

Update of Oncho Program Status

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Presentation Outline

- Introduction
- Progress of Activities
- Achievements
- Challenges
- Way Forward

NTDs.....

- A group of about 17 infectious diseases which affect over a billion people world wide and most of whom live in extreme poverty
- Severely debilitating and disabling
- Endemic in poor communities
- Promotes poverty and intense stigma
- Concentrate in remote rural areas, urban slums or conflict zones

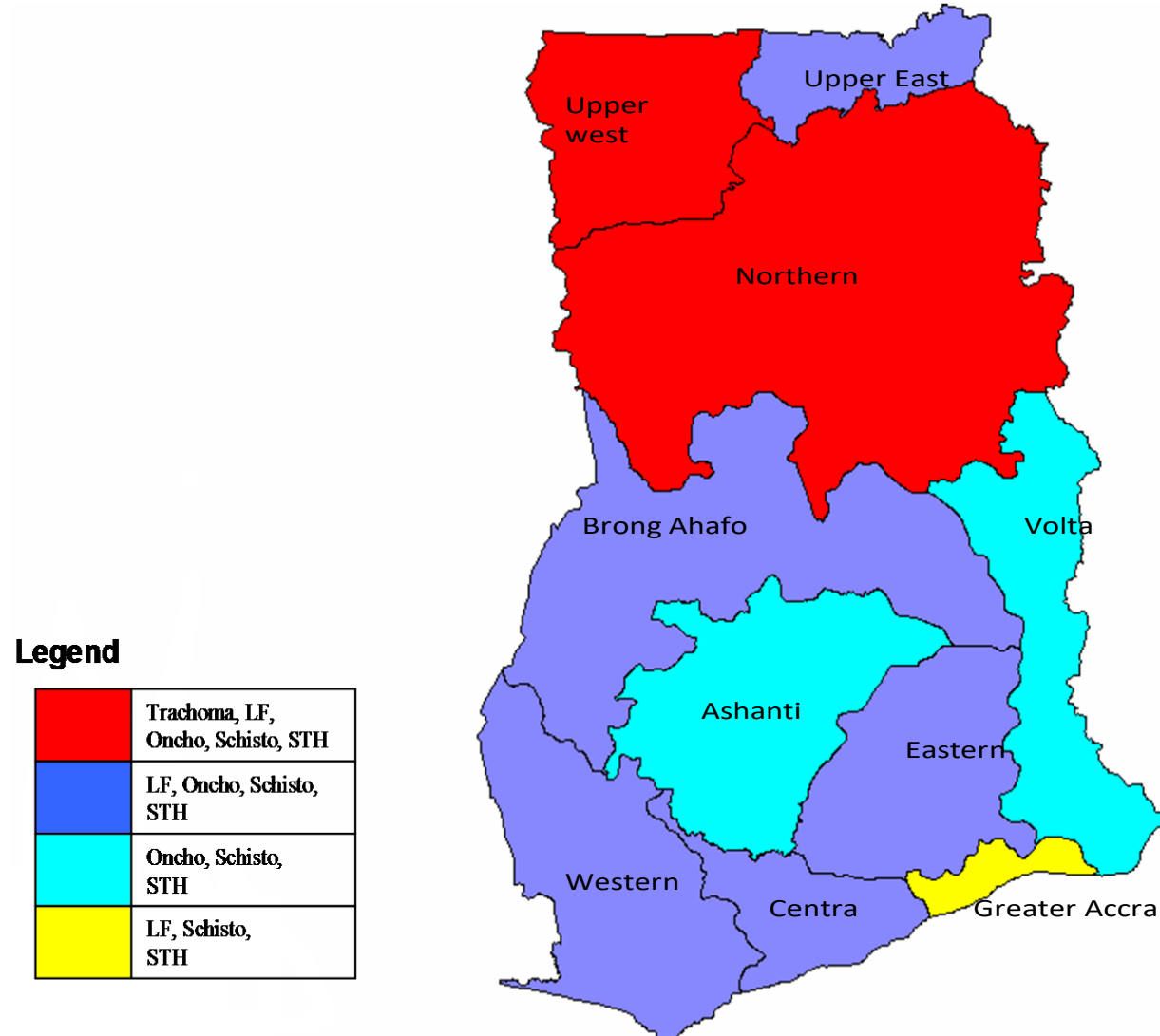
Neglected Tropical Disease (NTDs)

- Lymphatic Filariasis
- Onchocerciasis
- Schistosomiasis
- Soil Transmitted Helminthes
- Trachoma
- Buruli ulcer
- Dracunculiasis
- Leprosy
- Rabies
- Human African Trypanosomiasis
- Leishmaniasis
- Yaws
- Cysticercosis
- Echinococcosis
- Dengue
- Chaga's disease
- Foodborne trematode infections

PCT NTDs Target in Ghana

- Ghana is endemic for all 5 NTDs which employ MDA for their control and elimination
 - LF is endemic in 98 out of 216 districts (endemic pop about 12M)
 - Onchocerciasis is endemic in 9 out of 10 regions (85 districts targeted)
 - Trachoma is endemic in 2 regions - 37 districts
 - SCH is mapped and endemic in all districts and regions
 - STH is endemic in all districts (*strategy is to deworm all SAC annually*)

