

**MULTI-YEAR SPENDING PLAN FOR THE
DEPARTMENT OF HEALTH:
2016-2020**

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1. INTRODUCTION

The Aquino administration's health agenda is focused on the achievement of Universal Health Care (UHC) for all Filipinos, also known as *Kalusugan Pangkalahatan* (KP), by ensuring that all Filipinos, especially the poor, have equitable access to affordable quality health care. In particular, UHC is directed towards the achievement of financial risk protection and better health outcomes through a more responsive health system. The health interventions and actions that are meant to bring about UHC covers the continuum of health services that encompass health promotive and preventive services, in-hospital care support and treatment services and post-hospital rehabilitative services.

On the other hand, Republic Act (RA) No. 10351 (or Sin Tax Law) was signed by President Benigno S. Aquino III in December 20, 2012 and became effective in January 1, 2013. The Sin Tax Law was primarily aimed at improving the overall health status of Filipinos by reducing smoking-related diseases as well as by increasing revenues and funding for health. The law specifies that after deducting the allocations under RA 7171 and 8240, eighty percent (80%) of the remaining incremental revenues will be allocated for universal health care under the National Health Insurance Program, the attainment of the Millennium Development Goals and health awareness programs, while twenty percent (20%) will be allocated nationwide for medical assistance and health enhancement facilities program.

The Implementing Rules and Regulations (IRR) of RA 10351 requires Department of Health to develop a UHC Medium-Term Expenditure Program in order to identify the funding requirements of UHC that will be supported by incremental revenues from excise taxes under the Sin Tax Law. During the first year of implementation of the Law, the Bureau of Internal Revenue has reported that they have significantly exceeded the projections for incremental revenues. Given this increase in funding for health, it is necessary to revisit and update the initial work done on Multi-Year Spending Plan for the Department of Health. Fiscal projections for the Sin Tax, however, also underscore that there is a significant degree of uncertainty about medium term revenue forecasts from cigarettes and alcohol. While revenue have and will continue to improve significantly, health success in reducing smoking means that revenues having exceeded forecasts in 2013 was likely a short term aberration. Careful attention will now need to be paid to preparing baseline, medium and high incremental revenue scenarios for the health sector.

In line with this, the objective of this study is to develop a policy-based multi-year expenditure framework (MTEF) for the health sector for 2016-2020 that supports the UHC. A medium term financing perspective is deemed important because the attainment of certain performance targets (as articulated in the National Objectives for Health and the Health Sector Roadmap) typically requires medium term investment and predictability of funding (e.g., for multi-year entitlement or capital programs such as premium subsidies for the poor's enrollment in the Sponsored Program of the Philippine Health Insurance Corporation [PhilHealth] or the Health Facilities Enhancement Program [HFEP]). At the same time, it should be emphasized that the MTEF reflects the funding requirement of existing policy. As such, it is typically prepared as a 3-5 year rolling

document that is updated annually to take into account new policies that may emerge in the interim.

In formulating the DOH's MTEF for 2016-2020, this study estimates the resource requirements of the government's Universal Health Care program. The four strategic thrusts of the UHC as outlined in the National Objectives for Health for 2011-2016 guides this study in this regard:

- (i) attainment of public health MDGs (i.e., reduction of maternal and child mortality and control and elimination of communicable diseases) through
 - the deployment of Community Health Teams that will assess families in assessing and acting on their health needs
 - the utilization of the life cycle approach in providing needed health services, namely family planning, ante-natal care, delivery in health facilities, essential newborn and immediate postpartum care, and the Garantisadong Pambata package for children 0-14 years of age
 - promotion of a healthy lifestyle to reduce noncommunicable diseases
 - public health measures that prevent and control communicable diseases and adequate surveillance and preparedness for emerging and re-emerging diseases
- (ii) improvement of financial risk protection through
 - the generation of resources to modernize and sustain health facilities and improve the provision of public health services to achieve the health MDGs
 - the strengthening the National Health Insurance Program by
 - expanding enrollment of the poor in PhilHealth to improve NHIP coverage
 - redirecting PhilHealth operations towards the improvement of benefit delivery
 - promoting the availment of quality outpatient and inpatient services at accredited facilities through reformed capitation and no balance billing arrangements for sponsored members
 - increasing the support value of PhilHealth benefit package
- (iii) enhancement of accessibility of quality care delivery system through
 - the upgrading and improvement of health facilities and hospitals
 - the deployment of human resources for health
 - fiscal autonomy and income retention scheme for government hospitals
- (iv) improvement of the health governance system through
 - reform of health systems
 - maintenance of an effective health regulatory system.

Next, this study will estimate the resource envelope, i.e., the amount of funding that is likely to be made available to the health sector from both the regular sources as well as incremental revenues from the Sin Tax Law. Finally, it will bring together the estimates of the resource requirements with the financing envelope. In formulating the MTEF, it should be recognized that expenditure needs will generally exceed financing envelopes, thus requiring prioritization and trade-offs. In this regard, the following considerations

may serve as guides: (i) the health system's readiness and actual progress in achieving the governance reforms should be taken into consideration, (ii) the implementation capacity or absorptive capacity of implementing agencies given DBM's new policy regarding the lapsing of annual appropriations ("use it or lose it"), and (iii) efficiency improvements in the utilization of health resources in terms of maximizing the expected outputs from existing resources (i.e., technical or operational efficiency) and allocating resources to programs that yield the greatest health impact (i.e., allocative efficiency).

2. TREND AND COMPOSITION OF GOVERNMENT SPENDING ON THE HEALTH SECTOR

2.1. Overall trend

General government (i.e., national government and LGUs combined) spending on health deteriorated consistently from 1.0% of GDP in 1997 to 0.5% of GDP in 2008 (**Figure 1**). This came about as health spending of both the national government (starting 1997) and the local government (starting in 2001) showed a well-defined downtrend during the period. The tight fiscal situation of the national government following the 1998 Asian financial crisis and the weakening of the national government's revenue effort in subsequent years coupled with high fiscal deficits in those years caused the national government debt stock to rise. As a corollary, debt service payments of the national government also rose and crowded out spending on most government services, including health. Thus, the share of the health sector in the national government budget contracted in 1999-2008 (**Figure 2**). On the other hand, after rising persistently in 1993-2000,¹ LGU health spending expressed in terms of GDP started to dip starting in 2001 partly because of the relative decline in their IRA following a weakening of BIR collections three years earlier. Thus, poor tax effort from 1998 through most of the next decade has negatively affected health spending on two fronts, at the national level and at the local level. Nonetheless, the share of LGUs in general government spending on the health sector became larger than that of national government (NG) starting in 2000 because of the more severe contraction in NG health spending compared to that of LGU health spending between 1997 and 2008 (**Figure 3**).

The high and unmitigated pace of population growth exerts additional pressure on government spending. Thus, per capita health spending of the general government (in 2000 prices) mirrored the downward trend in government health spending (expressed in terms of GDP) in 1998-2005. To wit, per capita general government health spending (in 2000 prices) went down from a high of PhP 446 in 1997 to a low of PhP 294 in 2005. On the other hand, real per capita NG health spending dipped from PhP 246 in 1997 to PhP

¹ It is creditable that while national government spending on health went down as a result of the devolution of health services to LGUs, devolution *per se* did not result in a reduction on total health spending of the general government. In the first 8 years of devolution, the increase in LGU post-devolution spending on health more than made up for the reduction in DOH health spending. Thus, total GG health spending in 1995-2000 (0.9% of GDP on the average) is higher than the average GG health spending in the pre-devolution period (0.7% of GDP).

131 in 2005 while real per capita LGU health spending went down from PhP 201 in 1997 to PhP 163 (Table 1).

Figure 1. General government spending on health as % of GDP, 1990-2013

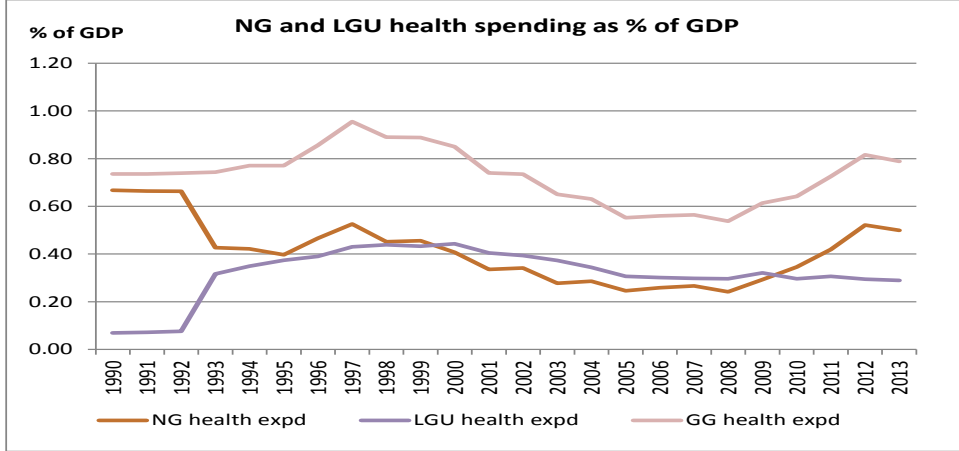


Figure 2. Share of health sector in total NG expenditures, 1990-2013

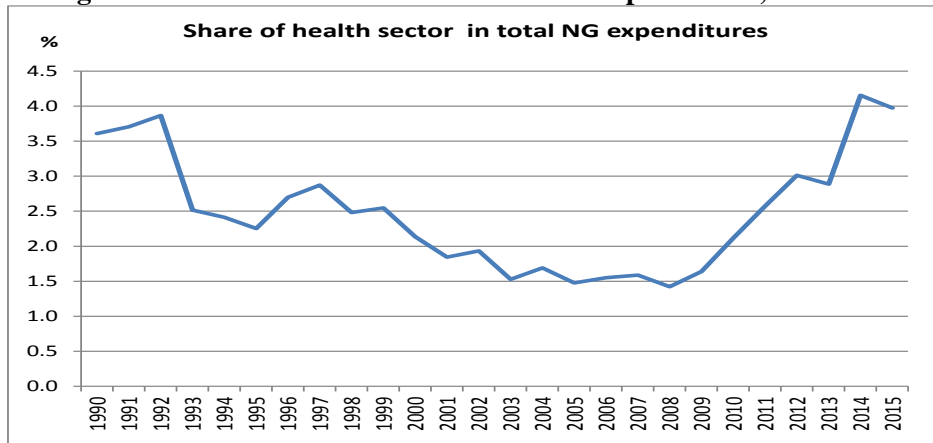


Figure 3. Share of LGUs in total GG health spending

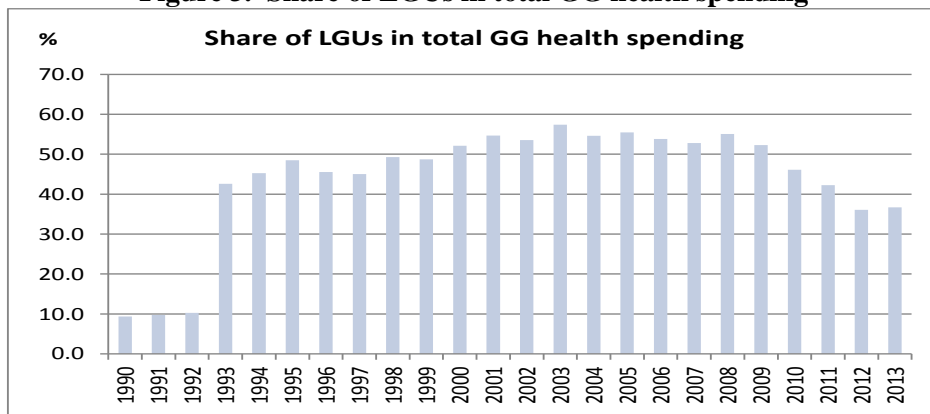


Table 1. Per capita government health spending (in 2000 prices)

	NG	LGU	GG
1995	175	164	339
1996	212	177	389
1997	246	201	446
1998	205	199	404
1999	208	198	406
2000	190	207	397
2001	158	191	349
2002	164	188	352
2003	137	184	321
2004	148	178	326
2005	131	163	294
2006	142	165	307
2007	153	171	324
2008	142	174	316
2009	171	187	358
2010	212	181	393
2011	261	191	452
2012	341	192	534
2013	344	199	543

Among the major sectors, the health sector is the biggest beneficiary of the greater fiscal space made available in 2006-2012 following the amendments to the excise taxes on sin products in 2005, the passage of the reformed value added tax law in 2006, and the contraction of debt service payments as result of successful fiscal consolidation in earlier years. Thus, national government health spending started to recover, albeit slowly at first from 2006 onwards. NG spending on the health sector grew by 22% yearly on the average in 2005-2012, double than that of total NG spending (10%) and faster than those of infrastructure sector (22%) and social welfare sectors (20%). However, despite said recovery, real per capita government health spending in 2006-2010 remained below the peak levels registered in 1997 (**Table 1**).

2.2 Composition of National Government Health Expenditures

National government spending on health is largely driven by DOH spending which accounts for 79% of total NG health spending in 1996-2010. The share of DOH in total NG health spending has, in fact, risen to 96% in 2012-2013.

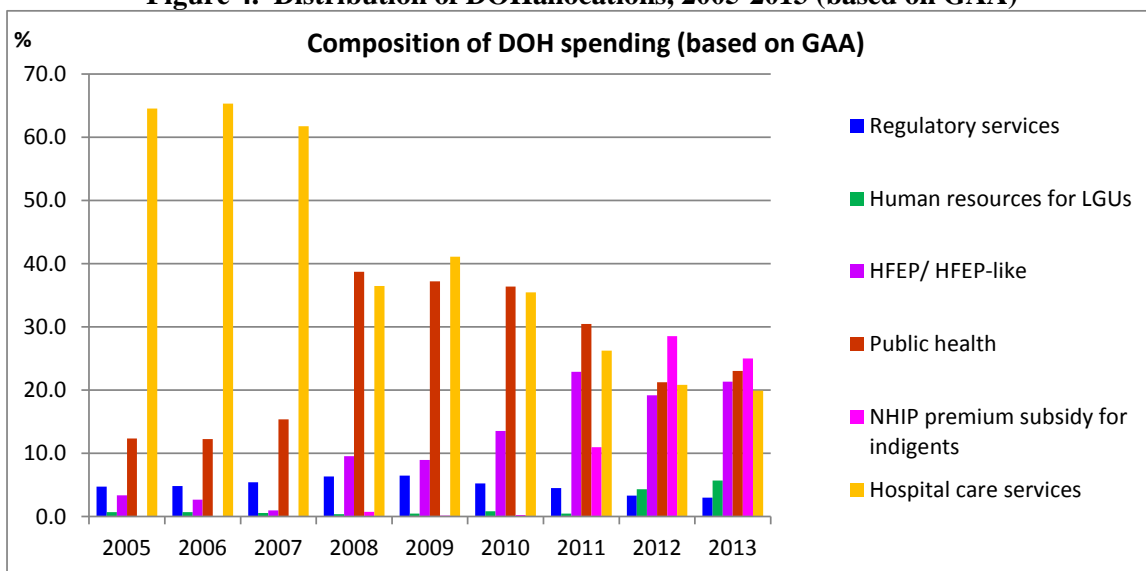
Composition of DOH spending. The DOH budget is analyzed in terms of six major elements that are key to the achievement of UHC: (i) technical and commodity support for the delivery of public health services by LGUs, (ii) provision of health human resource assistance to LGUs (e.g., doctors to the barrios program), (iii) NHIP premium subsidy to indigent families, (iv) Health Facilities Enhancement Program or HFEP, (v) hospital care services and (vi) regulatory services.

A shift in the composition of DOH spending in favor of NHIP premium subsidy for indigent families under the Sponsored Program of the Philhealth, Health Facilities Enhancement Program, public health, and health human resource deployment at the expense of hospital care services and regulatory services is evident in 2005-2013 – a shift that is consistent with the DOH’s policy pronouncements as embodied in the National

Objectives for Health for 2005-2010/ 2011-2016 and Health Care Financing Strategy (2009). Tertiary care services in retained hospitals persistently captured over 60% of the DOH budget in 2000-2007. With the NOH's emphasis on the achievement of the health MDGs and financial risk protection, the share of hospital care services in total DOH appropriations went down initially to an average of 38% in 2008-2010, 26% in 2011 and, finally, to an average of 20% in 2012-2013 (**Figure 4**). Similarly, after increasing from an average of 5% of total DOH appropriations, the budget share of regulatory services contracted gradually from 6.4% in 2008-2009 to 3% in 2013. Note that government retained hospitals and the regulatory bureaus under the DOH (e.g., the Bureau of Food and Drugs [BFAD], Bureau of Quarantine International Health Surveillance [BQIHS]) are authorized to retain and use the income they earn from the services they provide.

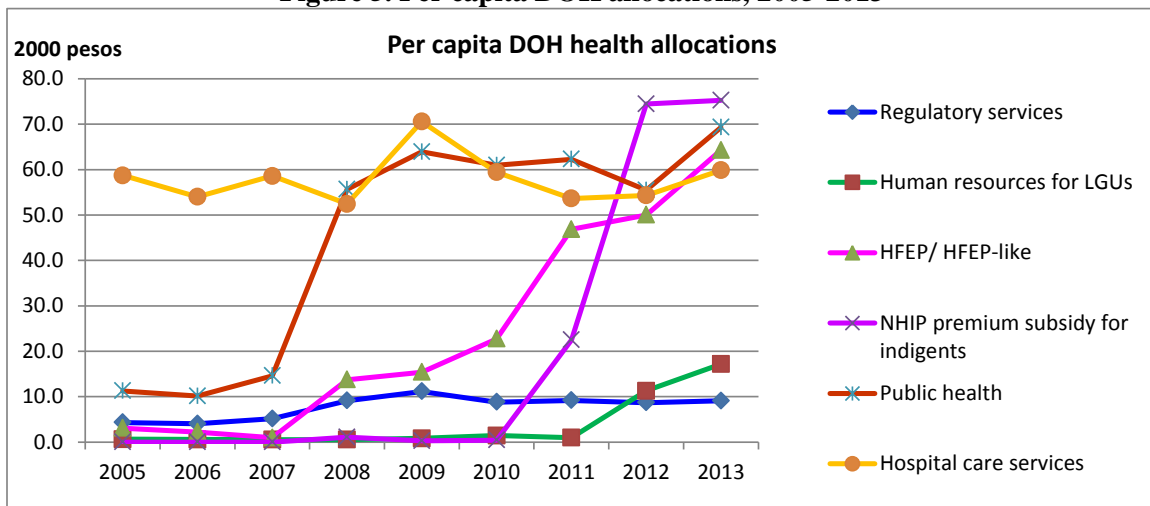
In contrast, the share of NHIP premium subsidy for indigent families in the DOH budget expanded from nil in 2005 to 25% in 2013 while that of the HFEP went up from 3% to 21% and that of public health increased from 12% to 23%. The increasing allocation given to the NHIP premium subsidy of indigent families is meant to ensure that an increasing number of families which live below the poverty line are enrolled in the NHIP. Initially, the higher budget allocation for the HFEP was intended for the upgrading of RHUs/ BHSs and LGU hospitals into BEmONC and CEmONC facilities, respectively. Subsequently, it was aimed not only at improving access to quality hospitals and other health facilities but also at assisting government hospitals to meet DOH licensing and PhilHealth accreditation requirements (so that they can better access PhilHealth reimbursements and, consequently, operate in a more sustainable manner prospectively). On the other hand, the higher priority given to public health may partly be attributed to the increasing urgency of providing the budgetary support to the achievement of the MDGs for health, a need that is made even more pressing given that the brunt of the restrictive fiscal stance of the national government in earlier years was borne most heavily by public health services.

Figure 4. Distribution of DOH allocations, 2005-2013 (based on GAA)



It should be emphasized that the reallocation described above was achieved not by actually taking money away from one or more sub-sector/ interventions but as a result of the relatively faster growth in the allocations for some sub-sectors/ interventions compared to those for others. Thus, despite the aforementioned decline in the budget share of hospital care services, the allocation for hospital care services actually grew by 6% yearly on the average in 2005-2013, enough to keep pace with inflation and population growth. Consequently, per capita DOH allocation for hospital services (in 2000 prices) was fairly stable at PhP 58 (Figure 5). On the other hand, the budget allocation for regulatory services increased by 16% yearly on the average in 2005-2013, thereby allowing real per capita allocations for said services to double from an average of PhP 4 in 2005-2005 to an average of PhP 9 in 2008-2013. Meanwhile, real per capita DOH allocation for public health rose from an average of PhP 11 in 2005-2006 to an average of PhP 61 in 2008-2013, about 50% higher its peak level of PhP 40 in 1999 (Figure 5).

