PATHANAMTHITTA

January 2026

Centre for One Health - Kerala
Thycaud, Thiruvananthapuram- 14

One Health Kerala

PATHANAMTHITTA

Health and Family Welfare Department
Government of Kerala

KERALA.HEALTH

ONE HEALTH@PATHANAMTHITTA

Health and Family Welfare Department
Government of Kerala

KERALA.HEALTH

Smt. Veena George
Minister for Health &
Family Welfare
and Woman & Child Welfare
Development
Government of Kerala

Message

Kerala's public health achievement is built on a strong foundation of prevention, equity, scientific learning and intersectoral collaboration. Now it is increasingly evident that the health of humans are deeply interconnected with the animal health and the environment. The *One Health* approach provides a comprehensive framework to address these shared challenges. One Health activities at the district level translates these principles into locally relevant, mutually inclusive, and actionable strategies.

The preparation of this *District One Health* document is a commendable initiative. This document showcases the coordinated surveillance, early warning systems, joint risk assessment, information sharing and integrated response mechanisms involving the health, animal husbandry, environment, agriculture, local self-government and allied departments in the district.

I congratulate the dedicated efforts of all the departments, professionals, academic institutions and partners who have contributed to the successful implementation of One Health activities in the district. Appreciation is due for those who worked to develop this document which will serve as a practical guide for administrators, planners and field-level functionaries.

Together, let us strengthen the One Health approach to protect the health of our people, animals and environment, and to build a safer, more resilient Kerala.

Veena George

Foreword

During COVID pandemic the challenge was accepted and ONE HEALTH program was launched in the four districts of Pamba river basin under Rebuild Kerala Initiative assisted by the World Bank. There were series of actions taken at the State and district level to develop the structures and processes to take up the actions.

The District One Health Document represents a significant step towards our collective commitment to safeguarding the health of people, animals, and the environment. The One Health approach recognizes that these are deeply interconnected, and that sustainable solutions to today's health challenges can only be achieved through collaboration across sectors.

This document showcases our district's journey towards the preparedness, response, and innovations against emerging health threats. It emphasizes the importance of integrated surveillance, coordinated action, and community engagement in addressing zoonotic diseases, environmental hazards, and public health concerns. By strengthening the partnerships among health professionals, veterinarians, environmental experts, and local communities, we aim to build a robust system that protects and promotes well-being for all.

This document further reiterates that the health of humans, animals, and the environment is inseparable, and our future depends on it. We appreciate all stakeholders and contributors who made One Health in the district a reality to safeguard the health of the people, animals and environment.

We acknowledge the dedication of the stakeholders whose contribution, expertise and commitment have ensured that this document is both practical and visionary, offering a roadmap for healthier lives and a safer environment.

The state has already taken a decision to scale up the ONE HEALTH program in all the districts of the State. This document will be handy for the district to go through series of activities and build the capacities in the district. It will act as a tool to achieve the same level of capacity in shorter time period. Through such collective actions the outbreak, epidemic or pandemic, forecasting as well as control and mitigation will be scientific and effective.
I look forward to whole hearted cooperation and coordinated efforts of all the functionaries of all the Departments to safeguard human and animal health as well as environment.

Dr Rajan Khobragade IAS
Additional Chief Secretary
Health & Family Welfare and
AYUSH Department
Govt of Kerala.

Index

CHAPTER - 1

BACKGROUND

Pathanamthitta district, located in the midland–highland zones of Kerala, is characterized by dense forest cover, hilly terrain, numerous water bodies, and close human–animal–environment interfaces. The district shares ecological boundaries with major wildlife habitats, including the Periyar Tiger Reserve and Konni Forest divisions, making zoonotic disease surveillance and integrated environmental management critically important. Over the past years, Pathanamthitta has reported several health events in which human, animal, and environmental factors intersected. Seasonal zoonotic threats such as Kyasanur Forest Disease (KFD) in neighbouring districts, sporadic scrub typhus cases, leptospirosis following monsoon flooding, and increasing dog-bite incidents highlight the need for coordinated cross-sectoral action. The district's geography- large tribal settlements, forest-fringe communities, and extensive agriculture-further increases exposure to vectors, wildlife, and domesticated animals. Climate variability, changing land-use patterns, and rapid development have also altered vector distribution and wildlife movement. Waste management issues, stray animal populations, and human encroachment into forest ecosystems contribute to rising environmental vulnerabilities. These conditions underline the necessity of integrating veterinary, medical, and environmental surveillance systems for

early detection and rapid response. Recognising these challenges, the Pathanamthitta district administration and health department have adopted the One Health approach to strengthen preparedness, surveillance, prevention, and control of zoonotic and environmental health threats. Through coordinated efforts involving Health, Animal Husbandry, LSGD, Forest, Agriculture, Pollution Control Board, and community stakeholders, the district aims to establish a sustainable, evidence based One Health program that enhances resilience against emerging public health risks.

Table1.1 Key Demographic, Health-Service, and Epidemiological Indicators for Pathanamthitta District, Kerala(1–3)

Sl. No.	Indicator	Value	Source
1	**Population)**	11.97 lakh	Census 2011
2	**Sex Ratio**	1,129 females per 1,000 males	Census 2011
3	**Literacy Rate**	96.9%	Census 2011
4	**Proportion of Elderly (≥ 60 years)**	18% of population	State Economic Review data (2018) Deccan Chronicle
5	**Public-health service coverage via e-Health (UHID visits)**	70% UHID visits	eHealth Kerala dashboard 2023 dashboard.ehealth.kerala.gov.in+1
6	**OP consultation completion via e-Health**	~ 89%	eHealth Kerala dashboard 2023 dashboard.ehealth.kerala.gov.in

7	**Presence of Nomadic Tribal population**		RCH District profile

Disease burden

1.1 Communicable diseases

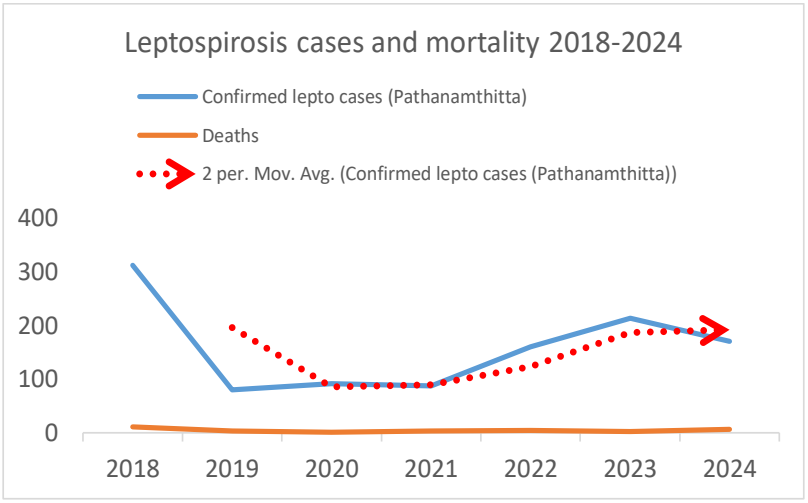

Figure 1.1.1: Confirmed cases of Leptospirosis from 2018 to 2024(4)

The temporal pattern of leptospirosis in Pathanamthitta district between 2018 and 2024 demonstrates a distinct three-phase epidemiological trajectory. The year 2018 marked a pronounced peak in case incidence and mortality, coinciding with the widespread post-flood outbreaks reported across Kerala. This surge represented a period of intense transmission likely driven by extensive environmental contamination, rodent displacement, and increased human exposure to contaminated water sources following the severe flooding events.

Following this epidemic year, the district experienced a sharp and sustained decline in reported cases during 2019 to 2021, stabilizing at relatively low levels. This decline may reflect the combined effects of strengthened public-health messaging, targeted chemoprophylaxis, and altered human behaviour during the COVID-19 pandemic, including

reduced occupational and outdoor exposures. During this phase, the epidemiological curve suggests a temporary suppression of transmission, consistent with broader statewide patterns of reduced infectious disease activity during pandemic-related mobility restrictions.

However, beginning in 2022, a renewed increase in cases became evident, culminating in a secondary peak in 2023. This resurgence suggests re-establishment of environmental and ecological conditions favourable for transmission, possibly driven by increased post-pandemic economic activity, intensification of agricultural work, fluctuating monsoon patterns, and persistent rodent infestation in forest-fringe and agrarian areas of the district. The upward trajectory depicted in the moving-average trend line underscores a progressive recovery of transmission potential after the transient lull observed in the preceding years.

