



Intensify efforts to eliminate filariasis, rabies, leprosy, schistosomiasis

The Disease-free zone (DFZ) Initiative of the Department of Health (DOH) envisions the elimination of filariasis, schistosomiasis, rabies, and leprosy as public health threats. These endemic infectious diseases are considered to be already at the threshold of elimination but nevertheless require intensive efforts to actually complete the elimination process.

Efforts to control and eliminate the four diseases are operationalized in four national vertical programs: (1) the National Filariasis Elimination Program (NFEP), (2) the National Schistosomiasis Control Program (NSCP), (3) the National Rabies Control Program (NRCP), and (4) the National Leprosy Control Program (NLCP). The burden and targets for the diseases are shown in Annex Table A.

Filariasis

Mass drug administration (MDA) of anti-helminthic drugs reached 76% coverage of the target population in 2007.

Lymphatic filariasis is endemic in 40 provinces in the Philippines; 76% of the municipalities in these provinces are considered poor. In 2005, of the 645,232 cases of lymphatic filariasis infection reported, 56% were in Mindanao (DOH, 2005).



Figure 1. Microfilariae

Mortality due to filariasis is low but gross disfigurement due to chronic infection is severe and stigmatizing. In fact, it is considered as the second leading cause of long-term and permanent disability resulting in loss of productivity and reduced quality of life (WHO, 2006).

The National Filariasis Elimination Program (NFEP) intends to eliminate filariasis as a public health problem in the Philippines, by reaching at least 85% MDA coverage among the target population in all established endemic areas (DOH, 2005). In 2007, the MDA successfully covered 76% of its targeted population (Mercado-Hernandez, 2008).

The NFEP maps out and identifies endemic areas and conducts MDAs using diethylcarbamazine citrate (DEC) and albendazole, tapping local health volunteers to perform house-to-house drug distribution. The NFEP is integrated with other programs such as *Garantisadong Pambata*, schistosomiasis, and soil-transmitted helminthiasis control programs.

The discovery of Iloilo as an endemic site, alongside poor disease surveillance, declining MDA coverage rates, and irregular local government support threaten the timely achievement of targets.

The NOH target of disease elimination by 2010 may not be achievable solely through the current efforts due to the discovery of indigenous case in Iloilo in 2007, which has a microfilariae (MF) rate of 5%; areas with MF rate > 1% are subjected to continuous mass treatment for five years.

Moreover, the lack of accurate information on disease burden and intervention coverage and effectiveness poses a major problem. Once a municipality is identified as endemic, the whole province will be subjected to control and/or elimination of the disease as a public health problem. Although the criteria used for the case detection and the MDA strategy are based on WHO standards of blood smear examinations for the presence of microfilariae before determining the microfilariae rate of the whole province, case finding in the field is actually based on external physical observations and an examination of blood smears for the presence of microfilariae (Figure 1). In addition, MDA coverage figures are generally based on reports rather than direct observation, with only a few small-scale surveys for validation. Hence the reliability of program progress assessment becomes an issue.

Even if the data on MDA coverage rates are assumed to be reliable, there has been an observed decline since 2003. The coverage rates dropped from 83.2% in 2003 to 71.2% in 2006, then increased again to 76% in 2007 (see Figure 2).

These rates are still below the targeted coverage of 85% (DOH, 2005). Furthermore, MDA has not been comprehensively implemented in certain provinces, and has not been initiated in a few endemic provinces in the past due to budgetary constraints.

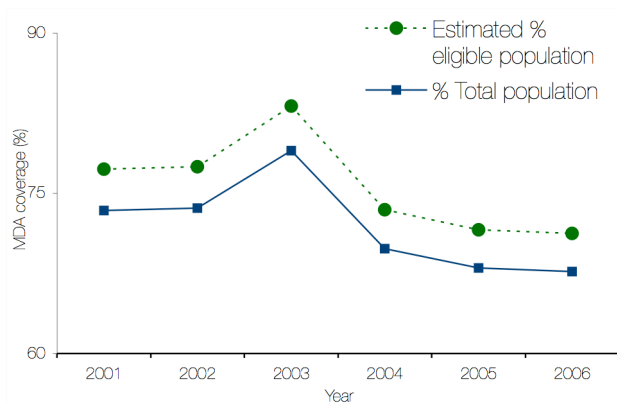


Figure 2. Mass drug administration (MDA) coverage, Philippines, 2001–2006

Source: DOH-NEC, 2006.

