocumented, and trends are not established. Despite the lack of data and statistics, the burden brought about by alcoholism in homes and communities is apparent and has been a growing concern of this country.

The primary goal for the following years is to reduce the harmful use of alcohol and its health-related effects. This is a realistic goal that takes into consideration that social drinking is entrenched in our culture and cannot simply be eliminated. The goal is to address the root causes of the problem: increased consumption beyond moderate levels and particular patterns that beget the adverse effects of alcohol use.

5.2.2.4.2. ***Tobacco smoking***

The Philippines is the top smoking country in the South East Asia and is one of the countries with the cheapest cigarettes in the world. On average, a Filipino smoker consumes 1,073 sticks annually (World Cigarettes 1: The 2007 Report). Each year, 87,600 Filipinos die from smoking-related diseases. The Tobacco and Poverty Study in the Philippines shows that about 6 to 8 percent of mortality is attributed to smoking-related diseases such as lung cancer, cerebro-vascular diseases, coronary artery diseases, and chronic obstructive pulmonary diseases (Baquilod, 2006). Annual productivity losses from premature deaths for the four smoking-related diseases are estimated at US \$65.4 million to US \$2.93 billion. The total cost of illness for the four smoking-related diseases is estimated at US \$2.86 billion to US \$6.05 billion (Baquilod, 2006).

The same study shows that, among the poor, tobacco receives the second highest allocation after food, a considerable 2.5 percent of total income. This is higher than the group's budget for clothing (2.3 percent), education (1.4 percent), and health (0.9 percent) (Baquilod, 2006). In the poorest households, tobacco expenditure is almost 16 times higher than the per capita monthly expense on health, eleven times higher than education, seven times higher than clothing, and twice higher than housing. Since 1995, the prevalence of tobacco use has been consistent at about 30 percent (National Statistics Office and Department of Health, 2009). To prevent this and decrease the overall ill effects of tobacco, the Philippine government has implemented policies on tobacco control.

The current focus of public attention on smoking is a public demand to push for amendments in tobacco legislation. One such amendment is the posting of graphic health warnings on cigarette packs. This increases overall public awareness of the ill effects of tobacco. Another is imposing a unitary tax measure to support the price increase of tobacco and discourage consumption. The program, with the help of

other offices in the DOH, also seeks to implement other amendments to RA 9211 and local tobacco-free and smoke-free ordinances in the provincial, municipal, and *barangay* levels.

5.2.2.4.3. Drug Abuse

The prevalence of drug abuse has increased from only 20,000 users in 1972 to about 3.4 million users in 1999 (1.8M regular users and 1.6M occasional users) (DDB Survey, 1999). This represents an increase of about 100 percent per annum. In 2001, the Social Weather Station Survey estimated that between 2.2 million and 9.3 million Filipinos are drug users (Social Weather Stations, 2001). In 2005, a survey by the Dangerous Drugs Board (DDB) showed an estimated 6.7 million drug users (Dangerous Drugs Board, 2005). The distribution of cases according to the types of illegal substances is summarized in **Table 28**. The problem of drug abuse continues to plague not only urban areas but also rural areas. The National Capital Region (NCR) remains as the area most affected by drug abuse, with 3,554 or 49.96 percent of the total admissions nationwide (Department of Health, 1980-2010). Region III and Region IV follow with 21.13 percent and 17.22 percent, respectively (Department of Health, 1980-2010).

TABLE 28. DISTRIBUTION OF REPORTED CASES OF DRUGS/SUBSTANCE ABUSE BY SEX AND TYPE OF DRUGS/SUBSTANCE OF ABUSE, PHILIPPINES, 2008 AND 2009

Drugs/Substance of Abuse	2008			2009		
	Male	Female	Total	Male	Female	Total
Shabu (Methamphetamine Hydrochloride)	2,193	215	2,408	1,755	137	1,892
Marijuana (Cannabis sativa)	1,593	107	1,700	1,282	95	1,377
Cough/Colds preparation	43	-	43	22	3	25
Injectable	152	19	171	133	22	155
Inhalants	299	16	315	277	14	291

Source: Dangerous Drugs Board 2009, Philippine Statistical Yearbook, NSCB, 2010

Hand in hand with this increase in prevalence is a steady decline in admissions for treatment. The reported cases of new admission for drug/substance abuse in DTR centers by the Dangerous Drugs Board have been decreasing from 7,113 in 2003 to 2,013 in 2009 (Department of Health, 1980-2010).. The decreasing trend is also observed among cases of re-admission in the DTR centers at 1,076 cases in 2003 to 488 cases in 2009 (Department of Health, 1980-2010).

Based on the 4,278 cases admitted in different treatment and rehabilitation centers, both residential and out-patient facilities, male patients outnumbered female patients (9 males : 1 female), with a mean age of

28 years old. They are usually single (56.94 percent), unemployed (32.82 percent), have attained high school education (30.62 percent), and come from families with an average monthly family income of PhP 14,980.59. Among the substances the patients have used, the top three most common in 2008 were methamphetamine chloride (*shabu*), cannabis (marijuana), and contact cement (Department of Health, 1980-2010).

The battle cry of the DOH program campaign is “Drug Abuse is Preventable, Drug Addiction is Treatable”. The program focuses on the establishment of services for drug treatment and intervention. The majority of the facilities for drug treatment and intervention concentrate on the residential/ in-patient rehabilitation of people dealing with substance abuse. The program aims to ensure one residential/in-patient rehabilitation center per region, one confirmatory drug-testing center per region, and one physician per municipality. The DOH continues to seek more proactive ways in addressing other substance-abuse problems, such as alcohol and nicotine.

