Malaria Surveillance Bulletin

NATIONAL MALARIA CONTROL PROGRAM - QUARTER 4: ISSUE 17 – JUNE 2016

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

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MESSAGE FROM THE PROGRAM MANAGER

Welcome to the 17th issue of the Kenya Malaria Control Program's Quarterly Surveillance bulletin. This issue focuses on the last quarter of the financial year 2015/2016 i.e. April to June 2016, with key malaria indicators demonstrated using six (6) surveillance core graphs. Due to differences in malaria transmission in the country, the graphs for outpatient confirmed malaria cases and test positivity rates (TPR) are disaggregated into the four malaria epidemiological zones and in this issue we have separated the Coast and Lake endemic areas. Tables showing County data for selected malaria indicators; percentage treated, number of malaria cases and epidemiological zones are also included.

This quarter began with the launch of the KMIS 2015 on April 5th 2016 in Nairobi with County representation from all 47 counties. The regional dissemination will follow later in the year including dissemination of updated County Profiles

The World Malaria Day was commemorated in Kwale County on the 25th April 2016. The guest of honor was the governor of Kwale. The celebration was under the global theme of "End Malaria Now" and the Kenyan slogan was "Pamoja Tumalize Malaria Kenya". In May and June 2016 the programme trained 120 County and Sub-county Malaria Coordinators, County Health Promotion officers, and County Surveillance officers on Social Behavior Change Communication. The outcome were draft copies of County SBCC plans. The participants were drawn from Nyamira, Kisii, Bomet, Nakuru, Turkana, Elgeyo Marakwet, Samburu, Laikipia, West Pokot, Kericho, Baringo, Nandi, Usain Gishu and Trans Nzoia Counties.

Planning for the final stage of the mass net distribution which is to take place in irrigation areas kicked off this quarter. There was a micro-planning meeting for Baringo, Marsabit, Turkana, and Kirinyaga Counties. At the end of the meeting there were micro-plans for the forth coming net distribution which will take place later in the year.

The first ever inpatient Quality of Care for Malaria Case Management report was shared with the programme and plans are under way to disseminate the same to the Counties. In the latter part of the quarter the programme trained 8,180 health workers on malaria case management as a rapid results initiative.

The DHIS has been under maintenance in the past couple of months and this has resulted in data inconsistencies such as erratic changes in reported data.

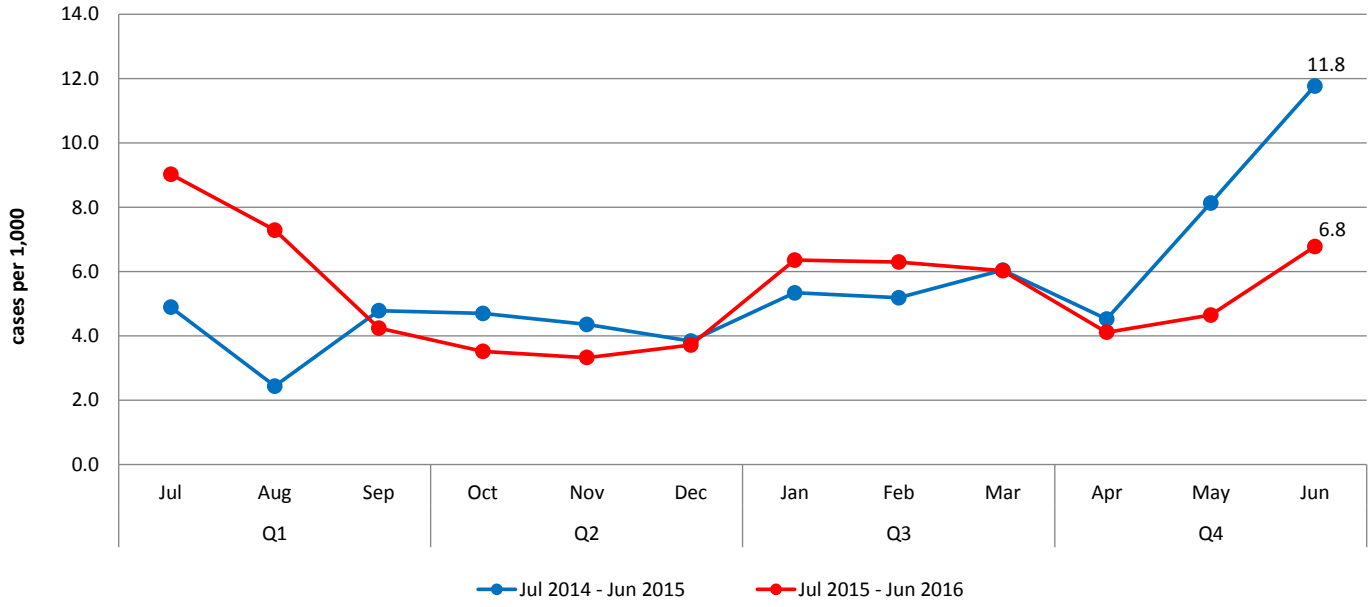
We do hope that you will use these bulletins to help you see the situation in your transmission area and Counties and thus help you make decisions concerning malaria interventions. We encourage you to maintain high reporting rates (above 80%) so that as your data is representative of your County and also encourage you to also to do similar analysis with your surveillance and DHIS data at both the County and Sub-county levels

OUTPATIENT CONFIRMED MALARIA CASES PER 1000 OF POPULATION

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.

The number of confirmed malaria cases presented to health workers per 1,000 persons of population increased from 4.1 in April to 6.8 in June 2016. June is usually part of the malaria peak transmission season in Kenya. However, the figures are much lower in the current year as compared to 11.8 reported in June 2015.

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

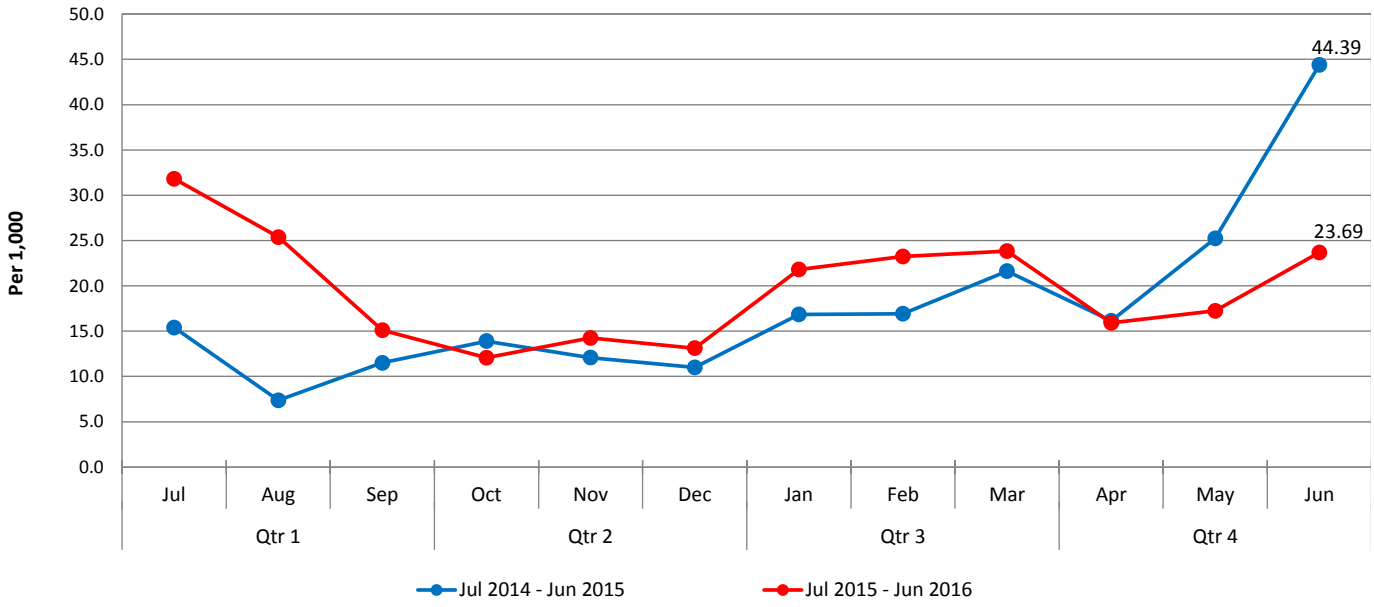


Source(s): DSRU, KNBS Projection 2009 Census

Figure 1b: Number of Outpatient Confirmed Malaria Cases per 1,000 of Population by malaria epidemiology zones

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.