Lastly, despite previous information, education, and communication (IEC) campaigns of the DOH for the implementation of the program at the local level, some LGUs still lack ownership and commitment specially in actively implementing and sustaining their campaigns for the elimination of these disease threats.

Through the NFEP the DOH should secure funding for uninterrupted drug supply, intensify disease mapping and surveillance, and leverage for program ownership and commitment at the local level.

As the primary national policy-making entity for the elimination of lymphatic filariasis, the NFEP should maintain the stewardship of the MDA strategy, and further strengthen the programs for chronic disability prevention and management which it had already embarked on to ensure elimination of lymphatic filariasis.

The government should continue securing resources from multiple donors and direct these towards sustaining MDA efforts in specific localities, with the end view of elimination. The DOH should use these funds to leverage for the commitment and cooperation of LGUs in terms of their counterpart support for the advocacy and IEC campaigns at the local level. The DOH should also ensure the allocation of sufficient budget in the procurement of MDA drugs for the entire elimination program. In addition, the integration with the other existing programs should also be continuously strengthened.

Capability-building and empowerment of the Centers of Health Development (CHDs) and the LGUs will help achieve targets set by the NFEP. The former could be tapped to assume a major responsibility in program management at the local level. The NFEP, together with CHDs and LGUs, can concentrate on pooling their resources for the following strategies: (1) the surveillance and mapping of disease distribution and the populations at risk at the local level; (2) attaining the targeted MDA targets; (3) strengthening the disability prevention and management of chronic filarial disease; (4) advocacy and IEC for LGUs and the public-at-risk; and (5) the establishment of LGU-led Provincial and Municipal Filariasis Committees/ Coalitions and the strengthening of public and private partnership.

Although many of the recommendations mentioned above are already included in the operational plan of NFEP and are budgeted for, their implementation will be successful if LGU commitment and community participation are ensured.

Schistosomiasis

Schistosomiasis remains endemic in 28 provinces despite the declining prevalence rate in the past decade.

The main goal of the NSCP is to eliminate schistosomiasis as a public health problem in all endemic provinces in the country. Operationally, this involves bringing down and maintaining the schistosomiasis prevalence rate in endemic provinces at less than for at least 5 consecutive years.

Schistosomiasis remains endemic in 12 regions in the Philippines, affecting 28 provinces, 15 cities, and 190 municipalities in the country (NCDPC, 2006). The total exposed population is 2.5 million while the total population at risk is 12 million. The national average prevalence of 2.5% is based on surveillance from field health units, with 9,879 cases out of 364,520 examined by stool microscopy in 2006. The prevalence rate for schistosomiasis has declined from 4.5% in 1997 to 3% in 2006.

The NSCP conducts case treatment, environmental sanitation, environmental modification, snail control, health education, and active surveillance in endemic areas in the country. A revised guideline on the management and prevention of schistosomiasis was issued by the DOH in May 2007 (Administrative Order 2007-0015).

Limited disease surveillance, the low sensitivity and high technical skill requirement of the diagnostic tool, the intermittent drug supply, misconceptions about drug side-effects, and the lack of local commitment have all contributed to program slowdown.

Disease surveillance is severely limited by the lack of reliable and accurate information about the geographic distribution of cases and snail vectors in endemic areas. A geographic information system (GIS) software specifically designed for the schistosomiasis monitoring is still under development.

The low sensitivity of stool smear microscopy, i.e. the Kato-Katz technique, impacts negatively on case detection. The actual sensitivity of stool microscopy in endemic areas is as low as 60%, correlating with the lack of trained microscopists. Furthermore, LGUs do not provide the laboratory reagents and supplies necessary for quality microscopy.

Insufficient drug supplies and delayed delivery system have resulted in fluctuations in MDA coverage. Drugs have to be procured intermittently on a per order basis because praziquantel is no longer commercially distributed. Currently, drug procurement is being done through the WHO.

Another challenge in achieving and sustaining desired treatment coverage rates to ensure adequate morbidity control is the notion that the drugs have a high incidence of adverse effects, which is widely perceived even among health workers. Contrary to this perception, most of the adverse reactions have been described in the literature as mostly mild and transient, and might actually suggest that the drug is taking effect on the worms.

Finally, the political and financial support for the program has been generally low in the endemic provinces. To cite an example, schistosomiasis control teams were reassigned to other programs in 2007. Furthermore, other agencies involved in the control of schistosomiasis as per Presidential Decree (PD) 893 have not been active since 2000.

