



University
of Glasgow



SPEEDIER

Integrated Bite Case Management Field Operations Manual

Version 1.1

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Contact Information

The SPEEDIER project has been developed by researchers from the Field Epidemiology Training Programme Alumni Foundation Inc (FETPAFI), the Research Institute for Tropical Medicine (RITM) and the University of Glasgow, UK.

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For peer support and discussion we encourage active participation on the **SPEEDIER Facebook messenger group chat for peer support**.

General information about SPEEDIER and updates on progress and events are posted on the SPEEDIER website: <https://rabiesresearch.github.io/SPEEDIER/>

Introduction and Purpose

Integrated Bite Case Management (IBCM) is a strategy that formally engages the medical and veterinary sectors (a 'One Health' approach) to assess the risk of genuine exposure to rabies and the subsequent need for **post-exposure prophylaxis (PEP)**. IBCM is advocated by the World Health Organisation (WHO), to ensure appropriate management of animal bite patients and reduce the costs of PEP once rabies has been controlled. IBCM has also been identified as a potential strategy that can sufficiently enhance surveillance to enable verification of rabies freedom.

The key components of IBCM are, a) **risk assessments** of exposure events by public health workers based on the clinical history of the animal involved and circumstances of the exposure and, b) linking exposure from animals deemed high-risk to **investigations** of the animal. Clear communication between human and animal health sectors on the outcomes of these two components are critical to ensure exposed victims are treated appropriately, necessary control measures are undertaken, and accurate surveillance information is reported.

Many aspects of IBCM are already operational as part of the Philippines health and veterinary system and surveillance within the National Rabies Prevention and Control Programme (NRPCP). The SPEEDIER project aims to support the implementation of IBCM to augment current practice.

In this Field Operations Manual we provide SOPs for undertaking IBCM, that are in line with the latest WHO technical guidance and adapted for the Philippines context to augment current practice. This manual contains the SOPs and copies of materials for implementing IBCM, including algorithms to guide investigations and risk assessments.

Roles

There are 4 key roles in undertaking IBCM:

1. **Public Health Workers (PHWs)** - responsible for patient consultations and risk assessment which lead to prescription and administration of PEP, as well as reporting of information on high risk rabies exposures
2. **Animal Health Workers (AHWs)** - responsible for investigating high risk biting animals, which can lead to different management options such as quarantining, euthanasia by veterinary officers, sample collection and rapid diagnostic testing as well as reporting of investigation outcomes
3. **Provincial Officers** - responsible for public health workers or animal health workers in their jurisdiction and the health information systems and control and prevention activities for the NRPCP e.g. Provincial Health Officers (PHOs) and Provincial Veterinary Officers (PVOs), as well as surveillance officers and other personnel.
4. **Laboratory Personnel** - responsible for laboratory diagnosis and reporting in their jurisdiction (regional or national level).

For a given geographic area different personnel might be assigned to these roles depending upon human resource availability and infrastructure. For example, in some areas a

Barangay Health Worker may be *designated* as an AHW responsible for investigations, because there is no official AHW assigned to the Municipal Agriculture Office (MAO). Many other people may participate in the process of IBCM or may be interested in or use information from IBCM, and this involvement is valuable but these SOPs focus on the aforementioned roles.

IBCM

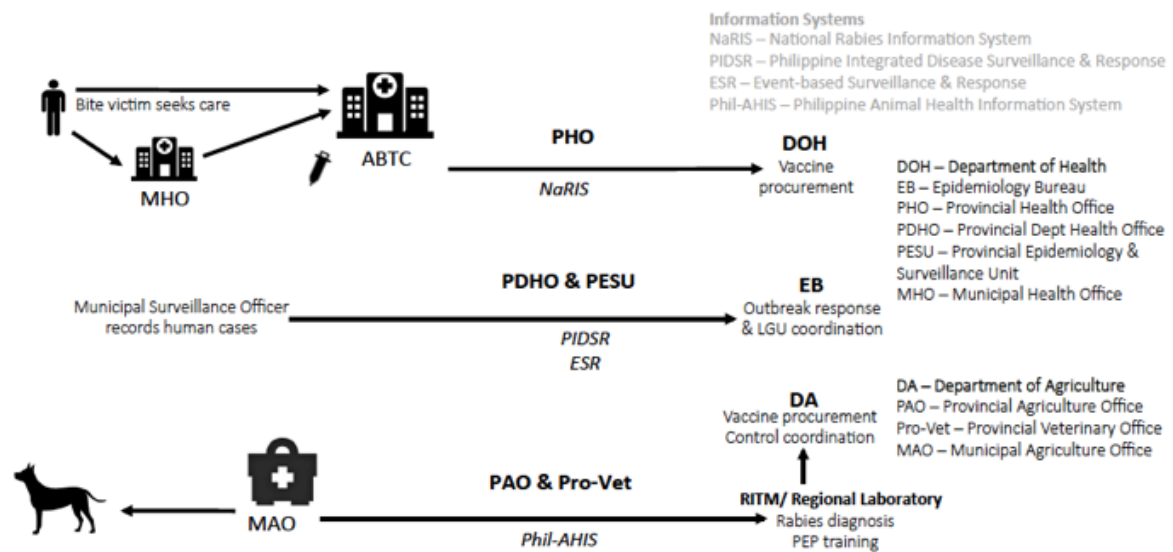
Current Procedures

Procedures for managing bite victims and for epidemiological investigations are outlined in Figure 1 and described as follows:

Bite victims typically present to a Rural Health Unit (RHU) where a nurse interviews them, assesses the wound (according to WHO categories I-III), provides wound cleaning and, if necessary, administers tetanus toxoid injection. Patients with either category II or III wounds are referred to an Animal Bite Treatment Centre (ABTC) for post-exposure prophylaxis (PEP); patients with category I wounds are not offered PEP. At the ABTC the rabies nurse (RN) registers the patient before the Medical Doctor (MD) prescribes PEP and refers the patient back to the RN who administers PEP, completes the National Rabies Information System (NaRIS) form and rabies registry and provides the patient with health education. The patient is required to return to the ABTC according to their PEP regimen to complete their PEP course. The updated Thai Red Cross Intradermal Regimen was formerly the recommended PEP regimen in the Philippines, but a recent administrative order updated this to the one-week 2-site ID regimen according to the latest WHO position.

