

The Kenya Veterinary Association

18TH WORLD RABIES DAY CELEBRATIONS

BOOK OF ABSTRACTS

26th - 28th September 2024

Jacaranda Indian Ocean Beach Resort
Diani, Kwale County, Kenya

THEME: BREAKING RABIES BOUNDARIES



The Kenya Veterinary Association (2024). The KVA KMA 18th World Rabies Day Celebrations: Book of Abstracts

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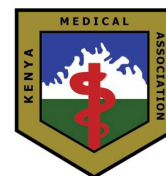


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Itinerary

DAY 1

TIME	ACTIVITY	PRESENTER
7:30 AM – 8:30 AM	Registration	
8:30 AM – 8:45 AM	Opening Remarks and Objective Setting	KMA/KVA
8:45 AM – 9:15 AM	Keynote Speaker 1: Beyond strategic planning: Leveraging One Health partnerships to achieve sustainable implementation and rabies elimination	WOAH
SESSION 1: RABIES EPIDEMIOLOGY AND SURVEILLANCE		
9:15 AM – 9:30 AM	Rabies outbreak response using one health approach in Kajiado county 2024	Mr. Kitesho Mureno
9:30 AM – 9:45AM	Knowledge, attitudes and practices on rabies among the residents of Maralal Ward, Samburu Central Sub-County – Samburu County	Dr. Peninah Lekaura
9:45 AM – 10:15 AM	Tea Break	
10:15 AM – 11:15 AM	Opening Ceremony: • KMA President, Dr Simon Kigundu • KVA National Chairman, Dr Kelvin Osore • CEO, KVB, Dr Mary Agutu • CEO, KMPDC, Dr David Kariuki • Director Livestock Policy and Research, Dr Chirstopher Wanga • Dr Allan Azegele, Acting Director of Veterinary Services • Dr Patrick Amoth, Director General for Health • H.E. Fatuma Achani – Governor, Kwale County	
11:15 AM – 11:30 AM	One health surveillance: A correlation analysis for human and animal rabies surveillance data in Kenya	Dr. Sam Kahariri

TIME	ACTIVITY	PRESENTER
11:30 AM – 11:45 AM	One Health Approach to Rabies Surveillance in Tharaka Nithi County, Kenya: A Case Study of a Rabid Cow	Dr. Polly Kiende
11:45 AM – 12:00 PM	The role of community health promoters in enhancing early detection and response to rabies through one health approach in Baringo County Kenya, March – August 2024	Dr. Linda Jeptoo
12:00 PM – 12:15 PM	The nexus between community knowledge and practices on occurrence of rabies, other zoonoses, and roaming dogs in Nandi County, Kenya	Dr. Khadija Chepkorir
12:45 PM – 2:00 PM	Lunch Break	
SESSION 2: VACCINATION, PREVENTION, AND MANAGEMENT STRATEGIES		
2:00 PM – 2:30 PM	Keynote Speaker 2: Overcoming Barriers in Rabies Vaccination: Policy, Access, and Community Engagement	Dr Rose Jalang'o,
2:30 PM – 2:45 PM	Challenges in rabies prevention and control in Kenya and the region	Prof. Mosoti Mogoa
2:45 PM – 3:00 PM	Rabies prevention practices among dog owners in Mumias sub-county, Kakamega county Kenya	Mr. Christopher Ochieng Mwima
3:00 PM – 3:15 PM	Assessment of Knowledge, Attitude and Practices and Canine Rabies Prevention and Control, Kasarani Sub-County, Nairobi	Mrs. Joyce Mwikali Ndunda
3:15 PM – 3:30 PM	Assessing knowledge, attitudes and barriers to mass dog vaccination campaigns against rabies and responsible dog ownership: insights from Machakos County, Kenya	Dr. Felix Kibegwa
3:30 PM – 3:45 PM	Market dynamics of veterinary rabies vaccines in Kenya	Dr. Alice Wambui Mwangi
3:45 PM – 4:15 PM	Q & A Session with Presenters	
4:15 PM – 4:45 PM	Partners Session	
4:45 PM – 5:15 PM	Evening Coffee	

DAY 2

TIME	ACTIVITY	PRESENTER
7:30 AM – 8:30 AM	Registration and Networking	
8:30 AM – 9:00 AM	Keynote Speaker 3: Rabies Vaccination and Prevention Strategies: Challenges and Opportunities.	Dr. Marybeth Maritim
SESSION 3: PUBLIC HEALTH, POLICY, AND AWARENESS EDUCATION		
9:00 AM – 9:15 AM	One Health Approach to Rabies and Hydatidosis Control: Enhancing Dog Population Management, Community Empowerment and Public Health Education in Turkana	Dr. Anima Sirma
9:15 AM – 9:30 AM	Assessment of risk communication and community engagement (RCCE) gaps in rabies through a strategic review and stakeholder engagement in Kenya	Dr. Felix Kibegwa
9:30 AM – 9:45 AM	Adoption Of The 7-1-7 Framework For The Zero By 30 Strategy For The Elimination Of Rabies In Kenya	Dr. Rinah Wangila
10:00 AM – 10:30 AM	Tea Break	
SESSION 4: ONE HEALTH APPROACHES AND ZOOONOSIS		
10:30 AM – 10:45 AM	A Community-Based Approach to Combatting Rabies Using the One Health Framework in West Pokot County	Mr. Koskey Mutembei
10:45 AM – 11:00 AM	The role Of SOHIC FVM UON in achieving One Health Agenda.	Dr. Boaz Pkemoi
11:00 AM – 11:15 AM	A scoping review of ethical symmetry during one health brucellosis diseases outbreak response in LMICs	Dr. Ardelene Diana
11:15 AM – 11:30 AM	One health ethics in high volume spay/neuter campaigns using trap neuter and release for rabies eradication in Kenya	Dr. Edgar Sakwa Kamama