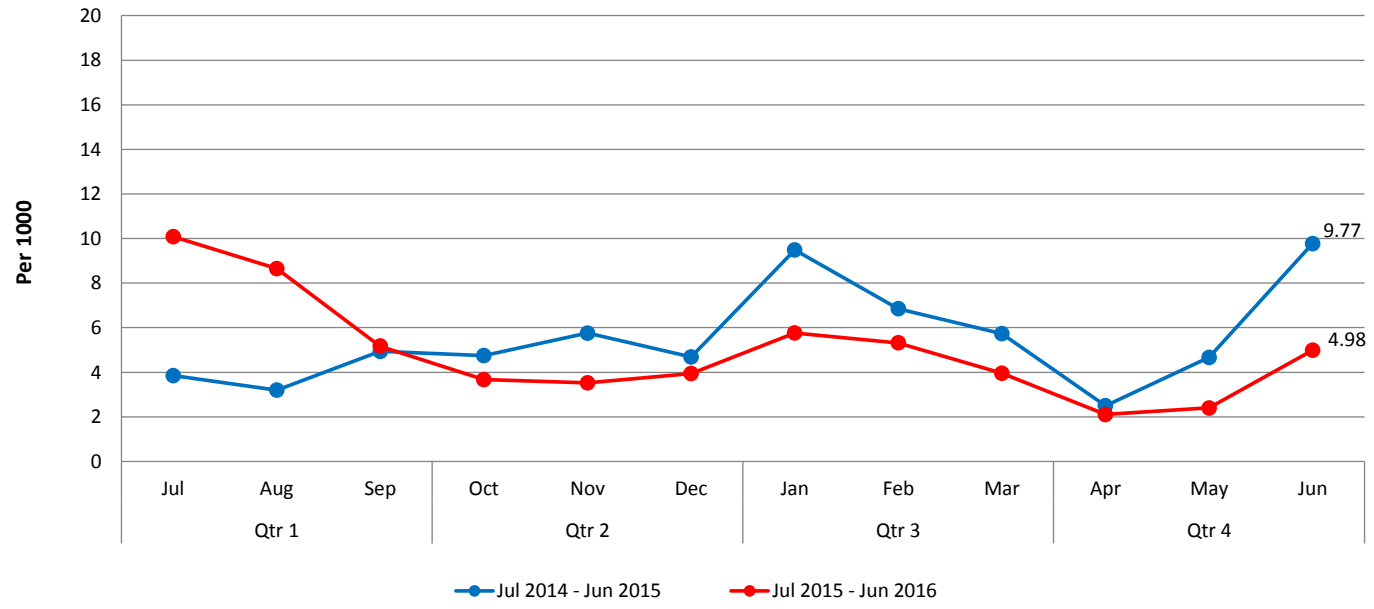
Lake Endemic Zone



Source: DSRU, KNBS Projection 2009 Census

In the Lake Endemic zone, the confirmed malaria cases per 1,000 persons mirrored the trends in the Country data. This rate increased from 15.9 in April 2016 to 23.7 in June 2016.

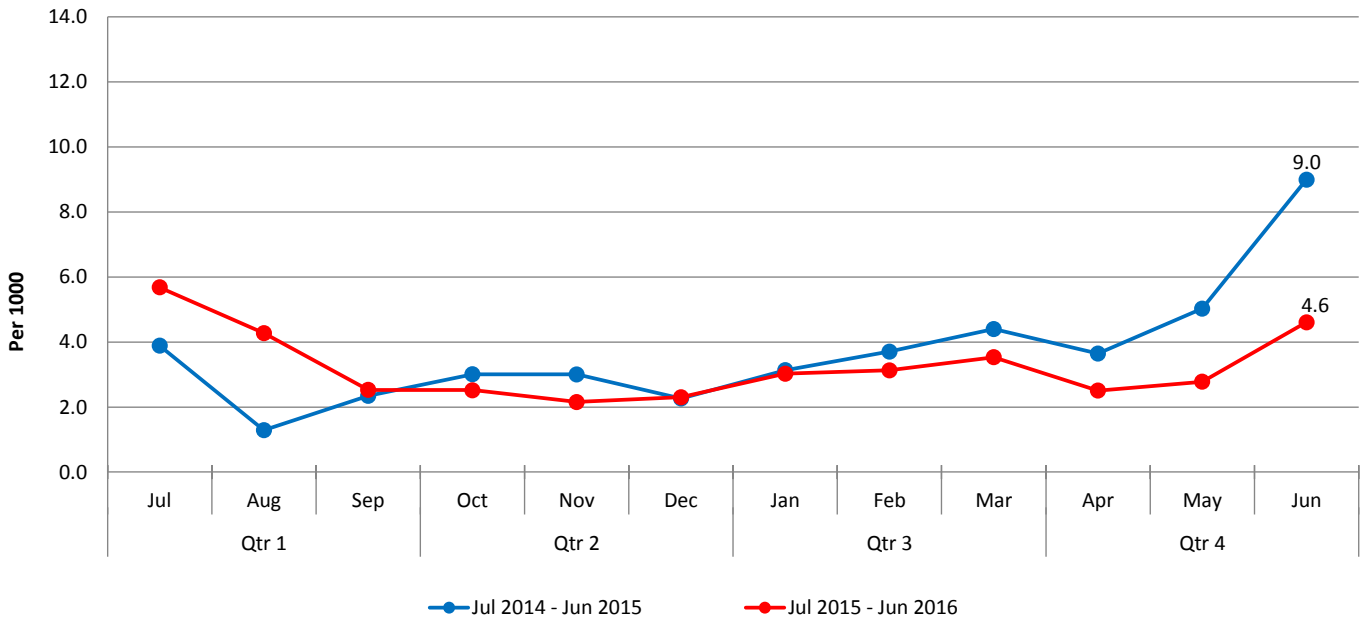
Coast Endemic Zone



Source: DSRU, KNBS Projection 2009 Census

In the Coast Endemic zone, the confirmed malaria cases per 1,000 persons increased from 2.1 in April 2016 to 4.9 in June 2016. Lamu county recorded very low reported suspected and confirmed malaria.

