Evaluation of Rabies Surveillance Data in Salima District in Malawi from June 2015 to May 2016

DR POYA NJOKA (Chief Epidemiologist) MoAIWD

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Introduction

- Annually rabies kills 60,000 people globally

- 40% of people bitten by suspect rabid animals are children under 15 years of age

- Asia and Africa have the highest risk of rabies accounting for over 95% of global human mortalities

Introduction cont'd

- In Mw districts conduct passive surveillance of dog bite cases
- Pet vac as the main control strategy, coverage is less than 40%
- Some resources channelled to PEP-could be better spent in dzz control in pets

Objectives

- Assess quality of rabies surveillance data (timeliness & completeness)
- Compare dog bites with post exposure prophylactic (PEP) treatment temporal trends
- Assess Salima District's performance in rabies surveillance

Methods

- A cross-sectional study

- Period and place: June 2015 to May 2016 in Salima, Mw

Calculation of timeliness & Completeness
- 7 EPAs reporting records reviewed at district

Methods cont'd

- **(i) Timeliness:**
  - Timely report = At least 80% of surveillance data sent to district by 10th of following month
  - Late report = 50 to 79.9% of data by 10th of following month
  - No report = Below 50% of data by 10th of following month

- **% Timeliness**=(timely reports) X 100/expected number of reports

Methods cont'd

- **(ii) Data completeness:** How many of the expected number of reports were submitted = All submitted reports X 100/number of expected reports

2. Comparing dog bite and PEP temporal trends:
- Line graphs were used to visualize & compare the trends

3. Assessing district performance in rabies surveillance
- Performance percentage achieved in each one of the 5 different aspects of surveillance namely (data collection, reporting, analysis & interpretation, action and evaluation) were calculated and bar graphs used to visualize the results

Results

1. Reporting timeliness & Completeness

- Timeliness in the 7 EPAs ranged from 17 to 92%, median 58.33
- Completeness ranges from 58 to 100%, median 100% (table 1)

Results Cont'd

TABLE 1: REPORTING TIMELINES AND COMPLETENESS FOR SALIMA EPAs FROM JUNE, 2015 TO MAY, 2016

SALIMA DISTRICT EPAs	2015							2016					% TIMELINES CUMMULATINE YTD	% COMPLETENESS CUMMULATINE YTD
	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY		
Chipoka	T	T	T	T	L	L	T	T	T	NR	T	T	75	91.67
Katelera	T	T	T	T	T	T	T	T	T	L	T	L	83.33	100
Tembwe	T	T	L	T	T	T	L	T	L	T	L	L	58.33	100
Makande	T	NR	NR	NR	T	T	T	T	T	T	L	L	58.33	75
Chingulune	T	T	T	T	T	T	T	T	T	T	T	L	91.67	100
Matenje	NR	L	L	L	T	T	NR	NR	NR	L	NR	L	16.67	58.33
Chiluwa	T	T	T	T	T	T	T	L	T	T	T	T	91.67	100
SALIMA MEAN													67.86	89.29

KEY	REPORTING TIMELINESS	COMPLETENESS OF REPORTING	%
	TIMELY REPORT	COMPLETE REPORTING	80% – 100 %
	LATE REPORT	PARTIALLY COMPLETE REPORTING	50% – 79.9%
	NO REPORT	INCOMPLETE REPORTING	0% – 49.9%

Results Cont'd

2. Comparing dog bites and PEP temporal trends

- Temporal variation of dog bites by month: mean=49 cases, SD=15.0 and PEP: mean=46 treatments, SD=16.2 (graph 1)
- Least dog bite cases in July, n=23, Lowest PEP in Jan, n=20
- Highest dog bite cases in Nov, n=88, highest PEP in Oct n=78

