



Showcase of developing a national rabies strategy based on the SARE-PWARE: Liberia

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PARACON-WHO Meeting, Johannesburg, South Africa 12-14 September 2018

Current situation in Liberia

Rabies is one of the priority diseases listing in the Integrated Disease Surveillance and Response (IDSR) Guidelines and the Governance Manual of the One Health Platform

• Human rabies

- Increase number of dog bite cases reported weekly has claimed the attention of all sectors
- From Jan 2018: Over 950 cases of dog/animal bite reported
- PEP distributed to public hospitals with support from WHO

Immediately notifiable diseases and events (active surveillance)	Diseases or events of international concern reportable under IHR 2005	Routine reporting: other major diseases events or conditions of public health importance
Acute Bloody Diarrhea (Shigella) Acute Flaccid Paralysis (AFP) Cholera (Severe AWD) Human Rabies Lassa Fever Maternal Deaths Measles Meningitis1 Neonatal Deaths Neonatal Tetanus Viral Hemorrhagic Fevers (including Ebola Virus Disease) Yellow Fever Unexplained cluster of health events Unexplained cluster of deaths	Guinea Worm (Dracunculiasis) Human Influenza (due to a new subtype) Severe Acute Respiratory Syndrome (SARS) Smallpox Other Public Health Event of International Concern (PHEIC) Includes: infectious, zoonotic, food borne, chemical, radio nuclear, or due to <i>unknown</i> condition	Acute Watery Diarrhea Acute Viral Hepatitis Adverse Events Following Immunization (AEFI) Cataract Diabetes Diarrhea with dehydration in <5 years Encephalitis Epilepsy HIV/AIDS (new cases) Hypertension Hookworm Injuries (RTAs, domestic violence) Malaria Malnutrition < 5 years Mental Health Onchocerciasis Pertussis (Whooping cough) Severe Pneumonia <5 years Schistosomiasis Sexual Assault STIs Trachoma Trypanosomiasis
		Tuberculosis Typhoid

Current situation in Liberia

Animal rabies

- Central Vet Laboratory (CVL) now equipped and staff trained to conduct rabies diagnosis with support from FAO and Swiss TPH
- Animal rabies first diagnosed in Liberia by CVL and confirmed by Padova Lab in Italy in 2018

Despite these activities, Liberia is only now starting to work towards rabies control and elimination – **needed a way to plan for the way forward**







National Workshop for the Development of an Integrated National Action Plan for the Control of Rabies in Liberia using the One Health" Approach:

Development of a National Strategy for Rabies Prevention and Control

Premise of meeting

The National Rabies stakeholders workshop was attended by multisectors - Selection was based on multi-sectoral approach for **ONE HEALTH**



Premise of meeting

• Meeting focus:

- Stepwise Approach toward Rabies Elimination (SARE) assessment for Liberia
- Development of a Practical Workplan for the Liberia's pending activities
- Determination of Liberia's Global Dog Rabies Elimination Pathway (GDREP)

• Envisaged outcome: Short-term rabies action plan that can be funded and used in a short period of time.

SARE Assessment

- Over two days, the SARE assessment was completed by the participants
- The SARE tool was used as follows:
 - Measure progress
 - Acknowledged successful activities
 - identify gaps and areas to improve on
- Liberia's assessment conducted and scored
 1.5



SARE Assessment

ACTIVITY SUMMARY FROM SARE ASSESSMENT			
COMPONENTS	PENDING ACTIVITIES	ACCOMPLISHED ACTIVITIES	
Data collection and analysis	12	10	
Prevention and Control	18	8	
Laboratory diagnosis	8	5	
Dog population related issues	12	0	
Information, Education, Communication	17	2	
Cross-cutting issues	7	4	
Legislation	3	9	

SARE Assessment

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COMPONENTS	PENDING ACTIVITIES	ACCOMPLISHED ACTIVITIES	
Data collection and analysis	12	10	

Improving this needs an action plan

Laboratory diagnosis	8	5
Dog population related issues	12	0
Information, Education, Communication	17	2
Cross-cutting issues	7	4
Legislation	3	9