TIME	ACTIVITY	PRESENTER
11:30 AM – 11:45 AM	Systems Thinking Approach in Rabies Elimination in Diani, Kwale County: A ProgRESSVet Success Story.	Dr. Mohammed Ahmed Umlai
11:45 AM – 12:15 PM	Q & A Session with Presenters	
12:15 PM – 12:45 PM	Partners Session	
12:45 PM – 2:00 PM	Lunch Break	
SESSION 5: ONE HEALTH APPROACHES AND ZOOONOSIS		
2:00 PM – 2:15 PM	One health investment planning for Kenya: National investment planning and leverage for the implementation of OH-informed agrifood system transformation	Dr. Arithi Mutembei
2:15 PM – 2:30 PM	Early action review of rift valley fever outbreak in marsabit county	Dr. Vivian Chemweno
2:30 PM – 2:45 PM	Q & A Session with Presenters	
2:45 PM – 3:00 PM	Partners Session	
PANEL DISCUSSION AND CLOSING REMARKS		
3:00 PM – 4:00 PM	Panel Discussion: "Future Directions in Rabies Control: Collaborative Strategies and Innovations"	
4:00 PM – 5:00 PM	Closing Remarks and Conference Summary	
5:00 PM – 5:30 PM	End of Conference Coffee	
Gala Dinner		
End of Day 2		
DAY 3: <u>Field Day</u> Medical and Veterinary camps (blood drive, cancer screening, PREP rabies vaccinations, Spay and Neuter)		

Scientific Abstracts and Presentations

01

RABIES OUTBREAK RESPONSE USING A ONE HEALTH APPROACH IN KAJIADO COUNTY 2024

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N.W. Nyaga		

Background

Rabies, is a neglected zoonotic disease primarily transmitted to humans through dog bites and is estimated to kill 59,000 people annually. The main elimination activities include mass dog vaccination (MDV), timely provision of Pre and Post exposure treatment to bite patients, increase in public awareness on rabies, and an effective functional surveillance and outbreak response system. In 2024, Kajiado County experienced human-wildlife conflict where confirmed rabid hyenas attacked residents resulting in serious injuries and even deaths. Following the incident, domestic dogs were reported to exhibit rabies syndromes and were destroyed.

Objective

To respond to confirmed Rabies outbreak in Kajiado County through mass dog vaccinations, public awareness forums and provision of Post exposure treatment as envisioned in the National strategy of rabies eradication using a one health approach.

Methods

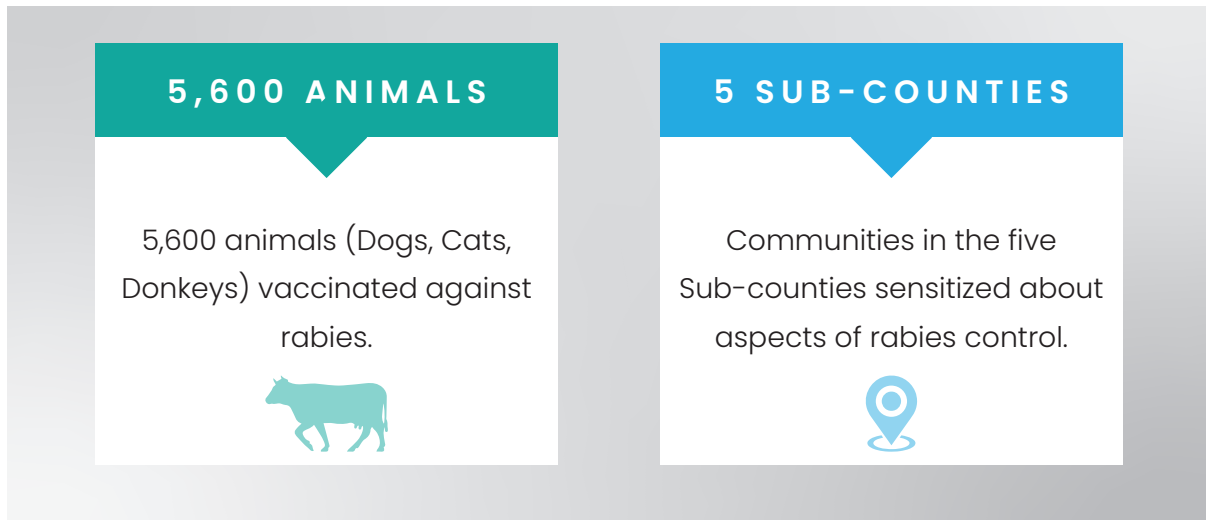
Rabies outbreak Information sharing within County One Health Unit resulted in each entity activating their response mechanism. Mass dog vaccinations involved procuring of vaccines followed by mapping of target areas using surveillance data. A vaccination programme followed by Publicity of the activity through National and County administration officers, departmental technical officers, public barazas, social media and word of mouth was undertaken.

Vaccinating teams were then allocated the various targeted areas and released to go undertake the vaccinations as per the programme. A manifest was kept for the animal owners and certificates issued to the vaccinated animals.

Collaboration was demonstrated when Public health officers accompanied the vaccinating teams and sensitized the animal owners on various aspects of Rabies control. Post and pre-exposure treatment was administered at local dispensaries where attacks occurred.

In the spirit of One Health, Kenya Wildlife Service (KWS) offered logistical support for the activity. The CDVS coordinated the entire activity.

Results



Conclusion

The response activities demonstrates the importance of one health collaborative approaches and efforts in rabies control.

Key words

- ◇ Rabies
- ◇ Response
- ◇ One health

KNOWLEDGE, ATTITUDES, AND PRACTICES ON RABIES AMONG THE RESIDENTS OF MARALAL WARD, SAMBURU CENTRAL SUB-COUNTY - SAMBURU COUNTY

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Jack Omolo		County Government of Kilifi, Department of Agriculture, Livestock Development and Blue Economy, Kilifi
Rinah Wangila		Food and Agriculture Organization of the United Nations – ECTAD, Nairobi, Kenya
Khadija Chepkorir		Directorate of Veterinary Services, Kenya

Introduction

Kenya is implementing the strategy for elimination of dog-mediated human rabies by 2030. There is minimal data on the role of human perceptions and behavior in prevention or control of rabies, which remains a major socioeconomic and public health problem. This study assessed the rabies Knowledge, Attitudes, and Practices (KAP) amongst selected households in Samburu central sub-county.

Methods

A cross-sectional study was conducted among 107 households in November 2022. A questionnaire developed in Epicollect5 software was administered to

obtain information on dog ownership and KAP regarding rabies transmission, symptoms, treatment, and prevention. Descriptive and inferential data analyses were performed using MS excel and IBM SPSS Statistics 20 software. Knowledge was assigned either sufficient or insufficient while practices were assigned as either good or poor. Bivariable analysis was conducted to assess covariant factors associated with sufficient knowledge and good practices using Odds Ratio (OR) at 95% Confidence Level (CL). Pearson Correlation test was conducted to test the correlation between covariates, knowledge, and practices, $p < 0.05$.

