Malaria Surveillance Bulletin

MALARIA CONTROL UNIT ▪ NAIROBI, KENYA ▪ ISSUE 9 ▪ JUNE 2014

The **MALARIA SURVEILLANCE BULLETIN** is produced by the Malaria Control Unit and is a quarterly production.

EDITORIAL TEAM

PROGRAM MANAGER
Dr. Waqo Ejersa

EDITOR
Dr. Rebecca Kiptui

WRITERS
Dr. Rebecca Kiptui
Beatrice Machini
James Kiarie
Dr. Agneta Mbithi
Dr. Nathan Bakyaita
Dr. Geoffrey Lairumbi
Dr. Abdinasir Amin
Peter Nasokho

DESIGN
MEASURE Evaluation PIMA

CONTACT
Ministry of Health
Malaria Control Unit
P.O Box 19982–00202
KNH, Nairobi

Tel: (020) 2716934
Fax: (020) 2716935

Web site: www.nmcp.or.ke
E-mail: RKiptui@domckenya.or.ke

President's Malaria Initiative

MEASURE Evaluation PIMA

MEASURE Evaluation-PIMA in Kenya is funded by USAID through associate award 623-12-000002 and implemented by the Carolina Population Center at the University of North Carolina at Chapel Hill, with Futures Group, ICF International, Management Sciences for Health, and Tulane University. The views expressed in this publication do not necessarily reflect the views of USAID or the United States government.

Message from the Program Manager

It is my pleasure to welcome you to our 9th issue of the Kenya Malaria Control Program's Quarterly Surveillance bulletin. This issue focuses on the fourth quarter of 2013/2014 (i.e., April to June 2014) with key malaria indicators demonstrated using six (6) surveillance core graphs. Due to the difference in malaria transmission in the country, the graphs for outpatient confirmed malaria cases and test positivity rates are disaggregated intothe fourmalaria epidemiological zones. Also included are tables showing county data for selected malaria indicators; percentage treated, number of malaria cases epidemiological zones.

In this period we celebrated the World Malaria day on the 25th of April 2014. This was held at Obambo Primary school in Kisumu where the County Government, the parliamentary Health Committee, the Malaria stakeholders and the community were present. This year's theme is "Invest in the future defeat Malaria" and will run to next year.

In preparation of the mass net distribution campaign Counties who will participate in the first phase of the distribution namely, Migori, Kisumu, Siaya,Vihiga and Homabay were trained on Household registration, micro-planning and distribution in a Kisumu hotel. The household registration and distribution of the nets will commence in the next quarter.

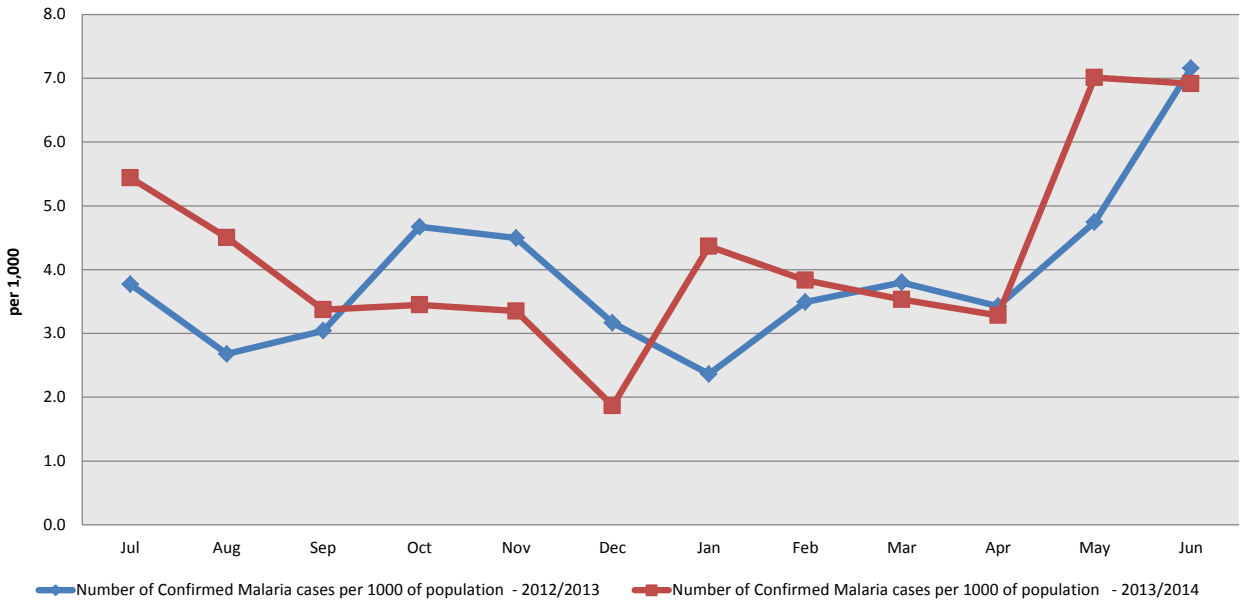
We also conducted a workshop to review the Monitoring and Evaluation plan which together with the Malaria strategic plan will be finalized in the next quarter and will be shared with the Counties for their second input. During these regional meeting the Quality of Care results round 7 conducted in February 2014 will be shared.

We do hope that you will use these bulletins to help you see the situation in your transmission area, help you make decisions and also encourage you to access your data from your data sources and use it in your Counties and sub-counties.

OUTPATIENT CONFIRMED MALARIA CASES

Figure 1a shows the number of outpatient suspected malaria cases that are confirmed to have malaria parasite by microscopy or RDT per 1000 people resident in Kenya. As shown in the graph the there was a rise in the outpatient cases in the last quarter as we are approaching the high transmission season. It can be noted that the number is slightly lower compared to same time the previous year.