The Ghana NTD Map



Strategies

- Mass Drug Administration
- Morbidity Control and Management
- Health Education



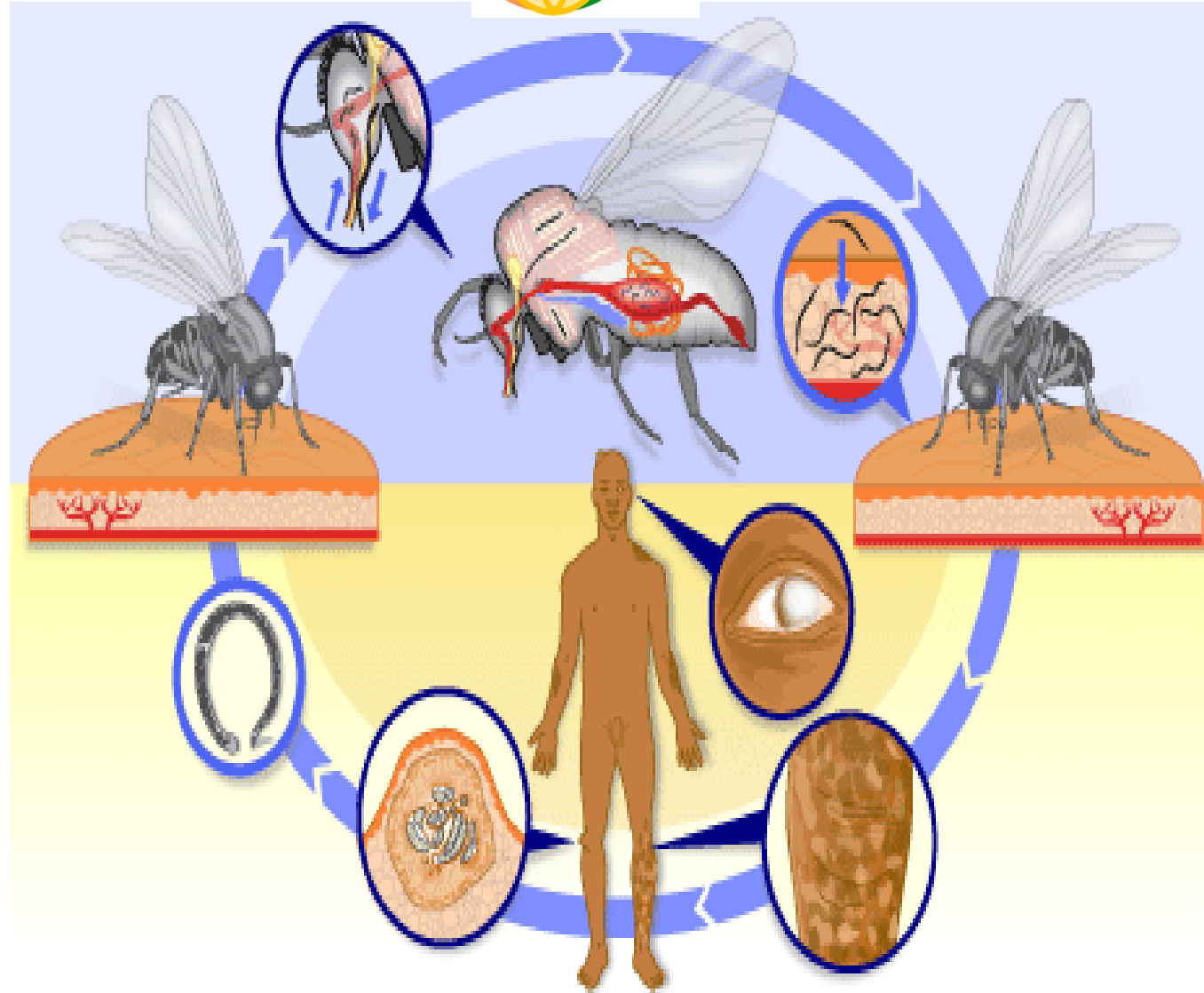
Onchocerciasis

- Onchocerciasis also known as "River Blindness"
- Caused by filarial worm called Onchocerca volvulus
- Endemic in South America, Africa and Asia
- 2 types exist in Ghana
 - Savannah
 - Forest



Transmission Cycle

- Human infection begins with deposition of the infective larvae in the skin by the bite of an infected black fly (*simulium damnosum*)
- Larvae develops into adult worm which are found in the subcutaneous nodules
- Gravid adult female worm releases microfilariae (mf)
- Mf migrate out of the nodules through the tissues and concentrate in the dermis





Transmission of Oncho

- When female fly ingests mf from the host's skin and transmits to others these develop into infective larvae
- Life span of the adult worms is up to 15 yrs (av. 9 yrs)
- Blackfly breeds along fast flowing rivers and streams
- Biting and disease transmission is restricted to these locations



Disease presentation

- The most common symptom is itching, which is caused by the body's reaction to microfilariae and the following clinical signs:
 - Skin disorders
 - Nodules formation- often found over the bony
 - Onchocercal dermatitis-small papules
 - 'Lizard skin'-areas of roughening
 - 'Leopard skin'-areas of depigmentation (esp. lower limbs)
 - Ocular lesions - which may lead to blindness

Nodules



The Onchocerciasis Disease

**These microscopic
worms cause**

***unbearable itching**

***disfiguring skin disease**

***blindness**



APOC/Impact/Team3/Caemroom







Snapshot of MDA/Oncho History

- MDA started in 1998 for all endemic districts – under OCP
- As a control program, MDA was done only at the community level
- 2002 APOC was formed, MDA cont at the community level
- Loss of data so APOC org REMO in 2009
- 2015 ESPEN was formed, change from control to Elimination
- 2016 GOEC was formed
- 2017- Oncho Impact Assessment was done
- 2018 – MDA implementation unit was changed from community to sub district level

Change in Oncho Prevalence

Type of endemicity	Number of districts being treated 2009-REMO	Number of districts from 2013 – 2015 with epi results
Hyper	15	0
Meso	29	2
Hypo	41	83

Activities – Oncho Impact Assessment-2017

Study Area

- 154 districts
 - 85 endemic districts
 - *15 hyper endemic*
 - *29 meso endemic*
 - *41 hypo endemic*
 - 50 hypo endemic districts
 - 19 additional districts with reported endemicity based on epid surveys, blackfly nuisance and stopped LF treatment

