

# Effect of phone text message reminders on compliance to human rabies post-exposure prophylaxis regimen following dog-bites in rural Kenya

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# Rabies Elimination surveillance strategy

**1. Mass dog vaccination**

**2. Timely provision of pre and post exposure anti-rabies vaccines**

**3. Enhanced rabies surveillance for both human and animal populations**

**4. Public health education and awareness on rabies, its prevention and control**



## Issues affecting PEP compliance

- PEP availability varies - counties implementing elimination activities have shorter stockouts.
- Prohibitive cost of PEP
- Forgotten dates
- Healing of wound

## Available PEP regimen

- 5-dose IM Essen regimen - 0,3,7,14 and 28.
- 0.1 ml 2-site ID – 0,3,7

## PEP compliance in previous study

- Low PEP completion rate of up to 40% and non-adherence



## Methodology

### Study area

- Makueni County – Makueni County referral hospital (MCRH)

### Study period

- October 2018 and March 2019

### Study design

- Single arm before-after field trial

### Recruitment of study participants

- Before arm (Pre-intervention arm) - October - December 2018.
- After arm (intervention arm) - January – March 2019.

## Introduction of intervention

- SMS reminder written- English/Kamba

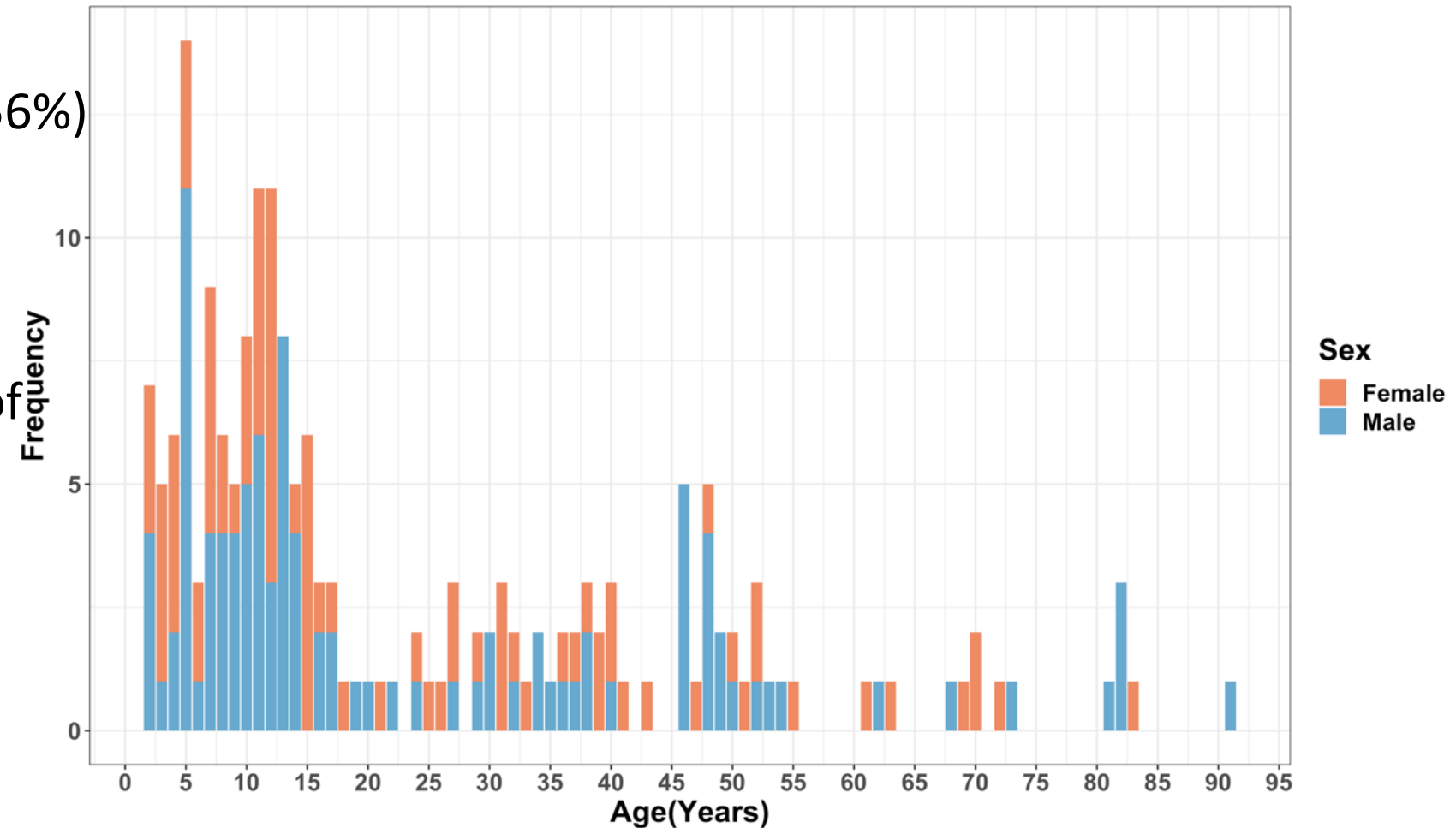
### Other factors affecting PEP completion and adherence.