NATIONAL OBJECTIVES FOR 2011-2016

OVERALL GOAL: Prevalence of tobacco smoking, alcoholism and substance abuse and their health-related effects are further reduced.

Strategic Objective	Indicator	Data Source	Latest Baseline	2016 Targets
Prevalence of substance abuse is reduced	% Prevalence rate of dangerous drugs abuse among adolescents, adults, and older persons	DDB-DILG Study		
	1. Student:		10.9	9.36*
	2. Out-of-School Youth:		9.97	8.56*
	3. Adult employed:		48.4	25.72**
	4. Unemployed:		30.76 (2008)	16.35**
	% Prevalence rate of current tobacco smoker			
	1. Adult population:	GATS and GYTS	28.3 (2009)	24*
	2. Adolescents aged 13-15 years:		21.7 (2007)	12**
	3. Adult male:		47.7 (2009)	40*
	4. Adult female:		9 (2009)	7.9*
	% Prevalence rate of current alcohol intake		2010 data:	
	1. Children 6-11 years:	NOH Midline Survey	14.1	8
To improve completion rate of treatment and rehabilitations centers nationwide.	% Drug Treatment and Rehabilitation (DTR) completion rate	TRC Reports	TBD	100%
	Number of readmission to DTR centers	DDB	488 (2009)	360

* Computed at 2.5 percent reduction annually

** Computed at 10 percent reduction annually

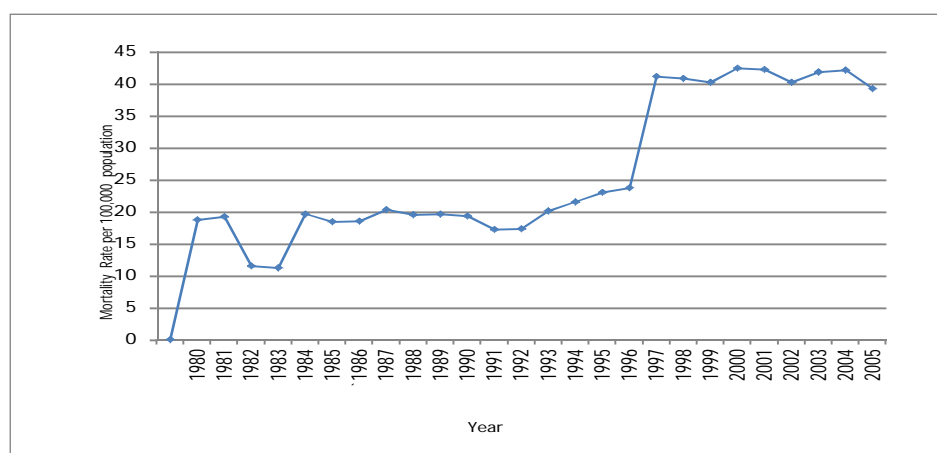
STRATEGIES FOR 2011-2016

- Develop a more responsive promotion, education and advocacy campaigns
- Promote and advocate for the full implementation of WHO-FCTC
- Enhance the enforcement of standards for human resources and facilities involved in providing services on addiction regulation by the Department
- Review and redirect policies on the implementation of intervention and treatment programs based on health-focused models
- Develop service packages that might be included as part of the NHIP
- Supervise and implement the rehabilitation and aftercare programs in all regions in the country
- Capacitate human resource in the conduct of interventions and treatment programs for drug dependents
- Continuously maintain and manage the information systems developed by the Department (Integrated Drug Testing Operations and Management of Information System or IDTOMIS) to provide updated information for policy development and program implementation
- Regularly monitor and evaluate program implementation

5.2.2.5. Accidents and Injuries

Accidents and injuries consistently remain as one of the leading causes of morbidity and mortality in the country. The mortality rate from accidents gradually increased (see **Figure 46**) from 18.7 deaths per 100,000 population in 1980 to 23 per 100,000 in 1996 (Department of Health, Various years). An abrupt increase was observed, reaching a level of 39.2 deaths per 100,000 population in 2005, almost double the mortality rate observed in 1996 (Department of Health, Various years).

FIGURE 46. TRENDS IN MORTALITY FROM ACCIDENTS AND INJURIES, PHILIPPINES, 1980-2005



Source: Philippine Health Statistics, DOH, 1980-2005

In the Philippines, 38 percent of all causes of deaths from accidents and injuries are due to assaults, followed by deaths from transport accidents at 20 percent as shown in **Table 29** (Department of Health, 2005). Other deaths from accidents and injuries are secondary to drowning, suicide, accidental falls, forces of nature, legal interventions, fire, and other undetermined causes (Department of Health, 2005).

TABLE 29. CAUSES OF ACCIDENTS AND INJURIES, PHILIPPINES, 2005

Kinds of Accidents and Injuries	Total Number of Deaths	Percentage from Total Accidents
Assaults	12,705	38.12
Transport accidents	6,770	20.31
Events of undetermined intent	4,029	12.09
Drowning and submersion	2,635	7.91
Intentional self-harm	1,861	5.58
Accidental falls	1,582	4.75
Others	3,745	11.24
Total	33,327	100.00

Source: Philippine Health Statistics, DOH, 2005

Despite the abrupt increase in the incidence of accidents and injuries from traffic accidents in recent years, the trend in case fatality rate is noted to be going down. This may be attributed to several factors like the enactment of Republic Act 8750 in 1999 requiring the mandatory use of seat belts among motorists and the improvement of capability of health facilities to respond to such cases.

The DOH shall continue to advocate for the necessary policy instruments (i.e., laws; executive orders; and ordinances to congress, other agencies, and LGUs). The Department shall also promote the execution of multi-disciplinary and multi-sectoral solutions and researches for purposes of developing national and local competence on injury prevention, health care services, and for other purposes that may be necessary. These approaches shall ensure sectoral and community-based interventions to propel actions on violence and injury prevention.

