



THE REPUBLIC OF UGANDA

UGANDA MALARIA SURVEILLANCE PROJECT

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UMSP out-patient sentinel site malaria surveillance report May 2012

Introduction

Uganda Malaria Surveillance Project (UMSP) manages 6 out-patient sentinel sites located around the country with varying malaria transmission intensity. Based on historical entomological and epidemiological data, these sites include two with relatively low transmission intensity (Kamwezi and Kihihi), two sites with medium transmission intensity (Walukuba and Kasambya) and two sites with high transmission intensity (Nagongera and Aduku).

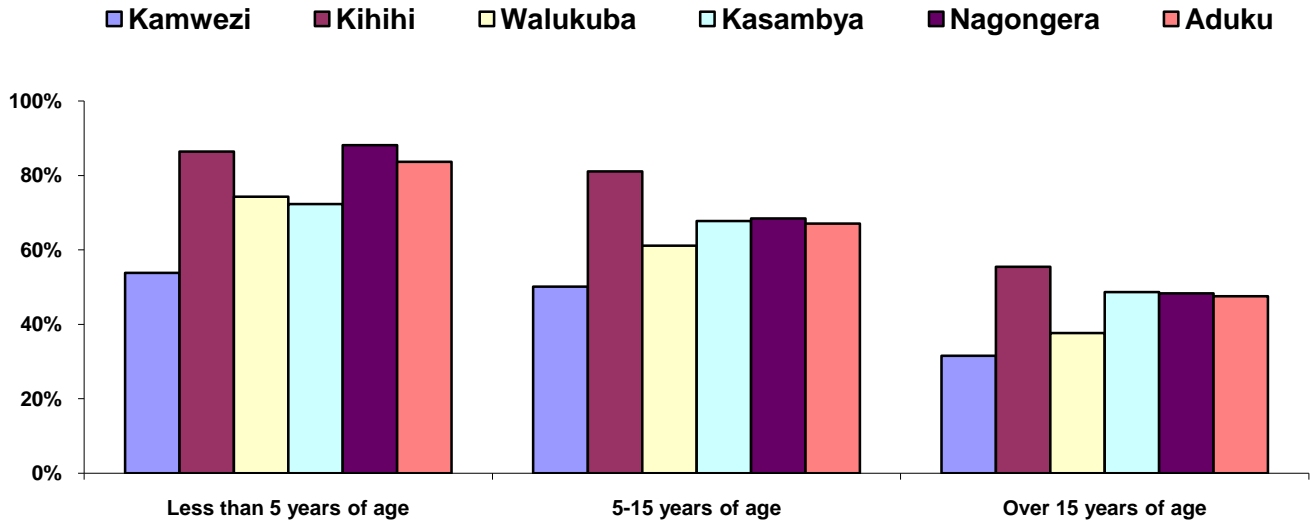
The sentinel sites collect high quality malaria data, which is analyzed to produce monthly reports. These monthly reports aim to give an overview of the malaria situation in the different parts of the country where the sentinel sites are located. UMSP also maintains a website umsp.muucsf.org that can be accessed for more information.

Data summary

District	Site	Total number of patients seen		Malaria suspected		Patients sent to the laboratory		Laboratory confirmed malaria	
		Total	< 5 years	Total	< 5 years	Total	< 5 years	Total	< 5 years
Kabale	Kamwezi	2,415	394	965	212	963	212	328	49
Kanungu	Kihihi	1,777	376	1,206	325	1,205	325	320	91
Jinja	Walukuba	3,366	712	1,711	529	1,681	523	337	97
Mubende	Kasambya	1,844	379	1,065	274	1,009	257	319	120
Tororo	Nagongera	1,901	666	1,248	587	1,229	582	494	349
Apac	Aduku	1,703	330	976	276	971	274	197	81

