



RABIES

Public Health Response

Division of Public Health Surveillance and Response (DPHSR)

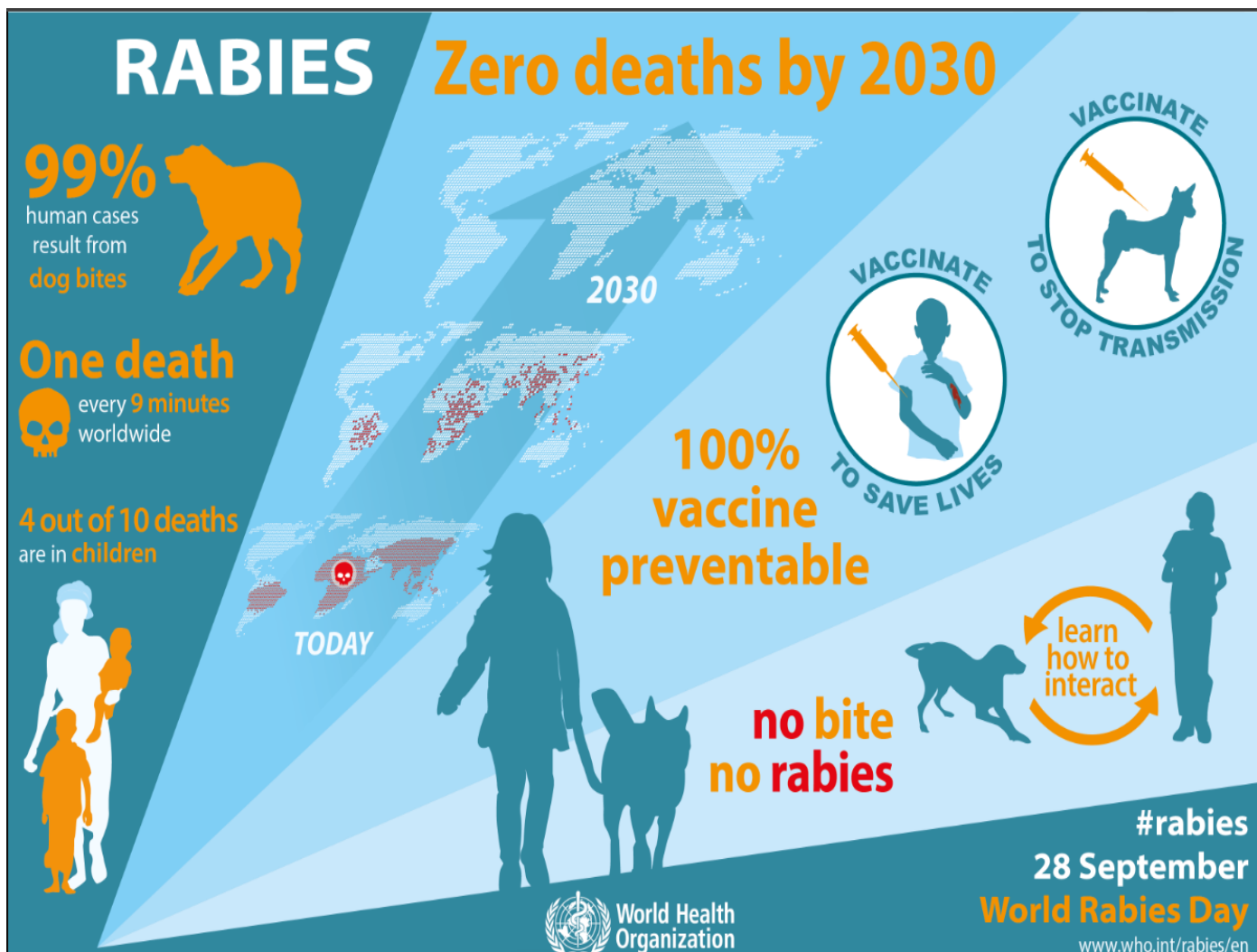
Presenter: Unarine Makungo



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
HEALTH

Introduction



In SA, Rabies control is based on a "One Health" strategy, requiring collaboration between animal health, human health, and environmental sectors.

