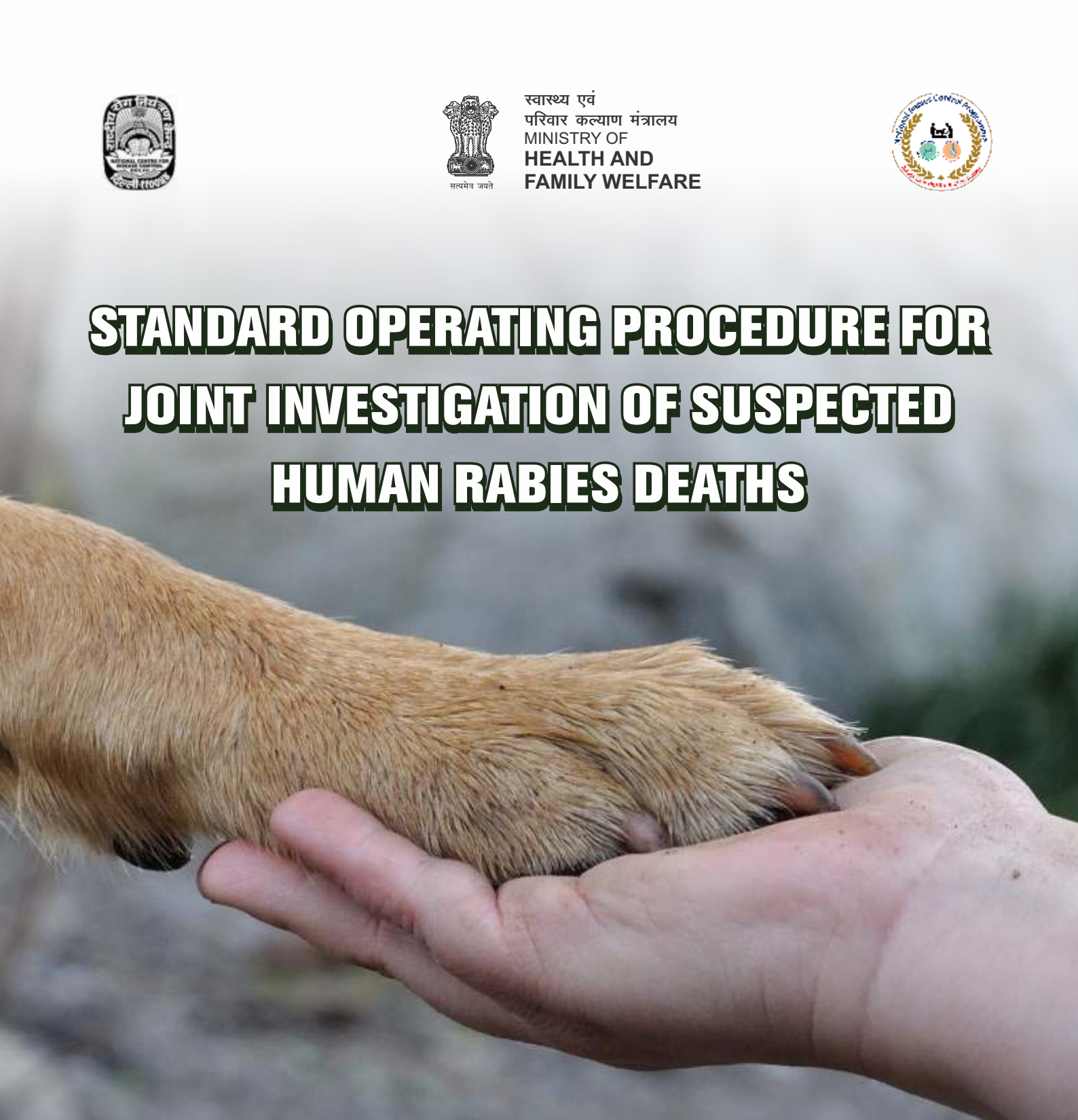
स्वास्थ्य एवं
परिवार कल्याण मंत्रालय
MINISTRY OF
HEALTH AND
FAMILY WELFARE

सत्यमेव जयते

STANDARD OPERATING PROCEDURE FOR JOINT INVESTIGATION OF SUSPECTED HUMAN RABIES DEATHS



Centre for One Health
National Rabies Control Programme
National Centre for Disease Control
Directorate General of Health Services
Ministry of health & Family Welfare
Government of India

NATIONAL HEALTH MISSION
राष्ट्रीय स्वास्थ्य मिशन

स्वच्छ भारत
एक कदम स्वच्छता की ओर

Table of Contents

Contents

Message from
Director General of Health Services,
MoHFW, Govt of India

भारत सरकार
राष्ट्रीय रोग नियंत्रण केन्द्र
(स्वास्थ्य सेवा महानिदेशालय)
स्वास्थ्य एवं परिवार कल्याण मंत्रालय, भारत सरकार
22 - शाम नाथ मार्ग, दिल्ली 110054

प्रो. (डॉ.) रंजन दास
Prof. (Dr.) Ranjan Das
MD (CM)
निदेशक
Director

Government of India
NATIONAL CENTRE FOR DISEASE CONTROL
[Formerly Known as National Institute of Communicable Diseases (NICD)]
Directorate General of Health Services
Ministry of Health & Family Welfare, Government of India
22 - Sham Nath Marg, Delhi-110054

Direct: 00-91-1123913148, 23922132
Fax : 00-91-1123922677
Email : dirnicd@nic.in
Website : www.ncdc.mohfw.gov.in
www.idsp.mohfw.gov.in

Message

Zoonotic diseases continue to pose a persistent risk to human and animal health in India, particularly in rural and peri-urban communities where close interactions between people, animals, and the environment are part of daily life. Preventing and controlling zoonotic diseases requires not only strong surveillance and clinical systems but also empowered communities that are aware, vigilant, and engaged in collective action.