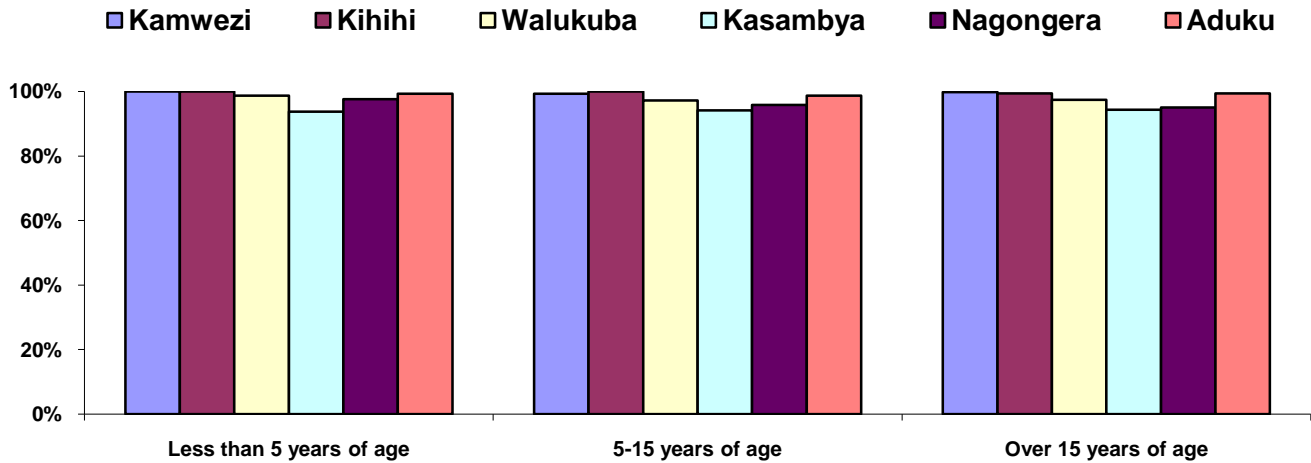
The total OPD clinic attendance ranged from 1703 (Aduku) to 4830 (Kamwezi), with children under five contributing between 16% and 35%. Aduku (976) and Kawezi (1930) still registered the lowest and highest number of patients suspected to have malaria respectively. Over 95% of these were referred for a confirmatory test. The test positivity rate (TPR) was lowest at Walukuba (20%) and highest at Nagongera (40%), with a marked increase at Kamwezi from 10% (Apr 12) to 34% (May 12), Kasambya from 22% (Apr 12) to 32% (May 12) and Nagongera from 30% (Apr 12) to 40% (May 12).

Proportion of total patients seen suspected of having malaria



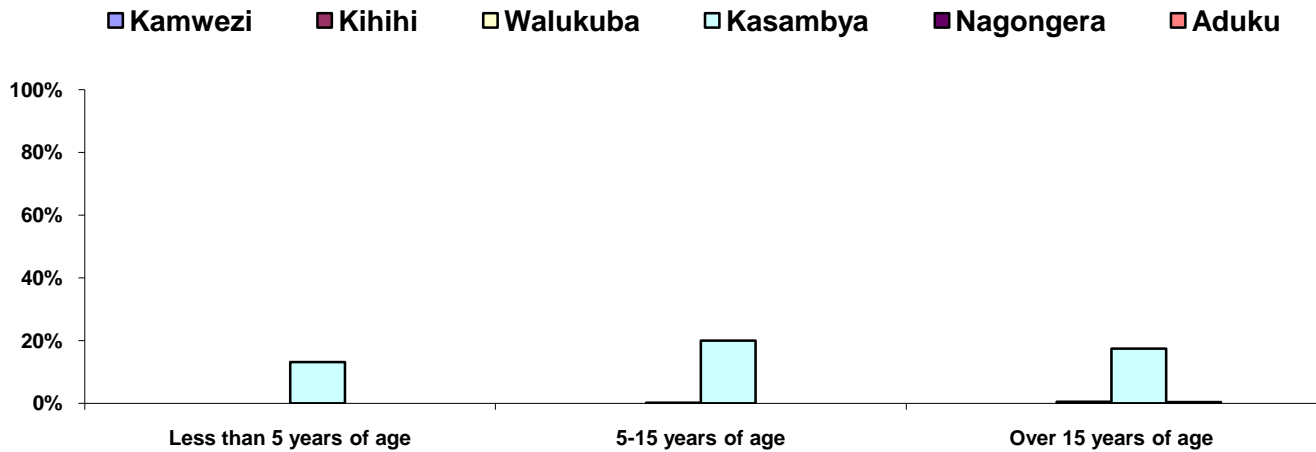
Majority of the cases suspected to have malaria were children under 5 followed by those 5 – 15 yrs. This pattern is seen at all the sites.