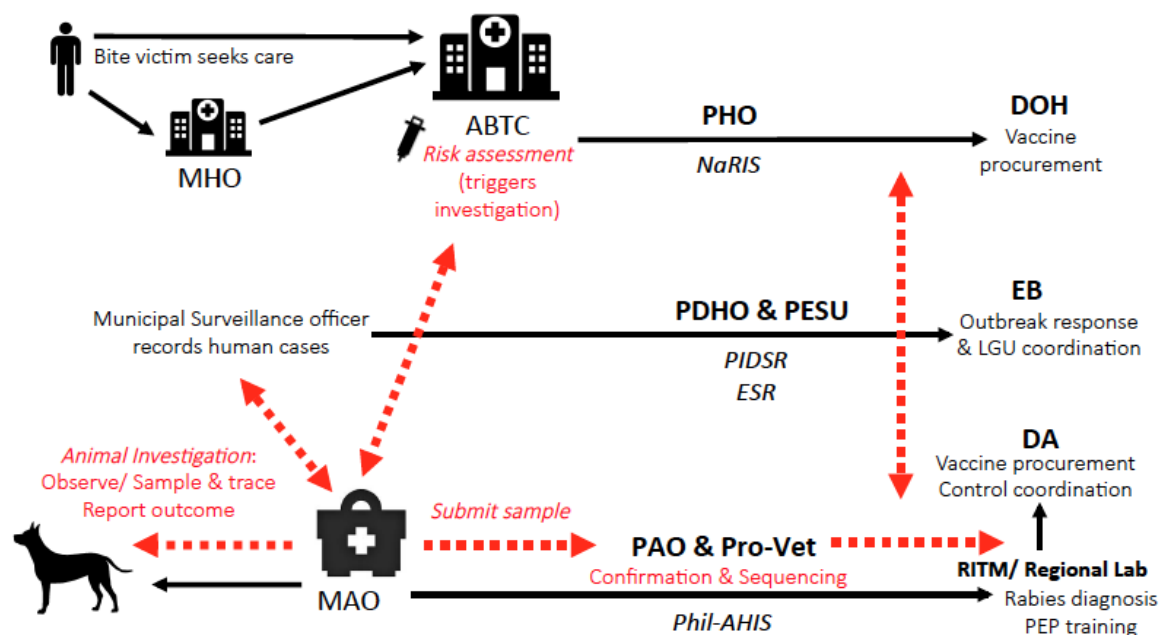
If a patient presents to an RHU, an ABTC or a hospital with signs and symptoms of rabies, palliative care is provided and an investigation is conducted by the Provincial Rabies Coordinator, typically involving staff from both the Provincial Health Office (PHO) and the Provincial Veterinary Office (PVO), and recording the case in the Philippines Integrated Disease Surveillance and Response (PIDSR). If the dog/animal has been killed the veterinarian is expected to collect a sample and submit it to the regional laboratory for diagnostic services.

Figure 1. Procedures for patient management and epidemiological investigations



IBCM procedures to augment existing surveillance and patient management are shown below (Figure 2, italicized red font and arrows indicating communication channels):

Figure 2. Procedures for IBCM. Augmentation of current procedures are shown in red.



Each Task requires reporting & sharing through defined channels

Risk Assessments by Public Health Workers at ABTCs

When a new bite patient presents to an ABTC a risk assessment should be completed using the tailored **mobile phone-based application (App)** to ensure rapid, accurate and standardized recording. The risk assessment comprises questions to assess the biting animal's vaccination history, if known; the animal's outcome (alive or dead or disappeared) following the bite and its health status, as well as the category and severity of the bite (**Appendix - Risk Assessment form**). On submission of risk assessment forms alerts are automatically generated for 'high-risk' bites, which should trigger an investigation by the animal health worker. 'High-risk' bites involve animals that die, are killed, disappear or show specific signs of illness after the bite and therefore are considered suspect for rabies. The subsequent investigation should in many cases be able to evaluate if the responsible animal was rabid and should inform rabies control and prevention activities. Risk assessments should also be undertaken for patients presenting with clinical signs of rabies, also using the IBCM App, with other procedures for the patient carried out as per current practice. All other aspects of the patient consultation remain the same.

Steps to be undertaken when a bite patient presents are:

1. Carry out **risk assessment (Figure 3)** using the App (usually done by a nurse).
If for any reason, the phone/ App is not functional the paper-based risk assessment form should be completed for later entry and submission.
2. Review risk assessment to confirm the biting animal status and prescribe PEP (usually done by a doctor).
3. Administer PEP (usually done by a nurse).
4. Submit the risk assessment form using the app so that for "high-risk" bites an alert is generated to trigger an investigation.
5. Take necessary actions for *high-risk* versus *low-risk* bites:
 - a. Immediately follow up each *high-risk* bite with a direct call to the designated AHW (Livestock Technician at the MAO or Barangay Health Worker) to confirm that they will investigate and have all the necessary details to do so.
 - b. For animals available for observation that are considered *low-risk*, request the patient to observe the animal for 10 days and to immediately report back via the ABTC hotline if any changes in health are observed.
6. Issue PEP certificate to patients indicating the ABTC hotline that they should use in the event of observing any signs of illness in the dog, or for other advice on first aid and PEP (Figure 4).

Figure 3. Clinical risk assessment algorithm to determine the status of the biting animal and recommended action.

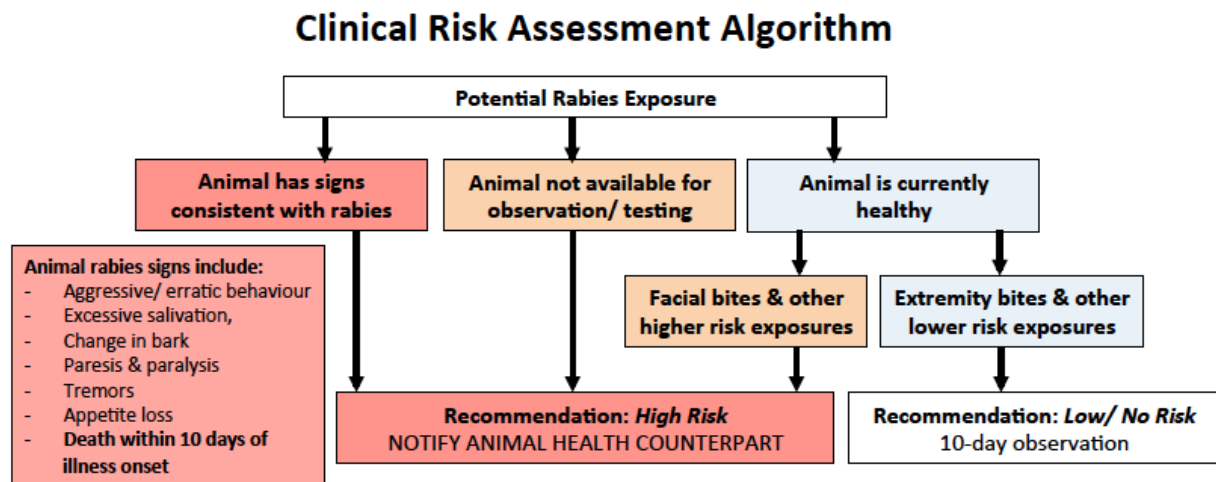


Figure 4. Advice for bite patients and animal owners following a bite patient consultation. Ideally this information should be printed as part of the vaccination certificate.