NATIONAL OBJECTIVES FOR 2011-2016

OVERALL GOAL: Morbidity and mortality from accidents and injuries are reduced.

Strategic Objective	Indicator	Data Source	Latest Baseline	2016 Targets
Mortality rate due to accidents and injuries is reduced.	Mortality rate from accidents and injuries per 100,000 population	DOH-PHS	39.1 (2005)	34
	Mortality rate from transport accident per 100,000	DOH-PHS	21.31 (2005)	17.5

STRATEGIES FOR 2011-2016

- Integrate all sources of data on violence and injuries from different departments to form a central database to serve as a basis for the development of appropriate prevention strategies and interventions
- Implement on a nationwide scale the National Electronic Injury Surveillance System to establish a common or standard set of injury related data that can be used for developing necessary guidelines towards minimizing violence and injuries

- Form inter-sectoral management committees that can closely coordinate and collaborate to harmonize efforts in violence and injury prevention
- Establish and expand initiatives to address violence and injuries through education, enforcement of existing policies, engineering, and economic incentives.

5.2.2.6. Blindness

Blindness comes in varying degrees. Legally blind pertains to people who, because of the severity of their error of refraction (near- or far-sightedness), are not able to function without the aid of prescription eyeglasses. Individuals who are totally blind, on the other hand, have lost the ability to completely see. Blindness may affect only one eye (monocular) or both eyes (bilateral). Causes of this disability include cataracts, glaucoma, age-related macular degeneration, diabetic retinopathy, trachoma, and eye conditions in children.

Globally, in 2004, about 314 million are visually impaired with 45 million considered to be blind. The leading causes of blindness worldwide are cataracts (39 percent), uncorrected refractive errors (18 percent), glaucoma (10 percent), age related macular degeneration (7 percent), with the rest accounted by corneal scars, diabetic retinopathy, trachoma and childhood blindness, onchocerciasis and others. Of the 45 million who are blind worldwide, up to 85 percent are avoidable by prevention, treatment or cure (Department of Health, 1980-2010).

Challenges, such as the lack of priority given to eye health, the lack of equipment and resources, inadequate public health facilities providing eye care services, and differences in approach among partner institutions, hinder the progress of the program. With increased PhilHealth coverage focused on population sectors needing better access, improved networking and collaboration efforts, and a more integrated health care system, these difficulties will hopefully be addressed. Blindness is an urgent public health problem and effects extend beyond the affected individual. The blind person and the caregiver, usually a family member, experience lost earnings, resulting to a twofold loss in economic productivity. Added to this are costs of treatment, special equipment, visual aids, and even premature death resulting from visual impairment (World Health Organization).

In addition to cataracts, error of refraction and childhood blindness were also found to be the leading causes of preventable blindness. Ageing, smoking, ultraviolet radiation, and diabetes are main risk factors for these conditions. Infants also have a greater chance of acquiring eye defects if they are born prematurely (retinopathy secondary to prematurity) or if their mothers suffered from diabetes during pregnancy (inborn cataract).

The Prevention of Blindness Program of the DOH aims to address these issues through collaboration and partnership with all stakeholders and the adoption of the WHO's Vision 2020 to increase cataract surgical rate, reduce visual impairment due to refractive errors and reduce the prevalence of visual disability in children. The program was established in November 2004 under Administrative Order 179. By identifying and managing eye conditions in the primary level of health care, blindness and its adverse results can be prevented. This program will decrease the morbidity of blindness, and keep the incidences and backlog of blind cases to a minimum.

NATIONAL OBJECTIVES FOR 2011-2016

OVERALL GOAL: To reduce the prevalence of avoidable blindness in the Philippines through the provision of quality eye care

Strategic Objective	Indicator	Data Source	Latest Baseline	2016 Targets
Prevalence of visual disability in the general population is reduced	% Prevalence of visual impairment (national, all causes)	Special Survey	2.58	<2.58
Prevalence of visual disability in children is reduced	% Prevalence of visual disability in children < 20 years old	Special Survey	0.43 (2002)	0.20
Avoidable visual impairment due to cataract is reduced	% Visual impairment due to cataract	Special Survey	0.46	<0.46
Avoidable blindness due to error of refraction is reduced.	% Visual impairment due to uncorrected refractive errors	Special Survey	43.4 (estimate)	28

STRATEGIES FOR 2011-2016

- Detect potential blindness and cases early through the Community Health Teams and provide information on the prevention of blindness by authorized information provider.
- Treat and manage cases promptly
- Integrate care in the service delivery network to include the private and public sector, local and national organizations.
- Monitor and evaluate to include reporting of cases from the public and private sector.
- Advocate blindness prevention program. The local public health authorities taking responsibility for sustaining and improving interventions for the reduction of blindness using the public-private partnership (PPP) approach

5.3. HEALTH RISKS AND DISASTERS

5.3.1. OCCUPATIONAL HEALTH RISKS

There are approximately 35.5 million workers distributed among the major occupation groups (Department of Labor and Employment, 2009). Of these, less than 10 percent receive occupational safety and health protection and services (Department of Labor and Employment, 2009). With increasing economic activity, the trends of occupational diseases, injuries and accidents will likewise increase, yet very few will have access to appropriate health care for their occupation-related injuries or illnesses. Moreover, the victims of such incidents are likely the individuals who are the primary sources of income for their families. The additional cost and loss of working days becomes an added burden to individuals and the country as a whole.