Although the absolute number of cases declined modestly in 2024 compared with 2023, the year was characterised by a disproportionately higher number of deaths. This divergence between incidence and mortality raises concerns regarding the timeliness of healthcare seeking, early diagnostic sensitivity, and the adequacy of primary-level clinical recognition in the district. The persistence of an elevated moving-average trend reinforces the interpretation that leptospirosis has re-emerged as a sustained public-health threat in Pathanamthitta, rather than a sporadic or declining problem.

Taken together, the district's trajectory from a post-flood epidemic peak to a transient suppression phase and subsequent resurgence highlights the ecological fragility of leptospirosis control in Pathanamthitta. The pattern suggests ongoing vulnerability driven by climatic variability, environmental exposures, and changing human–animal–ecosystem interfaces. These findings affirm the necessity of establishing a robust One Health surveillance and response framework in the district to reduce transmission risk, improve early detection, and mitigate preventable mortality.

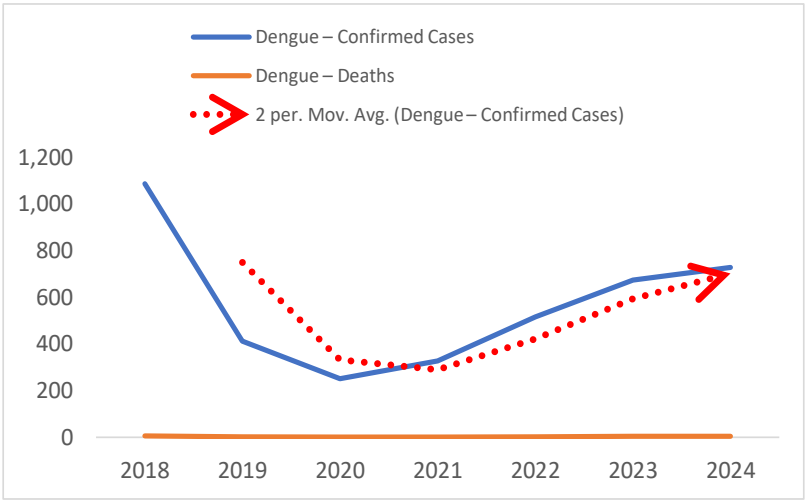

Figure 1.1.2: Confirmed Dengue cases and Deaths from 2018 to 2024

The temporal trend of dengue in Pathanamthitta from 2018 to 2024 demonstrates a characteristic post-epidemic contraction followed by a gradual resurgence. The district experienced a major dengue burden in 2018, with more than 1,000 confirmed cases, reflecting Kerala's statewide transmission peak during that year. This was followed by a marked decline in 2019–2020, likely attributable to strengthened vector-control activities, heightened public awareness, and environmental management following the 2018 outbreak. The further reduction observed in 2020–2021 may also be partly explained by behavioural modifications and mobility restrictions associated with the COVID-19 pandemic, which indirectly reduced human–vector contact.

Beginning in 2022, the district entered a phase of renewed transmission, with cases rising consistently through 2023 and reaching their highest level in 2024 (728 confirmed cases). The upward shift in the moving average line supports the interpretation that dengue transmission has become progressively more sustained, possibly driven by climatic variability, increased post-pandemic human movement, expansion of peri-urban breeding habitats, and reduced effectiveness of community-level source reduction.

Despite this steady rise in case numbers, dengue-associated mortality remained relatively low throughout the period, with annual deaths ranging between 1 and 5. This comparatively low case-fatality profile reflects several successful public-health interventions in the district.

These include early clinical triage and risk stratification at peripheral health facilities, strengthened use of the dengue clinical management protocol, timely referral of warning-sign cases to higher centers, and community-level education on early symptom recognition and hydration. The improved readiness of primary care teams—with rapid assessment of hematocrit, platelet trends, and hemodynamic status—likely contributed to prevention of progression to severe dengue and thereby reduced mortality. In addition, the district's reliance on e-Health–based follow-up mechanisms facilitated closer monitoring of high-risk individuals, enabling timely intervention before clinical deterioration.

Overall, the pattern indicates that while transmission intensity has increased in recent years, effective clinical and public-health measures have mitigated mortality, preventing the rise in deaths that might be expected with a parallel increase in incidence. The divergence between the rising case curve and the relatively flat mortality curve underscores the importance of maintaining strong clinical surveillance, early detection, and rapid supportive care, even as vector-control efforts continue to face ecological and climatic constraints.

The temporal trend of dengue in Pathanamthitta from 2018 to 2024 demonstrates a characteristic post-epidemic contraction followed by a gradual resurgence. The district experienced a major dengue burden in 2018, with more than 1,000 confirmed cases, reflecting Kerala's statewide transmission peak during that year. This was followed by a marked decline in 2019–2020, likely attributable to strengthened vector-control activities, heightened public awareness, and environmental management following the 2018 outbreak. The further reduction observed in 2020–2021 may also be partly explained by behavioural modifications and mobility restrictions associated with the COVID-19 pandemic, which indirectly reduced human–vector contact.

Beginning in 2022, the district entered a phase of renewed transmission, with cases rising consistently through 2023 and reaching their highest level in 2024 (728 confirmed cases). The upward shift in the moving average line supports the interpretation that dengue transmission has become progressively more sustained, possibly driven by climatic variability, increased post-pandemic human movement, expansion of peri-urban breeding habitats, and reduced effectiveness of community-level source reduction.

Despite this steady rise in case numbers, dengue-associated mortality remained relatively low throughout the period, with annual deaths ranging between **1 and 5**. This comparatively low case-fatality profile reflects several successful public-health interventions in the district. These include early clinical triage and risk stratification at peripheral health facilities, strengthened use of the dengue clinical management protocol, timely referral of warning-sign cases to higher centres, and community-level education on early symptom recognition and hydration. The improved readiness of primary care teams—with rapid assessment of haematocrit, platelet trends, and haemodynamic status—likely contributed to prevention of progression to severe dengue and thereby reduced mortality. In addition, the district's reliance on e-Health–based follow-up mechanisms facilitated closer monitoring of high-risk individuals, enabling timely intervention before clinical deterioration.

Overall, the pattern indicates that while transmission intensity has increased in recent years, effective clinical and public-health measures have mitigated mortality, preventing the rise in deaths that might be expected with a parallel increase in incidence. The divergence between the rising case curve and the relatively flat mortality curve underscores the importance of maintaining strong clinical surveillance, early detection, and rapid supportive care, even as vector-control efforts continue to face ecological and climatic constraints.

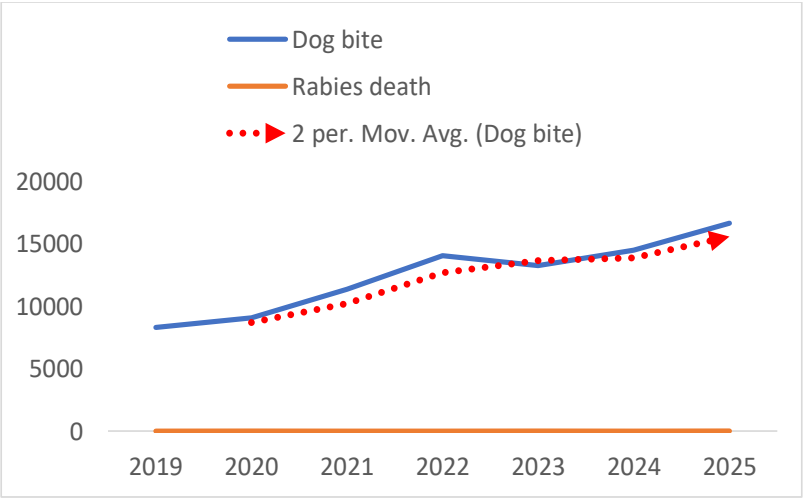

Figure 1.1.3: Dog bite cases 2019 to 2025

The data show a consistent upward trend in dog-bite incidents from 2019 through 2025, increasing from approximately 8,200 cases in 2019 to over 16,000 cases by 2025. This near-doubling over a seven-year period indicates a progressively expanding human–animal interface, likely driven by growth in stray-dog populations, increased reporting, and behavioral or environmental changes that heighten human exposure.