BITE PATIENT & OWNER ADVICE

- If the biting animal was not vaccinated, observe the animal to confirm it is alive and healthy 10 days after the bite
- If the animal becomes ill during these 10 days, call the ABTC hotline and immediately report to your MAO
- If the animal remains healthy during these days, it currently does not have rabies and no further action is required
- If in any doubt, call the ABTC hotline

PAYO PARA SA NAKAGAT NA PASYENTE AT MAY-ARI NG HAYOP

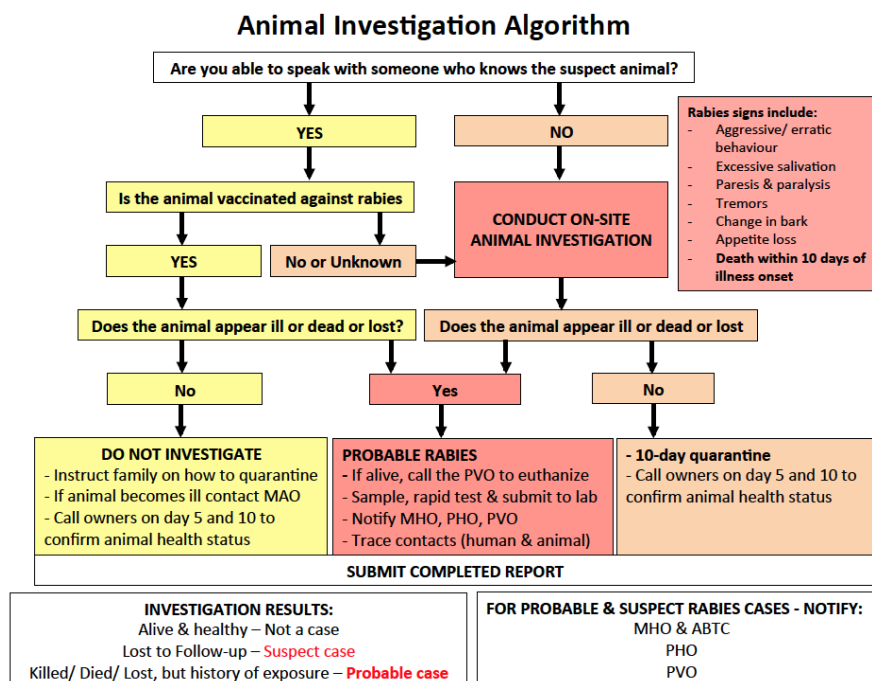
- Kung hindi bakunado ang kumagat na hayop, obserbahan ito upang malaman kung ito ay buhay pa at malusog 10 araw mula ng ito'y nakakagat
- Kung ito'y magkasakit sa loob ng 10 araw na ito, tumawag sa ABTC hotline, at makipag-ugnayan sa inyong MAO
- Kung ito'y manatiling malusog, sa loob ng 10 araw na ito, nangangahulugang ito'y walang rabis, wala nang kailangang gawin pa.
- Kung mayroong pag-aalinlangan, tumawag sa ABTC hotline

Animal investigations by Animal Health Workers

When a *designated* AHW receives an alert of a *high-risk* bite, they should investigate immediately (always within 24 hours) following the **investigation algorithm** (Figure 5). Two checklists should be reviewed: 1) the investigation procedure and 2) equipment compiled before departure for the investigation (**Appendix - Investigation checklists**). Wherever possible, the AHW should conduct a field investigation, involving a visual inspection of the animal, recording details via the App, before deciding on a course of action. At the end of the investigation the completed form should be submitted via the App and the PHW called to report the investigation result to guide patient management. The PVO and PHO should also *always* be called if the animal is probable rabid, so as to guide subsequent control activities.

If an animal is suspected to be rabid a sample should be collected and tested immediately with a **Rapid Diagnostic Test (RDT)**. If the animal is not already dead, the PVO should be sought to euthanize the animal. After RDT testing the sample should be sent directly to the nearest laboratory (regional laboratory or RITM) for confirmatory testing and sequencing of positive cases. Further interviews should be conducted with the bite victim (or witnesses) and other persons or animals bitten, even if the biting animal cannot be found. For all bitten persons/ animals, contact details should be recorded and advice provided on PEP. This may identify other bite victims who have not sought care and is therefore of critical importance. Alternatively, if the biting animal is alive and not vaccinated and not suspect for rabies, a quarantine notice should be issued and the owner should ensure the dog is home quarantined for 10 days (**Figure 8, Quarantine Notice**) to confirm the animal's condition. If at any point during the quarantine the dog shows signs of illness the owner should immediately contact the AHW. The AHW should check the animal every 3 days (by phone call is fine but if no response is received, a visit may be required).

Figure 5. Animal Investigation Algorithm to evaluate the animal status and determine recommended actions.



Steps to be undertaken for an investigation are:

1. Review the checklists and prepare equipment
2. Follow up with the patient by phone if possible to initiate the investigation following the questions on the App, and to see if a field investigation is necessary
 - a. If the patient cannot be reached by phone, follow up directly with a site visit to track down the patient and animal
3. Visit patient and/ animal owner to complete the investigation
 - a. Undertake a visual check of the biting animal
 - b. Record the circumstances of the bite and details of the animal behavior and health according to criteria from the investigation form (**Appendix - Animal Investigation Form**), administered via the App. ***If for any reason, the phone/App is not functional the paper-based investigation form should be completed for later entry and submission.***
4. Decide on a course of action:
 - a. If the animal is suspected to have rabies and displays clinical signs compatible with rabies, notify the PVO
 - i. Request support to immediately euthanize the animal if it is alive.
 - ii. If the animal is dead or following euthanasia, collect a sample using the RITM recommended technique (**Appendix - Sample collection SOP**) and carry out the rapid diagnostic test (**Appendix - Rapid Diagnostic testing SOP**), recording the result on the investigation form (via the App).
 - iii. Conduct further interviews with bite victim(s), witnesses, and any other persons or animals (owners) who were bitten and record on the investigation form, even if the biting animal cannot be found. For all bitten persons/ animals, record contact details and provide advice (Figure 6) and follow procedures for in-contact animals (Figure 7).
 - b. If animal is alive and not vaccinated, request the owner to home quarantine the dog for 10 days. Issue a quarantine notice (**Figure 8, Quarantine Notice**) to confirm the animal's condition and ensure adherence.
 - i. The owner should contact the AHW if at any point during home quarantine the dog shows signs of illness and procedures should be followed for a rabid animal (4a).
5. On completion of the investigation, submit the investigation form via the App. This will create and send an automated summary to the RHU and ABTC. ***If for any reason, the phone/App is not functional save the paper-based investigation form for later entry.***
6. Call the corresponding public health worker to notify them of the investigation result and call the PVO and PHO immediately if the animal is suspect for rabies

Figure 6. Advice for persons identified who have been bitten by an identified suspect rabid animal.