Results Cont'd

Graph 1: Dog Bite cases and Post Exposure Prophylactic Treatments in Salima District From June, 2015 to May, 2016
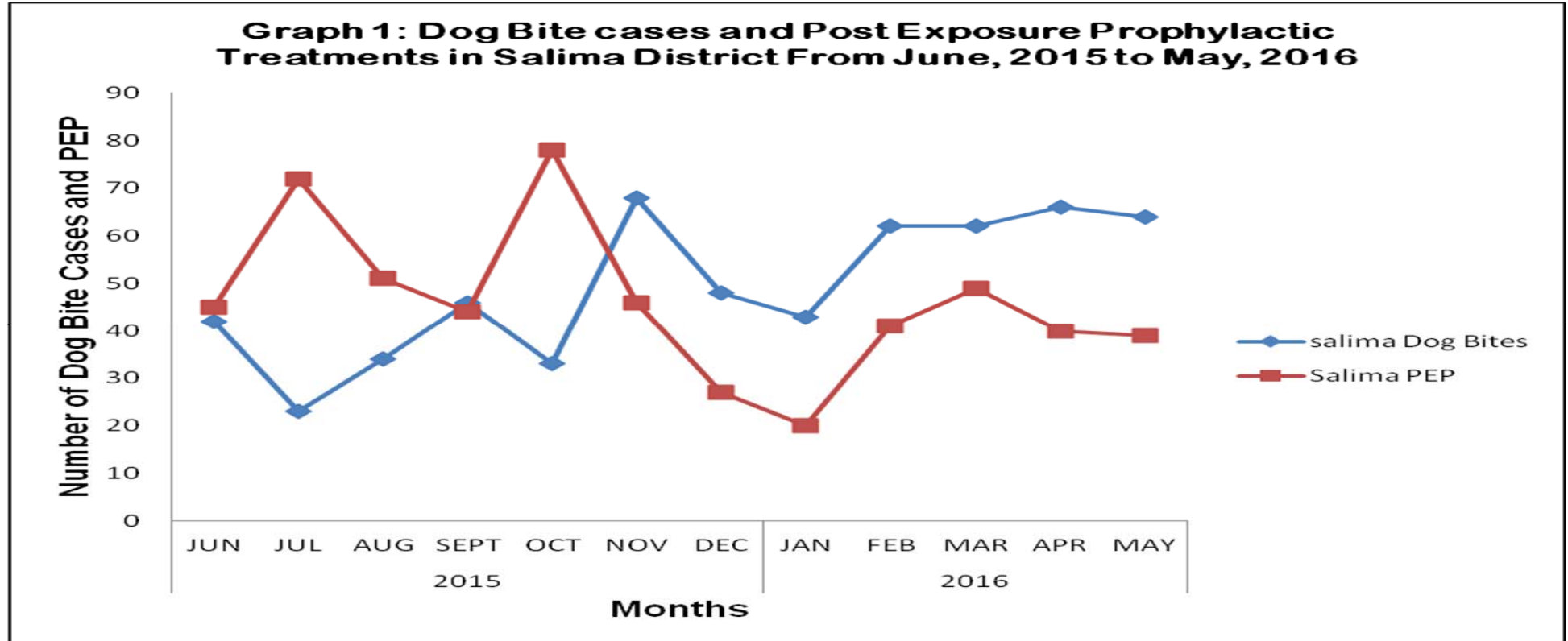
Results Cont'd

3. Assessing Salima District's Performance in Rabies Surveillance

- Performance high in reporting = 91.7%; action=83.3% and evaluation=66.7% (graph 2)
- Performance low in data collection=50%; data analysis & interpretation=20.0% (graph 2)