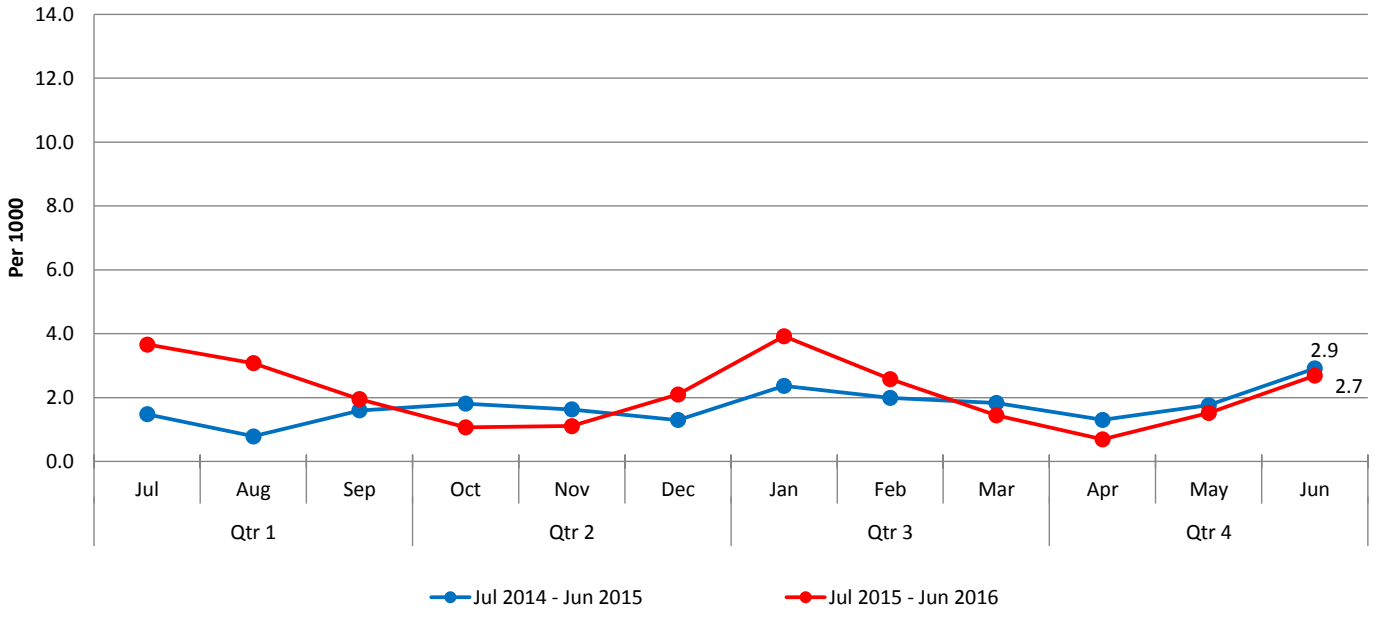
Highland Endemic Prone Areas



Source: DSRU, KNBS Projection 2009 Census

In the Highland Epidemic Prone areas, the confirmed malaria cases per thousand (1,000) persons increased from 2.5 in April 2016 to 4.6 in June 2016.

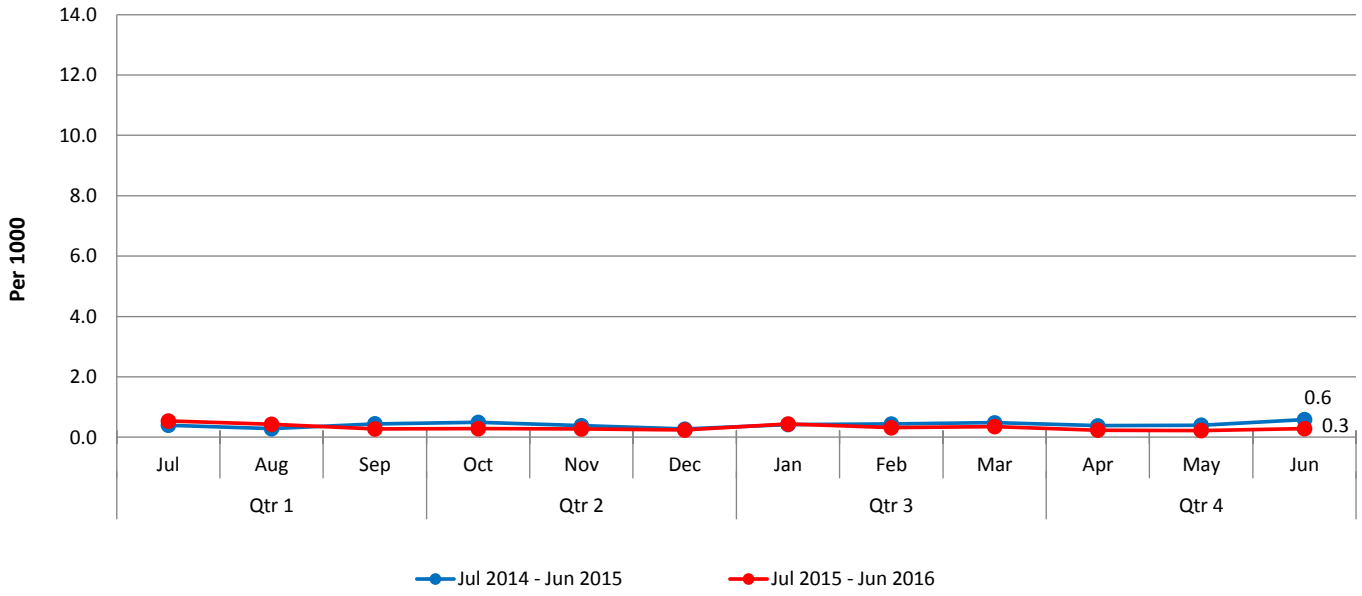
Seasonal Transmission Zone



Source: DSRU, KNBS Projection 2009 Census

In the Seasonal transmission areas of Kenya, confirmed malaria cases per 1,000 persons increased from 0.7 in April 2016 to 2.7 in June 2016.

Low Malaria Risk Areas

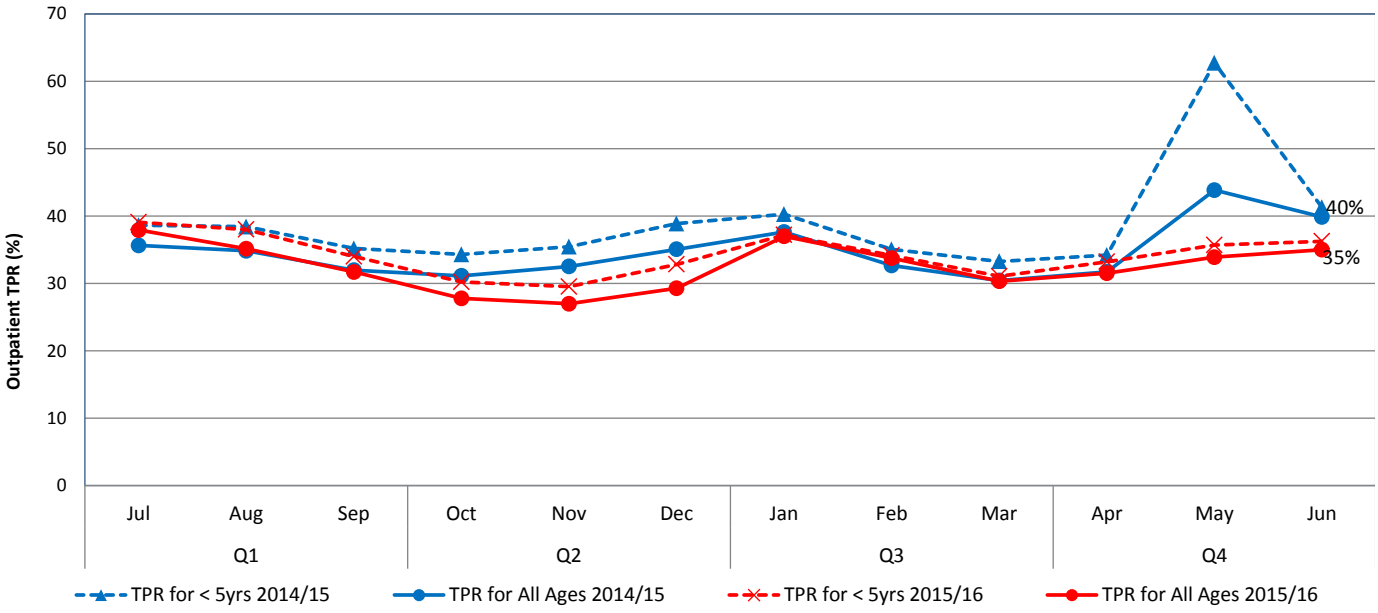


In the Low malaria risk areas, the confirmed malaria cases per 1,000 persons of population increased from 0.2 in April 2016 to 0.3 in June 2016.

Source: DSRU, KNBS Projection 2009 Census

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 are depicted. 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.