Frontline health workers are the cornerstone of this community-level engagement. Their close connect with people and their role in health promotion, disease prevention, and early reporting make them vital agents of change. Recognizing this, the ***Guideline for Frontline Health Workers on Leveraging Community Platforms for Enhancing Zoonotic Disease Awareness*** has been developed by the National Centre for Disease Control (NCDC). This document provides practical strategies for frontline workers to utilize existing community platforms such as Village Health Sanitation and Nutrition Committees (VHSNCs), Jan Arogya Samitis (JAS), self-help groups for generating awareness, fostering dialogue, and encouraging preventive behaviours.

The guideline highlights simple, culturally sensitive, and participatory approaches that can be integrated into routine community meetings and health promotion activities, thereby strengthening trust between communities and the health system. It also stresses the importance of timely reporting of animal bites and unusual health events as a first step in preventing larger outbreaks.

I am confident that this guideline will be a valuable resource in empowering our frontline health workforce to act as catalysts for change. With their active involvement and the support of community institutions, we can foster a culture of prevention and resilience, thereby reducing the burden of zoonotic diseases in the country.

I extend my gratitude to all experts and partners involved in developing this document and call upon all frontline workers, community leaders, and health authorities to operationalize these strategies to build healthier, safer, and more informed communities.

Prof. (Dr.) Ranjan Das

From the Desk of Programme Officer

Rabies remains a preventable yet fatal disease that continues to threaten communities across our country, particularly children and vulnerable populations with limited access to timely care. This Standard Operating Procedure for Joint Investigation of Suspected Human Rabies Deaths provides practical, time-bound guidance to ensure rapid case confirmation, identification of sources of exposure, and protection of those at risk through immediate clinical and public health action.

The disease is almost entirely preventable through timely wound care, prompt post-exposure prophylaxis including anti-rabies vaccine and rabies immunoglobulin where indicated and by interrupting virus circulation in animal reservoirs through sustained mass dog vaccination and dog population management.

I urge all stakeholder departments to operationalize the One Health framework by identifying and maintaining a roster of trained officials capable of conducting joint investigations at all levels. Prompt notification, thorough field investigation, and rapid laboratory confirmation must be complemented by appropriate public health interventions. Strong inter-departmental coordination, accurate reporting, and active community engagement are essential to halt transmission and move closer to eliminating human rabies.

We express our sincere appreciation to all stakeholders who contributed to this guidance and call upon every partner to prioritize rabies prevention and response in their programs so that no preventable death from rabies goes unaddressed.

Dr Simmi Tiwari
Joint Director & Head,
Centre for One Health
NCDC, Dt.GHS, MoHFW, GoI

Executive Summary

This Standard Operating Procedure (SOP) developed by the Centre for One Health at the National Centre for Disease Control, outlines a One Health–based, multisectoral framework for the rapid and coordinated investigation of suspected human rabies deaths in India. It emphasizes the need for a joint response in a context where large populations of free-roaming dogs and occasional wildlife reservoirs continue to sustain the risk of rabies transmission. The SOP provides an operational pathway for confirming suspected rabies deaths, identifying sources of exposure, and preventing further transmission.

The document sets out clear objectives:

- To clinically and laboratory-confirm the cause of death.
- To identify and characterize the source of exposure (domestic animals or wildlife).
- To assess community-level risk and detect additional cases or clusters.
- To ensure timely post-exposure prophylaxis and other preventive interventions.
- To strengthen both routine and emergency interdepartmental surveillance and response.

Responsibility for investigations is assigned to a Joint Investigation Team (JIT), deputed at national, state, and district levels. The JIT includes nominated officers and representatives from the Health, Animal Husbandry, Urban and Rural Local Bodies, Forest and Wildlife Departments, and designated Rabies Diagnostic Laboratories.

The SOP details practical steps for each stakeholder to ensure that clinical confirmation, animal investigations, and laboratory testing proceed simultaneously rather than sequentially. Investigations begin with immediate notification and medical record review at the treating facility, including documentation of animal exposures, prior treatment, and the clinical course of symptoms consistent with rabies. Field investigations include rapid epidemiological interviews with family members, caregivers, and witnesses; mapping of exposure sites; and identifying possible clusters of cases or bites. Parallel animal investigations aim to trace, isolate, and, where feasible, sample suspect animals (such as stray dogs, livestock, or wildlife).

Annexures to the SOP include a standardized case investigation form for suspected human rabies deaths and an interdepartmental data-sharing template. These tools are designed to streamline reporting, accelerate decision-making, and promote coordinated, evidence-based action.

In summary, this draft SOP translates One Health principles into a practical, time-bound operational plan enabling rapid confirmation of suspected rabies deaths, identification of exposure sources, reduction of animal reservoirs through vaccination and population management, and the institutionalization of multisectoral surveillance and response to prevent future human cases.

Background

The One Health approach has long been advocated for rabies prevention and control in India, aiming to foster collaboration among stakeholders for early detection and joint response to zoonotic diseases. To operationalize this approach, the Ministry of Health & Family Welfare launched the National One Health Programme for Prevention and Control of Zoonoses (NOHP-PCZ) in 2012. The program established State and District Level Zoonotic Committees (SLZC & DLZC) in all states, bringing together officials from Health, Animal Husbandry, Forest departments, academia, and local bodies. The Secretary of the State Health Department and the District Magistrate chair the SLZC and DLZC, respectively. Recently, state-level One Health Nodal Officers were also appointed.

At the regional level, NOHP-PCZ supports 75 Sentinel Surveillance Sites on Zoonoses (SSSZ), including 15 Regional Coordinators to enhance surveillance, outbreak response, and multisectoral coordination. The program aids states through:

1. **Capacity Building:** Organising joint training for Health, Animal Husbandry, and Forest officials on zoonotic diseases.
2. **Laboratory Strengthening:** Providing grants for diagnosing priority zoonotic diseases.
3. **Community Outreach:** Supporting IEC material creation and dissemination on zoonoses.
4. **Operational Research:** Encouraging research on priority zoonotic diseases.