Figure 1a: Number of Outpatient Confirmed Malaria Cases per 1,000 Population

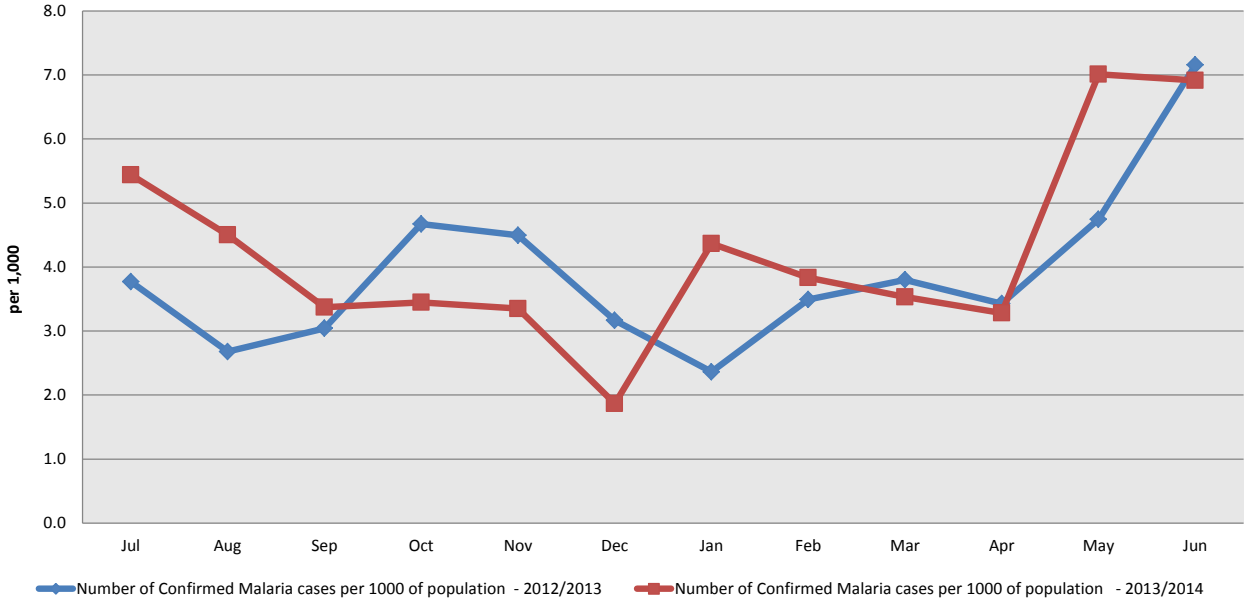


Sources: DSRU, KNBS Projection 2009 Census

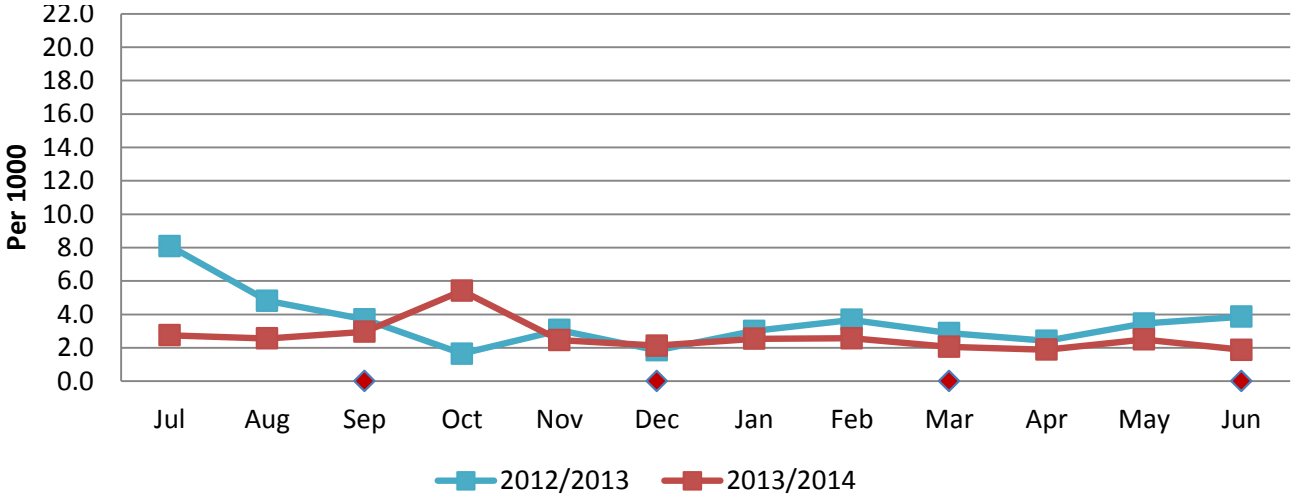
Figure 1b shows the percentage of outpatient suspected malaria cases that are confirmed to have malaria parasite by microscopy or RDT per 1000 people by the malaria epidemiological zones. Ideally, a rate of less than 1 case per 1000 people sustained over a 12-month period indicates readiness for the elimination phase. The graphs show that the number of confirmed cases is highest in the endemic areas. There is a slight increase of confirmed cases in the epidemic prone areas.

Figure 1b: Number of Outpatient Confirmed Malaria Cases per 1,000 of Population by Epidemiology Zones