The moving-average curve reinforces this sustained escalation, revealing not a sporadic fluctuation but a stable long-term rise in district-level vulnerability. Although a modest dip is observed around 2023, the overall direction remains upward, with the steepest increases occurring between 2021 and 2022 and again from 2024 to 2025.

Notably, rabies-associated mortality remains extremely low throughout the period despite the surge in dog-bite numbers. This divergence between bite incidence and mortality strongly suggests effective post-exposure prophylaxis (PEP) coverage, timely wound care, improved vaccine availability at peripheral institutions, and enhanced clinical triage of high-risk bites. In essence, although exposure is increasing, the health system has prevented the escalation of rabies deaths through sustained preventive strategies.

The epidemiological implication is that while clinical outcomes remain well-controlled, the upstream risk environment is worsening, indicating the need for strengthened One-Health–oriented interventions such as stray dog population management, improved waste disposal practices, and community education on responsible pet ownership. The rising curve signals growing environmental and societal vulnerability that cannot be mitigated by clinical response alone

Avian Influenza

There have been significant outbreaks of Avian Influenza in Pathanamthitta district, with Niranam and Peringara Grama Panchayats and parts of Thiruvalla Municipality identified as recurrent hotspot areas. In response, coordinated, multisectoral interventions involving the Local Self Government Department (LSGD), Health Department, and Animal Husbandry Department were systematically implemented during the years 2021, 2022, 2023, and 2025.

Control measures included active surveillance, culling of birds at risk, safe disposal of carcasses, disinfection of affected premises, and strict movement restrictions in notified

zones. Concurrently, the Health Department conducted human surveillance, including collection and testing of samples from exposed individuals, monitoring of contacts, and implementation of infection-prevention measures to prevent zoonotic spillover. These actions were undertaken in close coordination with veterinary and local self-government authorities, reflecting an operational One Health response.

Based on the recurring nature of outbreaks and the demonstrated human–animal–environment interface in these areas, the district has accorded special priority to strengthening One Health implementation in vulnerable LSGIs, particularly Peringara, Kuttoor, Niranam, Nedumbram, and Thiruvalla Municipality. These local bodies are being emphasized for enhanced surveillance, intersectoral coordination, community awareness, and preparedness planning under the One Health framework.

The Avian Influenza experience in the district underscores the importance of institutionalizing One Health mechanisms at the LSGD level, enabling early detection, rapid containment, and prevention of zoonotic transmission. The district's proactive focus on these high-risk LSGIs aims to build long-term resilience, reduce outbreak recurrence, and strengthen coordinated responses to future emerging infectious threats.

1.2 Non-communicable Diseases

The district's NCD and screening indicators demonstrate substantial progress in population-level risk assessment, while simultaneously highlighting opportunities for deeper integration within the One Health framework. Among 771,966 adults aged 30 years or older, the high survey completion rate (84.43%) and the large proportion of individuals with elevated CBAC scores (47.97%) underscore both the magnitude of chronic disease vulnerability and the robustness of community-based surveillance mechanisms. These community platforms—already central to the One Health Program through Janakeeya Arogya Samithi (JAS) and CM/CV reports—serve as critical nodes for detecting not only zoonotic and environmental threats but also non-communicable disease (NCD) burdens that share common ecological and socio-behavioral determinants.

The referral patterns further illustrate the multidimensional health needs that align with One Health priorities. Cancer screening referrals (oral, breast, cervical) and the 1.78%

overall cancer-screening referral proportion reflect behaviors and exposures influenced by environment, lifestyle, and in some cases infections, all of which fall within the One Health purview. Similarly, the substantial number of respiratory (4.87%) and TB referrals (2.2%) aligns with the environmental health components of One Health, particularly in the context of climate variability, air quality, and population mobility. The identification of 183,699 individuals requiring vision screening and nearly 30,000 needing hearing evaluation also corresponds with the program's emphasis on early detection and community-level risk communication, facilitated by multisectoral collaboration.

The chronic disease burden—99,267 persons with hypertension, 67,971 with diabetes, and 54,896 with dual diagnoses—illustrates the complex interplay between environmental exposures, food systems, physical activity patterns, and socio-economic determinants. These are domains where One Health provides upstream leverage, particularly through integration with agriculture, urban planning, animal husbandry, and environmental management sectors.

Notably, the One Health governance structure (LSGD level committees, district-level committees, and state oversight) already provides a functional multisectoral architecture. By embedding NCD surveillance and lifestyle-risk mitigation into existing One Health pathways—originally designed for zoonotic spillover, vector management, and environmental hazards—the district can strengthen a unified prevention strategy. This integrated approach positions One Health not only as a zoonotic disease framework but as a comprehensive population-health model that enables simultaneous monitoring of infectious, environmental, and non-communicable disease risks through shared community platforms and coordinated institutional response.(5)

Pathanamthitta district represents a complex ecological and epidemiological setting where human, animal, and environmental health are closely interconnected. The district's extensive forest cover, forest-fringe settlements, agrarian economy, pilgrimage-driven population mobility, and high rainfall create sustained interfaces between humans, domestic animals, wildlife, and the environment. These conditions significantly elevate the risk of zoonotic and vector-borne diseases such as leptospirosis, dengue, rabies, scrub typhus, and Kyasanur

Forest Disease and Avian influenza, while also amplifying environmental health challenges related to waste management, water contamination, and climate variability.

Simultaneously, Pathanamthitta bears a substantial burden of non-communicable diseases, including hypertension, diabetes, cancers, and chronic respiratory conditions, particularly among an ageing population. Many of these conditions are influenced by shared upstream determinants—environmental exposures, occupational risks, lifestyle factors, and climate-related stressors—that cannot be effectively addressed through sector-specific interventions alone. The coexistence of infectious disease threats, chronic disease vulnerability, and environmental risks necessitates an integrated, systems-based public health response.

The One Health approach provides a strategic framework to address these interconnected challenges by enabling coordinated surveillance, early detection, and joint action across health, veterinary, agriculture, forest, local self-government, and environmental sectors. In Pathanamthitta, the operationalisation of One Health through community platforms, institutional surveillance mechanisms, and multi-tier governance structures strengthens preparedness, enhances outbreak response, and promotes preventive interventions at the source of risk. By shifting the focus from reactive disease control to proactive risk management, One Health plays a critical role in building district-level resilience and ensuring sustainable health outcomes in Pathanamthitta.

CHAPTER -2

INTRODUCTION TO ONE HEALTH INITIATIVE AND TIMELINE

Pathanamthitta district, with its unique blend of dense forest ecosystems, hilly terrains, pilgrim influx, and rapidly growing semi-urban settlements, presents a distinct landscape for emerging public health challenges. Human–animal–environment interactions are especially pronounced here—ranging from wildlife interfaces in forest fringe panchayats, high-volume pilgrimage-related waste generation, to domestic animal rearing practices in rural households. These dynamics increase the vulnerability of the district to zoonotic diseases such as leptospirosis, scrub typhus, rabies, Kyasanur Forest Disease (KFD), as well as climate-linked events including vector-borne outbreaks and water contamination.

The One Health Program in Pathanamthitta is an integrated framework designed to address these risks through coordinated action by the health, veterinary, forest, local self-government, agriculture, and environmental departments. The approach recognizes that protecting human health cannot be achieved in isolation; it requires systematic surveillance of animals, timely environmental interventions, efficient interdepartmental communication, community participation, and evidence-based decision-making.

