



National Rabies Prevention and Control Program



photo from the Happy Animals Club

Manual of Procedures (2019)



Message

The DOH, through the National Rabies Prevention and Control Program (NRPCP) in partnership with the Department of Agriculture Bureau of Animal Industry (DA BAI), other agencies and local government units, have jointly reviewed the National Rabies Manual of Procedures (MOP) version 2012-2016 and is pleased to present this revised version for use of all rabies program implementers.

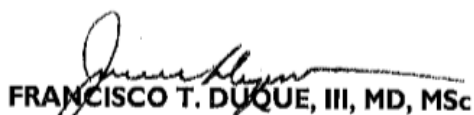
The MOP aims to provide all rabies program-involved personnel direction and guidance on the proper management and control of rabies, with the ultimate goal of ending dog-mediated rabies deaths among Filipinos by 2027, and a rabies-free Philippines by 2030.

For decades, intervention such as safe and effective medicines, promotion of responsible pet ownership, early consultation when bitten by animals, and timely administration of anti-rabies vaccines have been made available to prevent rabies in both humans and animals. Despite all these efforts, the Philippines is still burdened by this highly preventable disease.

The statistics are alarming: Animal bite case rates across the country have increased from 2014 to 2018. In 2018, a total of 1.1 million animal bites were registered. Moreover, in 2018, 276 bite victims died due to rabies infection, with 42% bite victims are ages 15 years and below.

As we usher the era of Universal Health Care, may this MOP serve as a tool to strengthen service delivery through consistency in implementation of the NRPCP among varied providers and stakeholders especially at the local level across the country. May this MOP also lead towards effective and efficient diagnosis of animal bites and human rabies, ultimately leading to near-elimination levels of rabies-related morbidity and mortality.

Together, let us reach for a rabies-free Philippines.



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Secretary
Department of Health

ACKNOWLEDGMENT

The Manual of Procedures of the National Rabies Prevention and Control Program is a product of the collective efforts of implementing agencies and partners who contribute to the prevention, control and eventual elimination of rabies in the Philippines.

The Program would like to acknowledge the following:

- Infectious Disease Office of the Disease Prevention and Control Bureau of the Department of Health
- Centers for Health Development of the Department of Health
- San Lazaro Hospital and Research Institute of Tropical Medicine
- Bureau of Animal Industry of the Department of Agriculture
- Department of Education
- Department of Interior and Local Government
- Department of Agriculture Regional Field Units
- Local Government Units
- Partner government agencies
- World Health Organization

ACRONYMS AND ABBREVIATIONS:

AO	Administrative Order
ABC	Animal Bite Center
ABTC	Animal Bite Treatment Center
BAI	Bureau of Animal Industry
DA	Department of Agriculture
DENR	Department of Environment and Natural Resources
DepEd	Department of Education
DILG	Department of Interior and Local Government
DME	Direct Microscopic Examination
DOH	Department of Health
FAT	Fluorescent Antibody Test
GOs	Government Organizations
LGUs	Local Government Units
MIT	Mouse Inoculation Test
NGOs	Non-Government Organizations
PAHC	Philippine Animal Health Center
POs	People's Organizations
PEP	Post Exposure Prophylaxis
PhilHealth	Philippine Health Insurance Corporation
PrEP	Pre-Exposure Prophylaxis
TCV	Tissue Culture Vaccine
WHO	World Health Organization

Table of Contents

Contents	Page No
Message	1
Acknowledgments	3-4
Acronyms and Abbreviations	11
Introduction of Manual	
CHAPTER I: Introduction	
• Rabies A global Concern	12
• The ASEAN Response	14
• Rabies in the Philippine	16
• Rabies and Its Transmission	22
CHAPTER II: THE NRPCP Towards a Rabies Free Philippines	
• Introduction	35
• The Program Vision and Goal	36
• Components	36
CHAPTER III: Program Components	
• Part 1: Human	51
• Prevention and control of Human Rabies	
• Clinical Diagnosis	
• Laboratory Testing	
• Clinical Management	
• Medical Management of Animal Bites	
• Immunization	
• Wound Treatment	
• Part 2: Animal Rabies	96

CHAPTER IV: Surveillance

- Surveillance of Animal Rabies 120
- Outbreak Response 123
- Human Rabies Surveillance 124

CHAPTER V: Health Promotion

- Strategies 130
- Key Messages 133
- Strategic Health Promotion and Communication Plan 136

CHAPTER VI: Monitoring and Evaluation

- Logistic Management 153
- Procedures 165
- Monitoring, Supervision and Evaluation 171

CHAPTER VII: Myth and Misconceptions

- Myth and facts on Rabies 182

Appendix 187

- Appendix 1: Primary Bite Trauma
- Appendix 2: Secondary Complications and adverse health events
- Appendix 3: Infection
- Appendix 4: Viral Infection
- Appendix 5: Practical Steps in designing communication plan
- Appendix 6: ABTC/ABC Assessment Tool
- Appendix 7: Department Circular No. 2019-0507: Adoption of the NRPCP MOP 2019

Figures

Figure 1	Countries or areas at risk for Rabies
Figure 2	Animal Rabies in the Regions 2018
Figure 3	Species Affected by rabies 2018
Figure 4	Systematic for Categorizing level of rabies risk sub-national
Figure 5	Flow of weekly reporting of notifiable diseases
Figure 6	Assessment Matrix for Prioritizing Vaccination Initiatives

Figure 7	Vaccination approach according to level of priority
Figure 8	Proper way of holding the dog for vaccination
Figure 9	Another way of restraining the dog for vaccination
Figure 10	Temporary muzzle

Tables

Table 1	Human Rabies Distribution per Region 2008-2018
Table 2	CY 2015 to 2018 Dog Vaccination Coverage
Table 3	Bite Cases Category of Exposure per Region Cy 2018
Table 3 A	Animal Bite Cases Based on Age and Sex of Patients and Species of Biting Animals CY 2018
Table 4	Two types of Presentation of the Acute Neurologic Stage of rabies in Human
Table 5	Intra-Vitam Diagnosis of Human Rabies
Table 6	Post-mortem Diagnosis of Human Rabies
Table 7	Relative Indicators for rabies post-exposure prophylaxis
Table 8	Recommended Packing and Handling Specimens for Transport
Table 9	Laboratory Diagnosis for Human Rabies Suspects
Table 10	Medications that may given to Rabies patient
Table 11	Categories of rabies Exposure with Corresponding Management
Table 12	Management of patients with category II and III exposure
Table 13	List of TCv provided by NRPCP
Table 14	List of rabies Immune Globulins
Table 15	Adverse Reactions and its Complications
Table 16	Guide to Tetanus Prophylaxis in routine Wound management
Table 17	Updated 2-site Intradermal Schedule
Table 18	Standard Intramuscular Schedule
Table 19	Zagreb Schedule
Table 20	Shortened Intramuscular Schedule
Table 21	Estimating level of certainty that rabies is circulating in the area under evaluation
Table 22	Estimating level of consequences or impact of non –vaccination
Table 23	Classification of an Animal Rabies Case
Table 24	Classification of a Human Rabies Case
Table 25	Vaccine needed for Intradermal Regimen
Table 26	Flow and Schedule of reporting from different units

INTRODUCTION TO THE MANUAL

This Manual of Procedures (MOP) for Rabies is a tool designed to facilitate consistency in the implementation of the National Rabies Prevention and Control Program among clinicians, health service providers, program managers and coordinators and other stakeholders nationwide. The manual presents step by step reference guides for all health professionals to aid in the proper diagnosis of cases of animal bites and human rabies; as well as to deliver evidence-based management for patients and special group of people.

While lifesaving in preventing rabies, immunoglobulin and/or vaccine, if administered prior to onset of clinical signs, nonetheless share the innate risks of any exogenous pharmaceutical product. Mild to serious adverse events, though rare, may occur in some patients following administration of rabies biologicals. Moreover, inappropriate or injudicious use of biologicals could lead to shortage of supplies of these products and could compromise efficient Post-Exposure Prophylaxis (PEP) for patients with higher risk exposures. Lastly, rabies biologicals and their administration entail significant costs.

It is our aim to strengthen the competencies of our health care workers especially those in the far flung areas with limited resources towards an effective, efficient and cost-efficient diagnosis and management of animal bites and human rabies.

In general, it is hoped that the use of this manual will help lower down morbidities and mortalities related with animal bites. Smart people manage problems but champions prevent them from occurring. Preventing rabies therefore should be easier and cheaper. The best cure for rabies is prevention.

CHAPTER 1

INTRODUCTION



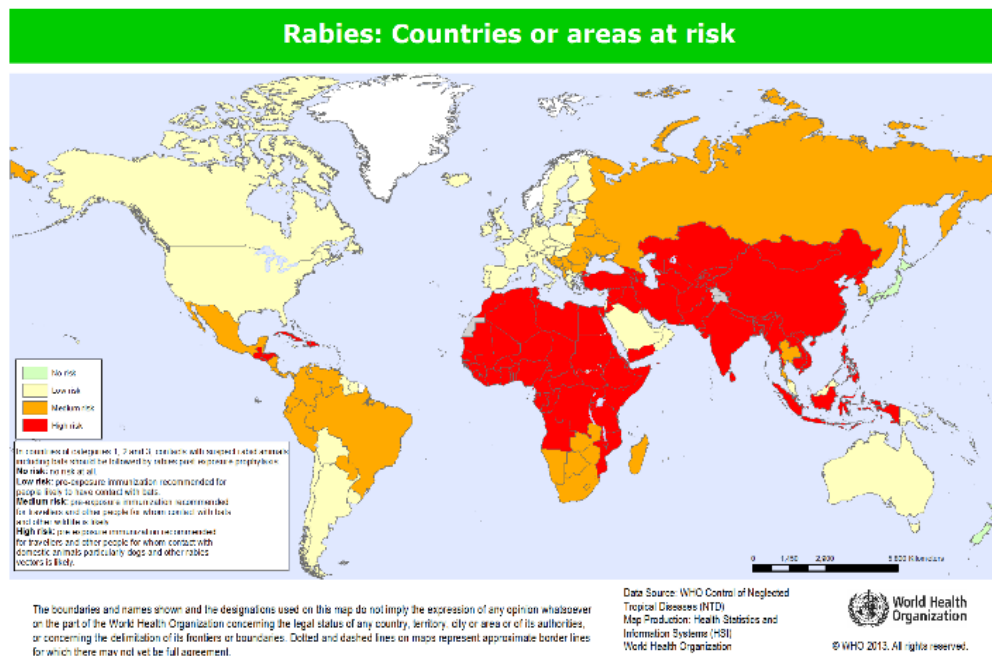
Chapter 1: Introduction

1. Rabies: A global concern

The Public Library of Science (PLOS) Neglected Tropical Diseases on the Global Burden of Endemic Canine Rabies states that globally canine rabies causes approximately 59,000 (95% confidence intervals: 25-159000) human deaths, over 3.7 million disability-adjusted life years (DALYs) and 8.6 billion USD economic losses annually. The largest component of the economic burden is due to premature death (55%), followed by direct cost of post exposure prophylaxis (PEP 20%) and lost income while seeking PEP (15.5%) with only limited costs to the veterinary.

(PLOS Neglected Tropical Diseases | DOI:10.1371/journal.pntd.0003709 April 16, 2015)

Fig.1 Countries or areas at risk for Rabies



The map above shows that more than 95% of rabies deaths occur in Asia and Africa where the presence of 3 things are common: poverty, poor sanitation and crowding. The estimated annual figure of almost 60,000 human rabies deaths is probably an underestimate. (WHO 2013).

With human rabies mediated by dogs claiming the lives of thousands of people every year worldwide, the World Organization for Animal Health (OIE) and the World Health Organization (WHO), in collaboration with the Food and Agriculture Organization of the United Nations (FAO) and with the support of the Global Alliance for Rabies Control (GARC), conducted a global conference on rabies in December 2015.

The conference resulted in a new framework, which was jointly developed from fruitful discussions among nearly 300 participants – including experts, donors, as well as veterinary and public health officials. The framework identifies a multi-pronged, comprehensive approach and feasible actions that are needed to achieve an effective rabies elimination program.

The conference called for a multi-pronged, comprehensive approach to ensure:

- (i) affordable human vaccines and antibodies;
- (ii) prompt treatment for bite victims; and
- (iii) mass dog vaccination in at-risk areas all supported through increased communication, awareness and education.

Through this, nations are expected to be liberated from the burdens of this dreaded infection.

Together with the abovementioned approach, member states are also expected to effectively implement the five pillars of rabies elimination (**STOP-R**): **socio-cultural, technical, organizational, political and resources approaches**:

- **S – Socio-cultural** – The **socio-cultural** approach will encourage the promotion of responsible dog-ownership, and dog population management practices, including dog vaccination.
- **T – Technical** – The **technical** approach will strengthen animal health and public health systems to ensure sustainable, safe, efficacious and accessible dog and human vaccines and immunoglobulins, and promote and implement mass dog vaccination as the most cost-effective intervention to achieve dog-mediated human rabies elimination.
- **O – Organizational** – A good **organizational** set up will ensure sufficient supply of quality-assured canine rabies vaccines through vaccine banks.
- **P – Political** commitment will be crucial in promoting the One Health concept and intersectoral coordination through national and regional networks while implementation will necessarily require **investments** in rabies elimination strategies.
- **R – Resources** Create sustainable human and funding resources for the national rabies program

The global plan notably calls for three key actions:

- making human vaccines and antibodies affordable;
- ensuring people who get bitten receive prompt treatment;
- implementing mass dog vaccinations in at-risk areas.

The conference likewise cannot stop overemphasizing the importance of vaccination. During the conference, WHO Director-General Margaret Chan said, *“Rabies is 100% preventable through vaccination and timely immunization after exposure, but access to post bite treatment is expensive and is not affordable in many Asian and African countries. If we follow this more comprehensive approach, we can consign rabies to the history books.”*

2. The ASEAN response



There are more than 600 million people who are potentially at risk of rabies in Southeast Asia. Seven out of its ten ASEAN (Association of Southeast Asian Nations) Member States (AMS) are endemically infected with rabies. As early as 2014, the ASEAN saw the urgency of working as a region to eliminate rabies. It convened its AMS (Cambodia, Indonesia, Lao PDR, Myanmar, the Philippines, Thailand, Vietnam, Brunei, Malaysia and Singapore) and initiated a joint strategic development of rabies elimination. The strategy adapted the STOP-R action pillars.

In September 2014, the ASEAN Rabies Elimination Strategy (ARES) jointly endorsed by the 36th ASEAN Ministerial Meeting on Agriculture with Vietnam as the lead country for rabies control, through its Ministers of Agriculture and Rural Development and Health. Anchored on the “One Health Approach” through the use of STOP-R pillars, the ARES Action Plan identified and prioritized the regional activities to mobilize technical and financial support from relevant stakeholders and partners to effectively implement ARES.

The ARES Action Plan was designed to complement the existing sub-regional frameworks leading to control and eliminate human rabies, such as those developed by the ASEAN Expert Group on Communicable Diseases (AEGCD) in 2010 and by the WHO South-East Asia Regional Office (SEARO) in 2012. Each AMS proposed a strategy in line with their country’s uniqueness, capabilities and capacities to fully implement a rabies elimination program especially in high-risk areas. Individual AMS strategic plans developed likewise aimed to harness and galvanize partner support through sustained commitment, active involvement and collaboration.

The call to action ‘Towards the Elimination of Rabies in the ASEAN Member States and the Plus Three Countries’ in 2008 was the catalyst for the regional elimination of rabies in ASEAN.

The ASEAN expressed confidence that through ARES, cooperation and collaboration between and among Member States and other stakeholders will be strengthened.

Other partners who contributed to the development and implementation of the strategy are the Food and Agriculture Organization of the United Nations, World Organization for Animal Health (OIE), World Health Organization, World Animal Protection, and Global Alliance for Rabies Control.

As the number of human rabies cases from dog bites continues to be alarmingly high at 95%, the global and ASEAN perspectives recognize that eliminating the virus from its animal host remains to be the most cost-effective way to contain the infection. Vaccination to cover 70% of dog population at high-risk areas was acknowledged to be key in successfully eliminating rabies in all endemic areas.

To accomplish this, the action plan encourages the promotion of responsible dog ownership and dog population management practices, including dog vaccination, in accordance with OIE intergovernmental standards.

The plan also reiterates the need to strengthen animal health and public health systems, to ensure sustainable, safe, efficacious and accessible dog vaccines and human vaccines and immunoglobulins, particularly the underserved. There is a need too, to promote and implement mass dog vaccination as the most cost-effective intervention to achieve dog-mediated human rabies elimination.

Thus, it is essential to ensure availability of quality-assured canine rabies vaccines. This is the reason why, the OIE has created a model of dog vaccine bank since 2012. The dog vaccine bank guarantees the availability of high-quality vaccines complying with its intergovernmental Standards as well as their rapid delivery on the ground and an adequate price obtained after a global competition between potential providers. This model has already supported the success of several dog vaccination campaigns in some of its Member Countries of Africa and Asia.

To date, more than 15 million doses of canine rabies vaccines have been ordered or delivered in many countries through the OIE Vaccine Bank.

3. Rabies in the Philippines

Rabies is endemic in the Philippines, and remains to be a public health concern. It has a fatality rate of almost 100%. However, being the most fatal among infectious diseases, rabies too, is 100% preventable. At least one-third of these deaths occur in children aged 15 years old and below. Data show that the number of animal bite cases reported in the country increased by 462 %, from 2009 (206,253 bite cases) to 2018 (1,159,711 bite cases). Conversely, the confirmed number of positive human rabies cases increased by 13.5 % in the last 9 years, from the 243 cases reported in 2009 to 276 in 2018.

In terms of regions, Regions 3, 4-A, 5 and 12 reported the most number of cases from 2008 to 2018. In 2018, there was significant increase in the number of cases in some regions.

Table 1: Human Rabies Distribution per Region, Philippines, 2008-2018

Region	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1	8	11	9	14	22	8	15	21	18	10	20
2	37	25	14	15	19	20	19	12	7	6	16
3	25	27	44	19	20	19	32	29	30	37	58
4A	31	40	32	22	37	37	38	20	23	28	30
4B	2	12	13	8	12	8	3	2	4	4	10
5	38	24	31	26	15	22	16	24	22	18	11
6	14	14	15	8	4	1	10	15	9	14	16
7	12	12	13	10	7	4	3	6	8	21	25
8	20	17	12	11	6	4	10	6	10	8	5
9	6	6	6	8	18	19	8	4	9	7	12
10	16	21	23	20	14	17	18	5	17	14	11
11	5	10	1	19	14	16	22	16	13	9	16
12	13	10	22	22	18	19	27	10	17	33	21
CARAG A	12	2	12	9	3	6	13	10	8	6	6
ARMM		0					0	1	5	0	0
NCR	8	5	7	7	4	3	2	7	3	1	15
CAR	3	7	3	1	0	2	0	0	6	3	4
TOTAL	250	243	257	219	213	205	236	217	209	219	276

Though the number of human deaths has fluctuated over the years, much work still needs to be done as there are existing tools and interventions that make it possible to eliminate canine rabies.

One of the measures by which rabies could be prevented is through the implementation of the Republic Act No. 9482, also called the Anti-Rabies Act of 2007, which mandated the creation of a National Rabies Prevention and Control Program (NRPCP). This is an inter-sectoral initiative that aimed to strengthen the country's national rabies prevention and control program. The National Rabies Prevention and Control Committee (NRPCC) serves as

its implementing body and is composed of representatives from the Department of Health (DOH), Department of Agriculture-Bureau of Animal Industry (DA-BAI), Department of Interior and Local Government (DILG), Department of Education (DepEd), Department of Environment and Natural Resources (DENR), Provincial, City, and Municipal Veterinarians League of the Philippines (PCMVLP), local government units (LGUs), non-government organizations (NGOs), People's Organizations (PO), and academics. Although such a committee was initiated in 1991, early efforts to eliminate rabies were unsuccessful mainly due to inadequate funding since no definite budget was allotted for the execution of rabies prevention and control activities at the national and local levels.

In line with the call for the global and regional elimination of rabies, the NRPCP endeavors to eliminate rabies and declare the Philippines as a rabies-free country by the year 2030. To achieve this, the NRPCP has aligned its program with the ASEAN ARES (STOP-R framework) and will emphasize implementing the following key components: based on its Manual of Procedures— Pre-Exposure Prophylaxis and Post Exposure Prophylaxis; dog vaccination; dog population management; health promotion; a central database system; and responsible pet ownership.

Of these strategies, the DA with support from DOH would further intensify the vaccination of dogs. The DOH believes that one of the most viable strategies to curb the alarmingly high rabies cases in animals and humans is still massive dog vaccination. Currently, the target is to reach at least 70% of total dog population. Given that almost all rabies cases are from dogs, the strategy is seen to reduce the number of rabies cases among dogs; thereby reducing the number of human rabies cases.

Table 2 : CY 2015 to 2018 Dog Vaccination Coverage				
Region	2015	2016	2017	2018
I	40.34%	35.75%	51.45%	43.22%
II	51.03%	51.30%	47.04%	50.27%
III	49.90%	52.39%	65.18%	56.54%
IVA	38.85%	40.76%	43.99%	40.67%
IVB	25.42%	27.77%	32.82%	38.63%
V	70.61%	63.29%	67.10%	40.17%
VI	48.43%	61.62%	67.78%	69.46%
VII	76.27%	70.32%	52.27%	74.09%
VIII	55.56%	59.10%	60.86%	57.30%
IX	37.46%	27.40%	43.12%	43.38%
X	44.69%	48.60%	64.00%	65.84%
XI	31.74%	53.75%	76.63%	69.77%
XII	42.34%	55.22%	60.05%	57.80%
CARAGA	52.61%	57.07%	50.30%	49.33%
CAR	66.15%	62.37%	66.32%	70.42%
ARMM	20.09%	12.95%	35.38%	70.00%
NCR	32.29%	35.03%	51.08%	60.21%
TOTAL (%)	45.47%	47.99%	55.74%	53.30%
TOTAL Vaccinated (heads)	3,847,447	4,132,594	4,874,549	4,758,226
TOTAL Estimated Population (heads)	8,461,398	8,611,183	8,745,169	8,927,551

Source: Animal Disease Diagnostic and Reference Laboratory (ADDRL) of the Bureau of Animal Industry (BAI), Regional Rabies Animal Disease Diagnostic Laboratories (RADDL) of the Department of Agriculture
Figure 2: Animal rabies cases in the Regions 2018

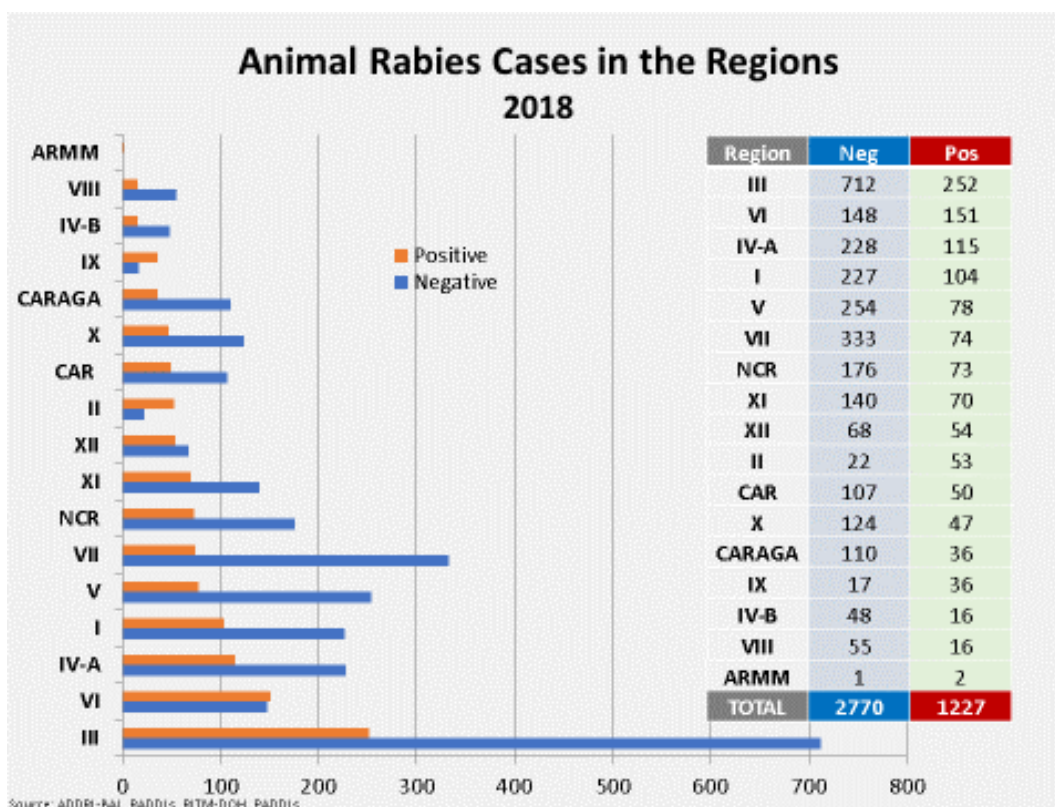
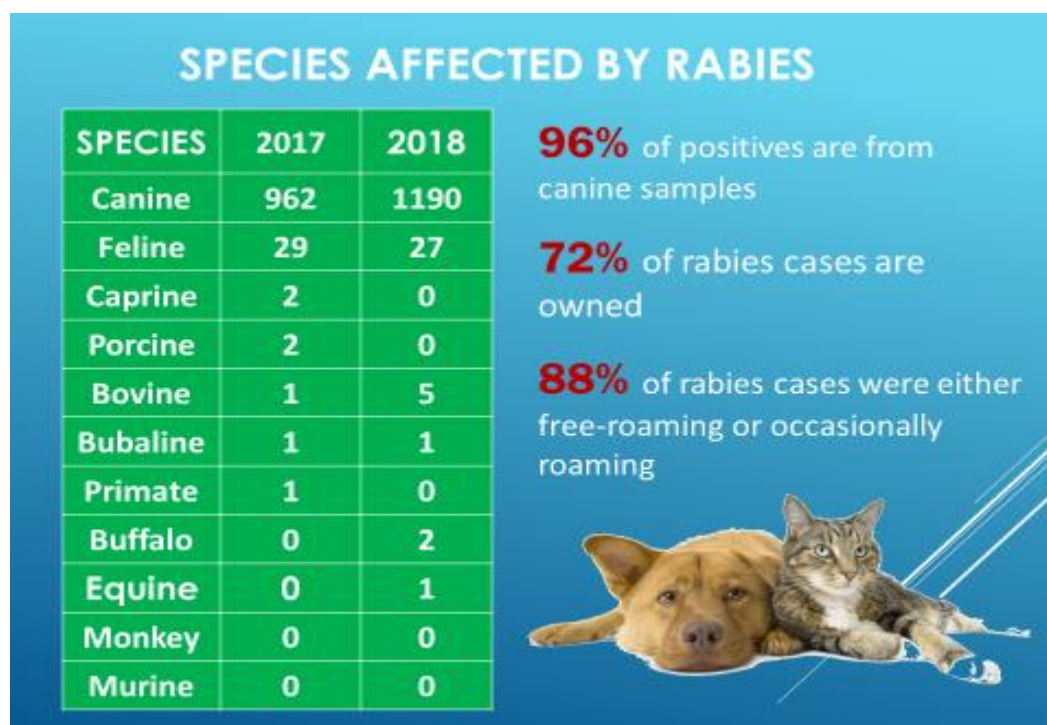


Figure 3: Species Affected by Rabies 2018



As of December 2018, there were 613 animal treatment bite centers in the Philippines that give free anti-rabies shots.

TABLE 3: Bite Cases per Category of Exposure per Region CY 2018

Region	Cat I	Cat II	Cat III	Total	Percent of Contribution
1	524	62960	11845	74805	6.53%
2	291	74652	17936	92588	8.08%
3	596	102746	25363	128109	11.18%
4A	1635	69894	20945	90839	7.93%
4B	982	24465	8341	32806	2.86%
5	868	32830	9403	42233	3.69%
6	131	50905	42476	93381	8.15%
7	1651	65578	34936	100514	8.77%
8	29	15861	11551	27412	2.39%
9	1107	49928	24336	74264	6.48%
10	0	47218	11166	58384	5.10%
11	96	37896	6678	44574	3.89%
12	572	34840	12589	47429	4.14%
CARAGA	309	17549	4722	22271	1.94%
CAR	656	20360	7814	28174	2.46%
NCR	1154	128125	58443	186568	16.29%
ARMM	156	809	460	1269	0.11%
Grand TOTAL	10,757	836,616	309,004	1,145,620	100.00%

TABLE 3A: Animal Bite Cases Based on Age and Sex of Patients and Species of Biting Animals CY 2018

Animal Bite Cases Based on Age and Sex of Patients (N= 1,159,711)						Species of Biting Animals (N=1,170,821)			
Sex*			Age*			Dog	Cat	Others	Total
Male	Female	Total	<15	>15	Total				
588,550	577,272	1,165,822	492,427	667,284	1,159,711	815,902	339,394	15,525	1,170,821

**Discrepancy in the total is due to incomplete entries in the Rabies Exposure Registry*

Source: Infectious Diseases Office, Disease Prevention and Control Bureau, Department of Health

Additionally, preventing the spread of rabies to humans is further complicated by the fact that children (below 15 years old) and the marginalized are the most commonly exposed to canine rabies. These victims are the ones that also lack the resources necessary to treat or prevent exposure.

The total animal bite cases reported for the year 2018 shows that the number of animal bite cases reported in the country increased by 462 %, from 2009 (206,253 bite cases) to 2018 (1,159,711 bite cases). wherein 44.26% or a total of 342,689 cases were among below 15 years old while 55.73% or 418,028 were among ages 15 years old and above. There is no significant difference as to sex of the bite patients, 588,550 males and 577,272 females.

The DOH recognizes that achieving a rabies-free country is a challenging task. One of the biggest challenge the program needs to address is the lackluster support and implementation of RA 9482. Often, and in many areas, the impact of rabies is considered insignificant by local chief executives. Political will is inadequate, and actions to reduce the risk of rabies are not taken.

Together, the DOH and DA-BAI are working in tandem for human health as well as animal health for a more synchronized implementation of strategies and activities to diminish the number of animal (canine) bites; ensure enforcement of RA 9482 and eventually, eliminate rabies in the country.

The NRPCP fully understands that because almost all rabies cases are dog mediated, elimination of rabies in dog populations through intensive vaccination campaigns will bring the spread of infection to its end.

4. Rabies and its transmission

4.1. Rabies in Humans

Bite and non-bite exposures inflicted by infected humans could theoretically transmit rabies, but no such case has been documented in the country. The only documented human-to-human cases were through corneal as well as through liver, kidney and other organ transplants.

The rabies virus is not found in human or animal blood and feces thus, these body fluids do not pose a risk for rabies transmission.

Casual contact, such as touching/talking to a person with rabies or contact with non-infectious fluid (blood, feces), does not constitute an exposure and does not require post-exposure prophylaxis (PEP).

Bites from infected animals are the most common mode of transmission of rabies to humans. Exposure to rabies may come from bites of infected dogs, cats, other domestic and wild animals including bats. However, bites from rats, rabbits, other rodents, reptiles and birds do not pose a risk for rabies infection.

Non-bite exposures are less important and are infrequent modes of transmission.

However, scratches, open wounds or mucous membranes that are licked by an infected animal, can be points of entry of the rabies virus and these may be in the form of the following:

- Contamination of intact mucosa (eyes, nose, mouth, genitalia) with saliva of infected animal;
- Licks on broken skin; and
- Inhalation of aerosolized virus in closed areas (e.g. caves with rabid bats, laboratories for rabies diagnosis)

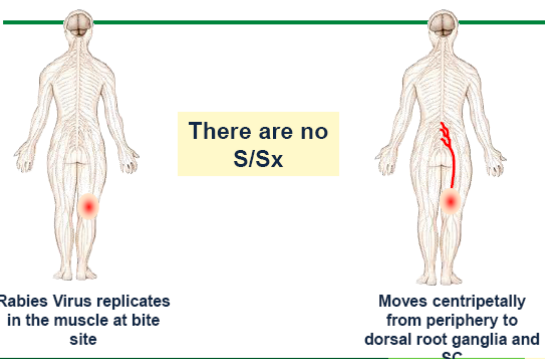
4.2. Incubation period

Incubation period is the period from the time of exposure up to the appearance of first clinical signs and symptoms of rabies.

The average incubation period of human rabies is between 1-3 months. In 90-95 % of cases, incubation period is less than one year but may be longer in 5-10 % cases. The duration of the incubation period depends on certain factors:

- The amount of the virus inoculated into the wound or mucosa.
- Severity of exposure - Patients with multiple and/or deep penetrating bite wounds may have shorter incubation period.
- Location of exposure - Patients with bite wounds in highly innervated areas and/or close to the central nervous system may have shorter incubation period.

Incubation Period




There are no S/Sx

Rabies Virus replicates in the muscle at bite site

Moves centripetally from periphery to dorsal root ganglia and SC

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Incubation Period



- Usually 1-3 months, rarely > 1 yr
- Length of IP affected by:
 - infecting strain, size of inoculum, degree of innervation, proximity to CNS
- Compute date of bite versus date of onset of Sx
 - range: 4 days to 10 years
 - 2.5 % within 1 week, 16 % within 1 month
 - 76 % within 3 months, 92 % within 6 months
 - 96 % within 1 yr, 4% beyond 1 yr

RITM human rabies registry

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4.3. Pathogenesis

After inoculation, the rabies virus multiplies in the muscle cells (myocytes or may invade the nerve directly without prior multiplication in the myocytes. It is possible that the rabies virus may persist locally at the site of inoculation for an unspecified period of time. This could explain the long incubation period for some rabies infections.

The virus then penetrates the peripheral nerve cells via viral uptake at neuronal endings. The virus is transported through both the sensory and motor nerve fibers to the central nervous system (CNS). In vitro studies show that velocity of axonal transport of the virus ranges from 25 to 50 mm per day. The spread of the rabies virus in the oculomotor and optic nerves could be as fast as 12 mm/day.

Once the virus reaches the CNS, rabies replication occurs primarily in the neurons or brain cells through viral budding and the virus spreads and infects the nearby brain cells. Dissemination through the cerebrospinal fluid (CSF) occurs in the late stages of infection.