Results



Conclusions

Sufficient knowledge did not translate to good practices. Knowledge and practice gaps provide an opportunity to enhance awareness programs in the county. Social behavior change communication should be prioritized in a One Health approach.

Key Words

- ◇ Rabies
- ◇ Knowledge
- ◇ Attitude
- ◇ Practices
- ◇ Samburu

03

ONE HEALTH SURVEILLANCE: LINKING HUMAN AND DOG RABIES SURVEILLANCE DATA IN KENYA

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Rabies continues to pose a significant public health and economic challenge in Kenya, impacting both human and animal populations. This study analyzes retrospective official surveillance data from 2017 to 2023 to explore the correlation between rabies cases, dog bites, and related deaths using a three-stage approach. First, we examine the correlation of the identified variables within the human health surveillance system, secondly, we investigate the correlation within the animal health surveillance system and finally, we analyze the correlation across the two surveillance systems.

We employed a Bayesian mixed-effects model to assess these relationships, revealing both strengths and weaknesses in the Kenyan surveillance systems. Our results indicate strong positive correlations between dog rabies cases, dog bites, and dog deaths, suggesting that rabies outbreaks in animals are closely associated with increased bite incidents and fatalities.

However, the relatively weaker correlations between human and animal rabies data indicate potential inconsistencies, possibly due to underreporting or diagnostic challenges in both humans and animals. Regional variability in the strength of these correlations underscores the necessity for tailored interventions at the county level.

These findings highlight the importance of an integrated One Health approach to enhance rabies surveillance, improve reporting accuracy, and strengthen coordination between the human and animal health sectors. The study offers critical insights into surveillance inefficiencies and advocates for a more cohesive, multi-sectoral strategy to combat rabies in Kenya.

Key Words

Work for you: One Health, rabies surveillance, human-animal interface, dog bites, Bayesian mixed-effects model.

ONE HEALTH APPROACH TO RABIES SURVEILLANCE IN THARAKA NITHI COUNTY, KENYA: A CASE STUDY OF A RABID COW

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Background

Rabies is a significant zoonotic threat in rural Kenya, where close interactions between humans and animals are common. This case study discusses a suspected rabies incident in a cow from Majira, Chogoria Ward, Tharaka Nithi County, demonstrating the effectiveness of the One Health approach in addressing zoonotic diseases.

On January 22, 2024, a farmer noticed his cow had stopped feeding, showed signs consistent with rabies such as wild behavior and frothing at the mouth. He reported a concern about stray dogs recently reported in the area. There was no direct history of a human bite.

The farmer contacted a veterinary officer from Maara Subcounty. In collaboration with a county Disease Surveillance Officer, the veterinary team initiated a sample collection process under the One Health initiative.

Objectives

The primary objective was to confirm the presence of rabies by analyzing the cow's head sample. A secondary goal was to strengthen collaboration between veterinary and public health sectors in responding to zoonotic threats.

Methodology

A multidisciplinary team, including veterinary and human health officers, responded to the incident. The cow was humanely euthanized, and its head was collected, securely packaged, and sent to the central veterinary laboratory in Kabete for rabies testing, following strict safety protocols. The farmer gave informed consent.

Findings and Recommendations

The cow was confirmed to have rabies, highlighting the need for a coordinated response. Recommendations included vaccinating animals in the affected areas, raising community awareness, and conducting stakeholder engagement to enhance preparedness for rabies and other zoonotic diseases.

Conclusion

This case highlights the importance of the One Health approach in managing zoonotic diseases in rural Kenya, emphasizing the need for ongoing collaboration between veterinary and health sectors. Future strategies should focus on maintaining this collaboration and improving community awareness to enhance surveillance and response to zoonotic diseases.

Key Words

- ◇ Zoonotic
- ◇ Rabies
- ◇ One Health
- ◇ Tharaka Nithi County.

THE ROLE OF COMMUNITY HEALTH PROMOTERS IN ENHANCING EARLY DETECTION AND RESPONSE TO RABIES THROUGH ONE HEALTH APPROACH IN BARINGO COUNTY KENYA, MARCH - AUGUST 2024

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Introduction

Rabies is a very important viral disease that causes approximately 59,000 human fatalities annually. The disease was first reported in Kenya in 1928 and has been endemic in most counties, including Baringo. This study retrospectively reviewed reported rabies cases from March to August 2024 in Baringo South which is estimated to have a population of 20,000 dog. The study investigated the spatial and temporal distribution of reported rabies cases along with the responses undertaken upon case detection through a community led one health approach.

Methods

The study data was obtained from the Kenya Red Cross platform as submitted by community health promoters (CHP). A USSD reporting platform on Epidemic Preparedness in Communities (EPIC) and community-based surveillance (CBS) was used. The dataset included reported cases and the associated responses upon rabies detection. Descriptive analysis including the spatial trends was done and reported.

Results

Over the study period, a total of 249 both human and animal health workers were trained on community case definitions of 8 priority infectious diseases and zoonoses. There were three different point rabies alerts that were clinically confirmed as true cases. Two feral dogs showing signs of rabies bit 15 goats and 5 dogs in Yatoi and Maoi villages while one domesticated dog reportedly turned furious and bit a child and neighbor's dog.

Through a one health approach, integrated response by County Government and Kenya Red Cross Society saw a total of 237 dogs/cats and 17 goats vaccinated against rabies while one child and three exposed individuals who handled bitten goats without PPEs were provided with homebased first-aid then referred to hospital for pre-exposure rabies vaccination.

Conclusion

Collaborative and inclusive efforts through one health approach is key to sustainable and cost-effective response of zoonotic diseases in at risk areas of disease outbreaks.

Key words

- ◇ Rabies.
- ◇ One Health, early detection, response

THE NEXUS BETWEEN COMMUNITY KNOWLEDGE AND PRACTICES ON OCCURRENCE OF RABIES, OTHER ZONOSSES AND ROAMING DOGS. NANDI COUNTY, KENYA

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Introduction

Zoonoses contribute to two thirds of infectious diseases in humans causing great economic and social impacts on communities and livelihoods. Rabies is among the priority zoonotic diseases in Kenya and the country geared towards eliminating canine mediated rabies by the year 2030. Key among the strategies to do this is management of dog populations. This study aimed to investigate knowledge, attitudes and practices on occurrence of rabies and other zoonotic diseases and drivers for roaming dogs in Nandi County.