Figure 5. Per capita DOH allocations, 2005-2013



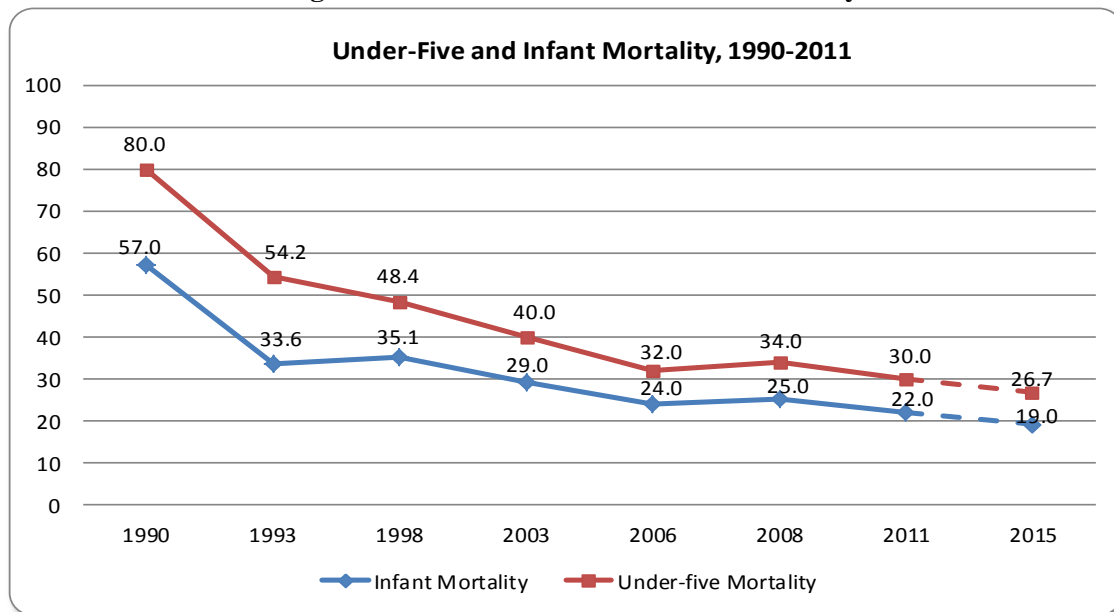
3. ESTIMATION OF RESOURCE REQUIREMENTS AND RESOURCE GAPS IN THE CONTEXT OF UNIVERSAL HEALTH CARE

In this section, the resource requirements for the priority programs in the health sector that support the MDGs for health (Sub-section 3.1) as well as those pertaining to improving financial risk protection (Sub-section 3.2) and those related to enhancing access to quality care in hospitals and other facilities (Sub-section 3.3) and those related to other DOH functions (Sub-section 3.4) are estimated. Subsequently in Section 4, the estimates of the resource requirements derived in this section are compared with the resource envelope given projections of earmarked revenues from the Sin Tax Law in order to arrive at an estimate of the resource gap.

3.1. Budget Resources Needed to Attain Health MDGs

The Philippines posted notable gains in 1990-2011 in reducing both the infant mortality rate (IMR) and the under-5 mortality rate (U-5MR). During this period, the infant mortality was initially halved from 57 infant deaths per 1,000 live births in 1990 to 24 in 2006 and improved further to 22 in 2011 (**Figure 6**). In like manner, the under-5 mortality rate went down from 80 under-five deaths per 1,000 children in 1990 to 32 in 2006 and 30 in 2011. In both cases, the rate of progress needed to reach the 2015 target is less than the actual rate of progress to date suggesting that it is likely that the MDG targets for child health will be achieved.

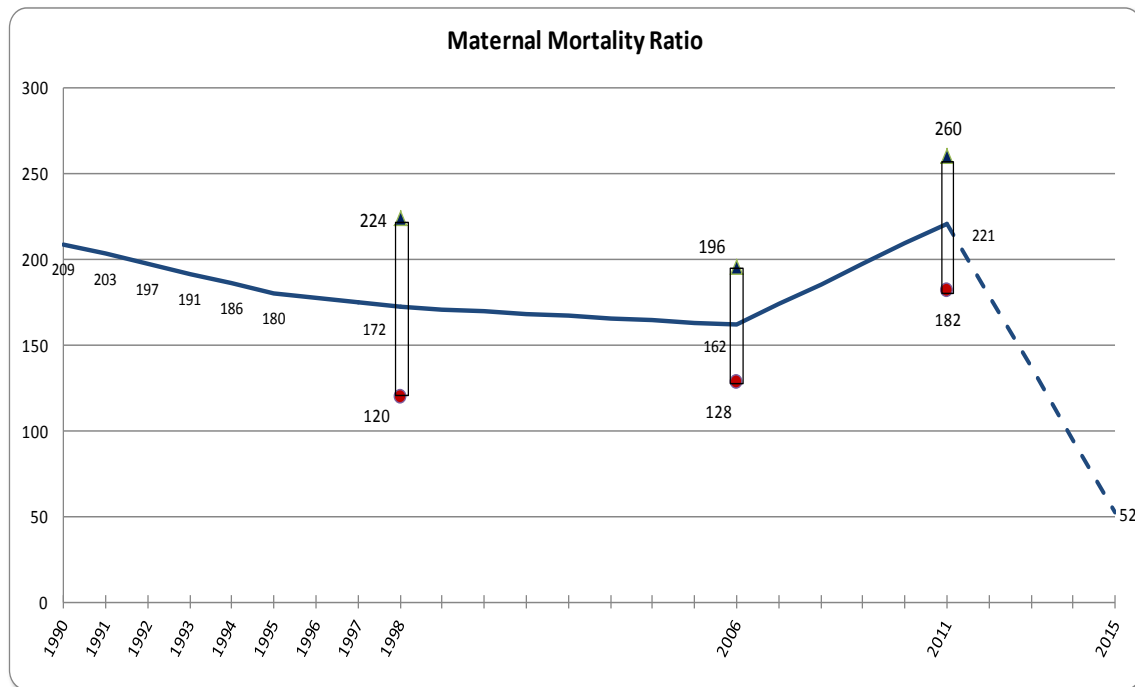
Figure 6. MDG 4: Infant and Child Mortality



Source: 1990 Technical Working Group on Maternal and Child Mortality, PSA-NSCB; National Demographic and Health Survey (NDHS) (1993, 1998, 2003, & 2008), NSO; Family Planning Survey (FPS) 2006, Family Health Survey 2011

On the other hand, the country's performance in reducing the maternal mortality rate (MMR) is not as commendable, with the MMR declining from 209 maternal deaths per 100,000 live births in 1990 to 162 maternal deaths per 100,000 live births in 2006 (**Figure 7**). Subsequently, however, MMR crept up to 221 in 2011. Thus, the rate of progress necessary to reach the 2015 target is thus more than 3 times higher than the actual rate of progress in 1990-2011.

Figure 7. MDG 5: Maternal Mortality Rate



Source: NSCB (1990-1995; NDS, NDHS, FPS, FHS, PSA-NSO (1998-2011))

While the MDG targets for the infant and under-five mortality rates are likely to be met in 2015, that for the maternal mortality rate will most likely not be attained. Moreover, a slowdown in the rate of reduction of both the infant mortality rate and the under-five mortality rate in 2006-2011 compared to 1990-2006 is apparent. Scrutiny of service level indicators suggests some worrisome movements. For instance, the percentage of pregnant women with at least 3 pre-natal visits, the percentage of pregnant women given at least two doses of tetanus toxoid vaccination, the percentage of children under 1 year of age given Vitamin A supplements had all declined in 2005-2011 while the percentage of lactating women given Vitamin A supplements went down in 2009-2011 (**Table 2**). Moreover, the percentage of fully immunized children under 1 year of age was erratic between 1995 and 2010 and showed a marked drop in 2011. Such lackluster service level performance coincided with the sharp and continuous drop in real per capita DOH spending on public health (on an obligation basis) in 2000-2008 (**Figure 8**). Also, a turnaround in real per capita DOH public health spending was registered in 2009, but it was not until 2012 when the peak level of PhP 40 in 1999 was exceeded.

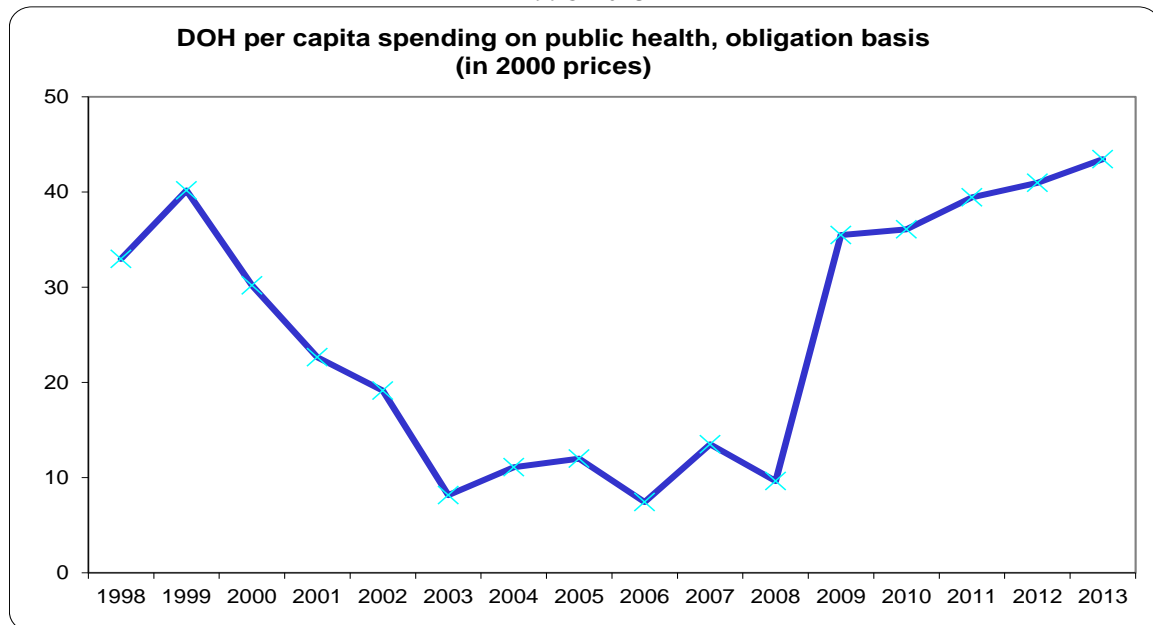
In contrast, the service level indicators as well as outcome indicators for infectious diseases painted a more positive picture with the exception of HIV/AIDS perhaps because of the presence of funding from external sources. To wit, the malaria morbidity rate was reduced from 86 per 100,000 population in 1995 to 10 per 100,000 population in 2011 while the TB prevalence rate was cut from 904 per 100,000 population to 484 per 100,000 population. On the other hand, the total number of HIV/ AIDS cases went up from 116 in 1995 to 2,349 in 2011 (**Table 2**).

Given this perspective, the importance of ensuring that adequate resources from both the national government and LGUs are made available for public health services if the MDGs for health are to be achieved is obvious. For the most part, this study estimates the budgetary resource requirement for each of the major public health programs as the product of the target population, the coverage rate, and the unit cost of delivering the services. The critical interventions that are costed in this manner include the following: (1) expanded program of immunization for children that aims to provide maximum resistance against seven vaccine-preventable diseases: tuberculosis (BCG), poliomyelitis (OPV), diphtheria/ pertussis/ tetanus (DPT-HEPB-HIB), hepatitis B, measles (MV), PCV, IPV and MMR for infants, DTaP for children aged 6 years old, MR, Td and HPV for adolescents; (2) tetanus toxoid vaccination for mothers, (3) micronutrient supplementation for children, mothers and women (Vitamin A for children and lactating mothers, iron for infants with low birth weight pregnant women, lactating mothers, women of reproductive age and female adolescents, micronutrient powder consisting of 15 vitamins and minerals for infants and children below 2 years of age, and iodine for pregnant mothers), (4) reproductive health, (5) rabies control program (6) prevention and treatment of malaria, schistosomiasis, filariasis, soil-transmitted helminthiasis, and HIV/AIDS (7) prevention and control of non-communicable diseases including lifestyle-related diseases, (8) pneumococcal and influenza vaccines for seniors, (9) environmental and occupational health, and (10) epidemiology and disease surveillance activities.

Table 2. Selected health indicators, 1995-2011

	1995	1998	2000	2005	2009	2010	2011
% of pregnant women with 3 or more pre-natal visits a/	43.8%	59.4%	64.8%	62.3%	59.0%	58.0%	34.4%
% of pregnant women given tetanus toxoid vaccination at least twice a/	54.4%	68.8%	62.5%	58.8%	52.1%	49.6%	34.4%
% of lactating mothers given Vitamin A a/	37.6%	49.1%	57.0%	54.7%	45.3%	49.5%	31.4%
% of livebirths attended by medical professional a/			69.0%	68.0%	74.3%	79.5%	74.9%
% of Contraceptive prevalence a/		46.5%		50.6%			48.9%
% of fully immunized children under 1 a/	86.4%	84.8%	86.5%	83.7%	89.4%	84.9%	67.3%
% of infants given 3rd dose of Hepa B a/		37.3%	6.2%	42.9%	83.5%	82.9%	62.6%
% of diarrhea cases amongst children under 5 given ORS a/		28.4%	24.1%	14.2%	14.0%	78.5%	81.3%
% of pneumonia cases amongst children under 5 given treatment a/		94.7%	93.9%	95.3%	94.9%	96.5%	97.8%
% of children under 1 given Vitamin A a/		72.8%	76.9%	80.0%	60.0%	79.4%	55.1%
% of HIV/AIDS cases b/	116	189	123	210	835	1,591	2,349
Malaria morbidity rate b/ c/	86.0		48.0	55.0	22.0	21.0	9.5
Malaria mortality rate b/ c/	0.90		0.40	0.17	0.03	0.03	0.01
Tuberculosis incidence rate b/ c/	360.0		329.0	301.0	280.0	275.0	270.0
Tuberculosis prevalence b/ c/	904.0		775.0	633.0	520.0	502.0	484.0
Tuberculosis mortality rate b/ c/	49.0		41.0	35.0	31.0	30.0	29.0

Figure 8. DOH per capita spending on public health, on an obligation basis (in 2000 prices), 1998-2013



In the case of activities/ programs which are not population based, certain activities are costed on the basis of the frequency of the conduct of repetitive activities (e.g., training). On the other hand, no detailed costing was made for some programs because of data constraints. Instead, what is done is simply to allow the forward estimates for these programs in 2010 to grow in tandem with inflation. Implicitly, this approach ensures that expenditures on these “other” items are maintained in real terms at their levels during the benchmark year.²

Although the delivery of public health services is largely devolved to LGUs in accordance with the provisions of the Local Government Code of 1992, the public good nature of public health services suggests that the central government cannot fully abdicate its role in this sub-sector despite devolution. As such, the estimates of the resource requirements for the MDG interventions are based on the prevailing assignment of expenditure responsibilities between the central government and LGUs. In particular, in child and maternal health care, the national government finances the procurement of antigens for the expanded program of immunization (EPI) while the provision of syringes and safety boxes for the immunization program is assigned to LGUs. Similarly, the procurement of supplies for iron supplement for children and drugs for the control of acute respiratory infections and diarrhea in children is delegated to LGUs. In the case of HIV-AIDS, malaria, TB and other infectious diseases, the national government provides the drugs while the training of frontline health personnel for the delivery of basic and essential health care including that related to the prevention and control of the said diseases is the joint responsibility of the national government and LGUs. On the other

² It should be emphasized that this approach does not allow for the expansion of coverage (assuming that these interventions do not quite reach full coverage) nor the improvement in the quality of these interventions.

hand, frontline health personnel needed for the delivery of basic and essential health care is lodged with the LGUs

Given this context, this study does not only present estimates of the resource requirements for the selected public interventions that are expected to be financed by the national government, it also derives estimates of the amount of complementary resources that have to be forthcoming from local government units (LGUs) if the MDGs for health are to be attained. It should be emphasized that the approach used in the estimation of resource needs in the health sector focused only on recurrent non-personnel cost of essential package of basic health services. This implies that the additional personnel requirement resulting from population growth and the higher coverage rates for the basic health services that are needed for the attainment of the MDGs are not taken into account in this study. This limitation is not a serious concern for the central government which has responsibility for the financing of commodities, technical assistance and training for LGU partners but not direct service delivery. However, it does mean that estimates of the resource requirements at the local government level would tend to be on the conservative side.

The estimates of the full cost requirement of the major MDG interventions are based on the following assumptions:

- Expanded program of immunization for infants
 - Includes BCG, DPT-HEPB-HIB, measles (MV), polio (OPV), hepatitis B, PCV, OPV and MMR
 - Target population – 85% of children aged 0-11 months
 - Coverage rate – 95% of target population in 2016-2020 for the high cost scenario and to 50% for the low cost scenario
- Expanded program of immunization for children aged 6 years old
 - For DTaP
 - Target population – all children aged 6 years old
 - Coverage rate – 100% of target population for high cost scenario and 50% of target population for low cost scenario
- Expanded program of immunization for adolescents
 - For MR, Td, and HPV
 - Target population – all children aged 10 years old in 2016-2020
 - Coverage rate – 100% of target population for high cost scenario and 50% of target population for low cost scenario
- Tetanus toxoid (TT2) vaccination for mothers
 - Target population – all pregnant women (estimated to be equal to 3.5% of population of women of reproductive age (WRA) for 2016-2020)
 - Coverage rate – 80% of target population for high cost scenario and 50% of target population for low cost scenario

- Micronutrient Vitamin A supplementation for children
 - Target population – all children aged 6-59 months
 - Coverage rate – 100% of target population for high cost scenario and 50% of target population for low cost scenario

- Micronutrient iron supplementation for low birth weight infants
 - Target population – all low birth weight infants (estimated to be equal to 20% of all children aged under 1 year of age)
 - Coverage rate - 100% of target population for high cost scenario and 50% of target population for low cost scenario

- Micronutrient supplementation (15 vitamins and minerals) for underweight children
 - Target population – all underweight children below 2 years of age (estimated to be equal to 56% of children aged 6-11 months and 41% of children aged 12-23 months)
 - Coverage rate – rate - 100% of target population for high cost scenario and 50% of target population for low cost scenario

- Micronutrient Vitamin A, iron and iodine supplementation for pregnant and lactating women
 - Target population –for Vitamin A – all lactating women (estimated to be equal to 3% of total population); for iron –31%³ lactating women and 43⁴% pregnant women (estimated to be equal to 3.5% of total population); for iodine – all pregnant women
 - Coverage – 100% of target population for high cost scenario and 50% of target population for low cost scenario
 -

- Reproductive health
 - Target population – all sexually active women of reproductive age (estimated to be equal to 41% of all WRA)
 - Coverage rate – 100% of target population for high cost scenario and 50% of target population for low cost scenario
 - Method mix – based NDHS 2013

- Rabies control
 - Based on 5% growth of historical incidence

- HIV/ AIDS
 - Target Population – estimates from program managers of numbers of men having sex with men (MSM), persons who inject drugs (PWID), registered female sex workers (RFSW), freelance female sex workers (FFSW), transgenders (TG), and people living with HIV (PLHIV) –

³ This figure represents proportion of iron-deficient lactating women.

⁴ This figure represents proportion of iron-deficient pregnant women.

- Coverage rate - 100% of target population
- Filariasis
 - Target population – population in target provinces
 - Coverage rate – 100% of target population for diethylcarbamazine citrate tablets and 20% of target population for supportive drugs
- Deworming
 - Target population – 30% of all children 1-12 years of age
 - Coverage rate – 100% of target population
- Pneumococcal and influenza vaccine for senior citizens
 - Target population – all senior citizens for influenza vaccine; all seniors aged 60 year old
 - Coverage rate – 100% of target population

Because the most recent information on the unit cost of inputs that is available refers to those for 2014, this study estimated the budgetary support for the various programs and interventions that contribute to the achievement of the health MDGs initially in 2014 prices, as an intermediate step. Subsequently, estimates of MOOE and CO, thus derived, were adjusted for inflation (assumed to be equal to 4% yearly) before adding the estimated PS cost in 2014 prices to arrive at estimates of the budgetary requirements for the health in MDGs in current prices. In the case of public health interventions, two scenarios were considered: (i) high cost scenario which assumes a 100% coverage rate for all interventions; and (ii) low cost scenario which assumes a 50% coverage rate⁵ for EPI, micronutrient supplementation, and reproductive health and a 100% coverage rate for prevention and control of infectious diseases.

In the high cost scenario, **Table 3** shows that budget support for public health interventions supportive of the attainment of the health MDGs will have to increase by 158% between 2015 and 2016, followed by more modest increases in 2017-2020. In particular, the 237% increase in budget requirement for EPI plus in 2015-2016 may be explained primarily by the expansion of the coverage of adolescent immunization (for MR, Td and HPCV) to all 10 year old children starting 2016. On the other hand, the 308% increase in the budget requirement for prevention and control of non-communicable diseases is attributable to the expansion of the coverage of influenza and pneumococcal vaccination for senior citizens. Meanwhile, the sustained large increases in the budget support for environmental and occupational health in 2016-2020 is due to the introduction of new health packages for public health workers as well informal sector workers in the agriculture, mining and transport sectors. In toto, the budget support needed to attain the health MDGs under the high cost scenario is estimated to rise from PhP 37.2 billion in 2016 to PhP 29.1 billion in 2017 and PhP 36.3 billion in 2020.

⁵ A coverage rate of 50% would imply targeting of the relevant interventions to poorest half of the population.

In the low cost scenario, the **Table 4** indicates that budget support for public health interventions supportive of the attainment of the health MDGs will have to increase by 82% between 2015 and 2016 – rising from PhP 19.1 billion in 2016 to PhP 20.6 billion in 2017 and PhP 26.4 billion in 2020.