While viral dissemination occurs in the central nervous system, the rabies virus spreads into the peripheral tissues such as muscle fibers, salivary glands, corneas, adrenal medullae, lacrimal glands, myocardium, kidneys, lungs, pancreas and epidermis. Infection of salivary glands allows further transmission of the disease to other mammals.

4.4. Clinical Stages

4.4.1. Prodromal

The prodromal stage occurs when there is initial viral replication at the striated muscle cells at the site of inoculation *just before it enters the brain*. The virus then spreads centripetally up the nerve to the central nervous system through the peripheral nerve axoplasm.

This stage lasts for 0-10 days with non-specific manifestations, which include fever, sore throat, anorexia, nausea, vomiting, generalized body malaise, headache and abdominal pain. Paresthesia or pain at the site of bite is due to viral multiplication at the spinal ganglion just before it enters the brain.

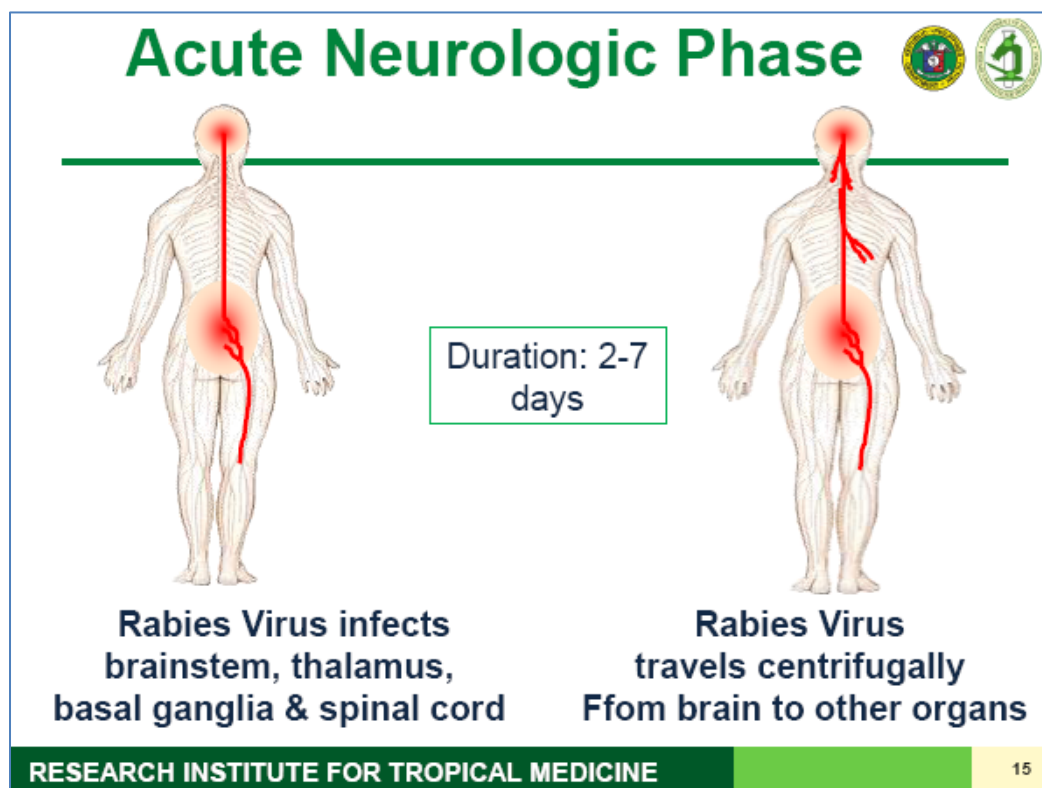
4.4.2. Acute Neurologic

The acute neurologic stage is the stage when the virus reaches the CNS and replicates most exclusively within the gray matter. This stage has two types of presentation: encephalitic or furious type, which is present in 80% of rabies cases, and paralytic or dumb type, which is seen in 20 %.

Autonomic manifestations such as hypersalivation appear during this stage. The virus passes centrifugally among autonomic nerves to reach other tissues- the salivary gland, adrenal medulla, kidney, lung, liver, skeletal muscle, skin and heart. Passage into the salivary gland facilitates further transmission of the disease through infected saliva. This stage lasts for 2-7 days, characterized by hyperactivity, hypersalivation, disorientation, and hallucination, bizarre behavior interspersed with lucid intervals, seizures, nuchal rigidity or paralysis.

Table 4: Two Types of Presentation of the Acute Neurologic Stage of Rabies in Humans

Neurologic or Furious type	Paralytic or dumb type
Hyperactivity (anxiety, agitation, running, biting, bizarre behavior alternating with periods of calm) which may occur spontaneously or may be precipitated by tactile or auditory, visual or other stimuli. The most characteristic symptom is spasm of the pharyngeal muscles often triggered by an attempt to drink water (hydrophobia) or by blowing air on patient's face (aerophobia). Spasmodic contractions of the muscles may spread to the respiratory and other muscles leading to attacks of apnea.	Acute progressive ascending myelitis, symmetrical or asymmetrical with flaccid paralysis, pain and fasciculation in the affected muscles with mild sensory disturbance. A complete paraplegia develops eventually with fatal paralysis of the respiratory and pharyngeal muscles.



Coma - begins within 4-10 days after symptoms start; Cardiac arrhythmias is common. Hyperventilation which leads to periodic and ataxic respiration to apnea. Haematemesis is experienced by 30-60% of patients before death. Pituitary dysfunction is also present as part of disordered water balance.

Death - without intensive supportive care, respiratory depression, cardio respiratory arrest, and death occur in almost 100% of cases. 73% die within 3 days of onset of symptoms and 84% die within 24 hours of admission. Outcome is death and recovery from rabies is very rare. Cause of death includes circulatory insufficiency with myocarditis, cardiac arrhythmia or congestive heart failure (RITM)

4.4.3. Differential Diagnosis

Guillain-Barré Syndrome (GBS) is an autoimmune inflammatory disease of the peripheral nervous system, affecting one or more nerves outside the brain and spinal cord. This syndrome is characterized by the rapid onset of weakness, sensory loss, and impairment of reflexes; often paralysis of the legs, arms, breathing muscles, and face develops in ascending order.

Encephalitis (due to other viruses) is an acute inflammatory disease of the brain. Patient experiences fever, a stiff neck and/or back pain, tremors, seizures, paralysis of extremities, abnormal walk (gait), and abnormal reflex reactions. Deep loss of consciousness (coma) may occur and last for days or weeks.

4.4.4. Laboratory Diagnosis

Often the diagnosis of rabies is based on the clinical manifestations and a history of exposure to a rabid animal. In cases where the pathognomonic hydrophobia and/or aerophobia are present, the diagnosis is straight forward. However, clinical diagnosis may be difficult in cases of paralytic rabies and atypical presentations. Thus, rabies laboratory confirmation is necessary. Rabies diagnosis can be performed on fresh tissue specimens stored at appropriate temperatures, preferably refrigerated. The specimens to be collected depend on the test to be performed.

In transporting specimen glycerine preservative (temperature: +4°C or -20°C) or dried smears of brain tissue on filter paper (temperature: +30°C) enables safe transport.

4.4.5. Ante-Mortem

Samples for Laboratory diagnosis of rabies during life secretions and biological fluids (saliva, spinal fluid, tears, etc.) can be used to diagnose rabies during life (intra vitam). They should be stored at -20°C or below. Serum should be collected from blood samples prior to freezing and stored at - 20°C.

Timing of the collection and interpretation of the sample is very crucial.

Recommendation of the WHO-CC Reference and Research on Rabies, France Intra-Vitam
Diagnosis of Human Rabies, (Dacheux et al., Plos NTD, 2010)

Table 5.: Intra-Vitam Diagnosis of Human Rabies					
SAMPLES	Sensitivity Considering the Clinical Evolution of the Patient (in days following the Onset of Symptoms)		Comments	Storage	Technique (Reference)
	0-8 days	>8 days			
Saliva (1ml or saliva swabs)	High	High	At least three saliva samples collected at intervals of 3-6 hours, liquid saliva is preferred to saliva swabs	-20°C/-80°C	RT-hnPCR (3)
Urine (at least 1ml)	Low	Low	At least three urine samples collected in an interval of 3-6 hours	-20°C/-80°C	RT-hnPCR (3)
Skin biopsy (diameter of 4mm, total volume of 20 mm ³)	High	High	Skin biopsy collected at the nape of the neck, with hair follicles, using biopsy punch (Stiefel).	-20°C/-80°C	RT-hnPCR (3)
Serum (500µL)	Low	Average	Sample collection can be repeated, depending on the length of survival period (1-2 samples per week)	+4°C/-20°C	RFFIT (31) and/or ELISA (3,6,33)
CFS (>300µL)	Low	Average	Sample collection can be repeated, depending on the length of survival period (1-2 samples per week)	-20°C/-80°C	RT-hnPCR (3); RFFIT (3) and/or ELISA (3,6,33)

The following laboratory tests can be done to confirm rabies in humans:

- **Fluorescent Antibody Testing (FA)**

The Fluorescent Antibody (FA) technique is the gold standard for rabies diagnosis. It is a rapid and sensitive test based on microscopic examination under ultraviolet light. Tissue samples from brainstem, thalamus, cerebellum and the hippocampus (Ammon's horn) are recommended for increased sensitivity of the test. Viral antigen may be detected by using the FA test on skin biopsies taken from the nuchal area of the neck, with hair follicles containing nerve endings.

- **Polymerase Chain Reaction (PCR)**

The **Polymerase Chain Reaction (PCR)** is a laboratory technique for "amplifying" a specific DNA sequence. PCR is extremely efficient and sensitive; it can make millions or billions of copies of any specific sequence of DNA, even when the sequence is in a complex mixture.

- **Serology**

Serum Rapid Fluorescent Focus Inhibition Test (RFFIT). Serum neutralization assays are used to determine the potency of rabies serum and immunoglobulins used for PEP, and to evaluate the immunogenicity of human and, to a lesser degree, animal rabies vaccines.

The standard procedures recommended at the seventh meeting of the WHO Expert Committee on Rabies were the mouse neutralization test (MNT) and the plaque reduction assay. Since then, plaque reduction methods have been superseded by fluorescent focus inhibition tests, which are more convenient. Although the MNT is still widely used as a reference test, the RFFIT has become the test of choice in most modern laboratories.

The RFFIT has been shown to be at least as sensitive as the MNT in measuring virus-neutralizing antibodies. Only 50% of which will give positive results among rabies cases. Serologic testing is more useful to ascertain the immune status of immunized animals and humans.

- **Histologic Findings**

Negri bodies or Cerebral inclusion bodies are round cytoplasmic inclusions of assembling nucleocapsid are pathognomonic of rabies infection, but are found in only about 80% of cases. The biting animal should be examined for rabies.

4.4.6. Post Mortem

Samples for post-mortem diagnosis includes brain tissue that can be collected through trans-orbital or trans-foramen magnum route if autopsy cannot be performed.

Recommendation of the WHO-CC Reference and Research on Rabies, France Intra-Vitam Diagnosis of Human Rabies, (Dacheux et al., Plos NTD, 2010)

Table 6: Post- Mortem Diagnosis of Human Rabies				
Samples	Sensitivity	Comments	Storage	Technique (Reference)
Brain Biopsy	High	Brain biopsy collected via the orbital route with Tru-Cut biopsy needles for soft tissues with manual clip (allegiance) or via the occipital route using lumbar puncture needles.	+4°C/-20°C	FAT (28); RTCIT (29); WESLYSSA (26,270;RT-hnPCR (3)
Skin biopsy (diameter of 4mm, total volume of 20mm ³)	High	Skin biopsy collected at the nape of the neck, with hair follicles, using biopsy punch (Stiefel).	-20°C/-80°C	RT-hnPCR (3)

CHAPTER II

NRPCP TOWARDS

A RABIES FREE PHILIPPINES

Chapter II: NRPCP Towards Rabies-Free

Since the late 1980s, efforts to initiate its prevention and control, the DA and the DOH have intensified their collaboration on rabies, refocusing strategies through the years toward its elimination by 2030.

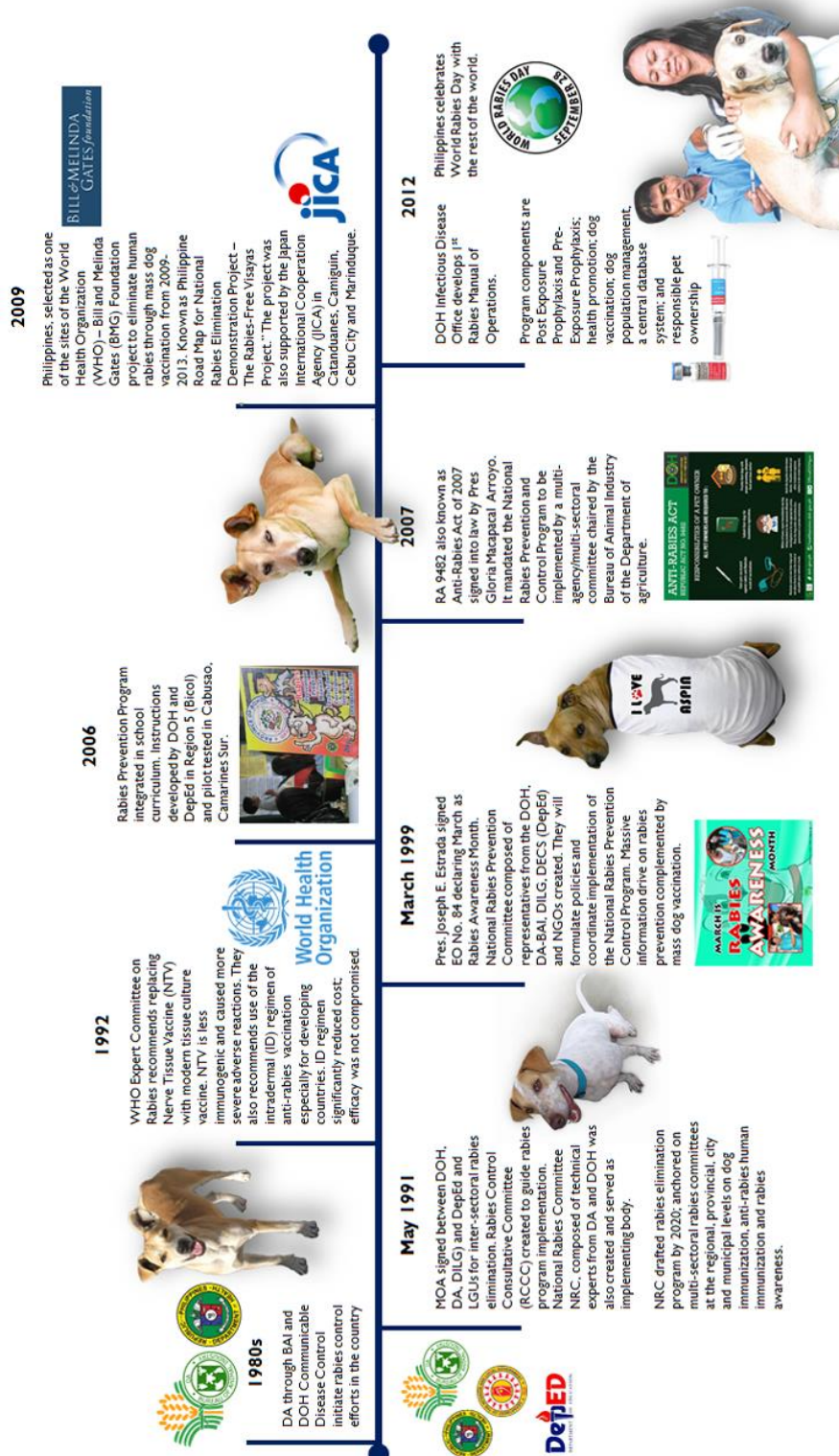
Strategies, activities and supportive components have evolved to become more responsive to meeting the needs of an increased and sustained public awareness on rabies. Along the way, the program has also encouraged more commitment, participation and involvement from different sectors.

The program has likewise standardized treatment and management guidelines of human rabies; as well as address management of animal rabies particularly, for dogs. A MOP was developed in 2012 to help standardize program implementation across all agencies. Working in partnership with the DA, the program has undergone and emphasized massive dog vaccinations as one of the most effective, cost-efficient strategy to protect and prevent rabies in dogs and in humans.

Despite efforts however, rabies continues to affect many Filipinos, claiming tens of thousands of lives and putting more people at risk.

Through all these, the NRPCP has been relentless in its efforts to steer the country closer to being rabies-free. It rallies partners for a better implementation of RA 9482. It has standardized data collection through the PIDSR and NARIS that enabled more accurate reporting from all levels. It reviews trends and developments on human and animal health – modifying strategies and activities along the way to further harness an interdisciplinary approach to rabies control.

NRPCP Timeline



1. VISION AND GOAL



Vision: *Rabies Free Philippines by 2030*
Goal: *To end human deaths from dog-mediated rabies by 2027*

The NRPCP utilizes a multi-disciplinary approach that strengthens linkage with program managers, public health workers, veterinarians, local executives and other stakeholders including the general public to achieve rabies elimination.

The Philippines remains committed to accomplish the vision of a rabies-free country by 2030. With evolving challenges faced by the program however, the NRPCP saw 2030 as the more feasible, realistic target year. The additional two years will enable the program to implement appropriate strategies and activities that would best respond to the needs and safeguard human health from rabies; and be counted among the nations that are rabies-free by 2030.

2. COMPONENTS

Together with partner agencies, the NRPCP implements the following components of the program as mandated by RA 9482 (Anti-Rabies Act of 2007) should be implemented at all levels:

2.1. Mass Dog Vaccination

This is the most effective measure to control canine rabies. The Department of Agriculture takes the lead in mass dog vaccination campaigns and provision of animal rabies vaccine.



2.1.1. Post-Exposure Prophylaxis (PEP) and Pre-Exposure (PrEP)

- Post Exposure Prophylaxis (PEP) – anti-rabies prophylaxis should be administered after an exposure (such as bite, scratch, lick, etc).
- Pre-Exposure Prophylaxis (PrEP) – vaccination should be given to individuals who are at high risk of getting rabies



2.2. Health Promotion

The following are significant activities in the conducting the information and education campaign on the prevention and control of rabies:

- **Celebration of Rabies Awareness Month** under Executive Order No. 84, March is Rabies Awareness Month

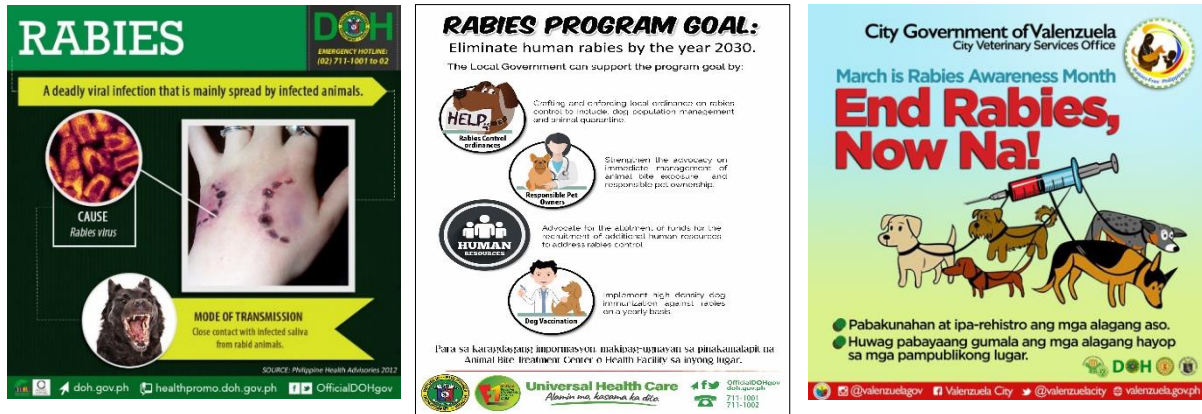


Rabies Awareness Month is celebrated in the country all through the month of March. During this time, mass dog registration and vaccination drives are conducted in collaboration with the LGUs, national, regional and local offices of the DOH, BAI and other partner agencies.

- **Celebration of World Rabies Day** - September 28 has been declared as World Rabies Day.



- **Development of IEC Materials** -All agencies involved in the implementation of the program are encouraged to conceptualize, produce/reproduce and distribute IEC materials and collaterals.



- **Massive Health Information Campaign using Tri-Media**



- **Integration of Rabies Program into the School Curriculum** - The integration of the rabies program into the elementary curriculum in selected areas is a collaborative effort of DOH and DepEd to educate school children who are the most vulnerable to animal bites.



Recently, the DepEd with support from Global Alliance for Rabies Control and in coordination with the other NRPCC members developed and integrated rabies prevention lesson plans into school curriculum, from kindergarten to grade 10, which was launched during the 2019 World Rabies Day celebration.



2.3. SUPPORT SERVICES

2.3.1. Capability -Building

The Department of Health provides the following training to health personnel involved in the implementation of the program:

- Management of Rabies Exposure
- Management of Human Rabies
- Training of Traditional Healers on Animal Bite Management

The Department of Agriculture provides the following training to Veterinarians, Livestock Inspectors/Technician, Laboratory staff and other animal health personnel involved in the implementation of the Rabies Program:

- Diagnosis and surveillance of animal rabies
- Training on humane dog catching and handling
- Methods of restraint and proper animal vaccination
- Rabies hotspot/ outbreak investigation and management

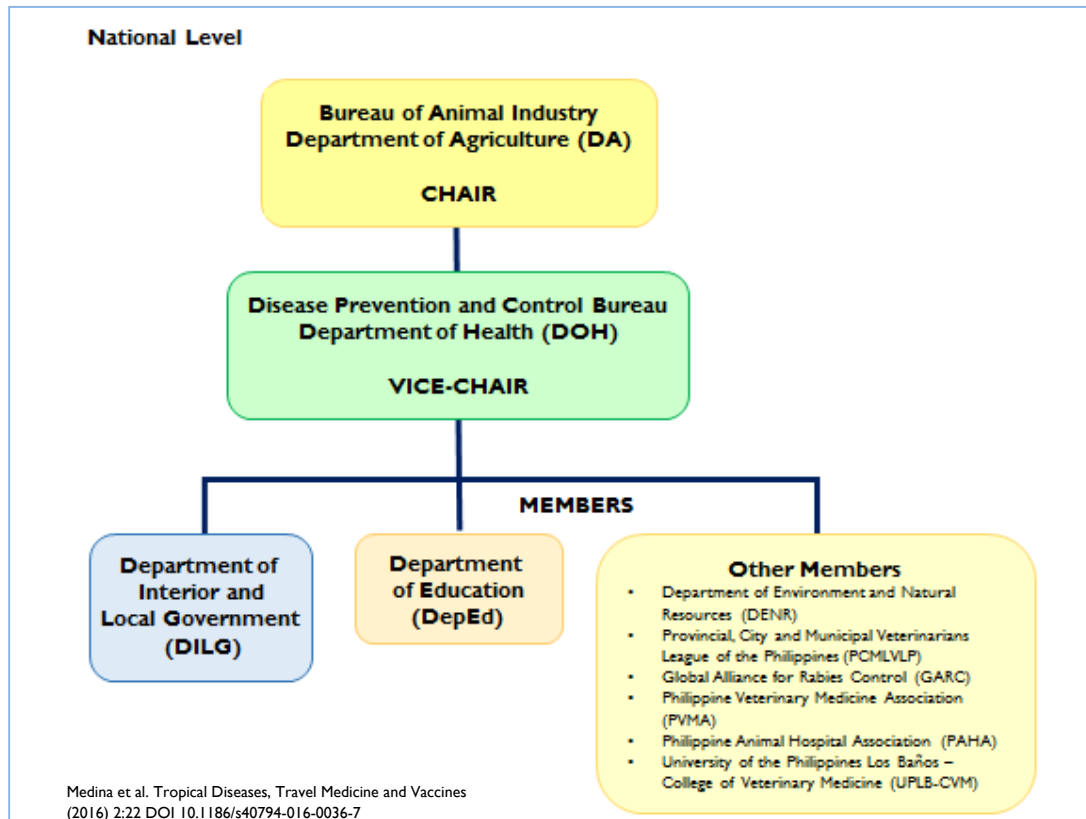


The DOH and BAI train health personnel, veterinarians, lab staff, including LGUs and other personnel involved and engaged in the implementation of anti-Rabies Programs

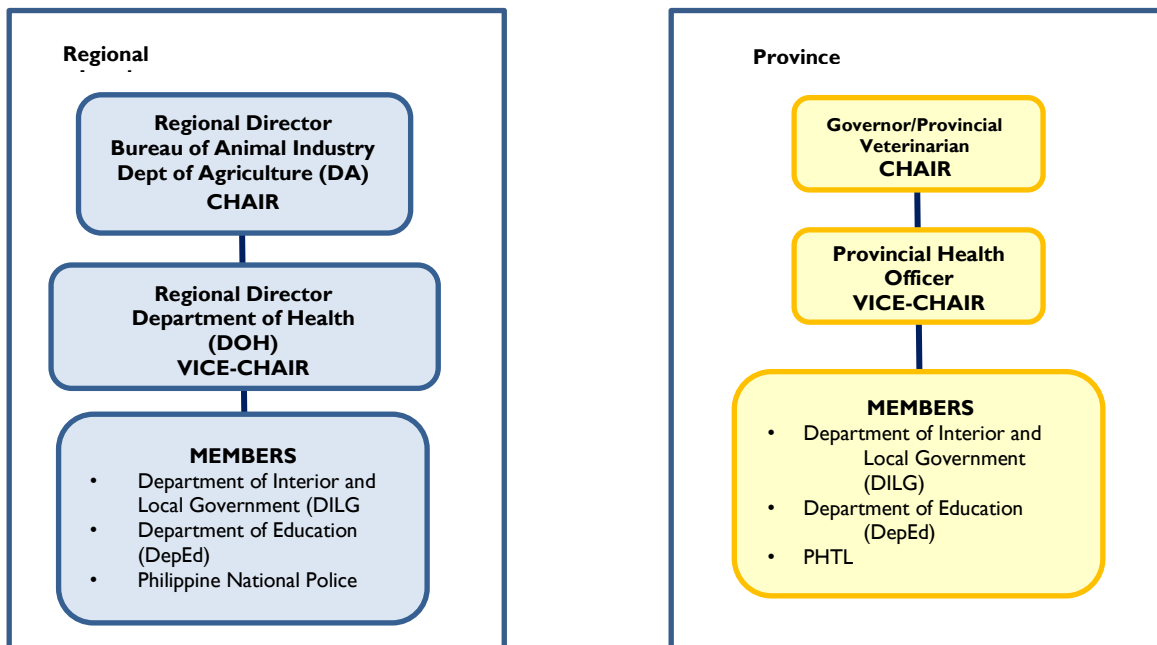
2.4. MANAGEMENT AND IMPLEMENTATION STRUCTURE OF THE NATIONAL RABIES PREVENTION AND CONTROL PROGRAM

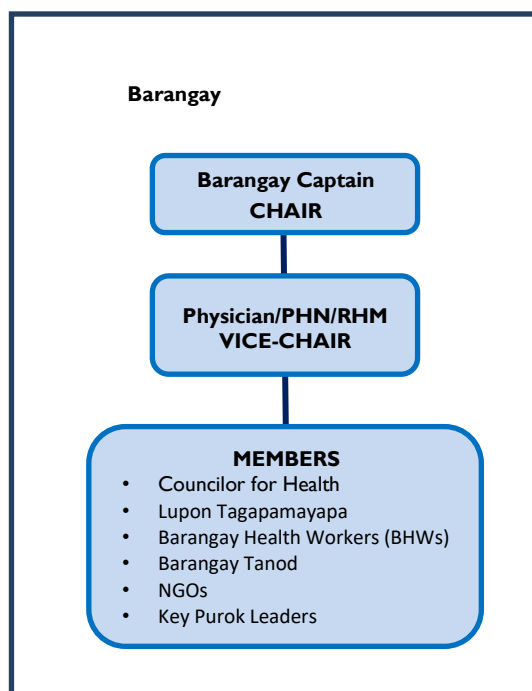
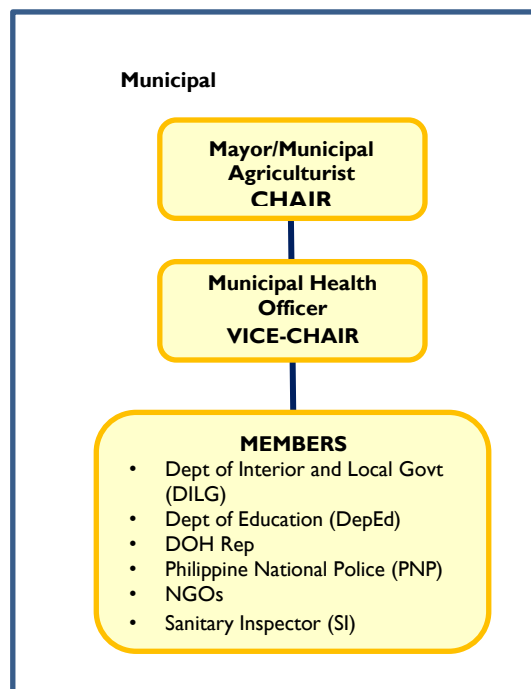
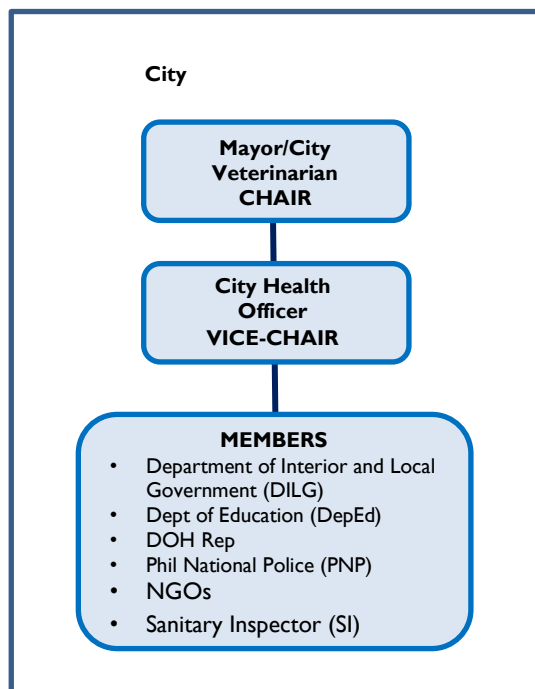
R.A. 9482 (The Anti-Rabies Act of 2007) mandates the establishment of a National Rabies Prevention and Control Program chaired by the Bureau of Animal Industry of the Department of Agriculture to be implemented by a multi-agency /multi sectoral-committee at all levels .

The suggested composition of the Rabies Committee in each level is as follows:



At the regional, provincial and local levels, the NRPCC is structured as follows:





2.4.1. RESPONSIBILITIES OF GOVERNMENT AND NON-GOVERNMENT UNITS

Department of Health



- Ensure the availability and adequate supply of human anti-rabies vaccine in animal bite treatment centers at all times and coordinate with other implementing agencies and concerned NGOs;
- Provide Post-Exposure Prophylaxis at the minimum expense to individuals bitten by animals suspected of being rabid which will consist of the initial vaccine and immunoglobulin dose;
- Ensure proper management of logistics to include forecasting, storage and distribution
- Provide Pre-Exposure Prophylaxis to high-risk personnel, such as, but not limited to laboratory staff, veterinarians, animal handlers, vaccinators and other persons working with rabies virus for free;
- Coordinate with the DA in the development of appropriate health education strategies to inform the public on rabies prevention and control and responsible pet ownership;
- Develop and maintain a human rabies surveillance system;
- Encourage collaborative activities with the DA, DepEd, DILG, DENR, NGOs, POs and other concerned sectors; and
- Immediately approve the registration of veterinary and human barbiturate drugs and veterinary euthanasia drugs in coordination with the Philippine Drug Enforcement Agency (PDEA).

Department of Agriculture



- Improve and upgrade existing animal rabies laboratory diagnostic capabilities to ensure better services to the people;
- Ensure the availability and adequate supply of animal Anti-Rabies vaccine at all times;
- Undertake free anti-rabies vaccination of dogs giving priority to high risk and depressed areas;
- Maintain and improve animal Rabies surveillance system;
- Establish and maintain Rabies free zone in coordination with the LGUs;
- Immediately facilitate for the approval of the sale and use of Veterinary and Human Barbiturate drugs and veterinary euthanasia drugs by the DOH and the PDEA;
- Strengthen the training of field personnel and the Information Education and Communication (IEC) activities on Rabies prevention and control and responsible pet ownership;
- Conduct research on Rabies and its control in coordination with other agencies;

- Formulate minimum standards and monitor the effective implementation of this Act; and
- Encourage collaborative activities with the DOH, DepEd, DILG, DENR, NGOs, POs and other concerned sectors.

Department of Interior and Local Government



- Ensure compliance of the roles and responsibilities of the different LGU's.
- The DILG – Directs LGUs to comply with the government's anti-rabies program. Under Republic Act 9482 or the Anti-Rabies Act of 2007, LGUs play a vital role in ensuring that all dogs within their jurisdiction are registered, and immunized to ensure they are healthy. They are also urged to allocate funds to augment for the implementation of the National Rabies Prevention and Control Program.

Department of Education



- Strengthen rabies education program through school health teaching/curriculum;
- Assist in the dog mass immunization campaigns in the community;
- Encourage collaborative activities with the DA, DOH, DILG, DENR, NGOs, POs and other concerned sectors; and
- Integrate proper information and education on responsible pet ownership in the relevant subjects in the Elementary and High School levels.