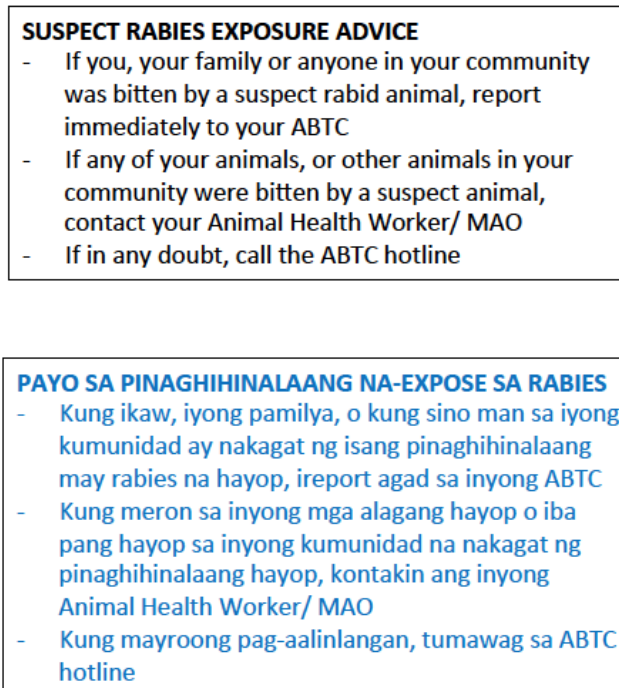


Figure 7. Procedures to follow for animals identified to have been in contact with a suspect animal.

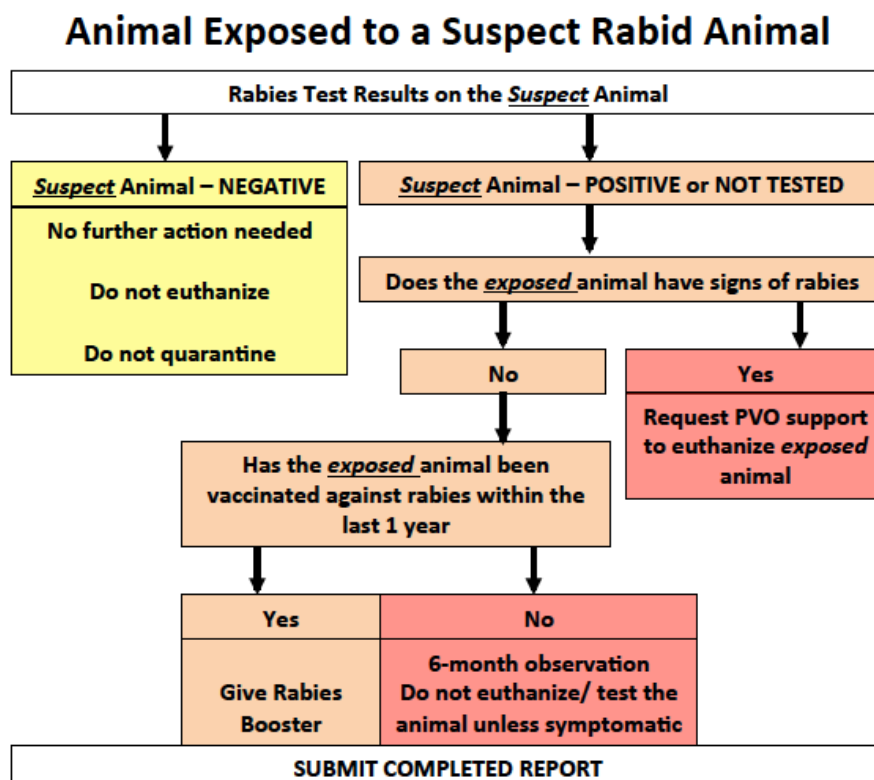


Figure 8. Quarantine Notice to be administered to dog owners for dogs that have not been vaccinated and require observation.