- Ownership of health insurance cover
- Education level of bite patient/next of kin for children
- Dog ownership status
- Household head occupation and age
- Bite category
- Livestock ownership status



# Results

- Recruited 186 bite patient
  - Pre-intervention – 104 (56%)
  - Intervention – 82 (44%)
- Age below 15 years- 56%
- Beneficiaries of UHC - 89% of the bite patient did not purchase PEP.
- Mostly farmers, HH size 6 people
- Monthly income  $\leq$  100 USD – 66%



# Results

## Effect of SMS reminder on completion of PEP

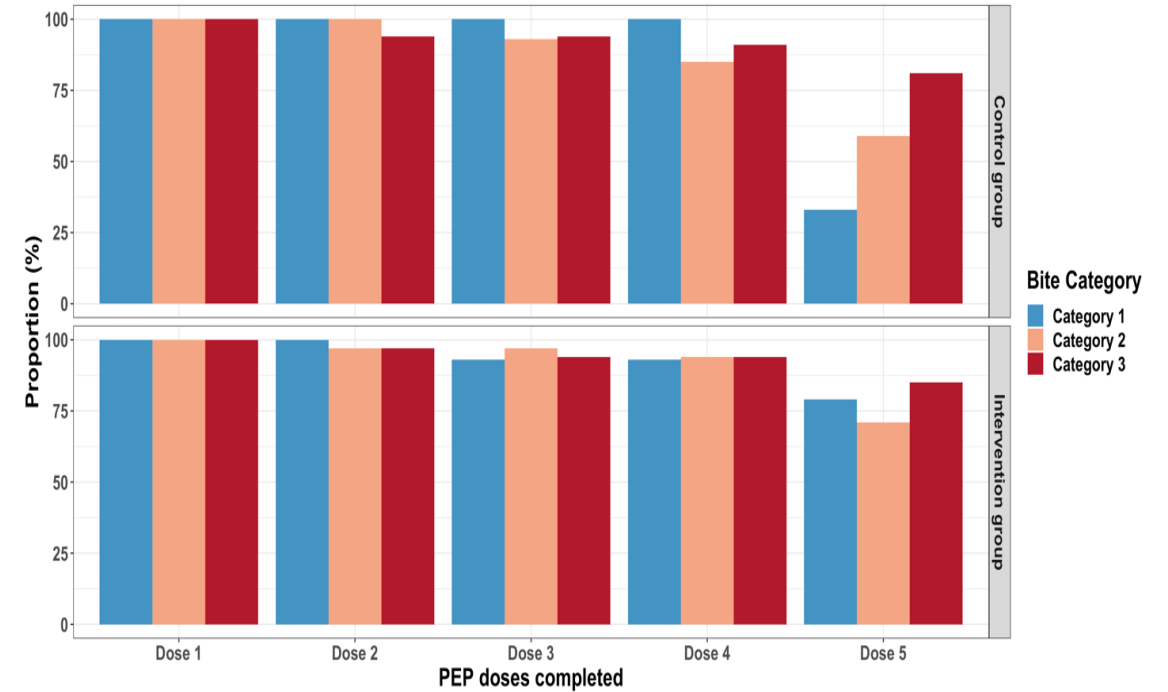
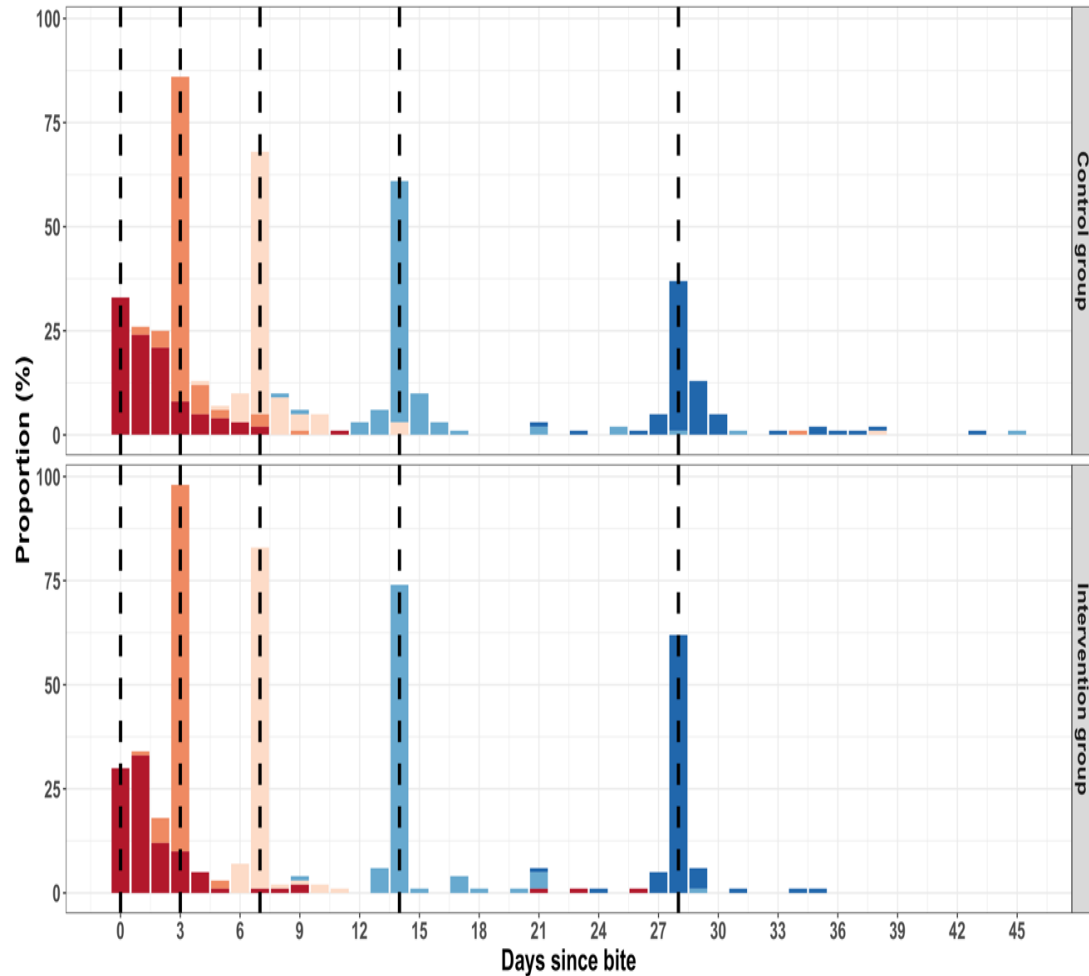
- SMS reminder 82 - 76 (93%) completed the PEP doses.
- Pre-intervention 104 – 81 (78%) completed the PEP doses
- SMS reminders were associated with completion of PEP – 3.3 times more likely to complete PEP (95% CI 1.28, 10.20).