Methods

Focused group discussions with livestock owners and key informant interviews were conducted in four selected sub-counties in Nandi County in

March 2020. Data was collected using participatory epidemiological tools. Quantitative data were exported and analyzed using GenStat statistical package. Kruskal-Wallis one-way analysis of variance ($\alpha=0.05$) was used to assess the significance of median ranks for scores.

Results



Conclusion

There was a good knowledge on Rabies and rabies control, however this knowledge was varied and did not translate to good practices. Presence of roaming and stray dogs was a major challenge to rabies control. There is a need for enhanced rabies control, promotion of responsible dog ownership and proper waste management and a one health approach is key.

Key Words

- ◇ Community, Participatory, RabiesZoonoses

CHALLENGES IN RABIES PREVENTION AND CONTROL IN KENYA AND THE REGION: THE PLACE OF THE ONE HEALTH APPROACH

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Background

Rabies, a viral disease of humans and animals alike, remains a global threat, with an estimated annual mortality in humans of 59,000 across the world and about 25,000 in Africa and mostly confined to socially and economically disadvantaged segments of society. In Kenya, rabies is a priority zoonotic disease. Many challenges face rabies prevention and control initiatives especially in our jurisdictions, thus the persistence of the disease, and high human rabies mortality rates in African countries compared to global levels.

Objectives

To identify the challenges and associated opportunities in prevention and control of rabies in Kenya and the region.

Methods

This was a desktop study that involved non-systematic / targeted literature review of both published and grey literature on rabies.

Results

Rabies prevention and control relies on a number of initiatives including: dog vaccination / dog population management; access to affordable human biologicals for post- and pre-exposure prophylaxis; awareness of the disease among communities and health workers; availability of appropriate human resource and laboratory infrastructure; human and animal rabies surveillance; integration of rabies control programmes; adequate financing; among others.

The drivers underlying these challenges include: inadequate policy and strategies; poor resourcing and commitment by governments; health system failures / inadequate dog-bite management; poor access to pre- and post-exposure prophylaxis; weaknesses in rabies surveillance and reporting; inadequate rabies diagnostics and laboratory infrastructure and capacity; inadequate dog vaccination / dog population management; lack of collaboration between stakeholders; poor community engagement; gaps in knowledge, attitudes and practices on rabies; and inadequate research on rabies; among others.

Conclusion

Whereas there are many challenges in prevention and control of rabies, opportunities exist in overcoming these challenges on the pathway to elimination of rabies in humans and from the continent. One such opportunity is the application of the One Health Approach. This approach is discussed.

Key Words

- ◇ Rabies Control
- ◇ Rabies Prevention
- ◇ Dog Vaccination
- ◇ One Health
- ◇ Africa.

RABIES PREVENTION PRACTICES AMONG DOG OWNERS IN MUMIAS SUB-COUNTY, KAKAMEGA COUNTY, KENYA

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Introduction

Rabies has a total case mortality rate once clinical signs appear; therefore, it is regarded as a zoonotic illness that poses significant concerns for public health. Domesticated dogs function as the principal carrier for the transmission of rabies. Human rabies has been prevalent in Kakamega with a mere vaccination rate of 29% for many years, and the population of stray dogs keeps on increasing due to the presence of a dog market in the area with estimated to cause 2,000 deaths annually. This study was designed to determine rabies prevention practices among dog owners in Mumias sub-county, Kakamega County, Kenya.

Methodology

An analytical cross-sectional design was used, and a 385-sample size was achieved using Fischer's formula. Participants recruited through a random sampling procedure, and data was collected using structured questionnaires.

Results

The majority (41.8%) of the sample population had a moderate level of knowledge of rabies prevention practices. Dog confinement methods (65.7%), vaccination services (44.2%), and treatment methods (85.7%) were revealed as common rabies prevention practices. Further, there was an association between having a formal education, employment status, availability of veterinary personnel ($p \leq 0.05$), availability of vaccination points ($p \leq 0.01$) and having a vaccinated dog.

Conclusion

There is a need to raise rabies prevention awareness in the study area. The County should intensify dog population control programs and mass dog vaccination to cater for the high number of stray unvaccinated dogs within the region. On factors associated with compliance, the county requires implementation of stringent measures to enforce control over dog movement, mandatory vaccination as well as collaboration between the Ministry of Agriculture and Livestock Development, and the Ministry of Health and dog owners in rabies elimination. There is a need to provide dog vaccination points in dog markets as well as formulate policies on unvaccinated dog trade and trafficking.

Key Words

- ◇ Dog
- ◇ Rabies
- ◇ Vaccination Practices Prevention

ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICES AND CANINE RABIES PREVENTION AND CONTROL, KASARANI SUB-COUNTY, NAIROBI

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Introduction

Rabies is a viral zoonotic disease-causing inflammation of the brain in human and other mammals. Transmission is through bites or scratches from infected animals. Community knowledge and awareness of rabies disease is key in implementation of control and prevention strategies. This study was designed to determine the level of community knowledge, attitude and practices (KAPS) on rabies.

Methods

We conducted a cross-sectional survey across five-wards in Kasarani Sub-county targeting community members above >18 years. Respondents were selected from six farmers- groups. Consenting members were randomly selected and interviewed and data collected using a semi-structured questionnaire in Epicollect5, on both dog-owning and non-dog-owning members.

Results

A total of 55 respondents were interviewed. Results were as follows:

51% Own a dog and have heard about rabies	47% Have heard someone who died of the disease	58% Received rabies information from <i>Barazas</i>	40% knew that only dogs get rabies
45% knew that dogs need to be vaccinated annually	70% knew the importance of dog vaccination	100% Knew rabies can be prevented through vaccination	36% knew that both dogs and humans got rabies
85% agree that roaming dogs have owners.	85% had heard of a dog shelter	55% leashed their dogs	20% knew that rabies is incurable once symptoms manifest
85% knew rabies cannot be treated with herbs	91% were aware that rabies can be eliminated	96% would visit a health facility immediately after a dog bite	4% would wash the wound with soap and water
	36% would kill the dog and bury or burn it	51% would report the suspected rabid dog to a vet office	

Conclusion

Rabies knowledge, attitude and practices were not satisfactory for good control and prevention.