Local Government Units (LGUs)



- Ensure that all dogs: are properly immunized, registered and issued a corresponding dog tag upon registration and immunization
- Strictly enforce dog Impounding activities and field control to eliminate stray dogs;
- Ensure that dogs are leashed or confined within the premises of the owner's house or owner's fenced surroundings;
- Allocate funds to augment the implementation of the National Rabies Prevention and Control Program, particularly on the financing of supplies and human and dog vaccines needed for immunization;
- Ensure the enforcement of Section 6 of Republic Act No. 8485 or "The Animal Welfare Act of 1998";

- Enact additional local ordinances that will support the National Rabies Prevention and Control Program that should include the regulation of the traditional treatment locally known as "*tandok*";
- Prohibit the trade of dogs for meat;
- With respect to cities and first class municipalities, establish and maintain a dog pound where impounded dogs shall be kept, and other municipalities, shall, on their own, establish a dog pound or opt to share the expense of establishing and maintaining a dog pound with other adjoining municipalities and/or with private animal shelters and control facilities;
- Prohibit the use of electrocution as a euthanasia procedure;
- Appoint a veterinarian and establish a veterinary office in every province, city and first-class municipality, provided, that the other municipalities shall, on their own, opt to share the expense of having a veterinary office;
- Require pet shops to post information regarding rabies and responsible pet ownership; and
- Shall collect the fines imposed by R.A. 9482 for the violation any of its provision.

Animal Bite and Treatment Center



- Receive allocated immunizing agents from the DOH RO/ Provincial Rabies Coordinator;
- Ensure proper cold chain management;
- Screen all animal bite cases and manage accordingly;
- Maintain animal bite registry;
- Submit accurate report to the DOH on a quarterly basis;
- Advocate to the LCE additional funds for the program;
- Conduct investigation of reported human rabies cases; and
- Conduct health promotion activities.

2.4.2. ROLES AND FUNCTIONS OF HEALTH PERSONNEL

Department of Health Centers for Health Development (CHD)/Regional Offices (DOH RO) Regional Coordinators

- Oversee the implementation of the program at the regional level
- Prepare WFP in coordination with the different partners;
- Act as resource person/facilitator during the training/orientations/workshops;
- Compute vaccine requirement and make the necessary requisition to the national program;
- Allocate and distribute WHO pre-qualified vaccines and other logistics needed for the program implementation;
- Ensure proper cold chain management;
- Ensure efficient accurate and timely submission of report;
- Conduct monitoring and evaluation;
- Conduct assessment and certification of ABTC/ABC; and
- Conduct health promotion activities.



Department of Health Provincial DOH Office and Provincial Coordinators

- Coordinate at the provincial level
- Train ABTC personnel
- Act as resource person/facilitator during the training/orientations/workshops;
- Allocate and distribute FDA approved vaccines and other logistics needed for the program implementation;
- Ensure proper cold chain management;
- Ensure efficient accurate and timely submission of report;
- Conduct monitoring and evaluation;
- Conduct assessment and certification of ABTC/ABC; and
- Conduct health promotion activities.



Animal Bite Treatment Center Personnel

- Receive allocated immunizing agents from the DOH Provincial Rabies Coordinator;
- Ensure proper cold chain management;
- Screen all animal bite cases and manage accordingly;
- Maintain animal bite registry;
- Submit accurate report to the DOH on a quarterly basis;
- Advocate to the LCE additional funds for the program;
- Conduct investigation of reported human rabies cases; and
- Conduct health promotion activities.



Animal Bite Center Personnel

- Undergo training by the DOH
- Buy own vaccine
- Screen all animal bite cases and manage accordingly;
- Maintain animal bite registry;
- Submit accurate report to the DOH on a quarterly basis;
- Conduct investigation of reported human rabies cases; and
- Conduct health promotion activities.



Municipal Health Office

- Screen, initiate wound care and refer animal bite cases to Animal Bite Treatment Center; and
- Conduct health promotion activities in collaboration with MAO and other partners.



DA and LGU Veterinary Personnel

- Initiate and coordinate all rabies control activities in the provinces/ cities/municipalities;
- Prepare the yearly regional action plan;
- Disseminate program information, guidelines, E.O. to all provincial/city/municipal coordinators;
- Allocate/distribute vaccines from central office (BAI) to the different provinces/cities/municipalities;
- Ensure proper cold storage of vaccines;
- Ensure availability of vaccines for the campaign;
- Monitor vaccine utilization;



- Consolidate reports from the different provincial coordinator and submit to the central office;
- Monitor the implementation of dog ordinance and dog pound in the Provinces;
- Assist the province in overseeing the implementation; and
- Collect empty/used vaccine vials from the provinces and ensure proper disposal (burning/burying) at the Regional Office or at the Bureau of Animal Industry

Provincial Veterinarian/ Provincial Coordinator

- Prepare yearly provincial action plans and submit to the regional level for consolidation;
- Provide actual dog survey and other monitoring data to the regional coordinator;
- Allocate and distribute vaccine to the different municipalities;
- Provide and ensure cold storage for vaccines;
- Monitor proper vaccine utilization during vaccination campaign;
- Assist in training vaccinators during mass immunization;
- Monitor proper implementation of rabies ordinance and dog control measures in all municipalities;
- Organize rabies control committees in all cities/municipalities;
- Initiate and coordinate all rabies control activities in the cities/municipalities
- Consolidate reports of vaccination to be submitted to the regional coordinator
- Collect used vaccine vials and return it to the regional coordinator for proper disposal.



Municipal/City Coordinator (City/Municipal Veterinarian/Agriculturist)

- Prepare yearly provincial action plans and submit to the regional level for consolidation;
- Provide actual dog survey and other monitoring data to the regional coordinator;
- Allocate and distribute vaccine to the different municipalities;
- Provide and ensure cold storage for vaccines;
- Monitor proper vaccine utilization during vaccination campaign;
- Assist in training vaccinators during mass immunization;
- Monitor proper implementation of rabies ordinance and dog control measures in all municipalities;
- Organize rabies control committees in all cities/municipalities;
- Initiate and coordinate all rabies control activities in the cities/municipalities
- Consolidate reports of vaccination to be submitted to the regional coordinator
- Collect used vaccine vials and return it to the regional coordinator for proper disposal.



CHAPTER III

PROGRAM COMPONENTS

CHAPTER III: Program Components

Background

NRPCP is a multi-agency effort to control and eliminate rabies in the country by the Department of Agriculture (DA), Department of Health (DOH), Department of Interior and Local Government (DILG), Department of Education (DepEd) in coordination with other Government Organizations (GOs), Non-Governmental Organizations (NGOs) and People's Organizations (POs).

To more effectively implement the program, the DOH and DA each has their primary focus, roles and responsibilities, ensuring that efforts are not duplicated and preventive measures for human and animal infection are taken. Partner agencies DepEd, DILG, other GOs, NGOs and POs are expected to actively participate in broadening understanding of NRPCP.

The following components of the program as mandated by RA 9482 (Anti-Rabies Act of 2007) should be implemented at all levels.

PART 1: HUMAN RABIES

1. Prevention and Control of Human Rabies

Rabies is the oldest and most feared human disease known to man with the highest case fatality rate (CFR) of any infectious disease. It is the only disease of humans that is treated with a vaccine after exposure has occurred; a zoonotic disease which is 100% fatal but 100% preventable.

World Health Organization (WHO) states that if symptoms of rabies have appeared, the victim usually dies in spite of subsequent immunization and treatment with rabies immunoglobulin. There is no effective treatment once symptoms set in. Rendering treatment versus no treatment makes no difference in Rabies. Moreover, the rate of mortality for rabies are highest from bites of the face and neck while the rate of mortality increases with extensive wound. For the virus to be infectious and for any risk to exist, the person must be exposed to fresh saliva of the rabid animal with a consideration that the smallest bite with a single drop of saliva can kill.

Rabies is also considered a Neglected Tropical Disease (NTD), infecting mostly poor and vulnerable populations whose deaths are rarely reported. Worldwide, rabies occurs mainly in remote rural communities where measures to prevent dog to human transmission have not been implemented.

Under-reporting of human rabies cases prevents mobilization of resources from the international community for the elimination of human dog-mediated rabies. Around forty (40%) of people exposed to dog bites in canine rabies infected areas like the Philippines, are children from 5-15 years of age. WHO further states that majority of those bites are not reported and go unrecognized. Much higher proportion of exposed children contract and die of unrecognized rabies than the estimates from Asia suggest.

In 1951, the Daily Mirror newspaper reported that Fernando Poe Sr., a local cinema idol, succumbed to hydrophobia, at the age of 35, after he let his open wound licked by an infected puppy. He was diagnosed to have rabies, a disease that is carried and transmitted between mammals via saliva. It's well known to be a threat after having been bitten by a wild animal or rabid pet. But it is also possible to contract the virus from an infected animal just licking an open cut or wound, and even scratch from infected wet saliva. Moreover, consumption of raw or improperly cooked infected animal brain results in direct contact between oral mucous membranes and infected neural tissue. Rarely, rabies may be contracted by inhalation of virus-containing aerosol or via transplantation of an infected organ. There are two types of rabies: (1) the furious type, common in more than 80%, manifests with hyperactivity, hydrophobia, aerophobia and excited/aggressive behavior while the (2) paralytic type present in 20% of the cases show ascending muscle paralysis in the absence of aerophobia and hydrophobia.

At least one-third of human rabies deaths are among children less than 15 years of age (N=399; 2008; SLH). Dogs are the source of 98.3% ((N=699; 2015; BAI) followed by cats (1.2%), goat (0.3%), pig (0.1%) and carabao (0.1%) in human rabies deaths. The high cost of anti-rabies vaccine and immunoglobulins, expenditure for medical consultations and the loss of income are an additional burden to a regular Filipino family confronted with a potential rabies exposure.

However, with improved surveillance and reporting systems, data-based interventions can be programmed and implemented more effectively, efficiently and economically.

4 R's in Animal Rabies Risk Assessment: Recognizing, Recording, Reporting, Referral

Because it is almost always fatal, rabies continues to be a dreaded disease. Its signs and symptoms are both disturbing and distressing. But if rabies post exposure prophylaxis (PEP) is administered to a bite victim before the virus enters the nervous system, it can be prevented.

Rabies' range of severity is vast and varied, there is still remains so much the public and at times, health professionals may not know about it. There have been many instances where even

clinicians are left bewildered and unsure with their diagnosis of the rabies. This is because its early symptoms can be very generalized – headaches, fever and weakness. Without a history of a potential exposure to a rabid animal, these symptoms would not raise the suspicion of rabies as they are very similar to the common flu or other viral syndromes.

It is for this reason that an integrated approach to its detection and management can be described by the four areas, namely:

- Recognition by rabies risk assessment and the clinical signs of rabies in domestic animals
- Recording
- Reporting
- Referral

1.1. Recognition

Recognize by Rabies risk assessment.

1.1.1. Possibility of rabies virus transmission

a. An infected animal

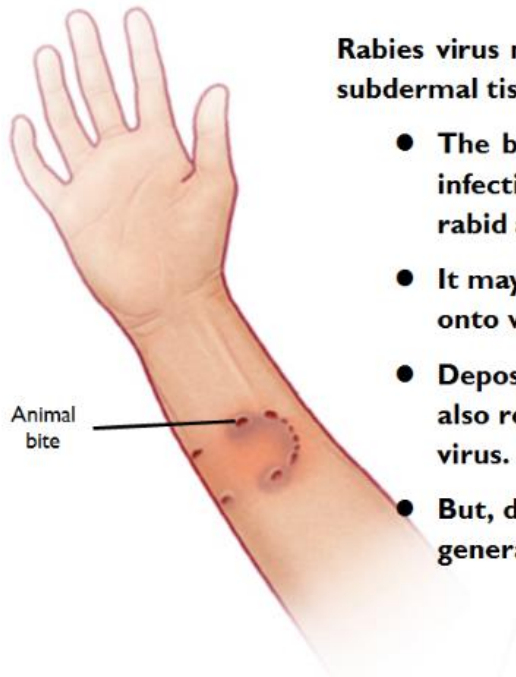
All mammals are susceptible to infection with rabies virus and capable of shedding and transmitting virus. Only mammals pose a potential risk for rabies transmission. Rabies virus cannot be transmitted through bites, scratches, or other contact with:

- Birds
- Reptiles
- Amphibians
- Fish/Invertebrates
- Most rodents (rats, mice, hamsters, guinea pigs, rabbits, squirrels, chipmunks, gophers) with negligible role in propagation of rabies probably because they fail to survive encounters with rabid carnivores

b. Virus-laden saliva



Rabies virus must be deposited on or near nerve endings for infection to occur



Rabies virus must be introduced through a break that exposes subdermal tissue beneath the cutaneous barrier.

- The break in the skin can occur at the same time that infectious saliva is present-as in the classic bite from a rabid animal.
- It may be a pre-existing cut, wound, or lesion on the skin onto which infectious saliva is subsequently deposited.
- Deposition of infectious saliva onto mucus membranes also represents a potential transmission route for rabies virus.
- But, deposition of saliva onto intact, healthy skin would generally not be considered a potential rabies exposure.



Minimal requirements for considering the possibility of rabies virus transmission in a bite incident:

- A rabid mammal
- Rabies virus in saliva
- Saliva deposited beneath the skin or on mucus membrane

Likelihood of rabies transmission

It is important to determine whether the biting animal was rabid or likely to be rabid only at the time the bite was inflicted. Data on the biting animal such as species, size, health, ownership (e.g. Pet, feral, wild) and rabies vaccination history are necessary for determining the likelihood that it was shedding rabies virus at the time of the bite.

Domestic dog rabies remains the predominant contributor to rabies incidence throughout the world.

Younger animals are considered to present a greater risk of rabies than older animals because:

- With their small size and naive immune system, only a smaller amount of virus can lead to infection
- However, extremely young animals (<2 weeks old) that bite are unlikely to have had sufficient opportunity to have been exposed to rabies virus, and for the virus to replicate, migrate into the CNS, and spread to the salivary glands by the time of the incident
- The risk of rabies transmission is proportional to the amount of virus deposited in vulnerable sites:
- Multiple bites that compromise the cutaneous barrier expand the number of potential entry for the virus.
- Severe bites that expose large amount of rabies virus provides greater opportunity for rabies virus to be deposited on nervous tissue than mild, superficial bites.
- The closer to the CNS the virus is introduced, the shorter may be the incubation period from infected bite to disease.
- **Bites on the following sites are more exigent risk of rabies and need for rabies prophylaxis than do bites to the arms and legs:**

- Face
- Head
- Neck
- Spine



Highly innervated tissues such as hands, fingers and genitalia provide a rich environment for rabies virus to invade and replicate.

NOTE: Any deposition of virus-laden saliva on mucous membrane or beneath the dermis constitute a risk of rabies transmission.

- Immediate wound treatment is an indispensable component of bite management. Thorough wound cleansing alone markedly reduces the likelihood of rabies (Dean 1973, Kaplan 1962).
- The following bite wounds for which liberal wound irrigation and vigorous scrubbing are difficult, impossible or delayed allow a greater amount of deposited rabies virus to remain in place and begin to replicate
 - Puncture wounds
 - Lacerations resulting in extensive tissue disruption



- Vaccination history: a biting animal that has a well-documented history of having received rabies vaccine, approved for use in that species and administered consistent with the labeled booster schedule, is unlikely to be infected with rabies virus.
- Reasons why a history of having received rabies vaccination does not ensure absolute protection from infection:
 - Individuals vary in both the magnitude and duration with which the immune systems produce protective antibody following vaccination.
 - Rare inconsistencies in manufacture, storage, or handling can compromise a vaccine's potency prior to administration.
 - Errors in administration of the vaccine (e.g., intradermal rather than subcutaneous administration) can dilute the functional concentration of antigen below that necessary to support immunologic memory.

Table 7 : Relative Indicators for rabies post-exposure prophylaxis (PEP)

Factor	Strong indicators	Weak indicators
Animal species	Bat, skunk, raccoon, unknown wildlife	*Dog, cat, other domestic animal
Number of bites	Single or multiple	No bite
Bite location	More urgent: face, head, neck Less urgent: extremities	
Bite severity	More urgent: deep lacerations, considerable tissue damage; extensive bleeding Less urgent: minimal tissue damage or bleeding	Superficial; no bleeding
Medical attention	No or delayed wound care	Immediate cleansing and irrigation
Bite provoked?	No	Yes
Animal's health	Abnormal behavior	No paralysis or behavioral abnormalities
Rabies vaccination	No documentation of rabies vaccination	higher: previous rabies vaccination but not current Lower: current on rabies vaccination
Animal available for quarantine?	No	Yes
Rabies recently detected in region?	Higher: yes Lower: no	(Rabies should be considered possible in all regions of the Philippines, regardless of recent surveillance data)
Victim's anxiety about rabies	(objective scientific evidence should be the principal determinant for PEP decisions.)	Higher: high Lower: low

Adopted from the manual on, "Investigation, management and prevention of animal bites in California," 3rd ed.

*BAI reported in 2015 that 98% of animal rabies are from dogs followed by cats in 1.2%.

1.1.2. Recognize the clinical signs of rabies in domestic animals

- Withdrawal from and resistance to contact; seeking seclusion
- Wide-eyed; reduced frequency or absence of blinking; dilated pupils; photophobia
- Exaggerated, often aggressive, response to tactile, visual, or auditory stimuli
- Snapping/biting at imaginary objects
- Pica (eating or mouthing sticks, stones, soil, clothing, feces, etc)
- Aggressively attacking inanimate objects
- Sexual excitement with attempts to mount inanimate objects
- Compulsive running or circling, often to the point of exhaustion
- Obsessive licking, biting, or scratching at the site of viral inoculation
- Dropped jaw, inability to swallow, excessive salivation
- Change in tone, timbre, frequency, or volume of vocalizations
- Flaccid or deviated tail/penis
- Tenesmus (due to paralysis of the anal sphincter)
- Muscular tremors
- Acute onset of mono-para-, or quadri-paresis; lameness
- Abnormal, exaggerated gait; ataxia and incoordination
- Convulsive seizures
- Paralysis, prostration, recumbency
- Death

If after animal examination, some of these signs or any other signs of illness are present, it is advised to immediately, safely and humanely euthanize the animal, remove the head and submit the brain to the designated public health laboratory for testing.

1.1.3. Rabies risk-based response

Rabies infection is most quickly and reliably determined through examination of brain tissue removed from an animal shortly after it is dead or was euthanized.

a. Collection/capture and handling

- Capture should be conducted only by persons knowledgeable, trained and skilled in methods appropriate to the species at hand.
- All persons charged with capture of a potentially rabid animal should have been pre-immunized against rabies.

- The number of persons deployed should be the minimum necessary to collect the animal.
- Domestic or wild animals collected for the purpose of rabies testing should be held for a minimum time needed to arrange for euthanasia.
- During the holding period, access to the animal must be limited to the minimum number of authorized persons needed to provide for its care.

b. Euthanasia

Must be conducted in a humane and speedy manner, using methods like inhalational and injectable euthanasia for suspect rabid animals.

Methods that require penetration of the skull and interruption of central brain function to effect death (e.g. gunshot) should be avoided as these may compromise brain tissue architecture and result in inconclusive results for rabies virus testing.

c. Testing

The public health laboratory should be contacted ASAP to alert them to the incoming specimens and to ensure that specimens are collected, packaged, and shipped in strict accordance with their protocol.

- A. specimen collection
- B. animal heads

d. PPE to be worn during the removal of the:

animal's head



The animal's head should be severed from the body at mid cervical vertebrae and placed in a leak-proof inner container.

Place the inner container in an insulated outer transport container and surrounded with sufficient coolant (commercial cold pack or dry ice) to preserve the tissue specimen during transport.

All instruments used in removing the head (pruning shears, necropsy knives, scissors) should be disinfected by steam or heat sterilization (autoclaves, instrument sterilizers, incineration).

brain tissue

- Must be kept cool, using cold packs or dry ice.
- Do not place the brain tissue in formalin or glycerol saline.

e. Specimen submission

- Cold pack refrigerants are satisfactory when the interval between packaging the specimen and receipt at the laboratory does not exceed 48 hours.
- For longer intervals, the specimen should be placed on dry ice.
- Fresh refrigerated specimens are best.
- Submission forms and other specimen information should be enclosed in a properly addressed envelope and fastened to the outside of the mailing container.
- Submit specimens to the local health laboratory by the fastest possible route, e.g. Messenger or overnight courier service.

f. Test procedure

- The Direct Fluorescent Antibody Test (DFA) for detection of rabies virus is rapid and reliable test.
- The detection of animal rabies in animal tissue and diagnosis of rabies in an animal should be reported to the local health officer within 24 hours.
- Positive rabies test results are reported using the DOH Animal Rabies case report form.

g. Disposal of animal carcasses

Carcasses of rabid animals are considered biohazardous waste and subject to restrictions on their disposal.

Carcasses must be placed in a red biohazard bag and carefully labeled with the words "BIOHAZARDOUS WASTE."

Ideal factors for permitting home rabies quarantine

- Domestic dog or cat
- Written documentation of at least primary and first booster rabies vaccinations
- Currently healthy; no signs of illness
- Adequate indoor facilities to confine the animal
- Ability to effectively exclude children and others from quarantine area

Each bag is securely tied and stored in a leak-proof container until retrieval by or transfer to the medical waste hauler.

Use of the carcass as food by any human being, domestic animal or fowl is prohibited.



Recognize earliest period (days) prior to onset of clinical signs and prior to death in which rabies virus is present in the saliva of some mammals			
Species	Prior to onset	Prior to death	Reference
Domestic dogs	7	12	Vaughn 1965
	7	12	Fekadu 1982*
Domestic cats	1	6	Vaughn 1963
Ferrets	2	Undetermined**	Neizgoda 1998
Mexican freetail bats	12	18	Baer 1967
Striped skunks	5	9	Sikes 1962
Gray, red foxes	Not reported	3	Sikes 1962

* a single dog in this study that was inoculated with an Ethiopian canine strain of rabies virus had an excessive long shedding period of 13 days prior to onset and 14 days prior to death.

** all study ferrets were euthanized after onset of clinical signs.

Because a rabid dog or cat will predictably die within a known period of time, suspicion of rabies can be eliminated if the dog or cat remains healthy and alive 10 or more days after a bite incident.

If the quarantined animal is not currently vaccinated against rabies, a rabies vaccine should be administered prior to release from quarantine.

All persons who were bitten or had concerning contact with the animal should be informed that the animal is healthy and there is no possibility of rabies virus transmission.

1.2. Recording

Record information in a manner that is accurate, complete, consistent and legible. Write objective observations efficiently, with photo documentation where possible. These data serve as the basis for risk assessment of rabies transmission to make an informed decision on the disposition of the biting animal and appropriate medical management for the bitten person.

1.2.1. Information

- NOI (nature of bite: dog bite, cat bite, etc)
- POI (place of bite)
- DOI (date of bite)
- TOI (time of bite)
- SOI (site of bite)
- EXO (extent of bite wound/s)
- COA (condition of animal)
- ARV (anti-rabies vaccination history for biting animal and bitten person)
- Pro (provocations/triggering events)
- COB (Category of bite)

1.3. **Reporting** – Classified by the PIDSR as Category 1 or immediately notifiable disease, rabies should be reported within 24 hours after a case is suspected to be one. A standardized reporting form that contains all crucial information on the case (i.e., date, time and site of bite, including its diagnosed severity; patient vitals; animal condition, vaccination record, if any) is available and should be used when filing the report.

For RHUs - The report must be submitted to the facility of a higher level (district, municipal, or provincial hospital) or the nearest ABTC/ABC.

Facilities of higher level will then have to forward the report to the provincial level for proper documentation and coordination with appropriate staff who may do further

1.4. Referral

Caution and careful decision must be observed at all times when referring a rabies patient to another facility. The receiving facility must be able to provide IMMEDIATE primary management of bite wounds and as much as possible, obtain a detailed history of the patient and the biting animal.

The patient's detailed history must be recorded at the receiving facility, while a copy should be provided the referral facility.

For the referral facility, it is necessary that its staff has the training to handle suspected rabies cases and the knowledge on the other procedures, especially laboratory expertise/capabilities to confirm whether the case is rabies or not.

2. Clinical Diagnosis of Human Rabies

When physicians encounter a patient presenting with an animal-to-human exposure, a proper history should be taken in order to make a preliminary risk assessment and determine the most appropriate treatment and or management of the patient.

2.1. History Taking

Clinical history and physical exam are critical to the diagnostic process of rabies and can provide vital information.

1. Determine the History of exposure to dogs, cats, bats, domestic animals
 - **bite** – Date of Incidence, Place of incidence, Nature of Incidence, Time of Incidence
 - **non bite** – Lick on broken skin or mucous membrane, scratch by paw, unprotected exposure to rabies virus in the lab, transplant of infected tissue, exposure to rabies patient (bite, lick on mucous membranes,
 - The following are not considered exposures to rabies – sharing food with rabies patient, licks on intact skin,
2. Observe the status of biting animal at time of bite and after 14 days
3. Determine the vaccination status of biting animal
4. Take note of the incubation period – Incubation period begins on the date of bite to date the first symptoms appear
5. Watch out for the following clinical symptoms:
 - Pain/numbness/itching at bite site

- Encephalitic symptoms– Be sure to note and document/list them
 - Paralytic symptoms – Document/list these as well.
6. Consider other contributory information such as:
- Other victims of the same animal within the past 24 hours
 - History of previous rabies vaccination (pre or post exposure prophylaxis, date)

2.2. Physical Examination

a. Routine

- Include Excoriation at bite site
- Look for myxedema at percussion sites, usually in the region of the chest, deltoid muscle and thigh,
- Check patient for possible piloerection and fasciculation



b. Neurologic

- Observe for fluctuating consciousness
- Note autonomic stimulation signs
- Watch for paralysis
- Wait for aerophobia/hydrophobia to manifest

3. Laboratory Diagnosis

3.1. Collection of samples

3.1.1. Saliva collection – Ante-mortem

Collection of the saliva will be done when the patient is in sensible condition. A minimum of 3 collections, 4-6 hours apart, is required. There are 2 options: the first is having the patient spit into the collection tube or by aspiration of saliva by the research staff.

a. Voluntary Spitting

1. Saliva collections are recommended to be done in the morning. The subject is refrained from any oral activities (i.e., eating, drinking, or oral hygiene procedures) for at least 1 hour prior to the collection.
2. The patient will be given drinking water and asked to rinse their mouth out well without drinking the water. Five minutes after this oral rinse, the patient will be asked to spit whole saliva into the tube.
3. The patient will also be asked to hang his/her head down and let the saliva flow naturally to the front of the mouth; and instructed to hold the accumulated saliva for a few more seconds and spit into the tube provided.
4. Patient will spit into the collection tube after saliva is collected in the mouth. The goal for each whole saliva donation should be about 3 to 5ml.
5. Require that the tube is placed on ice while collecting whole saliva.
6. Collected samples are to be placed on ice before processing.
7. No preservatives or additional material should be added.

b. Aspiration by the Research Staff

1. Follow procedures 1 and 2 above.
2. The subject will be asked to pool saliva for 30 seconds.
3. The research staff will aspirate saliva using a pipette.
4. Aspirated saliva will be flushed in the tube which is placed on ice.
5. Follow Procedures 6 and 7 above.

3.1.2. POST MORTEM COLLECTION

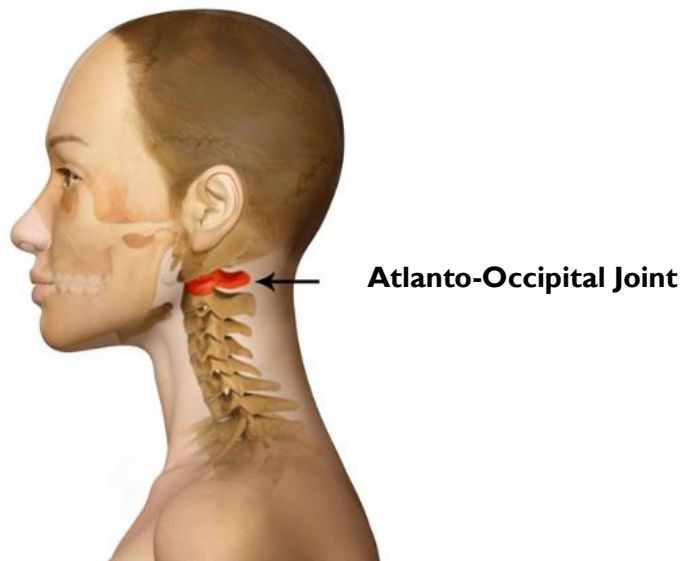
- Collection of the cerebrospinal fluid

1. The patient's body will be positioned in their left side then will be placed in a fetal position (the chin is close to the chest, the back is hunched, and knees are brought toward the chest).
2. Once the appropriate location is palpated, a spinal needle is inserted between the lumbar vertebrae L3/L4, L4/L5 or L5/S1 and pushed in until there is a "give" as it enters the lumbar cistern wherein the ligamentum flavum is housed. The needle is again pushed until there is a second 'give' that indicates the needle is now past the dura mater.
3. The specimen will be collected in a sterile bottle and will be submitted immediately for testing; or if cannot be tested immediately, the specimen may be stored and frozen in -20 °C.

- Collection of post mortem nuchal skin biopsy

1. Mark the area to be biopsied using a sterile marker. Clean the area with alcohol.
2. Prepare the area with betadine swab.
3. Orient the punch biopsy (Formol needle punch) perpendicularly to the skin's surface (nape area).
4. Apply more down pressure while turning side to side.
5. Using handskin forcep without teeth and pair of curved iris scissor, grasp the specimen at the dermis and cut.
6. To close the biopsy side, use 4-0 suture and needle holder, place 1-2 sutures as necessary. Get 2 skin biopsy (one sample in 10% buffered formalin and the other is frozen).

- Collection of mixed brain tissue via atlanto-occipital joint



The method of collecting mixed brain specimen through the atlanto-occipital joint works for dogs. This method is also recommended if and when specimen from a deceased human is needed:

1. Place the cadaver in ventral position. Palpate the atlanto-occipital joint.
2. Make a cross sectional incision and dissect to expose the joint.
3. Open the atlanto-occipital joint by cutting the dorsal atlanto-occipital membrane and then the meninges. Expose the occipital foramen.
4. Take the brain sample by inserting the straw into the occipital foramen with a slight twisting movement towards one of the eyes. This will allow samples to be taken from the medulla oblongata, the base of the cerebellum, hippocampus (Ammon's horn) and the cerebral cortex.
5. Before withdrawing the straw, pinch it between the fingers in order to prevent brain tissues escaping from the straw.
6. After withdrawing the straw, extract the content into a container by cutting the straw or using a stick.

- **Collection of hippocampus, brain stem, thalamus and cerebellum**

1. The skull vault is opened using two saw cuts- one in front and one at the back. These will not show through the scalp when it is sewed back together.
2. The top of the skull is removed, and the brain is very carefully cut free of its attachments from inside the skull. Remove the brain and place in a tray.
3. Locate the thalamus between the cerebral hemispheres on either side of the third ventricle.
4. With scalpel make a cut on the cerebral cortex until reaching the hippocampus which is a tube-like structure. Collect the hippocampus.
5. At the distal part of the brain, locate the flower-like structure. At the distal part of the cerebrum, this is the cerebellum. Underneath the cerebellum is the brain stem. Collect the hippocampus, cerebellum and brain stem.

3.3 Handling of Specimen/Transport

Because they are potential biohazards, specimens should be frozen at -20°C. Keeping the specimen frozen even in transport is necessary to maintain its integrity for accurate analysis. If specimen needs to be transported through courier, check first with the courier company if their delivery vehicles have refrigeration or freezers that can bring the specimen to the lab.

Table 9: No. Recommended Packing and Handling of Specimens for Transport				
Specimen	Packaging/Handling	Transport	Test	Results
Saliva	Specimen vial, frozen	Put in another container and seal in plastic bag. Transport with ice/dry ice.	PCR	5-7 days
Brain tissue	Specimen vial, frozen	Put in another container and seal in plastic bag. Transport with ice/dry ice.	FAT PCR	48-72 hours 5-7 days
Nuchal Skin	Specimen vial, frozen	Put in another container and seal in plastic bag. Transport with ice/dry ice.	PCR	5-7 days
Serum	Specimen vial, frozen	Put in another container and seal in plastic bag. Transport with ice/dry ice.	ELISA/FAVN	
CSF	Specimen vial, frozen	Put in another container and seal in plastic bag. Transport with ice/dry ice.	ELISA/FAVN	

Table 9A: Laboratory Diagnosis for Human Rabies Suspects				
Specimen	Aim	Test	Volume of Sample	Where
Ante/Post Mortem				
Saliva	Virus RNA Detection	RT-PCR	1-2 ml in sterile vial	RITM
Serum	Antibody Detection	RFFIT ELISA	2 ml in sterile vial	RITM
Post Mortem only				
Brain (brain stem and cerebellum)	Antigen Detection Viral RNA detection	dFAT RT-PCR	1 inch ² of the brain. No formalin fixation	RITM
Nuchal skin biopsy	Viral RNA Detection	RT-PCR	Fresh specimen (Do not put in Formalin)	RITM
CSF	Antibody Detection	RFFIT ELISA IFAT	1-2 ml in sterile vial	RITM
	Viral RNA detection	RT-PCR		

4. CLINICAL MANAGEMENT

Considering the fatal outcome and absence of cure for human rabies once signs and symptoms begin, management should center on ensuring comfort for the patient, using sedation, avoiding intubation and life support measures.

4.1. Medications

Any of the following medications may be given:

- Diazepam
- Midazolam
- Haloperidol plus Diphenhydramine

Table 10: Medications that may be given to a Rabies Patient				
Drug	Dosage		Preparation	Remarks
	Pediatric	Adult		
Diazepam	0.3-0.5 mg/kg every 2-4 hours not to exceed 20-40 mg/kg/24 hours	Initial: 10 mg IV at 10-15 minute intervals until a maximum of 30 mg has been given Maintenance: 10 mg 3-4x a day	2, 5, 10 mg/tablet 5 mg/ml (2ml ampule)	
Midazolam	0.1 mg/kg/dose IM, IV or PO every 4-8 hours	P.O.- ½ tablet IM- 10-15 mg IV- 2.5-5 mg To be given every 4-8 hours	15 mg/ tablet 5 mg/ml ampule	
Haloperidol decanoate	1 mg/kg IM or IV hourly as necessary Maximum single dose: 5 mg	INITIAL: 5 mg IM/SC every hour for 3 doses at least or until patient is calm MAINTENANCE: 5 mg IM/SC every 4 to 6 hrs and prn		<i>Note: Hypotension and dystonic reactions occur</i>
Diphenhydramine	1-2 mg/kg IV or IM Maximum dose: 50 mg	50-100 mg every 4-6 hours		<i>Note: May cause sedation, especially if other sedating agents are given May cause hypotension</i>

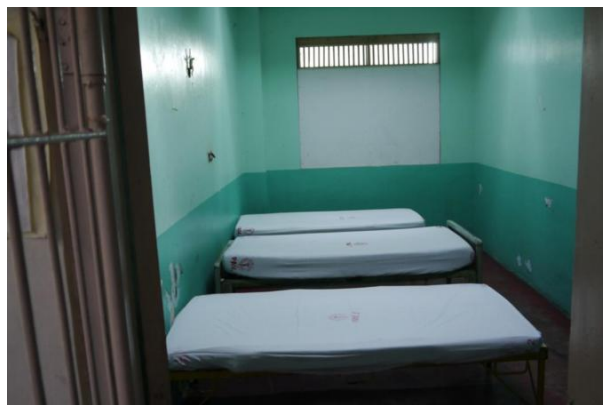
4.2. Supportive care

A patient diagnosed to have rabies should receive adequate sedation and comfort care in a medical facility.