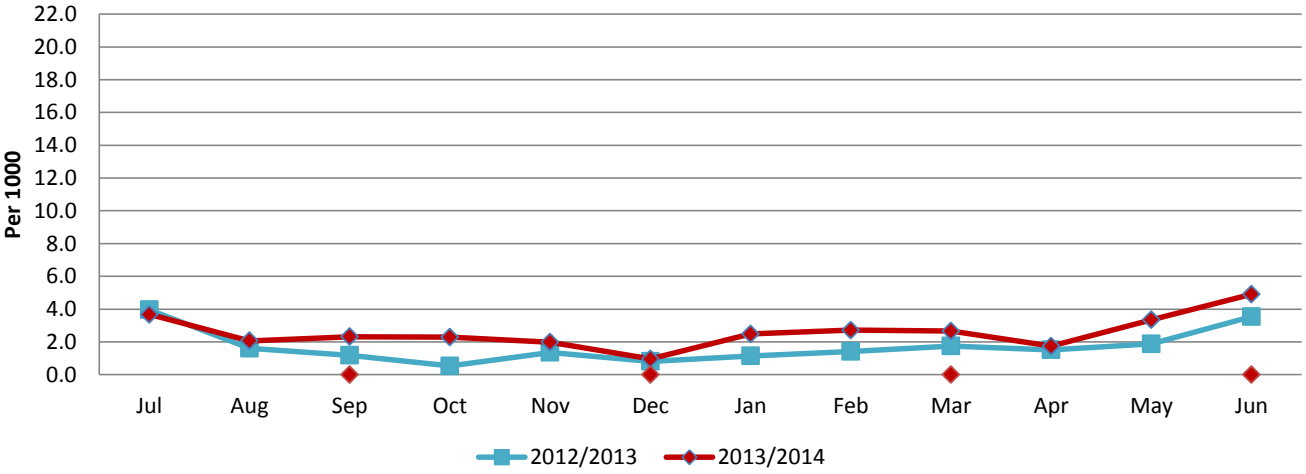
Endemic Zone



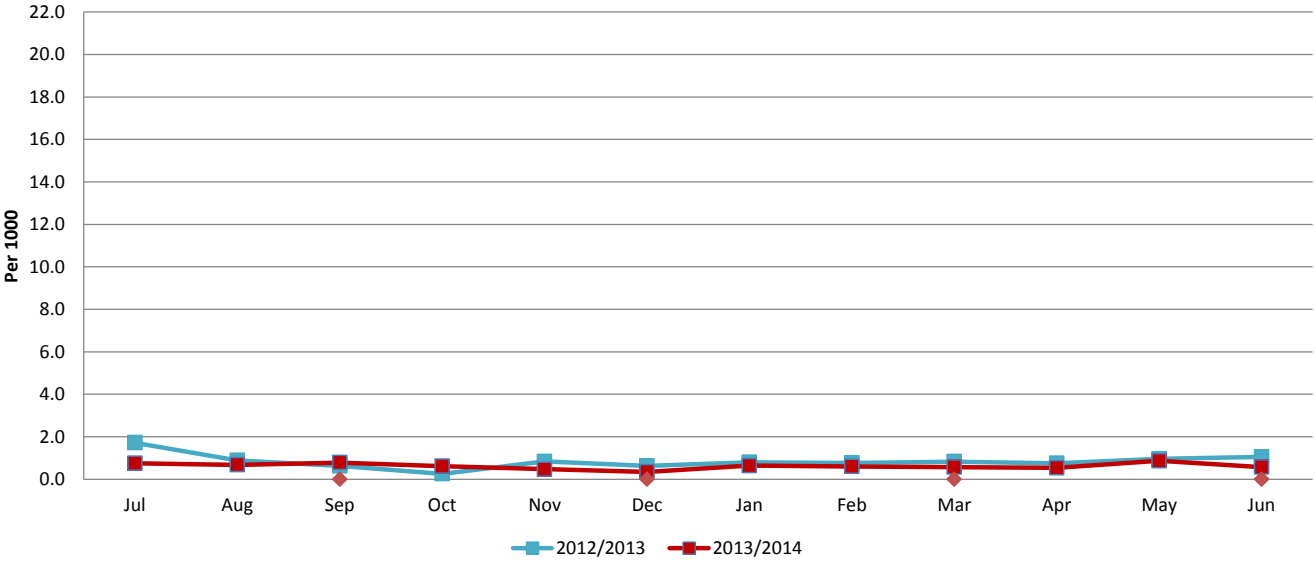
Seasonal Transmission Zone



Highland Epidemic Zone



Low Risk Zone

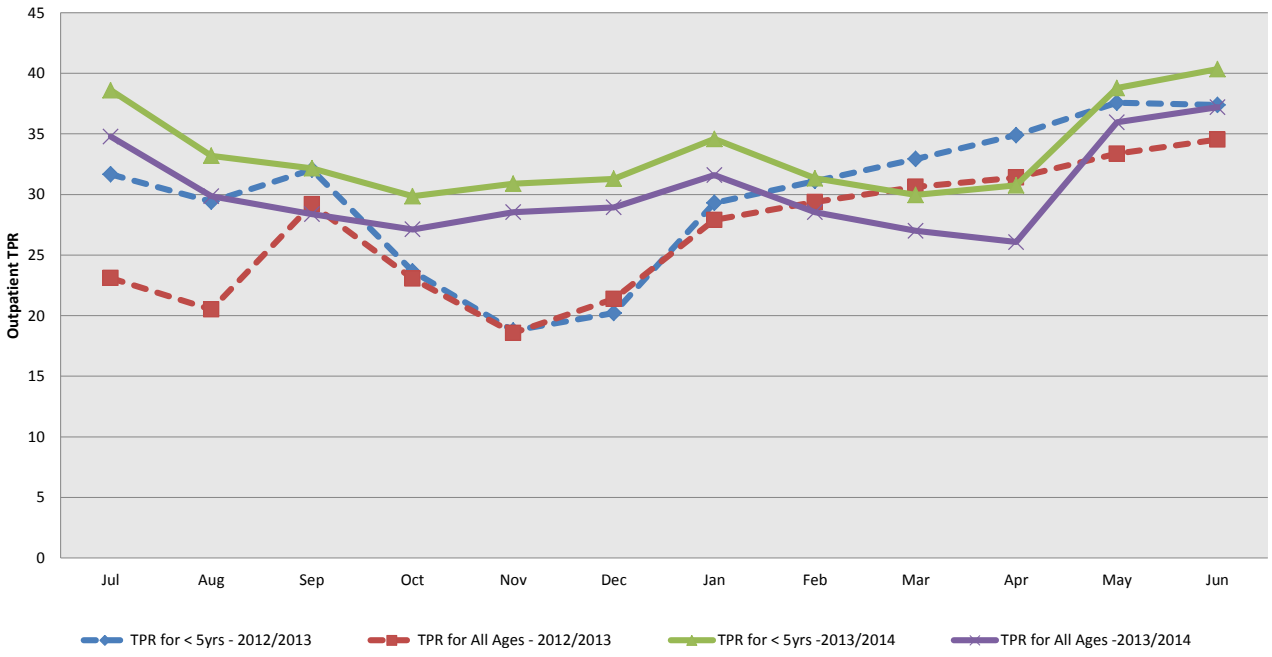


Sources: DSRU, KNBSProjection 2009 Census

OUTPATIENT TEST POSITIVITY RATES AMONG THE UNDER5 YEARS AND ALL AGES

Figure 2a presents the overall outpatient test positivity rates for the under fives and all ages in Kenya. In Figure 2b the outpatient test positivity rates for the under fives and all ages by the malaria epidemiological zones. The graphs are based on data from the weekly reports by the Diseases Surveillance and Response Unit (DSRU). These graphs show the trends with regard to the percentage of the malaria cases that tested positive against the total number of cases tested for parasites. The graph shows an increase in the test positivity rate in the last quarter as we approach the high transmission season. It is slightly higher than the same period in the previous year. It is also noted that under 5 years have a higher TPR than the all ages.