Figure 2a: Outpatient TPR for < 5yrs and all ages



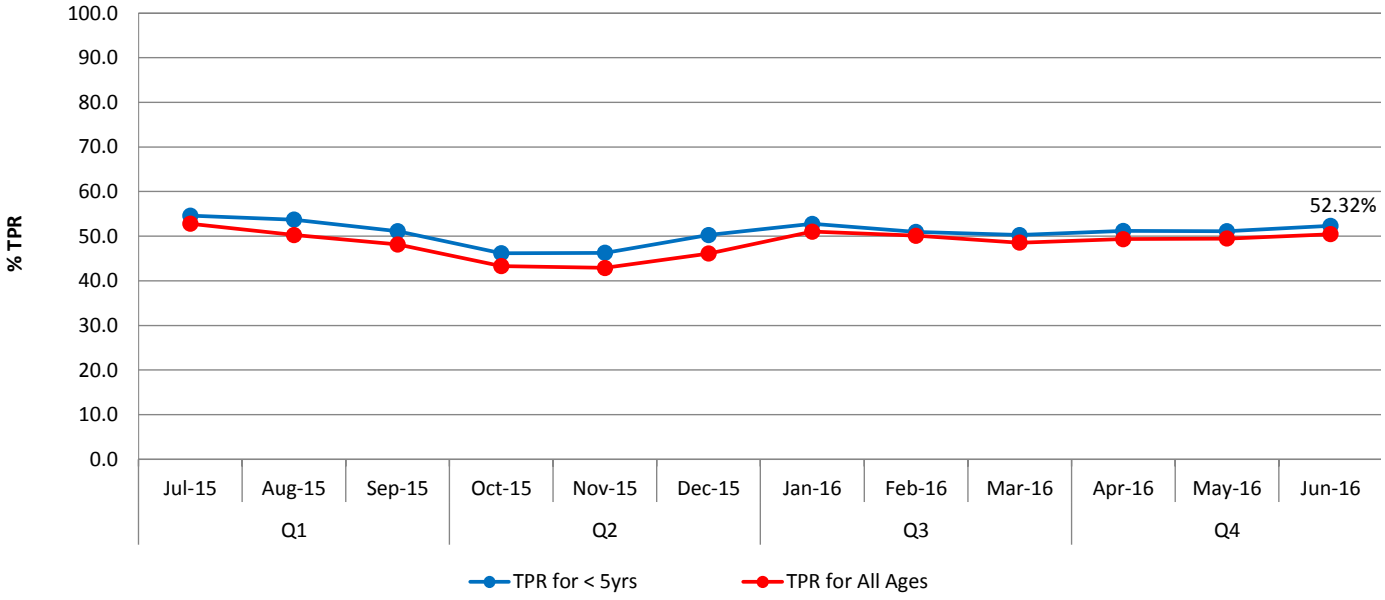
Source(s): DSRU

The Test Positivity Rate for all ages increased from 32% in April 2016 to 35% in June 2016 and among the under 5 year old the TPR increased from 33% to 36% in the same period. The rates for the same period last year were higher an indication of incidence reduction.

Figure 2b show outpatient TPR disaggregated by different epidemiological zones.

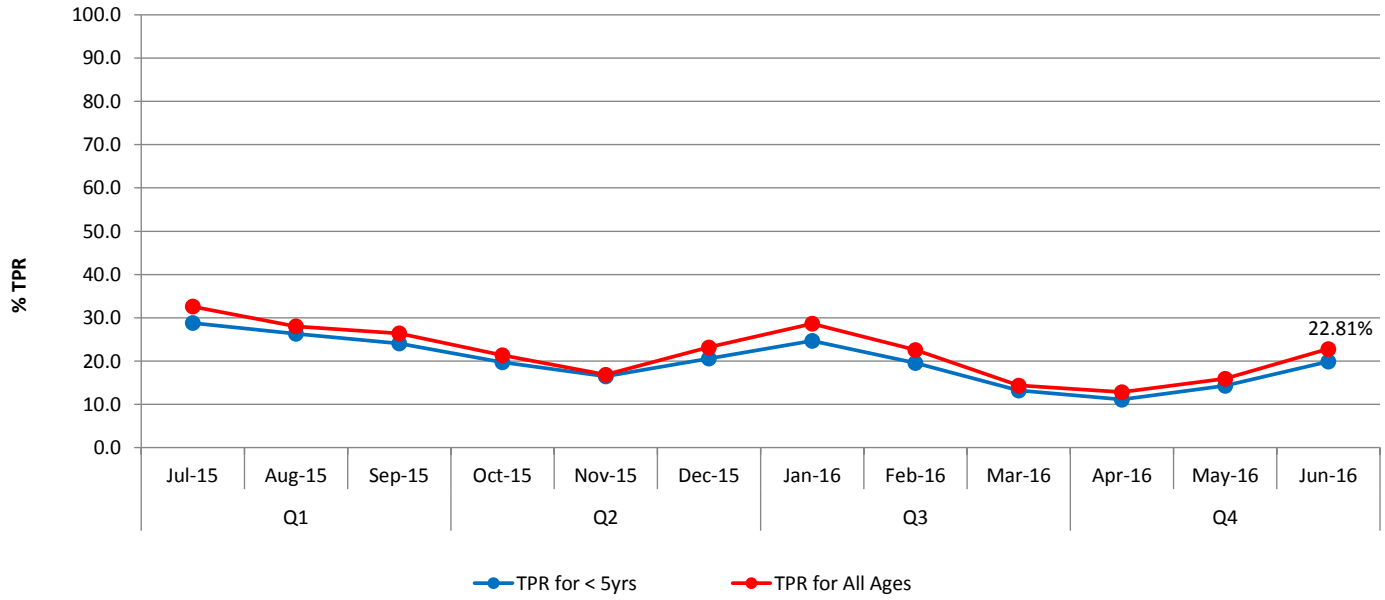
Figure 2b: Outpatient TPR for < 5yrs and all ages by malaria epidemiology zones

Lake Endemic Zone



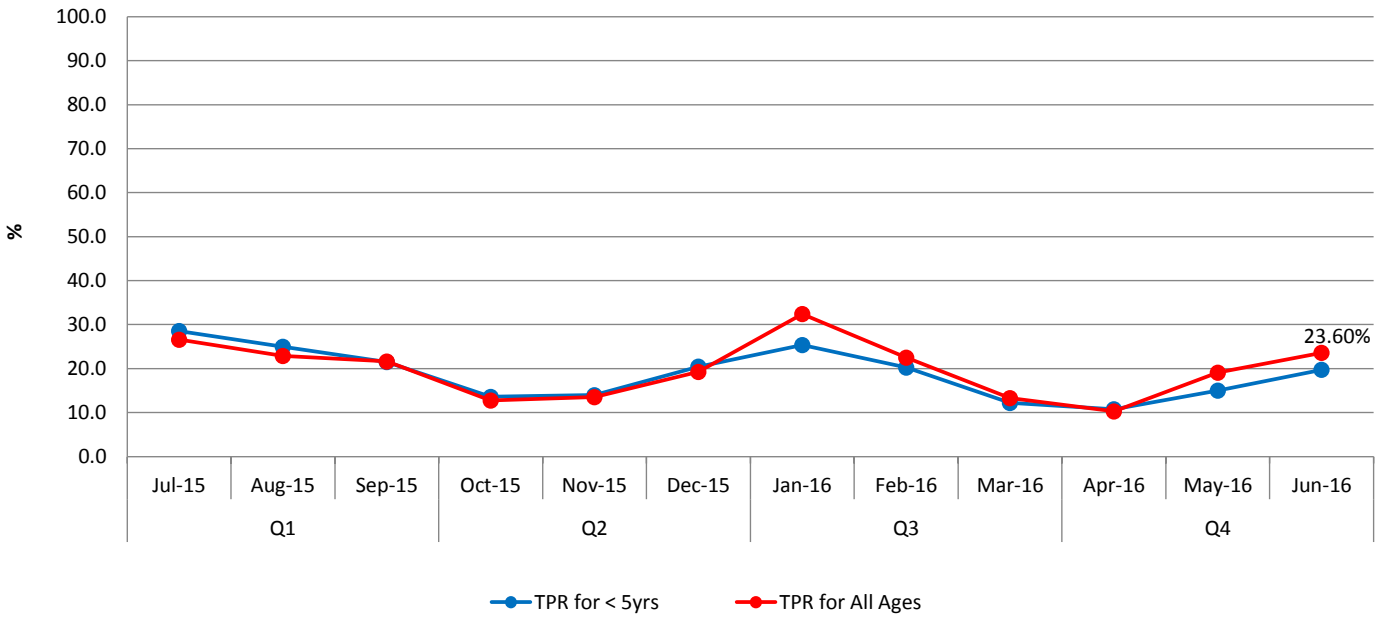
In the Lake Endemic (high transmission) zone the TPR for both under 5 year old increased from 51.2% in April 2016 to 52.3% in June 2016 and for all ages 49.3% in April 2016 to 50.5% in June 2016 respectively.