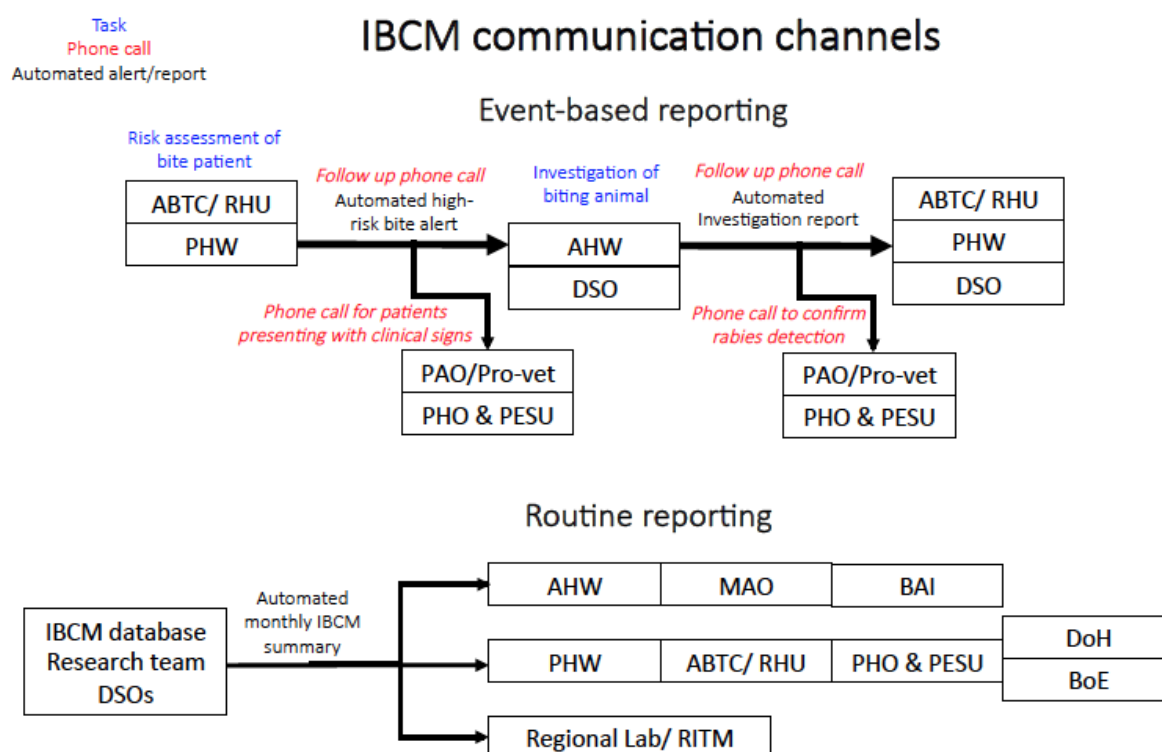
<p>Protect your community from Rabies! Keep this dog ALIVE and AWAY from people and other animals for 10 days</p> <ul style="list-style-type: none"> - Based on an assessment it was decided this dog might have rabies and could pose a danger to your community. Please keep the dog alive and away from people for 10 days (quarantine). This gives us time to learn if people in your community were exposed to rabies. As the dog's caretaker, you must follow quarantine regulations. Do not kill the dog yourself because that could expose you and others to rabies. If the dog becomes ill or aggressive, a vet will safely kill it. If the dog is healthy after 10 days, it currently does not have rabies and can be safely released. <p>What you need to do:</p> <ul style="list-style-type: none"> - The investigating Animal Health Worker will put a collar on the dog. Do not remove the collar. - Keep the dog on your property in a place away from people and animals - Give the dog food and water during the 10-day quarantine period. Keeping the dog alive is the ONLY way to know for sure if it exposed others to rabies - If the dog shows any of these signs during quarantine, contact your Animal Health Worker right away: <ul style="list-style-type: none"> - Lack of appetite - Lack of energy - Change in behaviour - Aggressive behaviour - Increased salivation - Difficulty walking - Change in bark - If the dog shows signs of illness during quarantine, contact your Animal Health Worker/ MAO - A vet will then safely capture the dog using drugs that cause a painless death. Any people and animals that had contact with the animal will require a medical assessment - If you have any doubt, call the hotline: 	<p style="text-align: center;">QUARANTINE NOTICE</p> <p>Bite date:</p> <p>Quarantine release date – If the animal is healthy after 10 days the animal can be released on:</p> <p>Caretaker:</p> <ol style="list-style-type: none"> 1. _____ I understand that I am responsible for monitoring the dog's health during quarantine 2. _____ I understand that my dog must be kept on my property until the quarantine release date 3. _____ I understand that my dog must be kept away from people and animals 4. _____ I understand that I am responsible for ensuring that the dog is provided with food, water and shelter 5. _____ I understand that the dog cannot be released until approved by the investigating officer 6. _____ I understand that the health and medical treatment of others may depend on the results of this quarantine period 7. _____ I understand that I must call the investigating officer if the animal becomes ill or dies <p>By the authority of the provincial government, your animal has been placed under quarantine to monitor it for signs of rabies. If you have further questions contact:</p> <p>Investigating Animal Health Worker:</p> <p>Phone number:</p>
<p>Protektahan ang inyong kumunidad mula sa Rabies! Panatiliing BUHAY ang aso at MALAYO mula sa mga tao at iba pang hayop sa loob ng 10 araw</p> <ul style="list-style-type: none"> - Base sa pagsusuri napag-desisyunan na itong aso ay maaaring may rabies at pwedeng magdulot ng panganib sa inyong kumunidad. Maari lamang panatiliing buhay ang aso at malayo sa mga tao sa loob ng 10 araw (kuwarentenas). Ito ay nagbibigay ng oras para malaman kung ang mga tao sa inyong kumunidad ay na-expose sa rabies. Bilang taga-pangalaga ng aso, dapat mong sundin ang regulasyon ng kuwarentenas. Huwag mong patayin ang aso dahil maaari mong ma-expose ang inyong sarili at iba pa sa rabies. Kung ang aso ay nagkasakit o naging agresibo, ang beterinaryo ang papatay dito sa ligtas na paraan. Kung ang aso ay malusog sa loob ng 10 araw, ito ay walang rabies sa kasalukuyan at maaari ng pakawalan. <p>Ano ang inyong kailangang gawin:</p> <ul style="list-style-type: none"> - Ang nag-iimbestigang Animal Health Worker ay mag ilagay ng panliig sa aso. Huwag tanggalin ang panliig. - Panatiliing ang aso ay nasa inyong pangangalaga sa isang lugar na malayo sa mga tao at hayop - Bigyan ang aso ng pagkain at tubig sa loob ng 10-araw na kuwarentenas. Ang pag papanatiling buhay ang aso lamang ang tanging paraan para malaman ng lubos kung ito'y nakapag-expose ng iba pa sa rabies - Kung ang aso ay nagpakita ng alin man sa mga sinyales na ito habang naka-kuwarentenas, agarang kontakin ang inyong Animal Health Worker: <ul style="list-style-type: none"> - Kawalan ng ganang kumain - Kawalan ng lakas - Pagbabago sa pakikitungo - Pagiging agresibo - Nadagdagang paglalaway - Nahirapang maglakad - Pagbabago sa pagtatahod - Kung ang aso ay nagpakita ng sintomas ng sakit habang naka-kuwarentenas, kontakin ang inyong Animal Health Worker/ MAO - Ang beterinaryo ang siyang bibihag sa aso gamit ang gamot na siyang magdudulot ng walang sakit na pagkamatay. Sino mang tao o hayop na nakalapit sa nasabing hayop ay mangangailangan ng pagsusuring medikal - Kung ikaw ay mayroong pag-aalinlangan, tumawag sa hotline 	<p style="text-align: center;">PAUNAWA NG KUWARENTENAS</p> <p>Petsa ng kagat:</p> <p>Petsa ng pagpapalaya sa Kuwarentenas – Kung ang hayop ay malusog pagkatapos ng 10 araw, ang hayop ay maaari ng pakawalan sa:</p> <p>Tagapag-alaga:</p> <ol style="list-style-type: none"> 1. _____ Nauunawaan ko na ako ang responsable sa pag subaybay ng kundisyon ng aso habang naka-kuwarentenas 2. _____ Nauunawaan ko na ang aking aso ay kailangang manatili sa aking pangangalaga hanggang sa petsa ng pagpapalaya sa kuwarentenas 3. _____ Nauunawaan ko na ang aking aso ay kailangang panatiliing malayo sa mga tao at hayop 4. _____ Nauunawaan ko na ako ang responsable na tiyaking ang aso ay nabibigyan ng pagkain, tubig, at tirahan 5. _____ Nauunawaan ko na ang aso ay hindi papakawalan hangga't di pa inaaprobahan ng nag-iimbestigang opisyal 6. _____ Nauunawaan ko na ang kalusugan at medikal na pag-gamot ng iba ay nakadepende sa resulta ng kuwarentenas 7. _____ Nauunawaan ko na kinakailangan kong tawagan ang nag-iimbestigang opisyal kung ang hayop ay biglang nagkasakit o namatay <p>Sa pamamagitan ng awtoridad ng pamahalaang panlalawigan, ang inyong hayop ay inilagay sa ilalim ng kuwarentenas upang subaybayan ito para sa mga sintomas ng rabies. Kung mayroon kayong karagdagang katanungan makipag-ugnayan lamang sa:</p> <p>Nag-iimbestigang Manggagawang Taga MAO / PVO: Numero ng Telepono</p>

Communications

Communications between PHWs, *designated* AHWs, Provincial Officers and Laboratory personnel is crucial to the success of IBCM. The App aims to facilitate communications between personnel, but phone calls and face-to-face communications are essential for effective IBCM. The different communication channels that should be followed are outlined in Figure 9.