Through the NSCP, the DOH should ensure funding for the adequate and continuous supply of anti-helminthic drugs, develop and conduct rapid epidemiological surveys, and leverage for ownership and commitment of the program at the local level.

The program should continue to intensify efforts in controlling and eventually eliminating the disease in endemic areas. Its primary priority should be making the GIS-based information system operational and the providing assistance in the development of LGU initiatives. The DOH, in close coordination with the National Epidemiology Center (NEC), should also develop its capacity for establishing surveillance networks and a system for conducting rapid epidemiological surveys.

Effective IEC campaigns will be crucial in achieving high mass treatment coverage rates, while intersectoral collaboration will help ensure service delivery to a high proportion of the targeted population. The possibility of crafting a school-based approach similar to the control of soil-transmitted helminth infections should be considered.

Furthermore, the DOH should ensure the availability of funds for the procurement of drugs and then use these as leverage to convince LGUs to include schistosomiasis control in their local programs. The LGUs should also have counterpart funding for the procurement of supportive drugs and laboratory supplies. On the other hand, the DOH should also continue to advocate for the enactment of local laws necessary to eliminate schistosomiasis. The development of the capacities of local health personnel and stakeholders in the elimination of schistosomiasis should also be promoted.

Additionally, the DOH should do well to continue advocating for support outside its immediate jurisdictions such as the establishment of infrastructures like irrigation dams, canals, and foot bridges to control the spread of the disease. This will require coordination with other agencies like the Department of Agriculture (DA), the Department of Interior and Local Government (DILG), the Department of Public Works and Highways (DPWH), the Department of Environmental and Natural Resources (DENR), and the National Irrigation Administration (NIA).

Rabies

Rabies continues to be one of the deadliest vaccine-preventable diseases in the country, with dogs remaining as the principal animal vector.

Although not a leading cause of disease and death in the Philippines, rabies remains its prominence as a public health menace, with near-100% case fatality in unvaccinated patients. With an incidence of 3.4 cases per million population, it accounts for 200–300 deaths annually (DOH, 2005; NCDPC, 2008). Furthermore, the Philippines ranks 6th among the rabies-affected countries in the world.

Dogs remain the principal animal vector of rabies. Of the 169,408 animal-bite victims in 2007, 49% were under 15 years old (NCDPC, 2008). Of these victims, 75% had anti-rabies vaccination and 22% had rabies immunoglobulin.

The DOH aims to achieve the objective of rabies elimination in the following endemic regions by 2010: regions 5, 3, 4A, 2, 7, 8, and 10 (NCDPC, 2008). The DOH intends to achieve this through a three-pronged approach: (1) dog immunization, (2) responsible pet ownership, and (3) dog bite victim immunization. The DOH also lobbies for increased national and local budgets to be allotted for purchasing post-exposure vaccines.

The rabies control program started providing pre-exposure vaccinations to high-risk persons in endemic areas in 2007. There is also an existing DOH and LGU collaboration to reduce the costs of treatment for the patients. The first two doses of the vaccines are provided by DOH, while the rest of the doses are provided by the LGUs that have comprehensive rabies control programs. In addition, the DOH has also introduced pool procurement of LGUs through the Inter Local Health Zones

(ILHZ). The DOH has also submitted a working proposal in 2007 to include the management of animal-bite patients in the PHIC benefit package.

Republic Act (RA) 9482—which provides for the control and elimination of human and animal rabies—was enacted on May 27, 2007 in response to the rabies elimination challenge. RA 9482 created an inter-agency network consisting of the DA, DOH, Department of Education (DepEd) and LGUs. The DA takes charge of animal immunization; the DOH handles the pre-exposure and post-exposure vaccinations; the DepEd is responsible for rabies control IEC in schools and educational institutions; while the LGUs carry out the implementation of these activities at the local level.

The price of post exposure vaccination remains prohibitively expensive, while mass dog vaccination is still irregular and inadequate.

The cost of a complete post-exposure *rabies* vaccination regimen is around PhP 6,000–9,000 in government animal-bite treatment centers. In contrast, the cost of mass dog vaccination is only PhP 10 per animal (for WHO-procured vaccines). The high cost of post-exposure vaccination limits the access of people to the recommended treatments.