Coast Endemic Zone



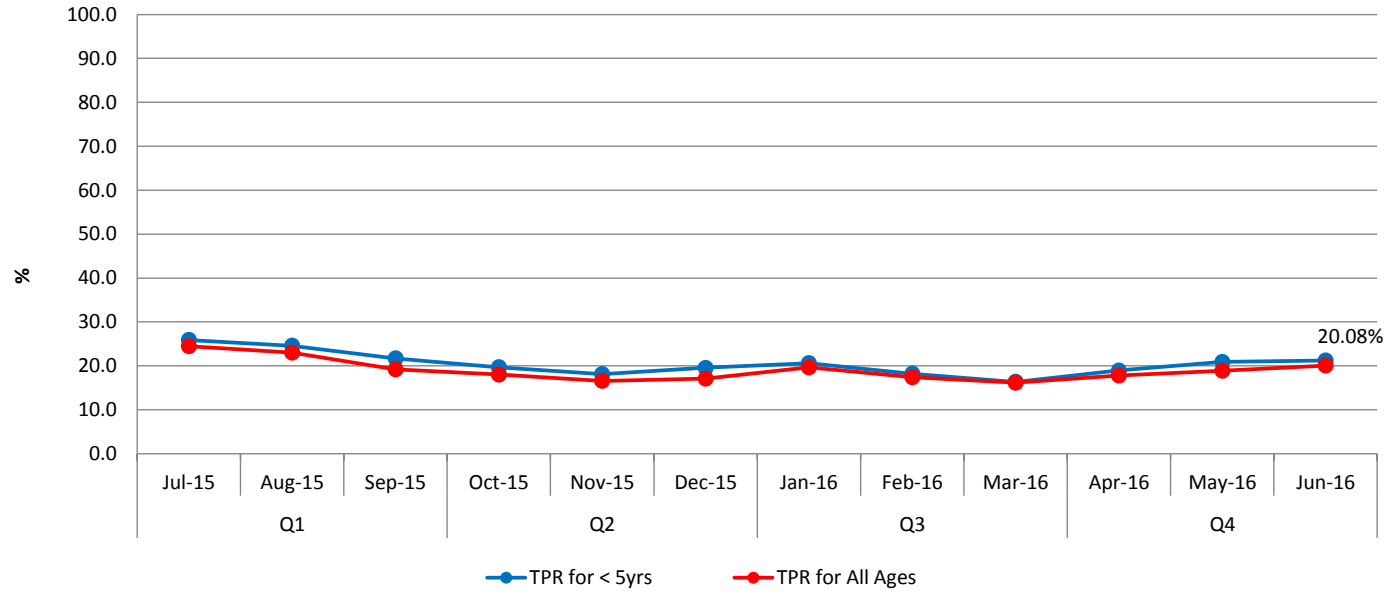
In the Coast Endemic zone, the TPR for <5 years increased from 11.1% in April 2016 to 19.87% in June 2016 and for All Ages increased from 12.9% to 22.8% during the reporting period.

Seasonal Transmission Zone



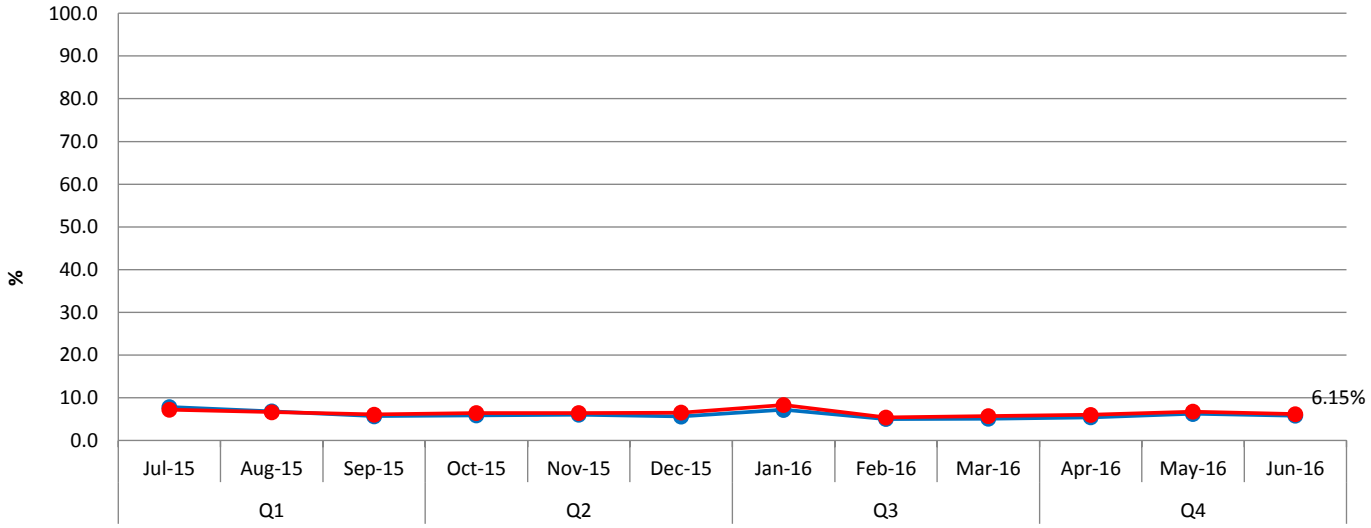
In the Seasonal transmission zone, the TPR for both under 5 year old increased from 10.8% in April 2016 to 19.7% in June 2016 and for all ages 10.3% in April 2016 to 23.6% in June 2016 respectively.

Highland Endemic Prone Areas



In the Highland Epidemic prone areas of Kenya the TPR for under 5 years increased from 18.9% April 2016 to 20.9% in May and further to 21.2% in June 2016. For all ages,, the TPR increased from 17.8% to 20.1% over the same reporting period.