Results Cont'd

Graph 2: Salima District Performance In Five Aspects of Animal Disease Surveillance From June, 2015 to May, 2016
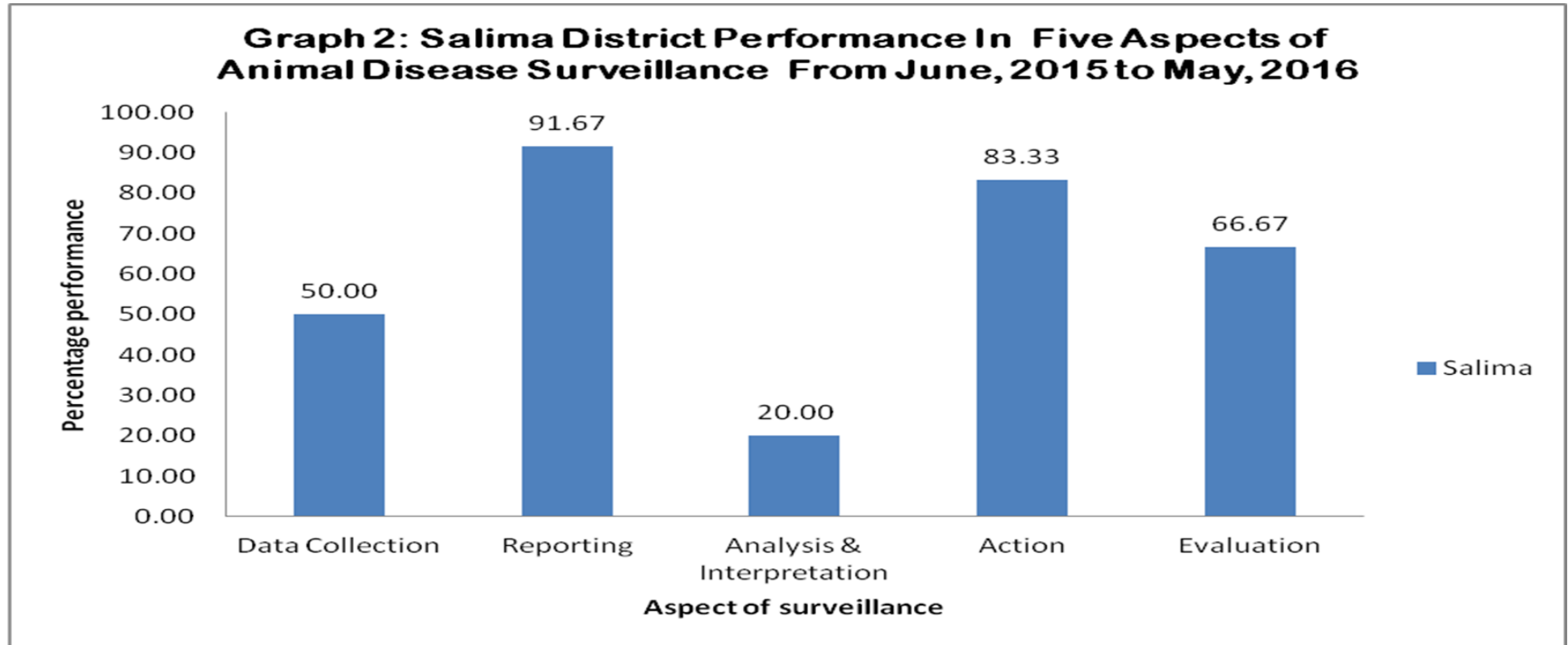
Discussion

1. **Timeliness & completeness was gd due to:**
   - flexibility in reporting format (soft vs hard copies; physical vs electronic submission)

2. Comparing dog bite cases & PEP trends. Variations could be due to:
   - Dog bites referred for PEP by sub district veterinary officers
   - Referral dog bite cases from neighboring districts
   - Selling of drugs by district hospital staff

3. District performance in rabies surveillance:
   - the poor performance in data collection, analysis and interpretation could be due to shortage of trained veterinary personnel

Conclusion

- Data reporting was late but largely complete
- Dog bite cases and PEP treatments showed temporal variation by month
- District performance in surveillance was good in most of the aspects of the surveillance cycle except in data collection, analysis & interpretation

Recommendation

- Refresher training on data collection, analysis, interpretation and staff supervision might improve overall rabies surveillance performance in Salima District