To strengthen inter-sectoral coordination for rabies prevention and control, a guidance document for joint investigation of suspected human rabies death is needed

Introduction

Rabies, a fatal viral disease and 100% fatal once symptoms appear, but 100% preventable with timely prophylaxis, affecting both humans and animals, remains a significant public health challenge in India. Contributing factors include large stray dog populations and limited access to timely healthcare, particularly in rural regions. Timely and coordinated action is critical in the event of a suspected human rabies death to confirm the diagnosis, identify the source of exposure, and implement control measures to prevent further deaths.

This Standard Operating Procedure (SOP) outlines a collaborative approach involving the **Department of Health & Family Welfare (H&FW), Department of Animal Husbandry & Dairying (DAHD), Department of Urban & Rural Local body authority (URL), Department of Forest & Wildlife (FWL)** and **Rabies Diagnostic Laboratories (RDLs).** These entities will work together to confirm causes of death, identify the source of exposure, assess risks to the community, and undertake preventive measures to contain the spread of rabies.

Why is an investigation needed?

Investigating rabies deaths plays a crucial role in not only controlling and limiting their spread but also preventing future occurrence.

The following are key reasons to conduct such investigations:

To stop the current events and prevent recurrence
To prevent further events/outbreaks from other similar sources
To address public concerns
To generate awarenss among the public and disease control
To reduce direct and indirect costs
To identify new mechanisms of transmission if any
To satisfy legal and international obligations

What is a Rabies Outbreak/ Death?

Case Definition: Rabies is a vaccine-preventable, zoonotic, viral disease affecting the central nervous system. Rabies is an infectious viral disease that is almost always fatal

following the onset of clinical signs (aerophobia, hydrophobia etc). It affects domestic and wild animals, and is spread to people through bites or scratches, usually via saliva. [1]

Joint Investigation:

A joint investigation involving the health, veterinary, and municipal departments is an essential step in addressing a case of human rabies. This collaboration ensures a comprehensive and coordinated response to identify the sources and factors of rabies death, prevent further transmission, and implement effective control measures.

When this Joint Outbreak Investigation needs to be carried out:

1) Whenever there is suspected or confirmed rabies deaths
2) When there is unusual mortality of animal deaths

Objectives of the Investigation-

The primary goals of the joint investigation for Human Rabies Deaths are:

a) **Document and confirm the cause of rabies positive clinical symptoms** through symptomatic evaluation and clinical and diagnostic evaluation in case of death.
b) **Identify the source of rabies exposure** (e.g., stray dog, livestock).
c) **Assess risks to the community** by identifying additional deaths or exposure events.
d) **Implement control measures**, such as post-exposure prophylaxis (PEP), animal vaccinations, and public awareness campaigns.
e) **Strengthen inter-departmental collaboration** for improved surveillance and control of rabies.
f) **Strengthen documentation and reporting** for national rabies surveillance.

[1] https://www.who.int/data/gho/data/themes/topics/rabies

Composition of the Joint Investigation Team (JIT)

The **Joint Investigation Team (JIT)** at all level comprises:

Level	Department & stakeholders
National Level Team	• **NCDC-MoHFW:** Nodal officer/Joint Director/Deputy Director/Asst. Director, EIS officer/Public health expert/ nominated representative form NCDC/MoHFW • **DAHD-MoFAHD:** Nodal officer/ Deputy Commissioner/Assistant Commissioner/ Nominated veterinary officer or representative from DAHD • **DoURL- MoHUA:** Nodal officer/ nominated representative from MoHUA • **Forest Department-MoEFCC:** Nodal officer/ Nominated representative from MoEFCC
State Level Team	• **Health department:** State Nodal Officer-NRCP/ State Surveillance Officer/State One Health Nodal Officer/ State Epidemiologist/ Human Health Regional Coordinator Nodal Officer under NOHPPCZ / nominated officer. • **Animal Husbandry department:** Deputy Director, State Animal Husbandry Department/ State Veterinary officer/ Animal Health Regional Coordinator Nodal Officer under NOHPPCZ / Nominated veterinary official • **Urban & Rural Development:** State Nodal officer/ Nominated officer from Urban Local Bodies. • **Forest & Wildlife Department:** Principal Chief Conservator of Forest/ Nominated officer from State wildlife department. • **Rabies Diagnostic Lab:** Lab In charge /Nominated technician
District Level Team	• **Health Department:** District Surveillance officer / District Epidemiologist/ District Program Manager/ Medical officer (Rabies Clinic or PHC)/Nominated officer • **Animal Husbandry Department:** District Veterinary Officer/ Animal Health Inspector/ Nominated Veterinary officer • **Municipal Corporation:** Health Officer & Veterinary Officer – Municipal Corporation/ Health Officer and Animal Husbandry Officer – Zila Parishad / Public Health Inspector/ Nominated officer from MCD

Level	Department & stakeholders
	• **Forest Department:** District Conservator officer/ District Forest Officer/ Nominated officer.
At the block Level	• **Health Department:** Medical Officer along with field workers (ASHA/ ANM) • **Animal Husbandry Department:** Veterinary officer, paravet • **Panchayati Raj Institutions.** Take support from the local volunteers/ NGO

Roles and Responsibilities of stakeholder Departments in Joint Investigation-

Department of Health & Family Welfare (H&FW):

State level:

- Lead and supervise the collection and compilation of the reports of the joint investigation of the suspect and confirm rabies death
- Monitor the trends of rabies death
- Respond to the alert / notification for rabies death provide guidelines and extend support for the investigation
- Notify the rabies suspected case or death to the state animal husbandry department and facilitate the coordination activities at all levels.
- Coordinate with the veterinary department and the wildlife department at the state level.