Timeline of important events

Table 2.1 Timeline of important events

Stage	Indicator	Date	Status	Comments
Pre-Launch	Preparatory meetings ward and district	(07 to19-01-22)	Completed	
	Sensitisation workshop - Program officers of health services	21-04-2022	Completed	

	Preparedness	25-05-2022	Completed	NKKP2-formation
Launch	District level launch	25-06-2022	Completed	Arogya mela Elanthoor
	Block level launches	07-08-2022	Completed	
	Capacity building workshops for LSGD launch	13-06-2022	Completed	
	TOT LSGD-Pazhakulam Pass KILA	29-09-2022	Completed	39/53 LSGD
	TOT Officers-Pazhakulam Pass KILA	30-09-2022	Completed	61 Officers Participated
	TOT NGO, CBO	01-10-2022		Participation 30
	LSGD Launch		completed	Funds given to conduct along with
				LSGD Arogya mela
Post-Launch	The health department participated and contributed to a workshop	30-06-2022	Completed	

	organized by food safety department on one health.			
	AMR Committee Constituted and first meeting (Antimicrobial Resistance)	20-11-2022	Completed	
	Block level AMR Committee	10-03-2023	completed	completed
				Expected to complete in March 2023
	District mentors' selection and induction	01-07-2023	Completed	
	District program manager supporting unit			Site not identified
	LSGD level one health committee's	complete d		100 % completed FY 2023-24
	District TOT to start training	28-11-2023		

	Community mentor and Volunteer training completed	12-12-2023		
	External Agency validation passed	15-03-2024		
2023-24	Joint outbreak investigation- Capacity building of Mentors	23-09-2024		Pramadom and Konni panchayath- Hepatitis A outbreak
	Training at Pramadom panchayath	23-09-2024		
	Capacity building of community volunteers of Pramadom	24-09-2024		
	Capacity building of community volunteers of Konni	25-09-2024		
	District intersectoral meeting (planning meeting for outbreak investigation)	27-09-2024		Chaired by Dc pathanamthitta

	Joint OBI planning meeting at Pramadom panchyath	28-09-2024		Chaired by Sri Navneet N Pramadom panchyath president
	Joint outbreak investigation completed	30-09-2024		
	Joint outbreak investigation results presented	29-10-2024		Dissemination workshop
	Action plan of Community surveillance and JOBI in all LSGD	28-12-2024	submitted	
	One health lsgd level meetings	completed, held every 3 months		District mentors are finding it difficult to attract the interest of one health committee
2024-25	Started doing CBS at a very basic level (WhatsApp)	01-01-2025		
	Workshop on action plan and mentor review	22-01-2025		

	IEC Campaign among cattle farmers			Taken up only by Niza, Venugopal, Madhusoodhanan,A T Thomas, Sujatha
	Action plan preparation	17-01-2025		
	CBS Interdepartmental Trainings	completed		
	Review of one health mentor at the Chamber of DMO	29-03-2025		
	Review of one health mentor at Chamber of DMO	23-04-2025		
	One health mentor attended the training of SLM (structured lifestyle management)	24-12-2025		
	One Health Program: Interdepartmental TOT	28-04-2025		

	One health program: Interdepartmental TOT	29-04-2025		
	CM/CV and district mentor involved in source reduction at Vechuchira LSGD	06-05-2025		
	online review of district mentors	08-05-2025		
	First LSGD resolution of CBS passes	18-06-2025	CHC Ranni perunad	
	District mentors Terminated	28-06-2025		
	Onboarding of LSGD mentors initiated	06-07-2025		
	Onboarding of LSGD mentors completed	02-09-2025		
	LSG mentor Training on CBS			

	LSG Level CBS resolution		ongoing	pending Adoor and Thiruvalla Municipality
	J-OBI		7 completed 1 ongoing	

Source: District Data

The One Health programme was implemented through a **phased, system-strengthening approach**, integrating preparatory planning, capacity building, institutionalisation, and field-level action across departments and Local Self Government Departments (LSGDs).

1. Pre-launch and Preparedness Phase

The programme initiation began with ward- and district-level preparatory meetings, ensuring administrative buy-in and intersectoral alignment. This was followed by sensitisation workshops for programme officers of the Health Services, focusing on the One Health concept, operational roles, and convergence mechanisms. A structured preparedness phase culminated in the formation of nodal coordination mechanisms (NKKP2), laying the groundwork for launch activities.

2. Programme Launch and Institutional Roll-out

The programme was formally launched at the district level, coupled with public engagement activities such as Arogya Melas, and subsequently rolled out at the block level. Parallelly, capacity-building workshops for LSGDs were conducted to prepare local governments for ownership of One Health activities. A structured Training of Trainers (ToT) cascade was implemented through KILA, targeting LSGD representatives, officers, NGOs, and community-based organisations. Financial and technical support was extended to facilitate LSGD-level programme launches and Arogya Melas, embedding One Health into local governance structures.

3. Post-launch Consolidation and Governance Strengthening

Post-launch activities focused on institutional consolidation. The Health Department actively participated in interdepartmental platforms, including workshops organised by the Food Safety Department. **Antimicrobial Resistance (AMR) committees** were constituted at district and block levels, strengthening governance on cross cutting One Health risks. Simultaneously, district mentors were selected, inducted, and trained, and LSGD-level **One Health committees** were established, achieving full coverage during FY 2023–24. A district-level programme support mechanism was conceptualised to provide ongoing technical guidance.

4. Capacity Building, Mentorship, and Validation

A second phase of district-level ToTs, along with community mentor and volunteer training, strengthened grassroots capacity. External agency validation was successfully completed, providing independent assurance of programme design and implementation quality. Regular LSGD One Health committee meetings were institutionalised at quarterly intervals.

Planning

- Planning meeting of One Health District mentors taken on 25-11-2023 in the presence of world bank consultant Mr Satheesh
- Training action plan prepared and sent to state on
- Preparatory review of one health district mentors taken online on 05-12-2025
- District mentors Presented the importance of Community mentor/volunteer training held on 11-12-2023 and 12-12-2023

Capacity building

- District Training of trainers completed on 28-11-2023
- 14-12-2023 mock training sessions conducted by District mentors at NHM conference Hall. District surveillance officer Dr.Nandini C S, JAMO, Dr.Sethulekshmi, Aardram Nodal officer Dr Amjith Rajeevan conducted the mock training sessions. Gap in concepts were corrected during the session.

Roll out

- Training material for phase for distributed to all LSGDs on 16-12-2023
- First Community mentor training at LSGD level conducted at Pandalam thekkekkara panchyath on 18-12-2023 and 19-12 -2023, District nodal officer Dr Amjith Rajeevan also took part
- 28-12-2023 The district level technical charge of volunteer portal given to Mr Shibu (PH Admin of E-health)
- WhatsApp group created at district level to address the queries received from field level
- Community volunteer training Planning conducted at Ranni- Perunad panchayath on 01-01-2024
- Community volunteer training started on 07-01-2024 at Perunad Gramapanchyath
- Training material distribution completed 02-02-2023
- Community volunteer training of hard to reach Gavi area completed on 16-02-2024
- 16-03-2024 training completed and 99% portal entry achieved
- 23-03-2024 portal entry completed

Monitoring

- The training for the online portal for volunteer registration done by centre for one health Kerala on 16-12-2023
- 21-12-2023 Niranam Gramapanchyath conducted the training, world bank team Mr Satheesh participated
- Online Review meeting conducted by state One Health team on 26-12-2023
- Online Review of District mentors taken on 29-12-2023
- Online Review of District mentors taken on 05-01-2024
- 06-01-2024 State level review of

- Online Review of District Mentors taken on 15-01-2024
- Online Review of District Mentors taken on 23-01-2024
- Online Review of District mentors, charge medical officers taken by DMO Pathanamthitta on 11-02-2024
- Online Review of District mentors taken on 16-02-2024-Training status is 52%, Kottayam and Idukki close to 100%
- One health program, training status reviewed at Block conferences on 12-03-2024 and 14-03-2024 ,15-03-2024 and 16-03-2024

Figure 2.1 Inauguration of the Community Mentor Training Programme at Vadasserikkara Grama Panchayath

ഏകാരോഗ്യപദ്ധതി: പരിശീലനം നൽകി

Figure 2.2 Inauguration of the Community Mentor Training Programme at Nedumbram Grama Panchayath

Figure 2.3 Inauguration of the Community Mentor Training Programme at Panthalam Thekkekkara Grama Panchayath

Figure 2.4 Monthly Block Review meeting at Kannamthanam

5. Joint Outbreak Investigation and Field Operations

The programme operationalised One Health principles through joint outbreak investigations (JOBI), notably during the Hepatitis A outbreak in Pramadom and Konni panchayaths. Activities included mentor training, community volunteer capacity building, intersectoral planning meetings chaired by district and LSGD leadership, field investigations, result dissemination, and preparation of actionable recommendations. These experiences were translated into district-wide action plans for community surveillance and joint outbreak response.