Low Malaria Risk Areas



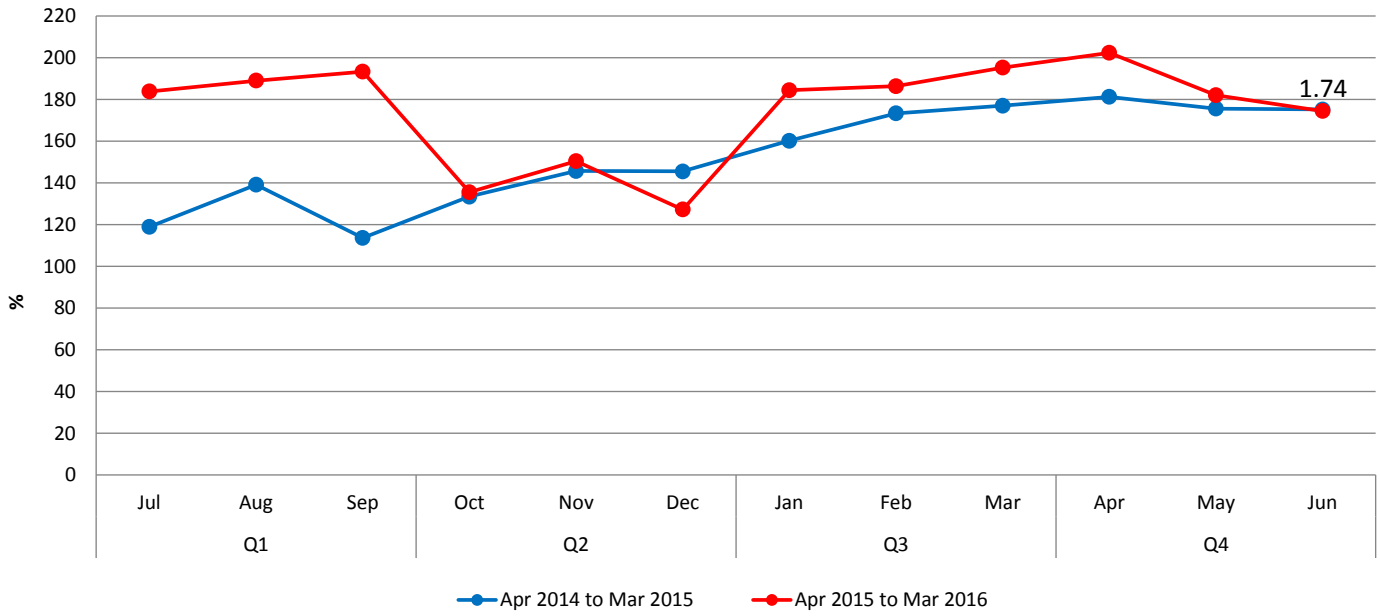
In the Low malaria risk areas in Kenya, the TPR among the under-5 year old increased from 5.4% April 2016 to 5.8% in June 2016 whereas among all age-groups in this zone the TPR increased from 6.0% in April to 6.2 % in June 2016.

Source: DSRU

SUSPECTED MALARIA CASES TESTED WITH PARASITE-BASED TEST

The graph below depicts the percentage of the suspected malaria cases among the outpatients that underwent a laboratory diagnosis over the reporting period are presented.

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



Source(s): DSRU

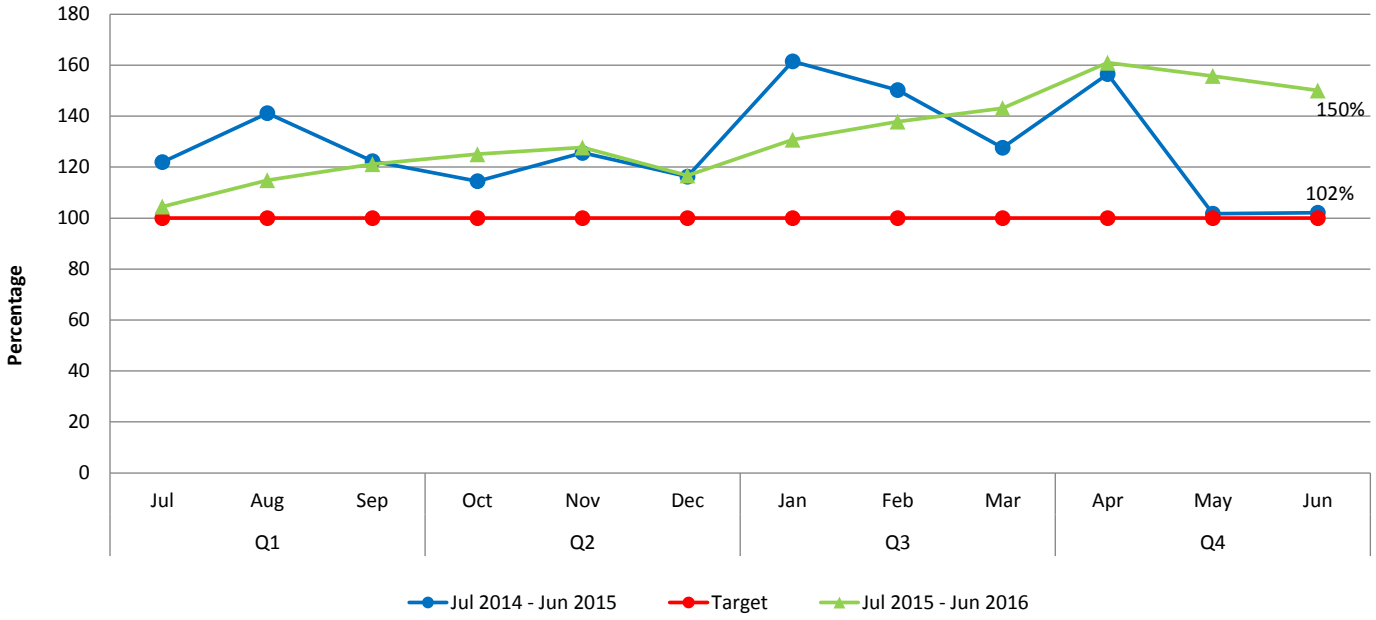
This percentage presents the rate of the number of patients that were tested for malaria to the number of clients that presented to the health care provider that were suspected to have malaria parasites. The Testing Rate decreased from 202% in April 2016 to 174% in June 2016.

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.

Figure 4a: 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 anti-malarial medicines during the reporting period.

Figure 4a: Outpatient cases treated with AL as a proportion of confirmed malaria cases



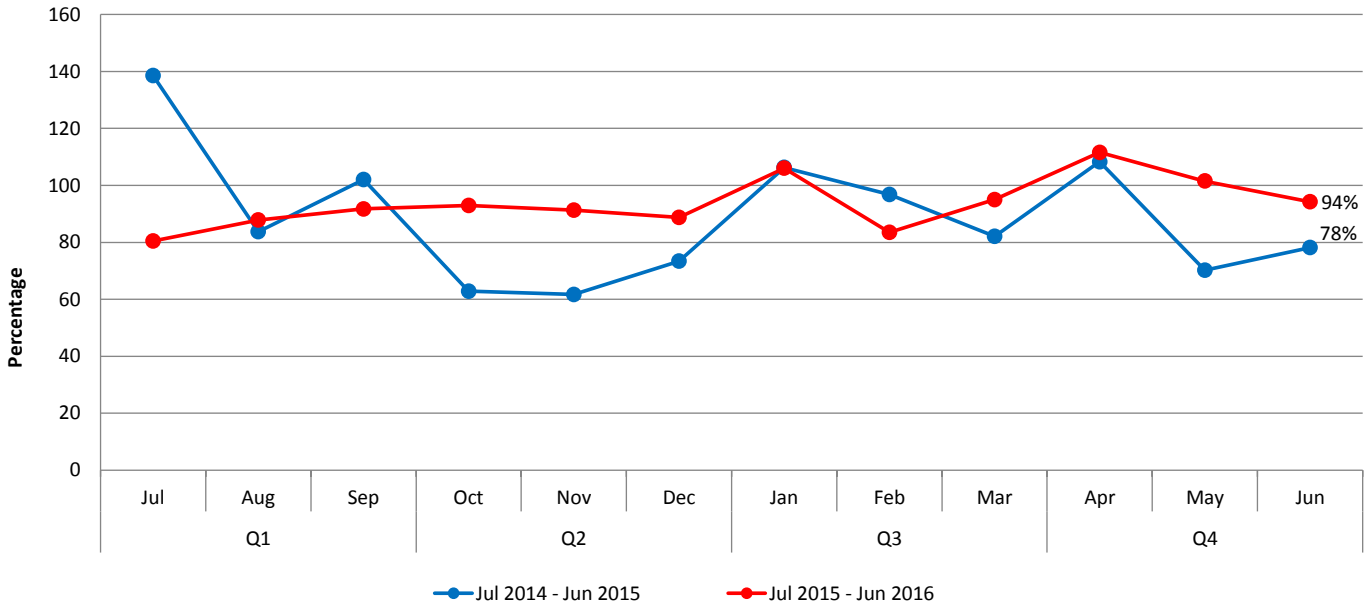
Source: LMIS/DHIS

The outpatient cases treated with AL as a proportion of confirmed malaria cases decreased from 161% to 150% over the reporting period. Lamu and Mombasa counties have particularly recorded extreme low doses of ACTs consumed compared to the reported malaria cases.

