

# Rabies elimination in rural Kenya: vaccine shortages in health facilities, low awareness and knowledge on rabies and its management among healthcare workers

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# Introduction

- Rabies causes ~59,000 human deaths/year globally
- Most deaths in rural Africa & Asia; children  $\leq$  15 years
- Domestic dogs are source of human infection
- Rabies is endemic in Kenya; causes ~ 500 deaths/annually
- Implementation of rabies elimination strategy; elimination by 2030
- Step-wise progressive reduction; pilot counties



# Introduction

- Rabies elimination strategies; 70% mass dog vaccination coverage & Prompt admin of PEP; RIG for category 3 bites
- **WHO recommendation:** ID admin of PEP vs IM; dose-sparing, cost saving
- Undertaking risk assessments for PEP or RIG requirement
- Discontinue PEP: biting animal tests negative/healthy >10 days post bite date



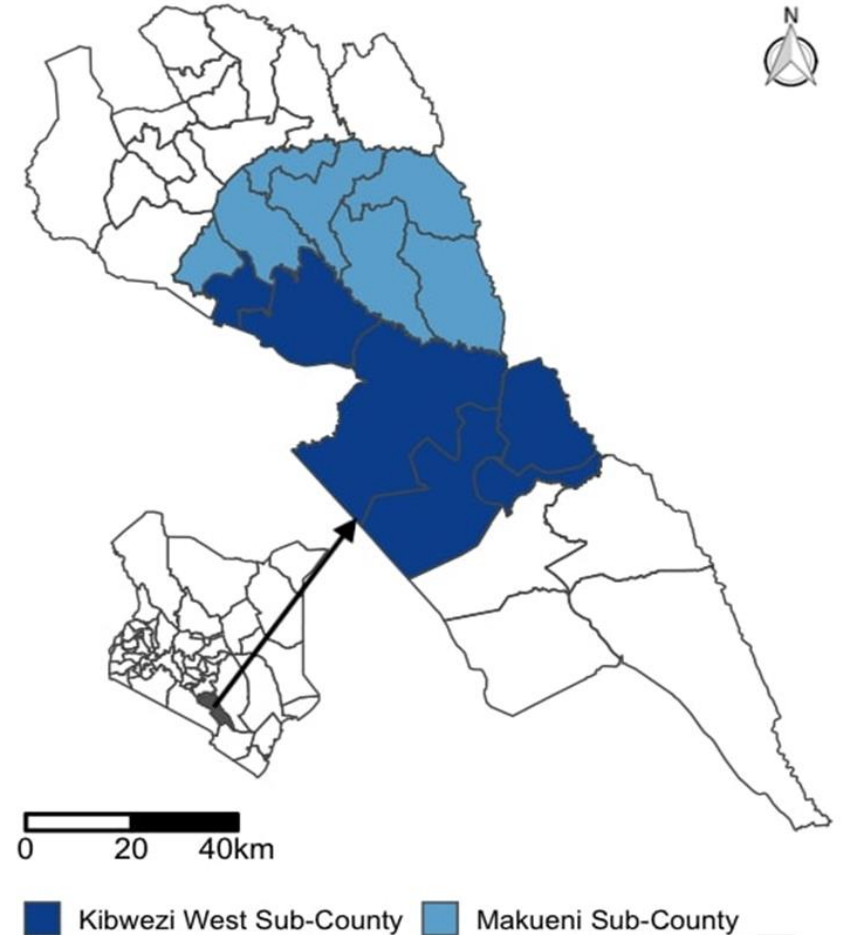
# Objective

- Assessment of the knowledge and awareness on rabies and its management among healthcare workers, and the availability of rabies biologicals in Makueni County



# Materials and Methods

- **Study area:** Makueni County
- **Health facilities:** 2 level 3 -> County & 2 subcounty hospital; 39 level 2 health units
- **Study participants:** Medical officers, nurses, clinical officers, pharmacists, pharmacy & laboratory technologists, and public health officers



# Materials and Methods

- **Data:** demographics, rabies awareness and management
- Rabies knowledge: bite categories, rabies risk assessment, PEP regimens, site & route of rabies admin, human rabies cases mgmt. , diagnostic methods (ddx acute encephalitis), sample collection, transportation, & laboratory confirmation.
- Availability of PEP, RIG & periods of stock-out (2018 – 2019)