According to a survey of non-agriculture-related occupational injuries, a total of 44,800 incidents occurred in 4,600 establishments that employed 20 or more workers. Two-thirds of these are in the manufacturing sector, followed by the wholesale and retail trade (8.1 percent), hotel and restaurants (7.4 percent), and financial intermediation (0.3 percent). Of the injury cases, 60 percent required first-aid treatment and thus did not entail days away from work (Department Of Labor and Employment, 2010). Majority were temporarily incapacitated. Fortunately, this type of injury does not keep the worker from returning to his normal duties.

Workplace-acquired musculoskeletal diseases were the most prevalent, accounting for 28.2 percent of the total occupational diseases. Other types of diseases that accounted for more than 10 percent of total reported occupational diseases include bronchial asthma (18.5 percent), infections (13.8 percent), essential hypertension (13.0 percent) and occupational dermatitis (12.6 percent) (Department of Health, 1980-2010).

NATIONAL OBJECTIVES FOR 2011-2016

OVERALL GOAL: Reduce the health burden from occupational diseases, injuries and accidents

Strategic Objective	Indicator	Data Source	Latest Baseline	2016 Targets
Morbidity, disability and mortality from adverse occupational conditions are reduced	% Workers who become disabled as a result of occupational hazards % Workers died due to occupational hazards	Special surveys and reports	To be determined	To be determined
An occupational health information system is established	% Cities and municipalities with occupational health information systems	DOH and DOLE	TBD	40 percent
Occupational health programs at the local level established	% Health facilities providing special clinical assessment and treatment services to workers	DOH - BSNOH	8.51 (2000)	40
	% Health centers with stress management services	DOH - BSNOH	19.15 (2000)	40

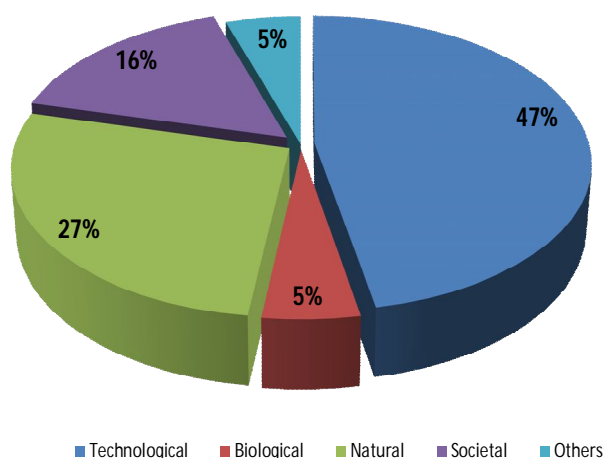
STRATEGIES FOR 2011-2016

- Protect individuals, families, workers and communities from exposure to occupational and environmental hazards, disease agents or stressors that could affect their health, through public health and environmental interventions.
- Set up healthy and safe workplaces in national agencies and LGUs. Key local health workers (provincial health officers, city health officers, municipal health officers, rural health physicians and public health nurses) will be trained on the prevention, recognition and management of occupational health-related diseases in coordination with the DOH.
- Strengthen infrastructure, human resource capabilities and systems for the registration of occupational diseases and injuries.
- Generate baseline health assessment information on workers in high-risk industries or hazardous workplaces.
- Review, update and strengthen laws, standards and regulations related to occupational health to make them relevant and practical for more decisive enforcement by LGUs and the labor sector.
- Conduct health promotion activities for the workers in industrial establishments.
- Develop policies on integrating basic occupational health services into the National Health Insurance Program. This is to target the workers in the informal sector in high risk industries(e.g. transport, mining and agriculture)
- Upgrade the capacity of personnel in the Department of Health and Local Government Units in responding to occupational health and its related concerns
- Establish coordinative linkages and meetings with partners that target DOH and other government agencies, academe, industry, Philippines National Poison Management and Control Center, non-governmental organizations and professional organizations.

5.3.2. DISASTERS AND EMERGENCIES

The country is located along the typhoon belt in the Pacific and within the circumferential Pacific Ring of Fire, which explains why the Philippines experiences about an average of 22 typhoons per year and constant threats from eruptions of its 300 volcanoes, 22 of which are currently active. Since 2005, the number of natural disasters has been steadily increasing, while manmade emergencies have fortunately been on the decline since 2007. Typhoons Reming (2006), Frank (2008), Ondoy (2009), and Pepeng (2009) caused a lot of damages in the country, destroying public and private properties indiscriminately. Although most typhoons pass through Region II, their worst hits are felt in Regions I, III, IV-A, CAR, and Metro Manila. Deaths due to disasters have been increasing since 2007 and injuries have reached to 19,101 cases for 2008 (Department of Health, 1980-2010).