The most cost-effective intervention from a public health perspective is mass animal vaccination and control. However, despite concerted efforts, dog immunization coverage has reached only 1.1 million dogs out of the estimated 8.5 million dogs nationwide (DA, 2004). Local ordinances that enforce compulsory dog immunization and responsible pet ownership are not enacted and some are weakly enforced in a number of LGUs.

The DOH, in collaboration with the local governments, should intensify IEC campaigns on responsible pet ownership, and strongly urge the DA to undertake full-scale dog vaccination.

In sum, for rabies to be efficiently and effectively controlled, all efforts should be made to contain rabies at its source, with the universal immunization of dogs and responsible pet ownership as major preventive measures. The DOH should lobby extensively for the DA to step up its efforts in the mass immunization of dogs. DOH should also advocate for the full implementation of RA 9482. Furthermore, LGUs should commit funds for their respective control and elimination programs. In the review of the current Province-wide Investment Plan for Health (PIPH), the DOH should ensure that the LGUs—especially those in the identified endemic

areas— to include rabies elimination programs in their plans. The DOH will handle the provision of pre and post anti-rabies vaccinations and medicines for patients while the LGUs will handle the purchase animal anti-rabies vaccines and shall ensure the comprehensive vaccination of animals in their localities.

Leprosy

The national leprosy prevalence rate is < 1 per 10,000 and the number of provinces reporting prevalence rates exceeding 1 per 10,000 is on the decline.

The leprosy control program aims to eliminate the disease as a public health problem in the Philippines, specifically in pockets of infections at sub-national levels. Leprosy is considered to be eliminated as a public health problem when it reaches a prevalence rate level of less than one case per 10,000 population.

The national prevalence rate has been less than one per 10,000 population since 1998 (DOH, 2005), going down to 0.42 cases per 10,000 in 2006 (DOH, 2008). Also, the Philippines ranked 11th among 15 countries reporting 1,000 and more new cases in 2006 (WHO, 2007). Nevertheless, control efforts are being continued in areas with prevalence rates exceeding one per 10,000 population.

There was a decrease in the number of provinces having prevalence rates of more than 1 per 10,000 population – from 29 provinces in 1998 to only four in 2006. A stable decrease in disease burden measured in terms of the number of new cases detected has been observed. This has largely been due to the case detection efforts and the multi-drug treatment (MDT).

Prevalence rates are still high in pockets of endemicity across the country. The supply of anti-leprosy drugs and the pool of skilled health workers are limited.

As of 2006, areas with high prevalence of leprosy include: Metro Manila, Ilocos Sur, Tawi Tawi, Basilan, Sulu, Candon City, Vigan City, San Jose City, Munoz Science City, Cagayan de Oro City, General Santos City, Isabela City (DOH, 2008). At present, there leprosy cases are still reported in the cities of Candon, San Jose, General Santos, Cagayan de Oro, and Metro Manila and in the municipalities of Tagudin, Guimba, Pagbilao, and Colombio (DOH, 2008).

With the disease at pre-elimination or elimination status in different provinces and cities, one of the major challenges has been to retain in the frontlines the public health workers highly skilled in the diagnosis and treatment of leprosy. Another is to ensure that the supply of anti-leprosy drugs and drugs for adverse effects (e.g., steroids, skin ointments) in affected LGUs is continuous and sufficient. Still other problems that need to be addressed are the lackluster involvement of private practitioners, the insufficient and proper referral systems at the local level, and the waning IEC efforts on leprosy.

The DOH, through the NFEP, should upgrade case detection and surveillance, secure financing for adequate and continuous drug supply, and gain local government commitment for program implementation.

To achieve total elimination of leprosy in the country, the DOH should ensure the availability of the needed resources, such as diagnostics and MDT, especially in areas with more than one case per 10,000. In LGUs targeted for leprosy elimination, case detection and surveillance systems should be upgraded, and new health workers should be trained. In areas where the disease has been successfully stamped out, a post-elimination surveillance system in areas where elimination has already been achieved should also be continuously maintained. The DOH should also advocate for the integration of leprosy control with the other health services at the local level and provide high-quality leprosy services in all health facilities. Quality leprosy services mean not only the presence of health workers who are capable of recognizing, diagnosing, and managing leprosy cases, but also the availability of facilities for treating leprosy patients and rehabilitating the complicated leprosy cases.