- Patients should be admitted in a quiet, draft-free, isolation room
- IV fluids may be given
- Invasive and Heroic procedures must be avoided. (Intubation, Mechanical Ventilation, Cutdown)
- Provide suitable emotional and physical support.
- Discuss and provide important information to relatives concerning transmission of disease and indication for post-exposure prophylaxis of contacts.
- Honest gentle communication concerning prognosis should be provided to the relatives.

4.3. Isolation room

When appropriate treatment is not given and rabies patients reach the stage where they can no longer be cured, they become uncontrollable and need to be isolated. Isolation rooms are advised to minimize harm on patients and care givers. Rooms should be draft-free; with grilled windows and doors that can be locked from outside.



Isolation room in San Lazaro Hospital where rabies patients are taken during the advanced stage of the infection

4.4. Referral and transporting of patient to other hospitals

Rabid patients that need to be referred and transported to hospitals (or facilities of higher level) must be properly coordinated with the referral facility. It is important that the ambulance and the ambulance personnel, including the driver are knowledgeable and trained on managing a rabid patient.

Family members should be counseled that rabies is 100% fatal. Inform and explain to them that because rabies is highly infectious, all precautions must be taken to prevent the spread of infection.

- a. If relatives/family insist on referral, patient should be transported by an ambulance.
- b. Ambulance driver and accompanying personnel have to be informed of risks of patient.
- c. Hospital of choice must have capability of admitting rabies cases. They must also be informed beforehand and willing to accept transfer of patient.
- d. All precautionary measures must be taken care of.
- e. As much as possible, referral of patients with frank symptoms of rabies to higher facility should be avoided.

When to refer to a higher facility

- When diagnosis is not certain – atypical presentation or paralytic rabies
- Pregnant rabies patients for caesarian section

Referral Forms

When referring a suspected rabies patient, the attending physician from the referring facility must provide a proper history to enable the receiving facility to do a preliminary risk assessment and make the necessary management/treatment protocols

Aside from the patient's basic information, a duly filled up referral form should include the following:

- **WHERE did the exposure occur?** This is important, as the rabies virus is more prevalent in some areas than in others.
- **WHAT type of animal was involved?** In the Philippines, there are more dog-mediated bites compared to other animals. Whenever possible, include in the referral form all details about the biting animal (owned or stray; strayvaccinated or not; if vaccinated, date of vaccination, etc.)
- **WHY did the bite occur?** An unprovoked exposure is usually more typical of a rabid animal's behaviour than a provoked exposure.^{1,4}
- **WHO is the animal's owner?** It is important if the animal involved is a domestic dog (or cat), as health providers and surveillance unit personnel can track down the location of the animal for observation purposes. If the animal is healthy, it may be possible to avoid administering PEP to the exposed patient¹

4.5. Infection control

- Healthcare workers and relatives coming in contact with patients should wear proper personal protective equipment (PPE) including gown, gloves, mask, goggles
- Healthcare workers directly handling rabies patients MUST RECEIVE Pre exposure prophylaxis and rabies vaccine boosters, if needed, based on monitoring of AB levels
- Relatives/watchers/companions of rabid patients tasked to take care of these patients (Minimum requirements for “bantays”

4.5.1. Rabies in pregnancy

- In general, pregnant rabies patients should be managed in the same way as non-pregnant patients.
- Rabid mothers in the 3rd trimester wherein the baby is already viable, an emergency CS is recommended.
- Once delivered, the baby should receive PEP (vaccine and RIG)

4.5.2. Disposal of dead bodies

- Humans who died of rabies generally present a small risk of transmission to others. There is evidence that blood does not contain virus but that the virus is present in many tissues such as the CNS, salivary glands and muscle. It is also present in saliva and urine.
- Embalming should be discouraged. If embalming or autopsy is performed, it should be undertaken carefully, with appropriate precautions and personal protective equipment. Tissues and body fluids should be disposed of in the same manner as for other infectious diseases.
- Wearing protective clothing, goggles, face mask and thick gloves should provide sufficient protection.
- Instruments must be autoclaved or boiled after use.
- The Burial Requirement under the **Philippine Sanitation Code (PD 856) Section 91** states that “When the cause of death is a dangerous communicable disease, the remains shall be buried within 12 hours after death. They shall not be taken to any place of public assembly. Only the adult members of the family of the deceased may be permitted to attend the funeral.” It is highly recommended that early disposal of the body by cremation or burial should be done depending on their religious practice.

4.5.3. Transmission via Organ Transplantation

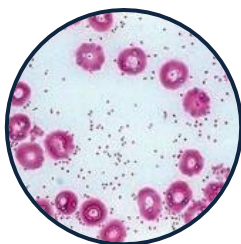
- Clinical screening of prospective donors is recommended to include a detailed history, thorough clinical evaluation and analysis of the whole scenario.
- Physicians responsible for screening donors must maintain a high index of suspicion for rabies.
- Routine laboratory screening of donors for rabies is not recommended due to a requirement for testing of brain tissue, time constraints and serious consequences of a false positive result.

5. MEDICAL MANAGEMENT OF ANIMAL BITES

Key steps in medical management of bite wounds:

- Wash with soap and water
- Liberal irrigation
- Debridement of devitalized tissue
- If signs of infection are present:
 - Swab for culture
 - Antibiotic therapy

Empirical therapy should be directed against those micro-organisms most likely to be present for dogs and cats pathogen such as:



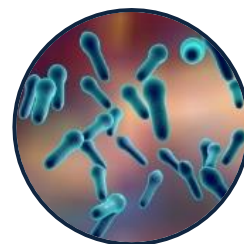
Pasteurella



Streptococcus



Staphylococcus



Aenerobes

Antimicrobial prophylaxis could be considered for higher risk injuries such as (Goldstein 2005):

- Moderate to severe wounds less than 8 hours old if edema or crushing of tissue is present
- Puncture wounds with possible bone or joint penetration
- Hand wounds
- Wounds adjacent to a prosthetic joint or in the genitalia area
- Wounds in the immunocompromised patients

Bite wounds that present more than 72 hours after the incident with no signs of infection do not merit prophylactic antimicrobial treatment.

Standard recommendation for prophylactic treatment of animal bites is a broad spectrum antimicrobial that covers both aerobic and anaerobic organisms.

Table 11: Categories of Rabies Exposure with Corresponding Management

Category of exposure	Management
<p><u>CATEGORY I</u></p> <p>a) Feeding/touching an animal</p> <p>b) Licking of intact skin (with reliable history and thorough physical examination)</p> <p>c) Exposure to patient with signs and symptoms of rabies by sharing of eating or drinking utensils</p> <p>d) Casual contact (talking to, visiting and feeding suspected rabies cases) and routine delivery of health care to patient with signs and symptoms of rabies</p>	<p>1. Wash exposed skin immediately with soap and water.</p> <p>2. No vaccine or RIG needed</p> <p>3. Pre-exposure prophylaxis may be considered for high risk persons.</p>
<p><u>CATEGORY II</u></p> <p>a) Nibbling of uncovered skin with or without bruising/hematoma</p>	<p>1) Wash wound immediately with soap and water for at least 10 minutes.</p> <p>2) Start vaccine immediately:</p> <p>3. Complete vaccination regimen until day 7 (see details 5.3)</p>

<ul style="list-style-type: none"> b) Minor/superficial scratches/abrasions without bleeding, including those induced to bleed c) All Category II exposures on the head and neck area are considered Category III and shall be managed as such. 	<p>4. No RIG needed</p>
<p><u>CATEGORY III</u></p> <ul style="list-style-type: none"> a) Transdermal bites (puncture wounds, lacerations, avulsions) or scratches/abrasions with spontaneous bleeding b) Licks on broken skin or mucous membrane c) Exposure to a rabies patient through bites, contamination of mucous membranes (eyes, oral/nasal mucosa, genital/anal mucous membrane) or open skin lesions with body fluids through splattering and mouth-to-mouth resuscitation. d) Unprotected handling of infected carcass e) Ingestion of raw infected meat f) Exposure to bats g) All Category II exposures on head and neck area 	<ul style="list-style-type: none"> 1. Wash wound with soap and water. 2. Start the vaccine regimen. 3. Complete vaccination regimen until Day 7 regardless of the status of the biting Animal 4. Administer RIG immediately after vaccination against rabies.

Table 12: Management of patients with category II and III exposure where the biting animal cannot be observed or dies within the 14 days observation period.

FAT Result	Signs and symptoms of Rabies in biting animal	Give 2 ID doses or 1 IM dose on Day zero (D0), Day three (D3) and Day seven (D7)	Give 1 IM dose on Day Fourteen (D14) and 2 ID doses or 1 IM dose on Day Twenty Eight (D28)*
+	+	Yes	Yes
+	-	Yes	Yes
-	+	Yes	Yes
-	-	Yes	No
Not done	+	Yes	Yes
Not done	-	Yes	Yes

5.1. Post Exposure Prophylaxis Under Special Conditions

- Pregnancy and infancy shall NOT be contraindications to treatment with purified cell culture vaccines (PVRV, PCECV) and RIG.
- Babies who are born of rabid mothers shall be given rabies vaccination as well as RIG as early as possible at birth.
- Patients with hematologic conditions where IM injection is contraindicated shall receive rabies vaccine by ID route.
- Patients with chronic liver disease and those taking chloroquine, and systemic steroids shall be given standard IM regimen as the response to ID regimen is not optimum for these conditions. Vaccination shall not be delayed in these circumstances as it increases the risk of rabies.
- Immunocompromised individuals (such as those with HIV infection, cancer/transplant patients, patients on immunosuppressive therapy etc.) shall be given vaccine using standard IM regimen and RIG for both Category II and III exposures.
- Exposed persons who present for evaluation or treatment weeks or months after the bite shall be treated as if exposure has occurred recently. However, if the biting animal has remained healthy and alive with no signs of rabies until 14 days after the bite, no treatment is needed.
- Changes in the human rabies vaccine product and/or the route during the same PEP course are acceptable, if unavoidable to ensure PEP course completion. Restarting PEP is not necessary.
- Bites by rodents, guinea pigs and rabbits shall not require rabies post-exposure prophylaxis.

- i. Bites by domestic animals (dog, cat) and livestock (cows, pigs, horses, goats etc) as well as wild animals (bats, monkeys, etc) shall require PEP.

5.2. Post Exposure Prophylaxis of Previously Immunized Animal Bite Patients

- a. Local wound treatment shall always be carried out.
- b. Persons with repeat exposure after having previously received complete primary immunization with Tissue Culture Vaccine (TCV) and persons who were exposed to rabies after completing the Pre-Exposure Prophylaxis against rabies with TCV shall be vaccinated as follows: (see Table of PEP Schedule)

PEP schedule for previously immunized animal bite patients

PEP/PrEP History	RIG	Management
Patient received complete PrEP (Day 0 and 7) OR Patient received at least days 0 and 3 doses of PEP ID/IM	No	Determine if high or low risk bite (see Table below)
Patient received complete PrEP (Day 0 and 7) OR Patient received at least days 0 and 3 doses of PEP ID/IM AND Patient is immunocompromised OR bitten by a bat	Yes, if indicated	Give full course PEP
Patient did not complete PrEP OR Patient received only 1 dose of PEP	Yes, if indicated	Give full course PEP

Criteria for high and low risk exposures

Risk of exposure	Criteria	Recommendation
High Risk	<p>ANY ONE OF THE FOLLOWING:</p> <ol style="list-style-type: none"> 1. Biting animal cannot be observed, dies or is sick 2. Site of bite is in highly innervated parts of the body – neck, head, genital area, hands and toes 3. Multiple deep bites 4. Patient is coming from GIDA* areas, i.e. infrequent transportation to and from ABTC/ABC 5. * GIDA – Geographically Isolated and Disadvantaged areas 	<p>Immediately provide the booster injections to the patient</p> <p><u>Booster doses:</u></p> <p>0.1 ml ID at 4 sites on day 0</p> <p>OR</p> <p>0.1 ml ID/IM at 1 site on days 0 and 3</p>
Low Risk	<p>Last dose of vaccine was within the previous 3 months AND Biting animal is healthy, owned, kept on a leash or can be confined and is available for observation</p> <p><u>AND ANY ONE OF THE FF:</u></p> <ol style="list-style-type: none"> 1. Biting animal is the same animal that bit the patient previously OR 2. Biting animal is previously immunized OR 3. Bite is on the extremities/trunk 	<p>Observe biting animal for 14 days.</p> <p>If animal remains healthy, withhold booster dose</p>

- c. Patients who have previously received complete primary immunization with rabies vaccine have the advantage that booster doses will rapidly induce a large increase in antibody production (a “secondary response”). Therefore, there is no need to give RIG.
- d. Patients who have not completed the primary immunization as described above shall receive full course including RIG if needed.

5.3. PEP for Potential Rabies Exposure

- a. For Category 1 exposure, PEP is not needed.
- b. For Category II exposures, the following are recommended
 - Immediate washing of the bite wound for ten minutes and application of an antiseptic solution.
 - No human rabies vaccine shall be provided, provided that ALL of the following conditions are satisfied:
 - Dog/cat is healthy and available for observation for 14 days

- Dog/cat was vaccinated against rabies for the past 2 years:
 - Dog/cat shall be at least 1 year 6 months old and has updated vaccination certificate from a duly licensed veterinarian for the last 2 years
 - The last vaccination shall be within the past twelve (12) months, the immunization status of the dog/cat shall not be considered updated if the animal is not vaccinated on the due date of the next vaccination
- If the biting animal starts to show signs of rabies, immediately give vaccine and RIG.
- If the biting animal remains to be healthy within 14 days, there is no need to administer CCEEV against rabies.

c. For Category III exposures, the following are recommended:

- Immediate washing of the bite wound for ten minutes and application of an antiseptic solution.
- CCEEV and RIG are immediately administered regardless of the status of the biting animal.
- PEP shall not be required for bite/s of the following biting animals: rats, mouse, rabbits, snakes and other reptiles, birds and other avian, insects and fish.

6. Immunization

6.1. Active Immunization

6.1.1. Administration

Vaccine is administered to induce antibody and T-cell production in order to neutralize the rabies virus in the body. It induces an active immune response in 7-10 days after vaccination, which may persist for years provided that primary immunization is completed. The program requires that all ABTCs should use WHO prequalified vaccines.

6.1.2. Types of Rabies Vaccines

The National Rabies Prevention and Control Program (NRPCP) shall provide the following anti-rabies tissue culture vaccines (TVC):

- Purified Vero Cell Rabies Vaccine (PVRV) – 0.5 ml/vial and 1.0 ml/vial
- Purified Chick Embryo Cell Vaccine (PCECV) – 1.0 ml/vial

Table 13: List of TCV Provided by the NRPCP to Animal Bite Treatment Centers with Corresponding Preparations and Dose		
Generic Name	Preparation	Dose
Purified Vero Cell Rabies Vaccine (PVRV)	0.5 ml/vial	ID – 0.1 ml IM – 0.5 ml
	1.0 ml/vial	ID – 0.1 ml IM – 1.0 ml
Purified Chick Embryo Cell Vaccine (PCECV)	1.0 ml/vial	ID – 0.1 ml IM – 1.0 ml

To ensure compliance to these recommendations and guarantee that animal bite patients seeking treatment in government Animal Bite Treatment Centers receive only Tissue Culture Vaccines (TCVs) that have been proven to be safe and effective, the program shall utilize for its intradermal regimen only TCVs that satisfy the following criteria :

- a. The vaccine is registered with and approved by the Philippine Food and Drug Administration;
- b. The vaccine is WHO prequalified http://www.who.int/immunization_standards/vaccine_quality/PQ_vaccine_list_en/en/index.html); Non-WHO prequalified vaccine which is registered with and approved by the Philippine Food and Drug Administration may be used;
- c. The vaccine has been proven to be safe and efficacious for PEP when administered by the ID route using the schedule recommended by the World Health Organization. Having limited knowledge on and experience with the ID use of all available anti-rabies vaccines in the country, the program shall utilize the WHO list of approved TCV for ID use OR in the case of vaccines not included in the WHO list for ID use, the vaccine must comply with WHO requirements for new rabies vaccines and must have gone through local clinical trials on safety and immunogenicity which are published in peer-reviewed journals or must be registered with and approved by the Philippine Food and Drug Administration;
- d. The potency of vaccines for ID use shall be at least 0.5 IU/ID dose as evidenced by their lot release certificate. The potency of the vaccine batch shall be provided by the manufacturer; and

- e. The product insert shall contain the vaccine's approved ID dose and consistent with its Certificate of Registration

6.2. Passive Immunization

Rabies immune globulins or RIG (also called passive immunization products) shall be given in combination with rabies vaccine to provide the immediate availability of neutralizing antibodies at the site of the exposure before it is physiologically possible for the patient to begin producing his or her own antibodies after vaccination. This is especially important for patients with Category III exposures. RIGs have a half-life of approximately 21 days.

- Human Rabies Immune Globulin (HRIG) derived from plasma of human donors administered at 20 IU per kilogram body weight. Available preparation is 2 ml/vial; 150 IU/ml.
- Highly purified antibody antigen binding fragments [F(ab')₂] produced from equine rabies immune globulin (ERIG) administered at 40 IU per kilogram body weight. Available preparation is 5 ml/vial; 200 IU/ml.

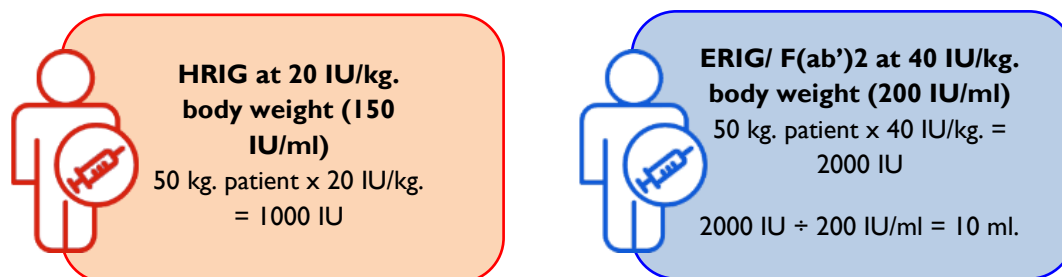
Equine Rabies Immune Globulin (ERIG) derived from purified, horse serum administered at 40 IU per kilogram body weight. Available preparation is 5 ml/vial; 200 IU/ml

Table 14: List of Rabies Immune Globulins		
Generic Name	Preparation	Dose
Human Rabies Immune Globulin (HRIG)	150 IU/ml at 2 ml/vial	20 IU/kg
Purified Equine Rabies Immune Globulin (pERIG)	200 IU/ml at 5 ml/vial	40 IU/kg

To ensure that only safe and efficacious RIG are provided by the National Rabies Prevention and Control Program to all ABTCs, the program shall be guided the by following criteria in procuring the RIG :

- RIG must be registered and approved by FDA;
- RIG must be proven to be safe and effective when used together with anti rabies vaccine as evidenced by publication on peer reviewed journals. These include studies on:
 - Safety;
 - Non-interference when used with anti-rabies vaccine;
 - Animal survivorship, if any; and
 - Post-marketing surveillance
- Results of RFFIT showing antibody content as claimed by the manufacturer.

6.2.1. Computation and Dosage of Rabies Immunoglobulin



6.2.2. Administration

- a. The total computed RIG shall be infiltrated around and into the wound as much as anatomically feasible, even if the lesion has healed. In case some amount of the total computed dose of RIG is left after all wounds have been infiltrated, the remaining volume of RIG that is not infiltrated into the wound does not need to be injected IM. It may be reserved for the next patient who needs RIG, ensuring aseptic retention of the RIG i.e. fractionated in smaller individual syringes.
- b. A gauge 23 or 24 needle, 1 inch length shall be used for infiltration. Multiple needle injections into the same wound shall be avoided.
- c. Equine immunoglobulin s (eRIG) are clinically equivalent to human rabies immunoglobulins (hRIG) and are considered safe and efficacious life- and cost-saving biologics. As ERIG products are highly purified, skin testing is no longer recommended.
- d. If a finger or toe needs to be infiltrated, care shall be taken to ensure that blood

circulation is not impaired. Injection of an excessive amount may lead to cyanosis, swelling and pain.

- e. RIG shall not exceed the computed dose as it may reduce the efficacy of the vaccine. If the computed dose is insufficient to infiltrate all bite wounds, it may be diluted with sterile saline 2 or 3-fold for thorough infiltration of all wounds.
- f. RIG shall always be given in combination with rabies vaccine. RIG shall be administered at the same time as the first dose of rabies vaccine (Day 0). In case RIG is unavailable on DAY 0, it may still be given until 7 days after the first dose of the vaccine. Beyond Day 7, regardless of whether day 3 and day 7 doses were received, RIG is not indicated because an active antibody response to the rabies CCV/EEV/TCV has already started and interference between active and passive immunization may occur.
- g. In the event that RIG and vaccine cannot be given on the same day, the vaccine shall be given before RIG because the latter inhibits the level of neutralizing antibodies induced by immunization.
- h. RIG shall be given only once during the same course of PEP.
- i. All bite centers shall be equipped to handle allergic reactions, should they occur.
- j. Patient shall be observed for at least one hour after injection of ERIG for immediate allergic reactions.
- k. Severe adverse events or perceived lower efficacy of RIG (e.g. batches of insufficient potency or lower purification degree) should be monitored, recorded and reported, so that biological producers receive immediate feedback and can respond accordingly. A classification of adverse events is available in Table 6. Post-marketing surveillance is recommended.

6.3. Management of Adverse Reaction

Adverse reactions shall be managed as follows:

Anaphylaxis

- Give 0.1% adrenaline or epinephrine (1:1,000 or 1mg/ml) underneath the skin or into the muscle.
 - Adults - 0.5 ml
 - Children - 0.01ml/kg, maximum of 0.5 ml
- Repeat epinephrine dose every 10-20 minutes for 3 doses
- Give steroids after epinephrine

Hypersensitivity reactions

- Give antihistamines, either as single drug or in combination
- If status quo for 48 hrs despite combination of antihistamines, may give short course (5-7 days) of combined oral antihistamines plus steroids
- If patient worsens and condition requires hospitalization or becomes life threatening, may give IV steroids in addition to antihistamines

Table 15: Adverse Reactions and its Management		
Reactions	Symptoms	Management
Minor/local	Redness, swelling or induration of injection site	Warm Compress
	Headache, fever, myalgia	Analgesic, anti-pyretic
	Nausea, vomiting	Anti emetic, oral rehydration
Major/systemic	Hypersensitivity Reactions	<p>Give antihistamines, either as a single drug (e.g. diphenhydramine) or in combination (e.g. diphenhydramine plus cetirizine).</p> <p>If the patient's condition does not improve for 48 hours despite combination of antihistamines, a short course (5-7 days) of oral antihistamines plus steroids may be given</p> <p>If patient worsens, requires hospitalization or condition becomes life threatening, may give IV steroids in addition to antihistamines</p>
	Anaphylactic or neuroparalytic	<p>Give 0.1 % adrenaline or epinephrine (1:1000 or 1 mg/ml) underneath the skin subcutaneously) or into the muscle (intramuscularly) at a dose of 0.5 ml for adults or 0.01 ml/kg or children, maximum dose of 0.5 ml.</p> <p>Repeat epinephrine dose every 10-20 minutes for 3 doses.</p>

		<p>Give steroids after epinephrine.</p> <p>Hydrocortisone may be administered by intravenous injection, by intravenous infusion, or intramuscular injection, the preferred method for initial emergency use being intravenous injection.</p> <p>Refer to the next level of care</p> <p>Hydrocortisone sodium succinate Sterile Powder is given at 100 to 500 mg intravenously over a period of 30 seconds (e.g., if dose is 100 mg) to 10 minutes (e.g., for dose 500 mg or more), depending on the specific disease entity being treated.</p> <p>In certain overwhelming, acute, life-threatening situations, administration in dosages exceeding the usual dosages may be justified and may be in multiples of the oral dosages.</p> <p>This dose may be repeated at intervals of 2, 4 or 6 hours as indicated by the patient's response and clinical condition. In general, high dose corticosteroid therapy should be continued only until the patient's condition has stabilized-usually not beyond 48 to 72 hours.</p>
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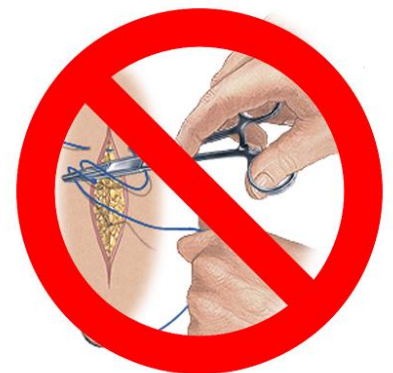
7. Wound Treatment

7.1. Local wound treatment



Wash wounds immediately and vigorously with soap/detergent and water, preferably for 10 minutes. If soap is not available, the wound should be thoroughly and extensively washed with water.

Wounds shall be immediately and vigorously washed and flushed with soap or detergent, and water preferably for 10 minutes. If soap is not available, the wound shall be thoroughly and extensively washed with water.



Avoid suturing at all times to prevent the virus from inoculating deeper into the wound

Apply alcohol, povidone iodine or any antiseptic.

Suturing of wounds shall be avoided at all times since it may inoculate virus deeper into the wounds. Wounds may be capped using sterile adhesive strips. If suturing is unavoidable, it shall be delayed for at least 2 hours after administration of RIG to allow diffusion of the antibody to occur through the tissues.

Any ointment, cream or wound dressing shall not be applied to the bite site because it will favor the growth of bacteria and will occlude drainage of the wound, if any.

Anti-tetanus immunization shall be given, if indicated. History of tetanus immunization (TT/DPT/Td) shall be reviewed. Animal bites are considered tetanus prone wounds. Completion of the primary series of tetanus immunization is recommended.

Table 16: Guide to Tetanus Prophylaxis in Routine Wound Management				
Indication for TT Immunization	Vaccination History			
	Unknown or <3 Doses		3 or More Doses	
	Td*	TIG/ATS	Td*	TIG/ATS
All Animal Bites	YES	YES	NO**	NO

*Tdap may be substituted for Td if the person has not received Tdap and is 10 years or older; DPT may be given for patients < 7 years old; TT may be given if Td not available

**Yes, if more than 5 years since last dose

7.2. Routine Wound Management

The most common organism isolated from dog and cat bites is *Pasteurella multocida*. Other organisms include *S. aureus*, *Bacteroides* sp, *Fusobacterium* and *Capnocytophaga*. Antimicrobials shall be recommended for the following conditions:

- All frankly infected wounds
- All category III cat bites
- All other category III bites that are either deep, penetrating, multiple or extensive or located on the hand/face/genital area

Recommended antimicrobials for frankly infected wounds include:

- Amoxicillin/clavulanic
 - Adults - 500 mg p.o. TID
 - Children - 30-45 mg/kg/day in 3 divided doses
- Cloxacillin
 - Adults - 500 mg p.o. QID
 - Children - 10-15-100 mg/kg/day in 4 divided doses
- Cefuroxime axetil
 - Adults - 500 mg p.o. BID
 - Children - 10-15 mg/kg/day in 2 divided doses

- For penicillin allergic patients
 - Adults - Doxycycline
 - Children – Erythromycin

For those instances where there are no obvious signs of infection, amoxicillin as prophylaxis may suffice

- Adults - 500 mg p.o. TID
- Children - 30-45 mg/kg/day in 3 divided doses

The public shall be educated in simple local wound treatment and warned not to use procedures that may further contaminate the wounds (e.g. *tandok*, *bato*, rubbing garlic on the wounds and other non-traditional practices).

7.3. Vaccination

7.3.1. General Principles

Storage

- Vaccines shall be stored at +2 to + 8 °C in a refrigerator, not freezer.
- Once reconstituted, vaccines shall be kept in the refrigerator and used within 8 hours.

Administration Area

- Injections shall be given on the deltoid area of each arm in adults or at the anterolateral aspect of the thigh in infants.
- Vaccine shall never be injected in the gluteal area as absorption is unpredictable

7.3.2. Treatment Regimen Schedule

a. Updated 2-Site Intradermal Schedule (2-2-2-0)

- One dose for ID administration is equivalent to 0.1 ml for PVRV and PCECV
- One dose shall be given on **each** deltoid on Days 0, 3, and 7
- One intradermal dose should have at least **0.5 IU** vaccine potency

Site Intradermal Schedule

Day of immunization	PVRV/ PCEV	Site of injection
Day 0	0.1 ml	Left and right deltoids or anterolateral thighs in infants
Day 3	0.1 ml	Left and right deltoids or anterolateral thighs in infants
Day 7	0.1 ml	Left and right deltoids or anterolateral thighs in infants
Day 28*	0.1 ml	Left and right deltoid or anterolateral thighs in infants

* For WHO pre-qualified vaccines, the day 28 dose may be omitted following the IPC Institute Pasteur du Cambodge (IPC) Intradermal regimen (2-2-2-0-0)

IPC Institute Pasteur du Cambodge (IPC) Intradermal regimen (2-2-2-0-0)

Day of immunization	PVRV/ PCEV	Site of injection
Day 0	0.1 ml	Left and right deltoids or anterolateral thighs in infants
Day 3	0.1 ml	Left and right deltoids or anterolateral thighs in infants
Day 7	0.1 ml	Left and right deltoids or anterolateral thighs in infants

- The ID injection shall produce a minimum of 3 mm wheal. In the event that a dose of vaccine is inadvertently given subcutaneously or IM, the dose shall be repeated
- A one (1) ml syringe with gauge 27 needle, preferably auto-disposable syringe, shall be used for ID injection
- Should a vaccine dose be delayed for any reason, the PEP regimen should be continued (not restarted).

b. Alternative Intramuscular Regimens approved by WHO

Zagreb Regimen Schedule (2-0-1-0-1) Intramuscular Schedule

Day of immunization	PVRV	PCEC V	Site of injection
Day 0	0.5 ml	1.0 ml	Left and right deltoids or anterolateral thigh in infants
Day 7	0.5 ml	1.0 ml	One deltoid or anterolateral thigh in infants
Day 21	0.5 ml	1.0 ml	One deltoid or anterolateral thigh in infants

Shortened Intramuscular Schedule (CDC) (1-1-1-1-0)

Day of immunization	PVRV	PCECV	Site of injection
Day 0	0.5 ml	1.0 ml	One deltoid or anterolateral thigh in infants
Day 3	0.5 ml	1.0 ml	One deltoid or anterolateral thigh in infants
Day 7	0.5 ml	1.0 ml	One deltoid or anterolateral thigh in infants
Day 14	0.5 ml	1.0 ml	One deltoid or anterolateral thigh in infants

PART 2: ANIMAL RABIES

1. Prevention and Control of Animal Rabies

In order to minimize public health risks due to rabies, and eventually eradicate rabies in dogs, the following are recommended by the OIE to be implemented according to the standards on disease control, rabies and animal welfare set by the OIE Terrestrial Animal Health Code:

- a. Rabies should be **notifiable** in the whole country and any change in the epidemiological situation or relevant events should be reported accordingly.
- b. An effective system of **disease surveillance** should be in operation, with a minimum requirement being an ongoing early detection programme to ensure investigation and reporting of suspected cases of rabies in animals.
- c. Specific regulatory measures for the prevention and control of rabies should be implemented, including **vaccination, identification and effective procedures for the importation of dogs, cats and other mammals**.
- d. A programme for the **management of stray dog population** should be implemented and maintained. (OIE)

1.1. Mass Registration and Vaccination of Dogs

1.1.1. Estimating Dog Population

- One is to ten (1 dog per 10 humans; 1:10)

Where data on dog population is not existent, the dog population is estimated at a ratio of one (1) dog per ten (10) humans in the country for planning purposes. The estimated human population made by the National Epidemiology Center (NEC) of DOH based on the formula given by the National Statistics Office (NSO) per DOH Department Memorandum No. 2014-0008, or the population estimated by the Philippine Statistics Authority are used as reference. What is recommended is actual dog count.

- House-to-house survey or actual dog count/census

This method gives a true number of dog populations in the community. It is done before the vaccination campaign commences. In this method, the designated person lists down all the dogs per household. While this method gives an accurate count, it should be done yearly and it is costly.

- **Researches/Projects**

This method is usually spearheaded by rabies researches/projects and can be done through KAP surveys, etc.

- **Listing and dog registration**

This method may not depict a true picture of the dog population. It is usually done during vaccination campaign. While not all household can bring their dogs for registration and vaccination, it can somehow give an estimate of how much of the population is brought for vaccination every year. The LGU is responsible for mandatory registration of vaccinated dogs in their own area pursuant to RA 9482 Section 7 and Rule 4.2.1 of the IRR.

1.1.2. Target population

During the mass vaccination activity, all apparently healthy dogs aged 3 months and above with no recent bite incident must be vaccinated. All free-roaming dogs and new inclusions must be prioritized. Pregnant dogs, lactating dams and 1 to 3 months old puppies from unvaccinated dams may also be vaccinated depending on the prerogative of the veterinarian. But vaccination must be repeated when it reaches 3 months old in the case of puppies.

All vaccination must be done annually. Cats and monkeys are also included in the vaccination when presented.

1.1.3. Priority areas

As envisioned by the DA management, it is ideal to conduct an intensive vaccination campaign in a period of three (3) months for the vaccination activity to have an impact; especially in areas considered high risk for rabies. Prioritization of areas was strategized for the implementation of the vaccination program.