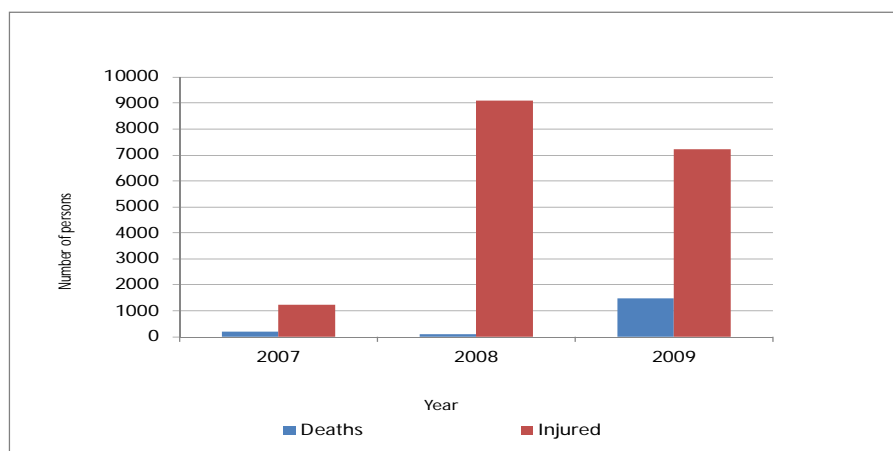
FIGURE 47. TYPES OF EMERGENCIES, PHILIPPINES, 2009



Source: Philippine Health Statistics, DOH, 1980-2005

Figure 47 shows the type of emergencies in the Philippines. Natural emergencies like tropical cyclones, flooding/ flashfloods, landslides, volcanic activity, and earthquakes constitute 27 percent of the emergencies in the Philippines. Technological emergencies like poisoning, transportation accidents, and fire constituted most (47 percent) of the disasters in 2009. Three of the major emergencies in transportation are the sinking of the MV Blue (2006), the MV Princess of the Stars (2008), and the Super Ferry 9 (2009). Deaths due to disasters have been increasing since 2007 and injuries have reached to 9,101 cases for 2008 (Department of Health, 1980-2010) (see **Figure 48**).

FIGURE 48. NUMBER OF DEATHS AND INJURED PERSONS DUE TO EMERGENCIES, PHILIPPINES, 2007-2009



Source: Department of Health, 2009

The Philippines aims to be the Western Pacific Region's model in Health Emergency Management. In order to achieve this, the DOH makes use of the following "10 Ps" as a strategic tool: Policies, Plans, Procedures/ Protocols and Guidelines, People, Promotion and Advocacy, Partnership Building, Physical – Facilities Enhancement, Program Development, Practices and Peso and Logistics.

NATIONAL OBJECTIVES FOR 2011-2016

OVERALL GOAL: Reduced morbidity and mortality during emergencies and disasters

Strategic Objective	Indicator	Data Source	Latest Baseline	2016 Targets
Reduce the number of deaths and injuries related to disasters	Number of deaths related to disasters	DOH report	7,212	< 7,212
	Number of injuries related to disaster	DOH report	1,497	< 1,497

STRATEGIES FOR 2011-2016

- Increase the capacity of the LGUs on disaster preparedness and response and management of health emergencies
- Identify coordinators at every province/city levels and LGU hospitals in order to facilitate the expansion of network in all regions.
- Expand the Hospital Emergency Preparedness Response and Rehabilitation Plans (HEPRRP) to other local government units (LGUs) across other regions.
- Strengthen the support systems for disaster preparedness and response.
- Strengthen monitoring and evaluation of disasters situation.

5.3.3. CLIMATE CHANGE

In the Philippines, climate change has been measured as a 0.6104°C increase in annual mean temperature. From 1900 to 1950, the country had experienced a mere 0.3472°C increase in the mean temperature. From 1950 to 2006, an increase of 0.8904°C in the annual mean minimum and maximum temperatures was reported, placing the Philippines in a state of climate change (Department of Science and Technology). These deviations pose a great threat as they inevitably affect human health directly and indirectly. Direct impacts of climate change include the effects of changes in exposure to extreme weather, increased incidence of extreme weather events, and increased production of certain air pollutants and aeroallergens. These are measurable, but are infrequent. Indirect impacts, on the other hand, include changes in complex processes, such as the transmission of water, food, and vector-borne infectious diseases, and effect on regional food productivity. Such effects are more prevalent, although harder to measure (World Health Organization, 2003). This non-linear relationship between climate and health has made understanding and resolving the possible health impacts of climate change more complex.

In the epidemiologic triad of environment-host-agent, the environmental dimension in disease causation has acquired larger significance as the environment affects the life cycle of disease agents and the climate sensitivity of humans to diseases (Department of Health, 1980-2010).

The importance of this change was seen in correlations established between certain climate variables and the prevalence of vector-borne diseases, namely dengue and malaria. A comparison of the number of malaria cases and the temperature increases from 1995 to 2005 shows that trends in the malaria cases mirror those of the changes in temperature. The peak temperature increase during the 1998 El Niño Phenomenon corresponds to a sudden increase in the prevalence of malaria in the country. This pattern also holds true for the number of dengue cases from 1992 to 2005. The effects of climate change on water-borne diseases such as cholera, diarrhea, and typhoid fever and on conditions like under-nutrition, upper respiratory tract infection, cataract, skin cancer, and mental health are also considered, together with direct impacts such as deaths and illnesses due to flooding, heat wave, and other calamities. These conditions are studied particularly in populations such as the children and the elderly, chronically ill and disabled individuals, and low income, homeless, and subsistence groups, who are more vulnerable to the negative effects (Department of Health, 1980-2010).

Since the climate change and health initiative is only in its infancy, gaps remain that must be addressed. These include the implementation of a sectoral climate change adaptation framework, the need to create integrated systems and mechanisms, particularly national and local coordination mechanisms and private-public partnerships, and the issue of resilience and readiness of health facilities to respond to the effects of climate change (Department of Health, 1980-2010). Other issues include technical gaps such as: (1) the need for a national health assessment to look at the vulnerabilities both at the national and local level, while considering risk factors, e.g., geography, socio- economics, and others; (2) creation of means of assessment of the burden of climate-sensitive health outcomes, which enable the measurement and identification of response mechanisms; (3) the necessity of continuous, more in- depth research and development in the climate change and health relationship; and (4) correlation studies on zoonotic diseases, and on the connection between biodiversity and climate change and health impacts (Department of Health, 1980-2010).

NATIONAL OBJECTIVES FOR 2011-2016

OVERALL GOAL: To build the capacity and strengthen health systems of national and local government units for the impact of climate change on health.