Criteria for sites selected

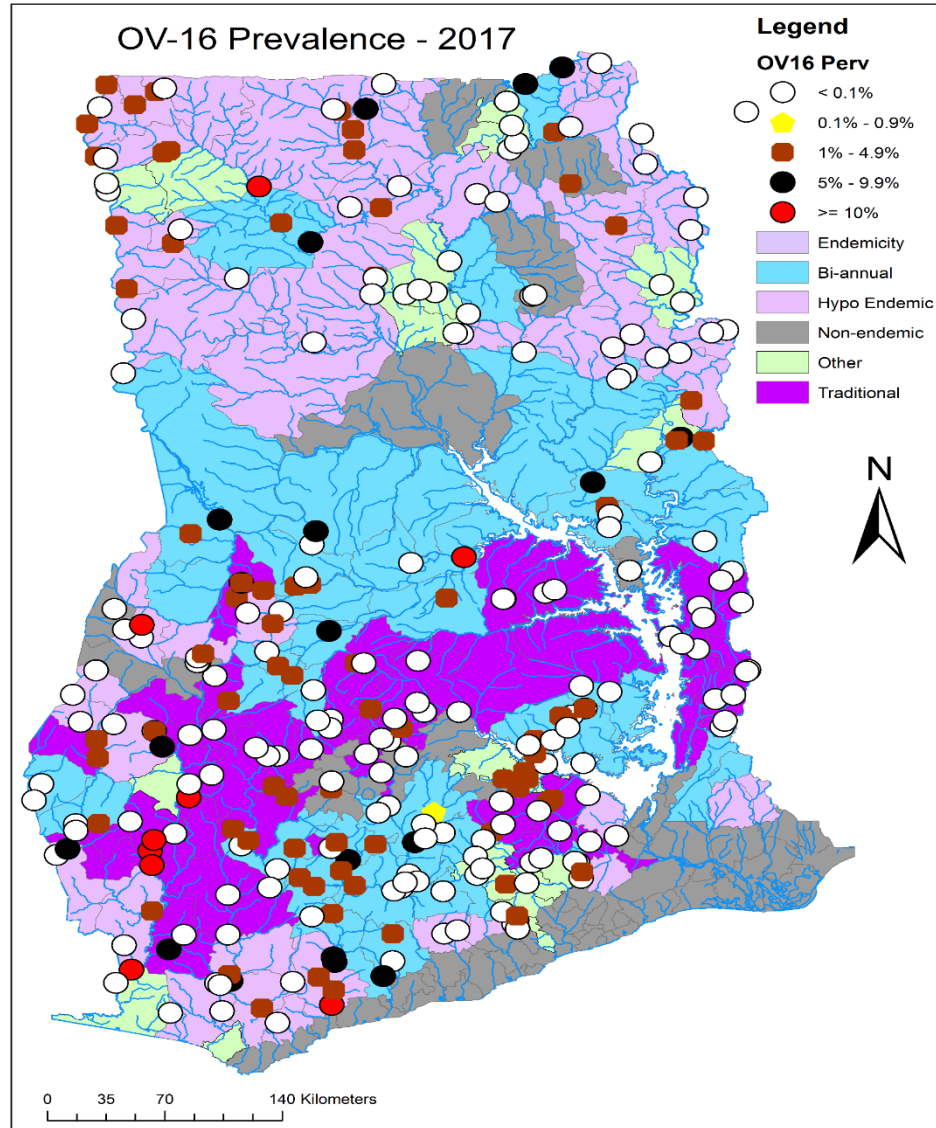
- 312 sites selected
- 2 sites per districts; in a few cases 2 sites for 3 districts based on location of breeding site, river basin and district re-demarcation
- Communities closest to fly breeding site/river basin
- Communities within 5km of fly breeding site/river basin
- Large (pop > 500) urbanized communities excluded
- Smaller (pop < 100) communities will be paired with adjacent community as a site

Activities – Oncho Impact Assessment

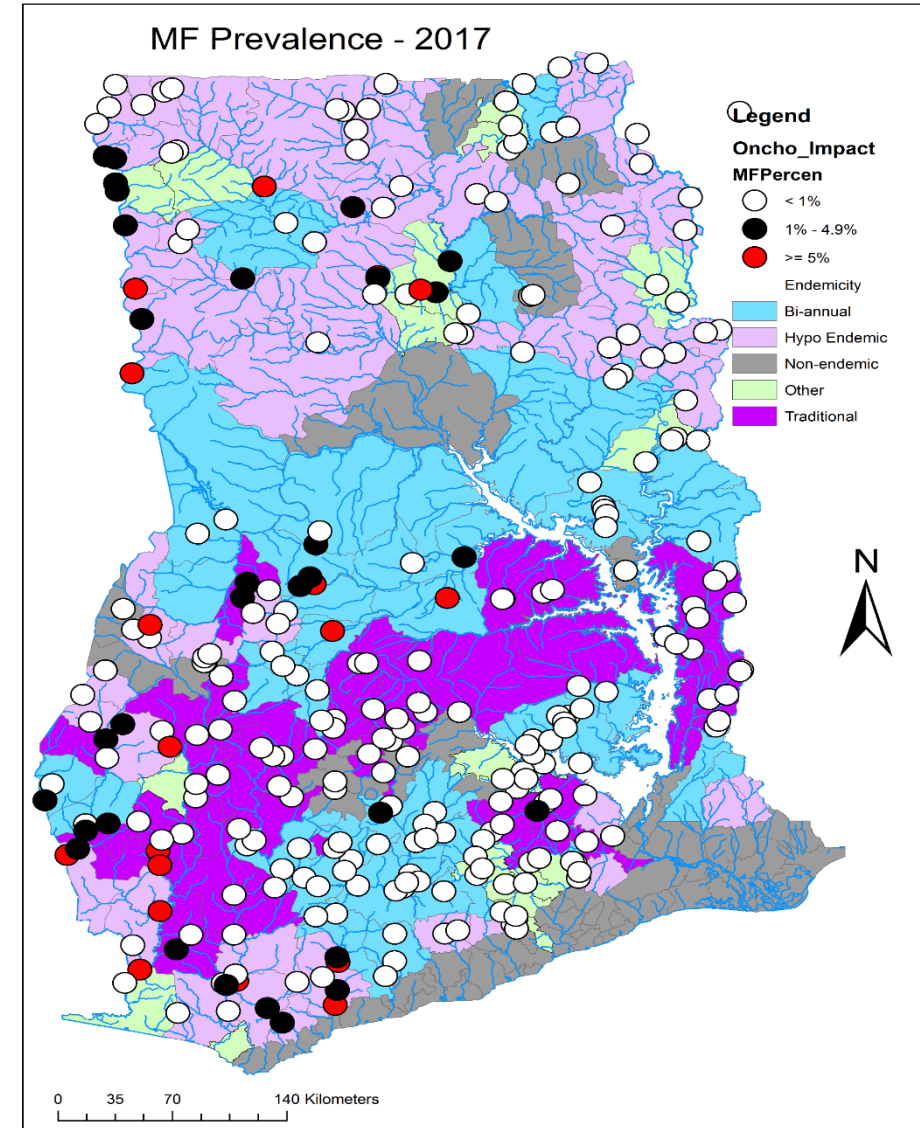
Survey Tools and Samples

- Tools – Skin snip test, Ov16 rapid test, Ov16 ELISA
 - Skin snip – up to 300 samples per site (adults \geq 20yrs)
 - Ov16 rapid test – all children $<$ 10yrs for each site
 - Ov16 ELISA for 10% of children $<$ 10yrs as quality control and compare sensitivity and specificity of Ov16 rapid test
- Entomology
 - Blackfly breeding sites survey
 - Blackfly collection for vector species identification and transmission assessment

Ov16 Prevalence by endemicity



MF Prevalence by endemicity



Oncho Entomology

Total Sites Visited	Sites where eggs, Larvae, Nymph were collected	Preliminary Results	Remarks
267	37	11 sites (S. damnosum) 26 sites (other species)	Most sites on the major rivers were flooded and some inaccessible.

