

Supplementary Information 3

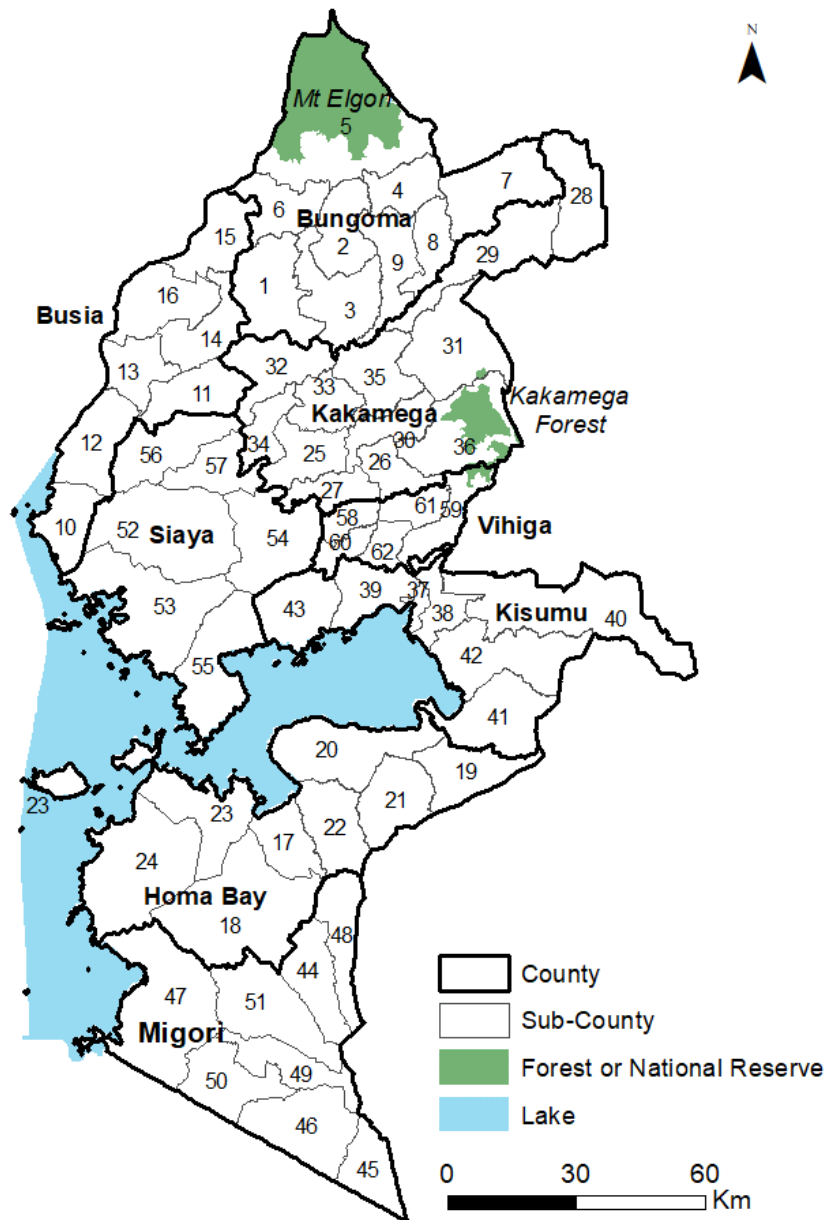


Figure 1: Coded map of sub-counties in Western Kenya

**Table 1:** showing summary of health facility data in the 64 sub-counties, the predicted mean test positivity rate (95% Bayesian credible interval) and the stratification category based on exceedance probability. Stratification classification: class 1 (<30%); class 2 (>30% -< 40%); class 3 (>40 -< 70); class 4 (> 70%).

County	Sub-county	Sub-county ID	Sub-County Pop 2019	Number of health facilities	Tested	Out-patient confirmed malaria cases	Predicted test positivity rate mean (Bayesian 95% credible interval)	TPR stratification category
Bungoma	Bumula	1	215,892	17	200,194	108,223	62 (60.6 - 63.3)	4
Bungoma	Kabuchai	2	177,748	26	169,698	86,098	57.3 (56.3 - 58.3)	2
Bungoma	Kanduyi	3	287,765	48	432,175	156,889	57.3 (56.2 - 58.5)	3
Bungoma	Kimilili	4	162,038	21	160,421	54,526	53.3 (52.2 - 54.4)	3
Bungoma	Mt Elgon	5	218,529	38	192,920	77,542	38.7 (17.9 - 72.2)	1
Bungoma	Sirisia	6	119,875	19	236,863	101,747	68.4 (67.4 - 69.5)	4
Bungoma	Tongaren	7	221,660	24	117,953	50,734	50.5 (48.3 - 52.7)	3
Bungoma	Webuye East	8	114,548	24	120,667	59,339	55.1 (54.1 - 56.2)	3
Bungoma	Webuye West	9	152,515	19	219,052	85,513	63 (62 - 64)	3
Busia	Bunyala	10	85,977	10	128,286	80,931	71.7 (68.2 - 75.1)	3
Busia	Butula	11	140,334	22	219,639	169,568	77.7 (76.9 - 78.6)	4
Busia	Samia	12	107,176	18	150,817	98,048	73.1 (68.5 - 77.3)	4
Busia	Matayos	13	142,408	32	328,329	166,223	71.9 (71 - 72.9)	4
Busia	Nambale	14	111,636	12	143,328	99,275	60.9 (59.4 - 62.4)	3
Busia	Teso North	15	138,034	23	249,241	142,688	63.7 (61.5 - 65.8)	3
Busia	Teso South	16	168,116	22	225,532	136,703	74.9 (70.9 - 77.7)	4
Homa Bay	Homa Bay	17	117,439	31	124,180	34,521	39.5 (37.7 - 41.3)	2
Homa Bay	Ndhiwa	18	218,136	45	152,929	55,709	35.7 (33.1 - 38.4)	1
Homa Bay	Rachuonyo East	19	121,822	30	96,900	29,241	23.6 (22.1 - 25.1)	1
Homa Bay	Rachuonyo North	20	178,686	42	163,309	53,440	30.5 (28.5 - 32.6)	1
Homa Bay	Rachuonyo South	21	130,814	37	171,549	53,667	30.1 (28.5 - 31.8)	1
Homa Bay	Rangwe	22	117,732	29	124,482	50,189	39.2 (36.9 - 41.5)	2