Figure 4b shows the percentage of outpatient suspected malaria cases who received appropriate anti-malarial treatment (ACTs)

This graph measures how many of suspected malaria cases were treated using appropriate anti-malarial medicines. The diagnostics availability has been scaled up over time. It is therefore expected that all suspected malaria cases should be subjected to a malaria test, and only the malaria-parasite positive cases will be treated with AL.

Figure 4b: Outpatient cases treated with AL as a proportion of suspected malaria cases



Source: LMIS/DHIS

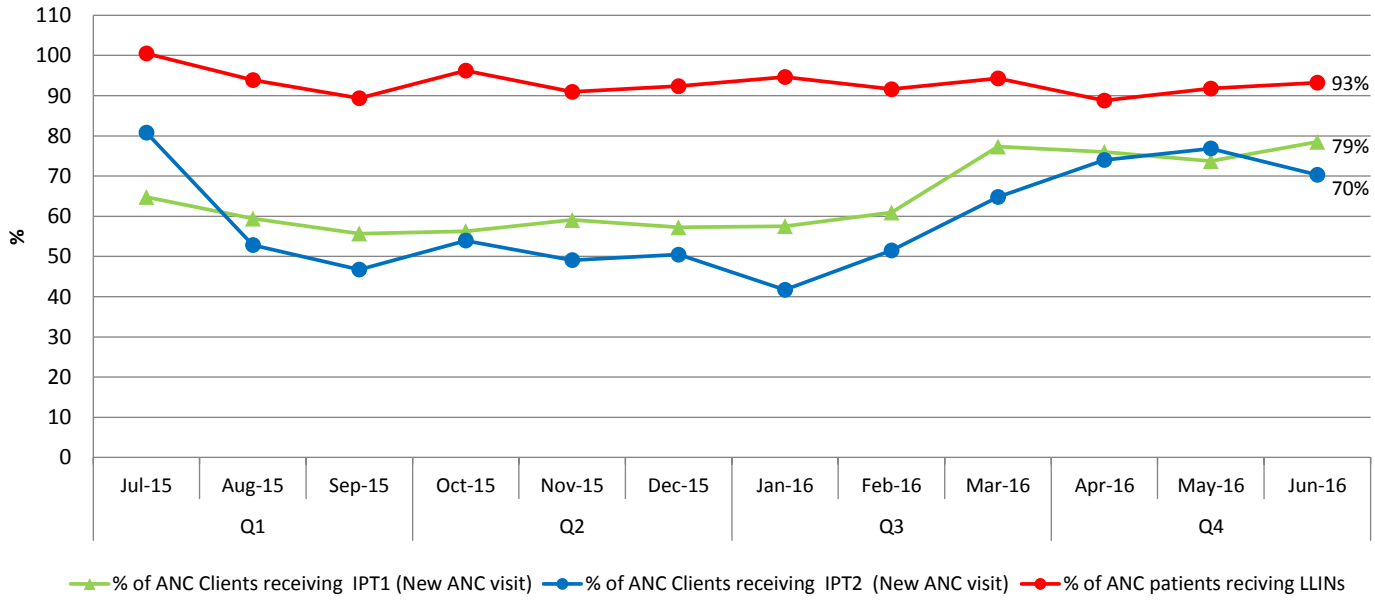
The outpatient cases treated with AL as a proportion of suspected malaria cases reduced from 112% in April 2016 to 94% in June 2016.

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) in Endemic areas.

The percentage of ANC clients issued with IPT_1 doses has increased from 76% in April 2016 to 79% in June 2016 and the percentage of ANC clients receiving IPT_2 increased from 74% in April to 77% in May before declining to 70% in June 2016. The National Malaria Control Program secured stocks of SP for the whole of 2016, thus endemic Counties are encouraged to place their orders to KEMSA. The percentage of ANC clients receiving LLINs through routine Nets distribution program in the Endemic (high transmission) zone increased from 89% in April 2016 and 93% in June 2016

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

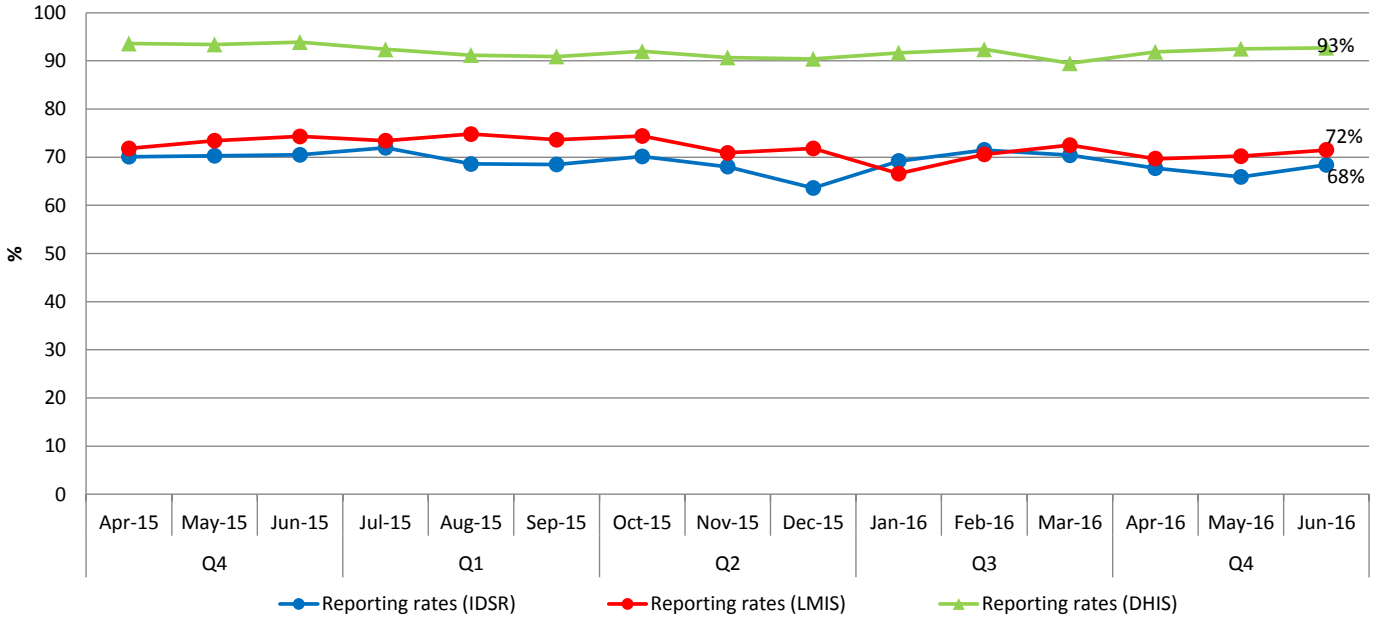


Source: DHIS

REPORTING RATES BY DATA SOURCES

The National Malaria Control Program (NMCP) 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.

Figure 6: Reporting rates by Data Sources



The IDSR reporting rate for the period April to June 2016 remained stable at an average of 68%. From the DHIS, the malaria commodities form Logistics Management Information System (LMIS) increased from 70% to 72% during the reporting period. The DHIS OPD cases reporting rates increased slightly from 92% to 93% during the reporting period.

Source: DHIS/DSRU/LMIS

FROM THE COUNTIES

This section provides a general overview in terms of how the counties performed in data collection and reporting for selected malaria indicators as shown in Table 1 in the reporting quarter 2 of 2015/2016. Those with double stars have low reporting completeness (below 60%) and therefore have insufficient data to represent the reality, whereas those with single stars have either overtreated or undertreated out patients. We do encourage Counties to look at their data and improve their reporting rates and quality of data. We do emphasize that patients are to be tested before being treated wherever there is diagnostic capability.