Strategic Objective	Indicator	Data Source	Latest Baseline	2016 Targets
Capacity of key government and agencies and local government units for managing the health impact of climate change is strengthened.	Number of LGUs with trained personnel on the prevention and management of the health impact of climate change	LGU Annual Reports	5 cities(NCR) 5 municipalities (Albay)	30 provinces/ cities per year
Climate change adaptation concerns mainstreamed in all health programs	Number of health programs with climate change element	DOH Annual Report	To be determined	All health programs
Individuals, families and communities' understanding on the impact of climate change is improved	Rate of improvement of knowledge	Special Survey	To be determined	Priority LGUs
Individuals, families and communities' health seeking behavior to prevent the occurrence of illness brought by climate change is improved	Rate of improvement in health seeking behavior	Special Survey	To be determined	Priority LGUs

STRATEGIES FOR 2011-2016

- Develop policy and systems including the programs or systems integration for climate change
- Conduct epidemiological research to determine the nature and to measure the impact of different aspects of climate change on health outcomes (to help in future priority-setting)
- Develop PhilHealth benefit packages for climate change related diseases and morbidities
- Develop new health-related technologies, tools and guidelines to support multi-sectoral efforts
- Strengthen information campaign, advocacy, policy development, capacity building and health systems support as part of multi-sectoral efforts to manage impact of climate change
- Monitor and evaluate interventions to manage the health impacts of climate change
- Build partnership both in the national and local levels, with implementation spearheaded by the Department of Health

5.4. HEALTH OF POPULATION GROUPS

The challenge remains in providing care and nurturing of vulnerability and risk among population groups such as the adolescent and youth, adult men and women and older persons. The approach to protect and promote the health of the vulnerable groups varies as one goes through the different stages of life. Health service packages specific for each stage differ and this should be made available to ensure a positive state of

well-being of the individual. They require more focused preventive efforts as a group. Understanding their needs and differences will aid in the development of intervention that is more focused and tailor fitted to the group. The goal is to decrease the health inequalities between socially defined groups and ensure access to quality health care for adolescents, adult males and females and older persons. The care for children and mothers is already presented under MDG 4 and 5.

5.4.1. ADOLESCENT AND YOUTH

By definition, adolescence is defined by the WHO as the period of life between 10 and 20 years old while the youth refers to those between 15 and 24 years old and the “young people” refers to both age groups, meaning those aged 10 to 24 years.

The adolescent age group in the country numbers around 19,404,800 and makes up 21 percent of the total population (National Statistics and Coordination Board, 2010). They are considered the healthiest age group. However, special characteristics possessed by adolescents make them vulnerable to certain health problems. First, their adventurous and bold behavior is attributed in the increased occurrence of accidents and injuries leading to death. In 2005, accidents ranked as the most common cause of death among young adolescents, leading to 1,130 premature deaths (Department of Health, 2005). Second, their sexual curiosity, combined with poor sexual and reproductive health education and services, poses serious problems, such as STI/HIV/AIDS. Between 2006 and June 2010, the number of newly tested HIV positive youth (15 to 24 years old) went from 39 to 222 cases, an 815 percent increase, while fifteen- to nineteen-year-old adolescents who tested positive for HIV increased from five in 2006 to 35 in 2010 (up to June) (Department of Health, 2010). This represents an increase of 700 percent.

Unwanted teenage pregnancies are other devastating events for adolescents. It causes significant psychological distress and is considered as a high-risk pregnancy. As of 2008, 10 percent of adolescent girls aged 15 to 19 years old have begun bearing children, increasing from 8 percent in 2003 (National Statistics Office, 2008). Third, the attitudes and behavior of adolescents towards health are likely to get carried over to adulthood. Substance abuse, (often involving alcohol, recreational drugs, and smoking) often begin when they are young. Reports regarding these negative behaviors among Filipino adolescents indicate that 17 percent have been drunk at least once, 4.5 percent have used recreational drugs, and 9.7 percent have smoked (World Health Organization, 2007).

NATIONAL OBJECTIVES FOR 2011-2016

OVERALL GOAL: The total health and well-being of young people are promoted.

Strategic Objective	Indicator	Data Source	Latest Baseline	2016 Targets
Mortality among youths (10-24years old) is reduced	Mortality rate per 100,000 youths	DOH-PHS	83.02 (2010)	70
	Mortality rate per 100,000 among 10-24 years old due to accidents and injuries	DOH-PHS	41.97 (2010)	35
Reproductive health among adolescents is improved	% Pregnancy rate among adolescents	NSO-NDHS	9.9 (2008)	4
Malnutrition among adolescents aged 11-19 years old is reduced	% Adolescents that are obese	FNRI-NNS	4.6 (2008)	3

STRATEGIES FOR 2011-2016

- Ensure safe and nurturing environment for adolescents by protecting their rights.
- Develop the adolescent health service package and involve the youth in the development and provision of services.
- Address and provide reproductive health needs of the adolescents through the provision of information and education and quality health services.
- Scale-up capacity-building of adolescent-friendly health services at the regional, provincial and local levels.
- Expand capability-building to include community health workers and youth volunteers (e.g. orientation program on Adolescent and Youth Health and utilization of Adolescent Job Aid).
- Provide the necessary logistics and commodities for use in the Adolescent Health Program.
- Engage the adolescent in creative and productive activities and involve in the country and community development programs.
- Expand health care financing package for other essential services on adolescent health.
- Local stewardship for improving health outcomes for the adolescent and youth. The local public health authorities taking responsibility for sustaining and improving interventions for the adolescents using the public-private partnership (PPP) approach

5.4.2. THE ADULT MEN

In the Philippines, adult men ages 25-59 have poor health status. They display the highest level of health risk behavior and the lowest use of health services compared to other groups. The number of Filipino males aged 25-59 years old is close to 16 million or about 19 percent of the total population and 38 percent of the total male population (National Statistics and Coordination Board, 2010).