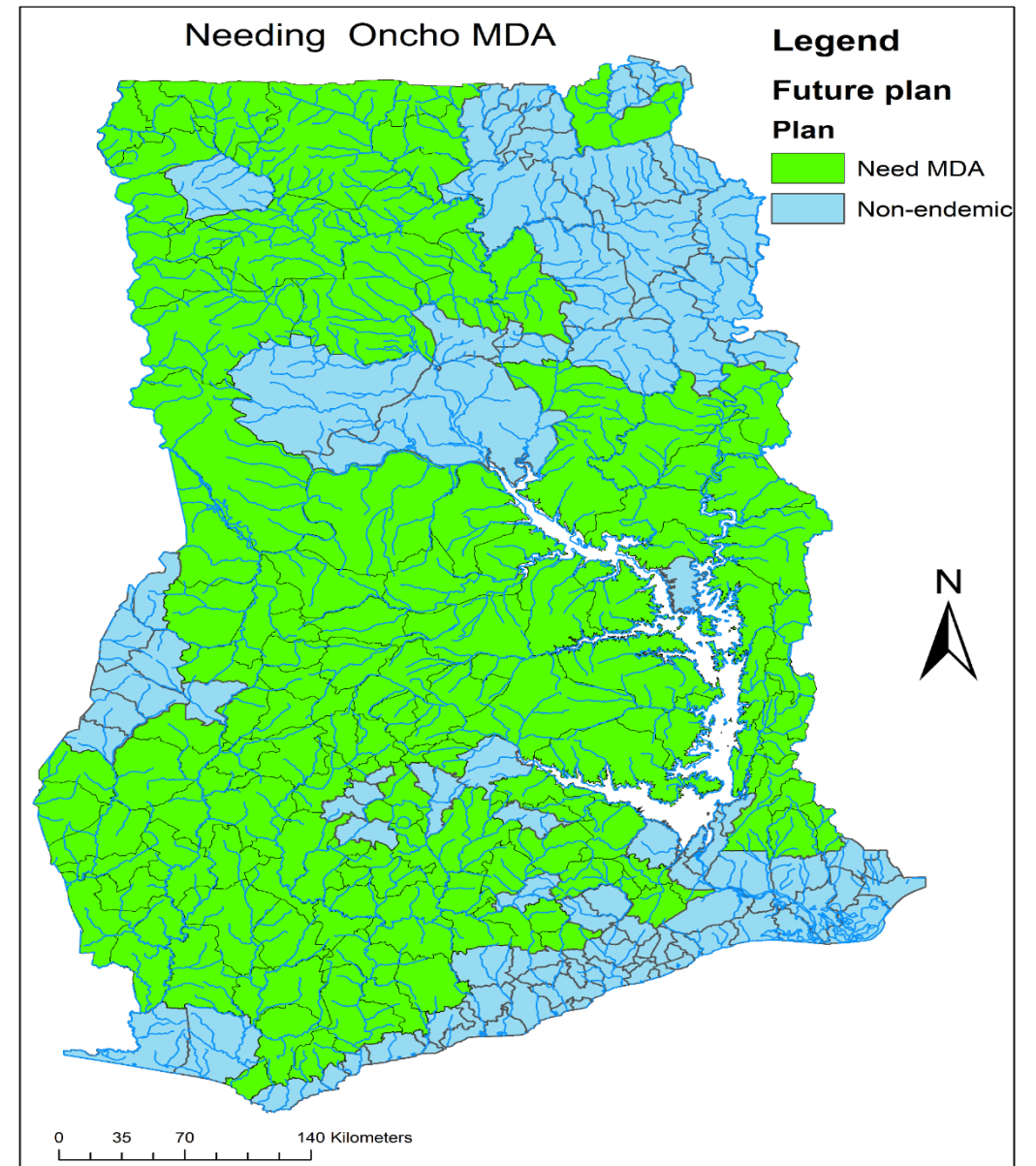
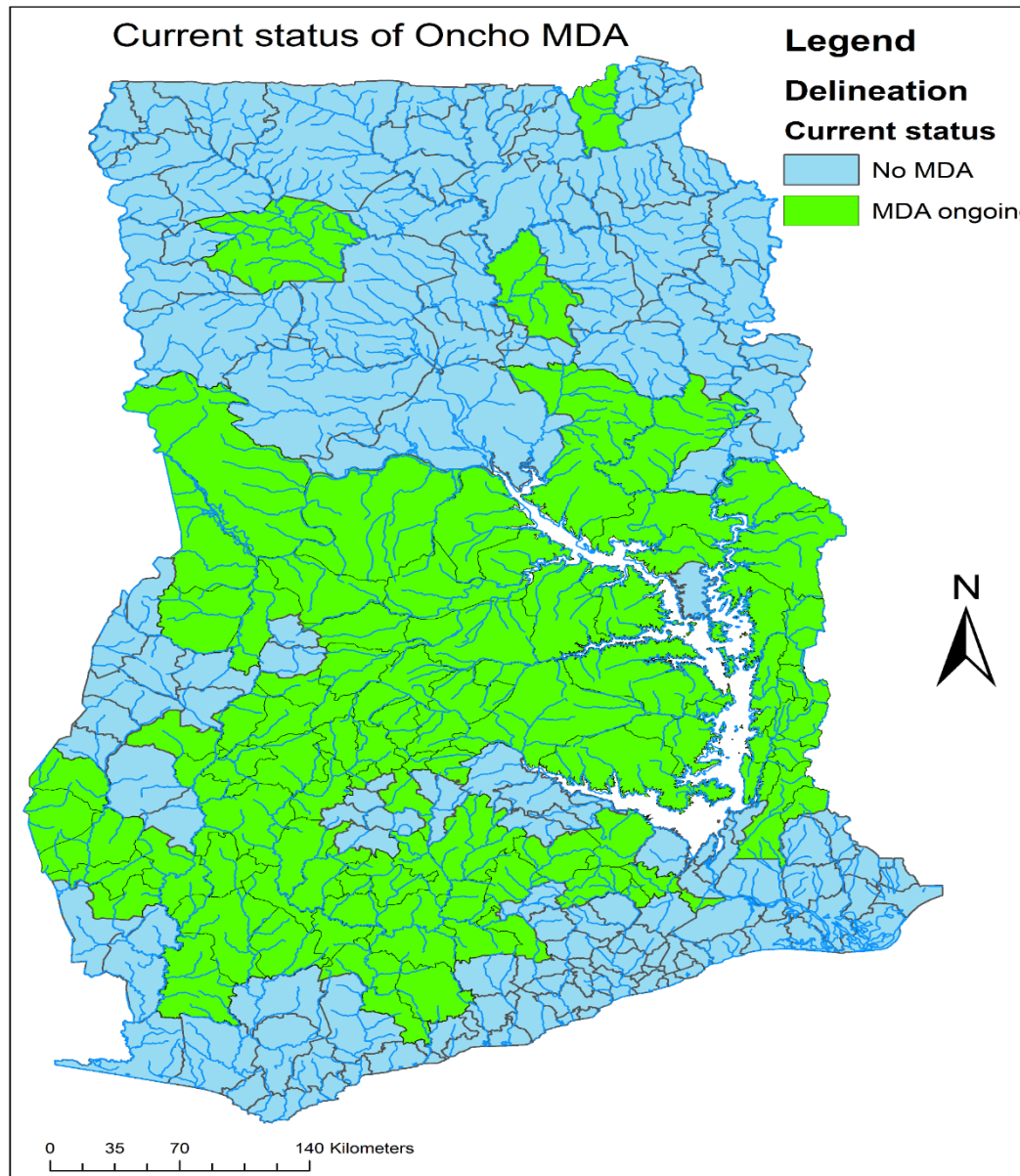
Salient outcomes of GOEC Meeting