The DOH should also continue to reinforce its efforts geared towards the rehabilitation and prevention of impairments and disabilities, which should include the capacity-building of new health workers (DOH, 2005). Lastly, the DOH should continue to strengthen collaborations with partners and other stakeholders in the provision of high-quality leprosy services, social mobilization, and advocacy activities for leprosy patients.

Strategies to eliminate filariasis, rabies, leprosy, and schistosomiasis should focus on improving the areas of case detection and surveillance systems, vector control strategies, case management and sustained treatment; these efforts require strong central and local government unit involvement.

The decreasing incidence of filariasis, schistosomiasis, rabies, and leprosy to near-elimination reflects the ability of the health sector to deliver health technologies and effective services. Nevertheless, current gains need to be sustained by focused and intensified efforts to meet elimination targets.

The elimination of filariasis, rabies, leprosy, and schistosomiasis as public health problems can be achieved by improving the accuracy and reliability of case detection and surveillance systems, implementing cost-effective and regular vector control strategies, and assuring effective case management and treatment through sustained evidence-based chemotherapy backed by strong central and local government unit involvement (DOH, 2005).

Achieving the targets depends largely on the extent to which both the central and the local governments fulfill their respective roles. The national government, through the DOH, should find and mobilize funds to ensure the continuous supply of drugs in target areas. DOH should also take charge of treatment guidelines development, conducting technical training, and capacity building of frontline health workers. The local government, on the other hand should express their ownership and commitment to the programs. They shall be responsible for the implementation of elimination activities in support of the elimination of these diseases, including surveillance and IEC, at the local level.

Meeting the targets will therefore rely greatly, not only on the support given by the DOH, but also on the LGUs' commitment to and ownership of DFZ initiative.

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Annex

Table A. Disease burden and National Objectives for Health (NOH) 2010 targets

Program/ Objective	Indicator	Baseline Data	Targets
National Filariasis Elimination Program (NFEP)			
Filariasis cases in endemic provinces are reduced	Prevalence rate of microfilaria per 1,000 population in endemic provinces	7.7 cases per 1,000 population in endemic provinces	< 1 per 1,000 population or < 1% (MF rate) in endemic provinces
Coverage of annual mass treatment of population in endemic provinces increased	% coverage of target population in endemic provinces	Average of 82 % mass treatment coverage in 30 endemic provinces	< 85 % of target population annually, in all established endemic areas (40 provinces)
Filariasis elimination level in endemic areas achieved	No. of provinces with prevalence rate of < 1 case per 1,000 population	0 province	6 provinces
National Schistosomiasis Control Program (NSCP)			
Prevalence rate of <i>schistosomiasis</i> in endemic provinces reduced	Prevalence rate of <i>schistosomiasis</i> at provincial level (based on a WHO-assisted survey)	TBD	50% reduction in 20 endemic provinces
Coverage of mass treatment of population in endemic provinces increased	No. of endemic provinces conducting mass treatment with social and environmental interventions	TBD	At least 7 endemic provinces
<i>Schistosomiasis</i> elimination level in endemic areas achieved	No. of provinces with prevalence rate < 1 % for 5 consecutive years	0 province	9 provinces
National Rabies Control Program (NRCP)			
Incidence of rabies reduced	Incidence rate of rabies per M population	3.4 cases per M population	2.5 cases per M population
Dog immunization coverage increased	No. of dogs immunized	1,100,000 dogs nationwide	5M dogs nationwide
Voluntary pre-exposure coverage increased	No. of volunteers who received prophylaxis	50,900 nationwide	5M
Rabies elimination level in endemic areas achieved	No. of provinces with < 0.5 cases per M population	0 province	7 provinces
National Leprosy Control Program (NLCP)			
Leprosy elimination in remaining endemic areas achieved	No. of provinces and cities with < 1 case of leprosy per 10,000 population	5 provinces and 8 cities with prevalence of > 1 case of leprosy per 10,000 population	Prevalence rate of < 1 case per 10,000 population in: Basilan, Sulu, Ilocos Sur, Ilocos Norte, Siquijor; Prevalence rate of < 1 case per 10,000 population in: Candon City, Iligan City, Vigan City, Isabela City, Cagayan de Oro City, Oroquieta City Laoag City, Puerto Princesa City
Leprosy elimination level in all other provinces and cities maintained	Prevalence rate of leprosy per 10,000 population	< 1 case per 10,000 population	Prevalence rate of < 1 case per 10,000 population in all other provinces and cities

Notes: TBD — to be determined

Source: DOH, 2005.