6. Community-Based Surveillance (CBS) and System Adaptation

In response to implementation challenges, community-based surveillance (CBS) was initiated using low-cost digital platforms (WhatsApp) as an entry strategy. This was supported by interdepartmental trainings, mentor reviews chaired by the DMO, IEC campaigns among high-risk groups (such as cattle farmers), and structured action plan development at the LSGD level. Formalisation of CBS was achieved through LSGD **resolutions**, marking a transition from pilot activities to policy-backed implementation.

7. Programme Review, Transition, and Scale-up

Regular district-level and online reviews assessed mentor performance and programme progress. Following strategic decisions, district mentors were phased out, and LSGD mentors

were onboarded and trained, decentralising operational responsibility. As of the latest phase, multiple Joint Outbreak Investigations have been completed, with ongoing investigations and CBS resolutions pending in select municipalities.

CHAPTER -3

GOVERNANCE AND PROGRAMME MANAGEMENT SYSTEMS

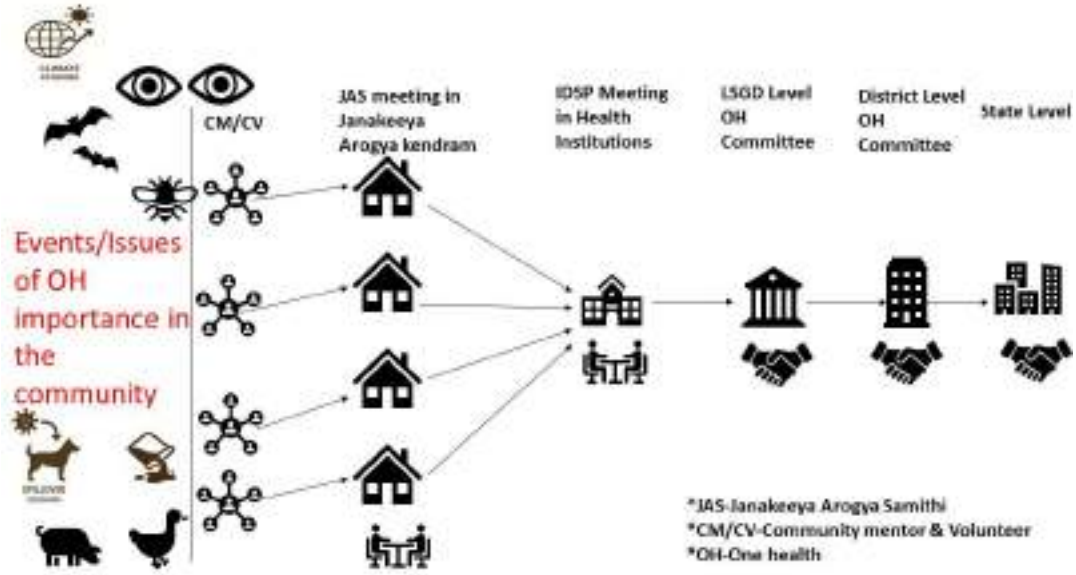

Figure 3.1: Community-to-state reporting and coordination pathway under the One Health framework

The One Health event–to–action pathway begins at the community level, where residents, Community Mentors (CM), and Community Volunteers (CV) routinely observe environmental, animal, and human health signals of potential public health importance. These signals may include unusual livestock morbidity or mortality, vector abundance, wildlife sightings, waste-related issues, or other indicators suggestive of zoonotic spillover or environmental risk.

Community observations are first consolidated through **Janakeeya Arogya Samithi (JAS)** meetings conducted at the *Janakeeya Arogya Kendram*. The public health actions which can be taken at JAS level will be taken there. These forums function as structured platforms for identifying locally relevant health events, facilitating rapid recognition of anomalies, and ensuring timely communication to the formal health system.

Information emerging from JAS meetings is subsequently channelled to the **Integrated Disease Surveillance Programme (IDSP)** meetings held within designated health institutions. At this institutional level, signals are assessed, verified, and triangulated with clinical and laboratory data to determine whether escalation is required.

Following verification, the information moves into the multisectoral governance framework. The first level of coordination occurs within the Local Self Government Department (LSGD) One Health Committee, where representatives from multiple sectors review community- and institution-generated signals and plan convergent interventions.

Events requiring broader oversight are then escalated to the District One Health Committee, which synthesises findings across local bodies, aligns departmental actions, and provides technical and administrative directives. Issues with state-wide significance, high risk, or cross-district implications are further escalated to the State One Health Committee, which oversees policy-level coordination, resource mobilisation, and strategic decision-making.

Through this tiered system, the process ensures continuous community-based surveillance, timely verification through formal health structures, and coordinated, multisectoral response across local, district, and state levels-reflecting the operationalisation of the One Health approach within the public health architecture.

The Program monitoring also happens at the level of District program monitoring unit headed by the District Medical officer, District surveillance officer, Aardram nodal officer who is also the one health nodal officer and the convener of the District one health committee. The issues related to one health and evaluation of the program will be done at the district committee chaired by the district collector.

Figure 3.2: Composition of State-level and District-level One Health Committees in Kerala

Governance Structures and Their Functions

The district One Health programme is anchored in a **multi-tier governance architecture** designed to ensure intersectoral coordination, accountability, and decentralised action across human, animal, and environmental health domains.

A. District One Health Committee

The **District One Health Committee**, chaired by the District Collector or designated senior authority, serves as the apex governance body. It comprises representatives from Health Services, Animal Husbandry, Forest, Local Self Government Department (LSGD), Food Safety, Environment, Disaster Management, and allied sectors.

Key functions include:

- Providing strategic direction and policy guidance for One Health implementation at the district level

- Facilitating interdepartmental convergence and resolving operational bottlenecks
- Reviewing surveillance data, outbreak investigations, and risk assessments
- Approving district-level action plans, joint outbreak investigations, and community surveillance strategies
- Ensuring alignment with state and national One Health priorities

B. LSGD-level One Health Committees

At the grassroots, **LSGD-level One Health Committees** form the core operational units. These committees are embedded within the local governance system, ensuring sustainability and community ownership.

Functions

- Conducting routine One Health committee meetings
- Overseeing community-based surveillance (CBS) and unusual event reporting
- Coordinating ward-level volunteers, mentors, and frontline workers
- Supporting joint outbreak investigations and local risk mitigation measures
- Passing resolutions to formalise One Health actions within local governance

CHAPTER - 4

INTERSECTORAL COLLABORATION

Intersectoral collaboration forms the cornerstone of the One Health approach, enabling coordinated action across human health, animal health, and environmental systems. Effective implementation requires structured engagement of diverse sectors, including public health, veterinary services, agriculture, local governance, environmental protection, and community-based platforms. Such collaboration facilitates the early identification of shared risks, enhances surveillance sensitivity, and ensures that responses are informed by the ecological and socio-behavioral determinants that underlie both communicable and non-communicable health threats. In practice, intersectoral mechanisms-such as district-level One Health committees, LSGD-led convergence platforms, and community surveillance networks-promote the timely exchange of data, joint risk assessment, and harmonised decision-making. These multisectoral linkages are especially critical in settings with overlapping burdens of zoonotic disease, chronic illness, and environmental vulnerability, where siloed responses are inadequate. By institutionalizing communication channels and fostering co-ownership of health outcomes, intersectoral collaboration not only strengthens outbreak preparedness and response but also supports upstream prevention, resilience-building, and the creation of an integrated public health system. Intersectoral collaboration occurs on both official and unofficial platforms. There is communication, collaboration, and coordination through one health committee. Unofficial data sharing platforms like WhatsApp groups exist at all levels.

Key departments

Key departments need to be involved in the programme are.

- Health & Family welfare
- Animal Husbandry Department
- LSGD (Urban, rural and KILA)
- Agriculture Department
- Forest and Wildlife

- Food safety
- Fisheries and aquaculture
- Irrigation Department
- Kerala Water Authority
- Pollution Control Board
- Environment and Climate Change
- Dairy Department
- Department of Labour (to address migrant issues)
- NKKP and RKI
- Social Justice

In addition to the above-mentioned departments, the district invites the District Mission Coordinator, Kudumbasree, District Drug Controller, AYUSH DPM, and DMOs, as well as the District Education Officer, to the district one health committee meetings. Special focus is given to collaborating and coordinating the different stakeholders in urban areas.