Table 3. High cost scenario: Budgetary support needed to achieve health MDGs, 2016-2020 (in current prices)

IN MILLION PESOS	TOTAL BUDGET	IN CURRENT PRICES					2015-2016 growth rate
	2015	PS, MOOE & CO					
	Based on NEP	2016	2017	2018	2019	2020	
1.0.0 Public Health MDGs Achieved	10,512	27,154	29,083	31,226	33,652	36,269	158.3
1.1.0 Reduce Maternal and Child Mortality (MDGs 4 and 5)	6,610	15,717	16,483	17,321	18,179	19,077	137.8
1.1.1 Family Health and Responsible Parenting	3,274	4,474	4,781	5,147	5,520	5,920	36.7
1.1.2 Expanded Program on Immunization Plus	3,336	11,242	11,702	12,174	12,659	13,157	237.0
1.2.0 Control and Eliminate Infectious Diseases (MDG 6)	3,060	8,002	8,612	9,207	10,035	10,943	161.5
1.2.1 TB Control	1,094	1,240	1,354	1,478	1,614	1,763	13.4
1.2.2 Rabies Control Program	410	746	740	731	713	687	81.9
1.2.3 Elimination of diseases as public health threat such as malaria, schistosomiasis, filariasis, leprosy	788	979	1,001	922	991	1,045	24.2
1.2.4 Operations of Philippine National AIDS Council (PNAC) Secretariat	11	12	12	13	13	13	6.4
1.2.5 Other infectious diseases and emerging and re-emerging diseases incl. HIV/AIDS, dengue, food and water-borne diseases	744	5,010	5,490	6,047	6,686	7,418	573.5
1.2.6 Assistance to the Philippine Tuberculosis Society	13	14	15	16	16	17	8.2
1.3.0 Promote a Healthy Lifestyle and Prevent NCDs	841	3,436	3,989	4,699	5,439	6,249	308.5
1.3.1 Health Promotion	168	180	187	194	201	208	7.4
1.3.2 Non-Communicable Disease Prevention and Control	587	1,710	1,745	1,880	2,012	2,171	191.5
1.3.3 Environmental and Occupational Health	86	1,545	2,057	2,625	3,225	3,869	1687.5
a. Environmental Health		103	107	122	127	132	
b. Occupational Health		671	923	1,198	1,493	1,810	
Occupational Health - Chem Safety & Toxicology		771	1,026	1,306	1,605	1,927	

Table 4. Low cost scenario: Budgetary support needed to achieve health MDGs, 2016-2020 (in current prices)

IN MILLION PESOS	TOTAL BUDGET	IN CURRENT PRICES					2015-2016 growth rate
	2015 Based on NEP	PS, MOOE & CO					
		2016	2017	2018	2019	2020	
1.0.0 Public Health MDGs Achieved	10,512	19,141	20,647	22,326	24,277	26,391	82.1
<i>1.1.0 Reduce Maternal and Child Mortality (MDGs 4 and 5)</i>	6,610	8,517	8,927	9,374	9,832	10,311	28.8
1.1.1 Family Health and Responsible Parenting	3,274	2,568	2,735	2,931	3,132	3,347	-21.6
1.1.2 Expanded Program on Immunization Plus	3,336	5,949	6,192	6,442	6,699	6,963	78.3
1.2.0 Control and Eliminate Infectious Diseases (MDG 6)	3,060	7,966	8,575	9,169	9,997	10,904	160.3
1.2.1 TB Control	1,094	1,240	1,354	1,478	1,614	1,763	13.4
1.2.2 Rabies Control Program	410	746	740	731	713	687	81.9
1.2.3 Elimination of diseases as public health threat such as malaria, schistosomiasis, filariasis, leprosy	788	944	964	884	954	1,006	19.8
1.2.4 Operations of Philippine National AIDS Council (PNAC) Secretariat	11	12	12	13	13	13	6.4
1.2.5 Other infectious diseases and emerging and re-emerging diseases incl. HIV/AIDS, dengue, food and water-borne diseases	744	5,010	5,490	6,047	6,686	7,418	573.5
1.2.6 Assistance to the Philippine Tuberculosis Society	13	14	15	16	16	17	8.2
1.3.0 Promote a Healthy Lifestyle and Prevent NCDs	841	2,658	3,145	3,784	4,448	5,177	216.1
1.3.1 Health Promotion	168	180	187	194	201	208	7.4
1.3.2 Non-Communicable Disease Prevention and Control	587	932	901	965	1,021	1,099	58.9
1.3.3 Environmental and Occupational Health	86	1,545	2,057	2,625	3,225	3,869	1687.5

3.2. Budget Resources Needed to Enhance Financial Risk Protection

In 2009, DOH reassessed its progress towards the reforming country's health care financing system (DOH Health Policy Note 6:1 2009b, DOH Health Care Financing Strategy 2010-2020 2009a) and re-affirmed the following goals of the reform:

- provide financial protection to all,
- ensure equitable financing,
- ensure equitable access to health services, and
- establish universal coverage.

Financial protection is secured when the system is such that cost of illness / health care does not lead to the impoverishment of households. This is assured when the share of out-of-pocket as a source of financing the health system is minimized, when the coverage of the social health insurance is universal, and when the benefit payments from social health insurance is adequate.

Table 5 shows that the share of out-of-pocket expense in the country's total health expenditure (THE) increased from 41% in 2000 to 52% in 2010. This occurred as the share of social insurance in THE failed to compensate for the contraction in share of general government spending in THE from 41% in 2000 to 27% in 2010. In particular, note the disappointing increase in the share of the National Health Insurance Program from 7% in 2000 to 9% in 2010.

Table 5. Share in total health expenditure by financing agent, 2005-2012

	2000	2001	2002	2003	2004	2005	2010	2011	2012
Government	40.6	36.2	31	31.1	30.7	28.7	26.6	20.2	18.5
National	21.2	17.1	15.8	15.2	15.7	15.8	11.4	12.5	11.4
Local	19.3	19.1	15.2	15.9	15.0	12.9	15.2	7.7	7.1
Social Insurance	7.0	7.9	9.0	9.1	9.6	11.0	8.9	9.4	11.1
Philhealth	6.8	7.7	8.8	8.6	9.4	10.7	8.9	9.4	11.1
Employees' Compensation	0.2	0.2	0.2	0.5	0.3	0.4	0.0	0.0	0.0
Private Sources	51.2	54.5	58.6	58.6	58.5	59.1	62.8	69.5	69.6
of which:									
Out-of-Pocket	40.5	43.9	46.8	46.9	46.9	48.4	52.5	57.7	57.6
Private Insurance	2.0	2.5	2.9	2.3	2.5	2.4	1.7	1.7	1.5
HMOs	3.8	3.1	3.6	4.7	4.3	3.9	5.6	6.9	7.1
Others	1.3	1.3	1.4	1.2	1.2	1.2	1.7	0.8	0.9
Memo item:									
Total Health Expenditure									
in billion pesos	114.9	116.6	117.2	148.6	165.3	180.8	380.8	416.5	467.8
% of GDP	3.2	3.0	2.8	3.3	3.2	3.2	4.2	4.2	4.3

Up until 2011, health insurance coverage for the Sponsored Program (or the indigent program) was poorly targeted and volatile (i.e., exhibited fluctuations that appear to be related to the conduct of elections). Starting in 2012, the national government assumed the payment of the 100%⁶ of NHIP premium contributions of 4.6 million poor families identified under the NHTS-PR. Also in 2012, the premium contribution for the Sponsored Program of the PhilHealth was increased from PhP 1,200 to PhP 2,400 in 2012. Accordingly, as discussed **Section 2**, the allocation for the NHIP premium subsidy for indigent families in the DOH budget tripled between PhP 3.5 billion in 2011 and PhP12.0 billion in 2012. In 2014, the allocation for the NHIP premium subsidy for indigent families was further increased by almost three-fold to PhP 12.6 billion in 2013 to PhP 35.3 billion in 2014 as the national government expanded the coverage of its subsidy to the near poor (?). Thus, the population coverage of the PhilHealth (counting both members and their dependents increased from 74% in 2010 to 87% in 2014.

Estimates of the budget support needed to further improve financial risk protection are shown in **Table 6**. Provisions are made in the DOH MTEF for the budgetary requirement of the free PhilHealth membership for senior citizens as mandated under the recently enacted Expanded Senior Citizen Law. There are about 8 million senior citizens as of 2015. However, some 6.5 million of whom are already enrolled or are lifetime members. Thus, the budget estimate shown in **Table 6** for senior citizen premium reflects the premium contribution of some 1.5 million senior citizens who are not yet members of

⁶ This amount used to be shared by the national government and LGUs.

PhilHealth.

The estimates in **Table 6** also include the DOH’s proposal to increase PhilHealth premium contributions by 50% starting in 2017 (from the current PhP 2,400 to PhP 3,600) for the purpose of expanding the benefits. Note, however, that evidence from other sources suggests PhilHealth coverage rates that are lower than those reported than PhilHealth. For instance, out of 11 hospitals/ infirmaries visited by Picazo (2014) in 2013, only 3 posted PhilHealth coverage rates in excess of 60%. The other 8 had PhilHealth coverage rates between 40%-60%. These numbers are consistent with estimates of the average PhilHealth coverage rate found in the 2013 NDHS (60.3%), an improvement from the 37.8% coverage rate registered in 2008 as per the 2008 NDHS but considerably lower than the 79% reported by PhilHealth. On the other hand, only 55.3% of those who are confined in a hospital or clinic as per the 2013 NDHS were PhilHealth members/dependents, slightly higher than the 52.4% figure from the 2008 NDHS.

Moreover, the PhilHealth data suggests that indigent families enrolled in PhilHealth do not utilize the health care services that are available to them as much as they could. Note that the share of the Sponsored Program to total number of claims processed (or total benefit payments) is less than its share in the total number of beneficiaries in 2014 (**Table 7**) while the opposite is true for government and private sectors.

Table 6. Budgetary support needed to enhance financial risk protection, 2016-2020

IN MILLION PESOS	TOTAL BUDGET	IN CURRENT PRICES					2015-2016 growth rate
	2015	PS, MOOE & CO					
	Based on NEP	2016	2017	2018	2019	2020	
2.0.0 Financial Risk Protection Improved	37,189	41,169	63,171	64,619	66,095	67,600	10.7
2.1.0 Expand PhilHealth Coverage							
2.2.0 Improve PhilHealth Benefit Package	37,189	41,169	63,171	64,619	66,095	67,600	10.7
2.0.1 Subsidy for Health Insurance Premium Payment of Indigent Families to the National Health Insurance Program	37,060	37,060	55,591	55,591	55,591	55,591	0.0
2.0.2 Subsidy for Health Insurance Premium under the PAMANA and Bangsamoro Programs	129	129	194	194	194	194	0.0
2.0.3 Subsidy for Health Insurance Premium under Senior Citizens	0	3,979	7,386	8,834	10,311	11,815	new item

The discrepancies in the estimates of the coverage rate and the less than optimal utilization of the PhilHealth card among enrolled indigent families may be indicative of problems related with (i) the non-availability/ non-accessibility of the master list of PhilHealth members and dependents at the field level; (ii) lack of awareness on the part members with regards to the benefits that come with PhilHealth enrollment; (iii) low support value of PhilHealth benefits; (iv) lack of drugs and medicines in government hospitals and (v) lack access to accredited health facilities, especially among poor families. Until these problems are addressed the headline improvements in the

PhilHealth coverage rate may not mean much.

Table 7. Number of PhilHealth members and beneficiaries vis number of claims processed, 2014

	No. of members	Dependents	No. of beneficiaries	% distn (1)	No. of claims processed	% distn (2)	% distn of claims/ % distn of beneficiaries
2014							
Government employees	1,952,447	3,771,110	5,723,557	6.6	746,331	11.3	1.7
Private employees	11,059,775	10,320,721	21,380,496	24.8	1,654,311	25.0	1.0
OWP	960,754	865,736	1,826,490	2.1	190,277	2.9	1.4
Informal sector	2,421,458	3,136,790	5,558,248	6.4	1,742,285	26.3	3.5
Indigents/ sponsored members	15,554,422	30,288,809	45,843,231	53.1	1,841,850	27.8	0.5
Seniors/ lifetime members	4,460,554	1,488,061	5,948,615	6.9		0.0	
TOTAL	36,409,410	49,871,227	86,280,637	100.0	6,625,089	100.0	

On the other hand, despite the enhancement and expansion of benefits and services covered under PhilHealth (e.g., introduction of case rate payment and “no balance billing” policy in 2011, the primary care benefit and the “Z benefit” for certain catastrophic illnesses in 2012), the support value of the PhilHealth remains low. The average support value of the NHIP is estimated to be 25.6% in 2013 as per the NDHS, less than half the support value reported by PhilHealth – 54% in 2013 and 59% in 2014. Moreover, PhilHealth data itself indicates that 70% and 59% of indigent/ sponsored PhilHealth beneficiaries/ members were not able to benefit from the “no balance billing” scheme in 2013 and 2014, respectively.

3.3. Budget Resources Needed to Improve Access to Quality Hospitals and Health Care Facilities

The key DOH interventions that are intended to improve access to quality hospitals and health care facilities are:

- Health Facilities Enhancement Program (HFEP) involves the rehabilitation and upgrading of NG and LGU health facilities so as to:
 - Enable government hospitals to operate on a more sustainable basis
 - Enhance ability of these facilities to provide quality and appropriate services that are responsive to the priority health needs of their catchment population
- National Drug Policy which is aimed at reducing the out-pocket cost of health care by reducing the cost of drugs and medicines
- Deployment of health human resources to assist LGUs
- Operations of DOH retained hospitals.

For the MTEF 2016-2020, the DOH HFEP unit proposes to upgrade 2,837 hospitals and other health facilities in 2016-2020 for a total cost of PhP 64 billion in 2014 prices

(Table 8). As such, the HFEP is the main driver of the estimate of the budget support needed to improve access to quality hospitals and other health facilities (Table 9). It is notable that while the proposed number of BHSs that will be upgraded in 2016-2020 is less than the total number of BHSs whose upgrading have either been completed or programmed to be completed in 2010-2015, the opposite is true in the case of LGU hospitals and DOH retained hospitals. A field level inventory and assessment of the facilities which have been funded from the HFEP in 2010-2015 is thus needed to better understand these apparent discrepancies.

Table 8. HFEP projects, completed/ programmed in 2010-2015 and proposed in 2016-2020

Type	Total existing	Completed in 2010-2013	Programmed		Completed & programmed in 2010-2015	Net 2016-2020	HFEP unit proposal 2016-2020
			2014	2015			
	(1)	(2)	(3)	(4)	(5)	(6)= (1-5)	(6)
BHSs	16,038	1,567	991	1,242	3,800	12,238	941
RHUs	3,074	2,027	1,274	587	3,888	(814)	1,112
LGU hospitals	734	252	593	128	973	(239)	-
DOH retained hosp	54	54	50	5	109	(55)	50
DOH specialized hosp	12	12	9	14	35	(23)	-
Drug Treatment/ rehab centers	13			11	11	2	
Compliance to laws							734
TOTAL	19,925	3,912	2,917	1,987	8,816	11,109	2,837
Proposed budget (in billion 2014 pesos)	2016	2017	2018	2019	2020	2016-2020	
based on column 5	15.8	14.3	11.3	11.3	11.3	64.0	

Also, needs assessment for the upgrading, improvement and construction in the context of a service delivery network plan is needed to optimize the utilization of the facilities that have not yet received any funding from the HFEP and to avoid “incrementalism” (Picazo 2014). An assessment of the functionality of health facilities that have already benefited from the HFEP is also suggested. For instance, of the completed facilities visited by Picazo (2014), less than half were found to be fully functional at the time of the visit due to the absence of a key provider (usually a doctor, nurse, or midwife); lack of proficiency training of the incumbent provider; major construction defects; poor siting or politically-motivated siting; and lack of key equipment. Picazo (2014) also noted that issues related to the equipment that were downloaded as part of HFEP (such as too early delivery of equipment; late or non-delivery of equipment; delivery of unrequested, unnecessary, or duplicative equipment; delivery of inferior or substandard equipment; overpriced equipment; voltage problems of electric equipment; installation delays and lack of orientation on equipment installation and calibration; lapse of warranty period and poor after-sales servicing; and locally unavailable spare parts and consumables for the equipment) was prevalent in 89% of RHUs and 70% of hospitals and infirmaries.

Table 9. Budget support needed to improve access to quality hospitals and other facilities, 2016-2020

IN MILLION PESOS	TOTAL BUDGET	IN CURRENT PRICES					2015-2016 growth rate
	2015	PS, MOOE & CO					
	Based on NEP	2016	2017	2018	2019	2020	
3.0.0 Quality Care Delivery System Accessible	32,266	37,106	36,387	33,895	34,761	35,657	15.0
3.1.0 Upgrade and Improve Health Units and Hospitals	27,510	32,019	31,125	28,451	29,127	29,826	16.4
3.1.1 Health Facilities Enhancement Program	13,098	17,103	16,061	13,238	13,764	14,311	30.6
3.1.2 DOH Hospital Operations (incl. TRCs)	13,277	13,662	13,866	14,078	14,298	14,528	2.9
3.1.3 Assistance to Private Sector Health Center (CLDRC)	12	13	14	15	15	16	8.2
3.1.4 National Pharmaceutical Policy Development incl. pro	997	1,106	1,044	975	898	814	10.9
3.1.5 National Voluntary Blood Services Program and Opera	126	135	140	146	151	157	7.7
3.2.0 Deploy Human Resources for Health	4,256	4,587	4,762	4,945	5,134	5,332	7.8
3.2.1 Implementation of Doctors to the Barrios and Rural He	4,256	4,587	4,762	4,945	5,134	5,332	7.8
3.3.0 Quick Response Fund	500	500	500	500	500	500	0.0

On the other hand, the budget proposed by the DOH for retained hospitals in the 2016-2020 MTEF has remained fairly stable in real terms relative to those of earlier years. With the expansion of the coverage of PhilHealth, hospitals have the opportunity to operate in a more sustainable fashion. Thus, there is a need to rethink this policy. Albeit to a lesser extent, the same can be said of the bureaus under the DOH which perform regulatory functions.

The DOH has also proposed to sustain the budget support for the deployment of doctors, nurses, midwives, medical technologists in the MTEF for 2016-2020. This practice has been continuously scaled up from 2012-2015. While it cannot be denied that there is a shortage of health professionals at the LGU level, anecdotal evidence from the field suggests the need to revisit this policy (Picazo 2014). LGU health officials claim this deployment program as problematic. First, they tend to be short-lived and unpredictable. Also, DOH-hired staff assigned to work at the LGUs tends to be viewed with mistrust if not envy by LGU-appointed personnel because of pay differentials between local and non-local hires. Indeed, one PHO feels the LGUs have no authority over them. Most also work as consultants and are subject to the same limitations as the local job orders. Lastly, the pay differences between the local and non-local hires can introduce discord in the working environment. Some LGU officials have misgivings in assigning the contractual personnel/ consultants/ job order staff direct patient care responsibilities because the lack of accountability in cases said health workers commit errors (Picazo 2014). There is a need for a longer term and sustainable solution to the staff shortage in local health offices.

3.4 Budget Resources Needed to Improve Health Governance Systems

Table 10 presents estimates of the budgetary support needed to improve health governance systems. Of all the items included under the rubric of health governance systems, the health information system grows fastest in 2015-2016 because of needed investments meant to improve DOH's IT system.

Table 10. Budget support needed to improve health governance systems

IN MILLION PESOS	TOTAL BUDGET	IN CURRENT PRICES					2015-2016 growth rate
	2015	PS, MOOE & CO					
	Based on NEP	2016	2017	2018	2019	2020	
4.0.0 Health Governance Improved	7,765	9,640	9,751	10,029	10,436	10,830	24.2
4.1.0 Develop Health Systems	7,021	8,866	8,961	9,222	9,612	9,987	26.3
4.1.1 Health System Development Program including Policy Support	43	61	59	63	67	58	40.3
4.1.2 Public Health Development Program incl. formulation of Public Health Policies and Quality Assurance	87	91	93	96	98	101	4.8
4.1.3 Health Emergency Management incl. provision of emergency drugs and supplies	221	238	248	257	267	278	7.9
4.1.4 Formulation of Policies, Standards, and Plans for Hospital and other Health Facilities	153	164	169	175	182	188	7.1
4.1.5 Epidemiology and Disease Surveillance	145	230	242	239	273	275	58.0
4.1.6 Health Information System	118	414	319	304	357	442	250.8
4.1.7 Dev't. of Policies, Support Mechanism and Collaboration for International Health Cooperation	32	34	34	35	36	36	4.1
4.1.8 Health Policy Development incl Essential National Health Research	44	47	49	50	52	53	6.2
4.1.9 Local Health System Development Assistance	3,012	4,224	4,279	4,424	4,586	4,743	40.2
4.1.10 Support to Regional Delivery Services	768	783	791	800	808	818	2.0
4.1.11 Implementation of various projects for LGUs	90	97	101	105	109	114	8.2
4.1.12 Monitoring and Evaluation of BuB Projects	44	48	50	52	54	56	8.2
4.1.13 Health Human Resource Policy Devt and Planning for LGU and Regional Support	72	77	80	82	85	88	7.2
4.1.14 Medical Assistance Program (Health Care Assistance)	1,762	1,906	1,982	2,062	2,144	2,230	8.2
4.1.15 GASS	429	453	466	479	492	507	5.6
4.1.16 FAPS	0	0	0	0	0	0	
4.2.0 Maintain an Effective Health Regulatory System	744	774	790	807	824	843	4.1
4.2.1 Quarantine Services and International Health Surveillance	141	146	148	151	153	156	3.2
4.2.2 Regulation of Health Facilities & Services	49	51	52	53	54	55	4.1
4.2.3 Regulation of Devices and Radiation Health	45	46	47	48	49	50	3.3
4.2.4 Regulation of Food and Drugs, incl. Regulation of Food Fortification and Salt Iodization	276	286	292	298	304	310	3.8
4.2.5 Operation of Satellite Laboratories	32	34	35	36	37	38	5.4
4.2.6 Regional Health Regulations	201	211	216	222	228	234	5.0

3.5 Summing Up: Estimates of Budget Support Needed to Achieve UHC

Table 11 presents a summary of the estimates of budget support needed to achieve UHC under the high cost scenario while **Table 12** presents a summary of the estimates for the low cost scenario. Total budget support needed for UHC under the high cost scenario is estimated to increase from PhP 115.1 billion in 2016 to PhP 150.4 billion in 2020. On the other hand, the total budget support needed for UHC under the low cost scenario is estimated to rise from PhP 107.1 billion in 2016 to PhP 140.5 billion in 2020.