Figure 2a: Outpatient TPR for < 5 Years and All Ages

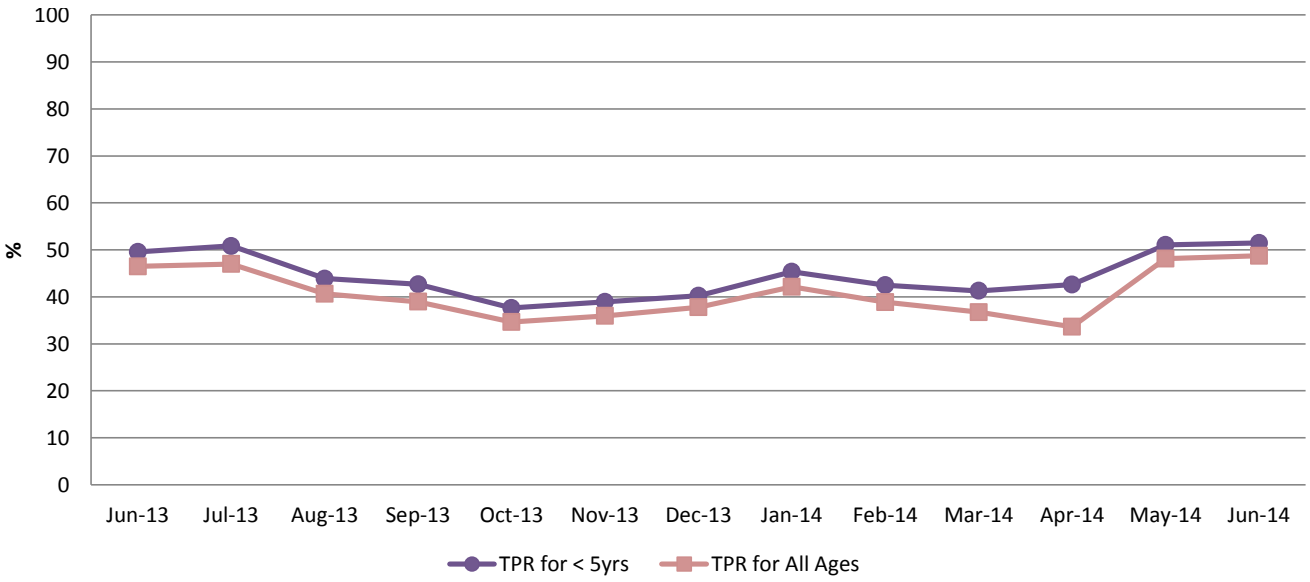


Source: DSRU

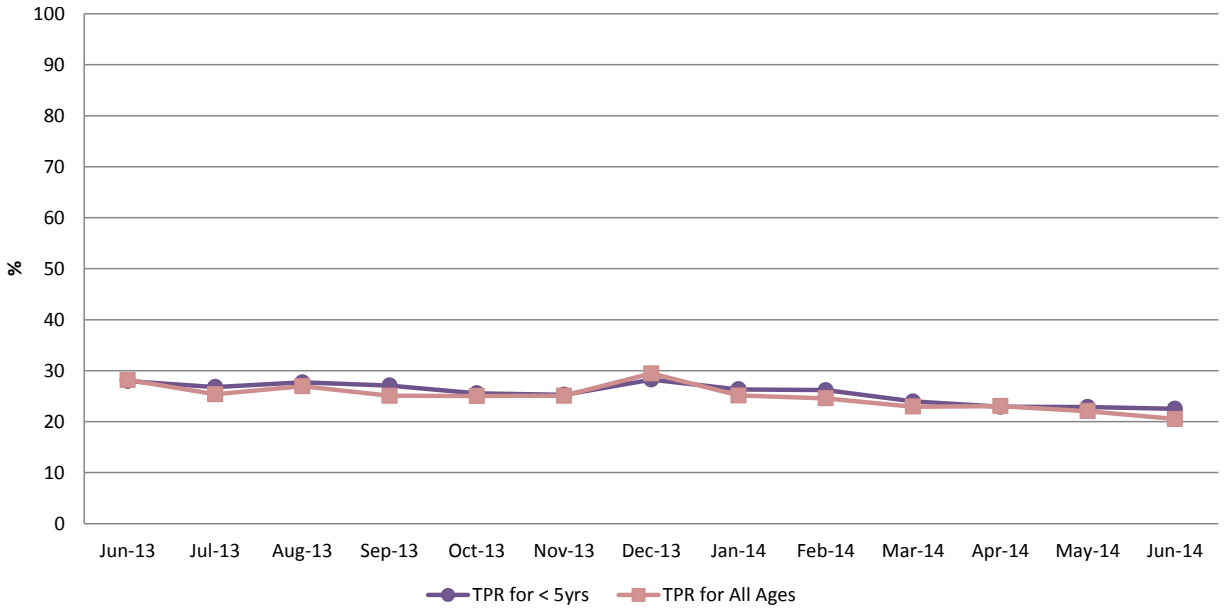
Figure 2b show outpatient TPR disaggregated by different epidemiological zones. The graphs show that the highest increase in TPR is in the endemic zones. It is noted that the TPR is higher in the under 5 yrs as compared to the all ages.

Figure 2b: Outpatient TPR for < 5 Years and All Ages by Malaria Epidemiological Zones