- 120 oncho districts
- 82 biannual oncho districts
- Programme to conduct the pilot OEM survey

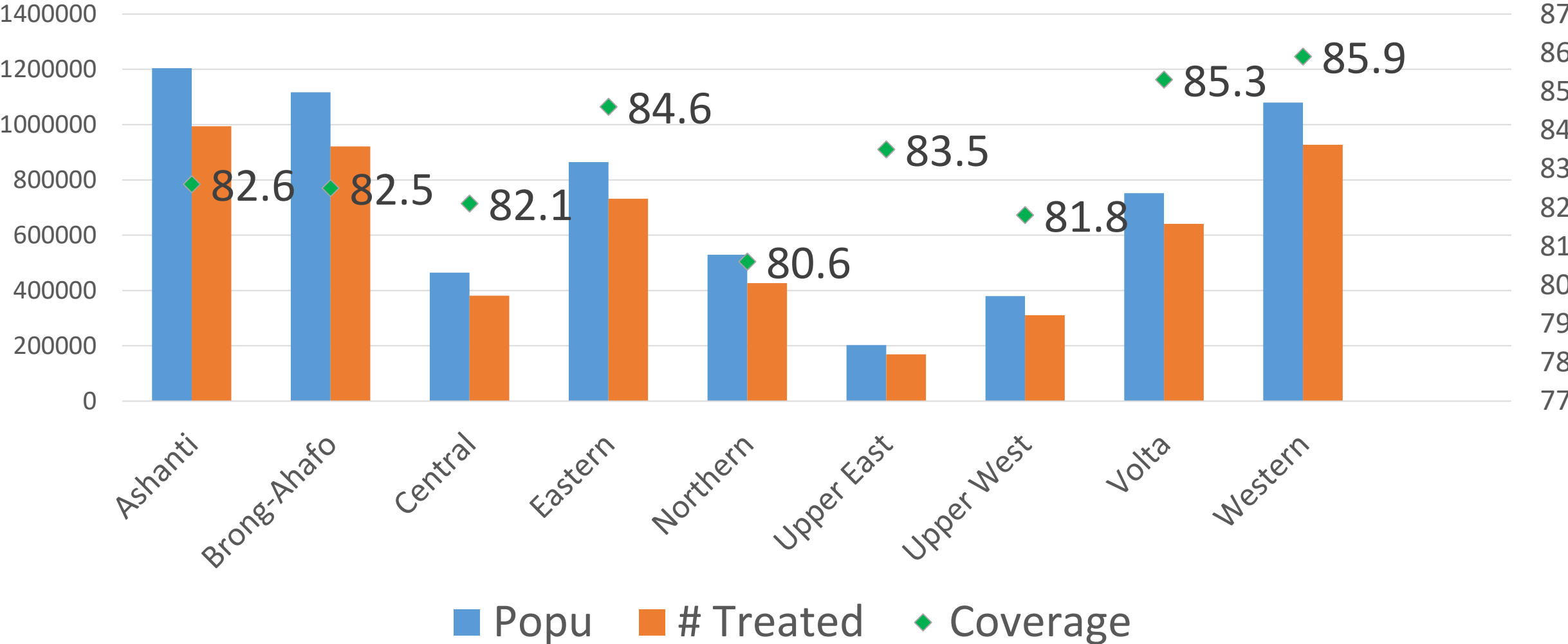
Delineation exercise

- Using the 20km flight rate, a delineation exercise was conducted in consultation with the districts
- A follow up - CDD training was done in districts to facilitate MDA