Intra-Departmental Coordination

Effective implementation of the One Health Programme in Pathanamthitta has been supported by strong intra-departmental coordination among public health units, surveillance teams, DMO system IDSP, ARDRAM mission, e-Health, and NHM structures. Regular communication, shared review mechanisms, and coordinated field-level guidance ensured uniform implementation, timely problem-solving, and alignment of programme objectives across all operational levels.

Table 4.1 Timeline of committee meetings conducted

Sl. No	Date	District level platforms
1	07-04-2022	DLEC of NKKP formed and One health concept explained
2	25-11-2023	District mission meeting
3	24-09-2024	one health meeting
4	27-01-2025	Intersectoral meeting, one health agenda included
5	18-02-2025	Intersectoral meeting, one health agenda included
6	03-10-2025	Intersectoral meeting, one health agenda included
7	11-08-2025	Intersectoral meeting, one health agenda included
8	18-08-2025	one health meeting
9	27-11-2025	one health meeting

Source: District Data

CHAPTER - 5

PRESENT STATUS OF ONE HEALTH PROGRAMME IN THE DISTRICT

The District works not only to achieve the Disbursement-linked indicators (DLI) of the World Bank but also takes up initiatives specific to the district. In 2021-22, the health department tried to put the system in place. The District One health program was launched, along with the block and LSGD level programs, at the Block-level Arogya Mela. In the same financial year, Pathanamthitta took up an innovative campaign called PYAR-Pathanamthitta Youth Against Antimicrobial Resistance. In 2022-23, as a DLI, the district needed to find 7 community mentors with the help of ward members and LSGD in every ward of Pathanamthitta district. Each community mentor will identify and train 7 more community volunteers. So, there will be 7+49=56 volunteers in every ward. The District successfully completed training of 6544 community mentors and 45416 community volunteers. The external verification was successfully completed on 15-03-2024.In 2023-24 the DLI was to do a joint outbreak investigation at the district level for **which "Joint Outbreak Investigation Report – Hepatitis A, Pramadom Panchayath (2024)"** was completed, and the results were presented at the dissemination workshop conducted at Thiruvananthapuram on 29-10-2024. The district tried to take up few initiatives but could not go further because of the non-cooperation of the district mentors. The district gave training to map waterbodies as a public health measure to prevent Amoebic meningoencephalitis. No work was done in this aspect. To prevent leptospirosis cases and deaths among cattle farmers, the district initiated a campaign and gave training to mentors to do an IEC campaign and organize the cattle farmers by creating health groups among them. This activity was also taken up only by few district mentors. The One Health program, along with the KARSAP (Kerala antibiotic resistance strategic action plan) district team, works to achieve antibiotic smart status of Health institutions and LSGDs. This effort was notably taken up by few district mentors. District mentor Shereena Shukur worked tremendously in campaigns and documentation of FHC Pandalam to achieve antibiotic smart status, and the final document was shared with the state. Documentation of FHC Pandalam, Koipram, Vadasherikkara completed to achieve AMR-smart status. The Field teams routinely conduct inspections at private medical shops and Animal farms to check the unscientific use of antibiotics, notably in FHC Othara,

Kulanada and Chandanappalli. 100% of the health institutions and a few private medical shops give antibiotics in blue cover. In 2024-25, the district aims to establish community-based surveillance and Joint outbreak investigations at all LSGDs. The district mentors were terminated, and LSGI mentors were onboarded in 100% of LSGIS. Resolutions passed in 96% LSGIs in favor of community-based surveillance. Capacity building is ongoing to achieve the same. CBS started in 6 LSGIs. The joint outbreak investigation DLI was completed by 7 LSGIs and is ongoing in 1LSG.

Figure 5.1: Ex-District mentor Mr. Venugopal doing campaign among cattle farmers

Hub-and-Spoke Sample Transport Model – District Experience

From December 2022, the Hub-and-Spoke model for diagnostic sample transport in the district was operational only in the Elanthoor Health Block, using an NHM vehicle. Subsequently, drawing inspiration from the concept mentioned in MOH-PTA/4931/2024-C1-10-11-25 dated 15-03-2024, which envisaged *"innovative models such as food-delivery–based sample transport"*, the district transitioned towards a Kudumbashree-based Hub-and-Spoke model.

During the Arogya Anandam Cancer Screening Programme, the Kudumbashree-based model was successfully expanded to all health blocks in the district. Under this model, Mini PHCs

within each health block were linked to a Kudumbashree sample transporter on a fixed day every week. Each Medical Officer provided an honorarium ranging from ₹200 to ₹300 per day to the Kudumbashree worker for transporting samples to primary hubs and onward to the secondary hub at the District Public Health Laboratory, Kozhenchery, on the same day.

This system received excellent community response, particularly for investigations such as urine culture and Pap smear samples transported to the District Public Health Laboratory, and thyroid function tests and Vitamin D assays sent to the primary hub laboratories. Where a hub-and-spoke, chain consisted of five health institutions, and all institutions consistently sent samples, Kudumbashree workers earned approximately ₹1,000 per day, amounting to nearly ₹8,000 per month. It is noteworthy that fuel expenses for two-wheeler transport were borne entirely by the Kudumbashree workers themselves.

All health institutions in the district were provided the opportunity to send samples on eight days per month, and approximately 80% of institutions utilised this provision. The district has expanded the program to AYUSH institutions in one health block but was not successful. Then the plan was to expand to other line departments and create a chain of labs. But after the Mou with the postal department on 29-11-2025 the Kudumbasree model was terminated

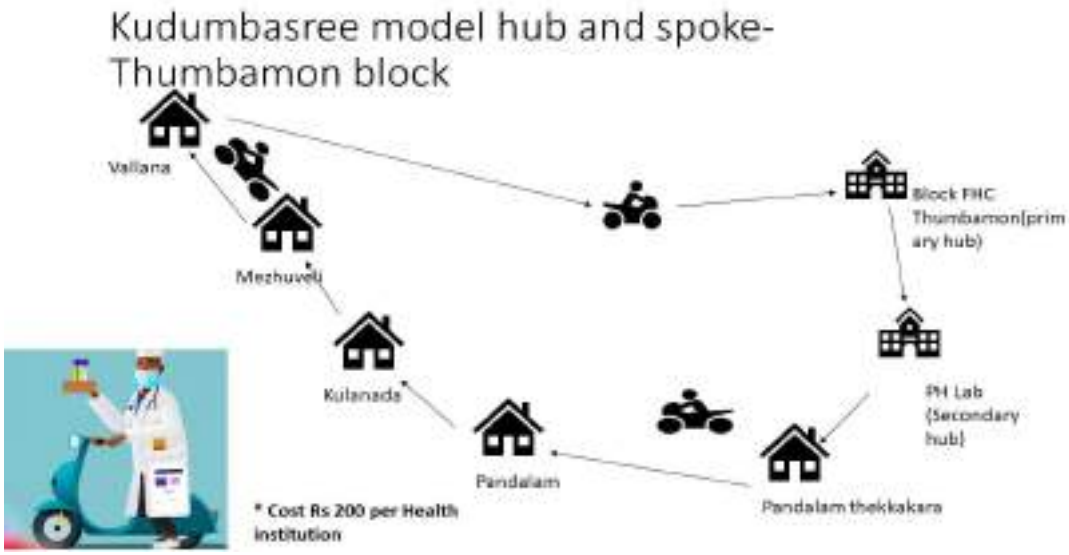

Figure 5.2: Kudumbashree model hub and spoke - Thumbamon Block

CHAPTER 6

LSG LEVEL INITIATIVES

Report on "One Health Programme" Koippuram block level inauguration

The Koippuram Block-level inauguration of the One Health Programme was held on 16 July 2022 at 9:00 AM at Shri Vivekananda High School, Pullad, in conjunction with the Koippuram Block-level Arogya Mela. The programme commenced with a welcome address by Smt. Sosamma Joseph, Hon. President, Koippuram Block Panchayath. Adv. Pramod Narayanan, Hon. MLA (Ranni LAC), formally inaugurated both the One Health Programme and the Block-level Arogya Mela.

Dr. Bipin, Block Medical Officer (I/C), presented the programme report and delivered the felicitation. The event saw the participation of several Gram Panchayath Presidents from across the Koippuram Block.Dr. Dipin J.P., Assistant Surgeon, provided a brief introduction

Figure 6.1: Inauguration of One Health programme and Bock - level Arogya Mela held on 16th July 2022 at Shri Vivekananda High School, Pullad.

to the One Health Programme and highlighted its importance and relevance in the district.