Department of Health: custodian of "Access to rabies Post Exposure Prophylaxis (PEP)" strategy

Non-compliance to rabies PEP protocol may lead to human rabies death.
A human rabies death constitutes a public health system failure



Global Strategic Plan



ZERO BY 30

The Global Strategic Plan
to end human deaths from
dog-mediated rabies by 2030

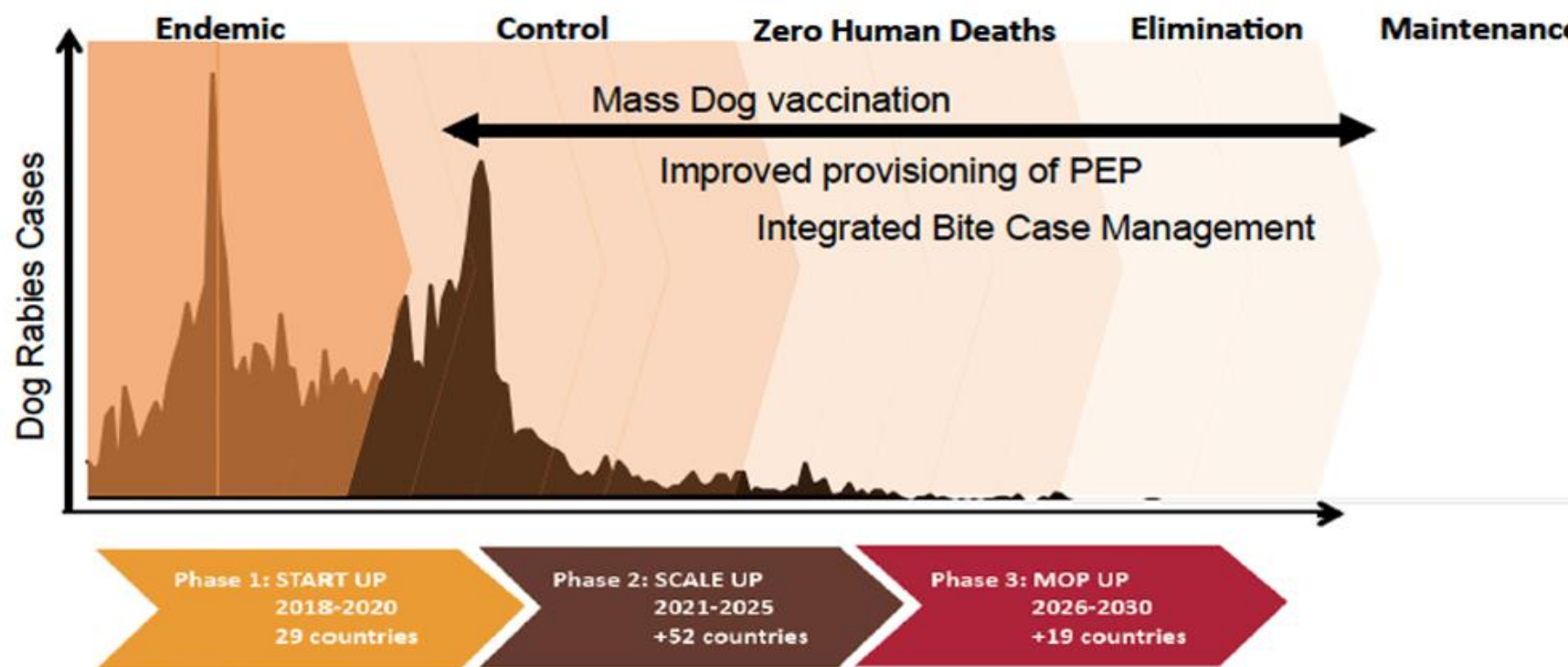
- **Objective 1:** Effective use of vaccines and technologies to reduce human rabies risk through dog vaccinations and increased healthcare access.
- **Objective 2:** Generate and measure impact through effective policies and reliable data for decision-making.
- **Objective 3:** Sustain commitment and resources through multi-stakeholder engagement and demonstrating the impact of rabies elimination activities.

Global Strategic Plan



Background: The global strategy to eliminate human deaths from dog-mediated rabies

Figure 1. Interventions to reach the Zero by 30 target.