A. First Priority

High risk depressed areas pursuant to Section 6 No. A (3) of Republic Act No. 9482 or the “Anti-Rabies Act of 2007”, first priority shall be given to provinces with the highest number of both human and animal rabies cases for the past two (2) years. Priorities for the distribution of vaccines shall be based on the incidence of rabies determined through confirmed laboratory reports from the Animal Disease Diagnosis and Reference Laboratory (ADDRL) or formerly known as Philippine Animal Health Center (PAHC), Regional Animal Disease

Diagnostic Laboratories (RADDLs), and the Department of Health- Research Institute for Tropical Medicine (DOH-RITM). See Risk-based approach
Special attention shall also be made to 5th class provinces/municipalities and areas with high animal-human population density and intermingling of these populations.

B. Second Priority

These are areas being applied by the Local Government Units (LGUs) to be rabies-free zones.

C. Third Priority

These are provinces/localities already declared as rabies-free zones.

1.1.4. Strategic Plan for Mass Dog Rabies Vaccination

A. Preparation

- A plan or a strategy must be developed before the activity is carried out.
- A meeting with stakeholders (LGU, NGO, Rabies Committee, DA-RFO) must be set to discuss the:
 - Strategies on how to cover most of the population
 - Logistics which include the source of vaccines, where to get the paraphernalia, human resources and their identification, how to inform the community about the activity, where to get the dog population list and the activities on the vaccination day proper.

B. Information drive for the vaccination schedule

A successful vaccination activity is dependent on the information disseminated in the community. More participation will arise if the community is well informed of the activities.

C. Orientation of the vaccination teams

A team must be supervised by a licensed veterinarian. It is composed of representatives from the barangay or village, vaccinators from the Veterinary office and/or volunteers from private or non-government and people's organizations. Teams of 4-6 persons are a good number and must be properly identified.

1.1.5. Training of vaccinators, vaccine handlers and dog catchers

“Rabies Vaccination of Dogs refers to the inoculation of a Dog with Rabies vaccine by a licensed government or private veterinarian or trained individual under the direct supervision of a licensed veterinarian. The service of the said trained individual shall be limited only to Rabies Vaccination Injection in Dogs and only during government mass vaccination campaigns (Republic Act No. 9482)”.

Trained vaccinators must be equipped with proper knowledge on Rabies as a disease and must undergo series of trainings on proper vaccination techniques and humane dog catching. Designated



vaccine handlers must be well trained on the proper handling and storage of vaccines, disposal of used materials and vaccine utilization reporting.

It is also recommended for vaccinators, vaccine handlers and dog catchers to complete the vaccination against rabies through pre-exposure prophylaxis as they are considered as high risk personnel. This should be on coordination with the Department of Health (DOH), as stated in RA No. 9482 under Responsibilities of Government Agencies, Section 6.B.3 “Provide Pre-Exposure Treatment to high-risk personnel, such as, but not limited to, laboratory staff, veterinarians, animal handlers, vaccinators and other persons working with Rabies virus for free.”

For consistency, sustainability and support to the limited pre-exposure prophylaxis provided to vaccinators, it is recommended that the hired or volunteer vaccinators trained and vaccinated with PrEP be the same vaccinators for at least 3 years.

Conduct of vaccination

A. Approaches in Mass dog vaccination

ii. Comprehensive approach

This is done in areas where rabies is endemic, there is high human-animal population density and where LGUs are active in the implementation of the rabies program. The goal of this approach is to vaccinate all dogs in the community and establish herd immunity.



iii. Risk-based Approach to Mass Dog Vaccination (as developed with the STANDZ Rabies Project)

This strategic approach takes into consideration the existing rabies risk when planning for Mass Dog Vaccination to prioritize areas where most urgent interventions will be needed to effectively interrupt rabies virus circulation. This approach aims to reduce the overall infection pressure within the shortest period possible, and maximized available resources which are often limited. This will allow implementation bodies to optimize limited human resources and funds, and strategically address the disease at source, while taking into consideration that proactive vaccination remains to be a critical action needed to eliminate the disease in the population.

The following are the step-by-step procedure in risk-based approach to mass dog vaccination:

i. Classify sub-national components (e.g. Provinces)

Some countries in South-East Asia, like Philippines and Thailand, have policies in place to declare rabies-free zones within the country. There are no mechanisms however, to classify areas where rabies is known to be present. While it is recognized that all areas, regardless of status, will need appropriate actions in place to achieve rabies elimination, classification of areas by risk will help place resources where this will have the most impact in the process of elimination. This classification will also help draw political support from local government units which can possibly expedite implementation of interventions where these will be most needed.

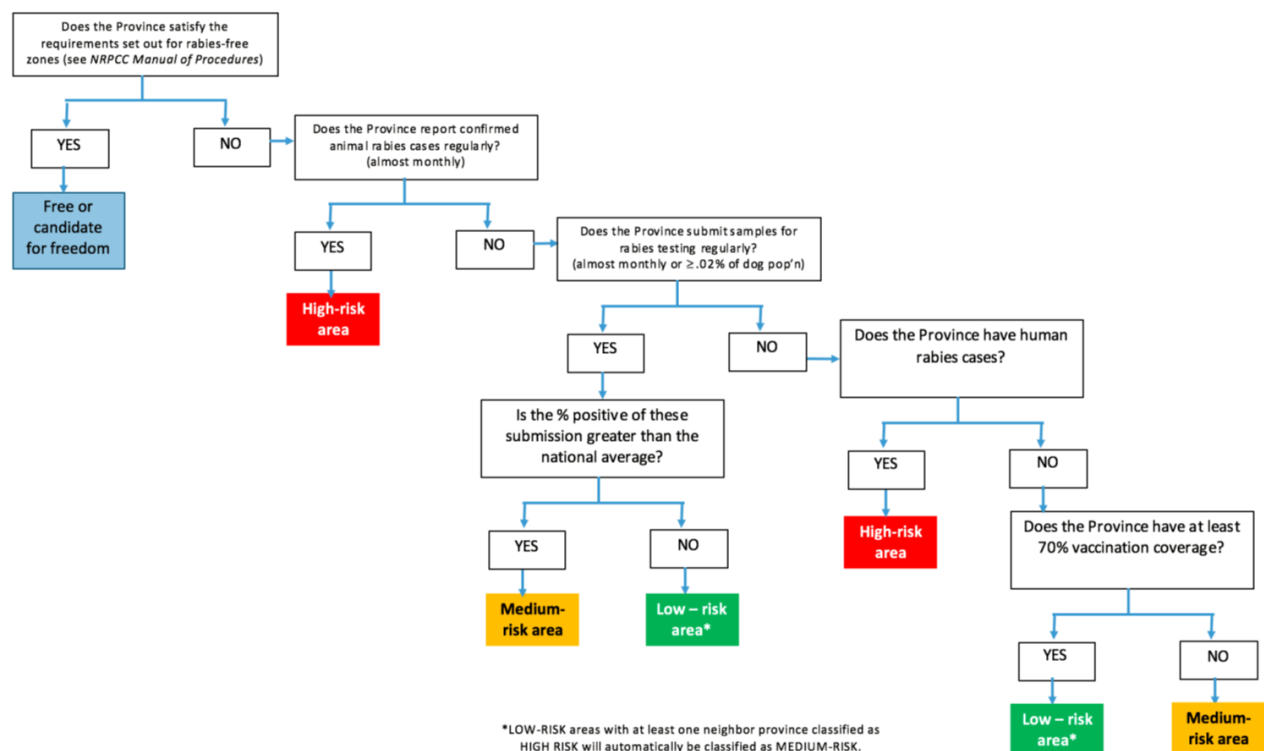


Figure 4. Schematic for categorizing level of rabies risk in sub-national components

Figure 4 shows the schematic diagram for categorizing level of rabies risk in sub-national components. Each question corresponds to the next question or answer on what level of risk that province/area will be classified into.

The objective of high-risk areas will be to reduce rabies circulation in their area of jurisdiction and work towards becoming medium- or low-risk areas within 2-3 years. The objective of medium-risk areas is to identify and address the remaining problem areas in their area of jurisdiction, and work towards becoming a low-risk area or become a candidate for rabies freedom within 2-3 years. The objective of low-risk areas is to sustain low to zero rabies incidence in their area of jurisdiction, and work towards declaring freedom within 2-3 years. To achieve these objectives, respective areas will need to plan and implement interventions following the STOP strategy (sociocultural, technical, organizational, and political) in accordance to their standing needs. For example, while high-risk areas will need to focus on rabies risk reduction, medium-risk areas might decide to focus on improving surveillance and low risk areas will work on enhancing dog movement control to prevent intrusion.

Regardless of the status, areas with limited resources should plan and implement a risk based approach to MDV where mass vaccination is deemed necessary. The level of surveillance should be continually improved, and in the light of changes and progress following interventions, status should also be continually reviewed on an annual basis (eg., every Rabies Awareness Month or during the annual World Rabies Day celebration).

ii. Risk Characterization

Determine the likelihood of rabies virus circulation

Quality surveillance is critical in determining where rabies virus circulates. As there are no existing laboratory tools to determine the presence of the infection, tracking rabies events in animals would be the closest surrogate measure for detecting presence of virus in the population. Classification of level of certainty of rabies virus circulation will thus be based with consideration of the likelihood of rabies case(s) existence in the area as indicated by:

(1) presence of actual dog rabies cases as well as (2) absence of vaccination or low coverage. Although not ideal, in situations where animal rabies surveillance is sub-optimal, (3) human rabies cases can also be an alternate indicator. The long duration of incubation period however, will need to be taken into consideration (ie., by the time a human case is detected, the animal source would have been long dead and removed from the population). The breadth of reach of infected dogs, particularly for the free-roaming, should also be taken into account when assessing an area.

To estimate the level of certainty of rabies of rabies virus circulation in the area under consideration, Table 1 below can be used as a guideline. Ideally, joint assessment of areas under investigation should be done with inputs from stakeholders if possible. Because while the descriptions below can facilitate objective estimation, ultimately, decision will have to be drawn from the intelligent judgement and internal understanding of the area's rabies situation by the local health and animal health authorities, its local leaders and its residents.

Table 21. Estimating level of certainty that rabies is circulating in the area under evaluation

Level of Certainty	Description
Almost certain	<p>___ Animal rabies situation: The area has a confirmed* or probable* dog rabies case reported in the last few weeks - OR - the area has at least one case nearly every month in the last year</p> <p>___ Status of vaccination coverage: The area has a very low rabies vaccination coverage in the last 2 years (<40%)</p> <p>___ Human rabies situation: Reported human rabies cases is <i>greater than</i> the national average - OR - recorded animal bite cases/patients receiving PEP is <i>greater than</i> the national average</p>
Highly likely	<p>___ Animal rabies situation: Known to consistently occur but official data is unclear and shows sporadic pattern because the area has no to very few animal samples submitted</p> <p>___ Status of vaccination coverage: The area has a low to moderate vaccination coverage in the last 2 years (<70%)</p> <p>___ Human rabies situation: Reported human rabies cases is <i>greater than</i> the national average - OR – recorded animal bite cases/patients receiving PEP is <i>greater than</i> the national average</p>
Likely	<p>___ Animal rabies situation: Known to consistently occur but official data is unclear and shows sporadic pattern because the area has no to very few animal samples submitted</p> <p>___ Status of vaccination coverage: The area has a moderate to low vaccination coverage in the last 2 years (<70%)</p> <p>___ Human rabies situation: Reported human rabies cases is <i>about or lower than</i> the national average, as well as the recorded animal bite cases / patients receiving PEP</p>
Unlikely	<p>___ Animal rabies situation: Animal rabies is not known to occur in the area and policies on stray and roaming dogs are in place.</p> <p>___ Status of vaccination coverage: The area has at least >70% vaccination coverage in the last 2 years.</p> <p>___ Human rabies situation: There is no human rabies case reported in the last 2 years.</p>
Very unlikely	<p>___ Animal rabies situation: Animal rabies is not known to occur in the area and policies on stray and roaming dogs are in place; there is also an ongoing negative surveillance (suspect animal samples are regularly submitted, all of which are confirmed negative)</p> <p>___ Status of vaccination coverage: The area has at least 70% vaccination coverage in the last 2 years.</p> <p>___ Human rabies situation: There is no human rabies case reported in the last 2 years average, as well as the recorded animal bite cases / patients receiving PEP</p>

Determine the potential impact if action is not taken

The potential consequences or impact of non-vaccination also need to be considered when prioritizing areas. Areas that has the potential to have severe consequences once infection enters (eg., rapid transmission, higher probability to infect more dogs, and higher probability to infect more humans and cause mortality due to limited access to post-exposure prophylaxis) will need to be dealt more urgently than those where consequences could be less severe – that is, if resources are limited.

Some indicators that could be considered to approximate potential impact include: human population density, where dense population could mean higher dog population density and closer human-dog interaction; dog movement, where dog movement is not controlled, consequence of infection will be more severe as further spread of the disease is more likely; access to post-exposure prophylaxis for dog bite victims, where there is limited or no access to post-exposure treatment due to location or degree of poverty, consequences of exposure could be more severe as this could mean equivalence to guaranteed mortality in the infected human.

To estimate the level of consequences or impact of non-vaccination, Table 2 below can be used as a guideline. This will rely largely on availability of accurate demographic data of the area, and understanding of the local dog ecology.

Table 22: Estimating level of consequences or impact of non-vaccination

Impact of Consequences	Description
Severe	<ul style="list-style-type: none">___ Human population density is higher than the national average___ Dog population and movement is not controlled___ Post-exposure prophylaxis for humans is not easily accessible to residents___ Highly depressed areas (eg., 4th to 6th class local government units)
Major	<ul style="list-style-type: none">___ Population density is higher than the national average___ Dog population and movement may or may not be controlled

	<input type="checkbox"/> There is accessible post-exposure prophylaxis for humans <input type="checkbox"/> Highly depressed areas (eg., 4th to 6th class local government units)
Moderate	<input type="checkbox"/> Population density is about or lower than the national average <input type="checkbox"/> Dog population and movement may or may not be controlled <input type="checkbox"/> There is accessible post-exposure prophylaxis for humans <input type="checkbox"/> Area is classified at least as a 3rd class local government unit or higher
Minor	<input type="checkbox"/> Population density is lower than the national average <input type="checkbox"/> Dog population and movement is reasonably controlled <input type="checkbox"/> There is accessible post-exposure prophylaxis for humans <input type="checkbox"/> Area is classified at least as a 3rd class local government unit or higher
Minimal	<input type="checkbox"/> Population density is lower the national average <input type="checkbox"/> Dog population movement is well under control <input type="checkbox"/> There is accessible post-exposure prophylaxis for humans <input type="checkbox"/> Area is classified at least as a 3rd class local government unit or higher

iii. **Rapid Risk Assessment and determination of vaccination approach in accordance with the assessed risk**

Once the area(s) of interest has been assessed for likelihood of rabies virus circulation and potential impact of non-vaccination, the findings can be merged and the level of priority determined using the assessment matrix (Figure 2 below). The corresponding actions according to the level of priority is also outlined in Table 3.

Figure 6: Assessment Matrix for Prioritizing Vaccination Initiatives

Likelihood of rabies virus circulation	Almost certain	Priority 3	Priority 3	Priority 2	Priority 1	Priority 1
	Highly certain	Priority 4	Priority 3	Priority 2	Priority 1	Priority 1
	Likely	Priority 4	Priority 3	Priority 3	Priority 2	Priority 1
	Unlikely	Priority 4	Priority 4	Priority 3	Priority 3	Priority 2
	Very unlikely	Priority 4	Priority 4	Priority 4	Priority 3	Priority 2
		Minimal	Minor	Moderate	Major	Severe
Level of consequence or impact of non-vaccination						

iv. Implement actions in accordance to the prioritization based on risk assessment findings

Vaccination approach according to level of priority

Priority Level	Description
Priority 1	Mass dog vaccination should be done immediately and rapidly (Start as soon as possible and finish within 2-3 weeks, depending on the size of the area)
Priority 2	Mass dog vaccination can be done simultaneously or after all Priority 1 areas are completed, depending on the number of available manpower and resources
Priority 3	Mass dog vaccination can be done simultaneously or after all Priority 2 areas are completed, depending on the number of available manpower and resources
Priority 4	Mass dog vaccination can be done simultaneously or after all Priority 3 areas are completed, depending on the number of available manpower and resources

v. Quick Response

This is done when a human or a confirmed canine case is first reported or in cases of incursions. Backed up by adequate investigation on the animal case and vaccination history, this shall cover vaccination of all dogs within 3 km radius then followed by active surveillance to monitor the possible recurrence of disease

1.1.6. Strategies in Vaccination

A. Fixed post or station

This is conducted in well recognized sites in the barangay and done when there is lack in manpower. Dog owners bring their dogs in the designated stations. This is highly dependent on the information drive and the availability of the dog owners to have their pets vaccinated. This could result to a low vaccination turnout.

B. Mobile or house to house

This is done when there is sufficient manpower to conduct the activity. This requires more effort, costly and logistically difficult. But this is a good method to cover most of the population.

C. Combination

Socio-cultural factors may affect the strategies in vaccination. In most cases, a combination of fixed post and house to house strategies are employed when there is enough manpower and resources to do mass vaccination activity to cover at least 70% of the population.

1.1.7. Vaccination day

A. Time of vaccination

Vaccination activity is preferably done during the day. Depending on the strategy, the team may opt to do it in the morning or in the afternoon as long as the safety of the vaccination team is also considered.

B. Animals for vaccination (please see target population under Mass Dog Registration and Vaccination)

C. Duration of vaccination

The prescribed duration for vaccination in a barangay or village must be 1-3 days depending on the land area and population density. However, the entire province should be covered in 1 to 3 months or as short as possible for the vaccination strategy to be effective.

D. Vaccine handling and transport to vaccination site

The vaccine handler must be well informed of the dos and don'ts of vaccine handling and management (cold chain management). The vaccine must be stored properly and kept in its proper temperature until the time of administration to preserve its potency.

1.1.8. Handling of animals for vaccination

A. Dogs and other animals with owner

- Instruct the pet owner to restrain the dog by carrying the dog with one hand under the neck and the other under its abdomen (see Figure 8).



Figure 8: Proper way of holding the dog for vaccination

- If the dog is unmanageable, have the pet owner restrain the dog by holding its head between their legs leaving the dog's back free (see Figure 3).



straw by tying around the dog's snout and tying the loose ends separately behind the ears (see Figure 4).



Figure 10: Temporary muzzle

B. Free roaming dogs

Free roaming dogs may be difficult to catch or handle by hand. In these situations, a catching net may be used to assist the vaccinating team for this activity (see Figure 5).

Key points to keep in mind when using the catching nets:

- Plan before you begin
- Use teamwork with one coordinator and one provocateur
- First check that there are no surprise exits. If the dog has an owner, ask them where it is likely to run
- Do not allow the dog to run onto a busy road
- Work quickly and silently or the dog will become suspicious and may panic – you will only have 1 chance
- Always allow the dog to run into the net



Figure 11: Vaccination through the use of catching net

1. Tagging and Identification

Vaccinated dogs must be properly identified. A dog tag or collar must be provided so that during post vaccination monitoring, vaccinated dogs must be easily identified. However, not all LGUs have the capability to provide this. As an alternative, spray paint or animal color marker can be used as identification.

2. Recording

Vaccination form must be completely filled up during vaccination activity and must be collected after for proper inclusion in the database (Refer to Mass Dog Vaccination Form). A certificate of vaccination must be accomplished and given to the dog owner as proof of vaccination.

1.1.9. Allotment of vaccines

A. Basis for vaccine allotments

Vaccine allotment is primarily based on the estimated population, on an equal percentage basis. Special considerations are given to areas with most cases of human and animal rabies, known as high risk areas. If provided with a comprehensive vaccination plan, a Memorandum of Agreement signifying a full commitment of local chief executive, or a government-private project, vaccines may be given fully to support the program or mini projects.

B. Timely submission of utilization reports

LGUs that liquidate and send their reports immediately are given opportunity to get more vaccines.

1.1.10. Distribution of vaccines

A. Vaccine allocation

- Computed vaccine allocation per region will be released through the Regional Rabies Coordinator of each DA-RFO. The RRC will be responsible for the distribution of vaccines per province and city.
- General requirements must be complied by the LGU before the release of vaccines.
- For NCR Cities, the request and release of vaccines are made directly by the City Veterinarian in BAI.

B. Buffer stock

- A buffer stock is maintained by BAI every vaccine tranche delivery. This is utilized during an emergency situation, committed projects, and any situation that obligates the need for vaccine.

C. Delivery of vaccines to the Regions and LGUs

Acquisition of vaccines can be made by directly getting the allotted or the requested vaccines at the Bureau of Animal Industry. Vaccines are released when transport box and coolants are provided.

In cases where the recipient is from a distant area, vaccines can be delivered through a courier or hired forwarders. However, payment for freight charges must be made by the requesting party.

D. Reporting of utilized vaccines

All reports (PhilAHIS or MS Excel and summary of vaccination report (see Summary of Vaccination Report form) up to the barangay/village level) from the LGUs (PVO and CVO) must be submitted to the DA-RFO through the RRC. RRC will collate all reports and a summary will be submitted to the BAI every quarter.

1.1.11. Post-Vaccination Assessment

Monitoring is an important component of every mass vaccination activity. Hitting 70% target coverage is essential in establishing herd immunity. Monitoring can be done by third party random evaluation:

- Computing the vaccination percentage reflected after vaccination activity
- Random survey of marked vaccinated dogs
- Interview surveys
- Serology
- Outcome Evaluation of the vaccination program
- Revaccination must be done if the turnout is less than 70%.

1.1.12. Effectivity of vaccination

Effectivity of the program is known when cases have been zero out.

1.2. Dog Population Management

Dog population management (DPM) is implemented in compliance with the policy of the Anti-Rabies Act of 2007 and the Animal Welfare Act. Partnerships are established with other animal welfare organizations to improve dog population management practices to comply with recommended international standards.

DPM coupled with education on responsible pet ownership, legislative leashing measures, mandatory registrations are good measures to maintain a health dog population. At present, LGUs manage the dog population by selective elimination of captured stray dogs, impounded dogs unclaimed within three days, and unmanageable dogs voluntarily submitted by owners.

1.2.1. Stray Dog Management

Stray dog management is an integral part of disease control. While dogs have been recognized as a source of rabies in domestic, it is important that movement of dogs must be controlled. Stray dog is defined as any dog leaving its owner's place and no longer under effective control of its owner.

- Strict enforcement of penalties and fines
Section 10 of RA 9482 mandates the need to control and minimize unwanted stray dogs to eradicate rabies. Penalties are imposed to violators. See RA 9482.
- Impounding
Pursuant to Section 7 of the RA 9482, it is the duty of the LGU to enforce dog impounding activities and field control to eliminate stray dogs. Furthermore, Local Government Code mandates that LGU must also control stray animals, not only dogs. As prescribed by the law, cities and first class municipalities should establish and maintain a dog pound where impounded dogs must be kept. Other class of municipalities may opt to share the expenses of establishing and maintaining a dog pound with adjoining municipalities or other private animal shelters and control facilities.

In establishing a dog pound, plan must be carefully evaluated and should register and comply with animal welfare requirements. See AO on Dog Pound.

1.2.2. Ways of capturing a stray dog:

- Catching a dog by hand. This is done for friendly dogs by trained personnel. This is not used in aggressive dogs and suspect rabid dogs.
- Dog capture using equipment
- Using baits
- Catching dogs in confined areas
- Catching dogs using nets

A. Key Points on Dog Catching

- The team should inform the community the reason for dog capture.
- Target roaming/ outdoor dogs as priority
- Catching a dog requires coordination between team members.
- The team should know how the dog would like to react during capture.
- Once the dog has been caught, transfer the dog immediately to the cage.

B. Precautions:

- Avoid getting bitten!
- All staff involved in dog catching and impounding activities should have complete course of pre-exposure vaccinations
- Anyone bitten or scratched should wash the wound immediately under running water for 15 minutes with soap, then disinfect with ethanol or iodine if available, and immediately go to the nearest hospital or bite treatment center for an assessment if post-exposure rabies vaccination is needed
- If dogs are observed to show potential signs of rabies, inform the veterinarian.

1.2.3. Spaying and Castration

Spaying neutering activities are being implemented at the LGU level. Such initiatives will be collaborated with NGOs and private clinics. It is recommended to prioritize spaying and castration to free roaming animals.

A. Surgical sterilization by Spaying and Castration

The most effective reproductive control is by surgical sterilization. This procedure is done using anesthesia, thus, needing a trained personnel, infrastructure and equipment to execute. Pain should also be managed after operation. Only licensed veterinarians are allowed to this procedure.

The conduct of spaying and castration activities at the LGU level may be collaborated with NGOs and private clinics.

B. Non-surgical methods of dog population control

Isolation of females in heat or estrus is the most non-invasive and inexpensive way of controlling the dog population. However, this requires separate cages for male and female dogs in the household.

Chemical sterilization or contraception is now under research.

C. Habitat control

The main driver of this technique is the community. With proper awareness of garbage disposal, dogs may leave no option of looking for food at the streets. Under the Sanitation Code, all wastes must be disposed properly.

1.3. Dog Movement Control/ Management

Cross border movement requires certificate of vaccination, health certificate and shipping permit.

1.3.1. Inter-provincial and inter-island movement control

Quarantine and border control is being implemented at the provincial level. For transporting dogs to other provinces or from mainland to an island, the following are needed:

- Health certificate duly signed by a licensed veterinarian
- Valid vaccination certificate (1 year validity) duly signed by a licensed veterinarian
- Shipping permit issued by the National Veterinary Quarantine Services (7 days validity)

1.3.2. International Dog Movement

For movement of dogs in and out of the country, the following must be complied:

- For import
 - Veterinary Quarantine Clearance to import issued by BAI
 - Rabies Vaccination Certificate issued by country of origin
 - Strict quarantine for 30 days in the owner's premises is a requirement
- For export
 - BAI Health certificate / Export Commodity Clearance
 - Veterinary Health Certificate and Vaccination Certificate duly signed by a private Veterinarian
 - Test results of serum submitted for antibody detection in laboratories specified by the recipient country (depending on the recipient country)

1.4. Roles and Functions of DA and LGU Veterinary Personnel

1.4.1. DA-RFU Regional Coordinators

- Initiate and coordinate all rabies control activities in the provinces/cities/municipalities;
- Prepare the yearly regional action plan;
- Disseminate program information, guidelines, E.O. to all provincial/city/municipal coordinators;
- Allocate/distribute vaccines from central office (BAI) to the different provinces/cities/municipalities;
- Ensure proper cold storage of vaccines;
- Ensure availability of vaccines for the campaign;
- Monitor vaccine utilization;
- Consolidate reports from the different provincial coordinator and submit to the central office;
- Monitor the implementation of dog ordinance and dog pound in the Provinces;
- Assist the province in overseeing the implementation; and
- Collect empty/used vaccine vials from the provinces and ensure proper disposal (burning/burying) at the Regional Office or at the Bureau of Animal Industry.

1.4.2. Provincial Coordinator (Provincial Veterinarian)

- Prepare yearly provincial action plans and submit to the regional level for consolidation;
- Provide actual dog survey and other monitoring data to the regional coordinator;
- Allocate and distribute vaccine to the different municipalities;
- Provide and ensure cold storage for vaccines;
- Monitor proper vaccine utilization during vaccination campaign;
- Assist in training vaccinators during mass immunization;
- Monitor proper implementation of rabies ordinance and dog control measures in all municipalities;
- Organize rabies control committees in all cities/municipalities;
- Initiate and coordinate all rabies control activities in the cities/municipalities
- Consolidate reports of vaccination to be submitted to the regional coordinator; and

- Collect used vaccine vials and return it to the regional coordinator for proper disposal.

1.4.3. Municipal/City Coordinator (City/Municipal Veterinarian/Agriculturist)

- Coordinate all rabies control activities to other agencies in the local government unit;
- Provide dog population survey to update provincial data;
- Receive vaccine allocation from the provincial coordinator for dog vaccination at the barangay level;
- Ensure proper implementation of the rabies ordinance, dog pound and stray dog control;
- Consolidate report of vaccination for submission to the provincial coordinator;
- Ensure cold storage of dog vaccine and provide vaccine container (styrofoam) to maintain and ensure temperature requirement while vaccinating in the area;
- Provide mobility for vaccinators during campaign; and
- Collect used vaccine vials and return it to the regional coordinator through the provincial coordinator for proper disposal.

CHAPTER IV

SURVEILLANCE

CHAPTER IV: Surveillance

1. Surveillance of Animal Rabies

Rabies is a notifiable disease both in the national health and veterinary systems in the Philippines.

Surveillance of canine rabies and submission of laboratory reports of suspected cases is essential for management of potential human exposures and for veterinarians to adopt appropriate measures towards animals who were in contact with the suspected animal case.

1.1. Recognition of Rabies in Dogs

Table 23: Classification of an animal Rabies Case:

Suspect Case	Probable Case	Confirmed Case
<i>1. An animal that may show any of the following clinical signs:</i> <ul style="list-style-type: none"><i>Sudden behavioral change (e.g. sudden anorexia, signs of apprehension or nervousness, irritability, hypersensitivity)</i><i>Hydrophobia</i><i>Muscle paralysis</i><i>Nervous signs</i> <i>2. An animal involved in a biting incident</i>	<i>1. A suspect case with known exposure to a confirmed rabies case</i> <i>2. A suspect case that dies within the observation period (14 days from the time of bite) but no laboratory confirmation</i>	<i>Any suspect or probable case confirmed positive for rabies virus antigen using Internationally accepted gold standard test such as Fluorescent Antibody Test</i>

1.2. Data Sources in Capturing the Suspect and Confirmed Cases

- Clinical-surveillance based: suspect and probable cases
- Event-based surveillance: news items, rumors, 911, social media, individual messages from veterinarians, physicians, etc.
- Indicator-based surveillance: routine reports from veterinary laboratory; regular rabies reports from LGU veterinarians; DOH rabies alerts, ABTCs

1.3. Notification

If a suspect or probable animal case dies within the 14 days observation period:

- Report immediately to the nearest local veterinarian or trained personnel on animal disease control from the local government unit (ex. barangay/municipal agricultural office/provincial or city veterinary office).
- The local veterinarian or trained personnel should be informed and should be the one to supervise/ carry out handling and preparation of the dog specimen for laboratory confirmation.
- Submit the animal head or carcass for laboratory confirmation of rabies (See Annex for the list of laboratories and rabies submission form)

1.4. Preparation/Handling and Packing of Animal Specimen for Rabies Diagnosis

The animal specimen should preferably be collected by a veterinarian in clinic in order to assure that the precautionary safety measures in handling potentially infectious materials are strictly followed. The basic personal protective equipment (PPE) includes a laboratory gown, examination gloves, face masks and shields and disinfectant for decontamination.

In the household setting, a clean table or bench is needed for the decapitation of the animal. The following procedures should be followed:

- 1) The handler should use gloves or wrap their hands with plastic bags to prevent direct contact with the specimen.
- 2) Eye protection such as optical glasses should be used to prevent any tissue splatter on the eyes.
- 3) An ordinary butcher's knife or bolo may be used to cut the animal's head.
- 4) The head should be cut two (2) inches away from the base in order to include important tissue components of the brainstem. Dispose the carcass after decapitation by burying or cremation.
- 5) No attempt should be made to extract the brain tissue because this would cause additional risk to the processor
- 6) Place the head of the animal in a leak-proof double household plastic bag. This constitutes the primary container.
- 7) Do not put any ice cubes inside this primary container.
- 8) No chemical preservative like 10% formalin or alcohol should be used as this will render the specimens inappropriate for examination.
- 9) Utensils/ Instruments, clothing and table used in decapitating the specimen should be properly and thoroughly cleaned and disinfected with commercially available household bleaching agent.

1.5. Storage of Animal Specimen before Transport

- Place the primary container into another household plastic bag (secondary container) with liberal amounts of ice, enough to sustain the cold temperature during transport to the laboratory.
- The two containers must be placed in a styrofoam box or any leak-proof transport container and brought to the nearest rabies diagnostic laboratory.
- Label the transport container as “Rabies Suspect”. Affix label with the complete name, address and phone number of both the shipper and the laboratory recipient. The head specimen must be sealed in a plastic bag and labelled “Handle with Care: Rabies Suspect”.
- A fully accomplished Rabies Submission Form should accompany the sample, available in the BAI website or the nearest accredited rabies laboratory.
- The specimen should be brought to the laboratory immediately and at most within 6 to 8 hours post-mortem. However, if this is not possible, it should be frozen or stored inside a leak-proof Styrofoam or ice box container. Add plenty of ice packs into the container to allow overnight cold storage. Replenish the ice/ice packs as often as needed until it is transported to the laboratory.

1.6. Specimen Transport

During transport, the specimen should be packed with ice to preserve it. The specimen may be sent thru air freight or hand carried to the accredited diagnostic laboratories.

1.7. Disposal of Carcass/Disinfection

Dispose the carcass by burying or cremation. Disinfect the working area with commercially available 10% household bleach or 3% Lysol. Consumption of the specimen’s meat is prohibited.

1.8. Laboratory Diagnosis of Rabies in Dogs and Other Animal

The diagnosis of animal rabies is based on laboratory confirmation. Fluorescent Antibody Test (FAT) is the gold standard for laboratory diagnosis for animal rabies. Direct Microscopic Examination (DME) is also done, but this is further confirmed by FAT. Please see Annex ___ for the list of laboratories and available tests.

1.9. Results of Laboratory Examination

- A. The diagnostic laboratory should release the results of the examination to the sender of the specimen immediately.
- B. For positive samples, the responsible laboratory should immediately notify the following:
 - a. Concerned LGU
 - b. Concerned Regional DA Office cc’d with concerned Regional DOH Office
 - c. BAI – AHWD

- C. For results of all tested samples, the responsible laboratory should submit a monthly report to the BAI-ADDRL, who will provide a collated copy to the BAI-AHWD.

1.10. Quality Assurance and Accreditation

- A. Regular Proficiency Testing
- B. Infrastructure and logistics
- C. Capacity Building
- D. Minimum International Standards

2. Outbreak Response

The main goal in any disease outbreak is to control the spread of the disease. Rabies can spread very quickly in the dog population through dog bites and will eventually be transmitted to humans.

The control strategies chosen should: (1) protect public and animal health; (2) minimize animal welfare problems; (3) cause the least possible disruption to local communities, the tourism industry and visitors; (4) minimize the burden to the public and (5) minimize damage to the environment.