Practical workplan developed

- Over three days, a "Short-term rabies action plan" was developed using the SARE tool.
- Pending activities identified from the SARE were used to automatically develop a practical workplan for the country
- The workplan was updated based on inputs from the various stakeholders within the TWG



GDREP assessment

The GDREP tool was used to estimate the amount needed annually towards rabies elimination

emographic, epidemiological, and cost input variables fodel Variable	Input values	Default values	Summary of results from the analysis: dog vaccination can			
elect country Clear	Liberia	LBR	Resources needed (annual)			
			Total dog population	418 287		Dog vaccinations required
iscount rate (health outcomes & costs)	0%		Dogs vaccinated	837	35	50 -
			Dogs unvaccinated	417 451	-	
emographics			Number of additional vaccinated dogs required	291 965	8 30	- 00
uman population	4 600 000	4 503 438	Average cost per dog vaccinated	\$3,00	1)p	
ercent urban	50%	50%	Estimated years until elimination	13	25 25	
Irban population	2 300 000	2 238 254	Vaccinators needed during peak campaign years	244	20	20
ural population	2 300 000	2 265 184	Total costs to eliminate		1 530	
lumber of humans per dog, urban areas	21,4	21,2	Net present value (NPV) Phase I	\$270 297	å 15	50 -
lumber of humans per dog, rural areas	7,4	7,4	Net present value Phase II	\$1 745 827	10	
otal dog population	418 287	411 684	Net present value Phase III	\$6 148 825	10	
			NPV of dog rabies elimination (average)	\$8 164 950	5	50 -
			NPV of dog rabies elimination (lower-upper)	(\$5443300,03 - \$10886600,05)		
og vaccination			Additional costs to government	\$8 132 324		0 1 2 3 4 5 6 7 8 9 10 11 12
urrent dog rabies vaccination coverage (%)	0,2%	0,8%	Range (lower-upper)	(\$5421549,08 - \$10843098,16)		yea
oal: annual coverage of dog population (%)	70,0%	70,0%				
otal dogs currently vaccinated per year	837	3 293	Total annual cost of dog vaccination (dis	counted)		Net dog vaccination capacity
ogs to reach vaccination goal	291 965	284 885	1400 7	0	50	(max capacity - required number of vaccinated dogs)†
			Local March		6	
accination campaign logistics			8 1200 - T T T		8	0,0
accinators available	25	48	2 2 1000 T		e (1	0 1 2 3 4 5 6 7 8 9 10 11 12
ogs vaccinated per vaccinator per day (rate)	40	100			-50	2,0 -
ampaign vaccination days	30	25	800 II II II		-100	0,0 -
stimated dogs vaccinated during campaign	30 000	118 796	6		to	
dditional vaccinators needed to reach goal	219	68	te 600 -		Aug -150	0,0 -
accination rate needed to reach goal	390	243	Te 400 -		g -200	0.0
accinators to reach vaccination goal at peak‡	244	115	÷ i i i i i i i i i i i i i i i i i i i			
			200 -		-250	0,0 -
accination campaign costs per vaccinated dog*	-		。	Current dop vax	-300	
verage cost per dog vaccinated	Estimate v	alua	0 1 2 3 4 5 6 7 8	9 10 11 12 spending	-300	J,0 -

Workshop summary

• Over a period of one week, Liberia undertook:

- a comprehensive SARE assessment,
- cost estimation for rabies control and
- developed an action plan for the way forward



 Guidance during this process was provided by various subject matter experts from US-CDC, GARC, USAID, WHO, FAO and OIE

The "Next Steps"

- Validation of the National Action Plan
- Advocacy for support of the planned activities
- Conduct Dog population and KAP surveys
- Increase public awareness on rabies prevention and control
- Conduct Dog Vaccination annually
- Continue on-going surveillance
- Celebration of World Rabies Day 2018

Acknowledgement



- US-CDC
- USAID
- Food and Agriculture Organization (FAO)
- World Health Organization (WHO)
- Center for Disease Control and Prevention (CDC)
- United States Agency for International Development (USAID)
- PREDICT 2
- Partnership for Advancing Community-Based Services (PACS)
- Preparedness and Response