WHO Rabies Modelling Consortium. Zero human deaths from dog-mediated rabies by 2030: perspectives from quantitative and mathematical modelling [version 2]. Gates Open Res 2020, 3:1564 (doi: [10.12688/gatesopenres.13074.2](https://doi.org/10.12688/gatesopenres.13074.2))

Food and Agriculture Organization of the United Nations (FAO), United Nations Environment Programme (UNEP), World Health Organization (WHO), World Organisation for Animal Health (WOAH-founded as OIE) and Pan-African Rabies Control Network (PARACON).
Gates Open Research



South African Strategy and Guidelines



National Strategy for the Elimination of Canine Mediated Human Rabies in South Africa (2019-2030)



June 2024 (1st revised edition)

Page 1 of 48

National Guidelines for the Prevention of Rabies in Humans, South Africa

National Department of Health
National Institute for Communicable Diseases
September 2021



In 2023, SA developed a **One Health Strategy** and updated the **One Health Joint Plan of Action** to replace the fragmented approach by the government in the current rabies control strategies.



South African Strategy and Guidelines



National Rabies Advisory Group of South Africa

**Leads the rabies prevention and control
strategy in South Africa.**

National and provincial Veterinary Services,

National and provincial Health Services (including Environmental Health),

National Institute for Communicable Diseases (NICD),

Agriculture Research Council-Onderstepoort Veterinary Research (ARC-OVR),

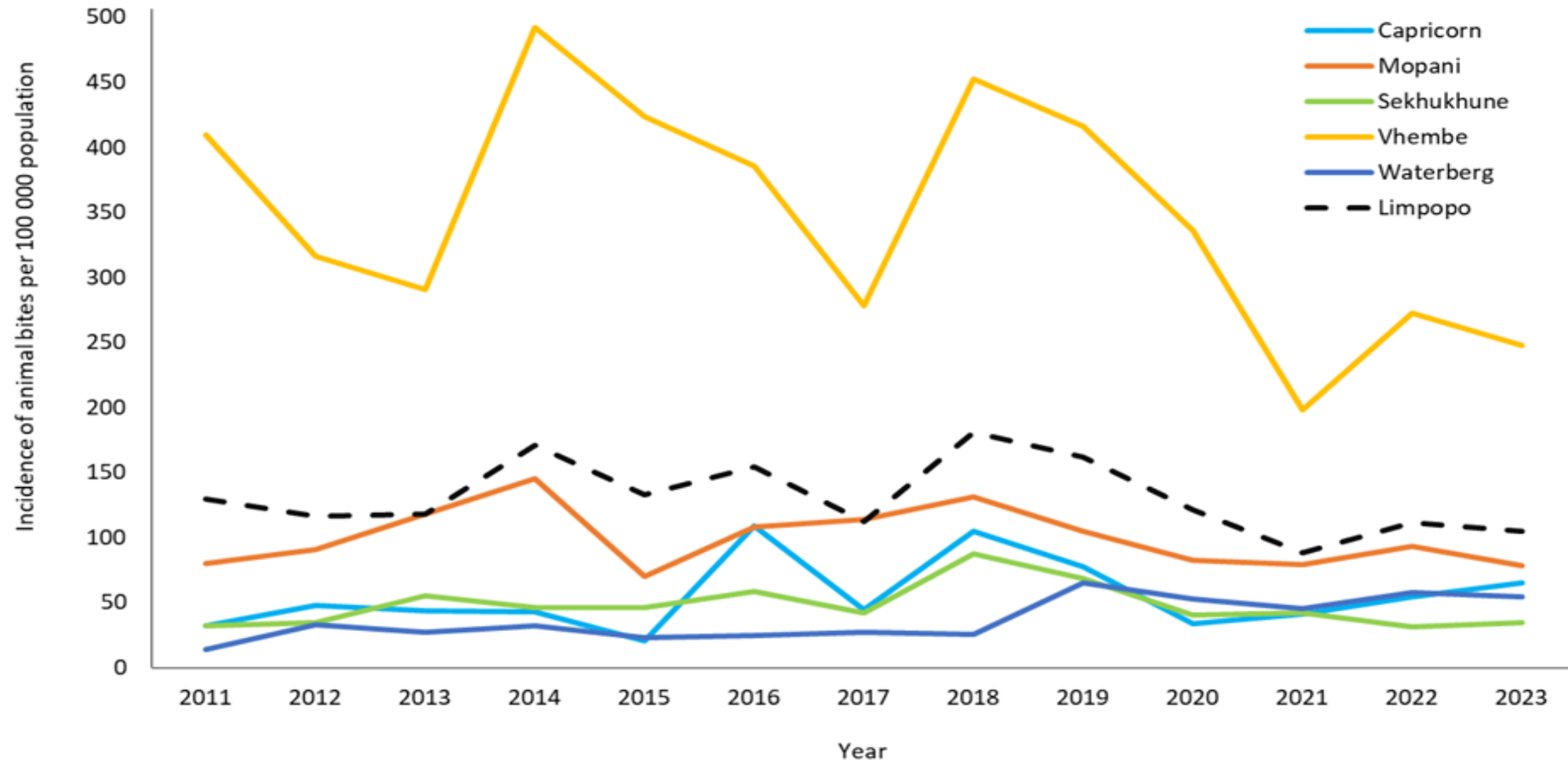
Global Alliance for Rabies Control (GARC),