The leading causes of death for the adult male population only slightly differ from those of the entire Filipino population. But diseases that are more fatal to Filipino males than females are quite different. **Table 30** shows that cardiovascular diseases followed by accident and injuries are the leading causes of death among Filipino males.

TABLE 30. LEADING CAUSES OF DEATH AMONG FILIPINO MALES AGED 25-59, PHILIPPINES, 2005

Rank	Causes of deaths	Number of deaths	Rate per 100,000	% of males among total deaths of adults aged 25-59	% of adult males aged 25-59 among total deaths
1.	Cardiovascular diseases, all forms	28,370	169.84	19.94	6.66
2.	Accidents and injuries, all forms	17,701	105.97	12.44	4.15
3.	Malignant neoplasms, all forms	9,627	57.63	6.77	2.26
4.	Tuberculosis, all forms	8,716	52.18	6.13	2.05
5.	Diabetes mellitus	3,876	23.20	2.72	0.91
6.	COPD	3,846	23.02	2.70	0.90
7.	Chronic liver diseases and cirrhosis	3,803	22.77	2.67	0.89
8.	Pneumonia	3,251	19.46	2.28	0.76
9.	Nephritis, nephritic syndrome and nephrosis	3,136	18.77	2.20	0.74
10.	Gastric, duodenal, peptic and gastrojejunal ulcers and other diseases of the digestive system	2,667	15.97	1.87	0.63

Source: Philippine Health Statistics, 2005

Eight (8) out of ten (10) causes of the total deaths among adult males aged 25-59 are due to non communicable diseases where the cardiovascular diseases (19.94 percent) followed by accidents and injuries (12.44 percent) are the highest (Department of Health, 2005). The communicable diseases among the leading causes of deaths are tuberculosis and pneumonia.

There are diseases that are primarily of male concern like the occurrence of benign prostatic hyperplasia and prostatic malignancies (see **Table 31**). These increase in incidence as the males grow older and can be detected through regular digital rectal examination. On the other hand, deaths due to acute pancreatitis are often associated with alcoholic binges among the male population.

TABLE 31. CAUSES OF MORTALITY THAT HAS MALE PREPONDERANCE AMONG FILIPINOS, 2000 and 2005

Causes of deaths	2000		2005	
	Number of deaths	Rate per 100,000 25-59 male adults	Number of deaths	Rate per 100,000 25-59 male adults
Acute pancreatitis	1,405	9.67	1,945	0.01
Malignant neoplasm of the prostate	104	0.72	178	0.00
Hyperplasia of prostate	9	0.06	22	0.00

Source: Philippine Health Statistics, 2005

DOH data on seropositive cases of HIV point out that 85 percent of all who tested positive were males from 19 to 49 years old. There is yet inadequate sex-disaggregated national data on illegal drug use and alcoholism, but these have been known to result in disease and socio-economic problems among the male population. The higher prevalence of smoking among males than females correlates well with the fact that of every three who die of lung cancer two are males. The common denominator seems to be that certain behavioral patterns among men can be modified to prevent the occurrence, complications and fatal outcomes of the diseases predominantly affecting them.


Some risk factors leading to diseases in men have been studied: smoking, diet preferences and nutrition, reproductive health habits, risk-taking behavior and occupational activities. Although the information was generated for the purpose of monitoring and controlling the occurrence of disease or other unhealthy conditions, all these information may be brought together to focus intervention on men, specifically Filipino adult males between 24-59 years of age. In addition, the Healthy Lifestyle initiative and tobacco control movement have made a head start towards behavior modification.

5.4.3. THE ADULT WOMEN

Not all females will pass through the stage of pregnancy and motherhood either by choice or biological reasons. The objectives for pregnant and lactating women are discussed under the MDG 5. There are other health needs of the Filipino adult female population aged 25-59 years old that must be addressed: their reproductive health, gender issues and diseases affecting this population group.

Cardiovascular diseases are the leading causes of death among adult Filipino women in 2005 with a rate of 176.51/100,000 followed by malignant neoplasms with a rate of 60.36/100,000 (Department of Health, 2005). The leading causes of death among females are mostly degenerative and lifestyle-related in nature. TB and pneumonia are the only infectious diseases included in the leading causes of mortality among Filipino females. It can be observed that the only disease among the 10 leading causes of mortality that has higher percentage among females than among males are goiter, thyrotoxicosis, hypothyroidism and endocrine and other metabolic disorders wherein 55.62 percent of those who die of the said diseases are females (Department of Health, 2005).

Table 32. Essential Health Care Package for Adult Male and Female

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. Management of illness 2. Counseling on substance abuse, sexuality and reproductive tract infections 3. Nutrition and diet counseling 4. Mental health 5. Family planning and responsible sexual behavior 6. Dental Care 7. Screening and management of lifestyle related and other degenerative diseases |  |
|---|--|

Malignant neoplasms are the second leading causes of death among adult Filipino females. These diseases when caught at the early stage, can greatly improve the treatment outcome and survival of patients. Among adult females aged 25-59 it is breast cancer which has a death rate of 20.57 per 100,000 populations, uterine malignancies at 5.37 per 100,000 population and cervical cancer at 5.17 per 100,000 populations as shown in **Table 33**(Department of Health, 2005).

TABLE 33. MALIGNANCIES WITH PREPONDERANCE AMONG FEMALES AGED 25-59, PHILIPPINES, 2005 and 2010

Malignancies	2000		2005	
	Number of deaths	Rate per 100,000 25-59 female adults	Number of deaths	Rate per 100,000 25-59 female adults
Malignant neoplasm of the breast	1,979	13.64	3,401	20.57
Malignant neoplasm of the uterus	593	4.09	889	5.37
Malignant neoplasm of the cervix uteri	563	3.88	855	5.17

Source: Philippine Health Statistics, 2005

There are more Filipino females than males who die of diabetes mellitus and thyroid problems.