Proportion of patients with suspected malaria for whom a lab test was done



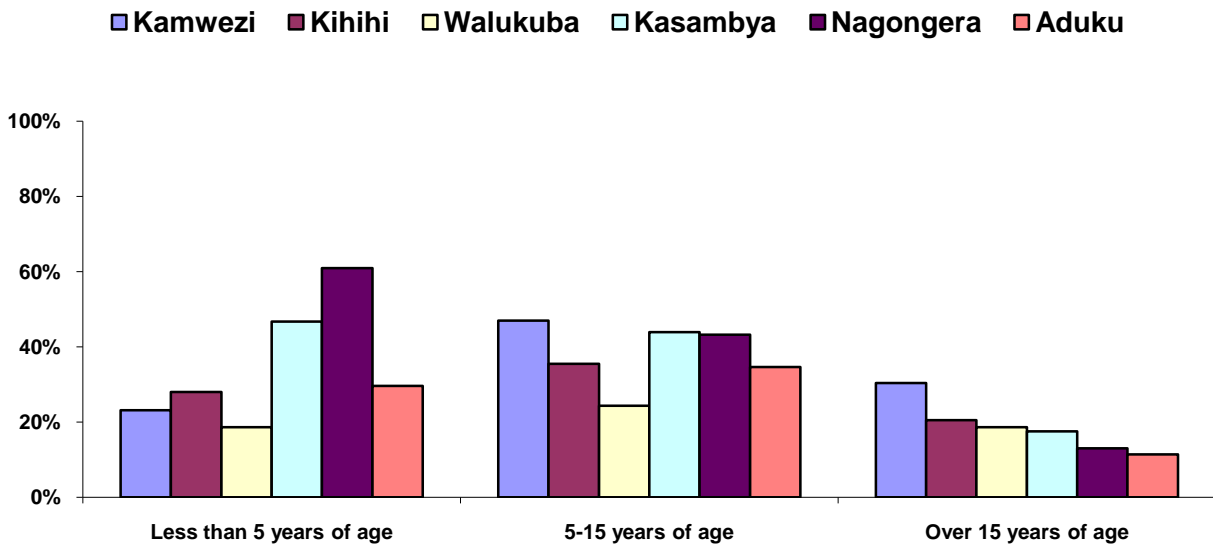
Over 95% of all participants suspected of having malaria were sent to the laboratory for a confirmatory test.

Proportion of laboratory tests done that were RDTs



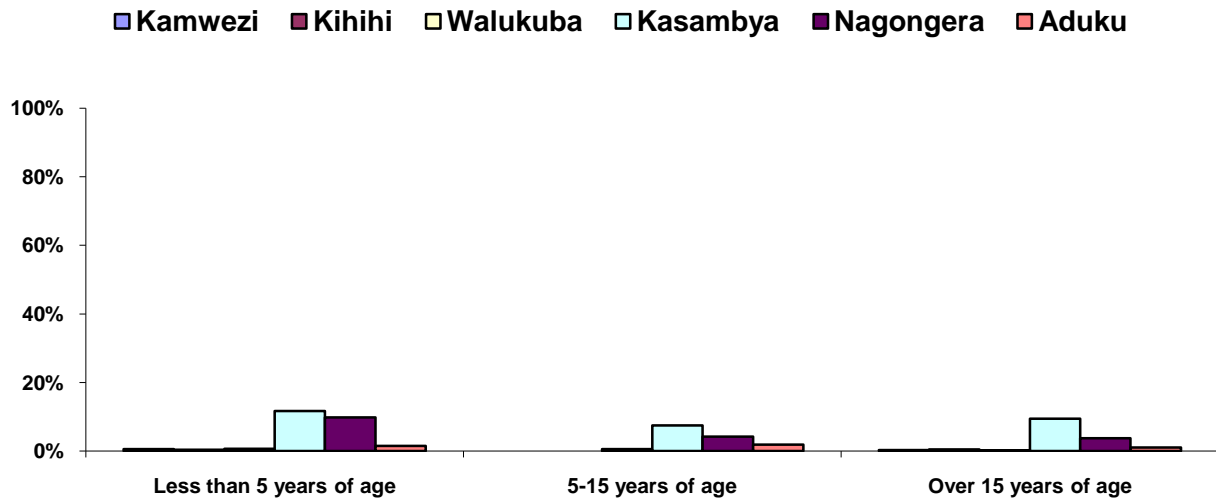
RDTs were done in Kasambya, Walukuba and Kasambya and these were 20% of laboratory tests done.