2.1. Handling of Dogs and Cats confirmed/Suspected to be Rabid

The management of cases of domestic animals exposed to rabies can be difficult because of the lack of immediate perceived threat to human life. The exposure incident obviously could later result in human exposure if the domestic animal would develop rabies.

- Healthy dogs and cats that bite a person should be confined and observed for 14 days. It is recommended that rabies vaccine be not administered during the observation period. Such animal should be evaluated by a veterinarian at the first sign of illness during confinement. Any illness in the animals should be reported immediately to the local veterinary department. If signs suggestive of rabies develop, the animal should be euthanized, its head should be cut off and place in a sealed styrofoam under refrigeration for examination at the diagnostic laboratory.
- Other biting animals, which might have exposed a person to rabies, should be reported immediately to the local veterinarian and health authority.
- Management of animals other than dogs and cats, depends on the species, circumstances of the bite, epidemiology of rabies in the area, and the biting animal history, current health status and potential for exposure to rabies.

2.3.1. NATIONAL OFFICE (DA-BAI)

- Policy making, memos, Administrative Orders
- Provide vaccine support through DA-RFOs
- Train Regional Field Persons/LGU Depending on the requirement)
- Notify RRCs when ESR is received from DoH
- Test head samples / PERFORM confirmatory tests
- Develop and distribute IEC materials and other support through DA RFOs
- Coordinate or share info on rabies in animals in DPCB (Disease Prevention and Control Bureau)
- Coordinate with other NRPCC Control Bureau (DILG, DOH, DepEd, Private sector, etc.)
- Provide laboratory support to RADDLs
- Perform epidemiological analysis of rabies cases for planning.

*** Add requirements for the request of vaccines – guidelines on vaccine requisition, utilization and reporting

***Add discussion on Outbreak Investigation form

3. Human Rabies Surveillance

3.1. Human Rabies Surveillance and Response

Human Rabies surveillance is a systemic collection, analysis and interpretation of data for public health action. In order for responsible authorities to provide interventions for control and elimination, timely dissemination of data is very important. This will guide the human and animal health sectors in making decisions for:

- interventions for control and reduction of infection transmission
- provisions of post exposure prophylaxis (PEP) in potentially exposed humans
- management of potentially exposed animals

Rabies surveillance is done through the Philippine Integrated Disease Surveillance and Response (PIDSR) by the DOH Epidemiology Bureau (DOH EB) at the national level. Under PIDSR, dedicated staff from the Epidemiology & Surveillance Units (ESUs) of the regional, provincial, city & municipal levels implement the PIDSR.

Human Rabies is classified by PIDSR as category 1, which is an immediately notifiable disease and must be reported within 24 hours.

For Animal Rabies, the National Animal Disease Diagnostic Laboratory (NADDL) was established to confirm rabies in animals as part of the surveillance of the Department Of Agriculture.

3.1.1. Case Definition

It is very important for rabies that the same case definition be used in and by all reporting units. This is to ensure a consistent and accurate identification of rabies cases throughout the system. Cases are further classified to indicate whether they are *suspect*, *probable* or *confirmed*:

- **Suspect** – Indicative clinical picture without being a confirmed or probable case
- **Probable** – Clear clinical picture, or linked epidemiologically to a confirmed case (Note: A "case with an epidemiological link" is a case that has either been exposed to a confirmed case, or has had the same exposure as a confirmed case (e.g., history of exposure to animal suspected with rabies))
- **Confirmed** - Verified by laboratory analysis

Case definition for rabies requires laboratory confirmation based on a positive result for the direct fluorescent antibody test (FAT). Table below is a guide to determining whether a case is suspected, probable or confirmed:

Table 24: Classification of a Human Rabies Case

Suspected	Probable	Confirmed
A person presenting with an acute neurological syndrome (encephalitis) dominated by forms of hyperactivity (furious rabies) or paralytic syndromes (dumb rabies) that progresses towards coma and death, usually by respiratory failure, within 7 to 10 days after the first symptom if no intensive care is instituted.	A suspected case plus history of contact with suspected rabid animal.	A suspected case that is laboratory confirmed
<i>Note: Bites or scratches from a suspected animal can usually be traced back in the patient medical history. The incubation period may vary from days to years but usually falls between 30 and 90 days</i>		

3.1.2. Reporting and Notification of Rabies

Rabies is considered by the Philippine Integrated Disease Surveillance and Response (PIDSR) as an immediately notifiable disease and should be reported simultaneously to the PHO/PESU, CHD/RESU and Epidemiology Bureau (formerly National Epidemiology Center) within 24 hours of detection by the fastest means possible. Initial reporting can be done using the telephone or radiophone, or written via facsimile or email. It will be followed by case-based reporting form using the standard PIDSR case investigation form. Reports received by the Epidemiology Bureau will be reported to World Health Organization possibly within 24 hours also.

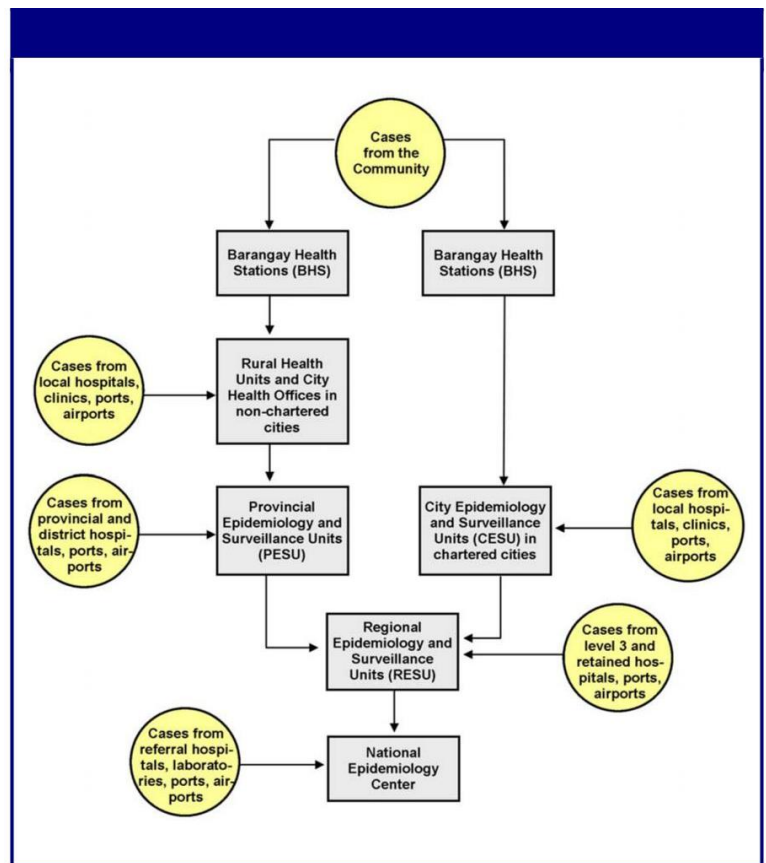


Figure 5: Flow of weekly reporting of notifiable diseases

Any person in the community or in a health facility attending to a suspect rabies case should report to the next higher level authority (MHO/PHO/ PESU and ROV) within 24 hours by the fastest means possible. Report may be done by telephone, facsimile or email.

Once PIDSR detects human rabies outbreak, response will be conducted with the ESUs in coordination with the DA, following the response protocol of PIDSR.

Human rabies surveillance should be the basis for the DA to initiate their outbreak response.

3.2. Data Sources in Capturing the Suspect and Confirmed Cases

The following may be referred to as data sources in capturing both suspect and confirmed cases:

- Clinical-surveillance based: suspect and probable cases
- Event-based surveillance: news items, rumors, 911, social media, individual messages from veterinarians, physicians, etc.
- Indicator-based surveillance: routine reports from veterinary laboratory; regular rabies reports from LGU veterinarians; DOH rabies alerts, ABTCs

CHAPTER V

HEALTH PROMOTION

AND COMMUNICATION

CHAPTER V: HEALTH PROMOTION AND ADVOCACY

The NRPCP recognizes that raising awareness on rabies prevention, control and elimination is an essential component in the overall rabies prevention strategy. Through a communication plan that presents strategies and activities to heighten awareness about rabies, this section is intended to guide implementers in adapting a strategic communication plan that would not only heighten awareness about rabies prevention and control, but more importantly, drive the community to practice desired behaviors on prevention and seek the most appropriate treatment at their level

As the program gears towards a Rabies-Free Philippines, the NRPCP sees the need to intensify the campaign on Responsible Pet Ownership (RA 9482). The proposed health promotion and communication plan in this section outlines strategies and activities that involve consultation with communities, health and allied services and all other stakeholders seen crucial to implement solutions. The plan likewise conveys that everyone has their part to play, and engaging all stakeholders even at the earlier stages of implementation is expected to help them take ownership of their part of the solution. Hopefully, this will ensure that rabies prevention remains a priority with them well into the future.

The proposed plan adheres to the DOH health promotion process in five action areas, namely: by building healthy public policy, creating supportive environment, strengthening community action, developing personal skills and reorienting health services complemented with various approaches. These approaches are advocacy, communication and social mobilization (ACSM), Communication for Behaviour Impact (COMBI), Social Marketing and Risk Communication among others.

This chapter is designed to guide health care providers and other stakeholders in the planning and implementation of their health promotion activities that will improve LGU, stakeholder and community understanding of rabies and RA 9482; as well as improve health seeking behaviour on rabies **prevention** – thus, ensure support for the National Rabies Prevention and Control Program.

The campaign's overarching objective is to achieve a Rabies-free Philippines by 2030.

Specific objective/s were crafted for each identified target audience group, taking into account each target audience's knowledge level of rabies, capacity to act towards its prevention and control, access to information and socio-cultural contexts (Refer to proposed plan).

- The NRPCP, in close coordination with all LGUs and allied agencies especially the DA-BAI shall intensify health promotion activities of RA 9482 to complement all program efforts
- The NRPCP shall initiate the refinement of guidelines and assist in the proper implementation of PhilHealth eligibility claims of bite victims (patient does not claim PHIC reimbursement) and regulation of claims by animal bite treatment centers and animal bite centers (ABTCs/ ABCs)
- All involved agencies shall develop relevant IEC materials approved by the NRPCC and HEPO
- The DOH shall perform the following::
 - Initiate integration of rabies program into various allied partner programs
 - Recommends level appropriate messages of rabies in the school curriculum in collaboration with DepEd.
 - Participate in the conduct of mass dog vaccination including the annual booster doses for K-9 corps of the AFP, PNP, and BFP
 - Promote mass dog vaccination and information dissemination on RA 9482 among faith-based organizations in the communities
 - Promote RA 9482 in all possible forums and channels for information dissemination by media practitioners.

1. STRATEGIES

1.1. Building Healthy Public Policy

It is important for health workers to realize that promotion goes beyond health care. Promotion puts health on the agenda of policymakers in all sectors and at all levels, leading them towards being aware of the health consequences of their decisions and accepting their responsibilities for health.

It requires advocacy for the development and issuance of the following policy instruments to support health like laws, local resolutions and ordinances; executive orders, memorandum circulars; administrative orders and memorandum of agreement.

1.2. Creating Supportive Environment

Creation of a supportive environment could be physical or organizational. Physical environment can be improved or enhanced by making animal bite treatment centers more accessible to clients. On the other hand, organizational environment can be the creation of coalitions, networks and inter-agency committees to increase the number of people promoting particular health actions where social mobilization is the major action to be undertaken.

1.3. Strengthening Community Action

Health promotion works through concrete, simultaneous and effective community action in setting priorities, making decisions, planning strategies, and implementing them to eliminate rabies in their respective areas. A concerted effort of the community is necessary in the, prevention, surveillance and **elimination** of rabies. Likewise, initial gains of rabies free provinces should be supported and sustained.

1.4. Developing Personal Skills

In the prevention, surveillance and elimination of rabies, the need for developing personal skills is very important. This can be done by enhancing the capability of health care providers through interpersonal communications training, seminars, briefings/ orientation and provision of IEC materials. Health promotion must be carried out in all possible opportunities and places (e.g. home, school, market, etc.) by different concerned institutions or groups of stakeholders given the mandates and the expertise.

1.5. Re-Orienting Health Services

The responsibility for health promotion in health services is shared among individuals, community, groups, health professionals, health service institutions, and governments. They must work together towards a health care system which contributes to the pursuit of health.

The role of the health sector must move increasingly in a health promotion direction, beyond its responsibility for providing preventive and curative services.

Health services need to embrace an expanded mandate that is sensitive and respectful of the cultural differences. This mandate should support the needs of individuals and communities for a healthier life, and should open channels between the health sector and broader social, political, economic, and physical environmental components.

1.6. Strategic Activities

Elimination of rabies can be done through mass dog vaccinations highlighted in the observance of two important national events namely:

- Celebration/Observance of Rabies Awareness Month - March
- Celebration/Observance of WORLD RABIES DAY – September 28

Conceptualization, production/ reproduction and distribution of IEC materials.

- Conduct (National) initiatives in the integration of Rabies Program:
 - a. DepEd – Implement K-12 Curriculum Integration of Rabies Prevention and Control.
 - b. DILG – Development of ordinance for Rabies prevention and control at the Provincial, Municipal and Barangay Level.
 - c. DA – Develop IEC materials on Responsible Pet Ownership, Rabies Transmission to domesticated dogs, and quarantine measures in collaboration with DENR.
 - d. Other Organizations
 - a. NGO's
 - i. International Organizations
 - ii. Local NGO's
 - b. Animal Welfare Groups
 - c. Veterinary Organizations
 - i. Veterinarians
 - ii. Animal Hospitals
 - d. Academe

2. Key Messages

With the intensified health promotion and communication campaign, the following are the key messages for each identified target audience that will be highlighted:

2.1. Pet owners

- Be a responsible pet owner.
 - Have your pet dog registered, vaccinated three (3) months old and yearly booster doses while dog is alive
 - Do not allow your pet to roam the streets or any public place without a leash
 - Ensure your pets are properly fed and cared for

- As the (pet) owner, you are responsible for your pet's bite victim's treatment and management; including all expenses to be incurred for treatment
- Should your pet bite a victim, it is your responsibility to ensure that your dog is properly confined during the 14-day observation period.
- It is also your responsibility to inform and consult the Municipal Agricultural Officer/ Municipal Veterinarian/City Veterinarian if your pet gets sick or died within the 14-day observation period for proper sample submission to designated laboratories for rabies confirmation.

2.2. Dog-bite victim/Care giver

- Know and apply the proper bite wound management
 - Proper wound washing with soap for at least 10 minutes in a flowing/ running water
 - Immediately seek medical care from trained health providers in animal bite treatment centers and/or animal bite centers and not from *traditional healers/ tandoks* to avoid further infection of the wound
- Continue and complete the prescribed vaccination dosages

2.3. LGUs/LCEs

- Support to rabies elimination is good investment for health
- Rabies is a **99.9%** fatal disease but also 100% preventable
- RA 9482 should be immediately and properly implemented in all barangays
 - Local Rabies Prevention and Control Committees have to be established and/or revitalized for active surveillance and monitoring of dog movements (especially stray)
- Mass dog vaccination should be conducted regularly at specified times
 - Provision of booster doses should also be given every year (after mass dog vaccination)

2.4. Health Service Providers

- Rabies is a fatal disease/infection transmitted through an infected dog's saliva
- Rabies is a preventable disease
- Dog bite victims should receive complete number and dosage of rabies vaccines
- Biting animal should be confined through caging or leashing and observe for 14 days for any change in behavior and signs of rabies.

2.5. Animal Bite and Treatment Center/Animal Bite Center Health Providers

- ABTCs are sources of **FREE rabies vaccines** for human victims
- **Warning signs** to watch out for in a bite victim:
 - Check other parts of the manual
- **Warning signs** to watch out for in suspected dog:
 - Check other parts of the manual
- Continue and complete the prescribed vaccination dosages

2.6. Community/General public

- Basic information on Rabies as a disease, its prevention and control and elimination.
 - Rabies is a fatal disease/infection transmitted through an infected dog's saliva
- Basic information on proper management of human bite victims.
 - Thorough washing of bite wounds with soap and clean water and application of antiseptic (povidone) are the first steps to prevent the spread of rabies
 - It is best to seek immediate medical treatment from trained health service providers rather than *tandoks*
- Basic information on how to manage/handle the biting animal
 - Biting animal should be kept confined in a cage AND alive and given appropriate care while being observed for 14 days
 - Do not eat dog meat

2.7. Other stakeholders (Media, Faith-based Organizations, other GOs and NGOs)

- Rabies is a fatal disease/infection transmitted through an infected dog's saliva
- Rabies is a preventable disease

STRATEGIC HEALTH PROMOTION AND COMMUNICATION PLAN 2020-2025

Program Title: National Rabies Elimination Program

Behavioral Objectives:

By the end of 2025:

- 90% or more of pet owners are practicing responsible pet ownership
 - Registration of all pet dogs including owned unleashed (any better term?) dogs.
 - Vaccination of all pet dogs in the first three months of each dog; and annual booster for each dog while the dog is alive
 - Provision of proper care, grooming, shelter and management/control
 - Assumption of responsibility for the care and treatment of dog bite victim including medical expenses to be incurred
 - Containment of dog for observation during possible incubation period (keeping dog alive) of 14 days.
 - Submission of dog head to DA animal laboratory of national, subnational level and those LGUs with local animal diagnostic center or in RITM for animal rabies analysis and confirmation
- Ideally, 90% or more of LGUs are supporting RA 9482 through the following:
 - Conduct of proper mass dog vaccination and registration regularly
 - Allocation of funds for the procurement for rabies vaccines for both humans and dogs
 - Organization of a functional multi-sectoral Local Rabies Prevention and Control Committee including budget for rabies
 - Enforcement of regulation on the treatment of bite victims by *tandoks*
 - Prohibition of the trade of dogs for dog meat
 - Allocation of funds for health promotion and communication campaign that includes reproduction and distribution of IEC materials and media air time
- Health care providers at the local health unit are providing information through IPC, community assemblies and other available effective medium of communication on proper bite management and always refer bite victims to ABTCs for PEP
- Health care providers in animal bite and treatment centers (ABTCs) and animal bite centers (ABCs) are complying with treatment protocols
- Bite victims are practicing proper and immediate bite management
 - Immediate proper washing of bite wound/s with soap and water
 - Applying alcohol/povidone iodine and other antiseptic on the bite wound
 - Seeking immediate medical advice and treatment at the ABTC or ABC.

- All community stakeholders are supporting RA 9482
 - Identifying and reporting stray dogs to designated office/unit (MVAO, CVAO, barangay?)
 - Support implementation of campaigns on proper mass dog vaccination, including stray dogs.
 - Disseminating correct information on rabies (i.e., other GOs, media, church, PAWS, NGOs present in the area)
 - Dispel myths and misconceptions on rabies
 - LRPCC as target so that a multi-sectoral action can be implemented like the municipal, city and provincial veterinary and agriculture

Year	Target Audience and Communication Objective	Key Messages	Strategies/ Activities	Tools	Locus of Responsibility
2020-2021	Pet owners <ul style="list-style-type: none"> To create awareness on the basic facts of rabies (about the disease, signs and symptoms and prevention) To create awareness on their roles and responsibilities as dog owners in compliance to RA 9482 	<ul style="list-style-type: none"> Basic facts on rabies Importance of mass dog vaccination for dogs from 3 months old and yearly booster doses for 3 years and while dog is alive 	<ul style="list-style-type: none"> IEC development Information dissemination and popularization of RA 9482 through mass, social and non-traditional media 	flyers, comics, posters, billboards, radio, plugs, social media-based vectors	<ul style="list-style-type: none"> NRPCP HPCP
	Dog bite victim <ul style="list-style-type: none"> To educate bite victims on the proper bite management (washing with soap and water; application of antiseptic; seeking immediate medical treatment) 	<ul style="list-style-type: none"> Basic facts on rabies Proper bite wound management Continue and complete the prescribed vaccination dosages 	<ul style="list-style-type: none"> IEC development Information dissemination and popularization of RA 9482 through mass, social and non-traditional media 	flyers, comics, posters, billboards, radio, plugs, social media-based vectors	<ul style="list-style-type: none"> NRPCP HPCP
	LGUs/LCEs/Barangay <ul style="list-style-type: none"> To reiterate LGU roles and responsibilities in the implementation of RA 9482 and other 	<ul style="list-style-type: none"> Basic facts on rabies Proper implementation of mass dog 	<ul style="list-style-type: none"> IEC development Building Healthy Public Policy 	Advocacy kit Approved local ordinance/s	<ul style="list-style-type: none"> NRPCP HPCP LGU (PIO, MHO and

	<p>related laws (RA 8485 and RA 7160)</p> <ul style="list-style-type: none"> • To advocate for logistical support on the procurement of supplies and provision of services for human and animal rabies • To issue and implement additional ordinances which include organization of multi-sectoral LRPCC, dog rabies surveillance monitoring of dog movement in the area, implementation of mass dog vaccination and elimination of rabies in both animal and human population. 	<p>vaccination should be conducted regularly at specified times</p> <ul style="list-style-type: none"> • Active surveillance of rabies in dog population and monitoring of dog movement • Provision of booster doses every year (after mass dog vaccination) • Support to rabies elimination is good investment for health 	<ul style="list-style-type: none"> • Advocacy with DA and BAI on animal policy component • Strengthen partnership with Phil. Inter-agency Committee on Zoonosis (PhICZ) • Strengthen community action <ul style="list-style-type: none"> ○ Revitalize and/or organize the barangay rabies elimination team • Conduct of mass dog vaccination • Observance of World Rabies Day 		Mun or City Vet)
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Year	Target Audience and Communication Objective	Key Messages	Strategies/ Activities	Tools	Locus of Responsibility
2022-2023	Health Care Providers (local health units) To re-orient and update HCPs on rabies and the importance of: <ul style="list-style-type: none"> • providing proper bite wound management • recognizing what is the category the bite wound • immediate referral to ABTCs/ABCs • giving complete doses of rabies vaccines to dog bite victims 	<ul style="list-style-type: none"> • Rabies is a fatal disease/infection transmitted through an infected dog's saliva • Rabies is a preventable disease • Dog bite victims should receive complete number and dosage of rabies vaccines • Biting animal should be confined through caging or leashing and observe for 14 days for any change in behavior and signs of rabies. 	<ul style="list-style-type: none"> • Developing Personal Skills • Reorienting Health Services 	Updated training module	NRPCP
	ABTC and ABC Provider To educate providers on the following: <ul style="list-style-type: none"> • Proper observation of warning signs and changes on bite victims • Schedule of PEP 	<ul style="list-style-type: none"> • Warning signs to watch out for in bite victim 	<ul style="list-style-type: none"> • Developing Personal Skills • Orientation <ul style="list-style-type: none"> ○ Reorienting Health Services 	Updated training modules	NRPCP

	<ul style="list-style-type: none"> • Need to observe biting animal, take care and keep them confined or leashed during 14 days incubation period 	<ul style="list-style-type: none"> • Warning signs to watch out for in suspected dog • Continue and complete the prescribed vaccination dosages 			
	Community or general population <ul style="list-style-type: none"> • To be responsible pet owners. • To gain knowledge on the proper management of dog or any animal bite • To gain knowledge on how to manage the biting animal. 	<ul style="list-style-type: none"> • Basic information on Rabies as a disease, its prevention and control and elimination. • Basic information on proper management of human bite victims. • Basic information on how to manage/handle the biting animal. 	Development of materials	Multi-media applicable to the population and area.	NRPCP LGUs LRPCC

Year	Target Audience and Communication Objective	Key Messages	Strategies/ Activities	Tools	Locus of Responsibility
2022-2023	<p>Other stakeholders</p> <p>Media To update media practitioners on rabies</p> <p>Church To update leaders on rabies and how the congregation can help remind followers/owners to be responsible pet owners</p> <p>Other GOs: To Advocate for support in the implementation of RA 9482 as appropriate for the agency mandate (DENR, DILG, DepEd, PNP, AFP, etc)</p>	<ul style="list-style-type: none"> • Rabies is a fatal disease/infection transmitted through an infected dog's saliva • Rabies is a preventable disease 	<ul style="list-style-type: none"> • Information dissemination on rabies <ul style="list-style-type: none"> ○ Popularization of RA 9482 in various media ○ Integration in columns, programs, etc ○ Community-based health classes ○ Sponsorship of mass dog vaccination <ul style="list-style-type: none"> ▪ Reminders of schedules on mass dog vaccination ▪ Provision of other logistical support during mass dog vaccination (PNP and AFP K9 corps, etc) • Inclusion of level-appropriate discussion of rabies in existing K-12 school curriculum and teaching guides 	<ul style="list-style-type: none"> • Information kits • Strengthening community actions 	<ul style="list-style-type: none"> • NRPCP • HPCS

For 2017 to 2018, alongside the conduct of mass dog vaccination, the NPRCP will also focus its intensified Responsible Pet Ownership campaign and distribution of IEC efforts among GIDA areas where a greater number of people have limited access to information.

Year	Target Audience and Communication Objective	Key Messages	Strategies/ Activities	Tools	Locus of Responsibility
2024-2025	Pet owners <ul style="list-style-type: none"> To sustain awareness and knowledge of their roles and responsibilities as dog owners in compliance to RA 9482 	<ul style="list-style-type: none"> Rabies is a fatal disease/infection transmitted through an infected dog's saliva Rabies is a preventable disease To keep (my) pet rabies-free, booster doses are necessary every year 	<ul style="list-style-type: none"> Information dissemination on rabies Sustained popularization of RA 9482 in various media pet owners have and can access 	<ul style="list-style-type: none"> Reminder materials on booster shots for previously vaccinated dogs 	<ul style="list-style-type: none"> NRPCP HPCS LGU (PIO/MHO/Mun/City Vet)
	Politicians/LGUs <ul style="list-style-type: none"> To sustain and/increase support to RA 9482 	<ul style="list-style-type: none"> It is worth investing in rabies prevention. It safeguards the health of constituents and increases their economic productivity. 	<ul style="list-style-type: none"> Information dissemination <ul style="list-style-type: none"> Regularly provide updates, especially "progress" data on rabies Sustain/continue Advocacy to support RA 9482 Sustain campaign on the benefits of supporting rabies prevention 		<ul style="list-style-type: none"> NRPCP HPCS LGU (PIO/MHO/Mun/City Vet)

			<ul style="list-style-type: none"> • Documentation of best practices • Identify success stories and spokespersons to champion Rabies prevention with other LGUs <ul style="list-style-type: none"> ○ For areas with high index of cases, fund/support to strengthen ABTCs (ensure vaccines, supplies, etc) ○ Ensure that vaccines in ABTCs are provided FREE ○ For other areas, establish ABTCs and ensure availability of trained health providers and vaccines • Continue observance and celebration of World Rabies Day 		
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Year	Target Audience and Communication Objective	Key Messages	Strategies/ Activities	Tools	Locus of Responsibility
2024-2025			<ul style="list-style-type: none"> Monitoring and Review Conduct external review on NRPCP policy, operations and implementation to determine: <ul style="list-style-type: none"> Number of LGUs effectively implementing and supporting RA 9842 Number dogs vaccinated for the first time Number of dogs given booster shots Number of stray dogs (and cats) newtered and spayed as part of animal population management and control Number of ABTCs providing FREE vaccines and properly complying with PhilHealth claims policies 		<ul style="list-style-type: none"> NRPCP EB HPCS

	<p>Health Care Providers (local health units)</p> <p>To update HCPs on new developments on rabies</p> <p>To refresh HCPs on the following:</p> <ul style="list-style-type: none"> • importance of providing proper bite wound management • recognizing what is the category the bite wound • immediate referral to ABTCs/ABCs • giving complete doses of rabies vaccines to dog bite victims 	<ul style="list-style-type: none"> • Rabies is a fatal disease/infection transmitted through an infected dog's saliva • Rabies is a preventable disease • Dog bite victims should receive complete number and dosage of rabies vaccines • Biting animal should be confined through caging or leashing and observe for 14 days for any change in behavior and signs of rabies. 	<ul style="list-style-type: none"> • Developing personal skills • Re-orientation of health services • Capability building <ul style="list-style-type: none"> ○ Conduct refresher course/s and updates on rabies prevention, treatment and management 	Updated training manuals	<ul style="list-style-type: none"> • NRPCP • LGUs
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Year	Target Audience and Communication Objective	Key Messages	Strategies/ Activities	Tools	Locus of Responsibility
2023-2025	ABTC and ABC Provider To sustain providers' knowledge on the following: <ul style="list-style-type: none"> • Proper observation of warning signs and changes on bite victims • Schedule of PEP • Need to observe biting animal, take care and keep them confined or leashed during 14 days incubation period 	<ul style="list-style-type: none"> • Warning signs to watch out for in bite victim • Warning signs to watch out for in suspected dog • Continue and complete the prescribed vaccination dosages 	<ul style="list-style-type: none"> • Developing Personal Skills (especially new ABTC and ABC personnel) • Orientation <ul style="list-style-type: none"> ◦ Reorienting Health Services 	Updated training modules	NRPCP LGUs
	Community or general population <ul style="list-style-type: none"> • To reinforce knowledge and practice of responsible pet owners. • To practice proper management of dog or any animal bite • To practice proper management of the biting animal. 	<ul style="list-style-type: none"> • Basic information on Rabies as a disease, its prevention and control and elimination. • Basic information on proper management of human bite victims. • Basic information on how to manage/handle the biting animal. 	Development of materials	Multi-media applicable to the population and area.	NRPCP LGUs LRPCC

Chapter VI

Monitoring and Evaluation

CHAPTER VI: MONITORING AND EVALUATION

Monitoring and evaluation is needed to verify the progress of NRPCP at the municipal, provincial, regional and national levels e.g. to verify whether program guidelines, strategies and activities have been implemented as planned, to ensure accountability, and to detect any problems and/or constraints. This in turn can provide feedback to the relevant authorities for them to take remedial measures thus promote better planning through careful selection of strategies for future action.

Under PIDSR, evaluation is a periodic review of the relevance, effectiveness and impact of activities in the context of surveillance and response systems.

A program review is also an opportunity for the NRPCP to:

- Identify possible areas for refinements
- Determine if there is a need to redirect program
- Determine possible next steps

The complementary strategic campaign will likewise be part of the review to help the program determine:

- awareness and knowledge levels of target audience groups on RA 9842
- number of pet owners who are voluntarily registering and having their 3-month old dogs (and cats) vaccinated for rabies
- number of pet owners who present their pets for booster shots every year for the next three years and annually while the dog is alive

1. Logistics Management

One of the components of a successful program like NRPCP is adequate supply of Tissue Culture Vaccine (TCV) and Rabies Immunoglobulin (RIG). Therefore, all ABTCs should have free and adequate supply of human rabies vaccine to give the complete dose (until supply last) of TCV to all animal bite cases but ensure completion of required number of doses including RIG to prevent human rabies. The ABCs when procuring their own vaccines shall be required to follow the procurement guidelines as per AO 2018 - 0013. ABTCs augmenting their vaccines and the RIGs aside from the supplies delivered from the DOH procured supplies, shall likewise procure said vaccines and RIG following the same AO.

Adverse Effects Following Immunization (AEFI) shall follow the procedures set by the EPI Program (For discussion with the EPI, EB, FDA).

Supplies of TCV and RIG are procured annually by DOH following the procurement management system. Once the TCV and RIG are delivered, inspected by the Food and Drug Administration (FDA) and DOH inspection team, these will be allocated and distributed to the Department of Health Centers for Health Development (CHD)/Regional Offices (DOH RO) for distribution to the different provinces/CHOs/ABTCs on a quarterly basis, subject to availability of anti-rabies vaccine. All PHOs/CHOs/ABTCs must submit quarterly utilization and vaccine inventory report to the DOH. The local government units are encouraged to enact and strictly enforce ordinance/s relevant to rabies control and to provide fund allocation for anti-rabies vaccines for bite victims.

These vaccines and RIG require cold chain management. A cold chain is a temperature-controlled supply chain which consists of uninterrupted series of storage and distribution activities. This aims to maintain a given temperature range (2-8°C) to ensure the potency of vaccines and rabies immunoglobulins from the manufacturer to the person who will be administered with the vaccine and RIG.

1.1. Human Vaccine Requirements

- Rabies vaccine needs for one course of intradermal regimen:

Table 25: Vaccine Need for Intradermal Regimen

Vaccine	Per Vial	Intradermal Dose	No. of ID doses per visit	No. of doses per vial	No. of Visits	No. of Vials per patient for a full course of Intradermal administration
Purified Verocell Rabies Vaccine	0.5 ml	0.1 ml	2 doses	5 doses	4	2
Purified Chick Embryo Vaccine (PCEC)	1.0 ml	0.1 ml	2 doses	10 doses	4	1

1.2. Computation of Human Rabies Vaccine using the Intradermal Regimen and Rabies Exposure Category

Computation of human rabies vaccine requirements at the national and regional level may be based on the number of Category II and III rabies exposures with consideration of the available resources from the national government and other sources.

Estimated number of Category II and III exposures expected to require TCV:

Total number of Cases of Rabies Exposures x
% of Category II and III Exposures
(based on Program Annual Report)

Number of Category II and III Exposures x
No. of Vials required for a full course

National Level

FOR PVRV	FOR PCEC
No. Of ID doses required	No. Of ID doses required
<p>Cat II + Cat III = number of patients requiring TCVs/CCVs base on annual report base from previous year</p> <p>No. of patients requiring CCVs X 8 doses = total ID doses required for all patients</p> <p>Sample computation:</p> <p>1,000 Cat II + 1,500 Cat III = 2,500 total number of patients requiring CCVs 2,500 x 8 = 20,000 ID doses required for all patients</p>	<p>Cat II + Cat III = number of patients requiring TCVs/CCVs base on annual report base from previous year</p> <p>No. of patients requiring CCVs X 8 doses = total ID doses required for all patients</p> <p>Sample computation:</p> <p>1,000 Cat II + 1,500 Cat III = 2,500 total number of patients requiring CCVs 2,500 x 8 = 20,000 ID doses required for all patients</p>
No. Of vials required	No. Of vials required
<p>Total ID doses / 5 ID per vial X 1.2* = total number of vials required *(.2 or 20% is the allowable wastage)</p> <p>Sample computation:</p> <p>20,000 ÷ 5 x 1.2 = 4,800 vials required</p>	<p>Total ID doses / 10 ID per vial X 1.2* = total number of vials required *(.2 or 20% is the allowable wastage)</p> <p>Sample computation:</p> <p>20,000 ÷ 10 x 1.2 = 2,400 vials required</p>

1.3. Vaccine Requirements at the level of Animal Bite Treatment Centers

Estimated number of Rabies Exposures per Year

Computation of the cell culture vaccine for the Local Government Units (LGU) through the Animal Bite Treatment Centers may be based on the number of Category II and III rabies exposures with consideration of the available resources from the LGU and augmentation from the national government and other sources.