However, in terms of deaths due to infectious diseases like TB and pneumonia, only 28.75 percent and 36.91 percent of those who die of the said diseases, respectively are females. It can also be noted that there are lesser percentages of females who die due to accidents and injuries.

International conventions on the rights of women to quality reproductive health care have clearly acknowledged the vital role of men in family planning. On another front, HIV/AIDS experts have declared that for the HIV/AIDS program in the Philippines, men hold the key to reducing HIV transmission and “the power to change the course of the AIDS epidemic.”

In the same way that the role of men has been acknowledged as vital in the pursuit of goals to improve the health of women and the family, the challenge is to direct the health sector toward issues and problems that cause disease and death among men at levels unusually higher than females or than previous trends. In a health care environment that has been women- and child-oriented since its inception, and in a sector that is now dominated by females, ways must be found to shift health planning and administration towards regarding men as specific beneficiaries of the health care system and for men to participate more actively in the health promotion and health care programs for the community, family and men themselves.

Current health care provided to adults is disproportionately medicine-oriented and clinic-based. The identified causes of mortality and morbidity among adult men clearly show that majority are preventable, and

the more appropriate, high-impact and long-term interventions could be the modification of the political, socio-cultural and psychosocial environments. The Healthy Lifestyle program has not retrained its focus towards adolescent and adult men even if past studies have shown them to have a higher propensity to indulge in risky behaviors.

The essential components of the health care package for adult men and women are enumerated above. These services must be provided to ensure optimum health and prevent mortality and morbidity among adult men and women in the general population.

NATIONAL OBJECTIVES FOR 2011-2016

OVERALL GOAL: Promote the total health, well-being and quality of productive life of adult men and women

Strategic Objective	Indicator	Data Source	Latest Baseline	2016 Targets
Mortality among adults is reduced	Mortality rate per 100,000 adult males	DOH-PHS	1,000 (2005)	900
	Mortality rate per 100,000 adult females	DOH-PHS	1,000 (2005)	900

STRATEGIES FOR 2011-2016

- Improve the overall participation of men in the health care system. Men should be made to actively participate in the development of health services appropriate to their needs and in setting up the organizational system that will provide health care for them.
- Develop male-focused information systems and strategic communication plans that will be used to harness local and national government and non-government resources towards effectively addressing the health care needs of men, aside from their participation in reproductive health programs.
- Develop and implement a health package for the Filipino adults. Focus on gender-specific packages responsive to the different health needs of adult men and women.
- Improve the health-seeking behavior of the Filipino adults through health education and information campaigns that are culturally-appropriate
- Intensify the implementation of policies and laws that promote and protect health and improve the quality of life of adult Filipinos.

5.4.4. THE OLDER PERSONS

Latest trend shows an increasing number of older persons and their longer life expectancy. The goal is to improve the quality of life of older persons and sustain their function, autonomy, self-esteem and life satisfaction. To undertake these goals the DOH has developed a progressive older person health program. Most of the leading causes of morbidity and mortality can be prevented and measures for health promotion and disease prevention for this population group are available, thus reducing the country's burden of diseases is feasible.

TABLE 34. LEADING CAUSES OF DEATH AMONG OLDER PERSONS, PHILIPPINES, 2005

Rank	Causes of deaths	Number of deaths	Rate per 100,000 older persons	% of older persons among the total population
1.	Cardiovascular diseases, all forms	79,065	1,704.21	18.56
2.	Pneumonia	26,443	569.97	6.21
3.	Malignant neoplasms, all forms	21,785	469.57	5.11
4.	COPD	14,592	314.52	3.42
5.	Tuberculosis, all forms	12,934	278.89	3.04
6.	Diabetes mellitus	11,686	251.89	2.74
7.	Gastric, duodenal, peptic and gastrojejunal ulcers and other diseases of the digestive system	6,040	130.19	1.42
8.	Nephritis, nephrotic syndrome and nephrosis	5,062	109.11	1.19
9.	Accidents and injuries, all forms	4,179	90.08	0.98
10.	Chronic liver diseases and cirrhosis	2,483	53.52	0.58

Source: Philippine Health Statistics

In 2005, mortality data for older persons showed a preponderance of lifestyle related diseases as major causes of mortality while Pneumonia and TB are the main causes of death that are infectious in nature as shown in **Table 34** above.

NATIONAL OBJECTIVES FOR 2011-2016

OVERALL GOAL: Quality of life among older persons is promoted and contributes to the nation building.

Strategic Objective	Indicator	Data Source	Latest Baseline	2016 Targets
Mean life expectancy is increased	Mean life expectancy for adult males	NSO-PSY	66.11 (2010)	68
	Mean life expectancy for adult females	NSO-PSY	71.64 (2010)	73

STRATEGIES FOR 2011-2016

- Redefine the minimum health care package for older persons to include primary, secondary and tertiary care. The package should consist of health services tied up with pre-financed sources of care in order to improve accessibility by older persons.
- Build the capacity of human health resources toward the promotive, preventive, curative and supportive care for older persons.
- Integrate into current licensing and accreditation requirements, building, facilities, equipment and personnel standards appropriate for care of older persons.
- Develop community-based and institution-based models of health care for older people.
- Pursue the implementation of laws and policies for the protection and improvement of the quality of life of the older persons such as the RA 9257 or The Expanded Senior Citizens' Act of 2003.
- Local stewardship for improving health outcomes for the older persons.
- Local public health authorities taking responsibility for sustaining and further improving the older person interventions using public-private partnership (PPP) approach with the public sector taking the lead.