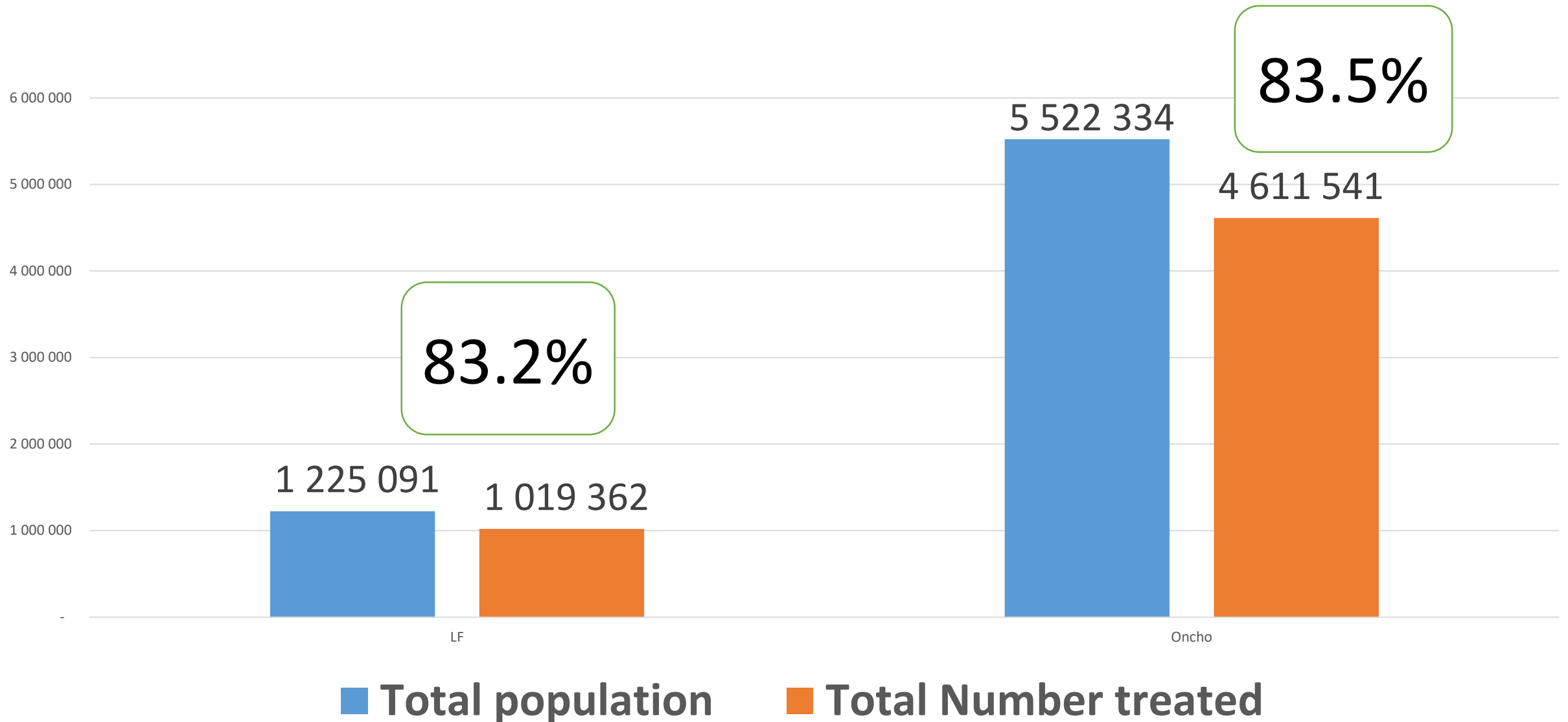
Achievement – Oncho 2



MDA data and Coverage by region - 2017

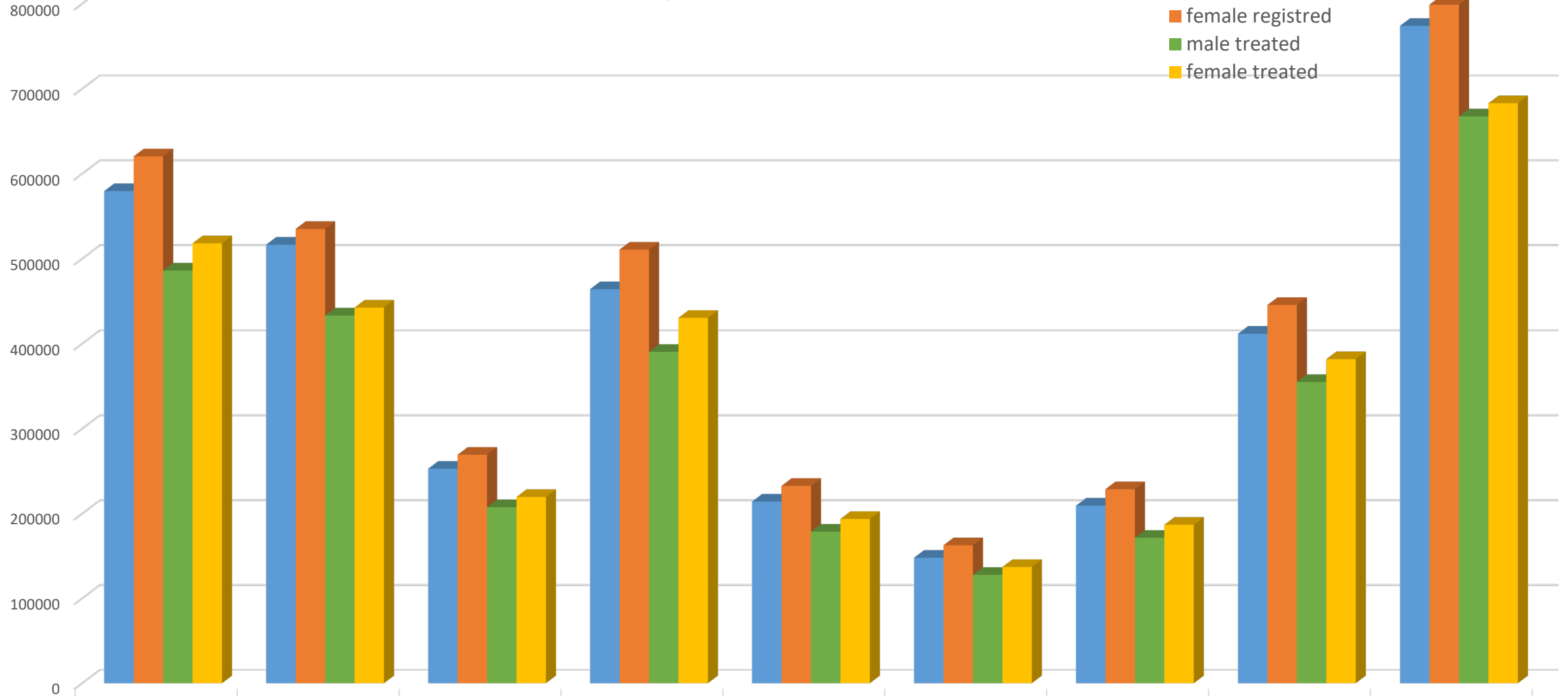


Cont - MDA data- LF/Oncho



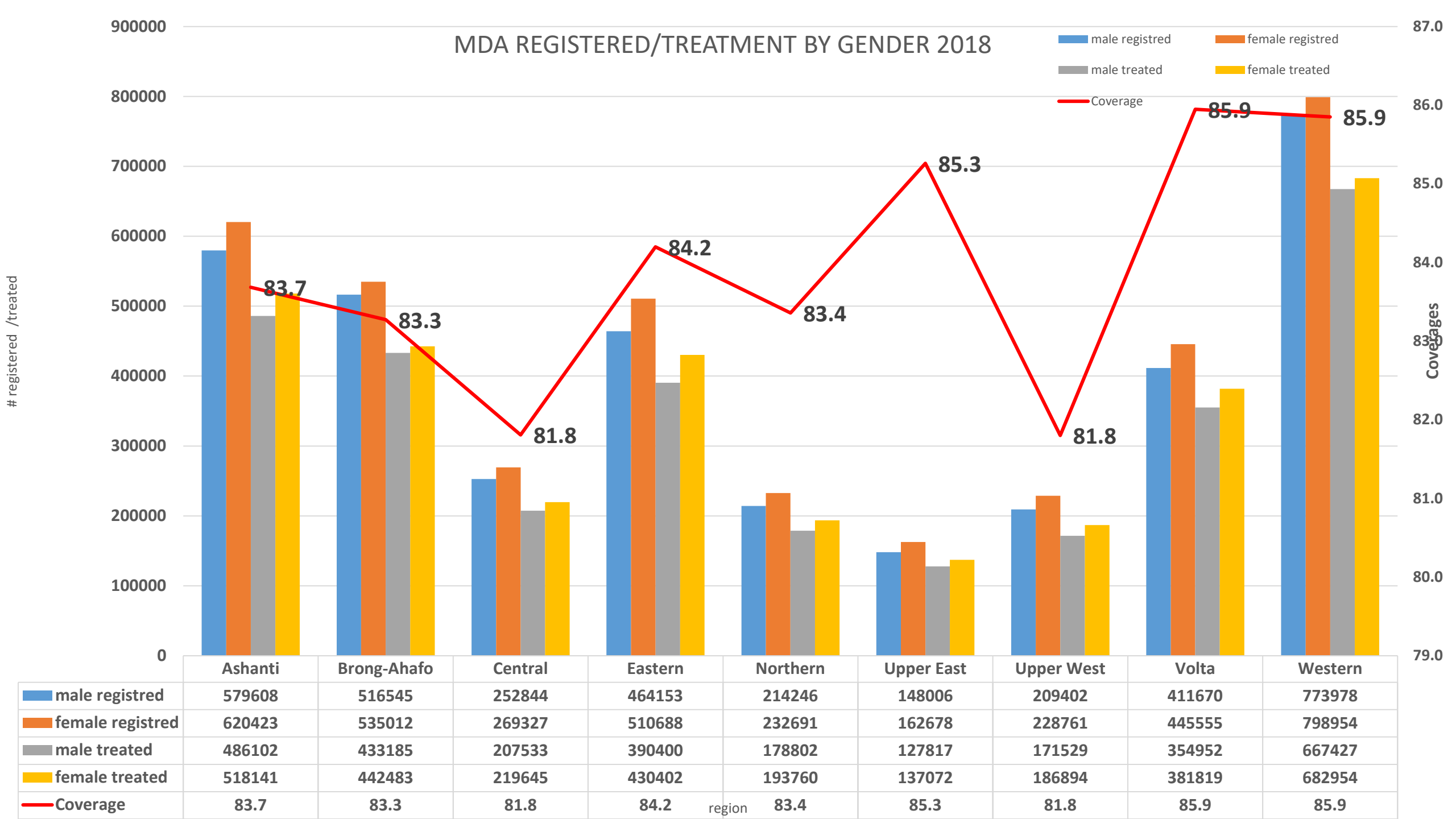
MDA REGISTRATION/TREATMENT BY GENDER 2018

■ male registered
■ female registred
■ male treated
■ female treated

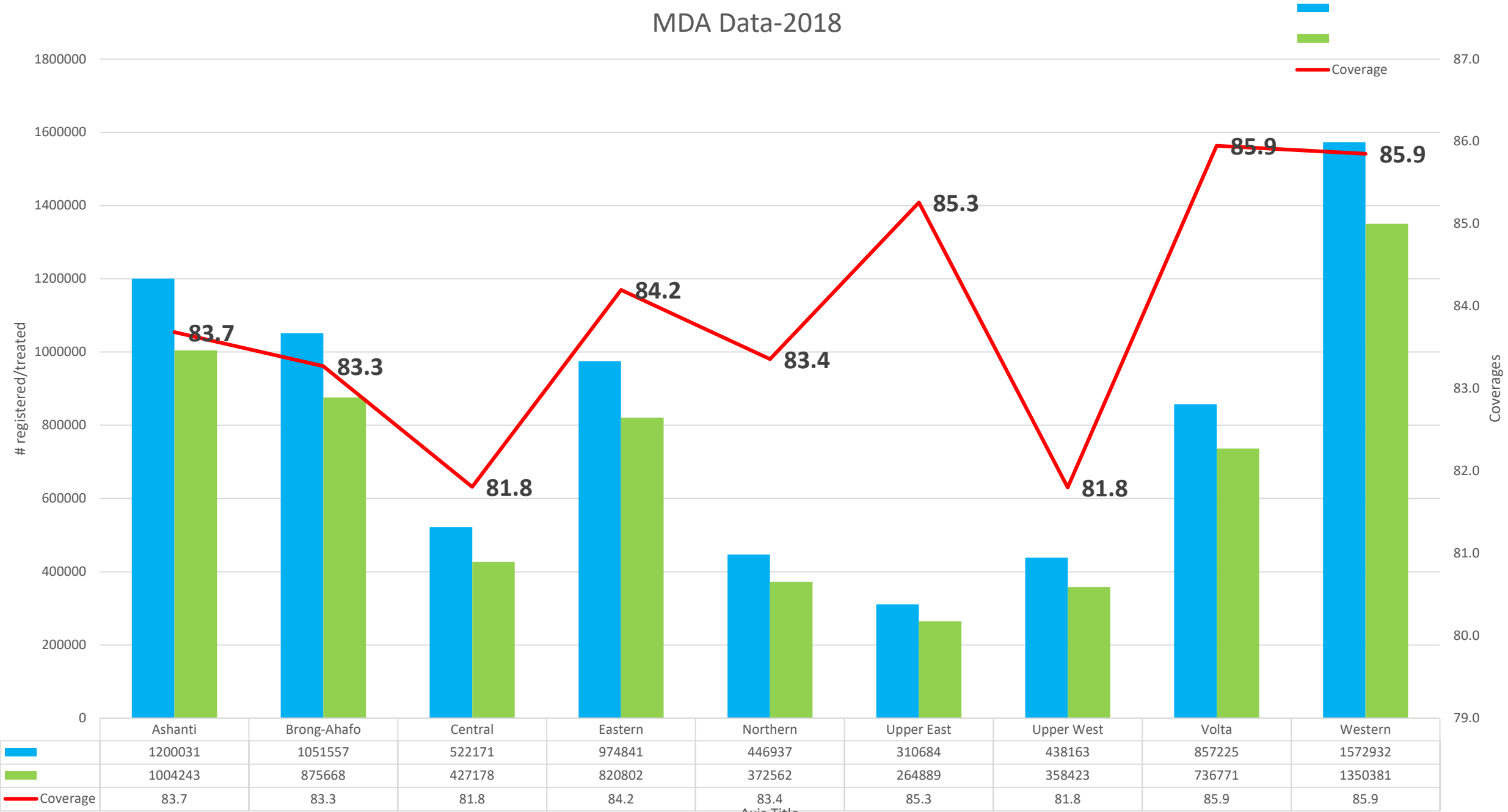


■ male registered	Ashanti	Brong-Ahafo	Central	Eastern	Northern	Upper East	Upper West	Volta	Western
■ female registred	579608	516545	252844	464153	214246	148006	209402	411670	773978
■ male treated	620423	535012	269327	510688	232691	162678	228761	445555	798954
■ female treated	486102	433185	207533	390400	178802	127817	171529	354952	667427
	518141	442483	219645	430402	193760	137072	186894	381819	682954