District level:

- Lead, supervise, and conduct the clinical and epidemiological investigation of
- Coordinate with the local healthcare team and facilitate the administration of post-exposure prophylaxis (PEP) for those exposed and identified contacts
- Facilitate the distribution of *PEP to close contacts*
- Maintain comprehensive records and share findings with state and national-level concerned authorities.
- Facilitate the collection and transport of the human suspect post mortem samples to the rabies diagnostic laboratory by the district healthcare team.
- Supply and distribute the IEC materials and conduct training program

Department of Animal Husbandry & Dairying (DAHD):

- Conduct the investigation in case of recent death in animals
- Conduct surveys and identify the at-risk and high-risk animals in the exposure area.
- Test suspected animals for rabies using appropriate diagnostic methods.

- Organize animal vaccination drives in high-risk areas.

Department of Urban and Rural Development (DoURD):

- Monitor and manage stray animal populations.
- Facilitate PEP administration and sanitation in urban areas.
- Run public awareness campaigns on rabies prevention.

Department of Forest & Wildlife (DoFWL):

- Conduct joint investigations with health authorities in suspected human rabies deaths.
- Report any suspect rabies death to the health and veterinary department
- Identify and manage wildlife sources of rabies transmission
- Support surveillance and testing of wildlife for rabies
- Assist in implementing wildlife vaccination and control measures.

Rabies Diagnostic Laboratories (RDLs):

- Sample will be collected at the health facility where the case is hospitalized/ death has occurred.
- Perform diagnostic testing using validated methods (e.g., RT-PCR, direct fluorescent antibody test).
- Handle and process specimens in accordance with best practices.
- Share test results promptly with relevant departments [Department of Health & Family Welfare (H&FW), Department of Animal Husbandry & Dairying (DAHD), Department of Urban & Rural Local body authority (URL), Department of Forest & Wildlife (FWL]

Investigation Procedure-

1) **Preliminary Assessment:**

- **Initial Notification**: Suspected rabies deaths are reported to the local health authorities or hospitals. Sometimes, the deaths might be missed and reported in the media. In both cases, the rabies deaths need to be verified. A formal case report should be filed immediately on IDSP-IHIP platform.
- **Coordination with local authorities**: District Nodal Officer to coordinate with district health officials for support during investigations. Advance notification to local health officials (BMO/CMHO/DIO) for facilitation and intersectoral coordination.

- **Medical History Review**: A comprehensive review of the patient's history, including details on potential animal exposures (bites, scratches, saliva contact), previous medical treatment, and the progression of symptoms.
- **Clinical Investigation**: Confirm symptoms suggestive of rabies, including fever, hydrophobia, paralysis, and seizures, as well as the timing of symptom onset (rabies typically progresses rapidly after the appearance of symptoms).

Documents/ Records related to deaths under Investigation:

- Available records (hospital records, postmortem reports, laboratory reports, physician notes / OPD / prescription records, etc.) of all affected persons.
- Map of area (village/block/district/state)
- Analysis of deaths of previously reported rabies death from the same area.

Logistics (Facilitation by District Health officials):

- Blank copies of Verbal Autopsy Forms

Others:

- List of telephone numbers of local health official/ worker/ partner organizations
- Ethical considerations: consent for post-mortem sampling

2) **Field Investigation:**

- **Epidemiological Investigation**:

How to conduct the investigation

Field Visit by Medical Officer (MO):

- The MO of the Primary Health Centre (PHC) should visit the house of one or more suspected rabies deaths.
- Interview family members, caregivers, and witnesses to gather information on the patient's contact with animals.
- Use structured questionnaires following NAPRE/SAPRE protocols and conduct interviews.
- Map the location of the exposure, identifying high-risk areas for further investigation.
- Investigate the patient's social and geographical history to assess other possible deaths or contacts with infected animals.

1. **Interview with Health officials**

- Interact with health officials, treating physicians, health workers, and other staff to gather details regarding patient/s, the evolution of the event, and subsequent management at different levels of contact.
- The objective is to establish the sequence of events from the animal bite to the death of the victim/s.
- Identify challenges faced during incident response.

2. **Events at Hospital**

- Evaluate the hospital's emergency response to the animal bite incident.
- Review medical records, focusing on treatment and anti-rabies vaccine and immunoglobulin administration.
- Assess logistics at the hospitals/ Point of care.
- Document the timeline from animal bite victim arrival to provision of care.
- Interview healthcare providers involved in victim care
- Identify challenges faced during the medical response

3. **Evaluate the handling of Anti-rabies vaccine and Immunoglobulin**

- Examine the handling of the anti-rabies vaccine and immunoglobulin, ensuring proper storage conditions.
- Observe the quality-of-service delivery during emergency response and anti-rabies vaccine and immunoglobulin administration.
- Evaluate the timeliness and appropriateness of anti-rabies administration.
- Assess the quantity and quality of available anti-rabies and immunoglobulin.
- Assess the training and preparedness of healthcare professionals in managing anti-rabies deaths.

- Identify gaps or delays in procurement and distribution.

- **Animal Investigation**:
  - Survey the area for potentially infected animals (stray dogs, livestock, wild animals).
  - Identify and isolate any suspicious animals that may have come into contact with the deceased individual or the community.
  - Animal testing: Collect tissue samples (e.g., brain, saliva) from suspected animals and send them to a Rabies Diagnostic Laboratory for testing.

3) **Diagnostic Testing and Confirmation:**

- **Human Samples**:
  - Obtain post-mortem brain tissue samples from the deceased and send to an RDL for rabies confirmation. *Ante mortem samples like saliva, skin biopsy etc. can be collect if the facility is available?*
  - Conduct laboratory tests (e.g., direct fluorescent antibody test, RT-PCR) on tissue specimens to confirm the presence of rabies virus.