Table 11. High cost scenario: Summary of estimates of budget support needed to attain UHC, 2016-2020 (in million pesos)

IN MILLION PESOS	TOTAL BUDGET	IN CURRENT PRICES					2015-2016 growth rate
	2015	PS, MOOE & CO					
	Based on NEP	2016	2017	2018	2019	2020	
1.0.0 Public Health MDGs Achieved	10,512	27,154	29,083	31,226	33,652	36,269	158.3
2.0.0 Financial Risk Protection Improved	37,189	41,169	63,171	64,619	66,095	67,600	10.7
3.0.0 Quality Care Delivery System Accessible	32,266	37,106	36,387	33,895	34,761	35,657	15.0
4.0.0 Health Governance Improved	7,765	9,640	9,751	10,029	10,436	10,830	24.2
GRAND TOTAL	87,732	115,069	138,392	139,770	144,945	150,356	31.2

Table 12. Low cost scenario: Summary of estimates of budget support needed to attain UHC, 2016-2020 (in million pesos)

IN MILLION PESOS	TOTAL BUDGET	IN CURRENT PRICES					2015-2016 growth
	2015	PS, MOOE & CO					
	Based on NEP	2016	2017	2018	2019	2020	
1.0.0 Public Health MDGs Achieved	10,512	19,141	20,647	22,326	24,277	26,391	82.1
2.0.0 Financial Risk Protection Improved	37,189	41,169	63,171	64,619	66,095	67,600	10.7
3.0.0 Quality Care Delivery System Accessible	32,266	37,106	36,387	33,895	34,761	35,657	15.0
4.0.0 Health Governance Improved	7,765	9,640	9,751	10,029	10,436	10,830	24.2
GRAND TOTAL	87,732	107,056	129,956	130,870	135,570	140,478	22.0

4. ESTIMATION OF RESOURCE ENVELOPE AND RESOURCE GAP

RA 10351 provides that the incremental revenue arising from the implementation of the Sin Tax Law (STL) shall be allocated to the health sector after netting out the share of LGUs in excise taxes on tobacco products as provided under RA 7171 and RA 8240. Official estimates of the incremental revenue from the Sin Tax Law are available from the 2015 BESF (**Table 13**). Net incremental revenues from the Sin Tax Law (i.e., incremental revenues earmarked for the health sector) is projected to increase from PhP 44.7 billion in 2013 to PhP 58.1 billion in 2017 to PhP 64.6 billion in 2020. In estimating the resource envelope that will be available to the DOH as a result of the implementation of the STL, actual appropriations for the DOH in 2012 is used as the DOH baseline

budget. This means that the resource envelope for any given year is estimated to be equal to the net incremental revenue from STL in that year 2013 plus the actual 2012 DOH budget as per the 2012 GAA. If the 2012 DOH appropriation is not adjusted for inflation in estimating the DOH resource envelope, the DOH resource envelope is projected to rise from PhP86.9 billion in 2013 to PhP 106.7 billion in 2020. In comparison, if the 2012 DOH appropriation is adjusted for inflation in estimating the DOH resource envelope, the DOH resource envelope is projected to rise from PhP 88.6 billion in 2013 to PhP 120.0 billion in 2020. Note that the DOH budget in 2013-2015 is found to be lower than the resource envelope during the same period by PhP 35.7 billion if no inflation adjustment is applied to the 2012 DOH baseline budget and by PhP 46.1 billion if the 2012 DOH baseline were adjusted for inflation.

Comparing the DOH resource envelope with the estimates of the budget support needed yields **Table 14** for the high cost scenario and **Table 15** for the low cost scenario. Under the high cost scenario, the cumulative resource gap for 2016-2020 is estimated to be equal to PhP 188.4 billion based on the low estimate of the resource envelope and PhP 138.5 billion based on the high estimate of the resource envelope. On other hand, under the low cost scenario, the cumulative resource gap for 2016-2020 is estimated to be equal to PhP 143.8 billion based on the low estimate of the resource envelope and PhP 93.8 billion based on the high estimate of the resource envelope. Thus, there is a need for the DOH to further prioritize their spending proposals. Alternatively, it will have to build a strong case for the spending priorities that are now embodied in the present articulation of its 2016-2020 MTEF.

Table 13. Estimates of incremental revenues from Sin Tax Law and DOH Resource envelope, 2013-2020 (in million pesos)

	Sin Tax revenues a/			Baseline revenues b/			Incremental revenues a/			Net incremental revenues for health b/			DOH budget envelope w/o inflation adj in DOH '12 budget c/	DOH budget envelope w/o inflation adj in DOH '12 budget c/	Actual DOH budget	Low resource envelope less actual budget	High resource envelope less actual budget
	Tobacco	Alcohol	Total	Tobacco	Alcohol	Total	Tobacco	Alcohol	Total	Tobacco	Alcohol	Total					
2013 (act)	70,392	32,988	103,380	28,550	23,656	52,206	41,842	4,438	46,280	35,385	9,332	44,717	86,873	88,559	53,200	33,673	35,359
2014 (act)	75,509	37,293	112,802	36,115	26,506	62,621	39,394	10,787	50,181	31,764	10,787	42,551	84,707	88,147	83,700	1,007	4,447
2015	81,597	48,304	129,901	48,077	31,194	79,271	33,520	17,110	50,630	28,492	17,110	45,602	87,758	93,022	86,700	1,058	6,322
2016	85,288	51,115	136,403	48,198	31,345	79,543	37,090	19,770	56,860	31,527	19,770	51,297	93,452	100,613			
2017	92,020	56,939	148,959	51,120	33,659	84,779	40,900	23,280	64,180	34,765	23,280	58,045	100,201	109,334			
2018	88,700	53,160	141,859	49,162	32,599	81,761	39,538	20,561	60,098	33,607	20,561	54,168	96,324	105,457			
2019	95,701	59,217	154,917	52,142	35,005	87,148	43,558	24,211	67,770	37,025	24,211	61,236	103,392	114,577			
2020	99,529	61,585	161,114	53,185	36,406	89,591	46,344	25,180	71,523	39,392	25,180	64,572	106,728	120,046			

a/ Sin Tax Law revenue projections from BESF

b/ Author's estimates

c/ DOH 2012 budget is PhP 42.156 billion.

Table 14. High cost scenario: Comparison of resource envelope and budget support needed for UHC, 2016-2020 (in million pesos)

IN MILLION PESOS	IN CURRENT PRICES PS, MOOE & CO					2016-2020
	2016	2017	2018	2019	2020	
TOTAL BUDGET SUPPORT NEEDED TO ACHIEVE UHC - HIGH COST SCENARIO	115,069	138,392	139,770	144,945	150,356	688,531
BUDGET ENVELOPE						
Low estimate	93,452	100,201	96,324	103,392	106,728	500,097
High estimate	100,613	109,334	105,457	114,577	120,046	550,027
RESOURCE GAP						
Low estimate	-21,616	-38,191	-43,446	-41,554	-43,628	(188,435)
High estimate	-14,456	-29,058	-34,313	-30,369	-30,310	(138,504)

Table 15. Low cost scenario: Comparison of resource envelope and budget support needed for UHC, 2016-2020 (in million pesos)

IN MILLION PESOS	IN CURRENT PRICES PS, MOOE & CO					2016-2020
	2016	2017	2018	2019	2020	
TOTAL BUDGET SUPPORT NEEDED TO ACHIEVE UHC - LOW COST SCENARIO	107,056	129,956	130,870	135,570	140,478	643,930
BUDGET ENVELOPE						
Low estimate	93,452	100,201	96,324	103,392	106,728	500,097
High estimate	100,613	109,334	105,457	114,577	120,046	550,027
RESOURCE GAP						
Low estimate	(13,604)	(29,755)	(34,546)	(32,178)	(33,750)	-143,833
High estimate	-6,443	-20,622	-25,413	-20,993	-20,432	-93,903

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ANNEX

METHODOLOGY ON COSTING

1. FAMILY HEALTH AND RESPONSIBLE PARENTING

A. CHILD HEALTH

Costing proper

Cost = Target Population/ clientele x Coverage Rate x Unit Cost

Unit cost

Table 1. Cost Data for Child Health (in pesos)

COST INPUTS	Unit Cost	
CHILD HEALTH		
A. Commodities (unit cost and required quantity per individual)		
1. Micronutrient Supplementation		
A. Vitamin A for		
1. 6-11 months (100,000 IU) - 1 vitamin A capsule per child	1.44	
2. 12-59 months (200,000 IU) Required number of Vitamin A capsule	1.44 2	
3. Lactating Women - 1 vitamin A capsule per mother	1.44	
4. High Risk Cases 6-59 mos. - 1 vitamin A capsule per child	1.44	
B. Iron Supplementation		
Iron tablets with 400 mcg folic acid for:		
1. Pregnant women Required number of iron tablets	0.64 180	
2. Lactating Women Required number of iron tablets	0.64 52	
3. 10-49 (WRA) /female adolescents Required number of iron tablets	0.64 52	
Iron Drops (15 mg Elemental Iron/0.6ml) for:		
1. Low Birth Weight (LBW) infants Required Number of bottles of iron drops	15.90 2	
C. Micronutrient Powder (15 vitamins & minerals) for:		
1. 6-11-month infants Required number of sachets	0.75 60	
2. 12-23 months children Required number of sachets	0.75 120	
D. Iodine, Pregnant Mothers Required number of capsules		40 2
2. Adolescent Health (Immunization) and Development Program		
Vaccine: Td, MR + Needles and Syringes (cost of vaccines and operation per pax)	300	

Target clientele

1. Micronutrient Supplementation – uses population projections based on 2010 Census of Population

a. Vitamin A for the following:

1. 6-11 months (100,000 IU) – based on Dr. Manasan’s single-age population projections calculated using modified De Beers methodology
2. 12-59 months (200,000 IU) – based on Dr. Manasan’s single-age population projections calculated using modified De Beers methodology
3. Lactating women – 3% of the total projected population
4. High Risk (HR) cases (6-59 months) – sum of 6-11 months and 12-59 months children (based on Dr. Manasan’s single-age population projections calculated using modified De Beers methodology)

b. Iron Supplementation

Iron tablets with 400 mcg folic acid for the following:

1. Pregnant women – 3.5% of the total projected population
2. Lactating women – 3% of the total projected population
3. 10-49 (women of reproductive age or WRA) female adolescents – based on NSO's age-group population projections

Iron Drops (15 mg Elemental Iron/0.6ml) for:

1. Low Birth Weight (LBW) infants – based on Dr. Manasan's single-age population projections calculated using modified De Beers methodology

c. Micronutrient Powder (15 vitamins & minerals) for:

1. 6-11-month infants – based on Dr. Manasan's single-age population projections calculated using modified De Beers methodology
2. 12-23 months children – based on Dr. Manasan's single-age population projections calculated using modified De Beers methodology

d. Iodine for pregnant women – 3.5% of the total projected population

2. Adolescent Health (Immunization) and Development Program

- a. Target population in 2015 – 10-19 years old based on 2010 Census of Population
- b. Target population in 2016-2020 – 10 years old based on 2010 Census of Population

Coverage rate (100%)

Table 2. Coverage Rate/Service Target for Child Health

COVERAGE INPUTS	2014	2015	2016	2017	2018	2019	2020
I. CHILD HEALTH							
A. Commodities							
1. Micronutrient Supplementation							
Service Target/Coverage Rate/Prevalence Rate (Please enter "1" for 100%)							
A. Vitamin A for							
1. 6-11 months (100,000 IU) (ST)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2. 12-59 months (200,000 IU) (ST)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
3. Lactating Women (ST)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
4. HR Cases 6-59 months (2,731,463) (ST)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
4. HR Cases 6-59 months (2,731,463) (PR)	0.20	0.20	0.20	0.20	0.20	0.20	0.20
B. Iron Supplementation							
Iron tablets with 400 mcg folic acid for:							
1. Pregnant women (ST)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1. Pregnant women (PR)	0.43	0.43	0.43	0.43	0.43	0.43	0.43
2. Lactating Women (ST)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2. Lactating Women (PR)	0.31	0.31	0.31	0.31	0.31	0.31	0.31
3. 10-49 (WRA) /female Adolescents (ST)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
3. 10-49 (WRA) /female Adolescents (PR)	0.23	0.23	0.23	0.23	0.23	0.23	0.23
Iron Drops (15 mg Elemental Iron/0.6ml) for:							
1. Low Birth Weight (LBW) infants (ST)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1. Low Birth Weight (LBW) infants (PREV)	0.20	0.20	0.20	0.20	0.20	0.20	0.20
C. Micronutrient Powder (15 vitamins & minerals) for:							
1. 6-11-month infants (ST)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1. 6-11-month infants (PREV)	0.56	0.56	0.56	0.56	0.56	0.56	0.56
2. 12-23 months children (ST)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2. 12-23 months children (PREV)	0.41	0.41	0.41	0.41	0.41	0.41	0.41
D. Iodine, Pregnant Mothers (ST)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2. Adolescent Health (Immunization) and Development Program							
Service Target/Coverage Rate/Prevalence Rate (Please enter "1" for 100%)							
All eligible population	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Coverage rate (50%)

Table 3. Coverage Rate/Service Target for Child Health (50%)

COVERAGE INPUTS	2014	2015	2016	2017	2018	2019	2020
I. CHILD HEALTH							
A. Commodities							
1. Micronutrient Supplementation							
Service Target/Coverage Rate/Prevalence Rate (Please enter "1" for 100%)							
A. Vitamin A for							
1. 6-11 months (100,000 IU) (ST)	0.50	0.50	0.50	0.50	0.50	0.50	0.50
2. 12-59 months (200,000 IU) (ST)	0.50	0.50	0.50	0.50	0.50	0.50	0.50
3. Lactating Women (ST)	0.50	0.50	0.50	0.50	0.50	0.50	0.50
4. HR Cases 6-59 months (2,731,463) (ST)	0.50	0.50	0.50	0.50	0.50	0.50	0.50
4. HR Cases 6-59 months (2,731,463) (PR)	0.20	0.20	0.20	0.20	0.20	0.20	0.20
B. Iron Supplementation							
Iron tablets with 400 mcg folic acid for:							
1. Pregnant women (ST)	0.50	0.50	0.50	0.50	0.50	0.50	0.50
1. Pregnant women (PR)	0.43	0.43	0.43	0.43	0.43	0.43	0.43
2. Lactating Women (ST)	0.50	0.50	0.50	0.50	0.50	0.50	0.50
2. Lactating Women (PR)	0.31	0.31	0.31	0.31	0.31	0.31	0.31
3. 10-49 (WRA) /female Adolescents (ST)	0.50	0.50	0.50	0.50	0.50	0.50	0.50
3. 10-49 (WRA) /female Adolescents (PR)	0.23	0.23	0.23	0.23	0.23	0.23	0.23
Iron Drops (15 mg Elemental Iron/0.6ml) for:							
1. Low Birth Weight (LBW) infants (ST)	0.50	0.50	0.50	0.50	0.50	0.50	0.50
1. Low Birth Weight (LBW) infants (PREV)	0.20	0.20	0.20	0.20	0.20	0.20	0.20
C. Micronutrient Powder (15 vitamins & minerals) for:							
1. 6-11-month infants (ST)	0.50	0.50	0.50	0.50	0.50	0.50	0.50
1. 6-11-month infants (PREV)	0.56	0.56	0.56	0.56	0.56	0.56	0.56
2. 12-23 months children (ST)	0.50	0.50	0.50	0.50	0.50	0.50	0.50
2. 12-23 months children (PREV)	0.41	0.41	0.41	0.41	0.41	0.41	0.41
D. Iodine, Pregnant Mothers (ST)	0.50	0.50	0.50	0.50	0.50	0.50	0.50
2. Adolescent Health (Immunization) and Development Program							

B. WOMEN'S HEALTH/REPRODUCTIVE HEALTH

Costing proper for population-driven interventions

Cost = Target Population/clientele x Coverage Rate x Unit Cost

Unit cost

Table 4. Cost Data for Women's Health (in pesos)

COST INPUTS	Unit Cost
WOMEN'S HEALTH/ REPRODUCTIVE HEALTH	
A. Commodities	
a. Subdermal implant	500
Requirement per year	1
b. Pills - per cycle	17.50
Requirement per year	15
c. DMPA	58
Requirement per year	5
d. IUD	66
Requirement per year	1
e. BTL (70 hospitals)	1,500
Requirement per year	1
f. NSV (70 hospitals)	500
Requirement per year	1
g. MNFP	300
Requirement per year	1
B. Training	
1. Pelvic (Zoe) Model (cost per training center)	70,000
2. Clinical Standards Manual on FP	1,500,000
3. FP Desk flip chart	1,000,000
4. Printing of Training Manual on Progestin Containing Subdermal Implant (Trainer)	350,000
5. Printing of Training Manual on Progestin Containing Subdermal Implant (Participant)	1,500,000
6. Updating of FPCBT 1 & 2 manuals	300,000
7. Printing of updated FPCBT 1 (Participant)	600,000
8. Printing of updated FPCBT 1 (Facilitator)	450,000
9. Printing of updated FPCBT 2 (Participant)	600,000
10. Printing of updated FPCBT 2 (Facilitator)	450,000
C. Advocacy	
1. KP Roadshow	116,860,000
2. MNCHN Advocacy	3,000,000
D. Workshops	
1. VAWC	2,450,400
2. Orientation on FP Clinical Standards Manual, 2014 Edition	639,881
III. RESEARCH	65,481,580
IV. ADMINISTRATIVE SERVICES (INDIRECT MANAGEMENT)	
1. Administrative Support to Operations	40,000,000
2. Public Health Assistant and Community Health Teams (CHT)	250,000,000
3. Freight and handling Costs for Commodities/ Supplies	93,489,450

Target clientele

Target population – sexually active women of reproductive age (SWRA); SWRA data for 2016-2020 is 41% of total women of reproductive age (WRA) of the Philippines based on UNPD

Note: Method mix is based on NDHS 2013

Table 5. Population Inputs for Women's Health

POPULATION INPUTS	2015	2016	2017	2018	2019	2020
II. WOMEN'S HEALTH/REPRODUCTIVE HEALTH						
A. Commodities						
	Target SWRA NHTS-PR					
a. Subdermal Implant	1,000,000	1,088,584	1,217,236	1,138,782	1,161,012	1,182,861
b. Pills	1,001,166	1,321,187	1,345,059	1,368,241	1,389,748	1,410,267
c. DMPA	465,000	241,535	249,430	257,432	266,365	273,239
d. IUD	151,334	294,755	289,060	363,243	400,816	440,708
e. BTL (70 hospitals)	8,750	647,196	662,040	757,701	818,120	881,417
f. NSV (70 hospitals)	8,750	19,725	25,254	31,216	37,207	44,071
g. MNFP	0	105,695	99,850	138,648	156,014	176,283
Actual total	2,635,000	3,718,677	3,887,929	4,055,263	4,229,280	4,408,846
All methods (total targets)	2,700,000	3,721,654	3,885,209	4,054,047	4,228,012	4,407,083
Difference	-65,000	-2,977	2,720	1,216	1,268	1,763
a. Subdermal Implant	0.370	0.293	0.313	0.281	0.275	0.268
b. Pills	0.371	0.355	0.346	0.338	0.329	0.320
c. DMPA	0.172	0.065	0.064	0.064	0.063	0.062
d. IUD	0.056	0.079	0.074	0.090	0.095	0.100
e. BTL (70 hospitals)	0.003	0.174	0.170	0.187	0.194	0.200
f. NSV (70 hospitals)	0.003	0.005	0.007	0.008	0.009	0.010
g. MNFP	0.000	0.028	0.026	0.034	0.037	0.040
All methods (total targets)	0.976	0.999	1.001	1.000	1.000	1.000

Coverage rate

1. 100% of total target population
2. 50% of total target population

Costing proper for activity-based intervention (e.g. interventions shown in Table

6)⁷

Cost = Activity i (frequency per year) x Unit Cost, where i = 1,...,n activities

Table 6. Population Inputs for Women's Health (cont.)

FREQUENCY PER YEAR	2015	2016	2017	2018	2019	2020
II. WOMEN'S HEALTH/REPRODUCTIVE HEALTH						
B. Training	Frequency per year					
1. Pelvic (Zoe) Model						
Number of training centers	50	50	50	50	50	50
2. Clinical Standards Manual on FP	1	1	1	1	1	1
3. FP Desk flip chart	1	1	1	1	1	1
4. Printing of Training Manual on Proges	1	1	1	1	1	1
5. Printing of Training Manual on Proges	1	1	1	1	1	1
6. Updating of FPCBT 1 & 2 manuals	1	1	1	1	1	1
7. Printing of updated FPCBT 1 (Particip	1	1	1	1	1	1
8. Printing of updated FPCBT 1 (Facilita	1	1	1	1	1	1
9. Printing of updated FPCBT 2 (Particip	1	1	1	1	1	1
10. Printing of updated FPCBT 2 (Facilit	1	1	1	1	1	1
C. Advocacy						
1. KP Roadshow	1	1	1	1	1	1
Number of partiipants per target area						
Number of target areas						
2. MNCHN Advocacy	1	1	1	1	1	1
Number of partiipants per target area						
Number of target areas						
D. Workshops						
1. VAWC	1	1	1	1	1	1
Number of partiipants per target area						
Number of target areas						
2. Orientation on FP Clinical Standards	1	1	1	1	1	1
Number of participants per target area						
Number of target areas						
E. Support/Grants						
F. Policy, Guideline, Protocols Development						
III. RESEARCH	1	1	1	1	1	1
IV. ADMINISTRATIVE SERVICES (INDIRECT MANAGEMENT)						
1. Administrative Support to Operations	1	1	1	1	1	1
2. Public Health Assistant and Commur	1	1	1	1	1	1
3. Freight and handling Costs for Comm	1	1	1	1	1	1

⁷ Costing is not based on SWRA population but on the frequency of activities per year.