REGIONS

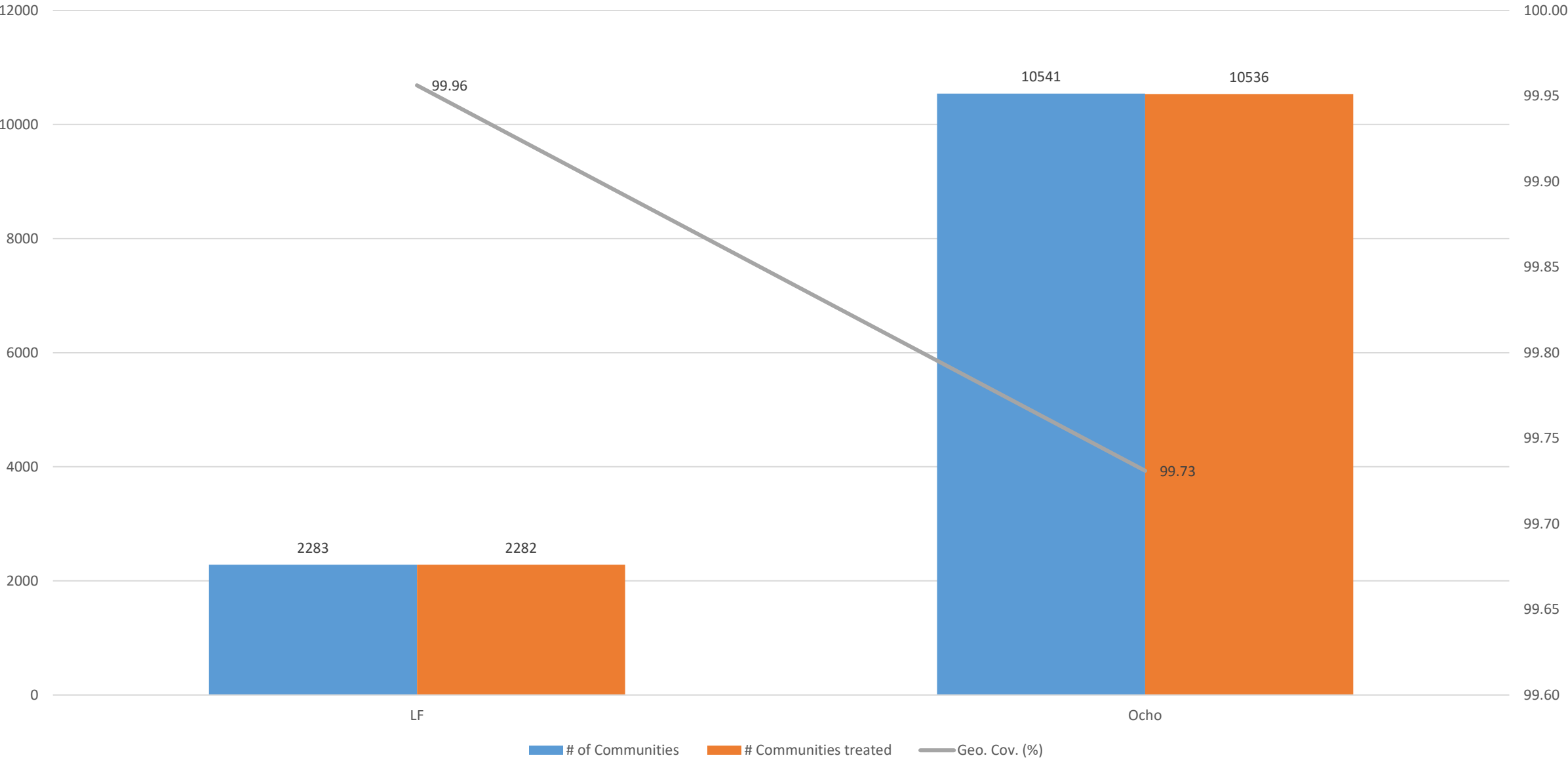


MDA Data-2018



Axis Title

Geographic Coverage by Disease-2018



Collaboration with research institutions

- UHAS (University of Health & Allied Sciences)
- KCCR (Kumasi Centre for Collaborative Research) of KNUST

Collaboration with Research unit of UHAS

- An open-label study of the pharmacokinetics and safety of a single dose of moxidectin per oral in participants aged 4 to 17 years with (or at high risk of) *Onchocerca volvulus* infection
- Safety and efficacy of combination therapy with ivermectin, diethylcarbamazine, and albendazole (IDA) for individuals with onchocerciasis
- A Randomized, Double Blind, Parallel Group study to investigate Emodepside (BAY 44-4400) in Comparison to Ivermectin in Patients with *Onchocerca volvulus* Infection

Past Collaboration with KCCR

- Assessments of the transmission of *Onchocerca volvulus* by *Simulium sanctipauli* in the Upper Denkyira District, Ghana, and the intermittent disappearance of the vector

Ongoing Collaboration with KCCR

Tackling the Obstacles of Filariasis

Cont

- Work-packages:
- Research task 1 “Establishing a Filariasis Clinical Trial and Research Platform
- Research task 2: “Rapid assessment of lymphedema burden using mobile phone based text messages by community health workers”
- Research task 3: “Reducing the daily dose of doxycycline to successfully treat filarial LE - a multinational, randomized, controlled non-inferiority trial”
- Research task 4: “Efficacy of ultrasound-guided hydrocele aspiration to prevent surgical intervention”
- Research task 5: “Comparing cost benefit ratios of test and treat approaches with the macrofilaricide doxycycline vs MDA with IVM/ALB for regional elimination of LF”

KCCR - Future work awaiting approval

- Morbidity Management and surveillance of pathology of lymphatic filariasis using mobile phone-based tool by community health volunteers (CHVs) in Ghana

Challenges

- CDD apathy
- Community Inertia
- Weak monitoring and supervision
- Insecurity during field visits
- Cross border issues
 - *Population movement*
 - *Synchronizing activities with neighbouring countries*
- Retirement of highly skilled staff
- Decreasing political commitment

Way Forward

- Need for research evidence to guide hot spots ??
- Formal request for police service security in some areas
- Engage the HR division to recruit some category of staff
- Strengthen monitoring and supervision, especially at remote areas

Cont

- Synchronization of MDAs with neighbouring countries
- Strengthen monitoring and supervision, especially in remote areas
- Improve CDD motivation

Acknowledgements

- *WHO*
- *USAID/FHI360*
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- *CouNTDown/DFID*
- *CNTD/DFID*
- *PATH*
- *Ghana Education Service*
- *Regions and districts*
- *CDDs and Communities*