During implementation of IBCM, if any difficulties are encountered, you should contact your **Disease Surveillance Officer** for advice (see page 2).

Figure 9. Flow of information and communication channels for IBCM implementation



Rabies Hotline

Every ABTC should have an emergency hotline, which members of the public can call should they have concerns about animal bites or rabies as well as other emergencies. This number should be recorded on patient consultation/ vaccination cards. A register or counter book should be used to record all calls to the hotline and serve as a source of information about common questions or concerns. Subsequent review or analysis of this log should inform rabies IEC materials for use locally or for guiding establishment of IBCM elsewhere.

The register should include: the date and time, the caller's name and telephone number (in case they need to be called back and directed to a source of PEP for example), the problem the caller rang about, the suggested solution or response and the name of the call receiver.

Tools and training

The App should be used to guide and record risk assessments and animal investigations. The application is installed onto mobile phones or tablets for use in the field, or where, available laptops, for example at Municipal Offices and ABTCs. The training programme includes lectures within instruction on how to use the App.

Vaccination cards should be issued to patients indicating the hotline number for the ABTC that patients should use in the event of observing any signs of illness in the dog, or for advice on first aid and PEP (Figure 4).

The peer support group (messenger group chat) is for practitioners to share their experiences, including challenges and to solicit peer support to address them. We encourage participation in the peer support group and updates on progress will also be posted regularly.

Feedback to practitioners should be provided through regular reports summarizing the surveillance data generated by the IBCM (including categorization of exposures and cases according to WHO case definitions), and through regular stakeholder meetings to discuss interpretation of surveillance data. These data should be directly accessible via the IBCM dashboard. Users log in to the dashboard (<http://rabies.esurveillance.or.tz/login>) with their App credentials (username and password).

Updates will also be available via the SPEEDIER website:

<https://rabiesresearch.github.io/SPEEDIER/>

The training programme for IBCM also includes useful information including:

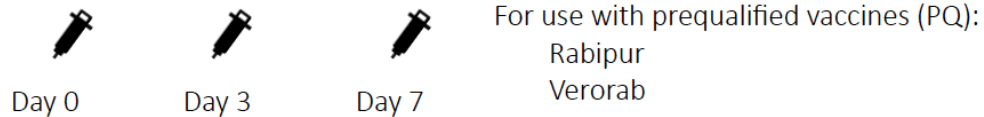
1. Updates on rabies PEP regimens (**Appendix - PEP update**)
2. Lectures on rabies epidemiology, on the national, regional and local situation of rabies situation, on rabies prevention, control and surveillance and specifically on IBCM including the App and dashboard, sample collection and testing and SOPs
3. Surveillance forms

Appendices

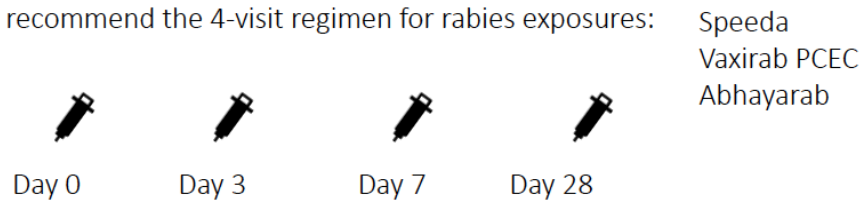
Update on rabies PEP

Rabies Post-Exposure Prophylaxis regimen - UPDATE

The new WHO position (April 18) for rabies PEP is:



When using non-PQ vaccines the National Rabies Control & Prevention Committee recommend the 4-visit regimen for rabies exposures:



Checklists for Animal Investigations:

Investigation Equipment Checklist

Investigation Equipment Checklist

Reporting Equipment

- ☐ *Charged* mobile phone
- ☐ Investigation form
- ☐ Quarantine notices
- ☐ Quarantine collars
- ☐ Rabies IEC
- ☐ Pen

Personal Protective Equipment (PPE)

- ☐ Gloves
- ☐ Face mask
- ☐ Safety glasses
- ☐ Laboratory coat
- ☐ First Aid Kit

Sampling Kit

- ☐ Scalpel handle
- ☐ Scalpel blades
- ☐ Sample tubes (with preservative)
- ☐ Rapid Diagnostic Tests
- ☐ Secondary containers
- ☐ Sealable plastic bags
- ☐ Straws / pipettes
- ☐ Tweezers
- ☐ Scissors
- ☐ Disinfectant
- ☐ Sharps container
- ☐ Garbage bag
- ☐ Permanent marker

Specimen Disposal

1. Bury deep in ground or burn and bury remains
2. Place sharps in Container and remove PPE
3. Put PPE in biohazard bag for disposal at MAO/RHU
4. Wash hands

DO NOT LEAVE BODY ON STREET/ OR SHALLOW BURIAL

Checklist for Investigation Procedures

Investigation Checklist

Before Departure

- ☐ Call owner/ contact & conduct verbal investigation
- ☐ Check inventory & phone (charged & logged in)
- ☐ Report investigation destination to colleague

On Arrival

- ☐ Locate & consult owner/ contact
- ☐ Ensure crowds & animals kept away
- ☐ Develop plan
 - ☐ Does the animal need to be secured?
 - ☐ Secure animal according to plan
 - ☐ Does the animal require euthanasia?
 - ☐ Call PVO
 - ☐ Should a specimen be taken?
 - ☐ Ready equipment
 - ☐ Collect specimens in duplicate & label
 - ☐ Test 1 specimen
- ☐ Conduct Investigation & complete form
- ☐ Conduct IEC with owner/ victims/ community
- ☐ Clean area & dispose of all waste

Upon return

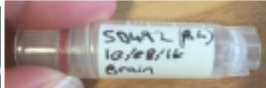
- ☐ Deposit specimens & test with PVO
- ☐ Organize supplies & equipment
- ☐ Review investigation form & submit

Sample collection SOP

Taking a Brain Tissue Sample for Rabies Diagnosis

Preparation

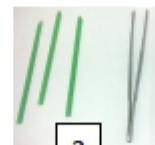
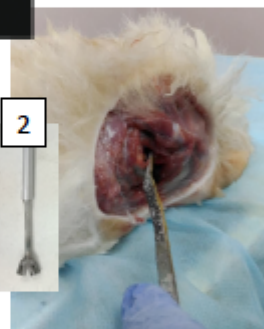
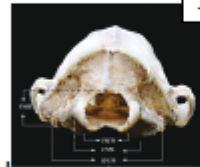
- Get all the equipment ready before taking a sample - work on a plastic base to avoid contamination of the environment
- Check the identification number
- Label the *pre-prepared tubes* and *sample ziplock bag* with the identification number and date – use permanent marker
- Complete the sample collection form to be submitted to the laboratory



Taking the sample

WARNING – this is the most dangerous part
Wear PPE, take care using the knife and scalpel.