Proportion of laboratory tests done that were positive



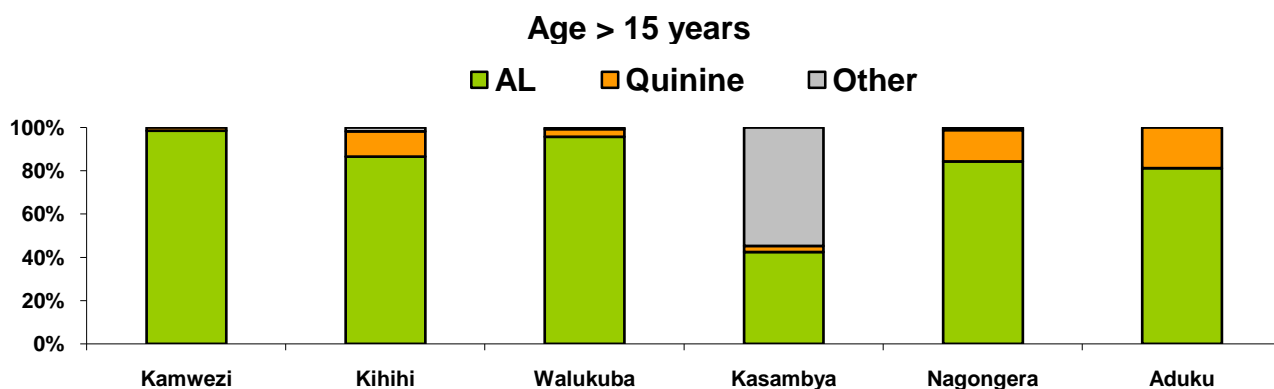
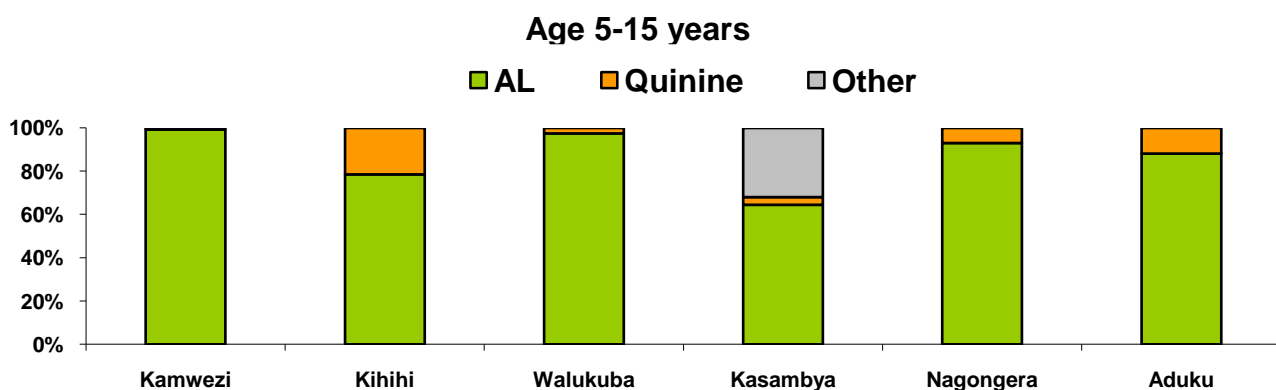
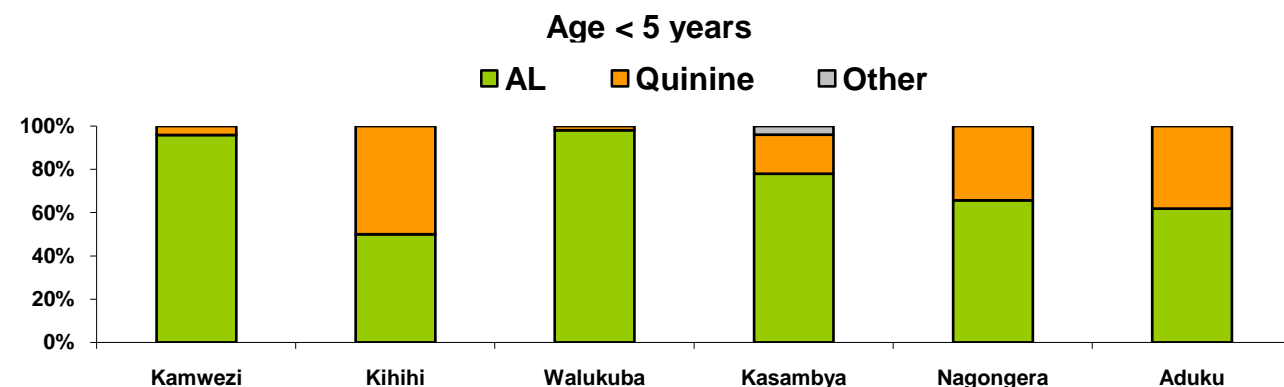
When TPR was compared to the previous month (Apr 12), there was a marked increase at Kamwezi in all age groups while Kasambya and Nagongera only recorded an increase in the younger age groups. At Kamwezi, this increased from 5% to 23% among the under 5s, from 15% to 47% among the 5 – 15 years and from 11% to 30% among the over 15 years. At Kasambya, TPR increased from 28% to 47% among the under 5s and from 31% to 44% among the 5 – 15 years. Similarly at Nagongera, this increased from 46% to 61% among the under 5 years and from 26% to 43% among the 5 - 15 years. There was no significant increase in TPR at Kihihi, Walukuba and Aduku.