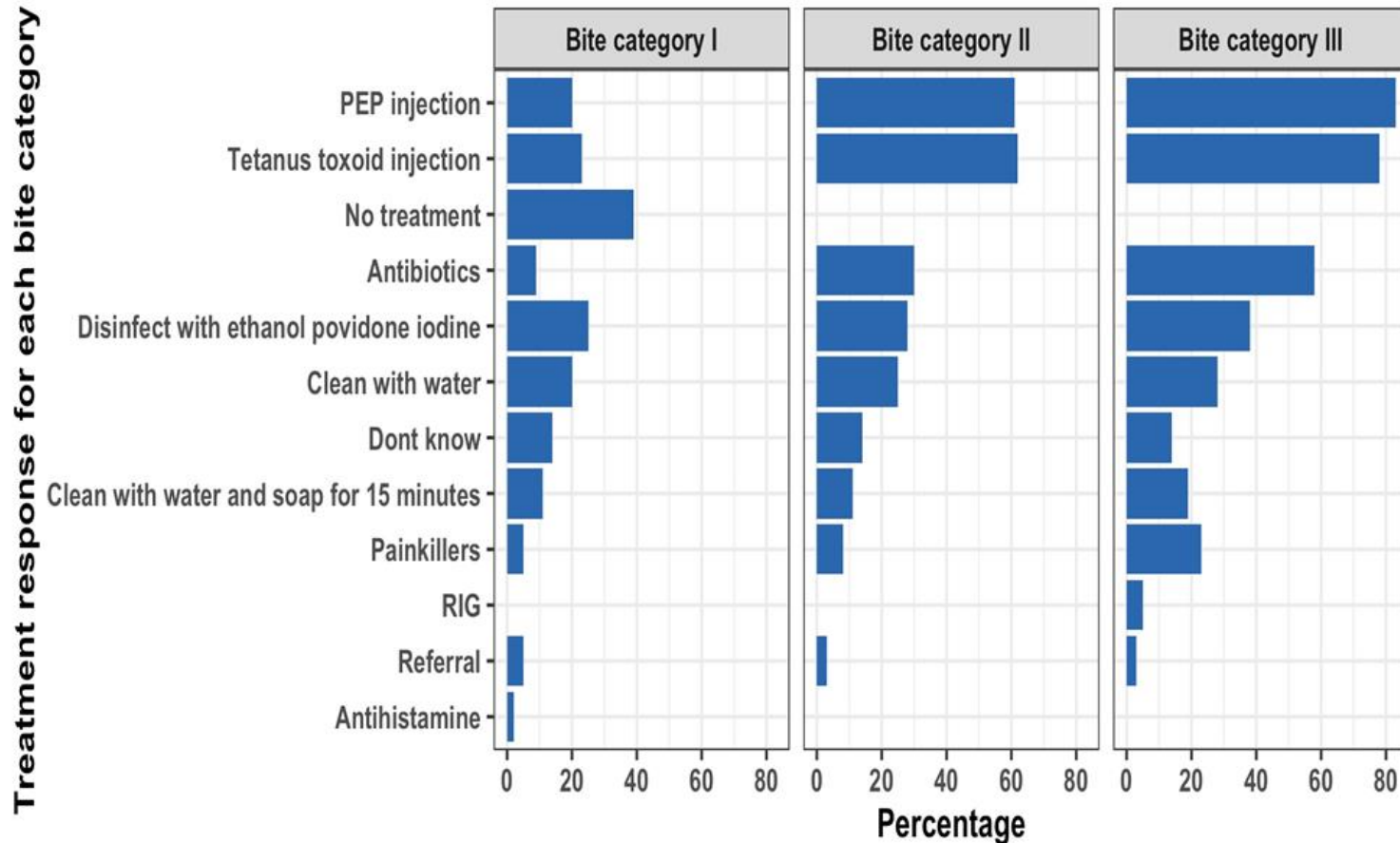


# Results

- **Demographics:** 73 healthcare workers; 42 health facilities; 69% female; ages 22-60 years; 62%  $\geq$  5 years work experience
- 56% encountered dog-bite patient; 64/73 had knowledge of bite Mgmt.
- **WHO bite wound categories;** 23% were aware; no association with age/years of experience
- **Bite wound management;** 12% lacked knowledge



# Results



- PEP admin category II and III; 61% and 84% respondents; 5% indicated RIG for category III
- Only 33% and 43% reported wound cleaning for bite category II and III respectively