- **Animal Testing**:
  - Animal rabies tests are conducted at RDLs using samples from the animal's brain tissue or saliva. A positive result would confirm rabies and indicate a potential source of human exposure.

4) **Diagnostic result Communication**: Ensure that diagnostic results are reported to the health department within 24–48 hours of sample collection and communicate findings to all relevant parties involved in the investigation.

Reporting and Documentation-

- **Case Report Form:** Complete a standardised case report form for each suspected human rabies death.
- **Investigation Report:** Prepare a detailed investigation report, including findings, conclusions, and recommendations (using attached Annexure-1form)

.

- **Data Sharing:** Share relevant data with the State Surveillance unit of Health Department and National level concerned Authority (NCDC).

Preventive and Control Measures-

- **PEP Administration**: Ensure immediate vaccination and RIG for exposed individuals as per bite category and *PEP to close contacts.*
- **Animal Control**:
  - Conduct mass dog vaccination and sterilisation campaigns.
  - Quarantine and test suspicious animals.
- **Awareness**: Raise awareness on rabies prevention and care after animal bite exposure to the healthcare professionals and Community or General Public through IECs and Videos developed by Centre for One Health, NCDC, MoHFW.

1. Health and Safety Guidelines for Field Investigators (if handling sample)-

1. Equip field staff with personal protective equipment (PPE)
2. Ensure team members are vaccinated against rabies.
3. Adhere to proper specimen handling and sanitation protocols.

2. Timeline and Accountability-

Action Item	Timeline	Responsible Department
Case report submission	Within 24 hours	Department of Health
Field investigation	Within 48 hours	Department of Health Department of Animal Husbandry, & Other stakeholder departments
Laboratory testing and results	Within 72 hours	Rabies Diagnostic Labs and Department of Health
Public awareness campaigns	Ongoing	Department of Municipal Corporation
Final report Preparation & submission	Within 7 days	All collaborating departments such as District Level Zoonotic Committee /State Level Zoonotic Committee

3. Data points for inter-departmental sharing-

For effective inter-departmental coordination in response to a rabies case or outbreak, it is essential to define clear data points for sharing among relevant departments. The shared data should facilitate timely and efficient preparedness and response measures while ensuring confidentiality. The data is strictly for departmental use and must not be shared or published externally to maintain data integrity and compliance with privacy protocols. Establishing these guidelines will enhance collaboration, improve response outcomes, and safeguard sensitive information.

Table 1: Data points of each department for inter-departmental sharing

Departments	Data points
Human Health department	• Number of suspected and lab-confirmed deaths of rabies along with line list • Clustering of animal bites in a defined area
Animal Health department	• Number of Suspected and lab-confirmed deaths of rabies along with line list • Clustering of dog bites in a defined area • Number of animal bites in the livestock • *Suspected rabies deaths in the livestock*
Forest/Wildlife department	• Any lab-confirmed case of rabies • Clustering of wild animal deaths (Number and type of wild animal and location)
Urban and Rural Local Bodies	• Clustering of dog bites in a defined area • Dog population census (Pet and Stray dogs) • Number of stray dogs vaccinated against rabies • Number of stray dogs neutered under ABC programme

Departments	Data points
	• Number of awareness activities conducted

Annexure 1: Investigation form for Suspected Human Rabies Death

National Rabies Control Program
National Centre for Disease Control
Ministry of Health and Family Welfare
Government of India
INVESTIGATION FORM FOR SUSPECTED HUMAN RABIES CASE

1. Information about interviewer

Name of Interviewer		Date of Interview	
Designation		Start Date	
Contact		End Date	

2. Information about patient

Name of Patient		Sex		Age (Years)	

Occupation

Level of education

☐ Illiterate ☐ Primary School ☐ Graduate ☐ Professional Degree
☐ Below Primary ☐ Secondary School ☐ Post graduate ☐ Unknown
☐ Other (Specify)

Is patient Immunocompromised?

3. Information about respondent

Name of respondent		Age of respondent			
Contact information		State		District	
City/Locality		Village		Pincode	

To the main respondent:

What was your relationship to [deceased's name]?

☐ Parent ☐ Sibling ☐ Parent-in-law ☐ Community leader
☐ Husband/wife ☐ Child ☐ Friend or neighbour ☐ Son-in-law/daughter-in-law
☐ Health care worker (facility name): ☐ Other(specify):

4. Exposure (during previous 12 months)

Did any family pets or livestock die during 12 months before the patient's illness?

☐ Yes [Date of death] ☐ No ☐ Unknown

Did (deceased) have any contact with animal (bites, scratch, lick) within 12 months before the illness that led to death?

☐ Yes ☐ No ☐ Unknown

If yes, please describe the animal contact events

4.1 On what date did (deceased) have contact with this animal? ---/-----/-------

4.2 What type of animal?

☐ Dog ☐ Cat ☐ Livestock ☐ Other (Specify)

4.3 Place of exposure?

4.4 Was the animal owned?

☐ Owned by deceased ☐ Owned by community ☐ Not Owned ☐ Wild ☐ Unknown

Owner Name and Address:

4.5 Did the animal have any signs of disease (describe)?

☐ Aggression ☐ Paralysis ☐ Biting ☐ Hyper Salivation
☐ Lethargy ☐ Other

4.6 Is the animal alive today? (If no, estimate date of death?)

☐ Yes ☐ Unknown ☐ No [Date of death]

4.7 Was the animal observed for at least 10 days after the exposure?

☐ Yes, alive after 10 days ☐ Yes, died during observation ☐ No ☐ Unknown

4.8 Was the animal tested for Rabies?

☐ Yes, Rabies Positive ☐ Yes, Rabies Negative ☐ No ☐ Unknown

4.9 Brain sent for Testing?	☐ Yes:	[Date of death]	☐ No	☐ Unknown

4.10 Was the deceased bitten by this animal?
☐ Yes ☐ No ☐ Unknown

4.11 Was the animal vaccinated?
☐ Yes ☐ No ☐ Unknown

4.12 Did the deceased have other contact with the animal (i.e. licked, scratched)?

☐ Category of Bite I	Touching or feeding of animals, Licks on intact skin. Contact of intact skin with secretions /excretions of rabid animal/human case.
☐ Category of Bite II	Nibbling of uncovered skin. Minor scratches or abrasions without bleeding.
☐ Category of Bite III	Single or multiple transdermal bites or scratches, licks on broken skin. Contamination of mucous membrane with saliva (i.e. licks).