- Place the animal in ventral position. Bend the head downwards, palpate the atlanto-occipital joint. Make incision at base of skull to expose the occipital foramen (large oval hole, photos 1).
- Insert the hook into the occipital foramen towards the eye, and scoop brain sample (photos 2). Remove the hook with scooped brain sample
- **OR** insert straw through the occipital foramen, pointing it towards the eye (photos 3). Pinch the end of the straw before withdrawing and check that brain tissue has drawn into it. Note: Try to ensure 1-2 cm of straw is filled with tissue. If the carcass is very fresh, the tissue may not enter the straw easily and it may be necessary to use the scalpel & forceps.
- Place brain tissue in the container (squeeze brain from straw - photo 3). Close tightly.
- Take duplicate samples for laboratory (x2) and RDT
- Place the samples in the pre-labelled zip-lock bag



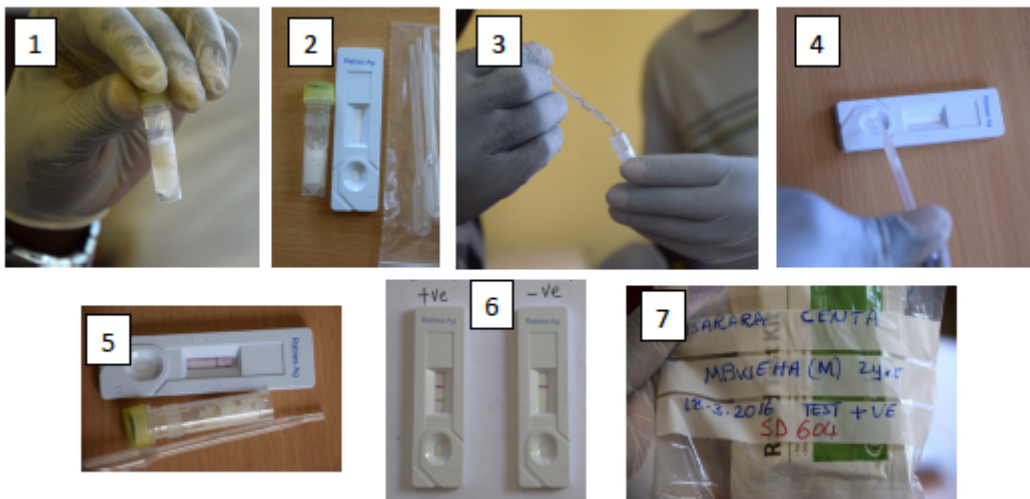
Tidy up

- Place instruments into disinfectant and sterilize
- Tidy up all possibly contaminated waste into bags. Then remove gloves into waste bag.
- Carcasses should be burnt, composted or buried if rabies is suspected. People should be advised not to butcher, handle or consume meat from a suspected rabid animal.

Rapid Diagnostic Test SOP

Testing with the rapid diagnostic test (RDT)

- Insert swab of brain material into specimen tube containing assay diluent.
- Mix swab sample with the assay diluent well (photo 1).
- Remove test device from package and place on flat, dry surface (photo 2).
- Using the disposable dropper withdraw some of the mixed assay diluent/sample from specimen tube (photo 3) and add 4 drops slowly into the sample well (photo 4).
- A migration of color should appear across the test window (photo 5). If the color band does not appear after 1 minute, add 1 more drop.
- Read test result 5-10 minutes afterwards and record via app. A positive rabies case has 2 lines (the test and the control). A negative sample has just 1 line (the control)
- Package up the RDT with the specimen (photo 7) to send to the laboratory



Paper-based Risk Assessment Form

Risk Assessment form

Public Health Workers (usually nurses) complete risk assessments during patient consultations that are then confirmed by Medical Doctors will confirm:

ABTC	PHW	Date of consultation	
Patient name		Age	Sex
Phone number		Patient ID	
Municipality		Barangay	

Type of consultation (multichoice):

PEP initiation (d0), dose 2 (d3), dose 3 (d7), dose 4 (d28), rabies signs

Was the patient referred (Y/N) If yes, from where?

Bite history (first visit ONLY)

Date bitten Biting animal *Select:* dog, cat, livestock, other (specify)

Bite site (tick those that apply)

☐ Head/neck ☐ Trunk ☐ Arms/Hands ☐ Legs/ Feet ☐ Other – specify

Bite details (tick those that apply)

☐ Scratch ☐ minor wounds ☐ large wounds
☐ severe wounds (hospitalization required) ☐ Other route of exposure - specify

Category of bite ☐ I ☐ II ☐ III

Risk Assessment (first visit ONLY)

Is the animal known in the community? If yes, owner Barangay

Is the animal vaccinated (Y/N) If yes (tick all that apply): ☐ In last 12 months ☐ At least 2x

Animal signs (tick those that apply)

- ☐ Unprovoked aggression (incl. biting/gripping people/ animals/ objects)
- ☐ Excessive salivation
- ☐ Unexplained dullness/lethargy
- ☐ Paresis and/or paralysis
- ☐ Tremors
- ☐ Appetite loss
- ☐ Abnormal vocalization
- ☐ Restlessness
- ☐ Running without reason
- ☐ Feeding young
- ☐ Eating
- ☐ Normal behavior
- ☐ None of the above

Circumstances of bite (tick those that apply)

- ☐ Noise (speaking/shouting)
- ☐ Running
- ☐ Aggressiveness
- ☐ Scared of dogs
- ☐ Throwing things at dogs
- ☐ Playing
- ☐ Approaching the dog
- ☐ Animal not provoked
- ☐ None of the above, specify

Environmental conditions (tick those that apply)

- ☐ Chained
- ☐ Fenced
- ☐ Lots of dogs
- ☐ Lots of people
- ☐ At the owners property
- ☐ Animal came from unknown place
- ☐ None of the above, specify

Is the animal still alive? Yes/No (select)

Rabies Assessment decision (tick): Healthy/ suspicious for rabies/ sick - not rabies/ unknown

Has the patient already consulted the MAO/PVO (Y/N)?

