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Influencing Community-Based Point-of-Care for Visceral Leishmaniasis in East Pokot, Kenya

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Opportunity

Visceral and Cutaneous Leishmaniasis (VL and CL, respectively) are two of several Neglected Tropical Diseases (NTDs) in Kenya. Despite previous strategies to address VL and CL, several gaps in knowledge exist due to a lack of systematic clinical, epidemiological, behavioral and health systems studies. This project aims to address these gaps with the following objectives:

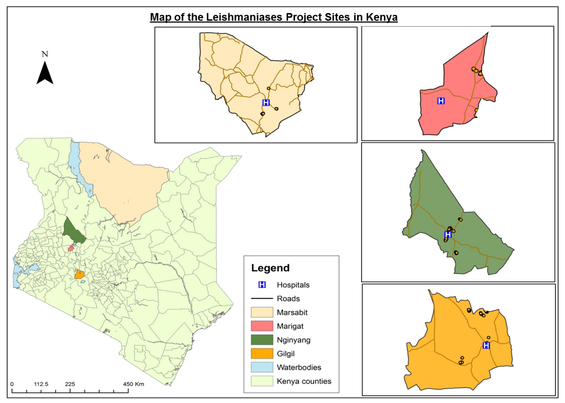
- **Determine prevalence and incidence of VL and CL** through population-based screening in the selected Counties
- **Determine and model behavioral and health system factors** necessary for effective leishmaniasis interventions
- **Identify vectors of leishmaniasis** and develop risk maps for transmission
- **Identify and genotype *Leishmania* parasites** responsible for VL and CL

In **2018**, data was collected in four villages in East Pokot and four villages in Nyandarua and Nakuru (**Map**). The rk39 immuno-chromatographic strip test was used for VL diagnosis. For CL diagnosis, samples were collected from skin lesions for microscopy, culture and DNA analysis. For both VL and CL, a questionnaire captured each patient's medical history and experience with leishmaniasis. GIS coordinates were also collected.

As **the first of its kind in Kenya**, this project will address gaps in knowledge to help shape future strategies for VL and CL control and elimination.

Project goal:

- Long-term: Control and ultimately eliminate VL in East Pokot, & serve as model of effective VL control
- Short-term: In 2019, community-based screening for VL & HIV, and health education



Approach

Active community-based screening

- 4 sites during May 29-30 and July 2018
- 2 lab technicians, 2 clinical officers, 2 public health officers, 17 community health volunteers (CHVs) and 2 project administrators
- rK39 kits used to detect VL, and other kits to detect HIV and malaria comorbidity

Public Health Education

- CHVs used teaching aid materials (posters, fliers, and banners in English, Swahili and Pokot)
- Conducted alongside screening and medical camps
- **Importance**:
  - Empower community to identify symptoms/seek treatment early
  - Promote behavior that reduces exposure to infected sand fly bite

Linkage to Care

- Transport to Kimalel Health Centre arranged by project

Data/Results

- 384 community members tested for VL using the rk39 rapid test kit
  - 9 of 384 patients rK39 positive
- 81 community members screened for CL using skin lesion samples
  - 13 of 81 patients positive for CL

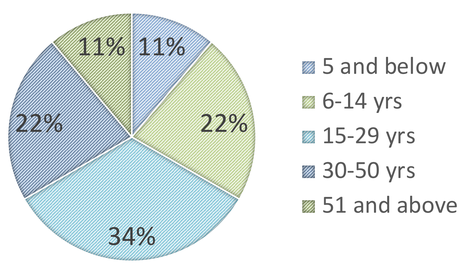
Figure 1. Summary of VL Screening in 4 Villages

Sub-location	Centre	Screened	Kala-azar Positive		Total Positive
			Male	Female	
Kapedo West	Chesitet Village	102	0	0	0
Chesakam	Chesakam village	94	1	4	5
Ribkwo	Lorwatum village	96	3	0	3
Chemolingot	Chemsik village	81	0	1	1
		371	**4**	**5**	**9**

Figure 2. Summary of CL Screening in 4 Villages

Sub-location	Centre	Screened	Kala-azar Positive		Total Positive
			Male	Female	
Gitare	Gitare village	25	3	3	6
Kasambara	Thugonoi	15	0	0	0
Kongasis	Kampi Turkana	26	2	1	3
Kiambogo	Njeru	16	3	1	4
		81	**8**	**5**	**13**

FIG 4. SUMMARY OF VL CASES BY AGE



- **Mobile clinics** treated 874 individuals with minor ailments.
- 3,425 health talk attendees and 400 bed nets distributed
- Data recorded in DHIS2 aligned-data-tracker for Ministry of Health and World Health Organization

Impact

The unique feature about our innovation is **the first multi-pronged study for visceral and cutaneous leishmaniasis in Kenya**.
This addresses the problem of lack of surveillance, clinical, epidemiological, behavioral, and health systems data.

NEXT STEP: improve access to VL/CL health services for prevention and management by
(1) Initiating treatment for VL closer to the population at Chemolingot Hospital
(2) Conducting systematic active screening every quarter for two years
(3) Setting up VL (TERMES) Center in East Pokot that engages NEU students (**images**)

TERMES
The Research on Multi-Disease and Educational Services Center

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