Recommendations

There is need for public education and awareness programs on rabies disease in the Sub –County

Key Words

- ◇ Rabies
- ◇ Kasarani
- ◇ Dogs
- ◇ Knowledge

ASSESSING KNOWLEDGE, ATTITUDES, AND BARRIERS TO MASS DOG VACCINATION CAMPAIGNS AGAINST RABIES AND RESPONSIBLE DOG OWNERSHIP: INSIGHTS FROM MACHAKOS COUNTY, KENYA

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Introduction

Rabies remains a significant public health threat in Kenya, particularly in rural areas where close interactions between humans and dogs contribute to the disease's persistence. Despite the availability of effective vaccines, mass vaccination campaigns in regions like Machakos County have struggled to achieve adequate coverage. This study aimed to assess knowledge, attitudes, and perceptions regarding dog vaccination and responsible dog ownership, identifying the enablers and barriers to rabies vaccination during mass campaigns in Machakos County.

Methods

A cross-sectional mixed-methods study was conducted in Machakos County. Data were collected from 219 randomly selected participants

through structured questionnaires administered to dog-owning household heads across four wards. The survey gathered information on biodata, dog ownership practices, rabies awareness, vaccination history, and perceptions of mass vaccination campaigns.

Results

The respondents were predominantly male (79.9%), with 60.7% having completed secondary education. Most of respondents (68.5%) owned one or two dogs, and 93.2% vaccinated all their dogs during mass campaigns. While 60.7% correctly identified that dogs should be vaccinated annually, 64.8% had not vaccinated their dogs outside of mass campaigns, citing reasons such as lack of awareness of the mass vaccination campaigns events (79%), logistical challenges like distance to vaccination points, the perceived sufficiency of mass campaigns, cost or unavailability of veterinary services, and the dogs being younger than three months. Additionally, 97.7% recognized that dogs could transmit diseases to humans, with rabies identified as the most common threat (78.5%). Although 100% and 97.3% provided food and water respectively, to their dogs, only 82.2% provided shelter, often due to the belief that it was unnecessary.

Conclusion

Despite the barriers identified, there is a willingness to engage in mass rabies vaccination campaigns in Machakos County. Establishing mobile vaccination units to serve remote areas and implementing year-round public education campaigns focused on annual vaccinations and responsible dog ownership are recommended strategies to address these barriers.

Key Words

Rabies vaccination, Dog ownership, Machakos County, Mass vaccination, Barriers and enablers

MARKET DYNAMICS OF VETERINARY RABIES VACCINES IN KENYA

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Introduction

Rabies control in Kenya is primarily driven by the vaccination of domestic animals, especially dogs. The veterinary rabies vaccine market is influenced by government policies, public health initiatives, international organizations, and the availability of both private and ambulatory veterinary practices. Key players include multinational manufacturers and local distributors who supply vaccines to retailers and veterinary professionals

Objectives

The objective of the study was to examine and gain insights into the market dynamics of veterinary rabies in Kenya.

Methodology

Through a comprehensive retail audit conducted by AgNexus Africa through a study known as Agritrack™, data was collected in 1200 agrovets distributed in 45 counties in Kenya between June 2020–December 2023. The data was cleaned, extrapolated and analyzed. Reporting was done on PowerBI.

Results

Market trends indicate a steady increase in demand for veterinary rabies vaccines. Although poultry vaccines make up the largest chunk accounting of about 60–80%. Rising pet ownership has also fueled demand for veterinary services, with dog vaccines comprising approximately 34% of all retail vaccine sales in 2023. In 2020 rabies vaccine sold at retail level accounted for about 1.31% of the total sales value, this number quadrupled by the end of 2023.

However, the market faces challenges like pricing disparities, inconsistent supply chains, and competition from subsidized or free vaccination campaigns by NGOs and public-private partnerships. Pricing for rabies vaccines ranges between 120–300 shillings per dose, with additional costs for administration hence driving the total cost to between 500–1500.

Regions such as Eastern over the years have seen a massive increase of rabies vaccines being sold from the agrovets with the total sales value increasing by five-fold in 2023 as compared to 2021.

Conclusion

There is an increase in knowledge and demand for veterinary rabies vaccines in Kenya.

Key words

Rabies, Agritrack™, Market trends, Pricing, Key players, Sales Value

CONFERENCE DAY TWO

12

A COLLABORATIVE APPROACH TO RABIES AND HYDATIDOSIS CONTROL: ENHANCING RESPONSIBLE DOG OWNERSHIP AND COMMUNITY EMPOWERMENT IN TURKANA COUNTY, KENYA

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Rabies is a preventable viral disease primarily transmitted through the bite of an infected animal whereas hydatidosis is a zoonotic parasitic disease transmitted through fecal-oral route. In Kenya, rabies causes a significant number of human deaths annually, mainly through dog bites. On the other hand, there has been high prevalence of hydatidosis reported in dogs in Turkana County. The predominantly pastoral lifestyle of Turkana County presents unique challenges to rabies and hydatid control due to the constant migration of livestock farmers in search of pasture and water, with dogs accompanying them. To address these challenges, the Kenya Women

Veterinary Association (KWVA) and the Turkana County Government launched a collaborative initiative that integrated rabies and hydatidosis control with community empowerment. This project aimed at enhancing disease control efforts while uplifting the local community, particularly women and girls, through education and economic opportunities.

The project was conducted in two sub-counties, in Turkana County between 2022 and 2024. Key components of the project included rabies vaccination and deworming for dogs, population control through spaying and castration, community education on rabies and hydatidosis, and empowering women by supporting beaded dog collar production. Additionally, the project provided menstrual hygiene education to schoolgirls and sanitary towels to one school, along with planting trees as part of environmental conservation efforts.

During the project period; 795 dogs were vaccinated and dewormed, 196 surgeries (spay and castration) were conducted, 200 children were educated on the diseases, 3 women groups were supported through beading of the dog collars and 50 trees were planted. This project serves as an innovative, gender-sensitive model for addressing health and empowerment challenges in similar pastoral communities.