2. EXPANDED PROGRAM ON IMMUNIZATION PLUS

Costing proper for population-driven interventions

Cost = Target Population/clientele x Coverage Rate x Unit Cost

Unit cost for vaccines

Table 7. Cost Data for EPI (in pesos)

Required quantity of antigen	Use to compute					Wastage factor
	Cost per vial	no. of vials	Cost per dose	Cost per dose	Number of doses	
Antigen		per vial/ampule	based on comps	EPI file	to complete	
A. FOR INFANTS						
1. BCG (for tuberculosis)	107.95	20	5.4	6.50	1	2.50
2. DPT-HEPB-HIB (Pentavalent)	110.00	1	110.0	110	3	1.10
3. MV (for measles)	99.45	10	9.9	15	1	2.00
4. OPV (for polio)	160.00	20	8.0	8	3	1.67
5. Hepatitis B	83.00	10	8.3	8	3	1.10
6. PCV	700.00	1	700.0	110	3	1.10
7. IPV	960.00	1	960.0		1	1.10
8. MMR	186.45	5	37.3	38	1	1.10
B. FOR MOTHERS						
1. Tetanus toxoid	54.00	20	2.7	3	2	1.67
C. GRADE 1 (SCHOOL-AGED)						
1. DTaP	41.70	10	4.2		1	1.00
D. FOR ADOLESCENTS (GRADE 7)						
1. MR	310.00	10	31.0		1	1.10
2. Td	47.60	10	4.8		1	1.10
3. HPV	642.38	1	642.4		2	1.00

Unit cost for logistics

Table 7. Cost Data for EPI (in pesos)
Cont.

<i>Required quantity of syringes and safety collector boxes</i>			
	Number per child	Wastage Factor	Unit cost
1. AD syringes (0.05ml)	2	1.1	2.50
2. AD syringes (0.5ml)	11	1.1	2.50
3. Mixing syringes (5ml) (estimated based on the number of vials of MV and MMR vaccines)		1.1	5.00
SAFETY COLLECTOR BOXES			
Capacity (maximum number of syringe	100		50

Target clientele and coverage rate

A. For infants

Eligible population – children aged 0-11 months based on Dr. Manasan’s single-age population projections calculated using modified De Beers methodology

Target population – 85% of the eligible population

Coverage of fully immunized children (FIC) – 95% and 50% of target population for 2016-2020

B. For mothers

Eligible/target population – 3.5% of the total population for 2016-2020

Coverage for Tetanus Toxoid (TT2) – 80% and 50% of the target population

C. For Grade 1 (school-aged)

Eligible/target population – children aged 6 years old based on Dr. Manasan’s single-age population projections calculated using modified De Beers methodology

Coverage rate for DTaP – 100% and 50% of the target population

D. For adolescents (Grade 7)

Eligible/target population for MR, Td, and HPV - children aged 10-19 in 2015 and children aged 10 in 2016-2020/ based on Dr. Manasan's single-age population projections calculated using modified De Beers methodology

Coverage rates:

1. MR (10-dose/vial) – 100% and 50% of target population
2. Td (10-dose/vial) – 100% and 50% of target population
3. HPV (1-dose/vial) – 100% and 50% of target population

3. TB CONTROL - No breakdown/basis for computation

Budget estimates for TB control for 2010-2016 are based on the Updated PhilPACT as of February 2014. However, the said budget estimates include funding from foreign donors, local government units (LGUs), and PhilHealth. The MTEF takes into account only the budgetary requirement that will be shouldered by the National Government. To estimate this amount, DOH TB control program assumes an annual 5%-increase starting 2015 until 2020.

4. RABIES CONTROL PROGRAM

Costing proper⁸

Cost = Budget item *i* (estimated requirement) x Unit Cost

Unit cost

Table 8. Cost Data for Rabies Control Program (in pesos)

BUDGET ITEMS	Unit cost
1. Rabies Vaccines (ID Doses)	73
2. ERIG (Vials)	930
3. Freight and Handling of vaccines and ERIG Percentage of total cost of rabies vaccines and vials	0.03
4. Program National Activities	3,500,000
5. Manual of Operations (MOP) Reproduction	1,000
6. Rabies Exposure Registry	80
7. PEP Cards	2
8. Support to Regional Rabies Elimination Campaigns	2,000,000
9. Support to DA's Animal Rabies Control(fund transfer to procure dog vaccines)	70,000,000
10. Research (Mandatory funds taken from All programs by HPDB) Percentage of total cost of Items 1 - Items 9	0.02

⁸ Costing is not based on population but on the estimated requirement per budget item provided by Dr. Deray.

Input requirements based on target population

Table 9. Input Requirements for Rabies Control Program

BUDGET ITEMS	Growth Rate	2016	2017	2018	2019	2020
1. Rabies Vaccines (ID Doses)	0.05	5,000,000	5,250,000	5,512,500	5,788,125	6,077,531
2. ERIG (Vials)	0.05	200,000	210,000	220,500	231,525	243,101
3. Freight and Handling of vaccines and ERIG Percentage of total cost of rabies vaccines and vials	0.03	0.03	0.03	0.03	0.03	0.03
4. Program National Activities (Frequency per year)		1	1	1	1	1
5. Manual of Operations (MOP) Reproduction		2,500	0	0	0	0
6. Rabies Exposure Registry	0.05	1,000	1,050	1,103	1,158	1,216
7. PEP Cards	0.05	500,000	525,000	551,250	578,813	607,753
8. Support to Regional Rabies Elimination Campaigns Number of regions		17	17	17	17	17
9. Support to DA's Animal Rabies Control(fund transfer to procure dog vaccines) Frequency per year		1	1	1	1	1
10. Research (Mandatory funds taken from All programs by HPDB) Frequency per year		1	1	1	1	1

5. ELIMINATION OF DISEASES AS PUBLIC HEALTH THREAT SUCH AS MALARIA, SCHISTOSOMIASIS, FILARIASIS, AND LEPROSY⁹

A. MALARIA

The budgetary requirements for control and elimination of malaria include costing of programs, activities, and projects (PAPs) identified in the National Strategic Plan for Control and Elimination of Malaria (NSPCEM) 2014-2020. The said Plan consists of four (4) objectives with different strategies that involve various programs and activities, which are all geared towards control and elimination of malaria in 2014-2020. These objectives are as follows:

Objective 1: To ensure universal access to reliable diagnosis, highly effective and appropriate treatment and preventive measures for malaria

Strategy 1.1. Scale up focal interventions in municipalities with stable, unstable and sporadic transmission

A. Diagnosis and treatment

1. Sustain operations of Functional Barangay Microscopists
2. Establish new Rapid Diagnostic Test (RDTs) (Baseline as of 2013: 927 in 41 Provinces)
3. Conduct Refresher Training on Malaria Microscopy for medical technologist in Rural Health Units (RHUs) and Hospitals
4. Provide Lab supplies for RHUs and Hospitals
5. Training of new medical technologists in RHUs/hospitals on Basic Microscopy
6. Expand diagnostic services in private facilities
7. Capacity building on management of malaria for private practitioners and the medical staff of the Military
8. Procure anti-malaria drugs for anti-malaria service facilities/providers for provinces in control and pre-elimination phase

B. Referral System

⁹ Draws heavily on the file named *Revised NSPCEM budget May282014MEE.xls* provided by the NSPCEM staff

1. Maintain referral system

C. Vector Control

1. Training orientation
2. Conduct indoor residual insecticide spraying (IRS)
3. Long lasting insecticidal net (LLINs)
4. Border operations

Item C represents the largest portion of the costs associated with Strategy 1.1, thus making this strategy the major driver of cost for Objective 1. Procurement and distribution of LLINs has the largest share of the budgetary requirement for Vector Control followed by conduct of IRS. Costing assumes the following:

On long lasting insecticidal net (LLINs)

1. Procurement of LLINs
 - a. In 13 provinces: Assumes 100% coverage of population in all stable transmission (ST) and unstable transmission (UT) barangays in the provinces plus 50% of population in Sulfadoxine-Pyrimethamine (SP) barangays in the province.
 - b. Includes LLINs for pregnant women – The national growth rate of 1.9% was used as proxy for the proportion of pregnant women in the population. Of the total pregnant women, 80% was targeted.
 - c. In 29 provinces: Assumes 100% coverage of population in all ST and UT barangays in the provinces plus 20% of population in SP barangays in the province. The national growth rate of 1.9% was used as proxy for the proportion of pregnant women in the population.
 - d. Stockpile: 145,262 LLINs is a planned procurement by the Government of the Philippines (GOP) for the year. In 2015, 200,000 may be procured for internally displaced populations brought about by man-made or natural disasters, unexpected outbreaks in the areas, etc. The 200,000 is approximately 1% of the total mal-prone population.
2. Distribution of LLINs
 - a. Local distribution cost (port to houses) is estimated at an average of PhP10 per LLIN.

Strategy 1.2. Ensure continuous accessibility to anti-malaria diagnostic, treatment and preventive measures in zero-indigenous malaria and malaria-free provinces

1. Reorientation on Elimination for RHU staff (Municipal Health Officer (MHO), Public Health Nurse (PHN), Rural Health Midwives (RHM) and Sanitary Inspector (RSI))
2. Provide stockpiles of RDT, insecticides, LLINs
3. Perform functional vector mapping (as need arises)
4. Continuous information, education, and communication (IEC) on malaria prevention
5. Advocate passage of ordinance to adopt measures preventing re-introduction of infection
6. Regular hub meetings
7. Assess pilot implementation and enhance elimination guide (to be done as operations research)
8. Expand elimination hub establishment in other malaria-free declared provinces
9. Establishment of Malaria-Free Regions

The biggest chunk of the budget for Strategy 1.2 is allocated for the reorientation on elimination for RHU staff (MHO, PHN, RHM and RSI). The target areas for the said activity are as follows with the corresponding target number of staff and associated costing:

- 1.1 Municipalities with annual parasite index (API) of $\geq 5/1,000$ or more in 13 priority provinces

Target: 15 municipalities with 165 staff at Php15,000/pax for 3 days

- 1.2 Municipalities with API of $1-4/1,000$

Target: 32 municipalities with 133 staff at Php15,000 for 3 days

- 1.3 Municipalities with API of $< 1/1,000$

Target: 193 municipalities with 1,302 staff at Php15,000 for 3 days

Strategy 1.3. Implement responsive malaria program interventions among identified high risk population groups

1. Review and enhance existing guidelines and reporting system on the 7 vulnerable groups
2. Implement intervention by vulnerable group
3. Document good practices in each high-risk pop group

Strategy 1.3 primarily focuses conduct of meetings, Combo RDT training, and consultancy. However, it also involves provision of essential supplies such as RDT kits and pregnancy packages including 180 tablets of ferrous sulfate, 1 albendazole tablet, 1 mother and child booklet, 1 malaria leaflet and 1 cloth bag.

Apparently, provision of pregnancy packages (i.e., under Item #2) account for bulk of the budgetary requirement for this strategy. The target number of packages to be distributed is 27,400 in 2015, 27,900 in 2016, and 28,500 in 2018. The cost per pack is PhP101.83.

Strategy 1.4. Increase demand for and support to effective anti-malaria interventions and services

1. Conduct pre-knowledge and attitudes (KA)/beliefs and practices (BP) and post-KA/BP Survey – includes costs involved refer to consultation and mobilization fees for the coordination, data processing, and analysis of the knowledge, attitudes, and practices (KAP) data after actual conduct of the KAP survey funded by the Government of the Philippines (GOP)
2. Develop MP-HPC Plan to enhance behavior change by area of stratification and target audience – includes costs incurred for the conduct of workshop with Health Education Promotion Officers (HEPOs)
3. Develop and produce IEC materials – includes cost of development of prototype
4. Develop quad-media messages and disseminate (TV, radio, print and web)
5. Integrate malaria prevention in school (formal and informal) curriculum – includes cost of reproduction of malaria resource book for 20 schools in each of the four (4) target provinces and cost involved in the orientation of four (4) teachers in each of these schools
6. Monitor the integration of curriculum – includes cost of transportation and supplies and materials for travel and meetings

Objective 2: To strengthen governance and human resources capacity at all levels to manage and implement malaria interventions

Strategy 2.1. Establish functional organizational structures and malaria workforce at all levels

1. Staffing requirements in support of elimination
2. Awards and recognition

Staffing requirements in support of elimination accounts for about 90 percent of the total budget required for this strategy. However, the program staff has no information on the disaggregation of the said proportion at the time of writing the Medium-Term Expenditure Framework (MTEF) Report.

Strategy 2.2. Strengthen the policy environment, management systems and coordination mechanism in support of malaria elimination

1. Update the Malaria Manual of Operations (MOP)
2. Conduct orientation on updated MOP at Center for Health Development (CHD) and local levels
3. Review and update clinical treatment protocol and guide and other program policies
4. Review and update micro-stratification and conduct orientation/re-orientation
5. Coordination with neighboring countries on malaria elimination
6. Development of and orientation on guidelines of proper disposal/recycling of LLINs
7. Enhance national strategic plan
8. Conduct regional strategic planning with provinces and cities
9. Conduct provincial strategic planning with municipalities
10. Update inventory of training of staff by health facility/LGU
11. Update/customize vector control training modules
12. Update training modules on diagnosis and treatment
13. Collaborating Centers
14. Update inventory of malaria commodities by facility
15. Develop Logistics Management Information System
16. Reconstitute Technical Working Group towards malaria elimination with increased
17. Conduct partnership forum with the private sector -- private service providers, professional medical/allied medical societies

18. Establish coordination with national/regional government agencies and development partners
19. Advocacy and Social Mobilization

The budget requirement for this strategy is notably high in 2020 as compared to the earlier years simply because 3 (i.e., Items #2, #8, and #9) out of the 16 programs, activities, and projects (PAPs) with considerable budgetary requirement will only be carried out in 2020.

The cost estimates for these PAPs are obtained based on the following:

- a. Item #2: Conduct orientation on updated MOP at CHD and local levels – Two-day Orientation: DOH-Central Office (CO): Target participants: 17 CHDs x 2 pax per CHD (Program Coordinator, other malaria personnel), program team, partners/technical experts + 6 national government personnel
- b. Items #8 and #9: The cost of food and accommodation makes up the biggest portion of the total costs involved in the conduct of regional and provincial planning/ workshops.

For Item #8: Food and accommodation (3 days): 3 representatives/province x 5 provinces plus 2 regional representative and 3 Central Office representatives = 20 participants/region x 17 regions x 3 days x PhP2000/day/pax

For Item #9: Food and accommodation (3 days): 1 representative/municipality x 20 municipalities/province and 5 Provincial Health Office (PHO) staff = 25 x 80 provinces x 3 days x PhP1,500/day/pax

Objective 3. To secure government and non-government financing to sustain malaria control and elimination at all levels

Strategy 3.1. Secure adequate government and non-government financial assistance in support towards malaria elimination

1. Undertake financial gap analysis of the national strategic plan
2. Prepare proposal (concept notes) to Global Fund (GF)
3. Develop capability of CHDs/LGUs in project proposal development and advocacy/mobilization of resources
4. Establish private sector coalition for resource mobilization at national, subnational and local levels

5. Conduct donors' forum
6. Provide technical assistance to provinces to include malaria program in their Provincial Investment Plans for Health (PIPH) and Annual Operational Plan (AOP)
7. Provide technical assistance to municipalities to include malaria in their AOP
8. Grant management cost
9. Provide institutional support

The budgetary requirements for this strategy is noticeably huge in 2016 and 2017 because of the considerable funding that is needed in providing institutional support (i.e., Item #9, which involves project management personnel cost and technical assistance) and also, providing technical assistance to municipalities to include malaria in their AOP (i.e., Item #7). On the average, the former is about 65% of the budget in 2016-2017. However, the program staff does not have information on the breakdown of the said proportion as it was given as a lump sum that is based on previous costs. On the other hand, the latter is about 20% of the budget in 2016-2017. It involves two-day advocacy visit with technical assistance by CHDs/PHO/ City Health Office (CHO) to target beneficiaries. The costing parameters for Item #7 are as follows:

Target clientele

Number of participants per municipality – 14 in 2016 and 14 in 2017

Number of municipalities per province/city – 20 in 2016 and 20 in 2017

Number of provinces/cities – 26 in 2016 and 27 in 2017

Number of provinces/cities (For supplies and materials computation) – 92 in 2016 and 27 in 2017

Number of participants per municipality (for transportation and daily subsistence allowance/DSA computation) – 4 in 2016 and 4 in 2017

Costing parameters and estimation

Meals and snacks: PhP 500/pax x 14 pax/municipality x 20 municipality x 92 (80 provinces and 12 cities) where 14 pax include 10 pax/municipality and 2 CHDs and 2 PHO/CHO

Supplies and materials: PhP 100/pax x 14 pax/municipality x 20 municipality x 92 (80 provinces and 12 cities) where 14 pax include 10 pax/municipality and 2 CHDs and 2

PHO/CHO

Transportation: PhP1000/pax x 4 PHO/CHD x 20 mun x 26 in 2016 (27 in 2017)
provinces/cities

DSA for 4 CHD/PHO staff at PhP800/day x 2 days x 26 in 2016 (27 in 2017)
provinces/cities

Objective 4. To ensure the quality of malaria services, timely detection of infection and immediate response, and information and evidence to guide malaria elimination

Strategy 4.1. Maintain high quality malaria diagnosis and treatment, through effective quality assurance systems

1. Expansion of Quality Assurance (QA) system
2. Quality Assurance (QA) system for Rapid Diagnostic Test (RDT)
3. Microscopy Quality Assurance (QA) strengthening
4. Quality Assurance (QA) for anti-malaria treatment

This strategy has the second biggest share of budget for Objective 4, i.e., next to Strategy 4.4. All the PAPs under this strategy relate to quality assurance. The budgetary requirement for this strategy is notably high in 2016 due to Item #2, particularly Item #2.2 (i.e., orientation of RHU medical technologists on RDT QA). The said activity is targeted to 408 RHU medical technologists. Cost estimation is as follows:

408 RHU medical technologists x PhP5,000 x 5 days

Nevertheless, the said activity will not be carried out in the succeeding years. Across the years, Items #4 and #1 have the largest share of total budget for Strategy 4.1. The budgetary requirements for these two items are consistently high because Item #4 requires the following activities:

- i. Conduct of therapeutic efficacy study (TES) in designated sites every two years

TES in Palawan will be continued. In particular, TES (plasmodium falciparum/Pf and

plasmodium vivax/Pv) in Palawan will be done in 2015, 2017 and 2019. It should be noted, however, that the program staff does not have breakdown of the total budget for this as of time of writing the MTEF Report.

Tawi-Tawi will be a new target site for TES. In particular, TES in Tawi-Tawi will be done in 2014, 2016, 2018 and 2020.

TES activities include:

1. Orientation/training refresher course/results dissemination
 2. Monitoring visits by Research Institute for Tropical Medicine (RITM) staff, which involves cost of airfare, accommodation, and local travel
 3. Local hiring of staff (PhP24,997 x 2 Nurses) =PhP49,774.00
 4. Patients recruitment and follow-up
 5. Incentives for RHU staff in patient recruitment
 6. Laboratory and Office supplies
 7. Communication
 8. Data Management/Insurance
 9. Molecular assays for genotypes and drug resistance
- ii. Monitoring of treatment protocol adherence/compliance at facility level which involves field monitoring review of chart and logbook in 30 provinces and 9 cities with stable and unstable transmission

Costing parameters are as follows:

Target areas = 30 provinces + 9 cities

Travel cost per province/city – PhP50,000

Consultancy – PhP200,000

Supplies and materials – PhP100,000

On the other hand, Item #1 includes the following activities among others:

- i. Slide banking which involves polymerase chain reaction (PCR) per test, hiring of technical consultant, field visits, and validation of expert microscopists

Cost estimation assumes the following:

1. 50 cases with positive and negative per site
 2. PCR – PhP4,000 per test x 50 samples x 4 sites
 3. Technical consultant – PhP30,000 x 13 months
 4. Field collection – PhP5,000 per case x 4 sites (collaborating center) including Palawan, Davao, Region 2, and Zamboanga
- ii. Panel testing for malaria-free and elimination-phase provinces (c/o Collaborating Centers) – entails sending of panel testing (PT) to those areas with zero cases, to control

Cost estimation assumptions/parameters

1. PT coming from collaborating centers of Regions (2, Palawan and 11)
2. Freight cost to each microscopist:

Total number of microscopists x cost/microscopist → 1,383 x PhP1,000/year

3. The start of sending the panel testing funds from GOP funds sub-allotment to RITM is in 2014. PT for 2014 will start with the first 25% of the total microscopists.

- iii. Validation and onsite visit

Regional sub-allotment can be used for the transportation, materials and supplies (e.g., forms and ballpen) for the onsite visit.