Academia and ,

Other relevant stakeholders.

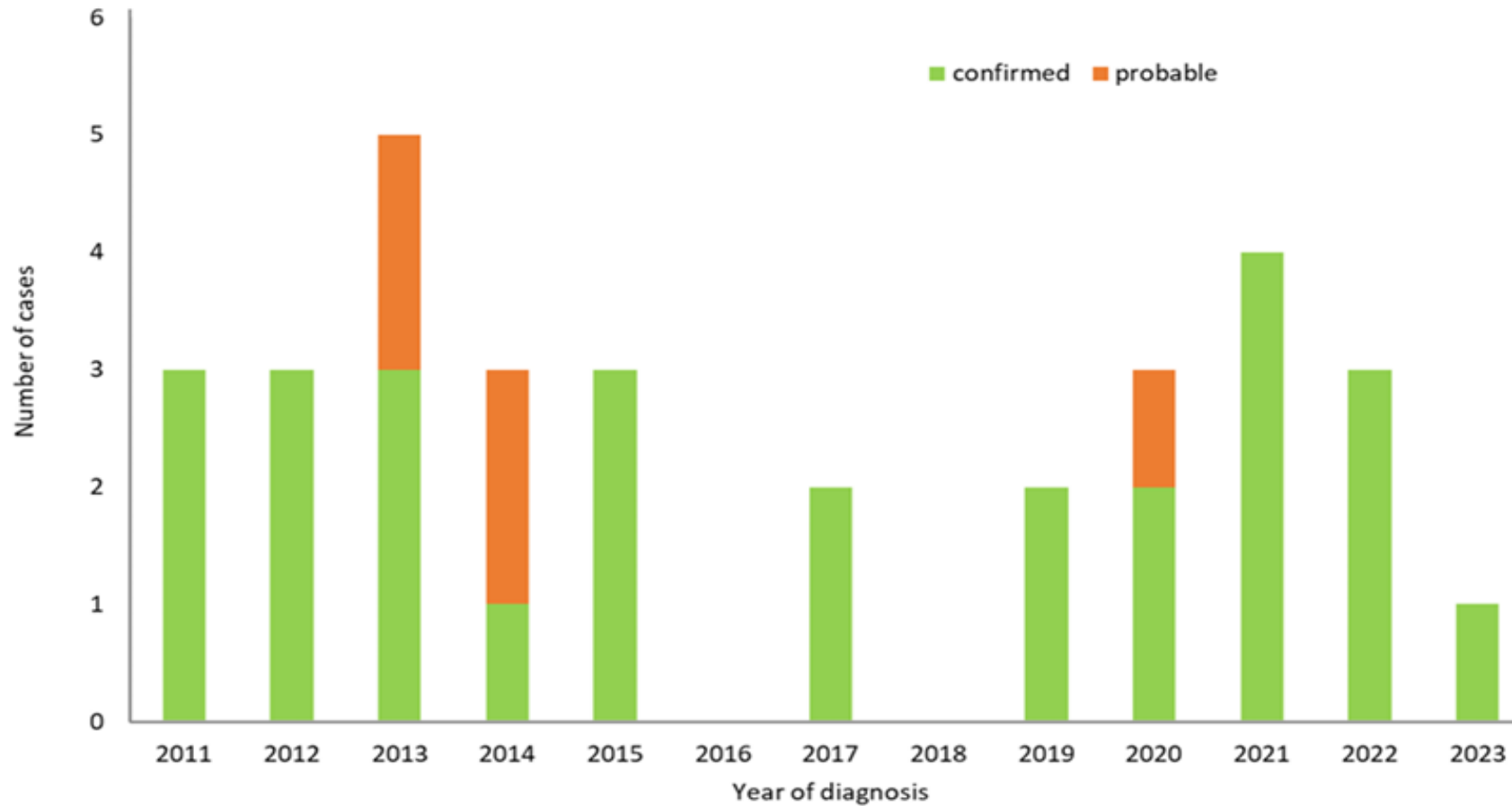


Epidemiological trends of animal bite in Limpopo, South Africa, 2011–2023





Epidemiological trends of human rabies cases in Limpopo, South Africa, 2011-2023





Characteristics of human rabies cases in Limpopo, South Africa, 2011–2023



Table 1. Demographic characteristics of human rabies cases, Limpopo, South Africa, 2011–2023, n=32.

Characteristics	Category	Number	Percentage (%)
Age category (years)	0–4	6	19
	5–9	11	34
	10–14	4	13
	15–19	2	6
	20+	9	28
Sex	Male	24	75
	Female	8	25
District of exposure	Capricorn	2	6
	Vhembe	24	75
	Mopani	6	19

- 32 human rabies deaths, 100% fatality rate, mostly children under 10 years.
- Vhembe District accounts for majority of animal bites and human cases.

Clinical characteristics of human rabies cases in Limpopo, South Africa, 2011–2023



Table 2. Clinical characteristics of human rabies cases, Limpopo, South Africa, 2011–2023, (n=32).

Characteristics	Category	Number	Percentage (%)
Animals involved in exposure	Dog	26	81
	Not specified	6	19
Wound category	2	3	9
	3	18	56
	Not specified	11	34
Received PEP	*Partial	8	25
	None	18	56
	Not specified	6	19

*Partial: The patient did not complete the post-exposure prophylaxis schedule.