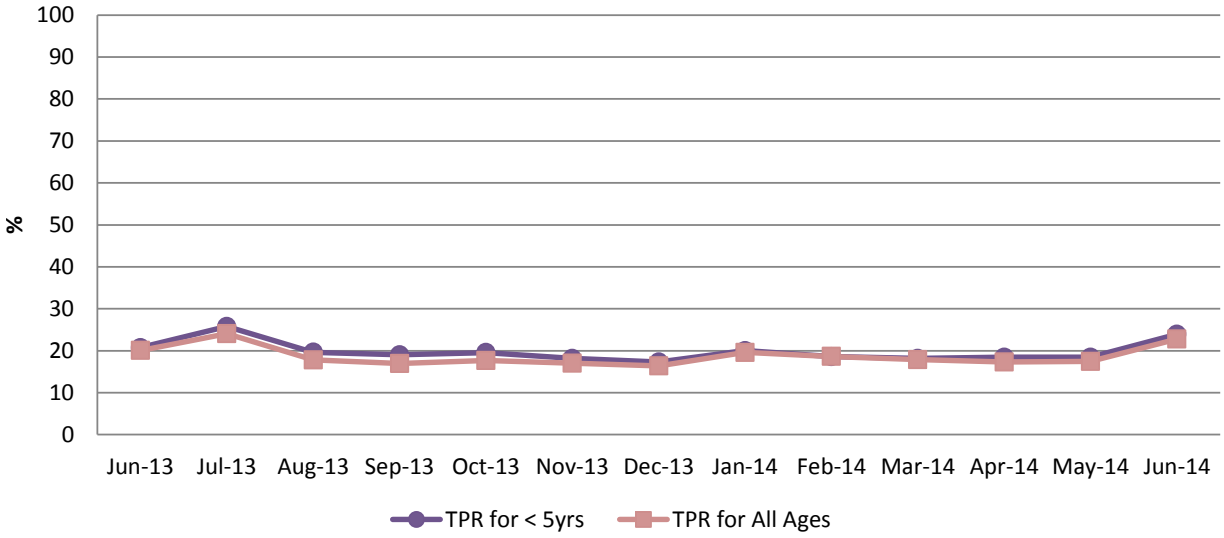
Endemic Zone



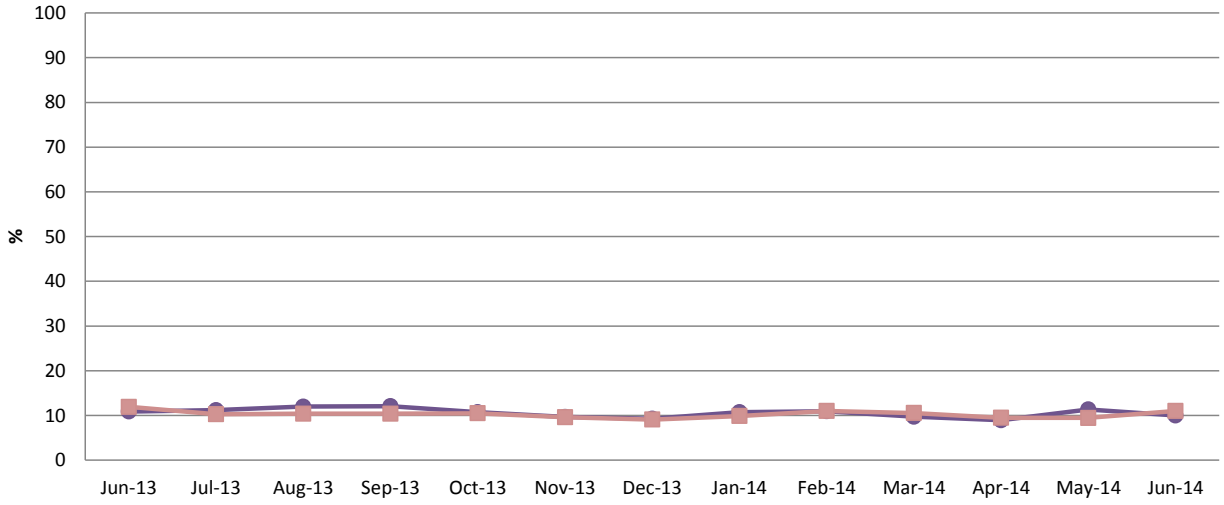
Seasonal Transmission Zone



Highland Epidemic Zone



Low Risk Malaria Zone

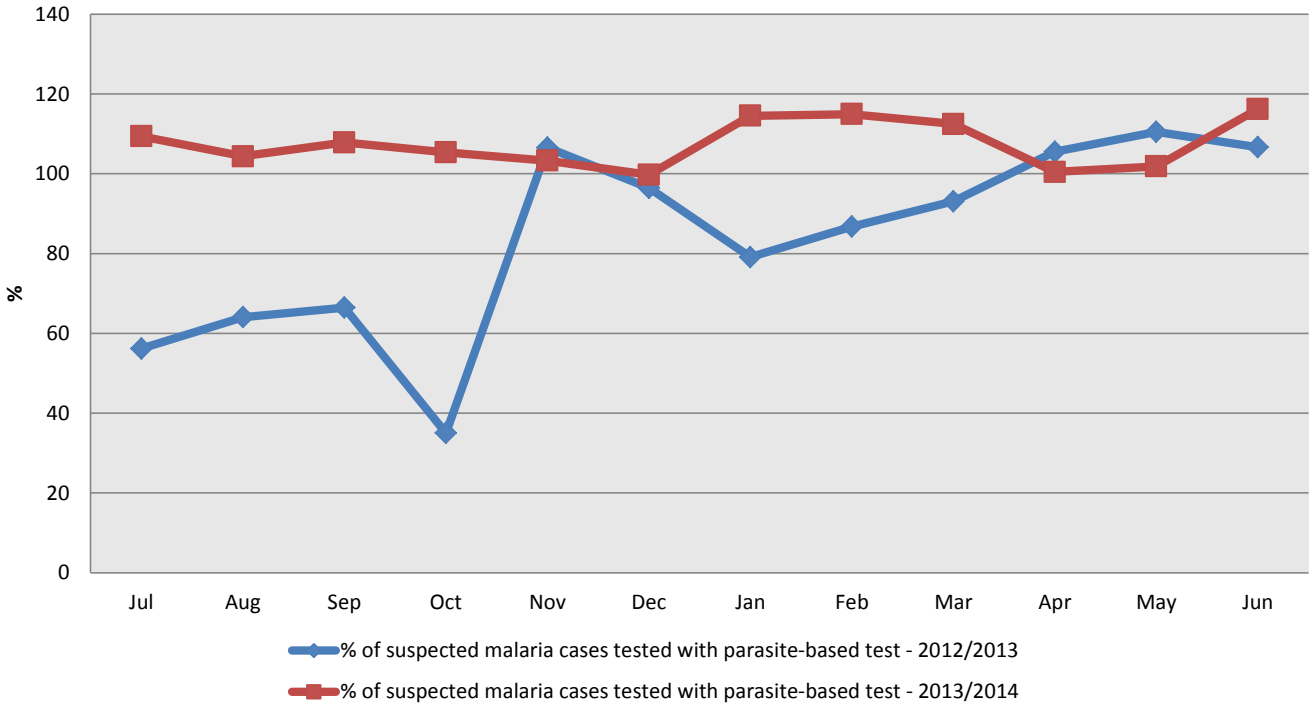


Source: DSRU

SUSPECTED MALARIA CASES TESTED WITH PARASITE-BASED TEST

The graph be low the percentage of the suspected malaria cases among the outpatient that underwent a laboratory diagnosis over the reporting period are presented. The testing rate (percentage of suspected malaria cases tested using a parasite based test) has remained stable, slightly above 100%, in this quarter under review. However, we can't explain the >100% TR, even though it is possible to speculate that double counting of tests done using microscopy and RDTs, and patients who are referred for laboratory tests without passing the outpatient clinic could in part explain this observed anomaly (as the numerator {number of outpatient suspected malaria cases that received laboratory testing} was obtained from laboratory register while the denominator {Number of outpatient suspected malaria cases} is from OPD register).