Actions taken by patient/ family

- ☐ None ☐ wound washing ☐ Traditional Medicine (specify)

Recommended treatment for patient

- ☐ None ☐ Wound washing ☐ Tetanus ☐ Antibiotics
☐ Rabies vaccine recommended ☐ Immunoglobulin recommended

Is PEP available - *FOR ALL VISITS*

- ☐ Rabies vaccine & Immunoglobulin ☐ Rabies vaccine only
☐ Immunoglobulin only ☐ None

PEP administered to patient - *FOR ALL VISITS*

- ☐ ERIG ☐ HRIG
☐ Abhayarab ☐ Rabipur ☐ Speeda ☐ Vaxirab PCEC ☐ Verorab ☐ Other-specify

Comment (if any) – *FOR ALL VISITS*

A bite is considered 'High-risk' and therefore requires an investigation *if* the animal died, was killed or disappeared after the bite *or* was alive but showed signs of illness.

Upon submission of the risk assessment an alert should be sent automatically to the AHW to trigger the investigation. The PHW should also directly call the AHW to explain the case (also as back up for the alert). The generated alert contains the patient details, barangay and phone number and the dog owner name if available. The patient should also be given their vaccination card detailing the vaccination schedule and the ABTC hotline for the patient to call in the event of any concerns, including if the biting animal becomes ill.

Paper-based Animal Investigation form

Animal Investigation Form

Animal Health Workers (AHWs) complete investigations if alerted of a high-risk bite from the ABTC or on request due to a suspect rabid animal:

AHW Municipality Barangay Date of investigation

Type of investigation: ☐ Phone consultation ☐ In-person investigation

Investigation trigger: ☐ ABTC/PHW, ☐ MAO/PVO, ☐ community, ☐ other (specify)

Reason for investigation (*Tick*):

- ☐ human exposure (bite/scratch)
- ☐ suspect rabid animal
- ☐ hit by car
- ☐ found dead
- ☐ sick animal
- ☐ sick person (human rabies case)
- ☐ other (*specify*)

Biting Animal - *Select* ☐ dog ☐ cat ☐ livestock ☐ other (specify)

Was this animal: ☐ Unowned ☐ Owned ☐ Unknown

If owned, name of owner

Is the investigation linked to a patient exposure (Y/N): If yes, patient ID

Number of people bitten: Name of bite victim(s):

PEP status (*Tick*):

- ☐ PEP initiated (1st dose received)
- ☐ PEP completed
- ☐ PEP not sought – advised to seek - URGENT
- ☐ Seeking PEP (1st dose not received) – URGENT
- ☐ PEP not advised

Other animals bitten (tick all that apply) ☐ dog ☐ cat ☐ livestock ☐ other

Specify details

Was the biting animal found (Y/N)

Animal outcome (*Tick*): ☐ Alive ☐ Dead ☐ Disappeared

If dead, cause of death (*Tick*):

- ☐ killed by owner/ by community
- ☐ killed by animals
- ☐ hit by car
- ☐ illness
- ☐ unknown

Animal age (*Tick*) ☐ Pup <3 mths ☐ juvenile <1y ☐ Adult >1y ☐ Unknown

Animal sex (*Tick*) ☐ Male ☐ Female ☐ Unknown

Is the animal vaccinated (Y/N) If yes (tick all that apply): ☐ In last 12 months ☐ At least 2x

Animal signs (tick those that apply)

- ☐ Unprovoked aggression (incl. biting/gripping people/ animals/ objects)
- ☐ Excessive salivation
- ☐ Unexplained dullness/lethargy
- ☐ Paresis and/or paralysis
- ☐ Tremors
- ☐ Appetite loss
- ☐ Abnormal vocalization
- ☐ Restlessness
- ☐ Running without reason
- ☐ Feeding young
- ☐ Eating
- ☐ Normal behavior
- ☐ None of the above

Circumstances of bite (tick those that apply)

- ☐ Noise (speaking/shouting)
- ☐ Running
- ☐ Aggressiveness
- ☐ Scared of dogs
- ☐ Throwing things at dogs
- ☐ Playing
- ☐ Approaching the dog
- ☐ Animal not provoked
- ☐ None of the above, specify

Environmental conditions (tick those that apply)

- ☐ Chained
- ☐ Fenced
- ☐ Lots of dogs
- ☐ Lots of people
- ☐ At the owners property
- ☐ Animal came from unknown place
- ☐ None of the above, specify

Investigation recommendation (tick):

- ☐ Healthy, observe for 14 days
- ☐ sick - not rabies, observe for 14 days
- ☐ unknown – quarantine for 14 days
- ☐ suspect for rabies – quarantine for 14 days or sample

Was a sample collected (Y/N)? If yes, date of sample collection

- ☐ If no, why not:
- ☐ Animal not found
- ☐ Animal decomposed
- ☐ Carcass disposed of in unknown location
- ☐ Carcass burned
- ☐ Carcass consumed
- ☐ NA

Location where sample stored: ☐ MAO ☐ PVO ☐ Investigator house ☐ other (specify)

Was a rapid test performed? (Y/N)

Test Results: ☐ Positive ☐ Negative ☐ Inconclusive ☐ Unsatisfactory for testing

Comments if any

On completion of the investigation, the AHW provides advice to the animal owner(s) and the general community on rabies prevention, including the need for dog vaccination, and to seek and complete PEP in the event of a bite by a suspect rabid animal.

If the investigation indicates a rabid dog, the AHW should also inform the barangay captain and all at-risk persons and animal owners of appropriate action, including urgent health seeking for those who were exposed but had not initiated PEP.

In the event of other people or animals being bitten by a suspect rabid animal, these people/animals should also be visited to provide advice and to complete additional investigations (see IBCM protocol).

Before departure, the AHW should confirm with the animal owner the urgent need to contact the AHW should any behavior changes be observed in the animal.

Information from the investigation should be sent back to the ABTC giving the result/animal status and forewarning of exposures likely to attend the ABTC as well as verifying those who have already sought care.

If the investigation was not initiated by an alert from the ABTC but instead by a community member or direct from the PVO, the nearest ABTC and RHU should be alerted to inform them of any high-risk bites identified and persons who are required to seek PEP.

The AHW should either:

- a) submit samples collected to the PVO within 24 hours or to the regional laboratory if closer; or
- b) alert the PVO that an animal shows clinical signs consistent with rabies and their support is needed to euthanize the animal. In this case the PVO (or representative) would collect and submit the sample. If the PVO does the investigation themselves, they should arrange for the sample to be sent to the regional laboratory for confirmation and sequencing.