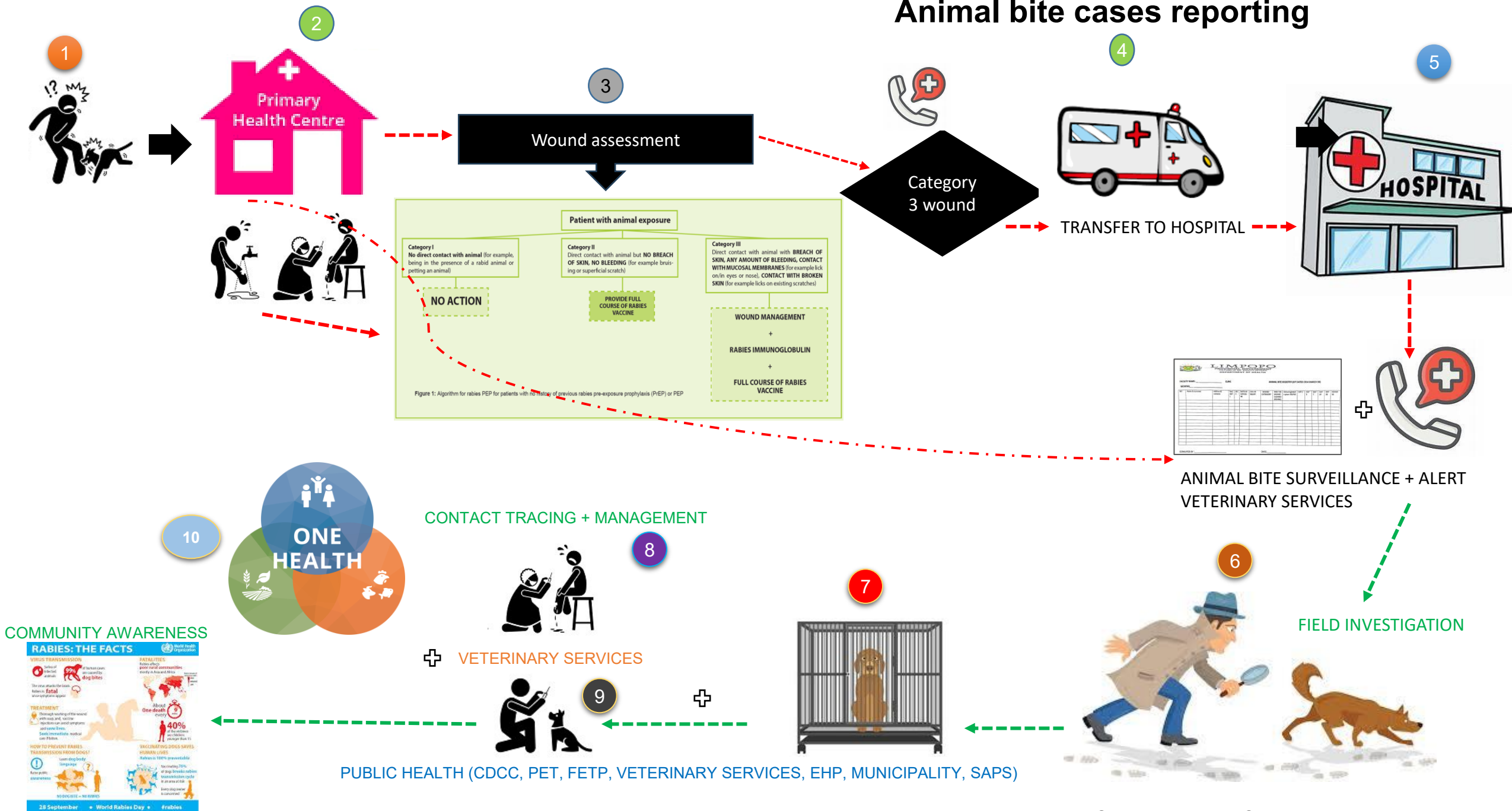


Findings from human rabies case investigations, Limpopo, South Africa, 2011–2023: A retrospective review



- Poor community knowledge
- Poor health-seeking behaviour
 - 56 % human rabies deaths did not present at a health facility
- Low rates of post-exposure prophylaxis completion following animal bites
 - 25% human rabies deaths did not complete PEP

Animal bite cases reporting



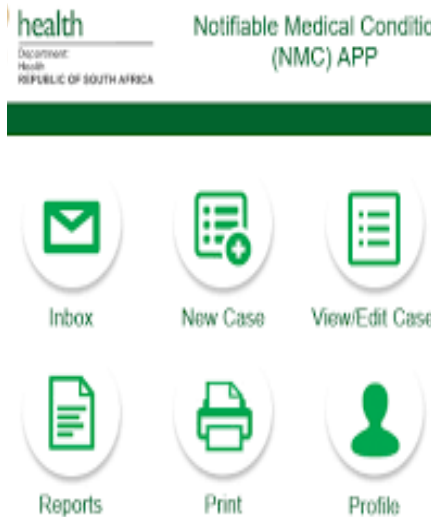
Animal Bite Surveillance And One Health Response Process.



Human Rabies Public Health Surveillance and Response



Suspect case notification



Activate case investigation and outbreak response

- Laboratory investigation
- Antemortem OR Postmortem specimen collection

Field investigation objectives

- Context of the human rabies case; details on animal exposure, exposure category, and healthcare aspects, including PEP provision.
- Contact tracing for potentially exposed persons and animals.
- Implementing control measures (One Health).