County	Sub-county	Sub-county ID	Sub-County Pop 2019	Number of health facilities	Tested	Out-patient confirmed malaria cases	Predicted test positivity rate mean (Bayesian 95% credible interval)	TPR stratification category
Homa Bay	Suba North	23	124,938	44	119,734	40,297	34.4 (28.6 - 40.3)	1
Homa Bay	Suba South	24	122,383	34	71,928	20,291	32.4 (28.3 - 37)	1
Kakamega	Butere	25	154,100	23	293,712	191,638	70.2 (69.6 - 70.7)	4
Kakamega	Ikolomani	26	111,743	27	184,701	80,287	56.1 (55.3 - 56.9)	4
Kakamega	Khwisero	27	113,476	25	306,453	161,186	65 (64.4 - 65.6)	4
Kakamega	Likuyani	28	152,055	28	56,583	11,752	40 (31 - 47.5)	1
Kakamega	Lugari	29	188,900	36	156,393	43,620	42.1 (40.1 - 44)	1
Kakamega	Lurambi	30	188,212	37	409,832	192,102	58 (57.3 - 58.8)	4
Kakamega	Malava	31	238,330	27	262,973	130,185	53.7 (52 - 55.4)	2
Kakamega	Matungu	32	166,940	20	228,677	147,104	64.1 (63 - 65.3)	3
Kakamega	Mumias East	33	116,851	19	225,573	121,006	63.3 (62.4 - 64.1)	4
Kakamega	Mumias West	34	115,354	18	229,698	105,762	66 (65.2 - 66.9)	3
Kakamega	Navakholo	35	153,977	18	225,236	121,963	59.1 (58.1 - 60.2)	4
Kakamega	Shinyalu	36	167,641	38	199,866	76,525	52.4 (48.2 - 56.1)	2
Kisumu	Kisumu Central	37	174,145	55	288,164	71,462	42.9 (42 - 43.9)	2
Kisumu	Kisumu East	38	220,997	28	190,825	88,339	54.5 (53.2 - 55.8)	4
Kisumu	Kisumu West	39	172,821	31	236,220	109,781	53.3 (52.3 - 54.4)	3
Kisumu	Muhoroni	40	154,116	34	236,293	106,581	49 (35.8 - 64.6)	1
Kisumu	Nyakach	41	150,320	30	203,959	83,943	51.2 (49.5 - 52.9)	1
Kisumu	Nyando	42	161,508	29	244,555	124,676	54.1 (52.4 - 55.9)	3
Kisumu	Seme	43	121,667	25	217,148	122,239	60.6 (59.3 - 61.9)	4
Migori	Awendo	44	117,290	29	98,111	30,716	37.1 (35.2 - 39)	2
Migori	Kuria East	45	96,872	31	190,288	101,654	60.8 (59 - 62.6)	4
Migori	Kuria West	46	208,513	48	332,125	157,359	54.5 (52.7 - 56.3)	3

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Migori	Nyatike	47	176,162	47	187,670	73,679	40.7 (36.3 - 45.5)	1
Migori	Rongo	48	124,587	22	105,228	24,767	31.3 (29.6 - 33.1)	1
Migori	Suna East	49	122,674	17	116,554	26,802	40.4 (38.3 - 42.4)	3
Migori	Suna West	50	128,890	34	143,596	54,686	46.4 (43.8 - 49.1)	3
Migori	Uriri	51	141,448	26	120,621	38,911	41.8 (40 - 43.7)	1
Siaya	Alego Usonga	52	224,343	33	285,363	177,260	66.2 (65.1 - 67.3)	4
Siaya	Bondo	53	197,883	60	366,474	161,425	55.8 (52.8 - 58.6)	3
Siaya	Gem	54	179,792	46	479,986	265,836	67.3 (66.4 - 68.1)	4
Siaya	Rarieda	55	152,570	45	348,343	172,888	54.7 (51.9 - 57.7)	3
Siaya	Ugenya	56	134,354	26	268,101	151,805	62.9 (61.5 - 64.4)	4
Siaya	Ugunja	57	104,241	22	261,373	140,452	61.4 (60.6 - 62.3)	4
Vihiga	Emuhaya	58	97,141	4	21,021	13,598	58.2 (57.5 - 58.8)	4
Vihiga	Hamisi	59	159,258	34	240,967	115,983	54.9 (53.6 - 56.1)	2
Vihiga	Luanda	60	106,694	21	176,983	79,912	55.8 (55 - 56.5)	4
Vihiga	Sabatia	61	131,628	24	120,593	52,830	41.6 (40.6 - 42.6)	2
Vihiga	Vihiga	62	95,292	20	202,671	72,046	53.5 (52.8 - 54.3)	3