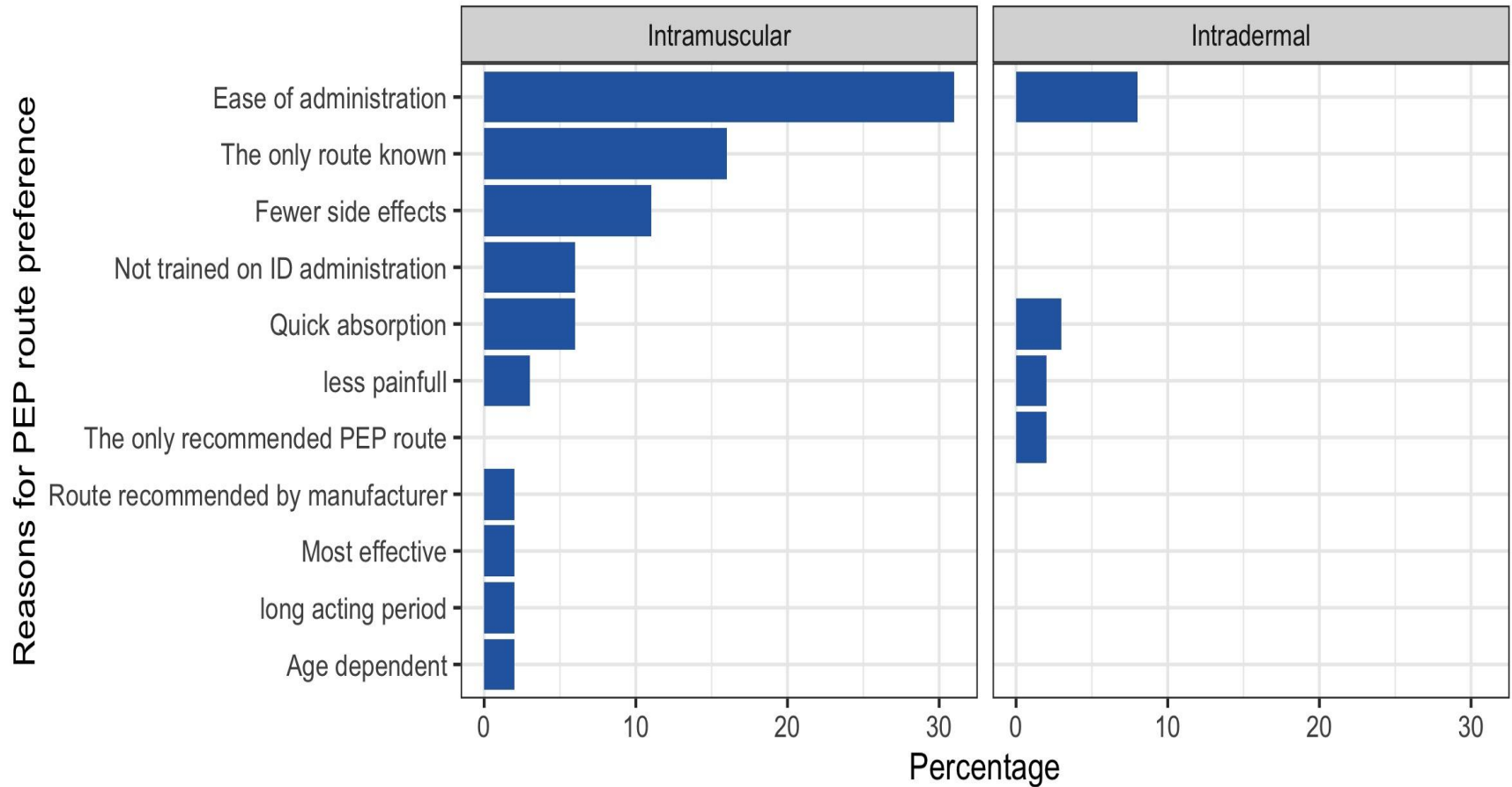


# Results

- PEP & RIG admin: 75% indicated 5 doses; 11% no knowledge
- Route of admin; 73% IM route, 3% ID only; 8% IM & ID; 12% no knowledge; 10% knowledge of differences doses and vol of doses in IM & ID
- Most preferred route IM (70%) vs ID (15%)
- Indication for PEP discontinuation: 51% had knowledge (biting animal without c/s after 14 days)
- RIG awareness by 18%; Only 6 aware of RIG indication (category 3 bites)



# Results



# Results

- **C/S of human rabies:** 2/3 mentioned abnormal vocalization, hypersalivation, aggressiveness, hydrophobia, and paralysis
- **DDx for human rabies;** 8% encountered acute encephalitis; only one considered rabies as ddx
- **Management:** 19% had no knowledge
- **Rabies confirmation:** 1/4 had no knowledge; 7% indicated sample testing at PM;
- 32% indicated antemortem samples (saliva, serum, CFS fluid, skin biopsies)
- **Transportation of samples:** 2/3 reported water-tight and leakproof container; 18% overnight frozen on dry ice; 11% storage at -20oC



# Results

- **Sample collection:** 2/3 reserved on handling suspected rabies samples;
- 73% recommended laboratory technicians for handling suspected rabies samples
- 49% not aware of rabies labs in Kenya
- **PEP & RIG availability:** None stocked RIG; County referral hospital and sub-county hospitals stocked PEP
- Only 2/11 health centers & 2/28 dispensaries/clinics stocked PEP-. Privately owned (socked out period 0-28 weeks)



# Conclusion

## Progress towards zero human death from rabies by 2030

- High level awareness & knowledge on rabies by health care workers
- Community engagement for effective delivery dog rabies vaccines and PEP
- Improve access to PEP; free point-of-care
- Rabies risk assessment; Integrated bite case management (IBCM) approaches
- Proper management of human rabies exposure cases
- Awareness of ID for PEP administration; cost saving, dose sparing