Costing parameters

Number of microscopists (i.e., equivalent to the number of sites) – total of 1,191 with regional breakdown as follows:

1. Region 2 – 138
2. Region 3 – 155
3. Region 4a – 42
4. Reg 4b – 317
5. Region 5 – 32
6. Region 9 – 55
7. Region 10 – 45
8. Region 11 – 178
9. Region 12 – 77

10. CARAGA – 66

11. ARMM – 84

Cost per microscopist – PhP1,000

Strategy 4.2. Improve quality and effectiveness of vector control measures

1. Conduct bioassay tests on used insecticide-treated bed net (ITN)/long-lasting insecticidal net (LLIN)

- a. Procurement of test kits

Costing parameters

6 sentinel regions: CAR, Regions 2, 3, 4B, 11, and ARMM in 2017 and 2020 and procured through World Health Organization (WHO)

Cost per test kit – \$42 (PhP1,890 at PhP45 per 1 US\$)

- b. Field operations – within each of the 6 sentinel regions

Costing parameters

1. 1 team per sentinel region → 6 teams (4 members per team)
2. Daily subsistence allowance

4 members/team x PhP2,000/member/day x 5 days x 3 visits

3. Transportation

4 members/team x PhP5,000/member/day x 6 regions x 3 visits

4. Supplies and materials

PhP1,000/activity x 3 visits

2. Conduct bioassay test in post spraying operations in selected areas (Frequency per year - done every 6 months)

Costing assumptions/parameters

1. Pre and post spraying collection (baseline and after 4 months)

2. Daily subsistence allowance

4 members/team x PhP2,000/member/day x 5 days = 40,000 every 6 months

3. Transportation

4 members/team x PhP5,000/member/day x 6 sites every 6 months

4. Supplies and materials

Php1,000/activity every 6 months

3. Conduct susceptibility test (6 Sentinel Sites every two years)

Costing parameters

1. Test kit \$100 (PhP4,500)per kit (including impregnated paper x 6 sites every other year

2. Daily subsistence allowance

4 members/team x PhP2,000/member/day x 5 days = 40,000 every 2 years

3. Transportation

4 members/team x PhP5,000/member/day = 20,000 x 2 sites (Region 3 and CAR)

4. Plane fare

PhP10,000 x 4 sites (Regions 2, 4B, ARMM and 11)

5. Supplies and materials

PhP1,000/activity every 2 years

Strategy 4.3. Reorient malaria case surveillance and response towards elimination

1. Develop a national malaria surveillance and response system/guide (include review/revision of Philippine Integrated Surveillance and Response (PIDSR) investigation form for malaria surveillance) – will not be carried out in 2016-2020
2. Orient/train CHDs/LGUs on the revised malaria case surveillance and response system – will not be carried out in 2016-2020
3. Undertake disease surveillance and response (cost per province/city)

Costing parameters

1. Number of target provinces/cities – 92 in 2016-2020
2. Surveillance cost per province/city – PhP25,000
4. Supervision of trained personnel – consists of two activities such as:
 1. Follow up/ monitor trained staff and assess application of knowledge and skills learned

1.a. Field visits

Costing parameters

- i. Number of Regional Epidemiologic Surveillance Unit (RESU) staff per region – 2
- ii. Number of regions – 17
- iii. Transportation

PhP1,000/RESU staff x 2 staff x 8 provinces

iv. Accommodation

PhP1,200 x 2 staff x 2 days x 17 regions

1.b. Meetings/consultation

Costing parameters

- i. Number of participants – 15
- ii. Number of meetings – 5
- iii. Supplies and materials

Lumpsum cost for all participants – PhP25,000

- iv. Meetings/consultations

PhP1,000/pax x 15 pax x 5 meetings

2. Data validation, analysis and planning between Epidemiology Surveillance Units (ESUs) and Program Coordinators

Costing parameters

- i. Number of regional offices (RO) – 11 in 2016; 17 in 2017-2020
- ii. Number of provinces – 67 in 2016; 80 in 2017-2020
- iii. Number of months – 12
- iv. Regional offices (cost per month) – PhP5,000

PhP5,000/month x 12 months x 17 ROs

- v. Provinces (cost per month) – PhP5,000

PhP5,000 x 12 months x 80 provinces

5. Entomological studies

1. Periodic entomological survey/ study for sporadic and malaria-free areas
2. Conduct refresher course for entomologists

Costing parameters

- i. Number of participants in 2017 – 17
- ii. Number of days – 5
- iii. Food and accommodation per pax – PhP2,000

PhP2,000/pax/day x 5 days x 17 pax

iv. Cost per kit – 300

PhP 300/kit x 17 pax

3. Map out active breeding sites

Costing parameters

- i. Number of regions in 2016 –2020 – 17
- ii. Cost per region – PhP50,000 per year

4. Collect larval and adult species of anopheles mosquitoes to identify presence of vectors – involves field operations

Costing parameters

- i. Number of members per team in 2016 – 2020 – 4
- ii. Number of regions – 17
- iii. Number of days – 5
- iv. Daily subsistence allowance (DSA) per pax – PhP2,000

Field Operations: DSA: 4 members/team x PhP2,000/member/day x 5 days x 17 regions

- v. Transportation cost per pax – PhP5,000

4 members/team x PhP5,000/member/day x 17 regions

- vi. Communications – PhP1,000/region

PhP1,000/region X 17 regions

Strategy 4.4. Maintain effective monitoring and evaluation systems

- 1. Update Malaria monitoring and evaluation (M&E) Plan – will not be carried out in 2016-2020
- 2. Update M&E Guideline and Tools – will not be carried out in 2016-2020

3. Orient CHDs and LGUs on Malaria M&E Plan and Guide – involves training orientation at the municipal level
4. Philippines Malaria Information System (PhilMIS) – involves the following activities:
 1. Assess and enhance PhilMIS
 2. Orient CHDs and provinces on enhanced PhilMIS
 3. Implement enhanced PhilMIS
 4. For troubleshooting on Global Fund (GF) PHILMIS sites (13 provinces)
 5. Adoption of PhilMIS project to DOH Information Management Service (IMS)

Among these activities, Item #2 has the biggest share of the PhilMIS budget. This activity is divided into two categories, namely, training at the municipality level for PhilMIS with eight (8) batches. In general, cost parameters for each batch include the following:

- i. Number of participants – varies across batches
- ii. Number of days – 3
- iii. Cost of accommodation per pax – PhP2,000
- iv. Local transportation – PhP3,000
- v. Cost of transportation (Manila-based facilitators) – varies across batches
- vi. Supplies and materials – PhP500

For instance, for Batch #1 (Basilan and Sulu), cost parameters are as follows:

- i. Number of participants = 34 pax
- ii. Number of days
- iii. Number of Manila-based facilitators = 6
- iv. Cost of accommodation per pax – PhP2,000

40 pax x P2,000/pax x 3days

- v. Local transportation

34 pax x PhP3,000

- vi. Transportation (Manila-based Facilitators)

6 pax x PhP10,000

- vii. Supplies and Materials

34 pax x PhP500

5. Malaria Text Report System (MTRS) – involves the following activities

1. Assess and Enhance MTRS

Costing parameters

- i. Number of participants – 10 in 2016-2010
- ii. Frequency of meetings – 5 in 2016-2020
- iii. Consultancy fee – PhP300,000 (required only in 2020)
- iv. Supplies/materials – PhP25,000 (lumpsum for the whole activity)
- v. Meetings/Consultations (cost per pax) – PhP1,000

PhP 1,000/pax x 10 pax x 5 meetings

2. Data utilization and management of MTRS info/data at DOH Central

Costing parameters

- i. Number of participants – 10 in 2016-2010
- ii. Frequency of meetings – 5 in 2016-2020
- iii. Meetings/consultations

PhP1,000/pax x 10 pax x 5 meetings

3. Balik-load for short message service (SMS)

Costing parameters

- i. Number of facilities – 2,500 in 2016-2020
- ii. Number of SMS per month on logistics - 1
- iii. Number of months – 12
- iv. Number of SMS per year assuming there are 8,000 cases in 2015, 7,000 cases in 2016
- v. Cost of one (1) SMS – PhP5

2,500 facilities x 1sms per month on logistics x 12 months + 8,000 SMS per year assuming there are 8,000 cases in 2015, 7,000 cases in 2016

4. On-line Data Hosting and Management

Costing parameters

- i. Number of months – 12
- ii. Cost of data hosting and management per month – 25,000

PhP25,000 x 12 months

5. MTRS Maintenance (consultancy fee per month)

Costing parameters

- i. Number of months – 12 (required only in 2020)
- ii. Consultancy fee per month – PhP20,000

PhP20,000 month x 12 months

6. Data Utilization and Management (PhilMIS, PIDSR, Field Health Service Information System/FHSIS) – entails training of staff on data management at CHD, provincial, and municipal levels; report dissemination; and organization of annual dissemination forum

1. Training of staff on data management

This activity accounts for 87% of total budget for Item #6 in 2016 and 2017. It will not be carried out in 2018-2020.

Costing parameters

- i. Number of days – 3
- ii. At the CHD level in 2017-2020

Number of participants per CHD – 2

Number of CHDs – 17

Number of Central Office participants – 6

Total number of participants = $2 \times 17 + 6 = 40$

Cost per participant – PhP2,000

$\text{PhP2,000/pax} \times ((2 \text{ pax/CHD} \times 17 \text{ CHDs}) + 6) \text{ CO pax} \times 3 \text{ days}$

iii. At the province/city level in 2016-2017

Number of participants per province/city – 2

Number of provinces – 99

Frequency per year – 5

$\text{PhP1,800/pax} \times (2 \text{ pax/province or city} \times 99 \text{ province/city}) \times 3 \text{ days} \times 5$
times/year

Supplies and materials

$\text{PhP100} \times 2 \text{ pax} \times 99 \text{ provinces/cities}$

Transportation

$\text{PhP500/pax} \times 2 \text{ pax/province or city} \times 99 \text{ provinces/cities}$

iv. At the municipal level in 2016-2020

Number of participants per municipality – 2

Number of municipality per province – 20

Number of provinces – 99

$\text{PhP1,800} \times 2 \text{ pax /municipality} \times 20 \text{ municipalities} \times 99 \text{ provinces/cities} \times 3 \text{ days}$

Supplies and materials

$\text{PhP100/pax} \times 2 \text{ pax/municipality} \times 20 \text{ municipalities} \times 99 \text{ provinces/cities}$

2. Report dissemination – involves printing/publication of report/data for distribution to partners and stakeholders in 2016-2020

Costing parameters

Number of copies – 2,180

Cost per copy of report – PhP1,000

PhP1,000 x 2,180

3. Organization of annual dissemination forum – presentation to stakeholders of the report in 2016-2020

Costing parameters

Number of participants – 100

Number of Central Office participants – 20

PhP1,800/pax x (100 pax + 20 pax from DOH CO)

NB. Cost includes cost of supplies/food/transportation.

7. Program Field Monitoring – involves conduct of monitoring at the CHD and provincial levels; conduct of monitoring by principal recipient (PR) staff; and evaluation of provinces to be declared malaria-free

Conduct of monitoring by PR staff accounts for bulk of the budget for Item #7. However, the program staff does not have the basis for computation of the associated cost. Conduct of monitoring at the provincial level represents the second largest share of the budget for 2016-2020. Costing parameters for this activity are as follows:

- i. Number of CHD staff – 4
- ii. Number of provinces/cities – 99
- iii. Number of days
- iv. Transportation

PhP1,000/CHD staff x 4 CHD staff x 2 days x 99 provinces/cities

- v. Daily subsistence allowance

PhP1,200/day x 2 days x 4 CHD staff x 99 provinces/cities

8. Program Implementation Review (PIR) – consists of National PIR with CHDs, CHD PIR with provinces, and Provincial PIR with municipalities

Costing parameters

i. Number of days – 3

ii. National PIR with CHDs in 2016-2020

Number of participants per CHD – 2

Number of CHDs – 17

Number of CO participants – 6

PIR cost per pax/day – PhP2,000

PhP2,000/pax x ((2pax/CHD x 17 CHDs) + 6 Central Office participants) x 3 days

Supplies and materials – PhP100/pax

PhP100/pax x 40 pax

Transportation (airfare) – PhP10,000

PhP 10,000 x 26 pax

Transportation for other participants – PhP1,000

PhP1,000/pax x 8 pax

iii. CHD PIR with Provinces in 2016-2020

Number of participants per province/city – 2

Number of provinces/cities – 99

PIR cost per pax/day – PhP1,000 in 2016; PhP1,800 in 2017 onwards

PhP1,000/day (in 2016)/PhP1,800/day (in 2017 onwards) x 2 pax/provinces/cities x 99 provinces/cities x 3days

Supplies and materials – PhP100/pax

PhP100 x 2pax x 99 provinces/cities

Transportation – PhP500/pax

PhP500/pax x 2 pax/province or city x 99 provinces/cities

iv. Provincial PIR with municipalities in 2016-2020

Number of participants per municipality – 2

Number of municipalities – 20

Number of provinces/cities – 99

PIR cost per pax/day – PhP1,000 in 2016; PhP1,800 in 2017 onwards

PhP1,000/day (in 2016)/PhP1,800/day (in 2017 onwards) x 2 pax/municipality x 20 municipalities x 99 provinces/cities x 3days

Supplies and materials – PhP100/pax

PhP100/pax x 2 pax/municipality x 20 municipalities x 99 provinces/cities

Local Meetings of PR (PIR, Partners' Meeting, etc.) – biggest budget item under PIR; no breakdown/basis for computation; program staff provided the amount for 2016-2017

9. Research – associated cost is based on contract price/consultancy fee for the conduct of research/study
 1. Develop research agenda
 2. Bed Net Utilization
 3. Facility and Client Survey on compliance to diagnosis and treatment protocols
 4. LLIN Durability and Attrition Rate Study
 5. Surveys to identify foci of infection in Zero indigenous cases in areas of: c/o RITM
 6. Operations Research/therapeutic efficacy study (TES)
 7. Mid-Term and End Term Evaluation
10. Develop Geographic Information System (GIS) capacity at CHDs and LGUs – costs include consultancy, supplies and materials, travel/transportation; training/refresher training; purchase of Global Positioning System (GPS) units; maintenance of GPS units; and annual implementation per province including transportation and field operation
11. Organize annual dissemination forum to share results of researches/studies -

B. SCHISTOSOMIASIS

Costing proper¹⁰

Cost = Budget Item *i* (estimated requirement) x Unit Cost

Unit cost

Table 10. Cost Data for National Schistosomiasis Control and Elimination Program

BUDGET ITEMS AND UNIT COSTS	2014	2015	2016	2017	2018	2019	2020
1. Praziquantel Drugs (600 mg tablets)	12.00	12.00	12.00	12.00	12.00	12.00	12.00
2. Diagnostic tools							
2.1 Parasitologic kits	1,800	1,800	1,800	1,800	1,800	1,800	1,800
2.2 Serologic tests kits	3,800	3,800	3,800	3,800	3,800	3,800	3,800
3. Freight and Handling of drugs and kits							
Percentage of total cost of drugs and kits	0.025	0.025	0.025	0.025	0.025	0.025	0.025
4. Program National Activities	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000
5. Clinical Practice Guidelines production	750	750	750				
6. Manual of Operations Production	1,000	1,000	1,000	1,000			
7. Support to Regional Schistosomiasis Elimination and Control Campaigns	7,250,000	7,250,000	7,250,000	7,250,000	7,250,000	7,250,000	7,250,000
8. Research (Mandatory funds taken from All programs by HPDB)							
Percentage of total cost of Items 1 - Items 7	0.020	0.020	0.020	0.020	0.020	0.020	0.020

¹⁰ Costing is not based on population but on the estimated requirement per budget item provided by Dr. Leda Hernandez.

Target clientele and requirements

Table 11. Requirements for National Schistosomiasis Control and Elimination Program

BUDGET ITEMS	2016	2017	2018	2019	2020
1. Praziquantel Drugs (600 mg tablets)	8,246,133	8,497,422	7,461,743	6,408,869	5,554,323
Target population	2,061,533	2,124,356	1,865,436	1,602,217	1,388,581
2. Diagnostic tools					
2.1 Parasitologic kits	700	600	500	400	300
2.2 Serologic tests kits	112	114	116	118	120
3. Freight and Handling of drugs and kits					
Percentage of total cost of drugs and kits	0.025	0.025	0.025	0.025	0.025
4. Program National Activities (Frequency per year)	1	1	1	1	1
5. Clinical Practice Guidelines production	2,000	0	0	0	0
6. Manual of Operations Production		3,000			
7. Support to Regional Schistosomiasis Elimination and Control Campaigns	12	12	12	12	12
8. Research (Mandatory funds taken from All programs by HPDB)					
Frequency per year	1	1	1	1	1

Assumptions¹¹

1. Population computation is based on provincial annual growth rates from 2010 Census of Population
2. The requirement of Praziquantel drugs is pegged at 4 tablet per person
3. Parasitologic kits is assumed to be 400 tests/kit
4. Serologic kits is assumed to be 900 examinations/kit

¹¹ As indicated by Dr. Leda Hernandez

C. FILARIASIS

Costing proper

Cost = Target Population x Unit Cost x Required Number of Tablets

Unit cost

**Table 12. Cost Inputs for Filariasis Control Program
(In PhP)**

MASS DRUG ADMINISTRATION PROGRAM COST INPUTS	
Cost per Diethylcarbamazine Citrate tablet	1.50
Supportive drugs (cost per pax)	6
<i>Quantity required</i>	
Number of tablets per individual	4
Percentage of population that is likely to have reaction (in need of supportive drugs)	0.20
Frequency during the year	1
FILARIASIS MONITORING AND EVALUATION COST INPUTS	
Cost per Immunochromatographic test /filarial strip	300
Required number of filarial strips per area	3,200

Target clientele

Table 13. Population Data for Filariasis Control Program

TARGET POPULATION FOR MASS DRUG ADMINISTRATION PROGRAM						
	2015	2016	2017	2018	2019	2020
Population projection (Filariasis-endemic areas)						
1. Quezon	1,890,903	1,921,442	1,952,475	1,984,008	2,016,051	2,048,611
2. Occidental Mindoro	495,850	504,604	513,512	522,578	531,803	541,192
3. Camarines Norte	592,239	602,288	612,507	622,900	633,469	644,217
4. Masbate	908,967	924,092	939,470	955,103	970,997	987,155
5. Aklan	585,365	595,488	605,786	616,263	626,920	637,762
6. Antique	588,204	596,733	605,386	614,164	623,069	632,103
7. Capiz	582,863	586,689	590,540	594,416	598,317	602,244
8. Iloilo	1,862,395	1,890,023	1,918,062	1,946,517	1,975,393	2,004,699
9. Iloilo City	458,621	465,508	472,498	479,594	486,796	494,106
10. Zamboanga del Norte	820,801	833,095	845,574	858,239	871,094	884,141
11. Zamboanga del Sur	817,202	826,078	835,049	844,118	853,286	862,553
12. Zamboanga Sibugay	635,747	646,130	656,683	667,408	678,308	689,386
13. Lanao del Norte	692,065	709,642	727,666	746,148	765,099	784,531
14. Misamis Oriental	777,282	794,083	811,247	828,782	846,696	864,998
15. Davao del Sur	767,209	776,946	786,806	796,792	806,905	817,145
16. Davao City	1,635,482	1,674,174	1,713,782	1,754,327	1,795,832	1,838,318
17. Davao Oriental	420,881	426,821	432,844	438,953	445,148	451,431
18. Sarangani	551,733	562,583	573,646	584,927	596,430	608,158
19. Sultan Kudarat	750,335	769,664	789,491	809,829	830,691	852,090
20. Agusan del Norte	359,680	365,193	370,791	376,474	382,245	388,104
21. Surigao del Norte	229,876	233,569	237,322	241,134	245,009	248,945
22. Basilan	299,769	317,055	335,338	354,676	375,128	396,760
23. Maguindanao	571,546	581,903	592,448	603,184	614,115	625,244
24. Sulu	775,262	786,797	798,504	810,384	822,442	834,678
Target population	18,070,278	18,390,603	18,717,428	19,050,918	19,391,241	19,738,571

D. LEPROSY

No breakdown/basis for computation

6. OTHER INFECTIOUS DISEASES AND EMERGING AND RE-EMERGING DISEASES INCLUDING HIV/AIDS, DENGUE, FOOD AND WATER-BORNE DISEASES

A. SOIL-TRANSMITTED HELMINTHIASIS CONTROL PROGRAM/DEWORMING

Costing proper

Cost = Target Population x Unit Cost x Required Number of Tablets

Unit cost

Table 14. Cost Data for Deworming

COST INPUTS	
Cost per Albendazole tablet (In PhP)	1
<i>Quantity required</i>	
Number of tablets per child	1
Frequency during the year	2

Target clientele

Table 15. Population Data for Deworming

	2015	2016	2017	2018	2019	2020
Required data/information for computation of cost of deworming tablets						
Population projection	101,562,300	103,242,900	104,921,400	106,598,600	108,274,300	109,947,900
Proportion of children aged 1 to 12 years old	0.30	0.30	0.30	0.30	0.30	0.30
Target population	30,468,690	30,972,870	31,476,420	31,979,580	32,482,290	32,984,370

B. HIV-AIDS

Costing proper

Cost = Target Population x Unit Cost

Unit cost

Table 16. Cost Data for HIV-AIDS Program

PACKAGE OF INTERVENTIONS	Cost per pax
MSM	3,802
PWID	8,693
RFSW	7,943
FFSW	4,939
TG	4,972
PLHIV	21,506

MSM	Male having sex with male
PWID	Person who Inject Drugs
RFSW	Registered Female Sex Workers
FFSW	Freelance Female Sex Workers
TG	Transgenders
PLHIV	People Living with HIV

Target clientele

Table 17. Population Data for HIV-AIDS Program

	2016	2017	2018	2019	2020
MSM	383,276	389,319	395,278	400,718	406,485
PWID	9,133	9,304	9,473	9,641	9,809
RFSW	59,630	60,199	61,299	62,385	62,892
FFSW	38,142	38,856	39,566	40,267	40,389
TG	172,197	174,911	177,589	180,033	182,624
PLHIV	47,890	57,237	68,301	81,292	96,379

MSM	Male having sex with male
PWID	Person who Inject Drugs
RFSW	Registered Female Sex Workers
FFSW	Freelance Female Sex Workers
TG	Transgenders
PLHIV	People Living with HIV

C. DENGUE – based on 2015 NEP and was fixed until 2020

D. FOOD- AND WATER-BORNE DISEASES – based on 2015 NEP and was fixed until 2020

E. EMERGING AND RE-EMERGING INFECTIOUS DISEASES – based on 2015 NEP and was fixed until 2020

7. NON-COMMUNICABLE DISEASE PREVENTION AND CONTROL

A. ESSENTIAL NON-COMMUNICABLE DISEASE (NCD)

- a. **SENIOR CITIZEN PROGRAM** – consists of various activities, particularly conduct of “Health and Wellness for Senior Citizen” summit or conference; capacity building for CHDs as trainers on the provision of health services for senior citizens at the primary health care level; advocacy activity; consultative meetings; and monitoring and evaluation, among others.