Figure 3: Percentage of Suspected Malaria Cases Tested with Parasite-Based Test

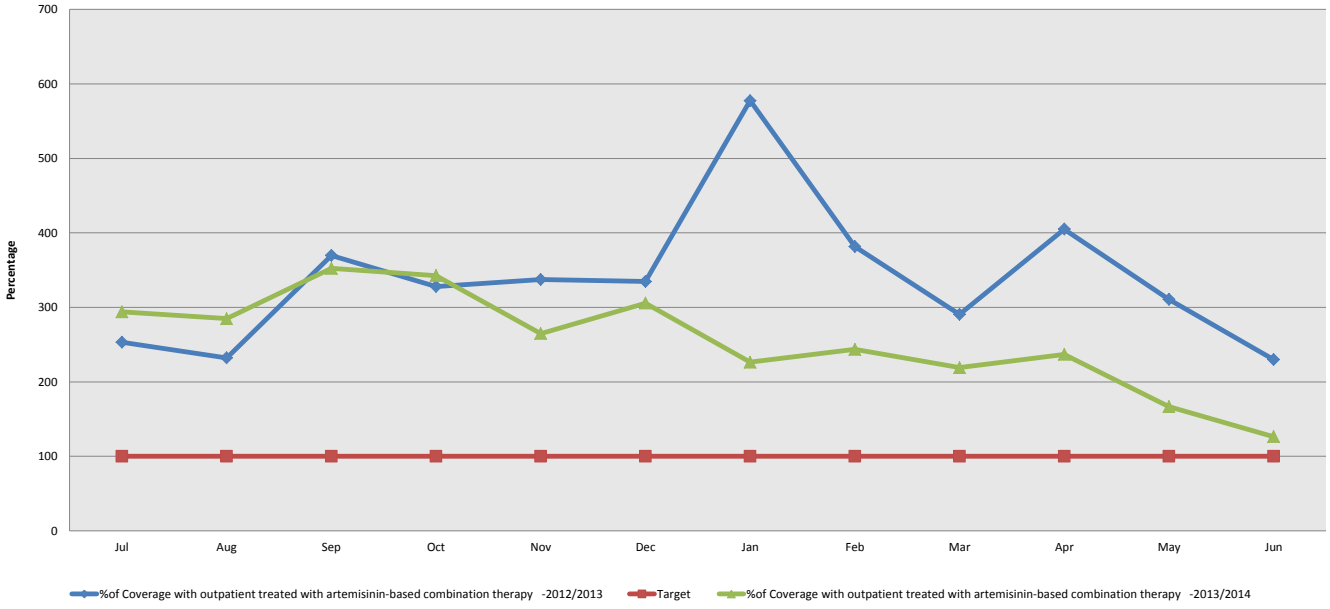


Source: DSRU

COVERAGE FOR OUTPATIENTS TREATED WITH ARTEMISININ-BASED COMBINATION THERAPY

Kenya has adopted the policy of testing suspected cases of malaria before treatment. The first line anti-malarial for uncomplicated malaria, AL, should only be administered to patients who are tested for malaria parasites using a parasite laboratory test, and the results are positive. The ability of health facilities to achieve this has in the past been hampered by low coverage of the rapid diagnostic test kits (RDTs) or microscopy. Graph 4 shows the percentage of outpatient cases that were treated using artemisinin-based combination therapy over the number of confirmed malaria cases (positive parasitological results) expected to be treated with appropriate antimalarial medicines during the reporting period. This graph shows that overtreatment reduced in the last quarter and is less compared to the same period in the previous year which could indicate that more health workers are adhering to the malaria treatment guidelines.

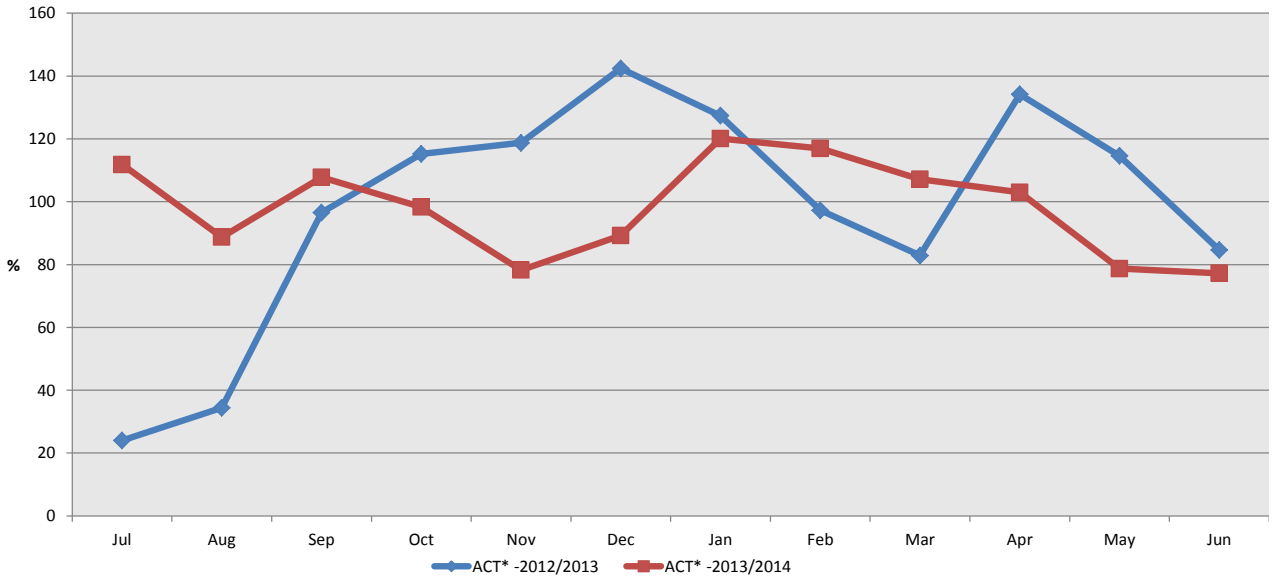
Figure 4a: Outpatient Cases Treated with AL as a Proportion of Confirmed Malaria Cases



Source: LMIS/DHIS

Figure 4b shows the percentage of outpatient suspected malaria cases who received an ACTs. The average monthly percentage of over-treatment of all suspected malaria cases was observed to have increased from 61% in the preceding quarter to 72% during this quarter (Q3 of 2013–14), but lower than the same period last year (79%).

Figure 4b: Percentage of Outpatient Suspected Malaria Cases Treated with Artemisinin-Based Combination Therapy