4.13 Location of Bite on Body?
☐ Head ☐ Trunk ☐ Upper Limb ☐ Hands ☐ Lower Limb ☐ Genitalia

4.14 What treatment did the patient receive after this contact with Animal?
☐ Washed the wound ☐ Sought medical care
☐ Neural tissue contact with open wound/mucous membrane ☐ Other

4.14 What treatment did the patient receive for this contact?
☐ Washed the wound ☐ Sought medical care ☐ Received rabies vaccination

NOTE:

5. Details on Animal Bite Management

5.1 Did (deceased's name) receive treatment after the animal exposure above?
☐ Yes ☐ No ☐ Don't Know

5.2 Was any of this treatment received at home?
☐ Wound Washing ☐ Over the counter medications ☐ Traditional medicines
☐ Unknown ☐ Other

5.3 Where did (deceased's name) go for medical care for any of the exposures listed above?

	Facility 1	Facility 2	Facility 3
Facility Type	☐ Traditional Healer ☐ Registered Medical Practitioner	☐ Traditional Healer ☐ Registered Medical Practitioner	☐ Traditional Healer ☐ Registered Medical Practitioner
Facility Name			
Facility Location			
Date(s) visited	1: --/--/---- 2: --/--/---- 3: --/--/----	1: --/--/---- 2: --/--/---- 3: --/--/----	1: --/--/---- 2: --/--/---- 3: --/--/----
-Antibiotics/Tetanus -Rabies Vaccine - Rabies Immunoglobin -Specify If Other			

5.4 Reason for Incomplete PEP?
☐ Animal well after observation period ☐ Animal results negative ☐ Specify if other:
☐ Victim previously immunized ☐ Victim refused further doses
☐ Lost to follow-up ☐ Referred out of province

5.5 If the patient received rabies vaccination, please record the type of vaccine and dates received:
☐ Cell Culture Vaccine i. No. of injections ii. Date started --/--/----

CCV	Vaccine 1	Vaccine 2	Vaccine 3	Vaccine 4	Vaccine 5
Date					
Route (IM or ID)					
Site					

5.6 RIG received or not? ☐ Yes	--/--/----	☐ No	☐ Unknown

5.7 Had the patient ever been vaccinated against rabies prior to this exposure? If Yes mention details.

☐ Yes: Year of Vaccination --/--/---- ☐ No ☐ Unknown

6. Signs and Symptoms related to Rabies

6.1 Time from onset of death

Symptom	Yes	No	Unknown	Symptom	Yes	No	Unknown
Fever	☐	☐	☐	Malaise	☐	☐	☐
Headache	☐	☐	☐	Nausea	☐	☐	☐
Vomiting	☐	☐	☐	Anxiety	☐	☐	☐
Muscle spasm	☐	☐	☐	Dysphasia	☐	☐	☐
Anorexia	☐	☐	☐	Ataxia	☐	☐	☐
Priapism	☐	☐	☐	Seizures	☐	☐	☐
Aerophobia	☐	☐	☐	Hydrophobia	☐	☐	☐
Localized weakness	☐	☐	☐	Localized pain	☐	☐	☐
Confusion	☐	☐	☐	Delirium	☐	☐	☐
Agitation	☐	☐	☐	Aggressiveness	☐	☐	☐
Autonomic instability	☐	☐	☐	Hyperactivity	☐	☐	☐
Insomnia	☐	☐	☐	Hypersalivation	☐	☐	☐

6.1.1 When did the illness that led to death begin?

Day_____Month_____Year_____ ☐ Unknown

6.1.2 If you don't remember the exact date, approximately how long did the illness begin?

Day_____Month_____Year_____ ☐ Unknown

6.1.3 How many days after onset of the illness did (deceased's name) die?

Number (estimate if needed):

6.2 During the illness did (deceased's name) seek medical assistance?

☐ Yes: (Date): --/--/---- ☐ No ☐ Unknown

6.3 During the illness was (deceased's name) admitted to a hospital?

☐ Yes: (Date): --/--/---- ☐ No ☐ Unknown

6.4 Whether any specific test (ELISA/PCR/FAT/MAT/MRI/Other) performed for Lab confirmation of Rabies

Name of Test performed	Date	Result	Comment

6.5 What was the date of (deceased's name) death? Day_____Month_____Year_____

6.6 Where did (deceased's name) die?

☐Home ☐ Hospital (specify)

☐ Other health facility (specify) ☐Other (specify)

6.7 Did anyone else in the community develop an illness similar to (deceased's name) within the past 12 months? (If "Yes", collect contact information for other suspected cases to initiate verbal autopsy of additional cases.)

☐Yes ☐ No ☐ Unknown

If yes, please describe:

7. Postmortem information

7.1 Post mortem report available (if any):

☐ Yes ☐ No ☐ Unknown

7.2 Death certificate available?	☐Yes	☐ No	☐ Unknown
7.2.1 Did (deceased's name) have any evidence of recent wounds?	☐ Yes	☐ No	☐ Unknown
7.2.2 Did (deceased's name) have any evidence of healed wounds?	☐ Yes	☐ No	☐ Unknown

8. Contact investigation

8.1 Collect the names and contact information for any mentioned below who had contact with the suspected rabies case in the 14 days or before symptom onset until death.