Costing parameters

- i. Target beneficiaries (e.g., Regional Health Office (RHO) personnel, Central Office (CO) personnel, senior citizens)
- ii. Number of days of activities
- iii. Cost of accommodation (live-in) and venue/food per pax
- iv. Cost of supplies and materials (kit) per pax
- v. Cost of food allowance (2 snacks and 1 lunch) per pax
- vi. Cost of research and health promotion
- vii. Frequency per year

Costing proper

Cost = Target Population x Unit Cost

To illustrate, costing for conduct of Health and Wellness for Senior Citizen Summit/Conference for 2016-2020 is done below:

Target population (regional health office/RHO) – 17

Number of DOH CHD health personnel/coordinators/representatives – 2

Total number of RHO personnel/coordinators/representatives – 34

Number of participants - 300

RHO participants + other participants = 34 + 300 = 34

Cost of accommodation (live-in) and venue/food including conference kits per pax – PhP1,800

Number of days – 2

Honorarium per hour per pax – 1,200

Number of hours for resource persons – 6

Cost of accommodation (live-in) and venue/food including conference kits per pax = 334 participants x PhP1,800 x 2 days = PhP1,202,400

Honorarium of resource persons = 6 hours x PhP1,200 = PhP7,200

b. PNEUMOCOCCAL AND INFLUENZA FOR SENIOR CITIZENS

Costing proper

Cost = Target Population x (Poverty Incidence + Leakage Rate) x Unit Cost

Unit cost

Table 18. Cost Data for SC Program

COST INPUTS	
Cost of per dose of pneumococcal vaccine	362.50
Cost of of per dose of influenza vaccine	147.30
<i>Required quantity</i>	
Number of dose of pneumococcal vaccine*	1
Number of dose of influenza/flu vaccine**	1
Safety collector box for the syringes	44.75
Capacity of safety collector box	100

* Once in a lifetime

** Once a year

Target clientele

Table 19. Population Data for Pneumococcal/Influeza Vaccines for Senior Citizens

POPULATION INPUTS	2015	2016	2017	2018	2019	2020
Senior citizen (projections based on NSO 2010 population census)	7,639,300	7,998,400	8,364,600	8,738,700	9,120,200	9,508,800
Increase in SC population	286,000	359,100	366,200	374,100	381,500	388,600
Poverty incidence of the population (NSCB estimate) Based on FIES 2012	0.252	0.252	0.252	0.252	0.252	0.252
Leakage rate	0.20	0.20	0.20	0.20	0.20	0.20

- c. PREVENTION OF BLINDNESS PROGRAM (PBP) – consists of various activities such as capacity building for CHDs on Prevention of Blindness Program; and Scale-up and operationalization of the Community Eye Health Project, among others

Costing parameters

- i. Target beneficiaries/areas (e.g., Regional Health Office (RHO) personnel and Central Office (CO) personnel)
- ii. Number of Community Eye Health Team (CEHT) monitoring
- iii. Number of days of activities
- iv. Cost of accommodation (live-in) and venue/food per pax
- v. Cost of supplies and materials (kit) per pax
- vi. Cost of travel (two-way airfare)

For example, below is the costing for scale-up and operationalization of the Community Eye Health Project, which involves two sub-activities such as i) establishment of Community Eye Health Team in target areas, and ii) monitoring and evaluation of establishment of the Community Eye Health Team (CEHT).

i. Establishment of Community Eye Health Team in 2016-2017

Costing parameters

Number of target areas – 20 in 2016 and 6 in 2017

Number of CO personnel – 4

Cost of accommodation (live-in) and venue/food per pax – PhP1,800

Number of days – 3

Travel cost: Airfare (two-way) per pax – PhP14,000

Costing proper

Cost of accommodation (live-in) and venue/food in 2016 = (20 x 4) participants x PhP1,800 per participant x 3 days = PhP432,000

Travel cost = (20 x 4) participants x PhP14,000 = PhP1,120,000

ii. Monitoring and evaluation of establishment of the Community Eye Health Team (CEHT)

Costing parameters

Number of target areas – 20 in 2016 and 6 in 2017

Number of CEHT for monitoring – 30

Number of CO personnel – 4

Cost of accommodation (live-in) and venue/food per pax – PhP1,800

Number of days – 3

Travel cost: Airfare (two-way) per pax – PhP14,000

Costing proper

Cost of accommodation (live-in) and venue/food in 2016 = (30 x 4) participants x PhP1,800 per participant x 3 days = PhP648,000

Travel cost = (30 x 4) participants x PhP14,000 = PhP1,680,000

- d. PERSONS WITH DISABILITIES (PWD) – includes programs that focus on capacity building of CHD personnel and PWDs; conduct of public health convention on health program for PWDs, among others

Costing parameters

- i. Target beneficiaries (e.g., Regional Health Office (RHO) personnel, Central Office (CO) personnel, PWDs and other stakeholders)
- ii. Number of days of a particular activity (e.g., conduct of public health convention on health program for PWDs)
- iii. Cost of accommodation (live-in) and venue/food per pax
- iv. Cost of supplies and materials (kit) per pax

Costing proper

Cost = Target Population x Unit Cost

For instance, costing for conduct of public health convention on health program for PWDs in 2016, 2018, and 2020 is as follows:

Accommodation (live-in) and venue/food = 335 participants x PhP1,800/pax x 3days = PhP1,809,000

Supplies and materials = 335 participants x PhP500/pax = PhP167,500

- e. VIOLENCE AND INJURY PREVENTION PROGRAM – consists of various activities that include scale-up and operationalization of the pre-hospital emergency medical service (EMS) system at the regional level; and National Summit on Safety Promotion and Violence and Injury Prevention, among others

Costing parameters

- i. Target beneficiaries (i.e., Central Office (CO) personnel)
- ii. Number of days of activities – 3
- iii. Cost of accommodation (live-in) and venue/food per pax or per diem for live-out activities – PhP1,800
- iv. Travel cost: Airfare (two-way) per pax – PhP14,000

Costing proper

Cost = Target Population x Unit Cost

To illustrate, below is the costing for scale-up and operationalization of the pre-hospital EMS system at the regional level in 2016-2020.

Costing parameters

Number of target areas – 15

Number of Central Office (CO) personnel – 4

Accommodation (live-in) and venue/food per pax or Per Diem (live-out) = (15 x 4) participants x PhP1,800 x 3 days = PhP324,000

Travel cost = (15 x 4) participants x PhP14,000 = PhP840,000

B. LIFESTYLE-RELATED DISEASES

- a. CHRONIC RESPIRATORY DISEASES AND CANCER COMPONENTS (WITH NRT COUNSELLING) – budget items include but are not limited to capital outlay items such as purchase of equipment (e.g., colposcopes, cryotherapy machine, portable spirometer machine, to name a few); procurement of nicotine replacement therapy (NRTs); consultancy services; reproduction and printing of advocacy materials; capacity building; monitoring and media placement

Costing parameters

- i. Number of smokers
- ii. Cost of Nicotine Replacement Therapy (NRT) supplies and materials (e.g., nicotine patch, nicotine gum, nicotine lozenge, nicotine inhaler, etc.)
- iii. Frequency of consultancy services per year
- iv. Cost of consultancy services
- v. Frequency of media placement per year
- vi. Cost of media placement

- vii. Frequency of research per year
- viii. Cost of conduct of research
- ix. Number of target health facilities for reproduction and printing of health promotion materials
- x. Cost of health promotion materials
- xi. Number of days of training/PIR
- xii. Cost of capacity building/training (e.g., Training of Trainers) per day
- xiii. Target population for capacity building/training

Costing proper

Cost = Target Population x Unit Cost

Cost = Unit Cost (Activity i) x Frequency per year, where $i = 1, \dots, n$ activities

To illustrate, costing for procurement of NRTs is as follows:

Cost of NRTs = 6,920,000 smokers x Σ unit cost of NRT supplies and materials (i), $i = 1, \dots, n$

$$= 6,920,000 \text{ smokers} \times \text{PhP}65,940 = \text{PhP}746,944,800,000$$

- b. **CARDIO-VASCULAR DISEASES AND DIABETES MILLETUS COMPONENTS** – consists of various activities that include capacity building, monitoring and evaluation, and conduct of advocacy activities, among others

Costing parameters

- i. Number of RHO personnel
- ii. Number of CO personnel
- iii. Number of DOH-RO NCD Coordinators
- iv. Number of PhilHealth/PHIC Central and Regional Personnel
- v. Number of CO personnel (including National Center for Pharmaceutical Access and Management (NCPAM), WHO representative)
- vi. Frequency per year of a particular activity
- vii. Cost of accommodation (live-in) and venue/food per pax – PhP1,800
- viii. Number of days – 3
- ix. Supplies and materials (kit) per pax – PhP500
- x. Travel cost (two-way airfare) – PhP14,000

Costing proper

Cost = Target Population x Unit Cost

Cost = Unit Cost (Activity i) x Frequency per year, where $i = 1, \dots, n$ activities

For example, costing of Program Implementation Review and Planning Workshop in 2016-2020 is shown below.

Costing parameters

Number of DOH-RO NCD Coordinators (2/region) – 17 regions x 2 coordinators per region

Number of PhilHealth/PHIC Central and Regional Personnel (2 central/1 regional) – 3

Number of CO personnel (including NCPAM, WHO representative) – 8

Accommodation (live-in) and venue/food per pax = (34+ 3+ 8) participants x PhP1,800/pax = 45 participants x PhP1,800 x 3 days = PhP243,000

Cost of two-way airfare = 45 participants x PhP14,000 = PhP630,000

8. ENVIRONMENTAL AND OCCUPATIONAL HEALTH

A. ENVIRONMENTAL HEALTH (EH)

1. Annual National Consultative Dialogue and Technical Updates on Environmental Health
2. Conduct of the National Sanitarian Training Course
3. Water Quality Surveillance Training for Sanitary Inspectors (technical training)
4. Training on Community Led Total Sanitation
5. Advocacy activity for Water and Sanitation Hygiene/WASH (annual search for best barangay)
6. Sustainable Sanitation Promotion
7. Publication of Annual National Drinking Water Quality Monitoring Report
8. Monitoring and Evaluation of Policy, Programs and Projects
9. Research and development
10. Provision of WASH supplies and materials for routine and emergency situation

11. Capacity building program, on Water Safety Plan and Sanitation Safety Plan
12. Grassroot Participatory Budgeting for Sanitation Program

Costing parameters

- i. Target population/areas for each of the activities listed above (e.g., regions and provinces)
- ii. Number of regional and provincial health personnel
- iii. Number of DOH Central Office (CO) health personnel
- iv. Target population (municipal and city sanitary inspectors)
- v. Number of participants
- vi. Number of DOH Central Office personnel
- vii. Target Population (provincial health staff)
- viii. Number of provinces
- ix. Target population or audience (local government units)
- x. Number of local government units (LGUs)
- xi. Number of visits per region for monitoring and evaluation of policy, programs, and projects
- xii. Frequency of activities per year
- xiii. Number of participants per water utility
- xiv. Number of water utilities

Costing proper

Cost = Target Population x Unit Cost

Cost = Unit Cost (Activity i) x Frequency per year, where $i = 1, \dots, n$ activities

For example, below is the costing for the provision of WASH supplies and materials (e.g., chlorine disinfectant, toilet bowls, others per region) for routine and emergency situation in 2016-2020.

Target areas (regions) – 17

Program supplies and materials (chlorine disinfectant, toilet bowls, others) per region – PhP1,200,000

Cost = 17 x PhP1,200,000 = PhP20,400,000

B. OCCUPATIONAL HEALTH (OH)

1. Strategy 1. Governance - ACTION: Development of policy, plans, projects roadmaps and programs
2. Strategy 2. Risk Reduction Initiatives - ACTION: Development of risk reduction initiatives applicable to the local setting
3. Strategy 3. Capacity Building and Technical Cooperation – ACTION: Training Programs for the health workers on occupational health program (OHP) and various work-related diseases
4. Strategy 4: Knowledge and Information - ACTION: Development of Health-Based Researches on occupational health program (OHP) and work-related diseases
5. Strategy 5: Health Service Packages for integration under the Universal Health Care (UHC) - ACTION: Development of relevant occupational health packages for various sectors/initiatives
6. Strategy 6: Technical Assistance - ACTION: Provision of technical assistance to relevant stakeholders on various concerns
7. Strategy 7: Health Promotion and Advocacy – ACTION: Development of IEC materials; and advocacy campaigns
8. Strategy 8: Monitoring and Evaluation - ACTION: Development of relevant tools to indicate progress in program implementation
9. Strategy 9: Integrated Management Systems for Occupational Health – ACTION: Development of quality management systems for OHP implementation

Costing parameters

- i. Frequency of Activity i , where $i = 1, \dots, n$ activities
- ii. Unit cost of Activity i
- iii. Number of target regions/beneficiaries

Costing proper

Cost = Target Population x Coverage Rate x Unit Cost

Cost = Unit Cost (Activity i) x Frequency per year, where $i = 1, \dots, n$ activities

For instance, costing for the various components of Strategy 5 in 2016, which accounts for the biggest chunk of the total OH budget, is given below.

Unit cost

Table 20. Cost Data for Strategy 5 of Occupational Health

STRATEGY 5: Health Service Packages for integration under the UHC ACTION: Development of relevant occupational health packages for the following sectors/initiatives;	Unit Cost	Remarks
Occupational Health Program for the Informal Sector	600	health packages for the informal sector
Occupational Health Program for Public Health Workers (immunization program for health care providers)	750	vaccines
Occupational Lung Diseases	600	health packages for lung exposures
Occupational Dermatoses	300	health packages for odermal exposures
Noise-Induced Hearing Loss	200	health packages (egaudiometric exam)
Occupational Cancers and Lifestyle Diseases	600	health packages for cancer screening
Work-Related Musculoskelatal Diseases	200	health packages for WMDs
Occupational Toxicology	300	health packages for tox screening
OHP for OFWs	600	health packages for OFWs
OHP for Child Labor	600	health packages for child labor
Occupational Stress/psychosocial well-being	200	health package for stress
Emerging OH concerns	300	health package for emerging concerns

Target population

Table 21. Population Data for Strategy 5 of Occupational Health

Target Beneficiaries for Strategy 5	2016	2017	2018	2019	2020
STRATEGY 5: Health Service Packages for integration under the UHC					
ACTION: Development of relevant occupational health packages for the following sectors/initiatives:					
	Number of Target Beneficiaries				
Occupational Health Program for the Informal Sector (based on 2013 Labor Force Survey)	10,841,100	10,841,100	10,841,100	10,841,100	10,841,100
Occupational Health Program for Public Health Workers (immunization program for health care providers)	99,033	99,033	99,033	99,033	99,033
Occupational Lung Diseases (based on 2013 Labor Force Survey)	25,295,900	25,295,900	25,295,900	25,295,900	25,295,900
Occupational Dermatoses (based on 2013 Labor Force Survey)	25,295,900	25,295,900	25,295,900	25,295,900	25,295,900
Noise-Induced Hearing Loss (based on 2013 Labor Force Survey)	25,295,900	25,295,900	25,295,900	25,295,900	25,295,900
Occupational Cancers and Lifestyle Diseases (based on 2013 Labor Force Survey)	25,295,900	25,295,900	25,295,900	25,295,900	25,295,900
Work-Related Musculoskeletal Diseases (based on 2013 Labor Force Survey)	25,295,900	25,295,900	25,295,900	25,295,900	25,295,900
Occupational Toxicology (based on 2013 Labor Force Survey)	25,295,900	25,295,900	25,295,900	25,295,900	25,295,900
OHP for OFWs (based on DOLE (2013))	2,200,000	2,200,000	2,200,000	2,200,000	2,200,000
OHP for Child Labor (based on NSO(2011))	5,500,000	5,500,000	5,500,000	5,500,000	5,500,000
Occupational Stress/psychosocial well-being (based on 2013 Labor Force Survey)	25,295,900	25,295,900	25,295,900	25,295,900	25,295,900
Emerging OH concerns (based on 2013 Labor Force Survey)	25,295,900	25,295,900	25,295,900	25,295,900	25,295,900

Coverage rate

Table 22. Coverage Rate for Strategy 5 of Occupational Health

Coverage rate (e.g., 1 for 100% coverage)	2016	2017	2018	2019	2020
Occupational Health Program for the Informal Sector	0.005	0.008	0.010	0.013	0.015
Occupational Health Program for Public Health Workers (immunization program for health care providers)	1.000	1.000	1.000	1.000	1.000
Occupational Lung Diseases	0.005	0.008	0.010	0.013	0.015
Occupational Dermatoses	0.005	0.008	0.010	0.013	0.015
Noise-Induced Hearing Loss	0.005	0.008	0.010	0.013	0.015
Occupational Cancers and Lifestyle Diseases	0.005	0.008	0.010	0.013	0.015
Work-Related Musculoskeletal Diseases	0.005	0.008	0.010	0.013	0.015
Occupational Toxicology	0.005	0.008	0.010	0.013	0.015
OHP for OFWs	0.010	0.020	0.030	0.040	0.050
OHP for Child Labor	0.001	0.002	0.003	0.004	0.005
Occupational Stress/psychosocial well-being	0.005	0.008	0.010	0.013	0.015
Emerging OH concerns	0.005	0.008	0.010	0.013	0.015

Costing proper

Cost of Activity 1 = 10,841,100 beneficiaries x 0.005 x 600 = PhP32,523,300
Cost of Activity 2 = 99,003 beneficiaries x 1 x750 = PhP74,274,750
Cost of Activity 3 = 25,295,900 beneficiaries x 0.005 x 600 = PhP75,887,700
Cost of Activity 4 = 25,295,900 beneficiaries x 0.005 x 300 = PhP37,943,850
Cost of Activity 5 = 25,295,900 beneficiaries x 0.005 x 200 = PhP25,295,900
Cost of Activity 6 = 25,295,900 beneficiaries x 0.005 x 600 = PhP75,887,700
Cost of Activity 7 = 25,295,900 beneficiaries x 0.005 x 200 = PhP25,295,900
Cost of Activity 8 = 25,295,900 beneficiaries x 0.005 x 300 = PhP37,943,850
Cost of Activity 9 = 2,200,000 beneficiaries x 0.010 x 600 = PhP13,200,000
Cost of Activity 10 = 5,500,000 beneficiaries x 0.001 x 600 = PhP3,300,000
Cost of Activity 11 = 25,295,900 beneficiaries x 0.005 x 200 = PhP25,295,900
Cost of Activity 12 = 25,295,900 beneficiaries x 0.005 x 300 = PhP37,943,850
Grand total cost for Strategy 5 in 2016 = PhP464,792,700

The same cost estimation is followed for succeeding years.

9. EPIDEMIOLOGY AND DISEASE SURVEILLANCE

The epidemiology and disease surveillance is lodged with the National Epidemiology Center (NEC). The budget for NEC is divided into four components, namely, (i) Applied Public Health Division (APHD), (ii) Public Health Surveillance and Informatics Division (PHSID), (iii) Survey, Risk Assessment and Evaluation Division (SRAED), and (iv) NEC Administration. The first three components are NEC's Divisions.