Estimated number of vials to be used by the number of patients per day.

The number of patients with rabies exposures seeking anti-rabies vaccination per day could not be predicted. The risk of rabies infection as a consequence should prevail over wastage of vaccine. Unused doses of vaccine may be provided for pre-exposure prophylaxis of individuals within the area.

The table below shows the estimated number of vials to be opened as based on the number of patients seeking PEP in one day (estimate based on ≤ 10 patients/day only).

**Estimated Number of Vials to be Open Based
on the Number of Patients**

Number of patients per day	Number of ID Doses	Number of vials to be opened according to vaccine type	
		PVRV	PCEC
1	2	1	1
2	4	1	1
3	6	2	1
4	8	2	1
5	10	2-3	1 -2
6	12	3	2
7	14	3	2
8	16	4	2
9	18	4	2
10	20	4-5	2-3

1.4. Vaccine Allocation

The kind of vaccine (PVRV or PCEC) to be allocated to ABTCs must be based on the following factors:

- Number of patients per day; and
- Availability of the vaccine in the local market

Ideally, PCEC should not be given to small ABTCs (with 2 or less patients per day to avoid huge wastage rate (>60%.) PVRV can be given to both small and big ABTCs (with >3 patients per day)

1.5. Rabies Immunoglobulin

Computation of the RIG yearly requirement may be based on the number of Category III rabies exposures with consideration of available resources from the national government, LGUs and other sources.

Computation of Rabies Immunoglobulin Supply:

COMPUTATION	EXAMPLE: For Equine Rabies Immunoglobulin
Number of Category III Exposure x average number of vials of RIG per patient	86,982 patients x 2* vials /patient (for a 26-50 kg patient) = 173,964 vials/year

**No. of vials per patient depends upon the weight of patient. For patients ≤ 25 kgs shall require (1) one vial; ≥ 51 to 75kgs shall require (3) three vials; >75 shall require (4) four vials*

1.6. Animal Rabies Vaccine

Computation of Animal Rabies Vaccine is based on 10:1 human: dog population ratio. Herd immunity when mass dog vaccination coverage of 70% is reached within a short period of time and yearly vaccination thereafter every two years.

Number of animal rabies vaccine required:

Dog population x 70% coverage
X 1 vial /10 dogs
10% of human population or 70%
x 1 vial / 10 dogs

Example:

National: 89 Million x 10% = 8.9 Million (Estimated dog population)

8.9 Million x 70% coverage x 0.1 vial/dog = 623,000 vial

1.7. Vaccine Wastage

Wastage is defined as loss by use, decay, erosion or leakage or through wastefulness. Vaccine usage is defined as the proportion of vaccine issued and administered.

$$\text{Vaccine Usage Rate} = \frac{\text{Number of doses administered}}{\text{Number of doses supplied}} \times 100$$

Vaccine wastage is the opposite of vaccine usage and is calculated as follows:

$$\text{Vaccine Wastage Rate} = \frac{\text{Number of doses supplied}^* - \text{doses administered}}{\text{Number of doses supplied}} \times 100$$

Example:

Number of doses supplied: For 20 vials of PVRV:
5 doses/vial x 20 doses :100 doses
Number of doses administered: 86 doses

$$\text{Wastage Rate: } \frac{100-86}{100} \times 100 = 14\%$$

**Doses supplied is calculated from stock records for a given time period by adding the starting balance of usable vaccine doses to new doses received during the period and subtracting the ending balance*

Some wastage is unavoidable. It is impossible to get all the doses in a multi-dose vial. A 1 ml-dose vial does not yield 10 doses for PCEC or a 0.5 ml vial does not yield 5 doses for PVRV.

In one day, one vial of vaccine could cover the (2) two ID doses of two patients for PVRV or (2) two ID doses of (4-5) four to five patients for PCECV in one visit. However, there are instances that a lesser number of patients come in one day to consume all the available doses of vials that have been opened within the day.

Unused doses may be used for pre-exposure prophylaxis and may be counted as administered doses to minimize wastage.

Wastage rates higher than 20% may indicate problems such as poor stock management, cold chain failure ,incorrect mixing of freeze-dried vaccine and incorrect dosage.

1.8. Physical Inventory

A regular physical check ensures stock records, and accurate and complete running balances. Regular inspection should be done to check on damaged, expired, heat or cold-exposed vaccines that need to be kept outside of the cold chain and clearly labelled “Damaged/expired vaccine – do not use”.

An inventory report should be properly filled up and submitted to next higher administrative level every quarter.

1.9. Minimum Requirement for ABTC /ABC

1. Physical Set-up
 - Presence of Cold Chain Management
Refrigerator with thermometer
 - Presence of Signage (outside/inside)
Waste Management, Segregation, Disposal
 - Flowcharts
 - Organizational Charts
 - Clinic Schedule
2. Manpower
 - DOH/CHD trained Medical Doctor
 - DOH/CHD trained Nurse
 - Only MD and RNs are authorized to provide vaccination
3. Supplies
 - vaccines, syringes, dressing kit, soap, IEC materials
 - emergency drugs for adverse reaction, gloves
 - reference copy of RA 9482, DO 2007-0610, Sanitation code, AO on animal bite management
4. Systems
 - Referral-2 way referral form
 - Recording and Reporting (1. Rabies Exposure Registry, PEP Card, Quarterly/Annual Cohort, NRPCP Report Form, Human Rabies Report Form)
5. Capability
 - on Management of Animal Bites from DOH recognized training

***see appendix 6: ABTC/ABC Assessment Tool

1.10. Responsibility of Cold Chain Manager

- Monitor cold chain practices.
- Ensure all vaccines and biologics are handled correctly and procedures are documented
- Ensure that vaccines and biologics storage and handling protocols are up to date
- Provide information to new immunization providers regarding storage and handling.
- Ensure rescue and transport supplies (coolers, freezer packs, flashlight, protocols, etc.) are in close vicinity of the fridge.
- Review the temperature log for vaccines and biologics weekly to ensure proper temperature recording.
- Follow up on recommended actions following a cold chain failure.
- Complete monthly inventory counts and checks.
- Weekly refrigerator maintenance.
- Annual thermometer or data logger maintenance.

1.11. Animal Rabies Vaccines

1.11.1 Introduction

One major component of the Rabies Program is dog vaccination which is recognized as the most effective strategy to protect humans from rabies by cutting the infection at its source. There has been several mass vaccination strategies developed including ring vaccination covering 3 km radius from the areas with human and/or animal cases, north to south or vice versa and outer to inner vaccination. Whether what strategy is being employed, the ideal mass vaccination strategy should cover at least 70% of the total dog population and should be completed in shortest time possible or within a month.

1.11.2 Estimating Dog Population

The first step towards approximating the number of vaccines needed in an area is to estimate the dog population or attaining the actual dog count in that specific area. Please see Chapter III, Part C for more information on this.

1.11.3 Vaccine qualifications

The animal rabies vaccines to be used during the mass dog vaccination must be inactivated, meet the OIE criteria and must be registered to BAI to ensure quality.

1.11.4 Budget Resource

Annually, the Department of Agriculture allots budget for the National Rabies Prevention and Control Program. This includes the budget for vaccine procurement and operating expenses for the program.

Other LGUs have allotted budget to support the NRPCP. Budget may come from 20% development fund, 5% calamity fund and CSRs.

1.11.5 Forecasting of vaccines

International bidding

Animal rabies vaccines are procured through the assistance of Bureau of International Health Cooperation and World Health Organization who then subjects the purchase request to the bidding process. Once the bidding process is done and quotation for vaccines are released, the WHO notifies the BAI for the amount of vaccines to be purchased based on the program budget. See Algorithm on Process of Forecasting Vaccines through International Bidding

Local bidding

Local procurement of vaccines is subjected to the bidding process set by the government. Once purchase request has been made, bidders may post quotations online through Philippine Government Electronic Procurement System (PhilGEPS). A contract is forged once a bidder is finally chosen. See Algorithm on Process of Forecasting Vaccines through Local Bidding

1.11.6 Delivery Schedules of Procured Vaccines (Tranches)

After transfer of payment has been made, through the assistance of Bureau of Import Services and Land bank of the Philippines, vaccines are delivered in tranches usually in March – in time for Rabies Awareness Month and September – in time for World Rabies Day (September 28).

1.11.7 Allotment of Vaccines

Vaccine allotment is primarily based on the estimated population, on an equal percentage basis. Special considerations are given to areas with most cases of human and animal rabies, known as high risk areas. If provided with a comprehensive vaccination plan, a Memorandum of Agreement signifying a full commitment of local chief executive, or a government-private project, vaccines may be given fully to support the program or mini projects.

1.11.8 Timely submission of utilization reports

LGUs that liquidate and send their reports immediately are given opportunity to get more vaccines.

1.11.9 Distribution of Vaccines

Vaccine allocation

- Computed vaccine allocation per region will be released through the Regional Rabies Coordinator of each DA-RFO. The RRC will be responsible for the distribution of vaccines per province and city.
- General requirements must be complied by the LGU before the release of vaccines.
- For NCR Cities, the request and release of vaccines are made directly by the City Veterinarian in BAI.

Buffer stock

A buffer stock is maintained by BAI every vaccine tranche delivery. This is utilized during an emergency situation, committed projects, and any situation that obligates the need for vaccine

Delivery of Vaccines to the Regions and LGUs

Acquisition of vaccines can be made by directly getting the allotted or the requested vaccines at the Bureau of Animal Industry. Vaccines are released when transport box and coolants are provided.

In cases where the recipient is from a distant area, vaccines can be delivered through a courier or hired forwarders. However, payment for freight charges must be made by the requesting party.

1.12 Cold Chain Management

1.12.1 Stages of cold chain management

Vaccine is the most important commodity in the implementation of the program. To guarantee good quality and effectiveness, vaccines must be handled carefully ensuring optimum temperature and conditions during transport and storage from the procurement up to the vaccination proper.

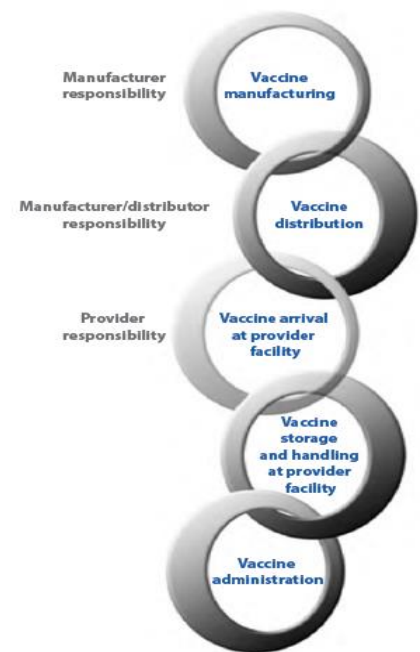
1.12.2 Elements of effective cold chain management

- A well trained staff or designated vaccine handler
- Reliable storage and temperature monitoring equipment
 - Vaccine refrigerator or bio-ref
 - Thermometer
 - Temperature record ledger
- Accurate vaccine inventory

Proper Vaccine Storage and Handling

Animal rabies vaccines must be stored between 2° to 8° Centigrade. Precautions must be made regarding the stability of temperature. Temperature below 2°C and higher than 8°C or any fluctuations may destroy the vaccine potency and will result to losses.

During the vaccination day, it is important that target population to be vaccinated is known so that enough vaccines are being prepared. Furthermore, vaccines can be transferred in small cold packs to increase portability, yet maintaining the optimum vaccine temperature. During vaccine withdrawal, it is better to utilized one bottle at a time. Once a vial of vaccine is opened, all of the vaccine must be used as recommended by the manufacturer. It is best to use the vaccine on the same day it is opened.



1.12.3 Managing remaining vaccines and waste disposal

- All used needles and syringes should be placed in the safety box for correct and safe disposal.
- All unused vaccine that has not been maintained at 2° C to 8° C and other sharps must be incinerated.
- Any unopened vaccine in small cold box can be returned to the refrigerator if the temperature has been remained between 2° C to 8° C
- Any remaining vaccine should be returned to local storage & must be used the following day or within 24 hours, otherwise, it will be discarded.

1.13 Reporting of Vaccine Utilization

All reports (PhilAHIS or MS Excel and summary of vaccination report (see Summary of Vaccination Report form) up to the barangay/village level) from the LGUs (PVO and CVO) must be submitted to the DA-RFO through the RRC. RRC will collate all reports and a summary will be submitted to the BAI every quarter.

Recording and Reporting

Records are related information or evidences collected over a period of time. The availability of records is critical in the successful implementation of the program. These will make sure that patient's data and management are monitored and appropriately documented.

Reports are accounts of events, situations, or episodes. These are evidences of the efficiency and effectiveness of program implementation. Program reports can also be used as basis for planning and improvement of implementation.

Policies

- 1.1. The NRPCP shall utilize the Rabies Exposure Registry and PEP Card as its official recording forms.
- 1.2. Quarterly reports on animal bite cases, cohort analysis and Summary of Human Rabies shall be submitted by all levels to the DOH through channels.
- 1.3. Recording and reporting shall be implemented at all ABTCs/ DOH recognized ABCs in the country
- 1.4. Recording and reporting shall include all animal bite cases categorized according to NRPCP guidelines.
- 1.5. The NRPCP shall adopt the official DOH recording and reporting system.
- 1.6. Records and reports shall verify the accomplishment of the program.

2.1. Rabies Exposure Registry

[illegible]

2.1.1.1. **Registration Number** - chronologically assigned to each patient.

2.1.1.2. **Registration Date**- indicated the date of consultation.

- Name of Patient- Write the family name followed by the first name and middle initial
- Address- state complete address, including landmarks or contact numbers (if available)
- Age- Patient's completed age in years
- Sex- Write M for male and F for female

- Date- indicate the date when the patient was bitten.
- Place- indicate the complete address where the patient was bitten.
- Type of Animal- Write PD if Pet Dog; SD if Stray Dog owned or ownerless freely roaming the community; C if Cat; O if Other than those previously stated.
- Type of Bite- Write B if Bite and NB if Non Bite to include all non-biting rabies exposure like eating raw meat, splattering, kissing, etc.
- Site- Indicate the body part/s bitten

2.1.2.2. Under Post Exposure Prophylaxis (PEP) Category of Exposure

- Washing of Bite- Write Y if Yes or N if Not done
- RIG - indicate the date when the RIG was given
- Route- indicate the route of injection (Write IM if Intramuscular or ID if Intradermal)
- Brand- indicate the brand name of TCV/CCV given
- Under Tissue Culture Vaccine/CCV-indicate the date when the following doses was given

Tissue Culture Vaccine (TCV)	Date Dose was Given
1st Dose	
2nd Dose	
3rd Dose	
4th Dose	
5th Dose	

Outcome

Patients who receive either PrEP or PEP may be classified according to the following outcomes:

Code	Description
Completed (C)	Patient received at least day 0, 3 and 7 doses of PEP or day 0, 7 and 21/28 of PrEP
Incomplete (INC)	Patient with less than 3 doses of either PEP or PrEP
Died (D)	Patient who died of whatever cause while undergoing PEP
None (N)	Category II and III exposures who did not received any TCV dose

2.1.2.3. Status of Biting Animal

After the 14th day of observation period, assess the status of the biting animal. Write A if Alive; D if the animal Died or L if the animal was not available for observation.

2.1.2.4. Under Previously Immunized Patients

- Day 0- indicate the date the dose was given
- Day 3- indicate the date the dose was given

2.1.2.5. Remarks- indicate other significant information if available.

2.2. Flow of Reporting

Regular reporting is crucial to better understanding and addressing rabies situations in the whole country, particularly in regions and provinces where rabies is endemic. It contributes to the provision of timely and appropriate actions to control the spread of infection, and safeguard both human and animal health. Through reports, rabies program implementers, particularly those in GIDAs are provided broader perspectives, timely feedback and relevant data.

Data gathered from reports may be used for various analytical purposes, i.e., review of current strategies and activities; resource and budget allocation, progress and status of patients provided PEP, number of dogs (and other animals) vaccinated, etc.

The timely submission of all reports would ensure data relevance and rapid response to emerging rabies situations. The NRPCP recommends that all rabies program personnel adhere to the reporting flow in the table below:

Table 26: Flow and schedule of reporting from different units		
Responsible	FLOW	TIMELINE
Program Manager	DPCB-DOH ↑	1 st week of the 2 nd month of the succeeding quarter
Program Officer/Coordinator	Regional ↑	Every 30 th following month of the quarter
City/Provincial Coordinator	City/Provincial ↑	Every 20 th following month of the quarter
ABTC MD/nurses	ABTC/ABC	Every 2 nd day of the 1 st month of the succeeding quarter

**** Partial report should be given every 15th day of the succeeding month of the following quarter

2.3. [National Rabies Information System \(NaRIS\)](#)

To effectively implement all prevention and control interventions, the NRPCP requires reliable information on the incidence of rabies across the country. Reliable information is made even more crucial given the virulent nature of rabies – and the urgency to stop the spread of its infection. One of the ways by which the NRPCP is able to accomplish this is through the National Rabies Information System (NaRIS), a data collection mechanism designed for continuous and systematic collection, reporting and analysis of rabies data.

NaRIS is a patient-based rabies program accessible to all stakeholders- DOH, DA, WHO, LGUs, RHUs, CHOs, ABTCs, NGOs, and the private sector- through the internet. It facilitates data collection, aggregation, and utilization, and has the capacity to perform drug inventory.

It is a standards-based website that was developed for 3 levels of users namely, the public, animal bite treatment center personnel, and managers/ decision makers.

As an **information portal**, the public can access various information on rabies, i.e., first aid tips, locations of animal bite centers. The public may also use it as a **notification portal** where any person can report a possible rabies case.

Trained personnel from the reporting health facility will input patient-based data, ideally at the point of care.

Decision makers can reference the NaRIS website to access data that are important to decision-making.

The NRPCP office encourages that all ABTCs and ABCs use the NaRIS for reporting of animal bites. ABTCs and ABCs in geographically Isolated and disadvantaged areas (GIDAs) where internet access may be difficult, staff may continue to submit their manually-encoded quarterly reports.

It serves as the **online bite and rabies registry and inventory card** where trained animal bite treatment center personnel will input patient-based data ideally at the point of care. The website is a **dashboard and database** where decision-makers can easily retrieve data important for decision-making.

2.4. Post Exposure Prophylaxis Card (PEP CARD)

2.5. Report of Animal Bites

[illegible]

2.6. Summary of Human Rabies

*National Rabies Prevention and Control Program
Manual of Procedures*

3. Monitoring, Supervision and Evaluation

Monitoring is the routine collection and tracking of key program data over time. Monitoring is a process that helps to identify problems early so that they can be corrected quickly. This requires that data be collected, compiled, and analyzed on a routine basis. Monitoring will provide information about the status and trends of the program that can help:

- Assess whether the program is meeting its targets
- Identify and improve problem areas in the implementation of NRPCP
- Check records and reports
- Ensure most effective and efficient use of resources

Supervision is an essential management tool to ensure the ABTC/ABC staff carry out the program's policies, standards, and procedures correctly, effectively, and efficiently. It is also an opportunity for supervisor to do the following:

- Discuss with ABTC/ABC facility staff important issues related to the program;
- Acknowledge and reinforce good performance;
- Help ABTCs/ABCs staff identify and correct inadequacies or weaknesses in its performance;
- Give feedback and solicit ideas on how to improve program implementation; and
- Provide mentoring to the ABTC/ABC staff.
- Ensure compliance to DOH standards for certification

While monitoring helps look at progress in indicators and helps in knowing if targets are reached, evaluation examines the process in greater depth and helps evaluators understand what the indicators are really telling.

Evaluations are typically conducted at specific time periods (for example, at the end of the year), whereas monitoring happens on a daily, monthly, and quarterly basis.

An evaluation of NRPCP will demonstrate how well the program has met the expected goals and targets.

3.1. POLICIES

- Monitoring of ABTC/ABC shall be done by Provincial /City/DOH NRPCP Coordinators every quarter. They shall see to it that ABTCs/ABCs follow the standards/directions and technical policies.
- The Provincial/City/DOH/ DOH NRPCP Program Coordinators shall regularly conduct monitoring using the prescribed forms. They shall analyze data from quarterly reports and provide feedback of findings with corresponding recommendations to the staff or authorities concerned.
- Continuous advocacy efforts to secure commitment of LGUs to purchase anti rabies vaccine, RIG and other supplies and for the implementation of responsible pet ownership.

3.2. PROCEDURES

Monitoring and Supervision Activities for ABTCs

Identify which ABTC/ABC should be visited regularly based on results of previous monitoring and supervisory visits. Use the following guidelines for monitoring and supervisory visits:

- a. Verify records such as PEP cards and Rabies Exposure Registry for accuracy and completeness of data entries.
- b. For PEP card, randomly verify/inspect the card of patients whether schedule of next visits is written at the back of the card while actual date of visit/actual ARV administration are recorded inside the card. Should be consistent with the Rabies Exposure Registry Data.
- c. In the Rabies Exposure Registry, bites due to rats, rabbits, snakes and other reptiles, birds and other avian, insects and fish should not be included.
- d. Calculate completion rate of last quarter's total number of registered cases. Verify reasons of non-completion of treatment.
- e. Observe ABTC/ABC staff administering ID dose and RIG infiltration if correct dose is given and procedures are done correctly.
- f. Observe ABTC/ABC staff giving correct and relevant health education to the patients,
- g. Conduct interview ABTC staff and patients to ensure that guidelines are being observed.
- h. Conduct physical inventory of vaccines and other supplies including proper storage.
- i. Compute supplied/distributed drugs and the number of doses given and check the remaining doses/vials in the refrigerator.
- j. Coordinators/supervisors must share relevant information and recommendations arising from the visit in writing preferably in the supervisory logbook, with the

ABTC/ABC staff concerned. Courses of actions to address deficiencies or mistakes must be thoroughly discussed and solutions agreed upon by the supervisor/coordinator and staff. Make sure the issues and recommendations written have been addressed in the next visit.

For areas declared as Rabies Free Zone, monitoring should include the following in order to sustain free rabies zone:

- Activities to be conducted to sustain rabies free zone
- Use of a checklist and monitoring for assessment and evaluation

The ABTC physician/nurse prepares, analyzes, and must submit the Quarterly report on Animal Bite Victims, Quarterly Report of Human Rabies Case, Quarterly Cohort Analysis and vaccine utilization report.

Every ABTC/ABC must seek for certification to ensure that quality rabies exposures management services is implemented in both public (Animal Bite Treatment Centers) and private (Animal Bite Centers) facilities. The certification provides an assurance to all animal bite cases that these facilities are capable of providing quality, safe, affordable and effective rabies exposures prophylaxis services. Furthermore, certification ensures standardization of the provision of bite exposures management and treatment services through a uniform set of standards.

SAMPLE MONITORING TOOLS USED BY REGION 6 AND Region 4B



Republic of the Philippines
 Regional Office VI
 Department of Health
 Q. Abeto St., Mandurriao, Iloilo City



RABIES PREVENTION AND CONTROL PROGRAM
 Monitoring Checklist

Province:

City / Municipality:

Date:

Parameters			Remarks
I. Animal Bite Treatment Centers <ol style="list-style-type: none"> 1. With trained staff 2. With available vaccines 3. Intradermal technique used 4. Guidelines for Animal Bite Management (AO 164) available 5. With designated space identified by a signage 6. Cold chain management in place (with alternative plan in case of brownouts) 			
II. Provincial / City / Municipal Ordinance <ol style="list-style-type: none"> 1. Functional Rabies Control Committee <ol style="list-style-type: none"> a. Regular meetings b. With ordinances / resolutions passed 2. With dog pound 3. With dog vaccination center / dog vaccination done in the area 4. Registration of dogs done 5. Includes dog owners liability 6. With stray dog control 7. Functional Brgy. Rabies Brigade 			

8. Above provisions enforced (if yes, pls. indicate corresponding no.)			
III. Budget for Rabies Control 1. Included in the Animal Development Plan 2. With specific funding scheme			
IV. Response to Reported Human Rabies Cases 1. Surveillance System a. Case investigation of human rabies cases b. Contact tracing 2. Vaccination of high risk contacts 3. Dog vaccination in the area (15 km radius) 4. Household and community education			
Parameters	Yes	No	Remarks
V. Referral System 1. Referral slips from ABTCs / RHUs filed 2. Referral slips from referred hospitals / RHUs files			
VI. Recording / Reporting System • Reports filed and submitted 1. Quarterly reports 2. Case Investigation Reports 3. Annual records			
VII. Advocacy 1. Agenda in LHB meetings 2. Agenda in ILHZ meetings 3. Orientation – League of Mayors 4. Tri-media campaign 5. Celebration of Rabies Awareness Month 6. Multi-sectoral advocacy 7. Others			

Comments / Suggestions: _____

Submitted by: _____

Noted by: _____

Rabies Coordinator

PHO/CHO/MHO/COH



Republic of the Philippines
Department of Health
REGIONAL OFFICE IV- MIMAROPA
QMMC Compound Project 4, Quezon City

MONITORING TOOL
NATIONAL RABIES PREVENTION AND CONTROL PROGRAM

Name : _____
Facility : _____
Municipality / Province : _____
Date of Monitoring : _____

I. Efficiency of PEP Coverage

Percentage of PEP given to date	
Cohort report of PEP Coverage to date	
No. of reported rabies patient to date	

II. Cleanliness, Orderliness and Infection Control

CRITERIA	YES	NO
Clean and health-promoting environment is maintained within and outside the premise		
Adequate clean water is available for wound washing		
General and infectious waste appropriately segregated, handled and disposed		

III. Rabies Program Policies and Vaccine Storage

CRITERIA	YES	NO
Trained physician and/or nurse on duty at the facility		
RER and PEP card adequately and accurately filled up		
Medical record of patients available and filled-up appropriately		
Quarterly reports of human and animal bite cases recorded and updated		
Rabies education and management advised		
Defaulters logged in a separate logbook, follow-up system in place		
Referral system to other ABCs/ABTCs (should services are not available) effectively implemented		
Passive and active ARVs available for patient administration		
Vaccines adequately stored in a temperature-regulated environment		
Vaccine contingency plan available in case of power interruption		

IV. Social Mobilization/IEC

IEC Activities Conducted <ul style="list-style-type: none"> • Places of Conduct • Dates of Conduct • No. of Participants 	
IEC Materials Given <ul style="list-style-type: none"> • Type of IEC Materials given • No. of IEC materials given 	

Other Findings :

Monitored by :

Facility Staff/Chief :

3.3. Capability Building

3.3.1. Human Capability Building

Training health care personnel as well as allied health professionals on the importance of proper management and treatment of animal bite wounds is essential in preventing and containing the spread of rabies; and most importantly, saving the lives of victims.

As health care standards and medicine continue to grow, rabies responders have the duty to be apprised and keep up with the times. They are, after all the first to meet a possible rabies patient, so it is important that they are knowledgeable and up to date on rabies protocol. Those that have been previously trained may do well to have a refresher course, as there have been changes on clinical management and treatment of rabies.

Similarly, there are updates in medical technology, providing healthcare professionals from both the public and private sectors with new or additional materials that they may need on a daily basis.

For human health, The DOH, through the NRPCP, will provide training on the clinical protocols and other equally-important and relevant components. Human rabies data management; information, communication and advocacy; logistics and capability building needs will be handled by the respective DOH unit (i.e., data management by the EB; health promotion and advocacy by the HPCS, etc).

Laboratory capability will be handled by the RITM.

1. ABTCs
2. NARIS
3. Rabies Prevention Control Module
 - a. for Health Providers
 - b. for Community Health Workers / Volunteers

Note: GARC Rabies Educators Certificate (E-Learning) Course to be reviewed by NRPCP and Health Promo for possible roll out to BHW's and non-medical implementers.

4. Laboratory

The DA-BAI and their agencies will handle training on animal health.

B. Animal Capability Building

1. Laboratory Training for Vets

a. Continuing Medical Education

2. Dog Catchers and Vaccinators

C. Other Stakeholders

1. Broadcasters/ Media/ Tri-Media (Orientation)

Supporting Policies – Responsible Pet Ownership

1. RA9482

2. Department Orders/ Memo / AO/ Circulars

3. Local ordinances

4. Quarantine Policies

CHAPTER VII

MYTHS AND CONCEPTIONS

CHAPTER VII: Myths and Misconceptions

Despite progress on medical research and the national government's efforts on rabies prevention and control, many Filipinos still believe in the myths and misconceptions and follow old remedies that are ineffective. Myths abound, false beliefs continue and inappropriate practices on dog/bite wound management persist in many parts of the country. These include making the bite wound bleed profusely; applying garlic directly on the wound and opening up the wound to further facilitate bleeding. It is believed that making the wound bleed more helps remove the rabies virus.

More often, a tandok is called on to perform the task of removing rabies from the wound. The tandok scorches the antler of a deer and places this over the wound. It is believed that if the horn sticks, the patient is infected with rabies. The wound is then packed with garlic to stop the infection and kill the disease.

Prevalent attitudes and malpractices like these could actually cause more harm and worsen the wound and the bite victim's condition. These practices are followed by many people for a long time and are perpetuated to next generations; thus hampering the right health seeking behaviors for rabies (and animal bite wounds).

Tandoks have also been long sought for their folk knowledge and are considered by the people as the better alternative to obtaining premium priced anti-rabies vaccines. Another reason why far-flung communities seek traditional or alternative measures is their distance from health facilities. Many still lack access to hospitals because of distance and transportation costs.

The NRPCP has intensified its efforts in strengthening further their rabies prevention efforts through health promotion campaigns and information, education and communication (IEC) activities.

The following table shows other myths and misconception on rabies, a very misunderstood fatal disease.

MYTHS AND FACTS ON RABIES

MYTHS	FACTS
The public health significance of rabies is related to the number of cases in an area.	Rabies is of public health importance because of the high mortality rate, which is 100% when people have no natural resistance to rabies. Fortunately, humans have a relatively lower susceptibility to the rabies virus compared with other hosts.
Only one rabies virus is known to cause the disease.	No, because rabies-related viruses belonging to the genus <i>Lyssavirus</i> can all cause rabies-like disease. Rabies-related viruses include Mokola virus, Lagos bat virus and Duvenhage virus in Africa, European bat viruses 1 and 2, and Australian bat lyssavirus.
Rabies is only transmitted by the bite of an animal.	Rabies can be transmitted through a wound or broken skin when in contact with the saliva of a rabid animal, e.g. even when there is saliva on an animal's claw when it scratches a victim's skin. Airborne rabies transmission can also occur in rabid bat caves.
Human rabies is only transmitted by dogs.	The dog is the major carrier of rabies in the urban setting. Rarely, rabies virus is transmitted by cats. In the countryside, people are at risk of contracting rabies when in contact with rabid wild animals such as foxes and jackals. Although extremely rare, it is possible for the rabies virus to be transmitted from rabies-infected livestock, such as cattle, to humans.
There are no asymptomatic carriers of rabies.	A small percentage (5%) of rabies-infected dogs remain asymptomatic carriers. There can also be cases where the rabies virus is present in tonsils and absent in the central nervous system (CNS).
Human rabies is transmitted by stray dogs.	In general, rabies can be transmitted to humans by unvaccinated stray and also domesticated dogs.
'Do not worry; the dog has had its shots. It has no rabies.'	This is true ONLY if the dog has had a booster shot.
Only rabid dogs froth at the mouth.	a) Not necessarily. Dogs can be affected by two forms of rabies, the furious form and the paralytic form. In the latter form, because of jaw muscle paralysis the dog's tongue hangs out of its mouth and it experiences excessive salivation. Paralytic rabies occurs in approximately 20% of rabid dog cases. Consequently, in 80% of rabies no sialorrhea is present.

	b) Frothing at the mouth may also be a symptom of conditions that are more common than rabies, such as canine distemper, coccidiosis, helminthiasis, ticks, etc.
If a dog bites, it means that it is infected by rabies.	<p>a) A dog with the furious stage of rabies can act in that manner. Initially, a dog with furious rabies snaps at strangers. As the rabies progresses, the infected dog bites at inanimate objects, such as tires and chairs. If a furious-phase dog escapes, it will run long distances, snapping at any creature that it encounters, before it enters the final paralytic stage and dies.</p> <p>b) Even a healthy dog bites but there is always some reason for the biting, i.e. it is normal for a dog to bite a person who steps on its tail or a stranger who pats its head. In contrast, a rabid dog bites for NO REASON at all.</p>
A friendly dog is not infected by rabies.	<p>a) During the incubation period of rabies, a dog can act in a friendly or aggressive manner, depending on its character and training</p> <p>b) In the early clinical stage of rabies, dog behavior shifts: a previously aggressive dog can behave in a friendly way, whereas a previously sociable dog can react aggressively.</p>
Rabies post-exposure prophylaxis (PEP) shots are very painful.	This was true in the past, when rabies PEP shots were given by large-circumference needles through the abdominal wall, which is a very tender area. Now, in adults, rabies PEP shots are administered intradermally or intramuscularly in the deltoid area. In children, shots can also be administered in the anterolateral aspect of thigh.
Rabies post-exposure prophylaxis (PEP) consists only of an injection of rabies immunoglobulin (RIG).	Rabies immunoglobulin (RIG) is infiltrated around and into the wounds to achieve passive immunization aimed at neutralizing the rabies virus. RIG is ALWAYS followed by the administration of vaccine (active immunization).
First aid is not helpful for those who have been bitten or scratched by an animal suspected of having rabies. This is the reason why they should immediately go to the nearest bite center or health facility.	It is necessary to clean the animal bite wound promptly and thoroughly. The wound and surrounding tissue should be flushed with a strong stream of water and washed well using soap or detergent for at least 10 minutes. Virucidal disinfectant (povidone iodine) should be applied carefully under skin flaps. Then the animal bite patient should immediately go to the nearest bite center or health facility so that rabies immunoglobulin (RIG) can be infiltrated around and into the wounds, if needed, and PEP can be administered.
Any animal that has bitten humans should be killed	Any canine or wild host of rabies that has bitten humans or other domestic animals must be kept under quarantine or killed

because of the danger of rabies.	humanely. If kept under quarantine, the suspected rabid animal should be observed for a reasonable period of time, usually 14 days. If killed, the intact head of the suspected rabid animal should be submitted for necropsy and examination to check for the presence of rabies virus in the brain tissues.
There is a fixed observation period for suspected rabies hosts that have bitten humans or other hosts.	No, because the observation period of suspected rabies hosts is related to when the virus made it into the saliva during the pre-symptomatic phase. Thus it depends on the species of rabies animal host. Canine hosts excrete the virus in their saliva 3-14 days prior to the appearance of symptoms, depending on the infectious dose and viral strain. Consequently, an observation period of up to 2 weeks for suspected rabid dogs could be recommended.
Rabies vaccines for animals are only injectable.	There are also oral rabies vaccines for animals. In rabies enzootic areas, vaccines are incorporated into edible baits to vaccinate dogs and wild hosts such as foxes and jackals.
Only dogs carry the rabies virus.	Dogs AND other animals can carry the virus. ANY mammal can spread the rabies virus. In the Philippines, the most common source of infection is stray, unvaccinated dogs. Cats and livestock such as cows, goats, horses and carabaos can pass it on as well. Wild animals like bats and monkeys are known to also potentially be infected with the rabies virus.
Rabies is not fatal to humans.	Rabies is nearly always fatal to humans if immediate treatment is not given within 24-48 hours after being bitten or scratched. Shots can be administered to prevent the rabies virus from infecting the bitten or scratched person. One shot is called "rabies immunoglobulin" to prevent the virus from infecting the person, and the other is a series of vaccines to produce antibodies and fight the virus.
A person does not need first aid when he is bitten or scratched by a rabid animal.	First aid is a MUST. The wound must be immediately and thoroughly cleaned with soap and generous amounts of water for at least 10 minutes to help wash the virus away. Then the person must be brought to the nearest bite center or health facility.
"Tandok" is enough treatment when a person is bitten or scratched by a rabid animal.	Patients who received "tandok" died either from rabies or tetanus. Tandok is a form of folk medicine used by traditional healers. A deer horn is placed over the wound, believing that it sucks out the virus. All victims should be seen by a doctor so they are given immediate and proper medical treatment.