## Effect of SMS reminder on PEP compliance

- Time to 1<sup>st</sup> dose of PEP
  - 32% received the first dose of PEP less than 24 hours after the bite.
- The average time to 1<sup>st</sup> dose of PEP 1.99 days with no statistical differences.
- Compliance of the 2<sup>nd</sup> - 4<sup>th</sup> dose of PEP was four times higher in the intervention group, as compared to the control group.



# Results



- Intervention group had better compliance on the scheduled doses 2 to 5 with a mean deviation of 0.18 days compared to 0.79 days for the pre-intervention group ( $p = 0.004$ )



# Results

## Other factors affecting PEP completion

- Male – 3 times more likely to complete PEP doses (CI 1.24-7.39).
- >USD 100 – 3.2 times more likely to seek for PEP on the recommended days (CI 1.645-6.174.)

## Reasons for non-compliance (n=29)

- Lack of funds (30%)
- Forgetfulness (23%)
- Unavailability of PEP in the facility (17%)
- Biting dog was still alive (17%)





## Conclusion

This study highlights the importance SMS in delivery of public health intervention as a complementary strategy for strengthening health systems.

## Recommendation

Integrate SMS as a reminder on the next dose of PEP to dog bite patient at risk of contracting rabies. This will work synergistically to control and eliminate rabies in endemic countries.

Increase awareness to bite patients on the need to complete and adhere to PEP regimen.