Each of these components consists of various activities as follows:

A. Applied Public Health Division (APHD)

- 1. Event-based Surveillance and Response (ESR) Program Implementation Review and Evaluation**
- 2. Writeshop on the modification of ESR Manual of Procedures**

3. Training on Online Reporting for Event-based Surveillance and Response (ESR) for LGUs
4. Updates of Field Epidemiology Training Program (FETP) Curriculum Workshop
5. Field Epidemiology Training Program (FETP) Program Implementation Review and Evaluation
6. Field Epidemiology Training Program (FETP) Screening, orientations, presentations and evaluations for promotion of Fellows
7. Field Epidemiology Training Program (FETP) Fellows Training/Didactics
8. Field Epidemiology Training Program (FETP) local epidemiology unit disease surveillance rotation
9. FETP Training Allowance
10. Epidemiological Updates Workshop
11. Field Epidemiology Training Program (FETP) Annual Scientific Conference
12. Update of Field Management Training Program (FMTP) Curriculum Workshop (2 Tracks - Hospital & Community)
13. 13. Field Management Training Program (FMTP) training of the 2 tracks in pilot region/s
14. Field Management Training Program (FMTP) Program Implementation review and Annual Conference
15. Monthly ESR Staff Meeting
16. Conduct ESR monitoring and evaluation, technical assistance and feedback
17. Module Development for ESR Officers on Outbreak Detection and Response
18. Training of ESR Officers on outbreak detection and response in selected areas
19. External Evaluation of ESR System
20. Outbreak Investigation
21. Transport and Delivery of specimens from opportunistic infections (OI) sites to National Reference Laboratory
22. Skills upgrading of ESR Point Persons (national, regional and LGU staff) on data management, statistics and GIS
23. Laboratory Support to RITM for Outbreak Investigations
24. Support to FETP long term special study proposal and implementation
25. Printing & Dissemination of ESR Manual of Procedure
26. Printing & Dissemination of ESR Online User's Manual
27. Printing & Dissemination of FETP Manual of Procedure
28. Printing & Dissemination of FMTP Manual of Procedure
29. Printing and dissemination of Applied Public Health (APHD) Newsletters and Bulletins
30. APHD ISO Review
31. APHD advocacy materials
32. Leased line internet connection (ESR)
33. Hiring of additional ESR and FMTP staff
34. Skills upgrading of APHD staff on information technology, biostatistics, research methods
35. Capital outlay
36. Support to CHDs on ESR implementation (sub-allotments to CHDs)
37. FMTP process improvement module printing

38. FMTP health program planning module printing
39. Hiring of ESR officers and FMTP Staff
40. Short-course FETP Development (pilot-testing, workshops, didactics)
41. Training allowance (5 fellows)
42. Outbreak investigation

Costing parameters

- i. Target population/areas (e.g., regions, Regional Health Office or RHO)
- ii. Number of RHO personnel
- iii. Number of Central Office (CO) personnel
- iv. Number of ESR staff per monitoring per region
- v. Cost of accommodation (live-in) and venue/food or per diem (live-out) per pax
- vi. Number of days
- vii. Cost of supplies and materials per pax
- viii. Cost of travel (two-way airfare) per pax
- ix. Frequency of activities per year
- x. Unit cost of activities
- xi. Quantity of capital outlay (e.g., vehicle, computer/desktops, laptops, printer, etc.) required
- xii. Unit cost of capital outlay items

Costing proper

Cost = Target population x Unit Cost

Cost of Activity i = Unit Cost (Activity i) x Frequency per year

To illustrate, cost estimation for training of Event-based Surveillance and Response (ESR) Officers on outbreak detection and response in selected areas is as follows:

Costing parameters

- i. Number of target RHOs – 3
- ii. Number of RHO personnel per RHO – 27
- iii. Number of CO personnel – 36
- iv. Cost of accommodation (live-in) and venue/food or per diem (live-out) per pax – PhP1,800
- v. Number of days – 3
- vi. Supplies and materials (kit) per pax – 500
- vii. Airfare (two-way) per pax – PhP14,000

RHO personnel

Accommodation (live-in) and venue/food or per diem (live-out) = (3 x 27) participants x PhP1,800 x 3 days = PhP437,400

Supplies and materials = (3 x 27) participants x PhP500 = PhP40,500

Airfare (two-way) = (3 x 27) participants x PhP14,000 = PhP1,134,000

CO personnel

Accommodation (live-in) and venue/food or per diem (live-out) = 36 participants x PhP1,800 x 3 days = PhP194,400

Supplies and materials = 36 participants x PhP500 = PhP18,000

Airfare (two-way) = 36 participants x PhP14,000 = PhP504,000

B. Public Health Surveillance and Informatics Division (PHSID) – includes three (3) units, namely, a) Philippine Integrated Disease Surveillance and Response (PIDSR) Unit; b) Vaccine Preventable Diseases (VPD) Unit; and c) Field Health Services Information System (FHSIS) Unit

a. Philippine Integrated Disease Surveillance and Response (PIDSR) Unit

1. PIDSR Program Implementation Review
2. PIDSR Data Reconciliation Workshop
3. PIDSR Training (2 batches per year)
4. PIDSR Technical Assistance Visit to Epidemiology and Surveillance Units (ESUs)
5. PIDSR Monitoring of Dengue Sentinel Sites
6. PIDSR & VPD Support to RITM
7. Public Health Surveillance and Informatics Division (PHSID) Support to San Lazaro Hospital
8. Support to Regional Epidemiology Surveillance Unit (RESU/ESU), Provincial Epidemiology Surveillance Unit (PESU) for Surveillance Activities
9. Support for LGU (based on Bottoms-up Budgeting)
10. Hiring of 1 PIDSR IT personnel
11. Hiring of Provincial Disease Surveillance Officers (DSOs)

b. Vaccine Preventable Diseases (VPD) Unit

1. Capacity Building on New Vaccine Preventable Disease Surveillance for Regional Offices
2. Consultative and Planning Workshop on New Vaccine Preventable Disease Surveillance
3. Monitoring and Evaluation of New Vaccine Preventable Disease Surveillance established sentinel sites (done 10 times per year)
4. Capacity Building of Regional Offices in Creating Regional Adverse Events Following Immunization (AEFI) Committee
5. VPD Surveillance Year-end Review
6. Advocacy Meeting on Vaccine Preventable Disease
7. Vaccine Preventable Disease Case Evaluation and Classification Workshop
8. National AEFI Committee Causality Assessment
9. Comprehensive Vaccine Preventable Disease Surveillance Training for Disease Surveillance Officers/Coordinators
10. Training on Surveillance and Response to AEFI
11. Provision of Technical Assistance Visit on PIDSRS and VPDS to Regions
12. Armed Forces of the Philippines (AFP) Hot Case Investigation (if a case has been reported)
13. Conduct of Preparatory Meetings relative to VPDS activities
14. Pre-Classification of AFP Cases
15. Pre-Classification of AEFI Cases
16. PIDSRS & VPD Support to RITM
17. Printing of AEFI Manual
18. Printing of VPD Handbook
19. Measles Elimination Field Guide
20. Disease Surveillance/Advocacy Supplies and Materials

c. Field Health Services Information System (FHSIS) Unit

1. Re-orientation of FHSIS Manual of Procedure (MOP) and ClinicSys
2. ClinicSys/FHSIS data reconciliation
3. Monitoring and supervision of FHSIS/ClinicSys
4. Program Implementation Review (PIR) of FHSIS new indicators
5. Upgrade of servers
6. Regional sub-allotment for FHSIS implementation
7. Lease line of efhsis
8. Publication of FHSIS Annual Report

Costing parameters for Public Health Surveillance and Informatics Division (PHSID)

- i. Target population/areas (e.g., regions, Regional Health Office or RHO)
- ii. Number of RHO personnel
- iii. Number of Central Office (CO) personnel
- iv. Number of LGU personnel
- v. Cost of accommodation (live-in) and venue/food or per diem (live-out) per pax –
PhP1,800
- vi. Number of days
- viii. Supplies and materials (kit) per pax
- ix. Airfare (two-way) per pax
- x. Frequency of activities per year
- xi. Unit cost of activities

Costing proper

Cost = Target population x Unit Cost

Cost of Activity i = Unit Cost (Activity i) x Frequency per year

For example, take one of the budget items of a) Philippine Integrated Disease Surveillance and Response (PIDSUR) Unit, which accounts for the biggest chunk of the budget for Public Health Surveillance and Informatics Division (PHSID). In particular, costing for PIDSUR training is as follows:

Costing parameters

Target population/areas (i.e., regions) – 17

Number of RHO personnel per region – 2

Number of Central Office (CO) personnel

Number of batches per year – 2

Cost of accommodation (live-in) and venue/food or per diem (live-out) per pax –
PhP1,800

Number of days – 4

Cost of supplies and materials (i.e., lodged with CO) – PhP25,000 (for all participants)

Airfare (two-way) – PhP16,000 per CO personnel only

Costing proper per batch

RHO personnel

Accommodation (live-in) and venue/food or per diem (live-out) per pax = (17 x 2) participants x PhP1,800 x 4 days = PhP244,800

CO personnel

Accommodation (live-in) and venue/food or per diem (live-out) per pax = 13 participants x PhP1,800 x 4 days = PhP93,600

Supplies and materials = PhP25,000

Airfare (two-way) = 13 participants x PhP16,000 = PhP208,000

C. Survey, Risk Assessment and Evaluation Division (SRAED) – consists of different units including a) Global Adult Tobacco Survey (GATS), b) Online National Electronic Injury Surveillance System (ONEISS), and c) HIV-AIDS

a. Global Adult Tobacco Survey (GATS) Unit

1. Writeshop for the 2nd GATS Data Analysis
2. Writeshops for the 2nd GATS Country Report Writing
3. 2nd GATS Dissemination Forum
4. Supervision and provision of TA on the 5th Global Youth Tobacco Survey (GYTS) implementation
5. Orientation and training workshop on the 5th GYTS
6. Supervision and provision of TA on the 2nd GATS implementation
7. Hiring of Consultant for the Country Report
8. Support to CHDs for the 5th GYTS data collection/implementation
9. Development and reproduction of the Philippine Health Statistics Annual Report
10. Reproduction of the 2nd GATS Final Report
11. Reproduction of 2nd GATS Fact Sheets
12. Printing of Global Tobacco Surveillance System (GTSS) Survey Questionnaires/Forms

b. Online National Electronic Injury Surveillance System (ONEISS) Unit

1. Conduct of training relative to ONEISS validation, report and factsheet development

2. Writeshop on the Development of policies/guidelines and updates on International Classification of Diseases (10th Revision) or ICD-10 implementation
3. Writeshop on the Review and updating of ICD-10 training module and manual
4. Conduct of quarterly ICD-10 TWG meetings
5. Conduct of ICD-10 Trainers Update and Refresher Training Course
6. Conduct of ICD-10 advanced training course on mortality coding using the Medical Mortality Data System (MMDS) decision tables
7. Provision of Technical Assistance re conduct of ICD-10 training
8. Conduct of quarterly meeting on ONEISS
9. Provision of technical assistance re ONEISS implementation (data management) – Monitoring
10. Mortality Coding Quality Assessment Research – will not be carried out in 2016-2020
11. Attendance of NEC staff to relevant trainings
12. Online National Electronic Injury Surveillance System (ONEISS)

c. HIV-AIDS Unit

1. Training of Trainers for Integrated HIV/AIDS Behavioral and Serologic Surveillance (IHBSS)
2. IHBSS Evaluation
3. Expert Panel Meeting
4. HIV Case Investigation/Risk Assessment
5. IHBSS Questionnaire Development
6. Integrated HIV/AIDS Behavioral and Serologic Surveillance (IHBSS)
7. IHBSS In-depth Analysis Workshop
8. Data Management training
9. STIR-UP Planning Workshop
10. Rapid Assessment for HIV Vulnerability (RAV)
11. Mapping of Key Affected Populations
12. Program Implementation Review (PIR)
13. Size Estimates among key affected populations
14. Viral load suppression
15. Support to CHD
16. Support to STD/AIDS Cooperative Central Laboratory (SACCL)
17. Support to RITM
18. Technical Assistance to HIV/STI/AIDS
19. Monitoring and Evaluation (Laboratories, Treatment Hubs, Social Hygiene Clinics, Bloodbanks)

Costing parameters for Survey, Risk Assessment and Evaluation Division (SRAED)

- i. Target population/areas (e.g., regions, Regional Health Office or RHO)
- ii. Number of RHO personnel
- iii. Number of Central Office (CO) personnel

- iv. Number of LGU personnel
- v. Number of treatment hubs personnel
- vi. Number of other stakeholders
- vii. Cost of accommodation (live-in) and venue/food or per diem (live-out) per pax
- viii. Number of days
- ix. Supplies and materials (kit) per pax
- x. Airfare (two-way) per pax
- xi. Frequency of activities per year
- xii. Unit cost of activities

Costing proper

Cost = Target population x Unit Cost

Cost of Activity *i* = Unit Cost (Activity *i*) x Frequency per year

Among the three (3) units of SRAED, HIV-AIDS Unit has the largest share of total SRAED budget. To illustrate the cost estimation done for SRAED, take the example of one of the budget items of HIV-AIDS Unit which is the Integrated HIV/AIDS Behavioral and Serologic Surveillance (IHBSS).

Integrated HIV/AIDS Behavioral and Serologic Surveillance (IHBSS) – to be conducted in 2017 and 2019 at PhP15M each year

Cost of IHBSS = PhP15M x 1 in 2017 and PhP15M x 1 in 2019

- D. NEC Administration – consists of personnel services; management; repair and maintenance; midyear performance review and work value enhancement; technical assistance; capacity building of NEC staff; and purchase of capital outlay

The person-in-charge did not provide basis for computation/breakdown of costing.

10. HEALTH INFORMATION SYSTEM

The budgetary requirement for Health Information System, particularly Knowledge Management and Information Technology Service (KMITS), is classified into Personnel Services, Maintenance and Operating Expenses, and Capital Outlay as follows:

- I. Personnel Services (PS) – no breakdown for PS budget
- II. Maintenance and Operating Expenses (MOE)
 - A. Standards Setting & eHealth and IS Plans formulation and updating
 - B. Quality Assurance
 - C. Project Management & Experts Assistance
 - D. System Development, Enhancement & Implementation Expansion
 - E. Integration of Information Systems
 - F. System Implementation & Training
 - G. System Monitoring and Technical Support/Assistance
 - H. Data Management
 - I. Health GIS & Kalusugang Pangkalahatan (KP) Dashboard
 - J. Improvement of Vital Statistics System
 - K. Management of the DOH Intranet and Internet
 - L. Scaling-up of Knowledge Management Initiatives
 - M. Document Management
 - N. Strengthening the Philippine Health Information Network
 - O. Library Management
 - P. Voice Communication Management
 - Q. Quality Management System Improvement to Sustain ISO Certification
 - R. Information and Communications Technology (ICT) Capacity Building of Health Personnel
 - S. Staff Development
 - T. Administrative support
 - U. Operations & maintenance of the Local phone services (Internet Protocol Private Branch Exchange or IP PBX)
 - V. Operations and Maintenance of the DOH Data Center
- III. Capital Outlay (CO)
 - A. Upgrading/Replacement various DOH ICT Infrastructures
 - B. Office Productivity & Systems Implementation

Capital outlay gets the biggest chunk of KMITS budget. The physical targets for its components are specified in **Table 23**.

Table 23. Physical Targets for KMITS

BUDGET ITEM/ACCOUNT	Physical Target				
	2016	2017	2018	2019	2020
III. CAPITAL OUTLAY					
A. Upgrading/Replacement various DOH ICT Infrastructures					
1. IPPBX/IP Telephony	1				1
2. Data Center equipment (cooling system, server, storage, network device, power supply, etc)	1	1	1	1	1
3. Software Licenses (anti-virus, firewall, Network security, databases, etc)	20	20	20	20	20
4. WIFI system	1				1
5. Video Conference Equipment		1			
6. Email Services Equipment	2			2	
7. Local Area network		1			1
B. Office Productivity & Systems Implementation					
1. Office Productivity:					
Desktop Computers with UPS	500	400		200	200
Laptops	86	50		86	200
Mobile Computing Device/Tablet	276			87	
Printers	100	80		50	30
Projector	50	51		20	20
Hi speed Scanner	2	17		5	5
Office Productivity Softwares	20	17		20	20
2. System Implementation: Health Data Enterprise Warehouse, EIS, Health Policy and Research, local health, licensing, Quarantine, PHIE, iHOMIS, iClinicSYS etc:					
Server	21	5	17	21	21
Storage System	2		1	2	2
Database Management Software	50		50	50	50
Mobile Computing Device/Tablet	70	74		70	70
Data visualisation & business analytics license	2	24	17	2	2
Database software license	42		42		42
Mapping software license	2		2		2
Anti-virus license	2	2	2	2	2
Network Management license	40		40		40
Firewall	5		5		5
Network Security	5		5		5
Barcode Printer	20		17		20
Barcode Reader	22		17		22
Desktop computers with UPS	251	150	200	300	200
Printers	65		65	100	65
Computer Desktop with UPS, Printer & office Productivity Software	500	500	500	500	500
Network devices	65		65		65

Table 24. Cost Data Inputs for KMITS

BUDGET ITEM/ACCOUNT	Unit Cost
III. CAPITAL OUTLAY	
A. Upgrading/Replacement various DOH ICT Infrastructures	
1. IPPBX/IP Telephony	25,000,000
2. Data Center equipment (cooling system, server, storage, network device, power supply, etc)	
Cost in 2016	25,000,000
Cost in 2017	5,000,000
Cost in 2018	5,000,000
Cost in 2019	5,000,000
Cost in 2020	10,000,000
3. Software Licenses (anti-virus, firewall, Newtwork security , databases, etc)	250,000
4. WIFI system	3,000,000
5. Video Conference Equipment	14,000,000
6. Email Services Equipment	700,000
7. Local Area network	
Cost in 2016	
Cost in 2017	4,000,000
Cost in 2018	
Cost in 2019	
Cost in 2020	5,000,000
B. Office Productivity & Systems Implementation	
1. Office Productivity:	
Desktop Computers with UPS	52,000
Laptops	50,000
Mobile Computing Device/Tablet	32,000
Printers	12,000
Projector	15,000
Hi speed Scanner	250,000
Office Productivity Softwares	26,000
2. System Implementation: Health Data Enterprise Warehouse, EIS, Health policy & Research, local health, licensing, Quarantine, PHIE, iHOMIS, IClinicSYs etc:	
Server	700,000
Storage System	5,000,000
Database Management Software	300,000
Mobile Computing Device/Tablet	35,000
Data visualisation & business analytics license	60,000
Database software license	95,000
Mapping software license	120,000
Anti-virus license	20,000
Network Management license	40,000
Firewall	200,000
Network Security	250,000
Barcode Printer	20,000
Barcode Reader	20,000
Desktop computers with UPS	52,000
Printers	12,000
Computer Desktop with UPS,Printer & office Productivity Software	60,000
Network devices	25,000

Costing proper

Cost = Physical Target (Budget Item i) x Unit Cost (Budget Item i), where $i = 1, \dots, n$

On the other hand, MOE has the second largest share of KMITS budget. It consists of 22 components (i.e., different programs and activities). In general, the costing parameters for MOE, among others, include following:

- i. Frequency of various programs and activities per year
- ii. Unit cost of various programs and activities
- iii. Number of participants per meeting
- iv. Number of meetings
- v. Number of hours for resource persons (for honoraria computation) per batch
- vi. Number of batches per training
- vii. Number of participants per batch
- viii. Number of trainers
- ix. Number of experts
- x. Number of hours for trainers (for honoraria computation) per batch
- xi. Number of staff to be hired
- xii. Number of workshops

Among the many components of MOE, Item V (i.e., Operations and Maintenance of the DOH Data Center) accounts for bulk of the MOE budget. The costing parameters for the said MOE budget item are given in **Table 25** and **Table 26**.

Table 25. Physical Targets for KMITS (Operations and Maintenance of the DOH Data Center)

BUDGET ITEM/ACCOUNT	Physical Target				
	2016	2017	2018	2019	2020
V. Operations and Maintenance of the DOH Data Center					
1. Data Center & Generator Maintenance Services	1	1	1	1	1
2. Cloud Computing Services (Disaster Recovery Site or Co-Hosting)	1	1	1	1	1
3. Blade Server maintenance	2				
4. Internet Subscription					
Primary Connection	1	1	1	1	1
Secondary Connection	1	1	1	1	1
Tertiary Connection	1	1	1	1	1
5. SMS/Telephone Services					
DOH Official Mobile No.	1	1	1	1	1
Mobile Subscription	1	1	1	1	1
SMS Gateway	1	1	1	1	1
6. Provision of WIFI Services					
WIFI Maintenance Contract (2 units wireless controller and 85 units wireless access points)	1			1	1
7. Provision of Video Conferencing Services					
Video Conference Equipment Maintenance (17 units in regions and 5 units in central office)	1	1			1
8. Computer Maintenance Services					
Supplies	20	20	20	20	20
9. Database Management Services					
Supplies	10	10	10	10	10

Table 26. Cost Data Inputs for KMITS (Operations and Maintenance of the DOH Data Center)

BUDGET ITEM/ACCOUNT	Unit Cost
V. Operations and Maintenance of the DOH Data Center	
1. Data Center & Generator Maintenance Services	6000000
2. Cloud Computing Services (Disaster Recovery Site or Co-Hosting)	10,000,000
3. Blade Server maintenance	750,000
4. Internet Subscription	
Primary Connection	4,000,000
Secondary Connection	4,000,000
Tertiary Connection	2,500,000
5. SMS/Telephone Services	
DOH Official Mobile No.	2,500,000
Mobile Subscription	1800000
SMS Gateway	1500000
6. Provision of WIFI Services	
WIFI Maintenance Contract (2 units wireless controller and 85 units wireless access points)	2,000,000
7. Provision of Video Conferencing Services	
Video Conference Equipment Maintenance (17 units in regions and 5 units in central office)	5,000,000
8. Computer Maintenance Services	
Supplies	500
9. Database Management Services	
Supplies	500

Costing proper

Cost = Physical Target (Budget Item i) x Unit Cost (Budget Item i), where $i = 1, \dots, n$

To illustrate cost estimation, consider Item V.2. (i.e., Cloud Computing Services (Disaster Recovery Site or Co-Hosting) in 2016-2020.

Cost of Item V.2. = 1 (Physical Target per year) x PhP10,000,000 (Unit Cost of Item V.2.) = PhP10,000

In addition, costing for Item V.4. (Internet subscription) is as follows:

Cost of Item V.4. (for all types of connection) = 1 (Physical Target per year)
x PhP10,500,000 (Sum of unit cost for all types of connection for Item V.2.4.) = PhP
PhP10,500,000