Public, Private & Community Partnership



Public Sector Roles

- **Government Departments:** Departments of Agriculture and Health (DoH) coordinate the national strategy.
- **DoH:** Animal bite and human rabies surveillance, and ensure availability of Rabies PEP
- **Provincial Veterinary Services:** Implement mass dog vaccination campaigns, especially in high-risk areas.
- **National Institute for Communicable Diseases (NICD):** Reference laboratory services and provision of technical and clinical management guidance

Private Sector Roles

- **Private Veterinarians:** Conduct routine pet vaccinations in private clinics.
- **Pharmaceutical Companies:** Supply essential vaccines for both animal and human use
- **Animal welfare organisations:** rescue, rehabilitation, veterinary care, education, and advocacy against animal cruelty



Public, Private & Community Partnership



NPO, NGO and Other Partner Roles

- **Global Alliance for Rabies Control (GARC):**
Supports local Rabies Centres of Excellence and offers digital tracking tools.
- **SAVA-CVC:** improve the One Health approach to rabies prevention and control in the EC and LP.
- **Four Paws South Africa:** Promotes community vaccination and responsible pet ownership through education.
- **Mahananda Animal Clinic:** Provides affordable vaccinations for underserved communities.
- **SPCA and Welfare Groups:** Conduct vaccination drives and manage stray animal populations
- **Animal Anticruelty League (AACL)** – Involved with all aspects of animal welfare:
- **Tales of Tails**– Educating the community on general animal welfare matters



Key Public health messages: Vaccination in animals

In terms of legislation (the Animal Diseases Act, 1984 (Act No 35 of 1984), owners of dogs and cats must have their pets vaccinated against rabies.

Dog & cat vaccination guidelines – South Africa (2019)

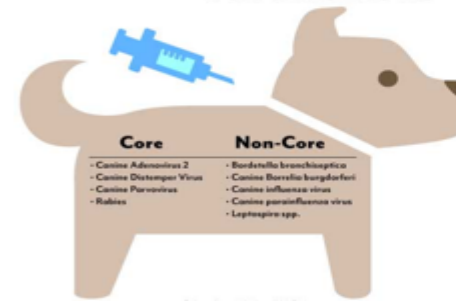
Kurt de Cramer

Antigen	Initial puppy vaccination	Initial adult vaccination	Revaccination
Rabies core	12 weeks 4-12 months	Single dose: 12 months after initial	Every 1-3 years. In <u>high risk</u> areas, yearly vaccinations are recommended; Rapid turnover of dog population

[DOG-AND-CAT-VACCINATION-GUIDELINES-FOR-SOUTH-AFRICA-2019-EVIDENCE.docx \(live.com\)](#)

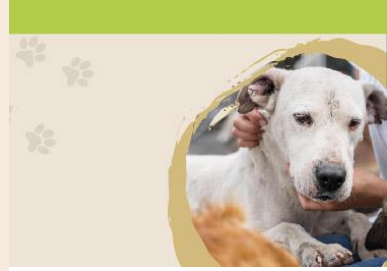
*Shwiff S A, Hatch B, anderson A, Nel L H, Leroux K, Stewart D, de Scally M., govender P., Rupprecht C E (2014). Towards canine rabies elimination in KwaZulu-Natal, south Africa: Assessment of health Economic Data. *Transboundary and Emerging Diseases*.
Wallace, R.M., Cliquet, F., Fehlner-Gardiner, C., Fooks, A.R., Sabeta, C.T., Setién, A.A., Tu, C., Vuta, V., Yakobson, B., Yang, D.K. and Brückner, G., 2020. Role of oral rabies vaccines in the elimination of dog-mediated human rabies deaths. *Emerging infectious diseases*, 26(12).
Yale, G., Lopes, M., Isloor, S., Head, J.R., Mazeri, S., Gamble, L., Dukpa, K., Gongal, G. and Gibson, A.D., 2022. Review of oral rabies vaccination of dogs and its application in India. *Viruses*, 14(1), p.155.

Canine Vaccinations



Local and mass campaigns
About 69-85 ZAR/dog
300 ZAR private/vaccination





- **You – Take action in your personal life:** vaccinate your dog, educate yourself about how to prevent rabies and Pre- and Post-Exposure Prophylaxis, or advocate for better policies.
- **Me – Lead by example:** inspire others, train professionals, or support rabies elimination efforts in your community.
- **Community – Work together:** organize vaccination campaigns, educate learners and their families, and push for stronger rabies elimination programs.



THANK YOU

Acknowledgement

1. Limpopo Department of Health
2. Centre for Emerging Zoonotic and Parasitic Diseases
3. Division of Public Health Surveillance and Response