Keywords

- ◇ Rabies
- ◇ Hydatidosis
- ◇ Gender
- ◇ Community empowerment

ASSESSMENT OF RISK COMMUNICATION AND COMMUNITY ENGAGEMENT (RCCE) GAPS IN RABIES THROUGH A STRATEGIC REVIEW AND STAKEHOLDER ENGAGEMENT IN KENYA

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Rabies remains a significant public health threat in Kenya, despite existing strategies aimed at its control and elimination. This necessitate exploring additional approaches, such as Risk Communication and Community Engagement (RCCE), to educate and engage the public in mitigating rabies risks. This study aimed to identify gaps in RCCE for rabies in Kenya, informing the development of a regionally relevant RCCE curriculum under the Africa One Health Universities (AFROHUN) Network Transition Award.

The study utilized a cross-sectional design, incorporating a desk review of grey literature—such as policies, frameworks, and strategy documents—and key informant interviews (KIIs) with stakeholders in rabies control at both national and county levels in Kenya. Qualitative and quantitative data was collected from KIIs, focusing on current RCCE practices, challenges, and opportunities. Data from the desk review were organized and presented in tables and graphs, while qualitative and quantitative data from KIIs were analyzed using thematic analysis and descriptive statistics respectively.

The desk review identified gaps in RCCE strategies, including low public awareness of responsible dog ownership, proper dog-bite wound management, and completing post-exposure prophylaxis (PEP) regimens. Inadequate enforcement of dog vaccination laws and a lack of integrated surveillance systems were also noted. Among KII respondents, 83% were male, with 72% from animal health, 22% from environmental health, and 17% from human health. The KII findings confirmed the desk review, revealing low vaccination coverage, insufficient public awareness, poor stakeholder coordination, funding constraints, and inadequate training materials as barriers to effective RCCE implementation.

The study highlights the need for a stronger RCCE framework to enhance public awareness and rabies prevention. Recommendations include increasing community education, improving stakeholder coordination, and advocating for greater resource allocation. Further, incorporating gender and social inclusion into RCCE strategies is essential to achieving equitable outcomes and supporting Kenya's goal of eliminating rabies by 2030.

Key Words

Rabies Control, RCCE (Risk Communication and Community Engagement), Zoonotic Disease, Stakeholder Engagement, Public Health

ADOPTION OF THE 7-1-7 FRAMEWORK FOR THE ZERO BY 30 STRATEGY FOR THE ELIMINATION OF RABIES IN KENYA

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Globally, there is the persistent risk of emerging and re-emerging infectious diseases, especially in the low and middle-income countries (LMICs). This situation is exacerbated by climate change, rapid economic development, increased travel and trade, poverty and social inequality, war and famine. Additionally, human–wildlife interactions, deforestation, land use and ecosystem changes further drive the emergence of diseases. Among the health emergencies recently declared by WHO are COVID-19, Cholera, Dengue and Mpox.

Evaluating approaches and developing frameworks to accelerate progress in making the world safer from pandemics have been informed by lessons learned from the COVID-19 pandemic. The 7-1-7, is one such framework, a timeliness metric: the first real-time assessment of how quickly a country/territory detects and contains infectious diseases threats. It engenders routine monitoring of detection and response performance of health systems, a key in evaluating and improving outbreak preparedness and rapidly contain multiple pathogens and health threats.

In 2014, Kenya developed a Rabies Elimination Plan in line with the global strategic plan to end human deaths from dog-mediated rabies by 2030. To accelerate progress towards the Zero by 30 target, the 7-1-7 framework can be adopted to evaluate the real-time performance of the systems required for early detection, notification, and response to Rabies disease outbreaks.

The 7-1-7 principle was used to evaluate Kenya's timeliness against detection to response in the RVF events as a metric in the recently concluded RVF After Action Review. From this exercise, the following best practices were identified: existence of surveillance systems, timely livestock disease reporting, one health approach in handling the disease event.

Gaps included the delayed outbreak investigation, lack of diagnostic capacity in affected areas, and limited financial resources for logistics operations. Informed by the AAR report, a comprehensive action plan addressing identified weaknesses and capitalizing on existing strengths and synergies is recommended.

The same approach is necessary to review public health actions to Rabies events and accelerate progress toward the Zero by 30 Goal.

Key Words

Public health threats, 7-1-7 principle, Rabies Elimination

A COMMUNITY-BASED APPROACH TO COMBATTING RABIES USING THE ONE HEALTH FRAMEWORK IN WEST POKOT COUNTY

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Introduction

Rabies is a critical public health issue in West Pokot County, Kenya, with frequent human and livestock cases due to the high population of unvaccinated domestic dogs. The One Health approach, which integrates human, animal, and environmental health, offers a comprehensive framework for addressing this zoonotic disease. This study explores the effectiveness of a community-based strategy, grounded in the One Health approach, to reduce rabies incidence in West Pokot County.

Before the Community Epidemics and Pandemics preparedness project in 2019 there was no data available on the rabies vaccination status. The intervention led to a significant increase in dog vaccination coverage, from (102 dogs) 4 % to (500) 20 % within the first year.

Methods

The study employed a mixed-methods design, combining quantitative and qualitative data collection. A community-based intervention was

implemented involving mass dog vaccination campaigns, public education on rabies prevention, and strengthening local veterinary and healthcare services. Data on dog vaccination coverage, rabies cases in humans and animals, and community knowledge forming the bulk of the information collection strategy. Stakeholders, including local government, healthcare workers, veterinarians, and community leaders, were engaged throughout the process to ensure sustainable outcomes.

Results

Preliminary surveys indicated improved community awareness and practices related to rabies prevention and response. The project has been implemented from 2019 through 2024 with the Social behavior change (SBCC) component through the local media and the School health SBCC component playing a great role towards community education on Rabies. through these efforts a total of 2500 students/pupils have been trained with a ripple effect of reaching out to approximately 2000 Households with key messages on rabies. Reported rabies cases in both humans and animals decreased by 60% over two years.

Conclusion

The community-based One Health approach proved effective in reducing rabies incidence in West Pokot County. The integration of public health, veterinary services, and community engagement is crucial for sustainable rabies control in resource-limited settings. This model could be adapted and scaled to other regions facing similar challenges, emphasizing the importance of cross-sectoral collaboration in managing zoonotic diseases

Key words

Rabies, One Health, Vaccination, Community-based, Zoonotic

THE ROLE OF SOHIC FVM UON IN ACHIEVING ONE HEALTH AGENDA

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The Students One Health Innovation Club (SOHIC) at the Faculty of Veterinary Medicine (FVM) has been actively engaged in addressing critical thematic areas impacting global health through student-led initiatives and community outreach. This abstract summarizes the key activities and impact of SOHIC FVM students on several pressing issues including antimicrobial resistance (AMR), zoonotic diseases, climate change, neglected tropical diseases, and food security.