The difference in the number of outpatients confirmed malaria cases and the aggregated patients on AL could be due to irrational treatment of negative cases and the bundling of lower weight bands to treat older patients (e.g. combining four blister packs of the 6's to treat a patient heavier than 35Kg).

Table 1: Malaria treatment by county

Region	County	# outpatient suspected Malaria cases	# outpatient confirmed malaria cases	Aggregated patients on ACTs	# outpatient cases treated with ACTs as a proportion of confirmed Malaria cases	# outpatient cases treated with ACTs as a proportion of suspected Malaria cases	Reporting rate (%) of the malaria commodity form
Western	Bungoma *	153,111	116,037	160,076	138%	105%	76%
	Busia	132,106	99,905	107,235	107%	81%	93%
	Kakamega *	316,196	218,129	291,792	134%	92%	95%
	Vihiga	105,426	83,194	79,064	95%	75%	68%
Nyanza	Homa Bay *	203,083	132,704	339,897	256%	167%	93%
	Kisii *	82,528	35,986	96,370	268%	117%	92%
	Kisumu *	161,958	123,790	196,834	159%	122%	90%
	Migori *	208,014	126,420	302,981	240%	146%	94%
	Nyamira	15,531	10,226	15,973	156%	103%	94%
	Siaya	187,961	125,959	128,588	102%	68%	78%
Rift-Valley	Baringo **	22,503	5,302	10,841	204%	48%	54%
	Bomet *	8,506	1,283	3,424	267%	40%	74%
	Elgeyo-Marakwet **	11,129	7,949	3,945	50%	35%	49%
	Kajiado **	7,636	3,414	7,273	213%	95%	52%
	Kericho **	22,393	8,786	8,783	100%	39%	39%
	Laikipia *	2,049	668	1,954	292%	95%	78%
	Nakuru **	27,878	11,578	12,136	105%	44%	59%
	Nandi **	41,541	19,142	32,299	169%	78%	56%
	Narok **	21,157	5,491	19,527	356%	92%	54%
	Samburu **	2,447	1,833	4,662	254%	191%	45%
	Trans-Nzoia *	46,292	27,860	48,860	175%	106%	90%
	Turkana *	76,918	53,662	107,455	200%	140%	73%
	Uasin Gishu *	27,203	13,388	19,857	148%	73%	76%
	West-Pokot *	47,410	24,342	53,243	219%	112%	78%
Coast	Kilifi	41,981	34,274	35,726	104%	85%	91%
	Kwale *	44,386	42,469	37,533	88%	85%	79%
	Lamu **	110	95	49	52%	45%	43%
	Mombasa *	33,832	18,554	2,974	16%	9%	64%
	Taita Taveta *	1,381	760	1,844	243%	134%	80%
	Tana River **	7,508	3,078	3,313	108%	44%	55%

Region	County	# outpatient suspected Malaria cases	# outpatient confirmed malaria cases	Aggregated patients on ACTs	# outpatient cases treated with ACTs as a proportion of confirmed Malaria cases	# outpatient cases treated with ACTs as a proportion of suspected Malaria cases	Reporting rate (%) of the malaria commodity form
Eastern	Embu *	5,656	3,323	1,412	42%	25%	74%
	Isiolo	3,970	3,239	2,942	91%	74%	88%
	Kitui **	10,253	5,000	7,030	141%	69%	57%
	Machakos *	2,109	887	424	48%	20%	70%
	Makueni *	3,067	479	984	205%	32%	84%
	Marsabit **	3,775	1,244	351	28%	9%	24%
	Meru *	14,593	9,744	4,559	47%	31%	60%
	Tharaka Nithi	8,688	6,103	6,174	101%	71%	79%
North Eastern	Garissa**	2,979	1,783	1,551	87%	52%	58%
	Mandera **	4,492	1,300	720	55%	16%	10%
	Wajir **	2,372	590	1,101	187%	46%	39%
Central	Kiambu *	3,794	1,518	1,779	117%	47%	90%
	Kirinyaga *	874	39	24	62%	3%	73%
	Muranga **	300	115	216	188%	72%	56%
	Nyandarua *	390	281	1,280	456%	328%	91%
	Nyeri *	256	118	966	818%	377%	97%
Nairobi	Nairobi **	22,784	12,505	4,421	35%	19%	55%
Kenya		2,150,526	1,404,546	2,170,439	155%	101%	72%

* Counties that are not adhering to malaria treatment guidelines.

** Counties that have reporting rates below 60%

Source: LMIS / DHIS

Table 2: Reported Malaria Cases by Epidemiological zones

		Under 5 Yrs.				All Ages			
Epizone	quarter	Total Cases	Total tested	Total positive	TPR	Total cases	Total tested	Total positive	TPR
Lake Endemic	14/15-4	367,336	512,484	283,026	**55.23**	1,079,402	1,543,189	823,356	**53.35**
	15/16-1	299,572	444,505	237,792	**53.50**	906,074	1,364,035	693,934	**50.87**
	15/16-2	193,973	285,075	135,522	**47.54**	580,937	859,008	378,433	**44.05**
	15/16-3	290,436	426,988	218,891	**51.26**	948,376	1,362,498	679,160	**49.85**
	15/16-4	**252,384**	**356,756**	**184,165**	**51.62%**	**820,809**	**1,123,866**	**560,244**	**49.85%**
Coast Endemic	14/15-4	17,415	63,816	14,620	**22.91**	53,886	208,064	53,344	**25.64**
	15/16-1	21,272	77,011	20,588	**26.73**	70,138	256,298	75,330	**29.39**
	15/16-2	13,379	55,902	10,477	**18.74**	36,248	173,531	35,089	**20.22**
	15/16-3	16,233	76,199	13,764	**18.06**	51,174	230,402	48,647	**21.11**
	15/16-4	**8,104**	**53,063**	**8,093**	**15.25%**	**26,921**	**172,296**	**30,686**	**17.81%**
Seasonal Transmission	14/15-4	79,186	151,638	28,869	**19.04**	216,767	476,244	88,725	**18.63**
	15/16-1	82,956	151,438	29,295	**19.34**	221,199	475,588	90,245	**18.98**
	15/16-2	55,788	121,819	21,329	**17.51**	159,936	399,782	66,155	**16.55**
	15/16-3	46,529	114,991	21,096	**18.35**	167,091	399,045	87,131	**21.83**
	15/16-4	**28,595**	**79,016**	**12,405**	**15.70%**	**107,641**	**285,830**	**53,702**	**18.79%**
Highland Epidemic Prone	14/15-4	81,527	145,046	29,460	**20.31**	280,490	553,548	113,181	**20.45**
	15/16-1	66,579	126,899	27,450	**21.63**	232,700	480,409	101,590	**21.15**
	15/16-2	39,431	90,494	15,890	**17.56**	130,644	348,688	55,385	**15.88**
	15/16-3	72,501	135,793	25,655	**18.89**	239,161	499,971	90,631	**18.13**
	15/16-4	**64,844**	**121,740**	**24,945**	**20.49%**	**212,797**	**458,604**	**87,616**	**19.10%**
Low Risk	14/15-4	7,077	47,315	2,425	**5.13**	23,595	152,071	8,249	**5.42**
	15/16-1	5,651	43,716	1,951	**4.46**	19,621	148,681	7,287	**4.90**
	15/16-2	5,025	32,837	1,523	**4.64**	17,566	111,363	5,177	**4.65**
	15/16-3	12,543	70,776	4,495	**6.35**	35,404	223,588	16,140	**7.22**
	15/16-4	**10,966**	**50,563**	**2,918**	**5.77%**	**30,425**	**163,645**	**10,258**	**6.27%**

Source: DSRU