If I'm unsure I was bitten or scratched, I shouldn't worry.	Never assume you weren't bitten or scratched. This can happen in cases when the person is asleep. Perhaps a dog or cat entered or bat flew into the room, which could bite or scratched a person without waking him up. Children or those with disabilities who are unable to communicate should also be checked.
An animal that is suspected of rabies should be shot in the head.	The animal should be captured and contained if it's not seen to cause more injury. It should then be brought to the laboratory and be tested for the virus.
If I'm okay a few hours after I'm bitten, I don't have rabies.	Symptoms of having the disease manifest very late, often days before death. This is why if there's a chance that you may have contracted the virus, immediate medical treatment needs to be sought.
Rabies can be spread through feces or blood.	Rabies is NOT transmitted through the blood, urine, or feces of an infected animal, nor is it spread airborne through the open environment. Saliva provides the primary transmission medium when the animal is in the clinical stage of rabies. For the rabies virus to get to the salivary glands, it has to travel first from the site of entry (usually a bite wound) through the animal's nervous system, then to the brain. This is what causes most rabid animals to exhibit abnormal behaviors, depending on what part of the brain is infected. Finally, the virus travels to the salivary glands during the terminal stage of rabies, prior to death. It is this later stage of rabies when an animal is most infectious because the virus is in the saliva.

Appendix

Appendix 1

Primary Bite Trauma and Severity

Factors that can contribute to the severity of animal bite wound(s)

a. Species of animal

- Canine teeth can create cutting and crushing damage to tissues
- Needle-like dentition of cats leave discreet puncture wounds.

b. Age/size of victim

Children are more likely than teenagers and adults to sustain bite injuries that require medical attention.

Children less than or equal to 14 years of age comprised 30% of bite related emergency department visits (CDC 2003).

Because of the smaller stature, children are more likely to suffer bites to the head and face (Lung 2005; Harris 1974; Daniels 2009).

Injuries to the head and face represented nearly two-thirds of bite injuries among children aged <4 years in one study (CDC 2003) and nearly three-quarters of bite injuries among children aged 0 to 9 years in another (Weiss 1998).

c. Number of animals

Most animal bites are bitten by a single animal only.

Unusual circumstances such as persons attempting to intervene in a fight between two or more dogs might increase their vulnerability to bites from multiple animals.

Communication cues operational between dogs during normal circumstances are often ignored during a fight, animals may persist in frenzied biting behaviour and inflict more bites per animal than would occur in an altercation between a single dog and the human victim.

d. Behavior

A fearful or aggressive dog is unlikely to back down if its initial aggressive threats are challenged with reflected aggression.

A person who responds to canine aggression in a dominant, violent and loud manner rather than assuming a calm and submissive posture, is more likely to sustain multiple wounds as the dog persists in its attack.

Appendix 2

Secondary Complications and adverse health Events

Factors associated with bite wound complications include:

a. Species of animal

Wound infections are frequently observed in bites from cats (28% to 80%) than from dogs (3% to 18%) (Douglas 1975; Rhea 2014)

Deep puncture wounds resulting from cat bites are superficially less severe than the typical crushing wounds from dog bites, but are also less amenable to thorough cleansing, irrigation and debridement rendering them more vulnerable to infection.

The period from infliction of the bite to the first symptoms of infection is shorter (7-18 hours) for cat bites compared to dog bites (12-48 hours) (Talan 1999)

Cat bites are more frequently associated with severe systemic sequelae such as:

- Meningitis
- Osteomyelitis
- Endocarditis
- Septic arthritis
- Septic shock

b. Tissue Trauma

Dog bites that create dead space-- whether from lacerations or puncture wounds--were nearly three times as likely to be infected (32%) as similar wounds that did not create dead space (11%) (Myers 2008).

c. Anatomic location

Bites to the hands are more susceptible to infection due to the proximity to the skin of underlying

bones, joints and tendons (Smith 2000, Brook 1989, Thomas 2011).

Bites over or near joint can lead to osteomyelitis and septic arthritis.

Bites to the cranium may result in infections or abscesses in the brain or supporting structures.

Wounds and resultant scars to the face are more likely to be considered “disfiguring” than similar wounds to the trunk or extremities.

d. Health of bite victim

Pre-existing conditions that may precipitate complications and sequelae of animal bites:

- Elderly
- Immunosuppressed
- Have sub-optimal hepatic or splenic function
- Diabetes
- Cardiovascular disease

The above conditions may also complicate the therapeutic options available to treat the sequelae.

e. Timeliness and appropriateness of medical attention

Immediate wound care can significantly reduce the chances of secondary infection, loss of devitalized tissue, and irreparable disfigurement.

Persons who delay seeking medical attention until later (>12 hours after incident) are more likely to already be experiencing symptoms and signs of infection or neuromuscular damage, often from grossly less significant wounds.

Appendix 3: Infection

Chief medical concern of animal bites is infection.

Studies have identified contamination with potentially pathogenic bacteria in > 85% of fresh bite wounds, however only 15-20 % of bite wounds develop frank infection (Goldstein 1992).

a. Bacterial infection

Pasteurella spp. are the most common microbial isolates from infected bites, occurring in more than 75% of cat bites (*P. Multocida ssp multocida* and *ssp septica*) and approximately 50% of dog bites (*P. canis*) (Talan 1999).

Anaerobic bacteria recovered in 75% of infected dog and cat bite wounds (Brook 1987; talan 1999):

- *Porphyromonas* spp.
- *Fusobacterium*
- *Bacteroides*
- *Prevotella*

Possible infections from cat and dog bite complications (Goldstein 1989; Luchansky 2003):

- Cellulitis (develops rapidly, often within 24 hours)
- Abscess formation
- Osteomyelitis
- Septic arthritis
- Endocarditis
- Meningitis
- Sepsis

Bacteria most commonly isolated from horse, pig and primate bite wounds:

- *Staphylococcus*
- *Streptococcus*
- *Enterococcus*
- *Neisseria*

Bacterial pathogens found in oral cavity of terrestrial reptiles:

- *Pseudomonas aeruginosa*
- *Proteus* spp.
- Coagulase negative staphylococci

- *Salmonella* groups IIa and IIIb
- *Clostridium* spp.

Bacterial pathogens from bites of fish and aquatic reptiles:

- *Vibrio*
- *Aeromonas* spp

Bartonella henselae is the causative agent of cat scratch disease, which can follow a bite or scratch from a cat. It does not cause obvious illness in cats, and up to half of domestic cats carry the organism at some point in their lives, usually as kittens.

Manifestations of cat scratch disease:

- Regional lymphadenitis
- Systemic infections like osteomyelitis and encephalopathy can occur particularly in immunocompromised individuals

Clostridium tetani, causing tetanus, is a concern for contamination of any wound, including animal bites.

A person protected against tetanus and does not require a tetanus-toxoid containing vaccine:

- If he/she has had a primary series of 3 previous immunization with tetanus toxoid (Td) or tetanus-diphtheria-acellular pertussis (Tdap) vaccine,
- with the last dose or the last booster within the last 5 years

Person who has completed the 3-dose series but the last vaccine or booster was >5 years ago should receive a booster dose.

Person whose primary tetanus immunization is unknown or incomplete should receive the full 3-dose primary tetanus vaccination series.

Person whose primary tetanus immunization history is unknown or incomplete should receive tetanus immune globulin (TIG), in addition to the 3-dose primary series if wound is:

- particularly large
- penetrates into muscle
- is dirty
- or results in visible devitalized tissue, (CDC 2006).

Capnocytophaga canimorsus is part of the normal canine oral flora, can contribute to severe systemic infections such as: (Lion et al 1996)

- Sepsis
- Septic arthritis
- Meningitis
- Endocarditis
- Renal failure
- DIC
- Cutaneous manifestations (maculopapular, petechial or ecchymotic
 - rashes)
- Cellulitis, necrotizing eschar and gangrene can lead to amputation of
 - digits/limbs

Up to a third of infection due to *Capnocytophaga canimorsus* may be fatal despite the organism's susceptibility to penicillins, fluoroquinolones and cephalosporins.

Apparent risk factors for *Capnocytophaga canimorsus* systemic infection:

- Liver disease
- Asplenism
- Immunocompromising disease or pharmacotherapy
- Advanced age

Rodent bites can also lead to bacterial infection.

Streptobacillus moniliformis (less commonly *Spirillum minus*) is the cause of ratbite fever--a rare acute illness, most commonly associated with bites from laboratory or pet rats, is characterized by:

- Fever
- Chills
- Myalgia
- Recurrent arthralgia/arthritis
- Maculopapular rash

Severe manifestations include:

- Endocarditis
- Meningitis
- Sepsis
- Death (10% of untreated patients)

Appendix 4: VIRAL INFECTION

Rabies is the chief viral pathogen of concern in bites from a mammal, but other viruses can be transmitted in bites from selected species.

Lymphocytic choriomeningitis virus is found in many rodents, most commonly house mice, and transmitted to humans through direct contact, infected aerosols, or bites. Infected rodents are asymptomatic but in humans the virus causes:

- Fever
- Headache
- Myalgia
- Meningitis or meningoencephalitis in rare instances

Cercopithecine herpesvirus 1, also known as B virus or *Herpesvirus simiae*, is a herpes virus.

The prevalence of B virus infection is low among immature macaques, but approaches 90% or higher among sexually active adults (Holmes 1995).

Humans who have direct contact with monkeys can be infected with B virus. Bites and scratches are most common, but other contact with tissues and secretions can effect transmission.

Infected person with B virus experience the ff 1-3 weeks after the incident:

- Vesicular lesions and abnormal sensation at the bite site
- Fever
- Headache
- Fatigue

More severe systemic symptoms include:

- Lymphadenitis
- Nausea and vomiting
- Abdominal pain
- Spread of virus to CNS leads to increased sensitivity to stimuli, uncoordinated movements, double vision, agitation and ascending flaccid paralysis, contributing to fatal respiratory paralysis

Appendix 5: PRACTICAL STEPS IN DESIGNING A COMMUNICATION PLAN

- 2.1. **Define the problem.** Identify the communication barriers gaps between the existing and desired behaviours of the target group. Identify the factors that caused the gap. It can be a problem in knowledge/information, skill, attitude or resource. Problem identification methods include observation, Knowledge Attitude Practice and Behaviour (KAPB) surveys, group discussions, analysis of records, results of tests and special studies;
- 2.2. **Formulate communication objectives.** Objectives are goals to aim for or desire to achieve within a time limit through the use of strategies and resources. It is important to have a clear idea of the health program to be communicated and the action to be taken by the identified target audiences;
- 2.3. **Identify/Analyze and segment the audience.** It is very important to know the target audience and study their needs, interests and level of comprehension;
- 2.4. **Identify strategies and activities**

The template below may be used as guide and reference in adapting the national health promo and communications plan:

Year	Target Audience and Communication Objective	Key Messages	Strategies/ Activities	Tools	Locus of Responsibility

Program planners and implementers at the local level are encouraged to develop their own health promotion and communication plan according to the socio-cultural context of the local situation to increase chances of messages to be better understood and accepted; and hopefully being practiced.

- 2.5. **Design effective messages.** A message should awaken the interest of the target audience which are in consonance with their needs and values. Messages on Rabies Campaign should create impact to the target audience. It is very important that the message and its approaches be pretested and revised before these are finalized and disseminated;

- 2.6. **Use multiple channels.** Multiple communication channels, both mass and interpersonal media have a complementary effect, and can carry different types of information;
- 2.7. **Determine needs and resources.** Like other project activities, development and dissemination of messages require resources. However, if resources are limited, other agencies may be tapped for resource sharing;
- 2.8. **Document, monitor, measure and evaluate.** Proper documentation is essential in any activity stated in the HPC plan for Rabies. If it is not documented, it did not happen. It is also important to carry out both outcome and process evaluation. It is best to remember that any kind of evaluation should be guided by the plan's objectives.

National Rabies Prevention and Control Program has its health promotion and communication plan anchored on the guiding principles and five action areas of health promotion. It aims to address the educative and communication concerns to help the program achieve of the goal of a Rabies-Free Philippines by 2030.

Appendix 6: ABTC/ABC Assessment Tool

DOH / CHD SELF ASSESSMENT TOOL

Facility:					
Major Requirements:				YES	NO
1. Trained Physician and Nurse on Management of Animal Bites from DOH recognized training institution				<input type="checkbox"/>	<input type="checkbox"/>
2. Cold Chain equipment (Refrigerator and Vaccine carrier)				<input type="checkbox"/>	<input type="checkbox"/>
3. Standard recording & reporting system				<input type="checkbox"/>	<input type="checkbox"/>
Item	Criterion	PART I		PART II	
		Evidence by Progress and Achievements	Facility Rating	Certifiers' Comments	Certifiers' Team Rating
Goal 1	The Animal Bite Treatment Center/ Animal Bite Center provides a safe and effective physical environment to its patients and staff				
Standard 1	The ABTC/ABC is easily located and patients have convenient and safe access to the center				
This standard will be achieved when:					
1.1. There is appropriate signage bearing the name of the ABTC/ABC to assist patients accessing the center					
1.2 Physical access is appropriate for the needs of the patients					
1.3 Entrance/exits are clearly marked and free of obstruction and of other hazardous conditions					
1.4 There are resources to inform patients of the daily schedule of the facility					
TOTAL RATING					

Rating Scale

0 – Non Compliant; 1- Incomplete; 2- Complete

<p>REMARKS BY THE CERTIFIERS' TEAM</p> <p>(To be completed if and when there are disparities with the information provided by the facility staff)</p> <p>Goal: The Animal Bite Treatment Center/Animal Bite Center provides a safe and effective physical environment to its patients and staff.</p> <p>Standard 1: The Animal Bite (and) Treatment Center/Animal Bite Center is easily located and patients have convenient and safe access to the center.</p>
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Item	Criterion	PART I		PART II	
		Evidence by Progress and Achievements	Facility Rating	Certifiers' Comments	Certifiers' Team Rating
Goal 1	The Animal Bite Treatment Center/Animal Bite Center provides a safe and effective physical environment to its staff and patients				
Standard 2	The ABTC/ABC provides facilities for the comfort and privacy of its patients and staff.				

This standard will be achieved when:

2.1 The ABTC/ABC maintains a clean and health promoting environment within and immediately outside its premises.				
2.2 There are resources and processes to ensure the quality of patient waiting time.				
2.3 The facility is adequately lighted.				
2.4 The privacy of every patient is assured				
TOTAL RATING				

Rating Scale

0 – Non Compliant

1 – Incomplete

2 – Complete

REMARKS BY THE CERTIFIERS' TEAM

(To be completed if and when there are disparities with the information provided by the facility staff)

Goal: The Animal Bite Treatment Center/Animal Bite Center provides a safe and effective physical environment to its patients and staff

Standard 2: The ABTC/ABC provides facilities for the comfort and privacy of its patients and staff.

Item	Criterion	PART I		PART II	
		Evidence by Progress and Achievements	Facility Rating	Certifiers' Comments	Certifiers' Team Rating
Goal 1	The Animal Bite Treatment Center/Animal Bite Center Provides a safe and effective physical environment to its patients and staff				
Standard 3	The ABTC/ABC provides safety to its patients and staff				

This standard will be achieved when:

3.1 The facility has adequate clean water for wound cleaning, personal hygiene, and sanitation purposes				
3.2 The facility maintains appropriate levels of cleanliness and antiseptics of all physical areas, equipment and instruments.				
3.3 General waste, sharps, pathological and infectious waste, pharmaceutical and chemical wastes are appropriately segregated, safely handled and disposed of according to accepted safe disposal practices.				
3.4 There are documented, disseminated, and implemented procedures to identify and address the risks of contamination of patients and staff from sources of infectious diseases.				
TOTAL RATING				

Rating Scale

0 – Non Compliant

1 – Incomplete

2 Complete

REMARKS BY THE CERTIFIERS' TEAM

(To be completed if and when there are disparities with the information provided by the facility staff)

Goal: The Animal Bite Treatment Center/Animal Bite Center provides a safe and effective physical environment to its patients and staff

Standard 3 The ABTC/ABC provides safety to its patients and staff

Item	Criterion	PART I		PART II	
		Evidence by Progress and Achievements	Facility Rating	Certifiers' Comments	Certifiers' Team Rating
Goal 2	Patients receive appropriate and effective clinical management based on rabies exposure category.				
Standard 4	All patients have continuous access to accurate and reliable animal bite exposure management.				

This standard will be achieved when:

4.1 Aphysician completes and documents the relevant history for each patient				
4.2 The facility implements policies and procedures for assuring the quality of bite exposure management.				
4.3 If Rabies Vaccine/RIG is not available, policies and procedures for referring patients to another accessible ABTC/ABC are implemented and monitored for effectiveness.				
4.4 Rabies Vaccine / RIG are secured and proper cold chain management is observed.				
TOTAL RATING				

Rating Scale

- 0 – Non Compliant
- 1 – Incomplete
- 2 - Complete

REMARKS BY THE CERTIFIERS' TEAM

(To be completed if and when there are disparities with the information provided by the facility staff)

Goal: Patients receive appropriate and effective clinical management based on rabies exposure category.

Standard 4: All patients have continuous access to accurate and reliable animal bite exposure management.

Item	Criterion	PART I		PART II	
		Evidence by Progress and Achievements	Facility Rating	Certifiers' Comments	Certifiers' Team Rating
Goal 2	Patients receive appropriate and effective clinical management based on rabies exposure category.				
Standard 5	A comprehensive management approach is developed and followed for all patients				

This standard will be achieved when:

5.1 Management of rabies exposure is consistent with Rabies Prevention and Control Program Guidelines.				
5.2 Flow chart of patient management is visible and accessible to expedite the provision of services to patients.				
5.3 A comprehensive evaluation of the patient's progress is documented.				
5.4 Health education is provided to all patients on adherence to management and on responsible pet ownership.				
5.5 Policies and procedures for detecting PEP defaulters and getting them back for management are implemented and monitored for effectiveness.				
TOTAL RATING				

Scale Rating

0 – Non Compliant

1 – Incomplete

2 - Complete

REMARKS BY THE CERTIFIERS' TEAM

(To be completed if and when there are disparities with the information provided by the facility staff)

Goal: Patients receive appropriate and effective clinical management based on rabies exposure category.

Standard 5: A comprehensive management approach is developed and followed for all patients

Item	Criterion	PART I		PART II	
		Evidence by Progress and Achievements	Facility Rating	Certifiers' Comments	Certifiers' Team Rating
Goal 3	The health staff adheres to clear policies and guidelines on efficient ABTC /ABC operation				
Standard 6	The ABTC/ABC maintains accurate and updated records and reports to all animal bite victims.				

This standard will be achieved when:

6.1 Each patient is uniquely identified throughout the course of management.				
6.2 The facility maintains an updated database of patient records that is accessible to authorized personnel.				
6.3 The facility maintains quarterly reports of both animal and human bite cases.				
6.4 The facility maintains a quarterly inventory of Rabies vaccine/RIG.				
TOTAL RATING				

Rating Scale

0 – Non Compliant

1 – Incomplete

2 – Complete

<p>REMARKS BY THE CERTIFIERS' TEAM</p> <p>(To be completed if and when there are disparities with the information provided by the facility staff)</p> <p>Goal: The health staff adheres to clear policies and guidelines on efficient ABTC /ABC operation</p> <p>Standard 6: The ABTC/ABC maintains accurate and updated records and reports of all animal bite victims.</p>
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Item	Criterion	PART I		PART II	
		Evidence by Progress and Achievements	Facility Rating	Certifiers' Comments	Certifiers' Team Rating
Goal IV	The ABTC/ABC Provides quality services with competent manpower to its patient				
Standard 7	The ABTC/ABC has complete manpower complement performing assigned tasks.				

This standard will be achieved when:

7.1 The facility has qualified personnel trained on Animal Bite Management		
7.2 There are personnel responsible for the following		
7.2.1 Diagnosis and Management		
7.2.2 Provision of Rabies Vaccine/RIG		
7.2.3 Logistics Management		
7.2.4 Information Management		
7.2.5 Financial Management		

Rating Scale

0 – Non Compliant

1 – Incomplete

2 – Complete

REMARKS BY THE CERTIFIERS' TEAM

(To be completed if and when there are disparities with the information provided by the facility staff)

Goal: The ABTC/ABC Provides quality services with competent manpower to its patient

Standard 7: The ABTC/ABC has complete manpower complement performing assigned tasks.

OVERALL RATING AND SUMMARY PER GOAL

GOAL	MAXIMUM RATING	TOTAL	
		ABTC RATING	ASSESORS
1	8		
2	8		
3	6		
4	8		
5	8		
6	10		
TOTAL	48		

RATER

REMARKS BY THE CERTIFIERS' TEAM

(To be completed if and when there are disparities with the information provided by the facility staff)

The decision of the CHD certifying team shall remain FINAL and OFFICIAL

The certification of the facility shall be valid for period of two (2) years but can be revoked at any point in time if for three (3) consecutive occasions seem to be not adhering to the standards.

DOH ABTC / ABC ASSESSMENT TOOL			
Facility:			
Major Requirements:		YES	NO
1. Trained Physician and Nurse on Management of Animal Bites from DOH recognized training institution		<input type="checkbox"/>	<input type="checkbox"/>
2. Cold Chain equipment (Refrigerator and Vaccine carrier)		<input type="checkbox"/>	<input type="checkbox"/>
3. Standard recording & reporting system		<input type="checkbox"/>	<input type="checkbox"/>
Goal 1	The Animal Bite Treatment Center/ Animal Bite Center provides a safe and effective physical environment to its patients and staff		
Standard 1	The ABTC/ABC is easily located and patients have convenient and safe access to the center		
		MEANS OF VERIFICATION	Scoring
1.1. There is appropriate signage bearing the name of the ABTC/ABC to assist patients accessing the center		<ul style="list-style-type: none"> ➤ OFFICIAL NRPCP SIGNAGE INFRONT OF THE CENTER THAT IS READABLE FROM A 50-METERS DISTANCE ➤ DIRECTIONAL SIGNAGE FROM THE MAIN HIGHWAY TO THE ABTC/ABC (IF NEEDED) 	
1.2 Physical access is appropriate for the needs of the patients		<ul style="list-style-type: none"> ➤ PROVISIONS FOR DIFFERENTLY ABLED (eg RAMP, HAND RAILS ETC-IF NEEDED) ➤ NO OBSTRUCTIONS (eg. NO PARKING SIGNS,) 	
1.3 Entrance/exits are clearly marked and free of obstruction and of other hazardous conditions		➤ LABELLED ENTRANCE AND EXIT IS IDENTIFIED W/ NO OBSTRUCTION /CLUTTER	
1.4 There are resources to inform patients of the daily schedule of the facility		<ul style="list-style-type: none"> ➤ SCHEDULE OF VACCINATION IS POSTED IN CONSPICUOUS PLACE, CLEAR & VISIBLE IN ENTRANCE TO THE FACILITY ➤ SCHEDULE OF VACCINATION IS DISTRIBUTED THROUGH FLYERS OR THROUGH TRI-MEDIA 	

Goal 1	The Animal Bite Treatment Center/Animal Bite Center provides a safe and effective physical environment to its staff and patients		
Standard 2	The ABTC/ABC provides facilities for the comfort and privacy of its patients and staff.		
		MEANS OF VERIFICATION	
2.1 The ABTC/ABC maintains a clean and health promoting environment within and immediately outside its premises.	<ul style="list-style-type: none"> ➤ ACTUAL OBSERVATION(CLEAN, NO MESS OR GARBAGE, NO OFFENSIVE SMELL IN & OUT OF THE PREMISES) ➤ CLEANING SCHEDULE ➤ PERSON IN CHARGE IN CLEANING 		
2.2 There are resources and processes to ensure the quality of patient waiting time.	<ul style="list-style-type: none"> ➤ WELL VENTILATED WAITING AREA W/ CHAIRS ➤ IEC MATERIALS, TV/DVD ➤ Patient's Interview ➤ Actual observation 		
2.3 The facility is adequately lighted.	<ul style="list-style-type: none"> ➤ Observation ➤ Readable newsprint ➤ No shadow while standing 		
2.4 The privacy of every patient is assured	<ul style="list-style-type: none"> ➤ Examination room is secured, curtains or other materials to see to it that the patients are afforded their privacy ➤ Standard room privacy observed 		

Goal	The Animal Bite Treatment Center/Animal Bite Center Provides a safe and effective physical environment to its patients and staff		
3	The ABTC/ABC provides safety to its patients and staff		
		MEANS OF VERIFICATION	
3.1 The facility has adequate clean water for wound cleaning, personal hygiene, and sanitation purposes	<ul style="list-style-type: none"> ➤ Actual Observation (, Clean source of water, soap, and trash can is available) ➤ Wash area (CR, faucet, dipper & pail etc) 		
3.2 The facility maintains appropriate levels of cleanliness and antisepsis of all physical areas, equipment and instruments.	<p>Actual Observation:</p> <ul style="list-style-type: none"> ➤ Instruments used in ABTC shld be soaked in any antiseptic solution; soaking solution is changed every 2 weeks ➤ Presence of alcohol or other antiseptic solution; phenolic type of disinfectants ➤ Sterilizer for instruments 		
3.3 General waste, sharps, pathological and infectious waste, pharmaceutical and chemical wastes are appropriately segregated, safely handled and disposed of according to accepted safe disposal practices.	<ul style="list-style-type: none"> ➤ Waste disposal segregation color coded bin/properly labelled as to sharps, pathologic, gen waste ➤ Safety box/container for sharps ➤ Policies & procedures on proper Waste Disposal 		
3.4 There are documented, disseminated, and implemented procedures to identify and address the risks of contamination of patients and staff from sources of infectious diseases.	<ul style="list-style-type: none"> ➤ Policy on infection control ➤ PreP Vaccination of ABTC/ABC staff ➤ 		

Goal	Patients receive appropriate and effective clinical management based on rabies exposure category.		
4	All patients have continuous access to accurate and reliable animal bite exposure management.		
		MEANS OF VERIFICATION	
4.1 A physician completes and documents the relevant history for each patient	➤ Review of records(ITR- SOAP, RER, PEP Card) ➤		
4.2 The facility implements policies and procedures for assuring the quality of bite exposure management.	➤ Algorithm of Categorization ➤ Policies & procedures		
4.3 If Rabies Vaccine/RIG is not available, policies and procedures for referring patients to another accessible ABTC/ABC are implemented and monitored for effectiveness.	➤ two way referral system ➤ Referral form ➤ Referral Slip ➤ Referral logbook		
4.4 Rabies Vaccine / RIG are secured and proper cold chain management is observed.	➤ Observation(presence of refrigerator, vaccine carrier, thermometer, updated temp monitoring chart) ➤ Review of Documents(Contingency plan in case of power failure		

Goal 2	Patients receive appropriate and effective clinical management based on rabies exposure category.	
Standard 5	A comprehensive management approach is developed and followed for all patients	
	MEANS OF VERIFICATION	
5.1 Management of rabies exposure is consistent with Rabies Prevention and Control Program Guidelines.	<ul style="list-style-type: none"> ➤ Document review(RER, ITR, PEP Card) ➤ Patient Interview ➤ Interview Staff 	
5.2 Flow chart of patient management is visible and accessible to expedite the provision of services to patients.	<ul style="list-style-type: none"> ➤ Observation (flow chart) ➤ Patient Interview ➤ Interview Staff 	
5.3 A comprehensive evaluation of the patient's progress is documented.	<ul style="list-style-type: none"> ➤ Progress notes on patients chart ➤ Updated RER 	
5.4 Health education is provided to all patients on adherence to management and on responsible pet ownership.	<ul style="list-style-type: none"> ➤ Review Documents(syllabus of Health Ed) ➤ Observation (Presence of IEC Materials) ➤ Patient Interview ➤ Interview Staff 	
5.5 Policies and procedures for detecting PEP defaulters and getting them back for management are implemented and monitored for effectiveness.	<ul style="list-style-type: none"> ➤ Defaulter tracing mechanism (SMS, phone calls, email etc) ➤ Written policies & procedures ➤ Defaulter logbook ➤ 	

Goal	The health staff adheres to clear policies and guidelines on efficient ABTC /ABC operation		
6	The ABTC/ABC maintains accurate and updated records and reports to all animal bite victims.		
		MEANS OF VERIFICATION	
6.1 Each patient is uniquely identified throughout the course of management.	➤ patient registration number ➤ Look for ITR, RER, PEP Card		
6.2 The facility maintains an updated database of patient records that is accessible to authorized personnel.	➤ RER, NaRIS ITR ➤ Record-keeping mechanism ➤		
6.3 The facility maintains quarterly reports of both animal and human bite cases.	➤ Filed updated Qtrly report (received copy-if emailed indicate date)		
6.4 The facility maintains a quarterly inventory of Rabies vaccine/RIG.	➤ Vaccine Inventory Report ➤ Updated vaccine stock card ➤ Physical count of vaccines ➤		

Goal IV	The ABTC/ABC Provides quality services with competent manpower to its patient
Standard 7	The ABTC/ABC has complete manpower complement performing assigned tasks.

	MEANS OF VERIFICATION	
7.1 The facility has qualified personnel trained on Animal Bite Management	Certificate of training from a DOH accredited training facility	
7.2 There are personnel responsible for the following		
7.2.1 Diagnosis and Management	Physician in charge	
7.2.2 Provision of Rabies Vaccine/RIG	Physician/Nurse	
7.2.3 Logistics Management	Nurse/Pharmacist	
7.2.4 Information Management	Physician/Nurse	
7.2.5 Financial Management	Cashier/Nurse/ Person-in-charge	

SCORING

0 grade in any standard means non provision of certification.

Passing score is equivalent to a total score of 50 points and above.

SUMMARY RATING

Standard	MAXIMUM RATING	TOTAL	
		ABTC RATING	CERTIFIER
1	8		
2	8		
3	8		
4	8		
5	10		
6	8		
7	12		
TOTAL	62		

RATER

RATER**COMMENTS, COMMENDATIONS AND RECOMMENDATIONS BY THE SURVEY TEAM**

(To be completed by the survey team only. The survey team must make comments on items where the survey team disagrees or partially disagrees with information provided by the Animal Bite and Treatment Center.)

Appendix : Department Circular No. 2019-0508: Adoption of the NRPCP MOP 2019



Republic of the Philippines
Department of Health
OFFICE OF THE SECRETARY

October 15, 2019

DEPARTMENT CIRCULAR
No. 2019- 0508

TO : BANGSAMORO AUTONOMOUS REGION IN MUSLIM MINDANAO (BARMM) MINISTER OF HEALTH, ALL UNDERSECRETARIES, ASSISTANT SECRETARIES, CENTER FOR HEALTH DEVELOPMENT (CHD) DIRECTORS, CHIEFS OF MEDICAL CENTERS OF DOH HOSPITALS, EXECUTIVE DIRECTORS OF SPECIALTY HOSPITALS, PROVINCIAL HOSPITALS, DISTRICT HOSPITALS, ANIMAL BITE TREATMENT CENTERS, PRIVATE HOSPITALS AND OTHERS CONCERNED


SUBJECT : Adoption of the National Rabies Prevention and Control Program (NRPCP) Manual of Procedures (MOP) 2019

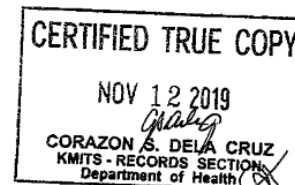
To strengthen implementation of the National Rabies Prevention and Control Program (NRPCP) for a rabies-free Philippines, the Manual of Procedures (MOP) was updated to provide more appropriate and practical guidelines. This is to ensure the safety of all and eventually end rabies deaths among Filipinos from dog mediated rabies.

The NRPCP MOP shall be posted at the DOH website (www.doh.gov.ph) and adopted by concerned agencies.

Dissemination of the information and guidance to all concerned is requested.

By Authority of the Secretary of Health:


MYRNA C. CABOTAJE, MD, MPH, CESO III
Undersecretary of Health
Public Health Services Team



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