Report on "One Health Programme" District level and Elanthoor block level inauguration

The Pathanamthitta District-level and Elanthoor Block-level inauguration of the One Health Programme was held on 25 June 2022 at 9:00 AM at Mar Thoma Senior Secondary School, Kozhencherry, alongside the Elanthoor Block Arogya Mela. The event commenced with a welcome address by Smt. Indira Devi, Hon. Block Panchayat President, Elanthoor Block.Adv. Omalloor Shankaran, Hon. District Panchayat President, presided over the function.

Smt. Veena George, Hon. Minister for Health, inaugurated the One Health Programme and the Block-level Arogya Mela. Dr. Divya S. Iyer, Hon. District Collector, delivered the keynote address.Dr. Anitha Kumari L., Hon. District Medical Officer, presented the district's communicable disease status report.Dr. Hidayth Ansari, Block Medical Officer, offered felicitations.

Presidents of various Grama Panchayats under Elanthoor Block participated in the programme. Dr. Ajan M.J.,JAMO,DHS,elaborated about the One Health Programme.Dr. Amjith Rajeevan, District NKKP-2 Nodal Officer, spoke on NKKP-2 and its thematic areas.Dr. Dipin J.P., Assistant Surgeon, and Dr. Shambu, Consultant, delivered sessions on communicable diseases, focusing on leptospirosis and dengue fever.

Figure 6.2: Honourable Health Minister inaugrating the One Health Programme and Elanthoor Block level Aarogya mela

Report on "One Health Programme" Konni block level inauguration

The Konni Block-level inauguration of the One Health Programme was held on 16 July 2022 at 9:00 AM at the Pramadom Rajeev Gandhi Indoor Stadium, along with the Konni Block-level Arogya Mela. Smt. Jiji Saji, Hon. Block Panchayat President, Konni Block Panchayat, chaired the meeting and delivered the welcome address. Adv. K. U. Janeesh Kumar, Hon. MLA (Konni LAC), inaugurated the One Health Programme and the Konni Block-level Arogya Mela. Dr. Sheeja R. K., Block Medical Officer, presented the report and extended felicitations. Presidents of the Grama Panchayats under Konni Block also offered their felicitations. Dr. Nikhilesh Menon, SLEC Member, One Health, elaborated about the One Health Programme and spoke on antimicrobial resistance.

Figure 6.3: Konni Block-level inauguration of the One Health Programme held on 16 July 2022 at the Pramadom Rajeev Gandhi Indoor Stadium

Report on "One Health Programme" Mallappally block level (Kunnamthanam) inauguration

Mallappally Block-level inauguration of the One Health Programme was held on 19 August 2022 at 9:00 AM at the Badhani Auditorium, in conjunction with the Mallappally Block Arogya Mela. Shri Biju Chandramohan, Hon. Parakkode Block Panchayat President, chaired the meeting. Shri Mathew T. Thomas, Hon. MLA, inaugurated the One Health Programme and

the Block-level Arogya Mela.Shri Pramod Narayanan**,** Hon. MLA, delivered the presidential address.Dr. Amjith Rajeevan elaborated on One Health Programme. The event was attended by the Gram Panchayat Presidents of the Mallappally Block.

Report On "One Health Programme" Pandalam Block Level inauguration

The Pandalam Block-level inauguration of the One Health Programme was held on 13 August 2022 at 9:00 AM at the Pandalam Block Panchayat, along with the Pandalam Block-level Arogya Mela. The programme commenced with a welcome address by Shri Aneesh Mon, Hon. Health Standing Committee Chairperson, Pandalam Block Panchayat.Shri Omalloor Shankaran, Hon. District Panchayat President, inaugurated the One Health Programme and the Block-level Arogya Mela. Dr. Sreekala, Block Medical Officer, Thumbamon, presented the report and delivered the vote of thanks.Dr. Amjith Rajeevan, NKKP-2 Nodal Officer, spoke on the One Health Programme. The event was attended by Presidents of various Grama Panchayats under the Pandalam Block.

Figure 6.4: Pandalam Block-level inauguration of the One Health Programme held on 13 August 2022 at the Pandalam Block Panchayat

Report on "One Health Programme" Parakkode block level inauguration

The Parakkode Block-level inauguration of the One Health Programme was conducted on 16 July 2022 at 9:00 AM at Adoor Town U.P. School, alongside the Parakkode Block-level Arogya

Mela.Shri R. Thulaseedharan Pillai, Hon. Parakkode Block Panchayat President, inaugurated the One Health Programme and the Block-level Arogya Mela. Adv. B. Rajeev Kumar, Health Standing Committee Chairperson, chaired the meeting.

Dr. Amjith Rajeevan, NKKP-2 elaborated on the One Health Programme and highlighted its necessity in strengthening health systems. The event was attended by the Presidents of various Grama Panchayats under Parakkode Block. Dr. Nandini C. S. (DSO), Dr. Santhosh Kumar (RCHCO), Dr. Betsy Jacob (MO I/C, CHC Enadimangalam) were also present.

Report on "One Health Programme" Ranni block level inauguration

The Ranni Block-level inauguration of the One Health Programme was conducted on 30 July 2022 at 9:00 AM at MS HSS, Ranni, alongside the Ranni Block-level Arogya Mela. Shri Pramod Narayanan, Hon. MLA, inaugurated the One Health Programme and the Block-level Arogya Mela.Dr. Nandini C. S. elaborated on One Health Programme. The meeting was attended by the Presidents of various Grama Panchayats under Ranni Block

Report on "One Health Programme" Pulikeezhu block level inauguration

The Pulikeezhu Block-level inauguration of the One Health Programme was held on 17 July 2022 at 9:00 AM at Nedumpuram Puthiyakavu Government High School, along with the Pulikeezhu Block-level Arogya Mela. Smt. Chandralekha, Hon. Pulikeezhu Block Panchayat President, inaugurated the One Health Programme and the Block-level Arogya Mela.Dr. Amjith Rajeevan elaborated on One Health Programme. The event was attended by Presidents of various Grama Panchayats under the Pulikeezhu Block

CHAPTER - 7

COMMUNITY-BASED SURVEILLANCE – CBS

Planning

Community-Based Surveillance (CBS) was conceptualized as a core component of the One Health Programme to enable early detection of unusual health events occurring at the human–animal–environment interface. Planning focused on leveraging existing community platforms, local self-government institutions (LSGIs), and frontline functionaries to establish a decentralised, participatory surveillance mechanism. Emphasis was placed on identifying locally relevant signals, defining reporting pathways, and ensuring alignment with existing surveillance systems such as the Integrated Disease Surveillance Programme (IDSP).

The planning process prioritised scalability, simplicity, and sustainability, with special consideration given to vulnerable and high-risk areas, including flood-prone regions, forest-fringe panchayats, and areas with high human–animal interaction.

Consultations

Extensive multi-sectoral consultations were conducted during the planning phase involving stakeholders from the Health Department, Animal Husbandry Department, Local Self Government Department (LSGD), Agriculture, Environment, and allied sectors. Inputs were also obtained from district-level programme officers, block-level health teams, and community representatives.

These consultations helped in:

- Identifying priority events for community reporting
- Defining roles of Community Mentors (CMs) and Community Volunteers (CVs)
- Establishing reporting and escalation protocols
- Integrating CBS within existing administrative and surveillance frameworks

The consultative approach ensured shared ownership of the CBS process and strengthened intersectoral coordination at the grassroots level.

Setting Up Processes and Present Status

CBS processes were established through structured training of district mentors, block-level teams, Community Mentors, and Community Volunteers. Standard operating procedures were developed for event identification, reporting, verification, and escalation. Digital

platforms introduced for volunteer registration and event reporting, supported by hands-on training and continuous technical guidance.

At present, CBS is operational across the district with trained community-level functionaries actively engaged in surveillance activities. Reporting mechanisms have been linked to institutional review platforms including Janakeeya Arogya Samithi (JAS) meetings, IDSP reviews, and One Health committee deliberations at LSGI and district levels. Continuous monitoring, periodic reviews, and feedback mechanisms are in place to ensure data quality and responsiveness.