	☐ Family	☐ Community members	☐ Hospital workers	☐ Any Other
Name				
Address				
Contact Number				

8.2 Collect the names and contact information for any people who had contact with the **animal suspected** of transmitting rabies to the case. Including details of Animal owners.
Risk assessments should be conducted with these people to rule out potential exposure.

	Name and Address	Relation
1		
2		
3		

Information guide enumerators in deciding on the likelihood of human rabies

Human exposure to rabies

Possible exposure: A person who had close contact (usually a bite or scratch) with a rabies-susceptible animal in (or originating from) a rabies-infected area **(question 4).**

Probable exposure: A person who had close contact (usually a bite or scratch) with an animal displaying clinical signs consistent with rabies at time of the exposure or within 10 days following exposure in a rabies-infected area **(questions 4.4, 4.5, 4.6).**

Confirmed exposure: A person who had close contact (usually a bite or scratch) with a laboratory-confirmed rabid animal **(question 4.7).**

Annexure 2: Interdepartmental Data Sharing format

National Rabies Control Program (NRCP)
Department of Health & family Welfare

Data sharing format for Rabies and Dogbite cases to intersectoral Department		
Name of the state		
Name of District		
Reporting Month		
Name of District Nodal Officer (DNO)		
Contact No of DNO		
Report submitted to (name of concerned department & district)		
Summary of the Rabies and Dog bite cases in the month		
1	Total Number of Reported Dog Bite Cases	
2	Total Number of Confirmed Human Rabies Cases	
3	Total Number of Suspected Human Rabies Cases	
4	Total Number of Confirmed Rabies Deaths (Human)	
5	Type of Dog Bite (in number)	
	• *Pet dogs bite*	
	• *Stay dogs bite*	
6	Area wise dog bite cases	
	• *Dog bite reported in rural area*	
	• *Dog bite reported in urban area*	
7	District Nodal officer's remarks on Geographical Clustering of Dogbite event and action required by concerned department (Veterinary Dept/ State-AWBI/ PRI/ Municipal Corporation)	
8	Any other information	

Date:

Signature of the reporting officer-

Annexure 3: Template for preparation of investigation report

A comprehensive and detailed final investigation report is essential for documenting the causes, dynamics, and resolution of the outbreak. It also serves as a tool for future reference, helping to prevent similar events. Local health authorities must submit this report within **10 days** after the investigation. Sharing feedback from this report with lower levels and neighboring districts is equally critical for knowledge dissemination and preparedness.

This report must be comprehensive and give a complete picture of the causes of the event that led to death. It should have full details of lab results including regional lab (cross verification and strain identification), confirmation of the provisional diagnosis and other relevant information. It is important that feedback from the report is shared with the lower levels and also other districts.

The outline of the report:

a. Title of the Report	Include the term ',' disease, affected population or place, and time. Example: 'Rabies Death Investigation in Village/ X, District Y, May'
b. Introduction	1. Notification: - Date and time of rabies notification and the setting (community, hospital, etc.). 2. Investigation Initiation: - Date and time when the Joint death investigation began the investigation. 3. Index Case Discovery: - Events leading to the identification of the first case (in case of multiple deaths). 4. Scientific Context: - Background on the organism: emerging, epidemic, or endemic status, biology, and transmission characteristics.(Not mandatory) 5. Objectives: - Objectives of the investigation. Example: 'To investigate and describe the epidemiological aspects of the outbreak and recommend measures.'
c. Investigation Methods	1. Investigation Timeline: - Start and end dates of the outbreak and explanation of how these were determined. 2. Case Definitions: - Definitions for suspected, probable, and confirmed deaths. 3. Data Collection: - Methods used: passive and active surveillance, interviews, or field investigations. 4. Epidemiological Design: - Descriptive 5. Laboratory Investigations: - Sample collection, testing protocols, results, and cross-verification with regional labs.

	6. Environmental Assessments: - Findings from environmental observation/ testing and their relevance to confirming the source
d. Results	1. Descriptive Epidemiology: - Time trends (epidemic curve), geographic distribution (maps or tables), and person characteristics. 2. Lab and Environmental Findings: - Summary of laboratory results and environmental assessments confirming the source and diagnosis.
e. Discussion & Conclusion	1. Summary of Findings: - What was the causal agent, source of infection, mode of transmission, and population at risk? 2. = Causes: - Discussion on underlying causes and factors contributing to the death.
f. Recommendations	Actionable measures for prevention and control taken and recommended
g. Acknowledgments	Contributions of team members, laboratories, community workers, and other stakeholders.
h. References	Cite all data sources, studies, and reports used in the investigation.(if any)
i. Appendices	Supporting materials, including epidemic curves, maps, line lists, questionnaires, and other relevant data.

Annexure 4: Frequently Asked Questions

1. **When and how should a suspected human rabies death be reported?**

   - Notify immediately within 24 hours of suspicion or death.
   - Use the IDSP/IHIP platform (or state-approved rapid reporting system), and inform the State Surveillance Unit and the NCDC One Health Cell.

2. **Who forms the Joint Investigation Team (JIT) and who should be included?**

   - The State Surveillance Officer (SSO) or State One Health Nodal Officer convenes the JIT in consultation with the District Magistrate and NCDC.
   - The team must include Health, Animal Husbandry, Urban/Rural Local Bodies, Forest & Wildlife, and Rabies Diagnostic Laboratory representatives.

3. **How soon must the JIT visit the field?**

   - Within 48 hours of notification, ensuring prompt containment and risk assessment.

4. **What ante-mortem specimens are appropriate if the patient is alive?**

   - Saliva, corneal impressions, CSF, and nuchal skin biopsy for RT-PCR or DFA.
   - Follow strict biosafety protocols and maintain reverse cold chain.