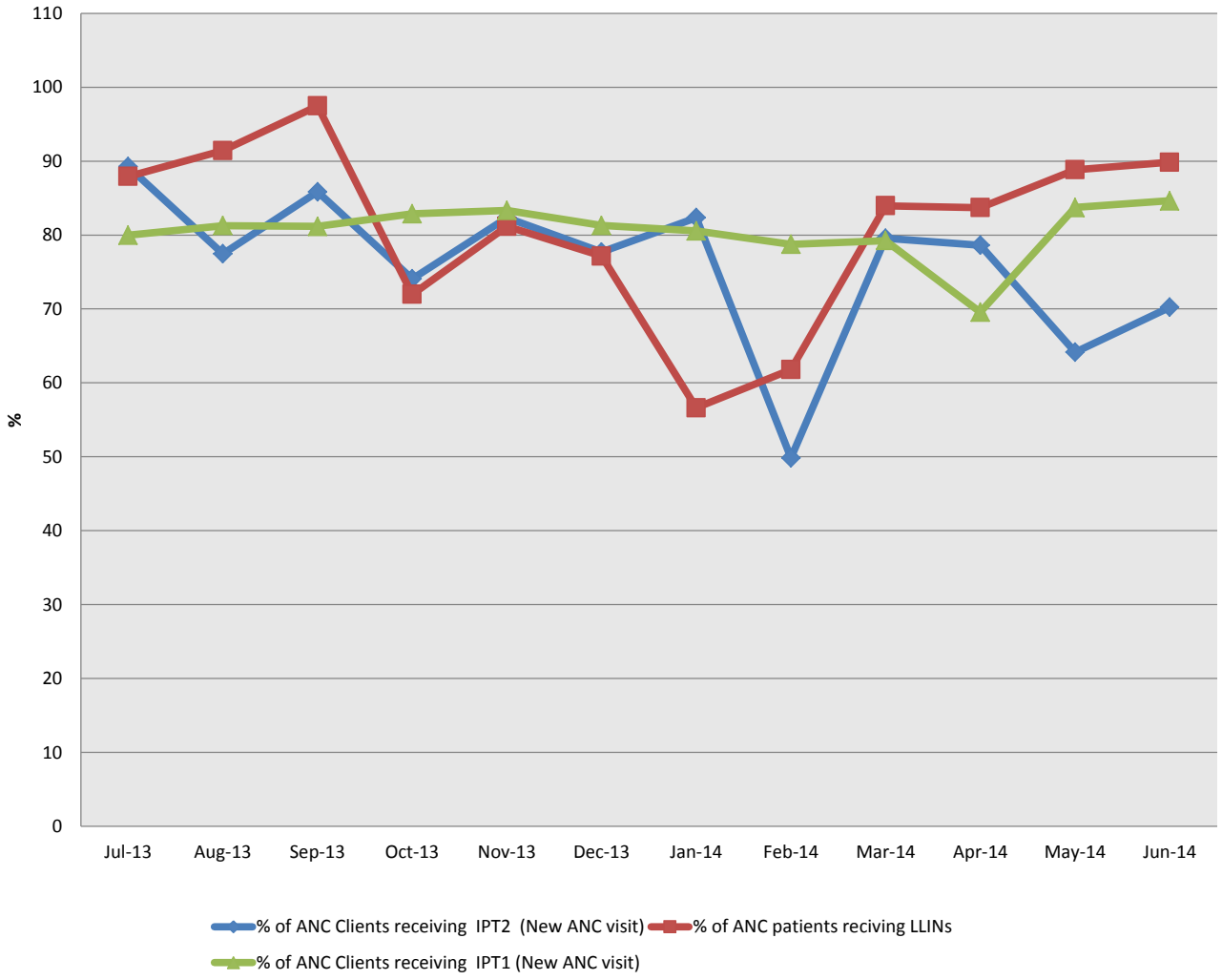


Source: LMIS/DHIS

PERCENTAGE OF COVERAGE WITH OUTPATIENTS TREATED WITH ACTS AND NUMBER OF LLINS DISTRIBUTED AT ANC

The prevention of malaria in pregnancy involves combination strategies that together are aimed at reducing maternal and perinatal morbidity and mortality occasioned by malaria. The strategies comprise the antenatal care (ANC) package that comprises at least two doses of intermittent preventive treatment for expectant mothers (IPT2) and provision of Long Lasting Insecticide Nets (LLINs). The graph shows that the IPT1 an IPT2 uptake increased in the last quarter. The percentage of the expectant mothers that accessed nets from the ANC reduced slightly towards the end of the quarter.

Figure 5: Percentage of Antenatal Care Clients Receiving Insecticide Treated Nets and at Least Two Doses of Intermittent Preventive Treatment (IPTp2) in Endemic area

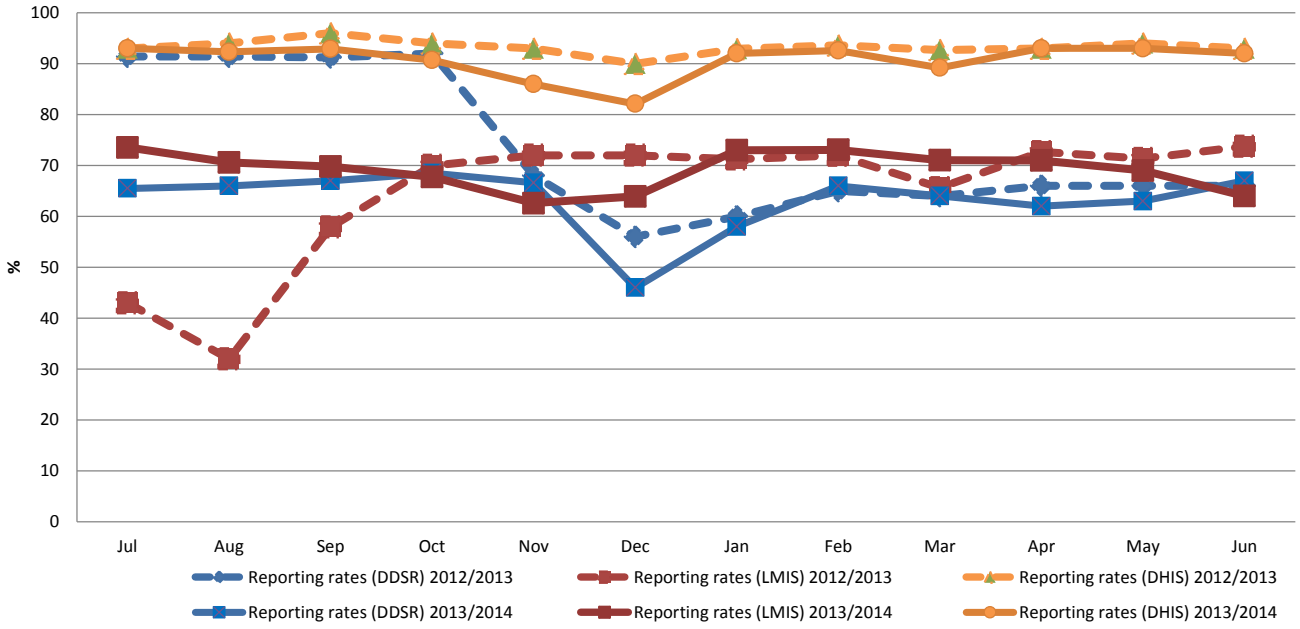


Source: DHIS

REPORTING RATES BY DATA SOURCES

The Malaria Control Unit (MCU) derives surveillance monitoring and evaluation (SM&E) data from various routine data reporting systems that includes the District Health Information Software (DHIS), electronic-Integrated Disease Surveillance and Response (IDSR), and the Logistics Management Information System (LMIS). The reporting rates presented in graph 6 are for DHIS, IDSR and LMIS and is derived from the number of health facilities that send in monthly reports against the number of health facilities expected to report each month. The e- IDSR data is an average of the weekly data that was reported during the reporting months. From the graph it can be seen that the DHIS reporting rates were above 90% in the last quarter. There was drop in the reporting rates in the LMIS and a slight rise of the reporting rates in The e-IDSR system towards the end of the quarter.