Functions of Community-Based Surveillance

The key functions of CBS under the One Health Programme include:

- Early identification and reporting of unusual events related to human health, animal health, and environmental hazards at the community level
- Strengthening early warning systems for zoonotic diseases, vector-borne diseases, environmental risks, and emerging health threats
- Facilitating timely verification, risk assessment, and response through linkage with institutional surveillance systems
- Promoting community awareness, participation, and ownership in public health preparedness
- Supporting multisectoral decision-making by providing real-time, ground-level intelligence to LSGI, district, and state One Health committees. Through these functions, Community-Based Surveillance (CBS) serves as a foundational pillar of the One Health Programme, enabling proactive, preventive, and coordinated public health action. Capacity building for CBS has been completed in the district through district-level training with a specific focus on Community-Based Surveillance and Joint Outbreak Investigations. At present, seven LSGIs have initiated regular reporting under CBS.

CHAPTER- 8

INNOVATIVE PROGRAMMES INITIATED UNDER ONE HEALTH PROGRAMME IN THE DISTRICT

- District Antimicrobial Resistance Special Initiative of Pathanamthitta
- The Program has two arms 1. Youth Arm 2. Health care worker's arm

1. Youth arm-Pathanamthitta Youth against Antibiotic Resistance (PYAAR)

Objective create awareness about antibiotic resistance in Pathanamthitta with people's Participation

- **PYAR** Brigade: 100 youths identified from colleges in Pathanamthitta district
- Orientation Training 3 trainings completed; 169 youth identified
- Among them 100 students will be identified as -" Champions of one health"
- 100 classes by the students
- The students will do flash mobs, skits and other crowd mobilisation activities before the class
- Next 80- "The Vocals against AMR."
- They will do social media campaign using the hashtag #im#vocal#against#AMR (Antimicrobial Resistance)

2. Health care worker Arm

- Training to ASHA to spread awareness among households
- Training to Anganwadi teachers- to spread awareness among women
- Training to School teachers-school children, to families
- IEC materials will be posted in every OPD
- Sensitise and train Pharmacists in private pharmacies
- Sensitise and team up with the Chemist association

Impact Assessment

- OTC (over-the-counter antibiotic use) Antibiotic Consumption Impact Assessment: Mapping the use of over-the-counter antibiotics in selected medical shops and outlets in the district.

- The assessment will be questionnaire- and observation-based and will collect absolute numbers of antibiotics sold from selected sentinel sites over a defined time - period.
- The exercise will be repeated one month after the launch of the campaign to assess any notable changes in antibiotic consumption patterns.
- "Anti-box" initiative: A box may be placed in institutions to collect leftover antibiotics in liaison with Haritha Karma Sena. The collected antibiotics will be discarded as biomedical waste.

Pictures from the field

Figure 8.1: Inauguration of District level training of AMR on 23-01-2013 at Maraman convention hall

Figure 8.2: One Health posters kept at THQH Konni, THQH Thiruvalla, THQH Ranni, GH Adoor, and GH Pathanamthitta- one in each MLA constituency

Figure 8.3: Community engagement and awareness activities under the "I'm Vocal Against Antimicrobial Resistance (AMR)" campaign.

Figure 8.4: One Health Training Programme

CHAPTER - 9

FINANCIAL ALLOCATION AND ITS UTILISATION

Financial allocation and effective utilisation of funds are critical for the effective implementation of programme activities under the One Health framework. The district has received financial support across multiple financial years to operationalise planned interventions, including capacity building, surveillance strengthening, intersectoral coordination, and training activities. The details of allocation and expenditure are summarised below.

Table 9.1 Year-wise allocation, expenditure, and utilisation of funds (2022–23 to 2025–26)

Financial Year	Allocation	Expenditure	%
2022-23	1400000.00	854862.00	61.06
2023-24	13788250.00	13054521.00	94.68
2024-25	5777811.00	5545156.00	95.97
2025-26	3970000.00	3125250.00	78.7%

Source: District Data

The district has received financial allocations across successive financial years to support the implementation of One Health programme activities. In 2022-23, Rs.14.00 lakh was allocated, with a utilisation of 61.06%, reflecting the initial phase of programme rollout. Financial performance improved significantly in 2023-24, with 94.68% utilisation of the Rs.1.38 crore allocation, indicating effective planning and execution. This positive trend continued in 2024-25, achieving 95.97% utilisation of the Rs.57.78 lakh allocation.

For 2025–26, Rs.39.70 lakh has been allocated so far, with 78.7% expenditure reported. Of this, Rs.14.15 lakh has been released to health institutions for conducting training programmes, and the district expects full utilisation of this amount. Overall, the utilisation pattern reflects strengthened financial management and improved absorption capacity, supporting effective implementation of One Health activities at the district level.

CHAPTER -10

FUTURE PLANS

The district will strengthen the implementation of the One Health Programme through focused capacity building, preparedness planning, and system integration. Targeted training of Medical Officers and Block-level epidemiologists on joint outbreak investigation has been initiated and will be scaled up. Each LSGI will undertake a minimum of five outbreak investigations**,** ensuring practical application of One Health principles at the grassroots level.

Given Pathanamthitta classification as an at-risk district for H5N1, with documented global evidence of potential spillover, special emphasis is being placed on pandemic preparedness**.** The district will integrate H5N1 risk mitigation into its disaster preparedness framework and continue community-based surveillance of migratory birds as a proactive, district-led initiative.

A structured LSGI-level pandemic preparedness plan will be developed to enhance local readiness and response capacity. Simultaneously, the district aims to expand rational antimicrobial use by achieving Antibiotic Smart certification in at least 25 of 55 FHCs by 2026**,** thereby addressing antimicrobial resistance within the One Health framework.

To support evidence-based planning and resilience building, the district proposes to develop and operationalize a comprehensive LSGD-level One Health Index**.** This index will integrate human, animal, and environmental health indicators with local governance metrics, enabling early risk detection, informed decision-making, targeted interventions, and strengthened panchayat-level preparedness across Pathanamthitta.

Table 10.1: Planned One Health and pandemic preparedness activities with timelines

Sl.no	Plan	Timeline
1	1 JOBI/LSGD	01-08-2026
2	5 JOBI/LSGD	2026

3	Pandemic preparedness plan	30-12-2025
4	H5N1 Pandemic preparedness plan in 7 LSGI	15-01-2026
5	LSGI-Pandemic preparedness plan	15-01-2026
6	Antibiotic smart FHC 25/55	01-08-2026
7	LSG level one health index	First draft submitted on 25-11-2025

Source: District Data

REFERENCES

1. मुख्य पृष्ठ | Government of India [Internet]. [cited 2025 Dec 6]. Available from: https://censusindia.gov.in/census.website/
2. eHealth Kerala [Internet]. [cited 2025 Dec 6]. Available from: https://dashboard.ehealth.kerala.gov.in/index.php/Init
3. C R, Jeemon P. Prevalence and patterns of multi-morbidity in the productive age group of 30-69 years: A cross-sectional study in Pathanamthitta District, Kerala. Wellcome Open Res. 2020 Dec 15;5:233.
4. dhs – Directorate of Health Services [Internet]. [cited 2025 Dec 6]. Available from: https://dhs.kerala.gov.in/en/dhs/
5. Shaili Report Portal [Internet]. [cited 2025 Dec 7]. Available from: https://shaili.ehealth.kerala.gov.in/dashboard/index.php/CognitCat/login

**** The Service of the District mentors got terminated on 28-06-2025 and LSGD level mentors onboarded

Contributors List

Sl No	Name	Designation	Official Address
1	Dr L Anithakumari	DMO	DMO Office, Pathanamthitta
2	Dr Sreekumar S	DPM	NHM, Pathanamthitta
3	Dr Jeevan K	Deputy DMO & DSO	DMO Office, Pathanamthitta
4	Dr Shyamkumar K K	RCH Officer	DMO Office, Pathanamthitta
5	Dr Radhika S Gopan	DTO	DMO Office, Pathanamthitta
6	Dr Iype Joseph	Deputy DMO & NCD Nodal Officer	DMO Office, Pathanamthitta
7	Dr Sethulekshmi S	Deputy DMO & DLO	DMO Office, Pathanamthitta
8	Dr Amjith Rajeevan	JAMO & One Health Nodal Officer	DMO Office, Pathanamthitta
9	Dr Rajalakshmi S	District Epidemiologist	DMO Office, Pathanamthitta