Antimicrobial resistance, a significant global health security threat, is being addressed through various student-led initiatives at SOHIC. AMR compromises the efficacy of antimicrobial agents, escalating the risk of treatment failure, severe illness, and death. SOHIC students play a pivotal role in combating AMR by leading responsible antimicrobial use, promoting preventive measures such as vaccination and sanitation, and raising public awareness through educational campaigns and participation in global AMR events. Their efforts

also extend to research activities, including laboratory testing for resistance patterns, and community engagement through environmental hygiene and sanitation initiatives.

In collaboration with the Veterinary Mission Program (VMP) and the Transform initiative, SOHIC students contribute to the advancement of One Health principles. They engage in practical veterinary work, including vaccination and deworming, and participate in farmer training programs focusing on AMR, biosecurity, and farm management. Their involvement in international conferences, such as those organized by AFROHUN, highlights their commitment to integrating AMR with broader issues like climate change and food security.

The SOHIC FVM student body also participates in thematic areas such as climate change and its implications for health systems. They address topics such as the impact of climate change on health, and food systems, and the effects of environmental extremes like floods and droughts. Through their efforts, SOHIC students are not only enhancing their professional competencies but also contributing to the broader One Health agenda by fostering interdisciplinary research and collaboration.

Overall, SOHIC FVM students demonstrate a robust engagement with critical health issues, leveraging their academic and practical experiences to drive meaningful change in public health and veterinary medicine. Their work underscores the importance of youth involvement in addressing complex global challenges and advancing the One Health framework.

Keywords

Antimicrobial Resistance; Zoonotic Diseases; Climate Change; Neglected Tropical Diseases; Food Security; One Health; Veterinary Medicine; Community Engagement.

A SCOPING REVIEW OF ETHICAL SYMMETRY DURING ONE HEALTH BRUCELLOSIS DISEASES OUTBREAK RESPONSE IN LMICS

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The One Health approach is a comprehensive and integrated strategy aimed at achieving sustainable equilibrium and promoting the health of individuals, animals, and the environment. Up to 60% of diseases have zoonotic origins, with brucellosis being a significant zoonotic disease affecting low-resource settings. Brucellosis is a neglected illness that disproportionately impacts impoverished communities due to limited funding and resources for its control.

Successful brucellosis control requires optimization of human-animal and environmental health, which raises significant ethical dilemmas. To investigate these ethical issues, a scoping review was conducted to identify and classify these challenges in low- and middle-income countries (LMICs). The scoping review adhered to the Preferred Reporting Items for Systematic

Reviews and Meta-Analyses guidelines, and the overall project followed Arksey and O'Malley's protocol for conducting scoping reviews.

The included studies were organized into an Excel spreadsheet format, covering aspects such as title, authors, publication year, and peer-reviewed status. The analysis progressed to identifying and categorizing relevant themes. In the planning stage, identified ethical issues were: absence of a formal ethical framework, insufficient community involvement, and limited knowledge among healthcare providers about diagnosing Brucellosis in humans.

It was also observed that brucellosis often receives less priority compared to other diseases, and there is inadequate government funding to support One Health strategies in response to the disease outbreak. In conclusion, brucellosis outbreak in low- and middle-income countries faces significant ethical challenges that hinder timely and effective response to outbreaks.

The study recommends formulation of a One Health framework for brucellosis outbreak control, and promotion of community engaged participatory methods for ethical response to brucellosis disease outbreaks in low- and middle- income countries. Recommendations from the current study are applicable to other zoonotic diseases.

Keywords

- ◇ One Health
- ◇ Ethics
- ◇ Brucellosis
- ◇ Low- and Middle-Income Countries

ONE HEALTH ETHICS IN HIGH-VOLUME SPAY/NEUTER CAMPAIGNS USING TRAP NEUTER AND RELEASE (TNR) FOR RABIES ELIMINATION IN KENYA

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Introduction

Over 700million dogs exist in the world as owned and unowned. High density of free roaming dogs poses challenges to public health including transmission of zoonotic diseases like rabies, echinococcosis, leishmaniosis. Population control of such animals aims to mitigate public health challenges and improve their welfare. Three main methods of dog and cat population control include mass culling, birth control and long term sheltering.

Many animal welfare organizations prefer birth control as most ethical method. Despite wide acceptance, TNR implementation still raises ethical concerns. One health ethics is the emphasis of ethics while recognizing relationship and interdependence between animals, humans and environment. Application of One Health ethics provide a comprehensive methodological framework in understanding ethics related to TNR.

Objectives

To analyze existing One Health ethics considerations, its application in Trap-Neuter Release and develop guidelines that are considerate to animals, environment and humans not just animal welfare.

Methodology

Scoping review of published literature between 2019-2024 using PRISMA 2020 guidelines complimented with case studies from Kenya. Ethical frameworks used in analysis were principlism, deontology and care ethics.

Key findings

TNR is the more ethical than long term shelter and mass culling dog/cat in population management, Consent process in TNR is unclear, TNR campaigns take between 3- 5 days without clear post-operative care, there are gaps in Kenyan laws regulating TNR and mass surgical sterilization. Evaluation of TNR programs focus on number of animals sterilized or reduced with minimal reporting on impact to environment or biodiversity. Insufficient community engagement during TNR.

Conclusion

There is need to adopt community engagement, improved moral consideration of free roaming dogs, improved post-operative care and review Kenyan laws to include national guidelines for TNR programs. Utilizing One health ethics in implementation and evaluation of TNR will greatly improve the impact of such programs on communities, environment and biodiversity.

Key words

- ◇ One health Ethics
- ◇ Trap-Neuter-Release
- ◇ Population management

SYSTEMS THINKING APPROACH IN RABIES CONTROL IN DIANI, KWALE COUNTY: A ProgRESSVet SUCCESS

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Background

Ineffective cat population control through baiting, poor vaccination coverage and under reporting of rabies hinders efforts to eliminate rabies. In the Coastal region, most facilities are overrun by a menacing cat problem which is coupled with poor surveillance system emerge as barriers.