Figure 6: Reporting Rates



Source: DHIS/DSRU/LMIS

From the Counties

This section is an overview of how the counties performed in data collection and reporting for selected malaria indicators as shown in Table 1 in the reporting quarter 3 of 2013/2014. The treatment guidelines emphasize testing before treatment of malaria.

Table 1: Malaria Treatment by County

Region	County	Number of out-patient suspected Malaria cases	Number of out-patient confirmed Malaria cases	Aggregated Patients on AL	Outpatient cases treated with AL as a proportion of confirmed malaria cases	Outpatient cases treated with AL as a proportion of suspected malaria cases	Reporting Rates (%)of the malaria commodity form
Western	Bungoma*	183877	130716	198090	108	152	84.7
	Busia*	162731	96267	152428	94	158	98.1
	Kakamega*	364411	148187	240828	66	163	85.9
	Vihiga*	115797	64436	137344	119	213	95.7
Nyanza	Homa Bay*	203198	99577	215631	106	217	83.3
	Kisii *	132178	39304	99843	76	254	85.3
	Kisumu*	146543	79117	173782	119	220	85.1
	Migori*	220983	111921	231128	105	207	82.9
	Nyamira*	31438	6954	12725	40	183	29.8
	Siaya*	212557	140294	202806	95	145	75.6
Rift Valley	Baringo*	35552	6133	34703	98	566	62.8
	Bomet*	35053	1646	27793	79	1,689	63.3
	Elgeyo/Marakwet**	11199	2731	2425	22	89	36.9
	Kajiado*	18286	5437	21946	120	404	28.2
	Kericho*	61768	8165	34351	56	421	54.3
	Laikipia*	7638	2119	12921	169	610	83.6
	Nakuru*	55210	22229	28886	52	130	72
	Nandi**	78625	18541	37828	48	204	26.9
	Narok**	28599	6401	12218	43	191	24.9
	Samburu**	3085	2585	4138	134	160	58.8
	Trans Nzoia**	56885	31054	16462	29	53	37.2
	Turkana**	53997	30420	79247	147	261	37.7
	UasinGishu*	54648	16338	44259	81	271	73.9
	West Pokot	47597	17563	14069	30	80	38.3
Coast	Kilifi*	43403	25978	28369	65	109	90.4
	Kwale*	54407	30071	48937	90	163	99.1
	Lamu	1015	841	312	31	37	75.3
	Mombasa*	44800	21787	6605	15	30	100
	TaitaTaveta**	8523	2418	6237	73	258	48.9
	Tana River**	5480	2673	265	5	10	7.1
Eastern	Embu	21333	10968	17883	84	163	84.3
	Isiolo	8282	4011	3944	48	98	82.9
	Kitui*	45235	17339	27013	60	156	68.4
	Machakos*	19140	3799	10559	55	278	78.6
	Makueni*	31072	3573	20026	64	560	78.8
	Marsabit **	5572	1227	222	4	18	11.9
	Meru*	112092	60765	38735	35	64	63.8
	Tharaka-Nithi**	39694	13439	14514	37	108	58.1

Region	County	Number of out-patient suspected Malaria cases	Number of out-patient confirmed Malaria cases	Aggregated Patients on AL	Outpatient cases treated with AL as a proportion of confirmed malaria cases	Outpatient cases treated with AL as a proportion of suspected malaria cases	Reporting Rates (%)of the malaria commodity form
North Eastern	Garissa**	5443	2862	2705	50	95	48.5
	Mandera**	8619	1818	219	3	12	21.9
	Wajir**	3949	2896	4354	110	150	28.4
Central	Kiambu*	8367	3167	1500	18	47	66.3
	Kirinyaga**	7277	398	885	12	222	50.5
	Murang'a**	2386	262	821	34	313	55.7
	Nyandarua*	2883	1267	2810	97	222	97.3
	Nyeri**	126	77	94	75	122	27.6
Nairobi	Nairobi*	26393	14516	20141	76	139	84.2
	Total	*1,320,496*	*1,388,036*	*389,152*	*1,133,908*	*105*	*140,298*

Source: DHIS
** Counties that are not adhering to malaria treatment guidelines.*
*** Counties that have reporting rates below 60%*

Table 2: Reported Malaria Cases by Epidemiological Zones

Zones	Quarter	No. cases	No. tested < 5 years	Positive <5 years	TPR for < 5 years	Total no. cases all ages	Total no. tested all ages	Total no. positive all ages	TPR for all ages
Endemic	Qtr3 12/13	359,525	263,615	108,137	41	864,273	684,359	261,907	38
	Qtr4 12/13	418,903	398,240	195,762	49	1,046,465	1,066,682	481,872	45
	Qtr1 13/14	353,270	335,044	154,586	46	953,801	943,034	400,802	43
	Qtr2 13/14	272,405	251,326	100,885	40	726,600	693,328	257,856	37
	Qtr3 13/14	391639	316392	136519	43	1096294	895943	352747	39
Seasonal Transmission	Qtr3 12/13	105,172	91,025	30,584	34	310,157	279,425	96,160	34
	Qtr4 12/13	99,933	97,497	28,267	29	316,277	331,412	97,701	29
	Qtr1 13/14	88,138	89,936	24,445	27	293,938	322,387	83,002	26
	Qtr2 13/14	63,852	68,948	17,955	26	200,860	234,265	60,922	26
	Qtr3 13/14	84014	92022	23511	26	260618	303710	73717	24
Highland Epidemic	Qtr3 12/13	116,337	78,878	12,518	16	318,888	227,403	35,557	16
	Qtr4 12/13	119,711	100,120	19,756	20	336,438	298,100	56,377	19
	Qtr1 13/14	116,062	104,913	22,825	22	354,838	328,861	65,341	20
	Qtr2 13/14	96,071	81,773	15,176	19	280,483	247,585	42,520	17
	Qtr3 13/14	121608	110694	20890	19	380076	350543	65393	19
Low Risk Malaria Areas	Qtr3 12/13	56,751	85,312	10,443	12	163,889	255,251	30,428	12
	Qtr4 12/13	58,665	104,138	12,548	12	168,917	319,684	35,022	11
	Qtr1 13/14	46,707	82,107	9,641	12	135,423	270,098	28,167	10
	Qtr2 13/14	32,124	62,319	6,255	10	87,967	193,014	18,331	9
	Qtr3 13/14	30342	72815	7622	10	86205	228897	23630	10

Source: DSRU