5. **What samples are collected for post-mortem confirmation?**

   - Brain tissue is preferred.
   - If brain tissue is unavailable, nuchal skin biopsy or saliva may be tested.

6. **How are animal samples collected and tested?**

   - For dogs, livestock, or wildlife, collect brain stem tissue or saliva swabs under OIE/WOAH guidelines.
   - Transport to a designated Rabies Diagnostic Laboratory (RDL) for DFA or RT-PCR.

7. **How should contacts and exposed individuals be identified and managed?**

   - Conduct contact tracing of all household members, healthcare workers, and other exposed persons.
   - Classify exposures (Category I, II, III) and ensure immediate PEP and RIG as per WHO guidance.

8. **How to investigate clustering of dog bites or animal deaths?**

   - Create a geo-coded line list of animal bite incidents as per the place of exposure.

- Map spatial clusters and determine if a common source exists.
- Coordinate with Animal Husbandry and Urban Local Bodies for mass dog vaccination and ABC (Animal Birth Control) operations.

9. **What role can wildlife play in human rabies transmission in India?**

- While most human rabies results from dog bites, wildlife species such as jackals, mongooses, feral cats, and wild canids (foxes, wolves) can act as rabies reservoirs or spillover hosts.
- Wildlife rabies has been reported in several Indian states and can cause localized outbreaks.

10. **When should the Forest & Wildlife Department be engaged?**

- At the **first indication of wildlife involvement** (e.g., bite from a wild animal, unexplained wildlife deaths, or laboratory-confirmed rabies in wildlife).
- During outbreaks near forest fringes, sanctuaries, or areas with frequent interactions between domestic and wild animals.

11. **How should wildlife specimens be collected and tested?**

- Forest & Wildlife teams, trained in humane capture and safe sample collection, must lead.
- Collect **brain tissue** or oral swabs from carcasses using PPE and follow biosafety precautions.
- Samples must be dispatched to an RDL under **reverse cold chain** conditions.
- Follow OIE/WOAH standards for wildlife rabies diagnostics.

12. **What preventive measures are recommended if wildlife rabies is detected?**

- Risk zoning: Define a buffer area around the detection site (usually ≥5 km).
- Enhanced surveillance: Intensify active surveillance for wildlife morbidity/mortality and human/animal exposures.
- Targeted anti rabies vaccination (ARV) may be considered in the dogs and domestic animals in forest fringe/identified risk zone.
- Habitat management: Reduce human-wildlife interactions (e.g., solid waste management, avoiding storage of water in containers outside the house).
- Public communication advising against handling or feeding wild animals.

13. **How to assess risk to nearby domestic animals and humans when wildlife rabies is confirmed?**

- Map overlap of wildlife ranges with human settlements and domestic animal grazing areas.
- Strengthen PEP coverage for exposed people and mass dog vaccination in the buffer area.
- Conduct door-to-door risk assessments in adjacent villages.

14. **What biosafety measures are mandatory for field investigators involved in the collection of biological samples for rabies?**

- Pre-exposure rabies vaccination can be given to the workers involved in direct sample collection.
- PPE: double gloves, N95 or triple-layer masks, eye protection, disposable gowns/coveralls.
- Use 1% sodium hypochlorite for disinfection of equipment and vehicles.

15. **What is the correct cold chain protocol for human and animal specimens?**

- Triple packaging: primary leak-proof container → secondary watertight container with absorbent material → rigid outer container with ice packs.
- Maintain **2–8 °C for ≤48 h** or **–70 °C** if delays occur.

16. **What are the reporting timelines?**

- Preliminary report: within 2 days of field visit to State Surveillance Unit and NCDC.
- Final report: within 7 days, including all laboratory findings, contact-tracing data, and recommended interventions.

17. **Who may speak to the media or the public?**

- Only the **designated state health spokesperson** or **authorized central authority (e.g., NCDC Media Cell)**.
- Team members must not provide direct comments to media to prevent misinformation.

18. **How soon should PEP be given to exposed individuals?**

- Immediately, without waiting for laboratory confirmation.
- Follow WHO-recommended intradermal or intramuscular schedules and administer RIG for all Category III exposures.

19. **What animal control measures are triggered after confirmation of a human rabies death?**

- **Mass dog vaccination** and **ABC programme** within a 5 km radius.
- **Quarantine and testing** of suspect animals.
- Wildlife-specific actions if applicable (see Q12).

20. **Is rabies a notifiable disease in India?**

- Yes. Rabies is notifiable under IDSP/IHIP. All animal bite deaths and suspected or confirmed rabies deaths must be reported to State Surveillance Units and NCDC.

21. **Are families of deceased patients eligible for compensation?**

- There is no national compensation mandate, though states may provide ex gratia support.
- District authorities can guide families on available local schemes and link the beneficiaries to the appropriate schemes as per eligibility.

22. **How should the affected area be monitored after an outbreak?**

- Maintain **active surveillance for at least 6 months**.
- Track dog vaccination coverage and conduct periodic ABC evaluations.
- Review healthcare facility readiness for PEP.

23. **What key indicators should be tracked to evaluate response performance?**

- Time from case detection to field deployment.
- Proportion of exposed individuals receiving PEP within 24 hours.
- Dog and wildlife vaccination coverage within the buffer area.
- Public health actions taken for control of rabies deaths
- Measures taken for prevention of such events in future
- Number of intersectoral coordination meetings conducted

24. What if the patient dies before any samples can be collected?

- Conduct a verbal autopsy and collect environmental and animal samples if feasible.
- Classify the death as *probable rabies* if clinical history and exposure meet case definition.

25. **What if laboratory facilities are not available locally?**

- Preserve samples at 2–8 °C and ship to the nearest designated RDL within 24 hours under reverse cold chain.
- If longer time is expected for sample transportation, it should be stored and sent at -70°C.