In Diani, Kwale, the population of cats is high, especially in the hotels along the beach, this is facilitated by uncontrolled reproduction, failure in proper disposal of garbage and the presence of animal-loving tourists residing in the hotels.

Most hotels, find this to be a “nightmare”. In 2022, we were approached by the hotel management to offer solutions to this problem, and this necessitated the

employment of proactive methods from the systems-thinking approach and insights from the ProgRESSVet training, an education and training program for veterinary professionals designed to support participants as they develop the knowledge, skills, and relationships necessary to excel and contribute to the sustainable economic development of their country through their daily work.

Methods

Collaborative efforts, between the hotel, an animal welfare activist and the county led to development of holistic amicable solutions: in-depth feeding programs for the cats were established – the personnel in-charge of each buffet station tasked with timely feeding of the cats, half an hour before the buffet stations are opened for the guests; population control programs, implemented in phases, composed of neutering and rehoming, together with rabies vaccination; community responsibility through awareness amongst the hotel workers, daily reporting on the feeding program, sensitization to the guests upon arrival; proper and timely disposal of garbage.

Results

Rabies vaccinated, healthy, neutered and collared cat population of 22 cats, out of more than 200 cats across three facilities of one hotel. In the year 2022, a total of 15 cats were neutered and 18 kittens rehomed. In 2023, 87 cats were neutered and 53 rehomed by a welfare activist.

In 2024 the hotel management aimed to reduce the feline population per facility and additional 22 cats were neutered, and 10 were rehomed. The hotel supported the activist with the care of kittens awaiting adoption. A total of 23 staff members were involved in the feeding program and provided daily reports via WhatsApp for close monitoring.

Conclusion

This holistic approach in control rabies has proven to be feasible and beneficial for the cats and the hotel. This was achieved without any euthanasia, thus a big plus for the welfare aspect.

Keywords

- ◇ Rabies
- ◇ ProgRESSVet
- ◇ Systems-thinking
- ◇ Animal welfare

ONE HEALTH INVESTMENT PLANNING FOR KENYA: NATIONAL INVESTMENT PLANNING AND LEVERAGE FOR THE IMPLEMENTATION OF OH-INFORMED AGRIFOOD SYSTEM TRANSFORMATION

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Background

Application of One Health (OH) approach can transform agrifood systems and address health threats at the human-animal-plant-environment interface. In low- and middle-income countries (LMICs), challenges such knowledge gaps, weak governance, and limited resources hinder the adoption and implementation of One Health. However, anticipatory global efforts to prevent future pandemics have introduced new tools and funding opportunities, highlighting the need to strengthen One Health capabilities.

Objectives

The One Health Investment Planning for Kenya initiative aims to leverage One Health investments to transform agrifood systems. Involves participatory and co-created reviewing national assessments, prioritizing investment opportunities, and aligning them with both national priorities and global implementation strategies like the Quadripartite One Health Joint Plan of Action (OH JPA).

Methods

The process follows a seven-step approach viz:

1. A review of national assessments (e.g., JEE, PVS, FSA) to identify gaps for One Health.
2. Long- and shortlisting of opportunities through participatory workshops and online surveys.
3. Scoping of investment landscapes
4. Prioritization of the shortlisted opportunities
5. Formation of technical working groups to draft proposals.
6. Building economic cases through (economic analyses: cost-benefit, cost-effectiveness assessments and return on investments analysis, etc.)
7. Investment landscape analysis mapping.

The process concluded with a national investment forum to present robust investment cases to potential investors.

Results

The consultative process identified 43 potential One Health investment opportunities, narrowed to nine thematic areas, with five prioritized themes: One Health surveillance, laboratory infrastructure, workforce development, technology and innovation, and food safety.

Stakeholders developed detailed, economically viable proposals, and investor landscaping identified potential funders. These proposals, presented at a national One Health investment dialogue, fostered new partnerships and secured funding commitments, with further follow-up with potential investors ongoing.

Conclusion

Kenya's One Health investment planning process successfully leverages investments for comprehensive health system transformation. The approach realigns national needs with global strategies, offering innovative and scalable funding-attraction model for other regions.

Key Words

- ◇ One Health Approach
- ◇ Investment Planning
- ◇ Resource Allocation
- ◇ Stakeholder Engagement
- ◇ Public Health Prioritization

EARLY ACTION REVIEW OF RIFT VALLEY FEVER OUTBREAK IN MARSABIT COUNTY, KENYA

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Background

In January 2024, Marsabit County confirmed a Rift Valley Fever (RVF) outbreak following enhanced rainfall and flooding. WHO recommends early action reviews (EAR) to highlight outbreak response's strengths and weaknesses for improvement. WHO EAR tool employs the 7-1-7 target – detect a public health threat within seven days of emergence, notify within one day of detection, and complete early response within seven days of notification.

EAR also qualitatively identifies factors that contributed to emergency response performance. EAR was conducted to clearly assess performance of response to the RVF outbreak.

Methods

The WHO EAR tool was used to define dates of disease emergence, detection, notification, and initiation of early action from Acute Febrile Illness (AFI) surveillance records, Kenya Animal Bio-surveillance System (KABS) and outbreak situation reports. The timeliness of performance was assessed against the 7-1-7 targets. Interviews with the rapid response team, veterinarians, clinicians and surveillance officers highlighted bottlenecks and enablers for the observed performance.

Results

Detection of RVF index case was on 9th January 2024, 5 days after the patient fell ill. Notification of the outbreak to relevant authorities occurred 10 days later, on 19 January 2024 and response was initiated within 5 days, by 24 January 2024. Bottlenecks included weak sample referral mechanisms, socio-cultural barriers, sub-optimal community-based surveillance delaying detection, and delayed response due to centralized outbreak declaration and financial constraints.

Enablers included utilization of meteorological data for anticipatory actions, utilization of veterinary and human health data trends, training of multi-sectoral rapid response teams, implementation of syndromic surveillance and one health coordination at county and national levels.

Conclusion

To improve future response performance, several corrective actions were recommended: enhancing continuous One Health risk communication and community engagement, expediting public health emergency response funding, integrating human and animal surveillance systems for zoonotic diseases, and decentralizing disease outbreak declarations.

Keywords

- ◇ Rift Valley Fever, Early Action Review 7-1-7 target, One health