Proportion of patients with a negative lab test result who were prescribed antimalarials



Prescribing an anti-malarial to patients with a negative lab result was practiced at all sites, however, this was highest in Kasambya (12%) especially among the under 5 years of age.

Antimalarial drug treatment practices among those prescribed antimalarials



Artemether-lumefantrine (AL) was still the predominant antimalarial prescribed with the exception of Kasambya among the over 15 years age group who received other antimalarials. Quinine is still the second most prescribed antimalarial at all sites especially in Kihhi where up to 50% of children under 5 received it. The other antimalarials prescribed included arco (artemesinin-naphthoquine) and artemether injection. All sites reported availability of all AL colored pre-packs throughout the month except Kamwezi that reported shortage of green prepacks.

Laboratory Quality Control (QC) results

UMSP is currently validating accuracy of individual microscopist's (WHO: Any persons reading blood smears for malaria parasites) in reading blood smears for malaria parasites at all sentinel sites. Prior to starting the exercise, the site laboratories were switched from using Field stain to Giemsa stain, the recommended gold standard technique for malaria microscopy. Microscopists at all sites were first trained on the Giemsa staining technique, mounting slides with cover slips labeling of slides and slide storage of all the slides read in the month.

For each microscopist, 50 slides were randomly sampled from slides collected over a period of one month and re-read by expert microscopist's based at the UMSP central laboratory. If a microscopist read less than 50 slides in a month, all slides were re-read. Both the first (site microscopist) and second (expert microscopist) reader results were double entered and compared. Site and microscopist performance is assessed using the percent level of agreement scores. Unacceptable performance is defined as percent level of agreement < 90% . Microscopist's with percent level of agreement < 90% were contacted and re-trained where necessary. More results will follow subsequently as they are processed.

Sentinel sites lab quality control results (March 2012)

	Number of slides		Results		
	Positive	Negative	Sensitivity	Specificity	% Agreement
Nagongera	78	122	76%	98%	89%
Walukuba	23	223	78%	98%	96%
Kihihi	28	122	93%	90%	91%
Kasambya	12	112	92%	96%	96%
Kamwezi	5	180	80%	98%	97%
Aduku*	13	187	77%	97%	96%

* Results are for April 2012

A Total of 24 microscopists were assessed in this period; Nagongera (4), Walukuba (5), Kihhihi (3), Kasambya (4), Kamwezi (4), Aduku (4). Performance was acceptable at most of the sites except Nagongera where one volunteering microscopist performance was below 80% greatly affecting the over-all performance of the site.

Appendix: Definitions

Indicator	Definition	
Proportion of total patients seen suspected of having malaria	Numerator:	Number of patients referred to the lab or given a clinical diagnosis of malaria
	Denominator:	Total number of patients seen
Proportion of patients with suspected malaria for whom a lab test was done	Numerator:	Number of laboratory tests performed
	Denominator:	Total number of patients with suspected malaria
Proportion of laboratory tests done that were RDTs	Numerator:	Number of lab tests performed that were RDTs
	Denominator:	Total number of laboratory tests performed
Proportion of laboratory tests done that were positive	Numerator:	Number of laboratory tests that were positive
	Denominator:	Total laboratory tests performed
Proportion of patients with negative lab test result who were prescribed antimalarials	Numerator:	Number of patient with a negative lab test result and were prescribed antimalarials
	Denominator:	Total number of patient with a negative lab test result